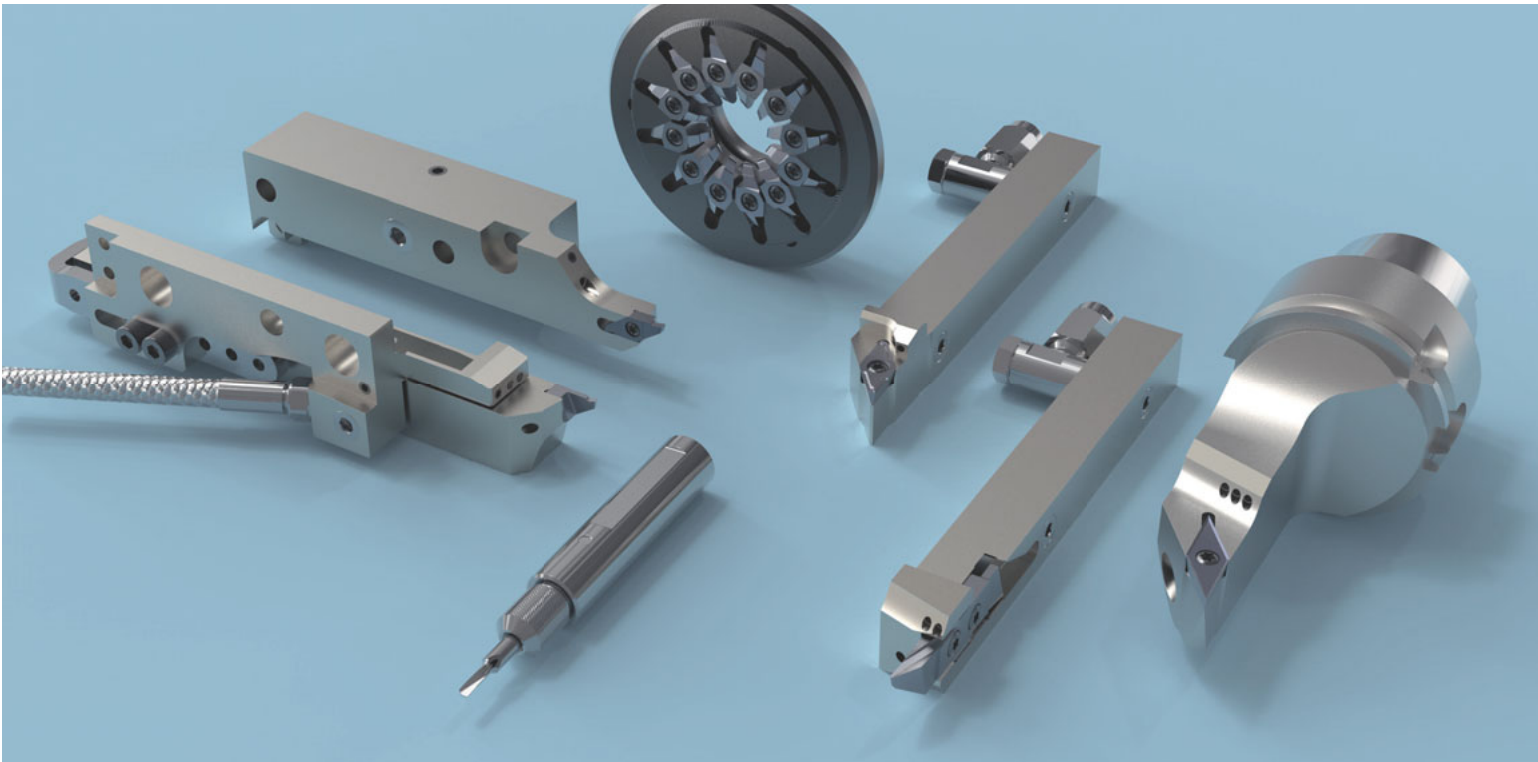


**25**  
since 1993 **UTILIS**  
**multidec**<sup>®</sup>  
swiss type tools



























**PRECISION TOOLS**  
**FOR THE MICROMECHANICAL AND MEDICAL INDUSTRY**

future since 1915

**UTILIS**<sup>®</sup>  
Tooling for High Technology



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At UTILIS, it's all about cutting. And your success.

future since 1915

For more than 100 years we have been developing, producing and distributing premium quality cutting tools for micromechanics, watch- and medical technology.

UTILIS AG is one of the world's leading suppliers of precision tools for the metal working industry. Ever since the company was founded in 1915 it has been our declared goal to forge ahead in the production of high quality cutting tools for micromechanics that are valuable and beneficial for our customers. For us, as a traditional, mid-sized, family runned Swiss business, it is only natural that we place the greatest value on precision, service and our customers. We consciously decided to produce our multidec® brand products in Switzerland. It is the only way that we can ensure the established and proven quality of UTILIS brand products that we currently sell in 57 countries around the world. A positive side effect: we ensure, create and maintain employment in Switzerland.



2018 – 25 years of multidec®

25  
since 1993

**UTILIS**  
**multidec**  
 swiss type tools



For more than a quarter of a century we have been developing innovative precision tools under our own brand "multidec®", which is specifically designed to meet the challenges of the watch, medical and dental implant industries. By using state-of-the-art, advanced technology and our extensive know-how in the manufacture of our "multidec® product line", we are positioning ourselves as a specialist and as one of the leading companies in the market for cutting tools in the metal cutting industry.

24-hour shopping, information and knowledge – and already more than 25,000 products.



Our e-shop offers you a large range of functions and assistance. Take advantage of the product search or the direct service area that we can fulfil your orders, wishes and suggestions quickly.

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- An extensive product portfolio
- Multidec® order helper – the guided multidec® product search
- UTILIS service area – quick search, contacts and assistance
- UTILIS adviser
- Tools, information and more



## Innovative precision tools – new in this catalogue.

We develop and manufacture innovative solutions and precise cutting tools for you in the micromechanics area. Our claim? Superior quality and performance. We set ourselves challenging tasks in order to make use of our solutions and enhance our reputation as an innovative company. You will find the following innovations (as well as many “new” additions to the range) in this multidec® general catalogue.



... □ 46

TWIN holder, the tool for more flexibility with double cutting edges in one holder.



... □ 46

Y-AXIS holder for machining to a position that is offset by 90°.



... □ 204

FC holder (fast change) with facility for clamping the indexable insert from the rear.



... □ 494

multidec®-SHORT holder (short version) with optimally directed, integrated “IC” coolant supply.



... □ 139

Full profile threading inserts “VP-S” with reinforced thread profile.



... □ 366

Drill product line from multidec®-DRILL with high performance drills.



... □ 360

multidec®-BROACH polygonal and TORX impact tools.



... □ 386

multidec®-GRAVER engraving tool, finished ground or as semifinished product.

## The sustainable profit of your company is at the cutting edge.

We have a market-oriented strategy which makes the sustainable benefit of our customers the main focus of our actions. We stand by our claim of being better than the competition. Within the scope of our corporate strategy, both global networking and direct presence play a decisive part on all of the markets that are relevant to us. We are therefore anxious to make our own multidec® brand comprehensive available directly on site via our international representatives. The enclosed general catalogue is excellent for this purpose—as well as personal discussions and our e-shop.



We wish you every success with our multidec® products, and we welcome you to UTILIS

Mario Macario, Managing Director (CEO)

Different information about multidec® application refer to certain machining methods. In addition, simple symbols inform of the product assortment and where additional products and technical information can be found.

### Dimensions

All dimensions are in millimeter (mm); native dimensions in inch are calculated into millimeter.

### Page information

□ 12... See page 12 and the following (example)

### Recommended usage

- Preferred application
- Possible application
- Application not recommended

### Machining method

- ▼ Roughing
- ▼▼ Finishing
- ▼▼▼ Micro finishing

### Availability

- Standard
- New (in this catalog)

### Categorization of materials

The information on using multidec® tools refers to certain materials. The materials to be machined are categorized in the same color throughout the entire catalog:

Steel (non-alloyed, low alloyed and high alloyed)
Stainless steel
Titanium and Ti-alloys
Non-ferrous metals (gold, aluminum and brass)

### Order designation

To the designation of the selected type of product, the desired cutting material code must be added. Supplementing information to the grades can be found according to the page references (□ ...).

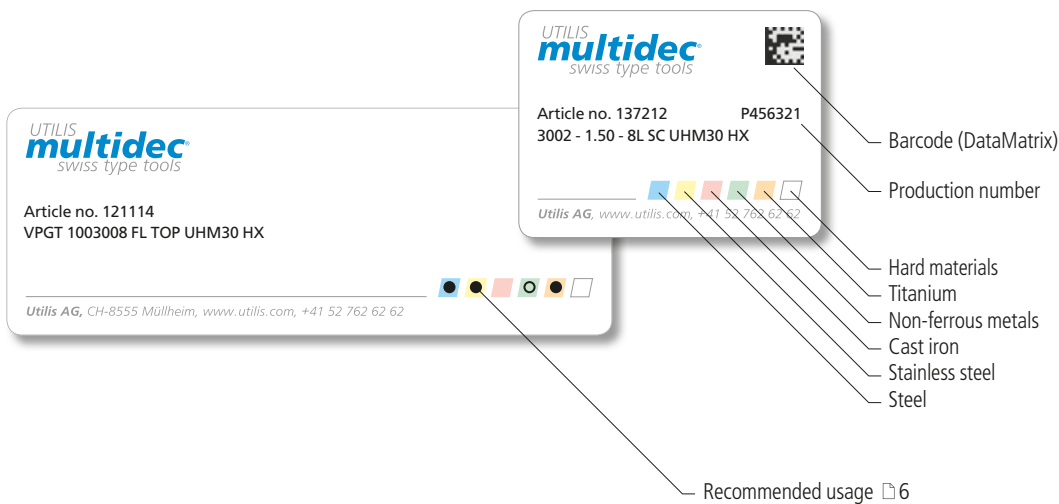
Order designation		Carbide □ 19		
		●	●	●
		○	○	○
		○	○	○
		●	○	○
		UHM 30	UHM 30 SX	UHM 30 HX
1602-0.5-2.5 L ...	1602-0.5-2.5 R ...	■		■
1602-0.8-5 L ...	1602-0.8-5 R ...	■		■
1602-1.0-5 L ...	1602-1.0-5 R ...	■		■

Example: 1602-0.5-2.5 L UHM 30

### Packaging information

The product labels illustrate the content of the packaging and also show the materials on which the cutting insert can be used. For this purpose, UTILIS uses the ISO standard coding.

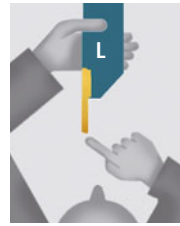
The UTILIS article number is generally also printed as a barcode on the UTILIS (multidec®) product packaging.



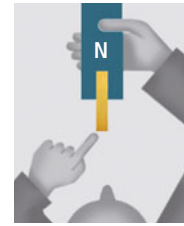
**Legend**

**Execution of holder/insert**

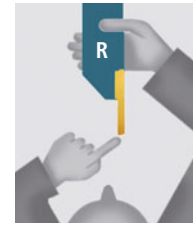
The side on which the insert is located determines whether it is a "left-" or "right-hand" holder. For this purpose, the holder is viewed with the insert pointing towards the observer.



Left hand holder



Neutral holder



Right hand holder

**Pictures**

The right-hand version of the tools is usually shown. (Exceptions are possible). The tool colours illustrated here are not binding.

**Product lines and accuracy classes of UTILIS**

To meet today's requirements of modern production it is not necessary to use the most accurate – but to use the tools adapted to the requirements. This means, the more accurate and sophisticated the process, the higher must be the accuracy of the produced tools. Therefore, the product range has been divided into three different accuracy classes. Your advantage: you buy the quality, which is effectively required.

Product line		Description
<b>PREMIUM-LINE</b>		The PREMIUM-LINE includes UTILIS tools with the highest accuracy requirements, especially for the production of micro parts. Tightest dimensional tolerances, precisely executed, highest surface quality and high repeatability are the features of this line.
<b>STANDARD-LINE</b>		The STANDARD-LINE meets the highest demands on the quality, which is demanded for Swiss type tools in production of small parts. Tight dimensional tolerances and high surface quality are implemented. These are quality standard tools, which are very well positioning this line in a wide range of applications.
<b>VALUE-LINE</b>		The VALUE-LINE is based on the known positions of our STANDARD-LINE. The most important functional elements – such as inserts and holders – are manufactured with the normal dimensional tolerances seen in the industry. Designed for the production of low-cost components, this line offers optimal quality standards.



Lined area for taking notes.

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Cutting speed ( $v_c$ )

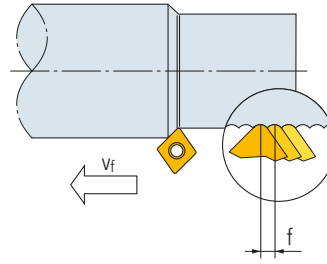
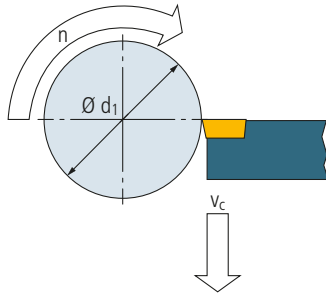
$$v_c = \frac{d_1 \cdot \pi \cdot n}{1000} \text{ [m/min]}$$

Revolutions per minute ( $n$ )

$$n = \frac{v_c \cdot 1000}{d_1 \cdot \pi} \text{ [min}^{-1}\text{]}$$

Feedrate ( $v_f$ )

$$v_f = f \cdot n \text{ [mm/min]}$$



## Comparison of default hardness values

Tensile strength (N/mm <sup>2</sup> )	Vickers HV	Brinell HB	Rockwell HRC	Shore C
700	200	200	–	28
740	210	210	–	29
770	220	220	–	30
810	230	230	19.2	31
840	240	240	21.2	33
880	250	250	23	34
910	260	260	24.7	35
950	270	270	26.1	36
980	280	280	27.6	37
1020	290	290	29	39
1050	300	300	30.3	40
1090	310	310	31.5	41
1120	320	320	32.9	42
1150	330	330	33.8	43
1190	340	340	34.9	44
1230	350	350	36	45
1260	360	359	37	46
1300	370	368	38	47
1330	380	373	38.9	48
1370	390	385	39.8	49
1400	400	393	40.7	50
1440	410	400	41.5	51
1470	420	407	42.3	52
1510	430	416	43.2	53
1540	440	423	44	54
1580	450	429	44.8	55
1610	460	435	45.5	56
1650	470	441	46.3	57
1680	480	450	47	58
1720	490	457	47.7	59
1750	500	465	48.3	60
1790	510	474	49	61
1820	520	482	49.6	62
1860	530	489	50.3	63
1890	540	496	50.9	64
1930	550	503	51.5	65
1960	560	511	52.1	66
2000	570	520	52.7	67
2030	580	527	53.3	68
2070	590	533	53.8	69
2100	600	533	54.4	70
2140	610	543	54.9	71
2170	620	549	55.4	72
2210	630	555	55.9	73
2240	640	561	56.4	74
2280	650	568	56.9	75
2310	660	574	57.4	75
2350	670	581	57.9	76
2380	680	588	58.7	77
2410	690	595	58.9	78
2450	700	602	59.3	79
2480	710	609	59.8	80
2520	720	616	60.2	81
2550	730	622	60.7	82
2590	740	627	61.1	83
2630	750	633	61.5	83
2660	760	639	61.9	84
2700	770	644	62.3	85
2730	780	650	62.7	86
2770	790	656	63.1	86
2800	800	661	63.5	87
2840	810	666	63.9	87
2870	820	670	64.3	88
2910	830	677	64.6	89
2940	840	682	65	89
2980	850	–	65.3	90
3010	860	–	65.7	90
3050	870	–	66	91
3080	880	–	66.3	91
3120	890	–	66.6	92
3150	900	–	66.9	92
3190	910	–	67.2	–

Tensile strength (N/mm <sup>2</sup> )	Vickers HV	Brinell HB	Rockwell HRC	Shore C
3220	920	–	67.5	–
3260	930	–	67.7	–
3290	940	–	68	–

## Categorization of materials

12

### Steel (non-alloyed, low alloyed and high alloyed)

Category	Material number	Specifications					Market designation	Hardness (HB)
		DIN	ISO	AFNOR	AISI/SAE/ASTM	JIS		
I	1.0116	St37-3	–	E24-U, E24-3, E24-4	A573-81 65, A573 Gr. 58	–	–	125
I	1.0144	St44-3	–	E28-4	A573-81	–	–	125
I	1.0301	C 10	–	AF 34 C, XC 10	–	S 10 C	–	125–155
I	1.0401	C 15	–	C18, AF3 7 C 12, XC 18, CC12	1015, 1016, 1017	S 15 C	–	98–178
I	1.0402	C 22	–	AF 42 C 20, 1 C 22, XC 25	1020, 1023	S 20 C, S 33 C	–	149–225
I	1.0501	C 35	–	C 35, 1 C 35, AF 55 C35, XC 38	1035	S 35 C, S 35 CM	–	178–225
I	1.0503	C 45	–	C 45, 1 C 45, AF 65 C 45	1045, 1043	S 45 C, S 45 CM	–	–
I	1.0535	C 55	–	C 54, 1 C 55, AF 70 C 55	1055	S 55 C, 1 C 55	–	–255
I	1.0570	St52-3, S355 J2G3 C	–	E 36-3, E 36-4	–	SM 50 YA	–	180
I	1.0601	C 60	–	C 60, 1 C 60, AF 70 C 55	1060	S 58 C	–	–255
I	1.0715	11 SMn 30, 9 SMn 28	11 SMn 28, 9 SMn 28	S 250	1213	SUM 22	–	107–169
I	1.0718	11 SMnPb 30, 9 SMnPb 28	11 SMnPb 28, 9 SMnPb 28	S 250 Pb	12 L 13	SUM 22 L, SUM 23 L, SUM 24 L	–	–
I	1.0721	10 S 20	–	10 F 1	1108	–	–	125–155
I	1.0722	10 SPb 20	–	10 PbF 2	11 L 08	–	–	–
I	1.0726	35 S 20	–	35 MF 6	1140	–	–	–
I	1.0727	46 S 20	–	–	–	–	–	178–214
I	1.0728	60 S 20	–	–	–	–	–	–
I	1.0736	11 SMn 37, 9 SMn 36	–	S 300	1215	SUM 25	–	–
I	1.0737	11 SMnPb 37, 9 SMnPb 36	11 SMnPb 35, 9 SMnPb 36	S 300 Pb	12 L 14	–	–	–
I	1.0756	35 SPb 20	–	–	–	–	–	–
I	1.0757	46 SPb 20	–	–	–	–	–	–
I	1.0758	60 SPb 20	–	–	–	–	–	–
I	1.0760	38 SMn 28	–	–	–	–	–	–
I	1.0761	38 SMnPb 28	–	–	–	–	–	–
I	1.0762	44 SMn 28, ETG 100	44 SMn 28	–	AISI 1144	–	–	320
I	1.0763	44 SMnPb 28	–	–	–	–	–	–
II	1.0904	55 Si 7	–	55 S 7	9255	–	–	235–290
II	1.0961	60 SiCr 7	–	60 SC 7	9262	SUP 7	–	245–310
I	1.1121	C 10 E, Ck 10	–	XC 10	–	S 10 C, S 9 CK	–	–
I	1.1141	C 15 E, Ck 15	–	XC 12, XC 15, XC 18	1015	S 15, S 15 CK	–	149–184
I	1.1157	40 Mn 4	–	35 M 5, 40 M 5	1039	–	–	–
I	1.1165	30 Mn 5	–	30 M 5	–	SMn 433 H, SCMn 2	–	238–280
I	1.1167	36 Mn 5, GS-36 Mn 5	–	35 M 5, 40 M 5	1335, 1541	SMn 438, SCMn 3	–	–217
I	1.1170	28 Mn 6	–	20 M 5, 28 Mn 6	1330	SCMn 1	–	223–255
I	1.1183	Cf 35	–	XC 38 H 1 TS	1035	S 35 C, S 35 CM	–	–
I	1.1191	C 45 E, Ck 45	–	C 45, 2 C 45, XC 42 H1, XC 45	1042, 1045	S 45 C, S 45 CM	–	207–255
I	1.1203	C 55 E, Ck 55	–	2 C 55, XC 55 H1, XC 54, XC 55	1055	S 55 C, S 55 CM	–	229–255
I	1.1213	Cf 53	–	XC 48 H 1 TS	1050, 1055	S 50 C, S 50 CM	–	–
I	1.1221	Ck 60	–	C 60, 2 C 60, XC 60	1064	S 58 C, S 60 CM, S 65 CM	–	241–255
I	1.1231	C 67 S, Ck 67	–	CX 68	–	S 70 CM	–	–92
I	1.1274	C 100 S, Ck 101	–	C 100, XC 100	1095	SUP 4, SK 4 CSP	–	–
I	1.1545	C 105 U, C 105 W 1	–	Y1 105	W 110	SK 3	–	190
I	1.1663	C 125 W	–	Y2 120	W 112	–	–	–
I	1.1730	C 45 W	–	–	–	–	–	–
II	1.2067	102 Cr 6, 100 Cr 6	–	Y 100 C 6	L 3	SUJ 2	–	–
III	1.2080	X 210 Cr 12	–	Z 200 C 12	D 3	SKD 1	–	–225
III	1.2083	X 42 Cr 13	–	Z 40 C 14	–	SUS 420 J 2	–	225
III	1.2210	115 CrV 3	–	100 C 3	L 2	–	–	–250
III	1.2311	40 CrMnMo 7	–	–	–	–	–	–235
III	1.2343	X 38 CrMoV 5-1	–	Z 38 CDV 5	H 11	SKD 6	–	–
III	1.2344	X 40 CrMoV 5-1	–	Z 40 CDV 5	H 13	SKD 61	–	–229
III	1.2355	50 CrMoV 13-15	–	–	–	–	–	–
III	1.2363	X 100 CrMoV 5-1	–	Z 100 CDV 5	A 2	SKD 12	–	–241



Steel (non-alloyed, low alloyed and high alloyed)

Category	Material number	Specifications					Market designation	Hardness (HB)
		DIN	ISO	AFNOR	AISI/SAE/ASTM	JIS		
III	1.2365	X 32 CrMoV 3 3	–	32 DCV 28	H 10	SKD 7	–	–
II	1.2379	X 155 CrV Mo 12 1	–	Z 160 CDV 12	D 2	SKD 11	–	–
II	1.2419	105 WCr 6	–	105 WCr 5, 105 Wc 13	–	SKS 2, SKS 3, SKS31	–	–
III	1.2436	X 210 CrW 12	–	Z 210 CW 12–01	–	–	–	–250
III	1.2510	100 MnCrW 4	–	90 MWCV 5	O 1	SKS 3	–	–
III	1.2516	120 WV 4	–	200 WC 20	F 1	–	–	–
II	1.2542	45 WCrV 7	–	45 WCrV 8, 45 WCV 20	S 1	–	–	–
III	1.2581	X 30 WCrV 9-3	–	Z 30 WCV 9	H 21	SKD 5	–	–
III	1.2601	X 165 CrMoV 12	–	–	H 12	–	–	–
II	1.2713	55 NiCrMoV 6	–	55 NCDV 7, 55 NCDV 7	L 6	SKT 4	–	–
III	1.2714	55 NiCrMoV 7	–	–	–	–	–	–350
III	1.2735	15 NiCr 14	–	10 NC 12	–	SNC 22	–	–
III	1.2738	40 CrMnNiMo 7	–	–	–	–	–	–350
II	1.3243	HS 6-5-2-5, S 6-5-2-5	–	Z 85 WDKCV 06-05-05-04-02	–	SKH 55	–	–269
II	1.3255	HS 18-1-2-5, S 18-1-2-5	–	Z 80 WKCV 18-05-04-01	T 4	SKH 3	–	–265
II	1.3343	HS 6-5-2, S 6-5-2	–	Z 85 WDCV 06-05-04-02	M 2	SKH 51	–	–280
II	1.3344	HS 6-5-3, S 6-5-3	–	Z 120 WDCV 06-05-01	M 3 Cl. 2, M 1	SKH 52, SKH 53	–	–
II	1.3346	HS 2-9-1, S 2-9-1	–	Z 85 DCWV 08-04-02-0	H 41, M 1	–	–	–
II	1.3348	HS 2-9-2, S 2-9-2	–	Z 100 DCWV 09-04-02-02	M 7	–	–	–
II	1.3355	HS 18-0-1, S 18-0-1	–	Z 80 WCV 18-04-01	T 1	SKH 2	–	–269
III	1.3505	100 Cr 6	–	–	52100	SUJ 2, SUJ 4	–	–207
II	1.5120	38 MnSi 4	–	–	–	–	–	–
II	1.5415	16 Mo 3, 15 Mo 3	–	15 D 3	A 204 Gr. A	STBA 12, STFA 12, STPA 12	–	–
II	1.5423	16 Mo 5	–	–	4419, 4520	SB 450 M, SB 480 M	–	–
II	1.5622	14 Ni 6	–	16 N 6	A 203	–	–	–
III	1.5680	X 12 Ni 5, 12 Ni 19	–	Z 18 N 5, 5 Ni, Z 10 N 05	2515, 2517	SL 5 N 590	–	–
II	1.5710	36 NiCr 6	–	–	3135	SNC 236	–	–
II	1.5732	14 NiCr 10	–	15 NC 11, 16 NC 11	3415	SNC 415, SNC 415 (H)	–	–
II	1.5736	36 NiCr 10	–	30 NC 11	–	SNC 631, SNC 631 (H)	–	–
II	1.5752	15 NiCr 13, 14 NiCr 14	–	12 NC 15, 14 NC 12, 13 NiCr 14	3310; 3312, 3316	SNC 815	–	–255
II	1.5755	31 NiCr 14	–	18 NC 13	–	SNC 836	–	–
II	1.6510	39 NiCrMo 3	–	–	–	–	–	–240
II	1.6511	36 CrNiMo 4, GS-36 CrNiMo4	–	35 NCD 5, 40 NCD 3	9840	SNCM 439	–	–250
II	1.6523	20 NiCrMo 2-2, 21 NiCrMo 2	–	20 NCD 2, 22 NCD 2	8615, 8617, 8620	SNCM 220, SNCM 220 (H)	–	–212
II	1.6546	40 NiCrMo 2-2	–	40 NCD 2	8640, 8740	SNCM 240	–	–
II	1.6580	30 CrNiMo 8	–	30 CND 8	–	SNCM 431	–	375–430
II	1.6582	34 CrNiMo 6, GS-34 CrNiMo 6	–	35 NCD 6	4337, 4340	SNCM 447	–	296–350
II	1.6587	18 CrNiMo7-6, 17 CrNiMo 6	–	18 NCD 6	–	–	–	159–207
II	1.6657	14 NiCrMo 13-4	–	16 NCD 13	9310	–	–	–
II	1.7015	15 Cr 3	–	12 C 3, 15 Cr 2, 18 C 3	5015	SCr 415	–	–174
II	1.7033	34 Cr 4	–	32 C 4, 34 Cr 4	5132	SCr 430	–	–255
II	1.7034	37 Cr 4	–	38 C 4	–	SCr 435 H	–	–255
II	1.7035	41 Cr 4	–	41 Cr 4, 42 C 4	5140	SCr 440	–	–255
II	1.7045	42 Cr 4	–	42 C 4 TS	5140	SCr 440	–	–255
II	1.7103	67 SiCr 5	–	67 SiCr 5	9254	–	–	–
II	1.7131	16 MnCr 5	–	16 MC 5, 16 MnCr 5	5115	–	–	–207
II	1.7139	16 MnCrS 5	–	16 MnCrS 5	5115	–	–	–207
II	1.7147	20 MnCr 5	–	20 MC 5	–	SMnC 420, SMnC 420 (H)	–	296–372
II	1.7176	55 Cr 3	–	55 C 3	5155	SUP 9	–	–280
II	1.7218	25 CrMo 4	–	25 CD 4	4130	SCM 420, SCM 430	–	–255
II	1.7220	34 CrMo 4	–	34 CD 4	4130, 4135, 4137	SCM 432, SCM 435 H, SCCrM 3	–	–255
II	1.7223	41 CrMo 4	–	42 CD 4 TS	4142	SNB 22, SCM 440	–	–
II	1.7225	42 CrMo 4	–	42 CD 4	4140, 4142	SCM 440, SNB 7	–	311–350
II	1.7228	50 CrMo 4	–	–	–	–	–	360–372
II	1.7262	15 CrMo 5	–	12 CD 4	–	SCM 415	–	–
II	1.7335	13 CrMo 4-5, 13 CrMo 4-4	–	15 CD 4.05	A 182–F11, F12	SFVA F 12, STBA 20, STBA 22	–	–
II	1.7361	32 CrMo 12	–	30 CD 12	–	–	–	–

Steel (non-alloyed, low alloyed and high alloyed)

Category	Material number	Specifications					Market designation	Hardness (HB)
		DIN	ISO	AFNOR	AISI/SAE/ASTM	JIS		
II	1.7380	12 CrMo 9-10	–	12 CD 9-10, 10 CD 9-10	A 182-F22	SFVA F 22 A/B, SCMV 4, SCPH 32-CF	–	–
II	1.7715	14 MoV 6-3	–	14 Mo 6	K11591	–	–	–
II	1.8159	50 CrV 4	–	51 CV 4, 50 CV 4, 51 CrV 4	6150	SUP 10	–	–248
II	1.8161	58 CrV 4	–	–	–	–	–	–255
II	1.8507	34 CrAlMo 5	–	30 CAD 6-12	–	–	–	–
II	1.8509	41 CrAlMo 7-10	–	40 CAD 6-12	E 7140	SACM 1, SACM 645	–	–255
II	1.8519	31 CrMoC 9	–	–	–	–	–	–248
II	1.8522	33 CrMoV 12-9	–	–	–	–	Nitrodur 8522	–
II	1.8523	40 CrMoV 13-9, 39 CrMoV 13-9	–	–	–	–	–	–

Stainless steel

Category	Material number	Specifications					Market designation	Hardness (HB)
		DIN	ISO	AFNOR	AISI/SAE/ASTM	JIS		
V	1.4000	X 6 Cr 13	–	Z 8 C 12, Z 6 C 13	403	SUS 403	–	–200
V	1.4001	X 7 Cr 14	–	Z 8 C 13 FF	410 S	SUS 410 S	–	130–180
V	1.4002	X 6 CrAl 13	–	Z 6 CA 13	405	SUS 405	–	130–180
V	1.4005	X 12 CrS 13	–	X 12 CrS 13	416	SUS 416	–	–220
V	1.4006	X 12 Cr 13	–	Z 10 C 13	410, CA-15	SUS 410	–	–220
VI	1.4016	X 6 Cr 17	–	Z 8 C 17	430	SUS 430	–	240
VI	1.4021	X 20 Cr 13	–	–	–	–	–	–230
VI	1.4027	GX 20 Cr 14	–	Z 20 C 13 M	–	SCS 2	–	170–240
VI	1.4028	X 30 Cr 13	–	–	–	–	–	–245
VI	1.4034	X 46 Cr 13	–	Z 44 C 14	420	SUS 420	–	–245
VI	1.4035	X 45 CrS 13	–	–	420 F	SUS 420 F	–	–245
VI	1.4057	X 17 CrNi 16-2	–	Z 15 CN 16-02	431	SUS 431	–	–295
V	1.4104	X 12 CrMoS 17	–	Z 10 CF 17	430 F	SUS 430 F	–	–220
V	1.4105	X 6 CrMoS 17, X 4 CrMoS 18	–	Z 8 CF 17	430 FR	–	–	–200
VI	1.4108	X 30 CrMoN 15-1	–	–	5898	–	–	200–240
VI	1.4109	X 70 CrMo 15, X 65 CrMo 14	–	–	440 A	–	–	–280
V	1.4112	X 90 CrMoV 18	–	X 90 CrMoV 18	440 B	SUS 44 B	–	–255
V	1.4113	X 6 CrMo 17-1	–	Z 8 CD 17-01	434	SUS 434	–	–200
VI	1.4123	X 40 CrMoVN 16-2	–	Z 40 CDV 16-02	420 Mod	–	–	–265
V	1.4125	X 105 CrMo 17	–	Z 100 CD 17	440 C	SUS 440 C	–	–255
V	1.4197	X 20 CrNiMoS 13-1	–	–	420F Mod	–	–	–220
V	1.4301	X 5 CrNi 18-10	–	Z 6 CN 18-10	304, 304 H	SUS 304	–	–215
V	1.4305	X 8 CrNiS 18-9	X 10 CrNiS 18-9	Z 8 CNF 18-09	303	SUS 303	–	–230
V	1.4306	X 2 CrNi 19-11, X 2 CrNi 18-11	X 2 CrNi 19-11	Z 3 CN 19-11, Z 2 CN 18-10	304 L	SUS 304 L, SCS 19	–	–215
V	1.4308	X 6 CrNi 18-9	–	Z 6 CN 18-10 M	CF-8	SCS 13	–	130–200
V	1.4310	X 10 CrNi 18-8, X 12 CrNi 17-7	X 10 CrNi 19-8	Z 11 CN 18-08, Z 12 CN 18-09	301, 302	SUS 301	–	–
V	1.4311	X 2 CrNiN 18-10	–	Z 3 CN 18-10 Az	304 LN	SUS 304 LN	–	–230
VI	1.4313	X 3 CrNi 13-4	–	Z 4 CND 13-4, Z 6 CN 13-4	CA 6-NM	SCS 5	–	–320
VI	1.4317	GX 4 CrNi 13-4	–	Z 8 CD 17-1	CA 6-NM	SCS 6	–	230–350
V	1.4401	X 5 CrNiMo 18-10, X 5 CrNiMo 17-12-2	–	Z 6 CND 17-11, Z 6 CND 17-12-02	316	SUS 316	–	–215
V	1.4404	X 2 CrNiMo 17-12-2+5+Cu, X 2 CrNiMo 17-12-2	–	Z3CND17-11-02	316 L	SUS 316 F	–	–215
V	1.4408	X 6 CrNiMo 18-10	–	–	CF-8M	SCS 14	–	130–200
V	1.4410	X 2 CrNiMoN 25-7-4	–	Z2 CND 25-07-04 Az	F53	–	–	–230
V	1.4427	X 12 CrNiMoS 18-11	–	–	316 L	SUS 316 F	–	–
VI	1.4429	X 2 CrNiMoN 17-13-3, X 2 CrNiMoN 17-11-2	–	Z 2 CND 17-13 Az, Z 3 CND 17-11-03 Az	316 LN	SUS 316 LN	–	–250
V	1.4435	X 2 CrNiMo 18-14-3	–	Z 3 CND 18-14-03	316L	SUS 316 L, SCS 16	–	–215
V	1.4436	X 5 CrNiMo 17-13-3	–	Z 6 CND 18-12-03	316	SUS 316	–	–215
V	1.4438	X 2 CrNiMo 18-15-4	–	Z 2 CND 19-15-04	317L	SUS 317L	–	–215
V	1.4441	X 2 CrNiMo 18-15-3	5832-1	–	316 LVM, F 138	SUS 316	–	–
V	1.4452	X 13 CrMnMoN 18-14-3	–	–	–	–	–	–
VI	1.4460	X 3 CrNiMo 27-5-2, X 8 CrNiMo 27-5	–	Z 5 CND 27-05 Az	329	SUS 329 J 1, SCS 11, SCH 11	–	–260
VI	1.4462	X 2 CrNiMoN 22-5-3	–	Z2 CND 22-05-03 AZ	329 A	–	Uranus 45 N	–270
V	1.4501	X 2 CrNiMoCuWN 25-7-4	–	Z2 CNDUW 25-07-04 AZ	F55	–	Zeron 100	–230
VI	1.4507	X 2 CrNiMoCuN 25-6-3	–	Z3 CNDU 25-07 AZ	F61	–	Uranus 52 N	–185
V	1.4510	X 6 CrTi 17, X 3 CrTi 17	–	Z 8 CT 17	XM 8, 430 Ti	SUS 430 LX	–	–185
V	1.4512	X 5 CrTi 12, X 2 CrTi 12	–	Z 6 CT 12	409	SUH 409	–	–180
VI	1.4539	X 1 NiCrMoCu 25-20-5	–	Z 2 NCDU 25-20	904 L	–	Uranus B6	–230
VI	1.4541	X 6 CrNiTi 18-10	–	Z 6 CNT 18-10	321	SUS 321	–	–215
VI	1.4542	X 5 CrNiCuNb 16-4, X 7 CrNiCu 16-4-4	–	Z7 CNU 17-04-04	630, 17-4 PH	SCS 24, SUS 630	–	–360
VI	1.4543	X 3 CrNiCuTiNb 12-9	–	–	XM-16	–	–	–
VI	1.4547	X 1 CrNiMoCuN 20-18-17	–	Z1 CNDU 20-18-06 AZ	F44	–	–	–250
VI	1.4548	X 5 CrNiCuNb 17-4-4	–	–	–	–	–	–360
VI	1.4550	X 6 CrNiNb 18-10	–	Z 6 CNNb 18-10	347, 348	SUS 347	–	–230
V	1.4568	X 7 CrNiAl 17-7	–	–	17-7 PH	–	–	–230
V	1.4570	X6 CrNiCuS 18-9-2	–	–	–	–	–	–215
V	1.4571	X 6 CrNiMoTi 17-12-2	–	Z 6 CNDT 17-12	316 Ti	SUS 316 Ti	–	–215

Stainless steel								
Category	Material number	Specifications					Market designation	Hardness (HB)
		DIN	ISO	AFNOR	AISI/SAE/ASTM	JIS		
V	1.4581	GX 5 CrNiMoNb 19-11-2	–	Z 4 CNDNb 18-12 M	–	SCS 22	–	130–200
V	1.4583	X 10 CrNiMoNb 18-12	–	–	318	–	–	130–220
VI	1.4718	X 45 CrSi 9-3	–	Z 45 CS 9	HNV 3	SUH 1	Pyrodur 4718	–300
V	1.4724	X 10 CrAl 13, X 10 CrAlSi 13	–	Z 13 C 13	405	SUS 405	–	–192
V	1.4742	X 10 CrAl 18, X 10 CrSiAl 18-1-1	–	Z 10 CAS 18	430	SUH 21, SUS 430	–	–212
VI	1.4757	X 80 CrNiSi 20	–	–	HNV6	SUH 4	–	–
V	1.4762	X 10 CrAl 24, X 10 CrAlSi 25	–	Z 12 CAS 25	446	SUH 446	–	–223
V	1.4828	X 15 CrNiSi 20-12	–	Z 9 CN 24-13, Z17 CNS 20-12	309	SUH 309	–	–223
V	1.4841	X 15 CrNiSi 25-20	–	Z15 CNS 25-20	314	–	–	165–225
VI	1.4845	X 8 CrNi 25-21, X 12 CrNi 25-21	–	Z 8 CN 25-20, Z 12 CN 25-20	310 S	SUH 310, SUS 310 S	–	–
VI	1.4864	X 12 NiCrSi 35-16, X 12 NiCrSi 36-16	–	Z 20 NCS 33-16	330	SUH 330	–	–
VI	1.4865	GX 40 NiCrSi 38-19, GX 40 NiCrSi 38-18	–	–	–	SCH 15, SCH 16	–	–
V	1.4871	X 53 CrMnNiN 21-9	–	Z 52 CMN 21-09 Az	EV 8	SUH 35, SUH 36	–	–
V	1.4876	X 10 NiAlTi 32-21, X10 NiCrAlTi 32-21	–	–	314	–	NICROFER® 3220 h	135–205
V	1.4878	X 12 CrNiTi 18-9, X 8 CrNiTi 18-10	–	Z 6 CNT 18-10	321	SUS 321	–	215
VI	1.4923	X 20 CrMoV 12-1, X 22 CrMoV 12-1	–	–	–	–	–	–270
V	1.4944	X 6 NiCrTiMoV 26-15	–	–	660	–	–	–200
VI	1.4980	X 6 NiCrTiMoVB 25-15 2	–	–	453	–	INCOLOY® Alloy A-286	248–341
VI	1.6359	X 2 NiCoMo 18-8-5	–	–	–	–	MARVAL 18	–
VI	2.4068	Nickel 201	–	UNS N02201	–	–	–	–
VI	2.4668	NiCr19Fe18Nb5Mo3 Ti1AlC	–	–	–	–	INCONEL® Alloy 718	> 352
VI	2.4711	CoCr20Ni15Mo7	–	K13C20N16Fe15D7	F1058	–	Phynox® KL	–
VI	Co Cr	Co Cr	–	–	–	–	–	–

## Categorization of materials

### Titanium and Ti-alloys

Category	Material number	Specifications					Market designation	Hardness (HB)
		DIN	ISO	AFNOR	AISI/SAE/ASTM	JIS		
IV	3.7025	TiCP Grade 1	5832-2	T35	B 348, F67	KS-40	–	~120
IV	3.7035	TiCP Grade 2	5832-2	T40	B 348/265, F 67	KS-50	–	~150
IV	3.7034	TiCP Grade 2	5832-2	T40	B 348/265, F 67	KS-50	–	~150
IV	3.7055	Ti 3 (Grade 3)	5832-2	T50	F67	KS-70	–	~170
IV	3.7064	TiCP Grade 4, TiCP Grade 4B	5832-2	T60	B 348, F 67, B265	KS-85	–	~200
IV	3.7065	TiCP Grade 4B, TiCP Grade 4	5832-2	–	B 348, F 67	KS-85	–	~200
IV	3.7115	Ti Al 2.5 5n (Grade 6)	–	–	B 348/TA 5E	KS-115 AS	–	–
IV	3.7134	TiCu 2	–	–	B 348, F 67	–	–	<260
IV	3.7164	Ti6AlV4 Grade 5, TiAl 8 Mo 1 V 1	5832-3	TA6V	B265, B348, 4911, 4928	KS-130 AV	–	~310
IV	3.7165	Ti6AlV4 Grade 5	5832-3	TA6V	B265, B348, 4911, 4928	KS-130 AV	–	~310
IV	3.7235	Ti 2 Pd (Grade 7)	–	–	B 348/F 67	–	–	~150
IV	3.7154	TiAl 6 Zr 5	–	–	B 348	KS-50 Pd	–	–
IV	3.7194	Ti 3 Al 2.5V (Grade 9)	–	–	B 348	KS-50 Pd	–	–
IV	3.7225	Ti 7 (Grade 7)	–	–	–	–	–	~150
IV	9.9367	TiAl6Nb7	5832-11	TA6Nb7	F1295	–	Protasul	–

### Non-ferrous metals (aluminum)

Category	Material number	Specifications					Market designation	Hardness (HB)
		DIN	ISO	AFNOR	AISI/SAE/ASTM	JIS		
VII	2.1871	G-AlCu 4 TiMg	–	–	–	–	–	–
VII	3.0205	Al99	–	1200 (A4)	–	–	–	–
VII	3.0255	Al99.5	–	1050 A	1000	–	–	–
VII	3.0275	Al99.7	–	1070 A	–	–	–	–
VII	3.0285	Al99.8	–	1080 A	–	–	–	–
VII	3.1255	AlCuSiMn	–	–	2014	–	AVIONAL 14	–
VII	3.1325	AlCuMg 1	–	2017 A (AU4G)	–	–	AVIONAL 17	–
VII	3.1355	AlCuMg 2	–	2024 (AU4G1)	–	–	AVIONAL 24	–
VII	3.1645	AlCuMgPb	–	2030 (AU4Pb)	–	–	–	–
VII	3.1655	AlCuBiPb, AlCu 6 BiPb	–	2001 (AU5PbBi)	–	–	–	–
VII	3.1754	G-AlCu 5 Ni 1.5	–	–	–	–	–	–
VII	3.2163	G-AlSi 9 Cu 3	–	–	–	–	–	–
VII	3.2315	AlMgSi 1	–	–	6082	–	ANTICORODAL 100	–
VII	3.2371	G-AlSi 7 Mg	–	–	4218 B	–	–	–
VII	3.2373	G-AlSi 9 Mg	–	–	–	–	–	–
VII	3.2381	G-AlSi 10 Mg	–	–	–	–	–	–
VII	3.2382	GD-AlSi 10 Mg	–	–	–	–	–	–
VII	3.2383	G-AlSi 10 Mg (Cu)	–	–	A 360.2	–	–	–
VII	3.2581	G-AlSi 12	–	–	A 413.2	–	–	–
VII	3.2582	GD-AlSi 12	–	–	A 413.0	–	–	–
VII	3.2583	G-AlSi 12 (Cu)	–	–	A 413.1	–	–	–
VII	3.3206	AlMgSi 0.5	–	6060 (AGS)	6063	–	ANTICORODAL 63 - AL6060	–
VII	3.3207	E-AlMgSi 0.5	–	–	6101	–	ALDREY	–
VII	3.3214	AlMgSi 0.5	–	–	6061	–	ANTICORODAL 61	–
VII	3.3315	AlMg 1	–	5005 (AlMg1)	–	–	–	–
VII	3.3545	AlMg 4 Mn	–	5086 (AG4MC)	5083	–	PERALUMAN 44	–
VII	3.3547	AlMg 4.5 Mn 0.7	–	5083 (AlMg5Mn0.7)	5083	A 5083	–	–
VII	3.3561	G-AlMg 5	–	–	–	–	–	–
VII	3.4335	AlZn 4.5 Mg 1	–	7020 (AZ5G)	7020	–	CARPENTAL	–
VII	3.4345	AlZnMgCu 0.5	–	–	7050	–	–	–
VII	3.4365	AlZnMgCu1.5	–	7075 (AZ5GU)	7075	–	ERGAL	–
VII	3.5101	G-MgZn 4 SE 1 Zr 1	–	–	ZE 41	–	–	–
VII	3.5103	MgSE 3 Zn 2 Zr 1	–	–	EZ 33	–	–	–
VII	3.5106	G-MgAg 3 SE 2 Zr 1	–	–	QE 22	–	–	–
VII	3.5812	G-MgAl 8 Zn 1	–	–	AZ 81	–	–	–
VII	3.5912	G-MgAl 9 Zn 1	–	–	AZ 91	–	–	–

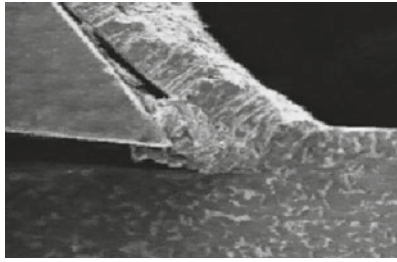
Non-ferrous metals (brass)								
Category	Material number	Specifications					Market designation	Hardness (HB)
		DIN	ISO	AFNOR	AISI/SAE/ASTM	JIS		
VIII	2.0220	CuZn 5	–	–	C 21000	C2100	–	65–110
VIII	2.0230	CuZn 10	–	–	–	–	–	75–130
VIII	2.0240	CuZn 15	–	–	–	–	–	65–145
VIII	2.0250	CuZn 20	–	–	–	–	–	65–150
VIII	2.0265	CuZn 30	–	–	C 26000	C2600	–	70–165
VIII	2.0321	CuZn 37	–	–	C 27200, C 27400	C2700, C2720	–	70–180
VIII	2.0331	CuZn 35 Pb 1, CuZn 36 Pb 1.5	CuZn 35 Pb 1	–	C 34000, C 34700	C3501	–	95–120
VIII	2.0335	CuZn 36	CuZn 37	–	C 27000, C 27200	C2700	–	65–130
VIII	2.0360	CuZn 40	–	–	–	–	–	95–120
VIII	2.0371	CuZn 38 Pb 2, CuZn 38 Pb 1.5	CuZn 38 Pb 2	–	C 37700	C3771, C3561	–	80–160
VIII	2.0375	CuZn 36 Pb 3	–	–	–	–	–	80–155
VIII	2.0380	CuZn 39 Pb 2	CuZn 38 Pb 2	–	C 37700	C3771, C3561	–	95–150
VIII	2.0401	CuZn 39 Pb 3	CuZn 38 Pb 3	–	C 38500	C3603	–	80–145
VIII	2.0402	CuZn 40 Pb 2	CuZn 40 Pb 2	–	C 38000	C3771, C3561	–	80–145
VIII	2.0410	CuZn 44 Pb 2	–	–	–	–	–	–
VIII	2.0490	CuZn 31 Si	CuZn 31 Si 1	–	C 69800	–	–	<180
VIII	2.0540	CuZn 35 Ni	–	–	–	–	–	–
VIII	2.0550	CuZn 40 Al 2, CuZn 37 Mn 3 Al 2 PbSi	CuZn 37 Mn 3 Al 2 Si	–	C 67400	–	–	130–200
VIII	2.0572	CuZn 40 Mn 2 Fe 1	–	–	–	–	–	–
VIII	2.0771	CuNi 7 Zn 39 Mn 5 Pb 3	–	–	–	–	–	130–200
VIII	2.0853	CuNi 1 Si	–	–	C 19010	–	–	–170
VIII	2.1191	CuAg 0.1, CuAg0.10P	–	–	C 10700, C 12100	–	–	–120
VIII	2.1293	CuCr 1 Zr	–	–	C 18150	–	–	–170
VIII	2.1310	CuFe 2 P	–	–	C 19400	–	–	–170
VIII	2.1498	CuSP, CuS (P0.01)	–	–	C 14700	–	–	–140

**Properties and application range of carbide, cermet and HSS**

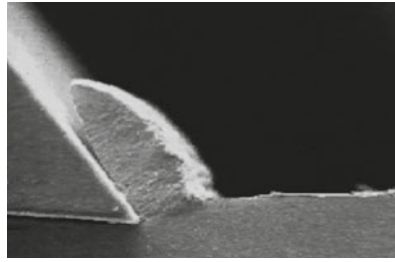
Grade	Norm	Application range													Materials (category) and hardness value (HB)									
		DIN/ISO 513													125-300	180-250	200-350		180-220	220-330	60-130			
		01	05	10	15	20	25	30	35	40	45	50	Steel non-alloyed (I)	Steel low alloyed (II)	Steel high alloyed (III)	Titanium (IV)	Stainless steel (V)	Stainless steel (VI)	Aluminum (VII)	Brass (VIII)	Synthetics reinforced/composites (IX)			
<b>Carbide</b>																								
UHM 10	K 10 / M 10																							
UHM 10 HX	K 10 / M 10																							
UHM 10 MZ	P 15 / M 10																							
UHM 20	K 20 / M 20																							
UHM 20 HPX	P 20-40 / M 20-40																							
UHM 20 HX	K 20 / M 20																							
UHM 20 MZ	P 25 / M 20																							
UHM 30	K 30 / M 20																							
UHM 30 HX	K 30 / M 20																							
UHM 30 MZ	P 35 / M 35																							
UHM 30 SX	K 30 / M 20																							
<b>Cermet</b>																								
UCM 10	P 15 / K 10 / M 10																							
UCM 10 HX	P 15 / K 10 / M 10																							
UCM 10 MZ	P 10 / K 05 / M 10																							
<b>HSS</b>																								
HSS	P 40-50 / M 40-50																							
HSS HX	P 40-50 / M 40-50																							
HSS SX	P 40-50 / M 40-50																							

Application range for diamond 22

With the refinement of cutting tools with an additional coating the wear will be decisively reduced. Rubbing, warming up, diffusion and oxidation decreases significantly.



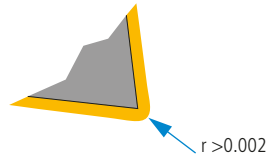
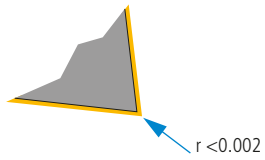
Cutting process without coated tool



Cutting process with coated tool

**Rounded edges among coated inserts**

Every coating of a carbide insert results in a rounded cutting edge. The smaller the diameter of the material to be cut, the more significant are the consequences in the cutting performance. Therefore the rounding off of the cutting edge depends on the thickness of the coated layer. As thicker the coating, as greater is the radius created along the cutting edge.





## Properties and application range of coatings

Coating	Standard for general applications			General applications (upon customer request)			Special applications (upon customer request)			
	HX	HPX	MZ	SX	BX	HX-A	HX-F	TX+	DX-T	DX-HC
UTILIS coating code										
Coating	TiAlN / AlTiN	TiAlN / AlTiN	TiN / TiAlN	TiN	TiCN	AlCrN	AlCrN	TiSiN	Diamond DLC	Diamond Ta-C
Procedure	PVD	PVD	CVD	PVD	PVD	PVD	PVD	PVD	PVD	PVD

Materials (Category)	Application areas	HX	HPX	MZ	SX	BX	HX-A	HX-F	TX+	DX-T	DX-HC
Steel non-alloyed (I)		●	●	●	●	●	●	●	-	-	-
Steel low alloyed (II)		●	●	●	●	●	●	●	-	-	-
Steel high alloyed (III)		●	●	●	○	○	●	●	-	-	-
Titanium (IV)		●	●	-	-	○	○	○	●	-	-
Stainless steel (V)		●	●	●	○	●	●	●	●	-	-
Stainless steel (VI)		●	●	●	○	○	●	●	●	-	-
Aluminum (VII)		●	○	-	○	-	-	-	-	●	●
Brass (VIII)		●	○	-	○	-	-	-	-	●	●
Synthetics reinforced/composites (IX)		○	○	-	-	-	-	-	-	○	●
Hard materials > 70 HRC		-	-	-	-	-	-	-	●	-	-

Characteristics	HX	HPX	MZ	SX	BX	HX-A	HX-F	TX+	DX-T	DX-HC
Standard allround coating for finishing and micro-finishing operations on a wide range of materials.										
Standard allround coating for roughing and finishing operations in steel and stainless steel.										
Coating for the machining of steel materials for slow and medium cutting speeds. Not recommended for highly heat resistant materials.										
Coating with extreme hardness and outstanding toughness. Extremely suitable for steel, stainless steel and conditionally for titanium, at slow cutting speeds.										
Universally usable coating for dry and wet machining at fast cutting speeds in steel, stainless steel and titanium.										
High-performance coating for micro finishing operations in steel and stainless steel. Recommended for sharp edges, which are used in micro machining.										
High-performance coating for micro finishing and finishing operations in stainless steel and highly heat resistant materials as well as micro cutting of hardened steels up to 70 HRC.										
Diamond coating for non-ferrous metals. Recommended for aluminium, plastic, brass and copper.										
High performance diamond coating for non-ferrous metals. Recommended for aluminium alloys, platinum, silver, gold, composites and reinforced synthetics										

The exceptional hardness of diamonds in the various tool versions enables much higher cutting parameters to be achieved compared when conventional cutting materials are used.

In addition to traditional grinding and erosion machining, the use of high tech lasers not only produces top quality cutting edges, but also enables 3D chip removal geometries to be obtained.

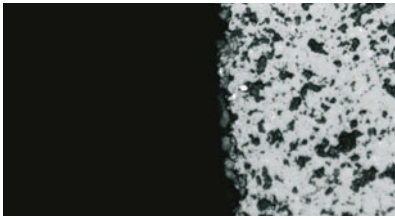
### UPCD15 / UPCD20

UPCD (polycrystalline diamond) is a sintered diamond powder in a metallic bonding matrix. Its grain structure ranging from ultra-fine (UPCD20) to coarse (UPCD15) gives the UPCD varying degrees of toughness, so greatly extending the range of possible applications.

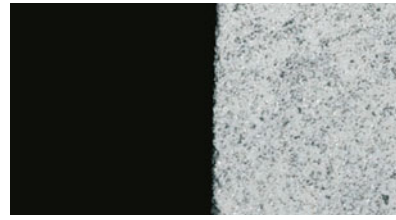
With its diamond content of around 90 % only, UPCD has a much lower hardness and hence wear-resistance than UCVD.

#### Suitable for the following materials:

- Aluminum with 8–20 % SiC
- Brass, copper and bronze
- Platinum and gold



UPCD15



UPCD20

### UCVD08

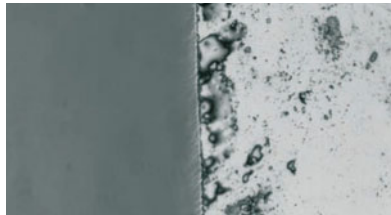
This diamond is produced by the CVD technique with a thickness of 0.8 mm. No binder is used. Minute diamond crystals are separated from the gas phase into a thick polymer diamond substrate which consists of up to 99.9 % diamond material.

Because of its high wear resistance, the life time of this innovative cutting material is between 2 and 10 times longer than that of UPCD.

The extremely sharp cutting edge enables reduced cutting pressure to be applied, therefore achieving excellent surface quality.

#### Suitable for the following materials:

- CFK... up to 80 % carbon fiber
- GFK... up to 80 % glass fiber
- Plastics
- Aluminum with 8–20 % SiC
- Brass, copper and bronze
- Platinum and gold



UCVD08

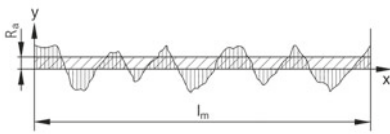
## Properties and application range for diamond

Grade	Norm	Application range													Materials (category) and hardness value (HB)								
		DIN/ISO 513													125-300	180-250	200-350		180-220	220-330	60-130		
															Steel non-alloyed (I)	Steel low alloyed (II)	Steel high alloyed (III)	Titanium (IV)	Stainless steel (V)	Stainless steel (VI)	Aluminum (VII)	Brass (VIII)	Synthetics reinforced/composites (IX)
		01	05	10	15	20	25	30	35	40	45	50											
Diamond																							
UCVD 08																							
UPCD 15																							
UPCD 20																							

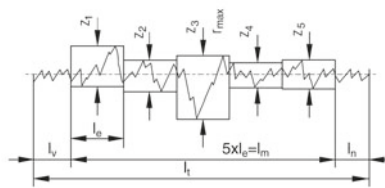
For the definition of surface roughness measured values are defined by DIN-ISO. In particular it means:

- Single surface roughness depth  $Z_1 \dots Z_5$   
This is the vertical distance between the highest and the lowest point of the roughness profile R within a single measured length  $l_e$ .
- Average roughness depth  $R_z$  (DIN 4768)  
This is defined as the average value resulting from the single roughness depths of five successive single measured lengths  $l_e$ .
- Average roughness value  $R_a$  (DIN 4768)  
This is defined as the arithmetical mean of the absolute sums of the roughness profile R within the entire measured length  $l_m$ .
- Max. surface roughness depth  $R_t$  (DIN 4768/1)  
This is the distance between the elevation and depression of the line within the measured length (reference distance) of profile filtered according to DIN 4768 sheet 1.

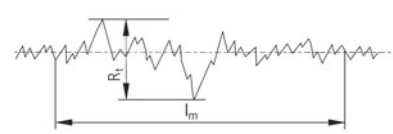
Average roughness value  $R_a$



Single surface roughness depth Z



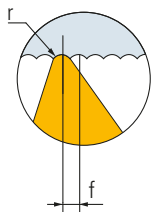
Maximum surface roughness  $R_t$



Surface roughness by machining method

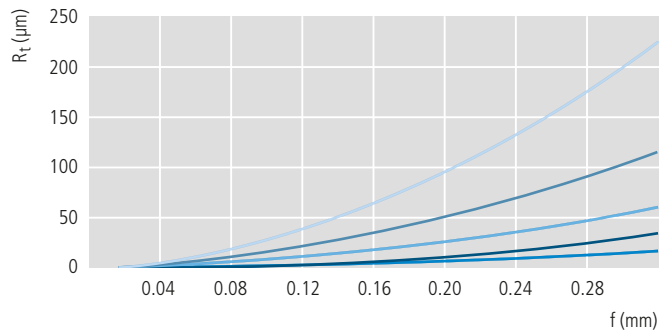
Surface roughness													Machining method
Surface symbol according to ISO 1302	0.025	0.05	0.1	0.2	0.4	0.8	1.6	3.2	6.3	12.5	25	50	
Roughness index (former)	N1	N2	N3	N4	N5	N6	N7	N8	N9	N10	N11	N12	
Average roughness value $R_a$ ( $\mu\text{m}$ )	0.025	0.05	0.1	0.2	0.4	0.8	1.6	3.2	6.3	12.5	25	50	
Surface roughness depth $R_z$ ( $\mu\text{m}$ )	0.025	0.63	1	1.6	2.5	4-6.3	10	16-25	40	63	100	160	
					▼▼▼	▼▼▼	▼▼▼	▼▼	▼▼	▼▼	▼	▼	Turning
			▼▼▼	▼▼▼	▼▼	▼▼	▼						Grinding

Theoretical surface roughness



$r$  = Corner radius (mm)  
 $R_t$  = Theoretical surface roughness ( $\mu\text{m}$ )  
 $f$  = Feed (mm)

Standard design

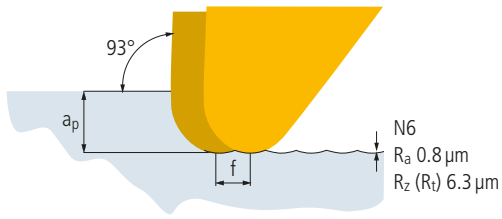


-  $r = 0.05\text{mm}$  -  $r = 0.10\text{mm}$  -  $r = 0.20\text{mm}$  -  $r = 0.40\text{mm}$  -  $r = 0.80\text{mm}$

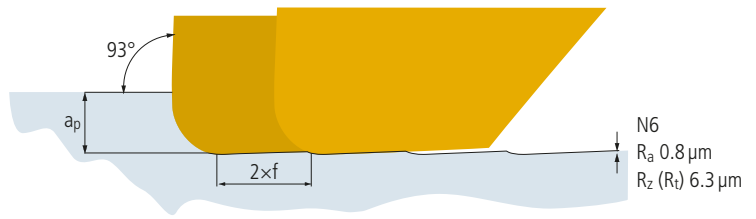
## Improvement of feed rate by drag-cut with TOP System

By using the TOP system with drag-cut and a 93° holder the feed rate can be increased up to 2 times. This way the machining time can be decreased significantly by keeping the same quality. On the other hand within the same machining time the surface roughness can be improved clearly.

The following example illustrates the principle exactly.

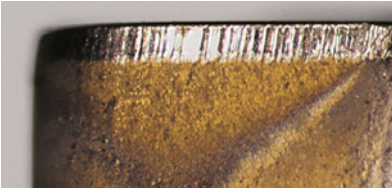


Holder 93°  
Corner radius 0.8 mm



Holder 93°  
Corner radius 0.8 mm  
multidec®-TOP insert

**A Flank wear**



Reasons:

- Cutting speed too high
- Carbide grade with too little wear resistance
- Feed rate not adapted

Remedies:

- Reduce cutting speed
- Select better wear resistant carbide grade
- Adapt feed rate to cutting speed and cutting depth (increase feed rate)

Abrasion on flank, normal wear after a certain machining time.

**B Edge chipping**



Reasons:

- Grade with too high wear resistance
- Vibrations
- Feed rate too high or excessive cutting depth
- Interrupted cut
- Swarf damage

Remedies:

- Use tougher carbide grade
- Use negative cutting edge geometry with chip groove
- Increase stability (tool and work piece)

Through excessive mechanical stress at the cutting edge fracture and chipping can take place.

**C Cratering**



Reasons:

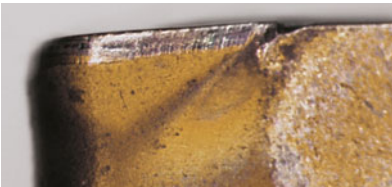
- Too high cutting speed and/or feed rate
- Rake angle too shallow
- Carbide grade with little wear resistance
- Insufficient coolant supply

Remedies:

- Reduce cutting speed and/or feed rate
- Increase coolant quantity and/or pressure, optimize coolant supply
- Use carbide grade which is more resistant to cratering

The hot chip which is being evacuated causes cratering at the rake face of the cutting edge.

**D Plastic deformation**



Reasons:

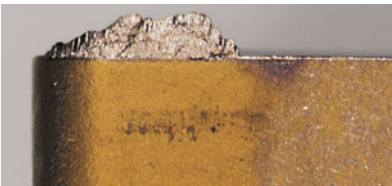
- Too high machining temperature, resulting in softening of substrate
- Damaged coatings

Remedies:

- Reduce cutting speed
- Choose carbide grade with higher wear resistance
- Provide cooling

High machining temperature and simultaneous mechanical stress can lead to plastic deformation.

**E Built-up edges**



Reasons:

- Too low cutting speed
- Too small rake angle
- Wrong cutting material
- Lack of cooling/lubrication

Remedies:

- Increase cutting speed
- Enlarge rake angle
- Select more resistant coating
- Use emulsion with higher concentration

Built-up material/edges occur when the chip is not evacuated properly due to a too low cutting temperature.

**F Insert breakage**



Reasons:

- Excessive stress of cutting material
- Lack of stability
- Corner angle too small
- Excessive notching

Remedies:

- Use tougher carbide grade
- Use protective edge chamfer
- Increase honing of cutting edge
- Use more stable geometry

Excessive stress of the insert causes breakage.

Problem	Remedy/Measure	Cutting speed	Feed	Carbide toughness	Carbide hardness	Clearance angle	Rake angle	Stability	Rounded edge condition	Coolant	Face/radial runout
A* Excessive flank wear		↓	↑		↑						
B* Chipping of cutting edge		↑	↓	↑			🔍	↑	↑		
C* Excessive cratering		↓	↓		↑					↑	
D* Plastic deformation		↓	↓		↑		🔍			🔍	
E* Built up edge		↑	↑			🔍	↑		🔍	↑	
F* Insert breakage			↓	↑			🔍	↑			
Poor surface finish		↑	↓					↑	↓	🔍	↑
Chip forming, chip pile up						🔍	🔍			🔍	
Vibration		🔍	🔍			↓	↑	↑			↑
Hairline cracks		↓	↓	🔍		↓				↑	

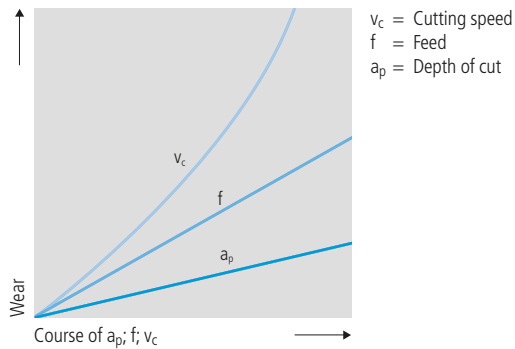
\* Further information 26

↑ increase

↓ decrease

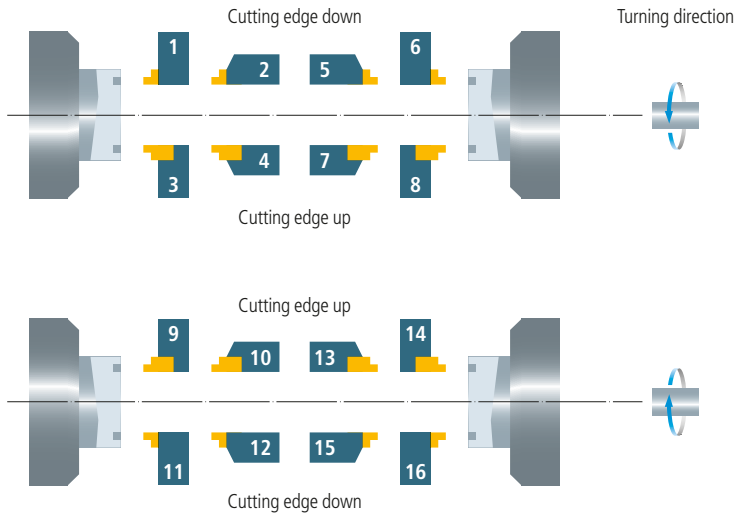
🔍 inspect, optimise

The cutting temperature particularly the wear depends significantly on the cutting conditions ( $v_c$ ,  $f$  and  $a_p$ ). Thermal causes of wear like oxidation and diffusion increase disproportionately.



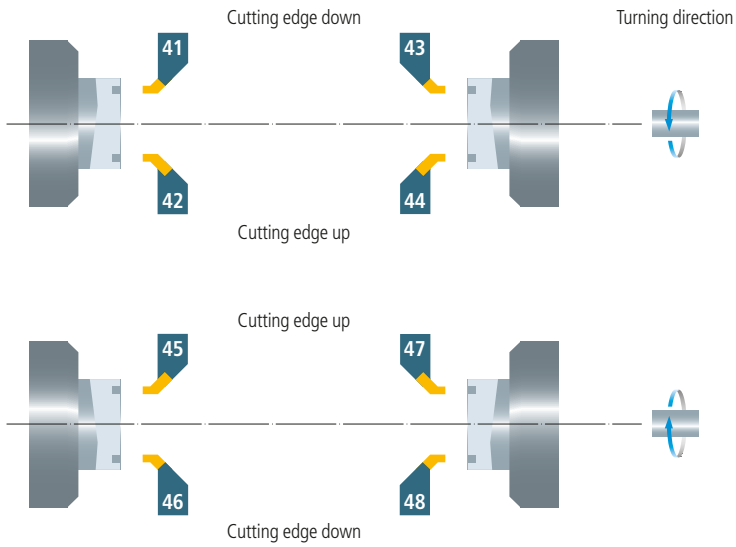
With the illustration below it is possible to achieve up different tooling situations. Choose yours and we will recommend you the suitable tooling solution.

**Turning axial**



Situation	Execution	
	Holder	Insert
1	R	L
2	L	L
3	R	L
4	L	L
5	R	R
6	L	R
7	R	R
8	L	R
9	L	R
10	R	R
11	L	R
12	R	R
13	L	L
14	R	L
15	L	L
16	R	L

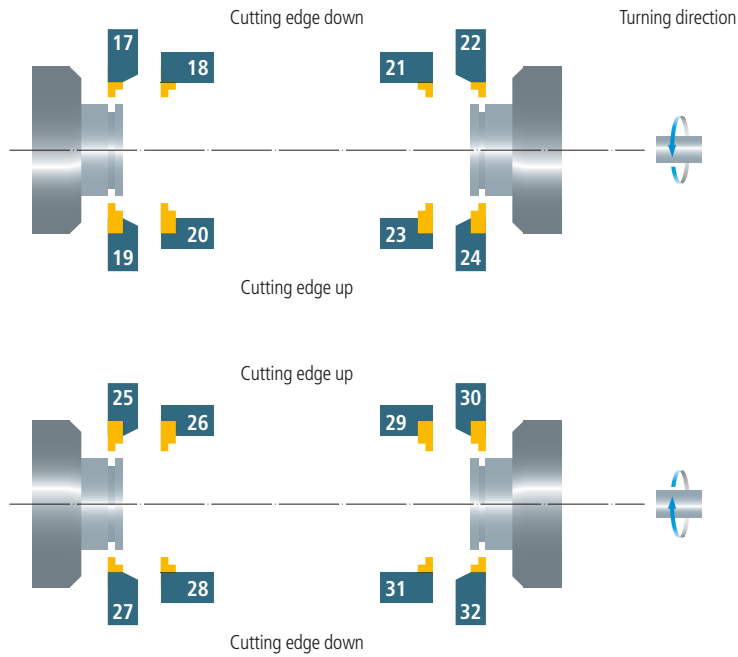
**Turning axial (with holder 45°)**



Situation	Execution	
	Holder	Insert
41	R	R
42	R	R
43	L	L
44	L	L
45	L	L
46	L	L
47	R	R
48	R	R



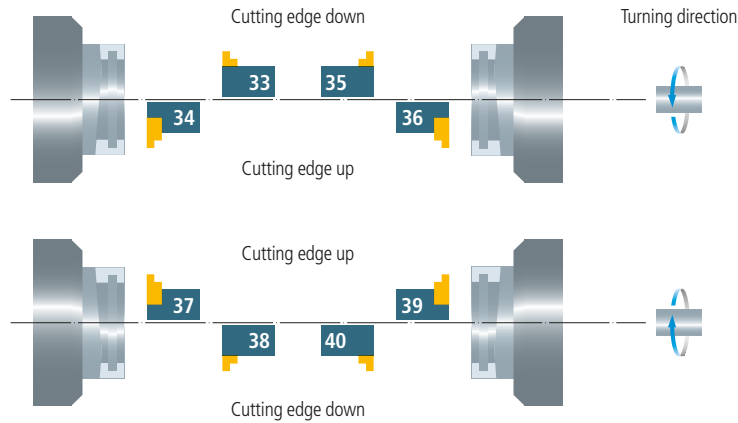
Turning radial outside



Situation	Execution	
	Holder	Insert
17	R	R
18	L	R
19	R	R
20	L	R
21	R	L
22	L	L
23	R	L
24	L	L
25	L	L
26	R	L
27	L	L
28	R	L
29	L	R
30	R	R
31	L	R
32	R	R

R = right L = left

Turning radial inside

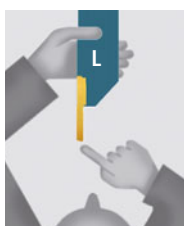


Situation	Execution	
	Holder	Insert
33	R	L
34	R	L
35	L	R
36	L	R
37	L	R
38	L	R
39	R	L
40	R	L

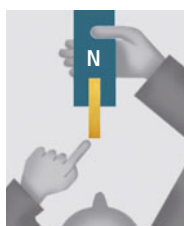
R = right L = left

Execution of holder/insert

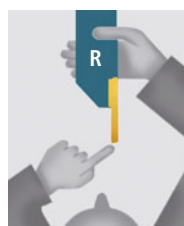
The side on which the insert is located determines whether it is a "left-" or "right-hand" holder. For this purpose, the holder is viewed with the insert pointing towards the observer.



Left hand holder



Neutral holder



Right hand holder

multidec®-CUT is most commonly used in OD-turning or alternatively in ID-turning. 5 systems are distinguished by the cutting depth or width and application field of machining process. All inserts are replaceable very easy and known for its great repeat accuracy. For cutting of all common materials we offer ideal adjusted micrograin carbides grades (K10–K40 PVD coated and uncoated).

Application		Type	multidec®-CUT tool system (holder and insert)				
			500	1600	1700	3000	3600
	Maximum of bar diameter		16	10	10	32	20
	Blank	... 01	●	●	●	●	●
	CUT off	... 02		●		●	
	Front turning	... 03		●		●	
	Back turning	... 04		●		●	
	Copy turning	... 04 SP		●		●	
	Grooving and turning	... 05		●		●	●
	Threading	... 06		●	●	●	
	Radius-grooving	... 07		●		●	
	Grooving (radial)	... 10		●	●		
	Grooving (axial)	... 11		●	●		
	Chamfering	... 12		●		●	
Holder shank size			☒ 6–10	☒ 8–25 ☒ 3/8"–3/4" ⊗ 12–20	☒ 8–20 ☒ 3/8"–3/4" ⊗ 16	☒ 8–25 ☒ 3/8"–3/4"	☒ 10–25 ☒ 3/8"–3/4"

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Overview inserts and holders 1600 47

Overview inserts and holders 1700 95

Overview inserts and holders 3000 107

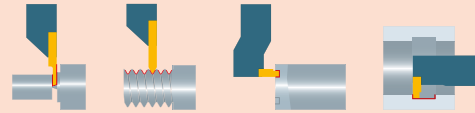
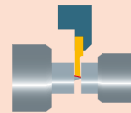
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	1600-08-100 LA	1600-08-100 LA	1600-08-100 LA	1600-08-100 LA	1600-08-100 LA
Article no.	126600	126600	126600	126600	126600
Designation	3000-08-100 LA	3000-08-100 LA	3000-08-100 LA	3000-08-100 LA	3000-08-100 LA
Material	1	1	1	1	1
Length	1	1	1	1	1
Width	1	1	1	1	1
Height	1	1	1	1	1
Weight	1	1	1	1	1
Volume	1	1	1	1	1
Surface area	1	1	1	1	1
Mass	1	1	1	1	1
Volume	1	1	1	1	1
Surface area	1	1	1	1	1
Mass	1	1	1	1	1



A different combination of holder and insert allows cutting even in difficult situations.

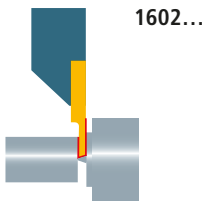
Main-spindle left	Possibilities of insert execution	Main-spindle left	Possibilities of insert execution	
				1
				2
				3
				4
				5
				6
				7
A		B		

Main-spindle right	Possibilities of insert execution	Main-spindle right	Possibilities of insert execution	
				1
				2
				3
				4
				5
				6
				7
C		D		

Application	Type and chip breaker	Machining Method			Characteristics
		▼	▼▼	▼▼▼	
	... 02	○	●	●	CUT off without chip breaker
	... 02 GS	○	○	-	CUT off with chip breaker
	... 02 SC	●	●	●	CUT off with chip breaker
	... 02 SPT	○	●	●	CUT off with chip breaker for tender material
	... 03	●	●	●	Front turning without chip breaker
	... 03 SP	○	●	●	Front turning with chip breaker
	... 03 CP TOP	○	●	●	Front turning with chip breaker and cutting edge "TOP"
	... 04	●	●	○	Back turning without chip breaker
	... 04 CP	○	●	●	Back turning with chip breaker
	... 04 SP	○	●	●	Copy turning with chip breaker
	... 04 TOP	○	●	●	Back turning with chip breaker and cutting edge "TOP"
	... 05	●	●	○	Grooving and turning without chip breaker
	... 05 CP	○	●	●	Grooving and turning with chip breaker
	... 06	-	-	●	Threading partial profile
	... 06 VP	-	○	●	Threading full profile
	... 07	-	●	●	Radius-grooving
	... 10	-	●	●	Grooving radial
	... 11	-	●	●	Grooving axial
	... 12	-	●	●	Chamfering

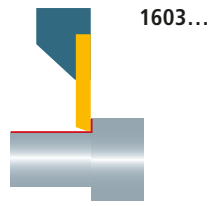
CUT off

Inserts [150...](#)



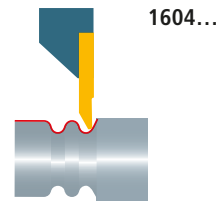
Front turning

Inserts [159...](#)



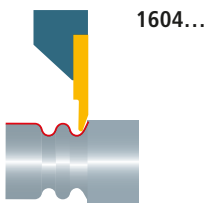
Copy turning (front)

Inserts [162...](#)



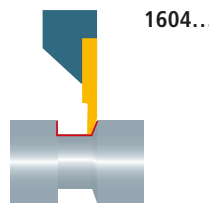
Copy turning (back)

Inserts [163...](#)



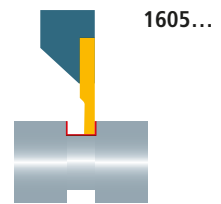
Back turning

Inserts [164...](#)



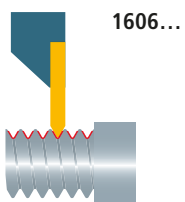
Grooving and Turning

Inserts [166...](#)



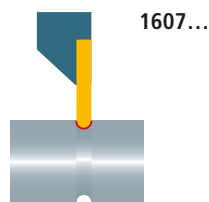
Threading

Inserts [168...](#)



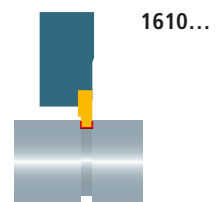
Radius-grooving

Inserts [172...](#)



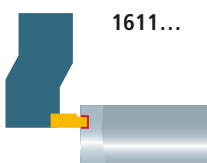
Grooving (radial)

Inserts [173...](#)



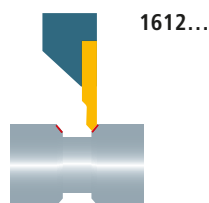
Grooving (axial)

Inserts [174...](#)



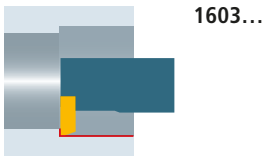
Chamfering

Inserts [176...](#)



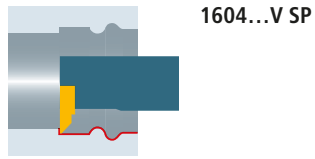
Front turning

Inserts [📄 59...](#)



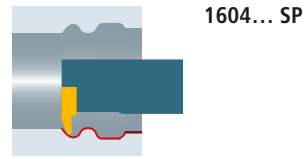
Copy turning (front)

Inserts [📄 62...](#)



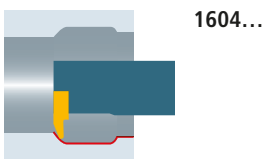
Copy turning (back)

Inserts [📄 63...](#)



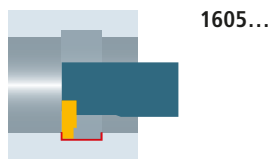
Back turning

Inserts [📄 64...](#)



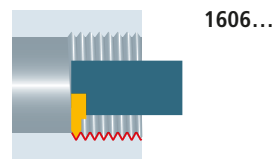
Grooving and Turning

Inserts [📄 66...](#)



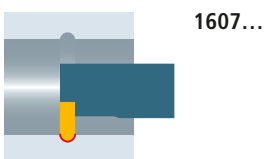
Threading

Inserts [📄 71...](#)



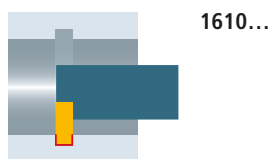
Radius-grooving

Inserts [📄 72...](#)



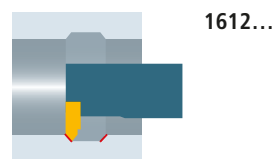
Grooving

Inserts [📄 73...](#)



Chamfering

Inserts [📄 76...](#)



Special inserts (on demand)

Inserts [📄 77...](#)

1694..., 1696..., 1698..., 1699...

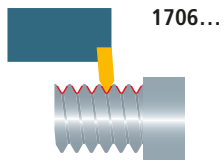
Holders [📄 78...](#)

All illustrations show right hand design. Left hand design is also available.



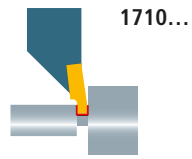
Threading

Inserts [📄 97...](#)



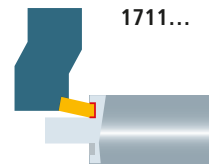
Grooving (radial)

Inserts [📄 98...](#)



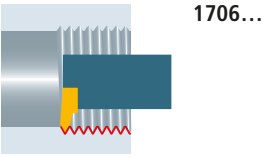
Grooving (axial)

Inserts [📄 99...](#)



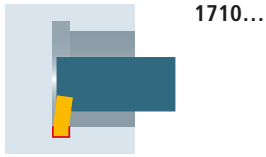
Threading

Inserts [📄 97...](#)



Grooving

Inserts [📄 98...](#)



Special inserts (on demand)

Inserts [📄 100...](#)

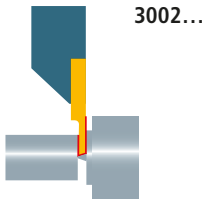
1799...

Holders [📄 101...](#)

All illustrations show right hand design. Left hand design is also available.

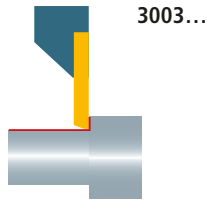
CUT off

Inserts □ 110...



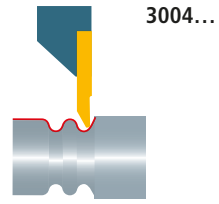
Front turning

Inserts □ 129...



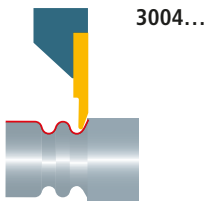
Copy turning (front)

Inserts □ 131...



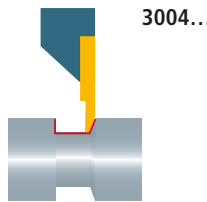
Copy turning (back)

Inserts □ 132...



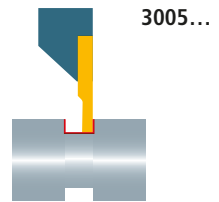
Back turning

Inserts □ 133...



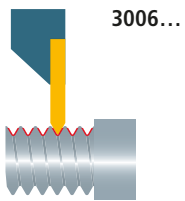
Grooving and Turning

Inserts □ 136...



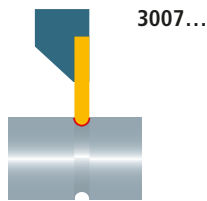
Threading

Inserts □ 138...



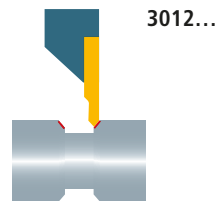
Radius-grooving

Inserts □ 143...



Chamfering

Inserts □ 144...



Special inserts (on demand)

Inserts □ 145...

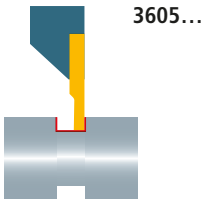
3099...

Holders □ 146...

All illustrations show right hand design. Left hand design is also available.

Grooving and Turning

Inserts [157...](#)



Special inserts (on demand)

Inserts [158...](#)

3699...

Holders [159...](#)

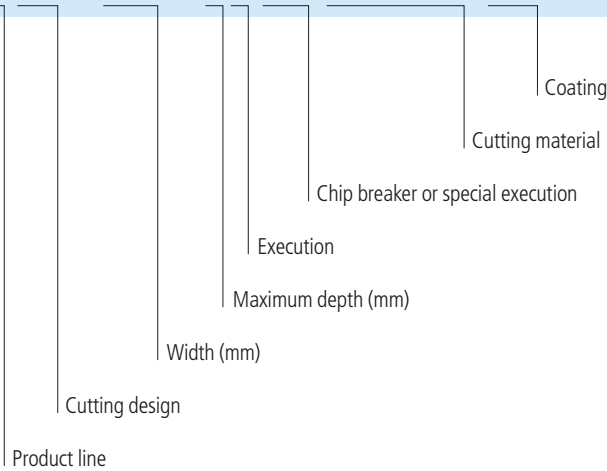
All illustrations show right hand design. Left hand design is also available.

Product line	Accuracy class of UTILIS	Repeatability
<b>PREMIUM-LINE</b>		< 10 µm
<b>STANDARD-LINE</b>		< 20 µm
<b>VALUE-LINE</b>		< 50 µm

The designation of every insert and holder includes all important information according to the following system:

Inserts

**3002 - 1.5 - 8L SC UHM30 HX**



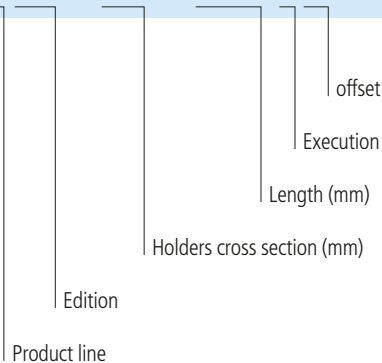
UTILIS **multidec** swiss type tools

Article no. 137212 P456321  
3002 - 1.5 - 8L SC UHM30 HX

Utilis AG, www.utilis.com, +41 52 762 62 62

Holders

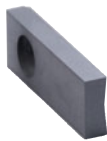
**3000 - 08 - 100 LA**



UTILIS **multidec** swiss type tools

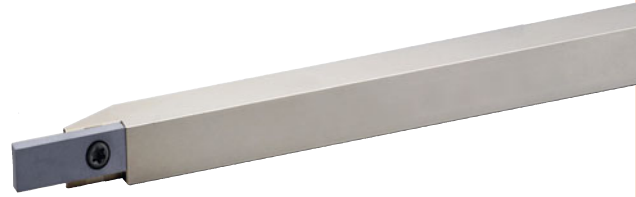
Article no. 126600 P456321  
3000 - 08 - 100 LA

Utilis AG, www.utilis.com, +41 52 762 62 62



The turn and cut-off system 500 is suitable for Swiss type cam lathes up to bar diameter 15mm. The neutral cutting inserts, only available as blanks, consist of one cutting edge and will be mounted on tool holders with a repeatability of <math>< 0.01\text{ mm}</math>.

Even for the ground, hardened and nickel plated holders a wide range of possibilities with shank sizes between 6 and 10 mm are available. For Swiss-type automatic lathes special holders have been designed and complete the wide range of choices.

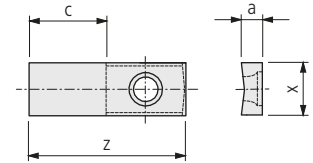
**Advantages:**

- Replace brazed tools on cam machines
- Neutral inserts with mirror polished cutting face
- Coated and uncoated blanks available
- The machine operator can grind his own cutting geometries

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Inserts	
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Holders	
500...	45
Replacement and spare parts	45



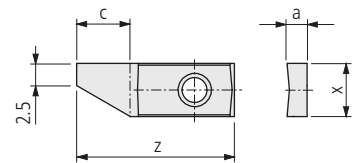
Blank



501...

Order designation	Carbide □ 19		Dimensions							Holder	
N	—	○	a	c	x	z					Holder □ 45...
	○	●									
	●	○									
	UHM 10	UHM 10 HX									
Accuracy class of UTILIS □ 41											
501-2-6 NP ...*	■	■	2	8.5	6	17.8					500...
Accuracy class of UTILIS □ 41											
501-2-6 N ...	■	■	2	8.5	6	17.8					500...

\* Mirror polished

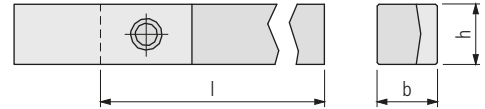
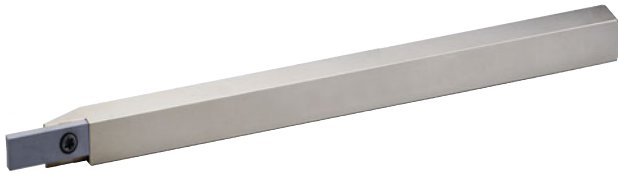
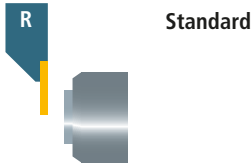


501...

Order designation	Carbide □ 19		Dimensions							Holder	
L	●	●	a	c	x	z					Holder □ 45...
	○	●									
	○	●									
	●	○									
	UHM 10	UHM 10 HX									
Accuracy class of UTILIS □ 41											
501-1.5-6 LP ...*	501-1.5-6 RP ...*	■	■	1.5	6	6	17.8				500...

\* Mirror polished





500...

Order designation		Dimensions						Inserts	
<b>L</b>	<b>R</b>	h	b	l					44...

STANDARD-LINE

Accuracy class of UTILIS 41



500-06x130 N	■	500-06x130 N	■	6	6	130					501...
500-07x130 L	■	500-07x130 R	■	7	7	130					501...
500-08x130 L	■	500-08x130 R	■	8	8	130					501...
500-10x130 L	■	500-10x130 R	■	10	10	130					501...

500... INCH

Order designation		Dimensions						Inserts	
<b>L</b>	<b>R</b>	b	h	l					44...

STANDARD-LINE

Accuracy class of UTILIS 41



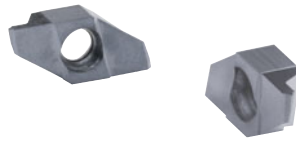
500-3/8"x130 L	■	500-3/8"x130 R	■	9.525	9.525	130					501...
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Replacement and spare parts

Illustration	Description	Dimensions	Order designation		Holder
	TORX screw	M2.5 x 6 T08	MSP 25060 T08	■	500...

TORX screwdriver 664

The turn and cut-off system 1600 is suitable for Swiss type lathes up to bar diameter 10 mm. The cutting inserts consist of two cutting edges. Even for the holders a wide range of possibilities with shank sizes between 7 and 25 mm are available. For Swiss-type automatic lathes special holders have been designed and complete the wide range of choices.



**Advantages:**

- Large selection of cutting geometries with different chip breakers especially made for smallest parts
- Full profile threading inserts starting from M 0.2 (0.06 mm pitch)
- Grooving inserts width starting from 0.05 mm



"IC" tool holder with integrated cooling

Cost-efficient processing of modern materials increasingly requires accurate control of the coolant at the cutting edge. Conveying the coolant as close as possible to the cutting edge is often a difficult task in the machine rooms of Swiss type turning lathes.

The multidec®-IC program offers a wide range of holders with integrated cooling. Because of the high precision and pressure, it is possible to discharge the chip quickly and safely from the cutting edge and the workpiece, which protects the cutting edge of the insert. This means significantly longer tool life as well as very reliable serial production.

**Advantages:**

- All holders feature five possible connectors for the coolant supply
- Fixed coolant exit allows for small set-up in front of the holder
- With or without high pressure, the coolant medium always hits the cutting edge precisely



"TWIN" holder with and without integrated coolant supply

The "TWIN" range allows you to work with two inserts on the same holder. Different combinations are possible, and provide the user with a high degree of flexibility. Holders are available with shank cross-sections of 8 to 20 mm, with and without internal cooling.

**Advantages:**

- Twice the number of tools on the machine
- Two different turning operations are possible with a single tool holder
- All holders with an integrated coolant supply have five connecting options



"Y-AXIS" holder with and without integrated coolant supply

Y-AXIS holders solve the chip control problems that can occur when cutting long-chip materials. With the Y-AXIS holder, the cutting edge is offset by 90° compared to the standard holder, whereby the chips fall in the bed of the machine. This prevents troublesome tumbling and flowing chips that can become caught on the cutting edge and damage it.

**Benefits:**

- Suitable for long chipping materials
- The problem of chip control is solved
- Holders with internal cooling
- All holders feature five possible connectors for the coolant supply

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1602... N SPT	58
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1600... 90 ST	90
1600... 90	91
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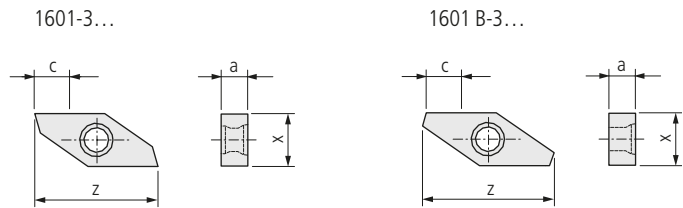
Coolant connectors and accessories	632
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Blank



1601...

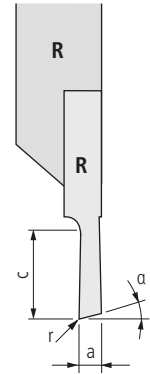
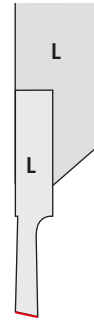


Order designation	Carbide						HSS				Dimensions				Holder
	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	HSS	HSS HX	a	c	x	z				□ 78...	
<b>N</b>	○	●	○	○	●	●									
	○	○	○	○	○	○									
	○	○	○	○	○	○									
	○	○	○	○	○	○									
														Accuracy class of UTILIS □ 41	
														- +	
<b>PREMIUM-LINE</b>	1601-3-5 N P ...*	■	■	■	■		3	5	6	16				1600...	
	1601-4-5 N P ...*	■	■	■	■		4	5	6	16				1600...	
	1601-6-5 N P ...*	■	■	■	■		6	5	6	16				1600...	
	1601-8-5 N P ...*			■	■		8	5	6	16				1600...	
														Accuracy class of UTILIS □ 41	
														- +	
<b>STANDARD-LINE</b>	1601-3-5 N ...	■	■	■	■	■	3	5	6	16				1600...	
	1601-4-5 N ...	■	■	■	■	■	4	5	6	16				1600...	
	1601-6-5 N ...	■	■	■	■	■	6	5	6	16				1600...	
	1601-8-5 N ...			■	■	■	8	5	6	16				1600...	
														Accuracy class of UTILIS □ 41	
														- +	
<b>VALUE-LINE</b>	1601 B-3-5 N ...	■					3	5	6	16				1600...	

\* Mirror polished



CUT off



1602...

Order designation	Carbide	19	Dimensions	Holder												
	<table border="1"> <tr> <td>○</td> <td>●</td> <td>○</td> <td>○</td> </tr> <tr> <td>○</td> <td>○</td> <td>○</td> <td>●</td> </tr> <tr> <td>-</td> <td>-</td> <td>●</td> <td>○</td> </tr> </table>	○	●	○	○	○	○	○	●	-	-	●	○		a c α r	78...
○	●	○	○													
○	○	○	●													
-	-	●	○													
L R	UHM 20 UHM 20 HPX UHM 30 UHM 30 HX															

**PREMIUM-LINE**

Accuracy class of UTILIS 41



1602-0.5-2.5 L G20 ...	1602-0.5-2.5 R G20 ...	■ ■ ■ ■	0.5	2.5	20°	0				1600...
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**STANDARD-LINE**

Accuracy class of UTILIS 41



1602-0.8-5 L ...	1602-0.8-5 R ...	■ ■ ■ ■	0.8	5	15°	0				1600...
1602-1.0-5 L ...	1602-1.0-5 R ...	■ ■ ■ ■	1	5	15°	0				1600...
1602-1.2-5 L ...	1602-1.2-5 R ...	■ ■ ■ ■	1.2	5	15°	0				1600...
1602-1.5-5 L ...	1602-1.5-5 R ...	■ ■ ■ ■	1.5	5	15°	0				1600...

**VALUE-LINE**

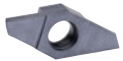
Accuracy class of UTILIS 41



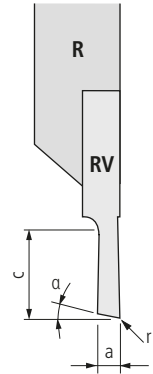
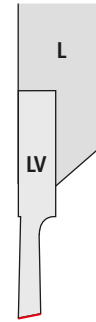
1602 B-1.0-5 L ...	1602 B-1.0-5 R ...	■ ■	1	5	15°	0				1600...
1602 B-1.5-5 L ...	1602 B-1.5-5 R ...	■ ■	1.5	5	15°	0				1600...



CUT off



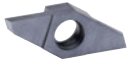
1602... V



V: offset

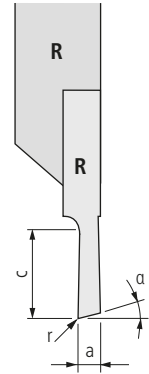
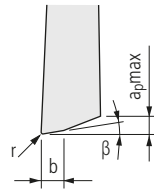
Order designation		Carbide				Dimensions				Holder																																												
		○	●	○	○	a	c	α	r	□ 78...																																												
<b>L</b>	<b>R</b>	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX																																																	
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><b>PREMIUM-LINE</b></p> <table border="1"> <tr> <td>1602-0.5-2.5 LV G20 ...</td> <td>1602-0.5-2.5 RV G20 ...</td> <td>■</td><td>■</td><td>■</td><td>■</td> <td>0.5</td><td>2.5</td><td>20°</td><td>-</td><td>1600...</td> </tr> </table> </div> <div style="width: 50%; text-align: center;"> <p>Accuracy class of UTILIS □ 41</p> </div> </div>											1602-0.5-2.5 LV G20 ...	1602-0.5-2.5 RV G20 ...	■	■	■	■	0.5	2.5	20°	-	1600...																																	
1602-0.5-2.5 LV G20 ...	1602-0.5-2.5 RV G20 ...	■	■	■	■	0.5	2.5	20°	-	1600...																																												
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><b>STANDARD-LINE</b></p> <table border="1"> <tr> <td>1602-0.8-5 LV ...</td> <td>1602-0.8-5 RV ...</td> <td>■</td><td>■</td><td>■</td><td>■</td> <td>0.8</td><td>5</td><td>15°</td><td>-</td><td>1600...</td> </tr> <tr> <td>1602-1.0-5 LV ...</td> <td>1602-1.0-5 RV ...</td> <td>■</td><td>■</td><td>■</td><td>■</td> <td>1</td><td>5</td><td>15°</td><td>-</td><td>1600...</td> </tr> <tr> <td>1602-1.2-5 LV ...</td> <td>1602-1.2-5 RV ...</td> <td>■</td><td>■</td><td>■</td><td>■</td> <td>1.2</td><td>5</td><td>15°</td><td>-</td><td>1600...</td> </tr> <tr> <td>1602-1.5-5 LV ...</td> <td>1602-1.5-5 RV ...</td> <td>■</td><td>■</td><td>■</td><td>■</td> <td>1.5</td><td>5</td><td>15°</td><td>-</td><td>1600...</td> </tr> </table> </div> <div style="width: 50%; text-align: center;"> <p>Accuracy class of UTILIS □ 41</p> </div> </div>											1602-0.8-5 LV ...	1602-0.8-5 RV ...	■	■	■	■	0.8	5	15°	-	1600...	1602-1.0-5 LV ...	1602-1.0-5 RV ...	■	■	■	■	1	5	15°	-	1600...	1602-1.2-5 LV ...	1602-1.2-5 RV ...	■	■	■	■	1.2	5	15°	-	1600...	1602-1.5-5 LV ...	1602-1.5-5 RV ...	■	■	■	■	1.5	5	15°	-	1600...
1602-0.8-5 LV ...	1602-0.8-5 RV ...	■	■	■	■	0.8	5	15°	-	1600...																																												
1602-1.0-5 LV ...	1602-1.0-5 RV ...	■	■	■	■	1	5	15°	-	1600...																																												
1602-1.2-5 LV ...	1602-1.2-5 RV ...	■	■	■	■	1.2	5	15°	-	1600...																																												
1602-1.5-5 LV ...	1602-1.5-5 RV ...	■	■	■	■	1.5	5	15°	-	1600...																																												
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><b>VALUE-LINE</b></p> <table border="1"> <tr> <td>1602 B-1.0-5 LV ...</td> <td>1602 B-1.0-5 RV ...</td> <td>■</td><td>■</td><td></td><td></td> <td>1</td><td>5</td><td>15°</td><td>-</td><td>1600...</td> </tr> <tr> <td>1602 B-1.5-5 LV ...</td> <td>1602 B-1.5-5 RV ...</td> <td>■</td><td>■</td><td></td><td></td> <td>1.5</td><td>5</td><td>15°</td><td>-</td><td>1600...</td> </tr> </table> </div> <div style="width: 50%; text-align: center;"> <p>Accuracy class of UTILIS □ 41</p> </div> </div>											1602 B-1.0-5 LV ...	1602 B-1.0-5 RV ...	■	■			1	5	15°	-	1600...	1602 B-1.5-5 LV ...	1602 B-1.5-5 RV ...	■	■			1.5	5	15°	-	1600...																						
1602 B-1.0-5 LV ...	1602 B-1.0-5 RV ...	■	■			1	5	15°	-	1600...																																												
1602 B-1.5-5 LV ...	1602 B-1.5-5 RV ...	■	■			1.5	5	15°	-	1600...																																												

Turning and cut off



1602... TOP\*

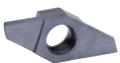
Detail TOP\*



Order designation		Carbide □ 19				Dimensions						Holder □ 78...	
L	R	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	a	c	α	r	β	b	a <sub>pmax</sub>	
		○	●	○	○								
		○	○	○	○								
		-	-	●	○								
		UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX								
Accuracy class of UTILIS □ 41 - +													
1602-1.5-5 L TOP 008 ...	1602-1.5-5 R TOP 008 ...			■	■	1.5	5	15°	0.08	1.5°	0.3	0.3	1600...

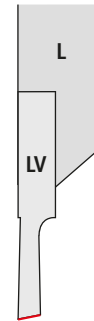
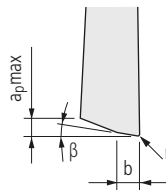
STANDARD-LINE

\* Description TOP □ 25

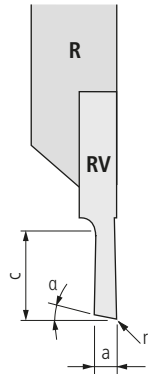


1602... V TOP\*

Detail TOP\*



V: offset

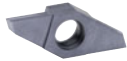
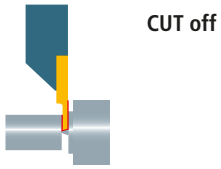


Order designation		Carbide □ 19				Dimensions						Holder □ 78...	
L	R	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	a	c	α	r	β	b	a <sub>pmax</sub>	
		○	●	○	○								
		○	○	○	○								
		-	-	●	○								
		UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX								
Accuracy class of UTILIS □ 41 - +													
1602-1.5-5 LV TOP 008 ...	1602-1.5-5 RV TOP 008 ...			■	■	1.5	5	15°	0.08	1.5°	0.3	0.3	1600...

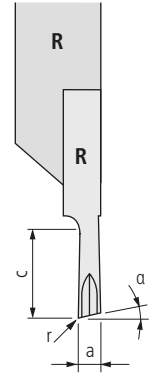
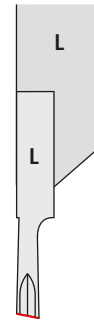
STANDARD-LINE

\* Description TOP □ 25



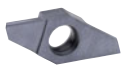


1602... SC

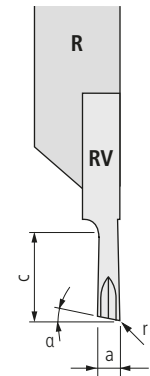
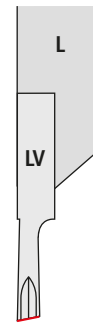


Order designation		Carbide  19				Dimensions						Holder  78...	
<b>L</b>	<b>R</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	a	c	$\alpha$	r				
		UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX								
Accuracy class of UTILIS  41													
1602-1.5-5 L SC ...		1602-1.5-5 R SC ...				1.5	5	15°	-				1600...

**STANDARD-LINE**



1602... V SC



V: offset

Order designation		Carbide  19				Dimensions						Holder  78...	
<b>L</b>	<b>R</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	a	c	$\alpha$	r				
		UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX								
Accuracy class of UTILIS  41													
1602-1.5-5 LV SC ...		1602-1.5-5 RV SC ...				1.5	5	15°	-				1600...

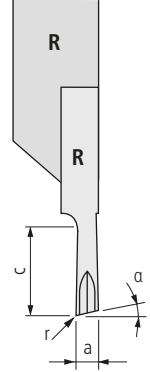
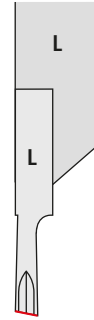
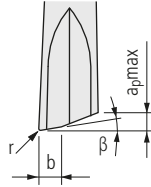
**STANDARD-LINE**

Turning and cut off



1602... SC TOP\*

Detail TOP\*



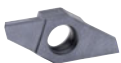
Order designation		Carbide <input type="checkbox"/> 19				Dimensions						Holder <input type="checkbox"/> 78...	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	a	c	$\alpha$	r	$\beta$	b	$a_{pmax}$	
<b>L</b>	<b>R</b>	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX								

**STANDARD-LINE**

Accuracy class of UTILIS  41

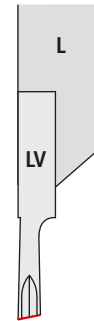
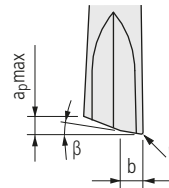
1602-1.5-5 L SC TOP 008 ...	1602-1.5-5 R SC TOP 008 ...	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1.5	5	15°	0.08	1.5°	0.3	0.3	1600...
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\* Description TOP  25

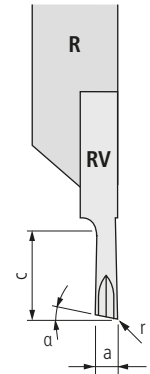


1602... V SC TOP\*

Detail TOP\*



V: offset



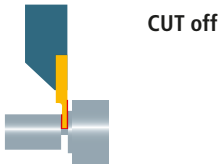
Order designation		Carbide <input type="checkbox"/> 19				Dimensions						Holder <input type="checkbox"/> 78...	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	a	c	$\alpha$	r	$\beta$	b	$a_{pmax}$	
<b>L</b>	<b>R</b>	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX								

**STANDARD-LINE**

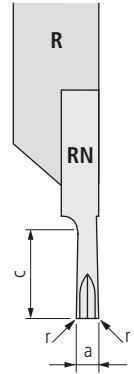
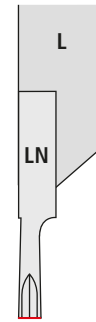
Accuracy class of UTILIS  41

1602-1.5-5 LV SC TOP 008 ...	1602-1.5-5 RV SC TOP 008 ...	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1.5	5	15°	0.08	1.5°	0.3	0.3	1600...
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\* Description TOP  25



1602... N SC



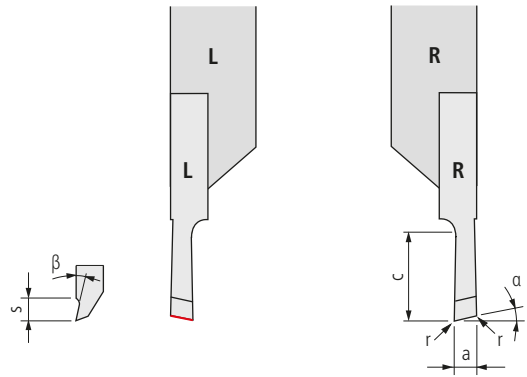
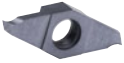
N: neutral

UTILIS  
**multidec**  
swiss type tools

Order designation		Carbide				Dimensions						Holder	
L	R	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	a	c	r					
		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>								
		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>								
		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>								
		UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX								
Accuracy class of UTILIS													
1602-1.5-5 LN SC ...		1602-1.5-5 RN SC ...		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1.5	5	0.05					1600...

**STANDARD-LINE**

CUT off



1602... SPT

Order designation		Carbide				19	Dimensions						Holder
L	R	○	○	●	○	○	a	c	α	β	r	s	78...
		○	○	○	○	○							
		○	○	○	○	○							
		○	○	○	○	○							

**PREMIUM-LINE**

Order designation		Carbide				19	Dimensions						Holder
1602-0.5-2.5 L SPT G20 ...	1602-0.5-2.5-R SPT G20 ...	■	■	■	■	■	0.5	2.5	20°	20°	-	2	1600...

**STANDARD-LINE**

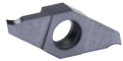
Order designation		Carbide				19	Dimensions						Holder
1602-0.8-5 L SPT ...	1602-0.8-5 R SPT ...	■	■	■	■	■	0.8	5	15°	20°	-	2	1600...
1602-1.0-5 L SPT ...	1602-1.0-5 R SPT ...	■	■	■	■	■	1	5	15°	20°	-	2	1600...
1602-1.0-5 L SPT06 ...	1602-1.0-5 R SPT06 ...	■	■	■	■	■	1	5	15°	6°	0.05	2	1600...
1602-1.0-5 L SPT12 ...	1602-1.0-5 R SPT12 ...	■	■	■	■	■	1	5	15°	12°	0.05	2	1600...
1602-1.2-5 L SPT ...	1602-1.2-5 R SPT ...	■	■	■	■	■	1.2	5	15°	20°	-	2	1600...
1602-1.5-5 L SPT ...	1602-1.5-5 R SPT ...	■	■	■	■	■	1.5	5	15°	20°	-	2	1600...
1602-1.5-5 L SPT06 ...	1602-1.5-5 R SPT06 ...	■	■	■	■	■	1.5	5	15°	6°	0.05	2	1600...
1602-1.5-5 L SPT12 ...	1602-1.5-5 R SPT12 ...	■	■	■	■	■	1.5	5	15°	12°	0.05	2	1600...

**VALUE-LINE**

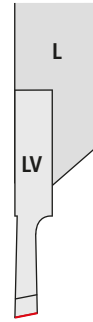
Order designation		Carbide				19	Dimensions						Holder
1602 B-1.0-5 L SPT06 ...	1602 B-1.0-5 R SPT06 ...	■	■	■	■	■	1	5	15°	6°	0.05	2	1600...
1602 B-1.5-5 L SPT06 ...	1602 B-1.5-5 R SPT06 ...	■	■	■	■	■	1.5	5	15°	6°	0.05	2	1600...



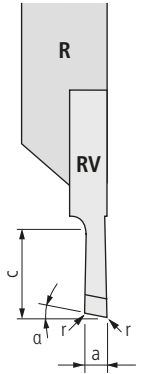
CUT off



1602... V SPT



V: offset



Order designation		Carbide				19	Dimensions						Holder
L	R	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX		a	c	$\alpha$	$\beta$	r	s	

**PREMIUM-LINE**

1602-0.5-2.5 LV SPT G20 ...	1602-0.5-2.5-RV SPT G20 ...			■	■		0.5	2.5	20°	20°	-	2	1600...
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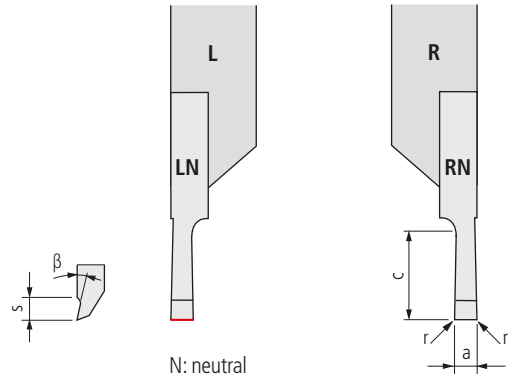
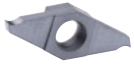
**STANDARD-LINE**

1602-0.8-5 LV SPT ...	1602-0.8-5 RV SPT ...			■	■		0.8	5	15°	20°	-	2	1600...
1602-1.0-5 LV SPT ...	1602-1.0-5 RV SPT ...			■	■		1	5	15°	20°	-	2	1600...
1602-1.0-5 LV SPT06 ...	1602-1.0-5 RV SPT06 ...	■	■				1	5	15°	6°	0.05	2	1600...
1602-1.0-5 LV SPT12 ...	1602-1.0-5 RV SPT12 ...	■	■				1	5	15°	12°	0.05	2	1600...
1602-1.2-5 LV SPT ...	1602-1.2-5 RV SPT ...			■	■		1.2	5	15°	20°	-	2	1600...
1602-1.5-5 LV SPT ...	1602-1.5-5 RV SPT ...			■	■		1.5	5	15°	20°	-	2	1600...
1602-1.5-5 LV SPT06 ...	1602-1.5-5 RV SPT06 ...	■	■				1.5	5	15°	6°	0.05	2	1600...
1602-1.5-5 LV SPT12 ...	1602-1.5-5 RV SPT12 ...	■	■				1.5	5	15°	12°	0.05	2	1600...

**VALUE-LINE**

1602 B-1.0-5 LV SPT06 ...	1602 B-1.0-5 RV SPT06 ...	■	■				1	5	15°	6°	0.05	2	1600...
1602 B-1.5-5 LV SPT06 ...	1602 B-1.5-5 RV SPT06 ...	■	■				1.5	5	15°	6°	0.05	2	1600...

CUT off

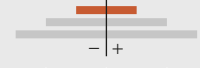


1602... N SPT

Order designation		Carbide				19	Dimensions					Holder
L	R	○	○	●	○	○	a	c	r	s	β	Holder
		○	○	○	○	○						
		-	-	-	-	-						
		UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX							

**PREMIUM-LINE**

Accuracy class of UTILIS 41



1602-0.5-2.5-LN SPT ...	1602-0.5-2.5-RN SPT ...			■	■	0.5	2.5	0.05	2	20°		1600...
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**STANDARD-LINE**

Accuracy class of UTILIS 41



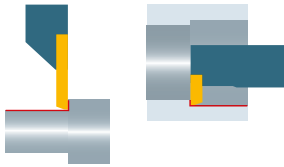
1602-0.8-5 LN SPT ...	1602-0.8-5 RN SPT ...			■	■	0.8	5	0.05	2	20°		1600...
1602-1.0-5 LN SPT ...	1602-1.0-5 RN SPT ...			■	■	1	5	0.05	2	20°		1600...
1602-1.0-5 LN SPT06 ...	1602-1.0-5 RN SPT06 ...	■	■			1	5	0.05	2	6°		1600...
1602-1.0-5 LN SPT12 ...	1602-1.0-5 RN SPT12 ...	■	■			1	5	0.05	2	12°		1600...
1602-1.2-5 LN SPT ...	1602-1.2-5 RN SPT ...			■	■	1.2	5	0.05	2	20°		1600...
1602-1.5-5 LN SPT ...	1602-1.5-5 RN SPT ...			■	■	1.5	5	0.05	2	20°		1600...
1602-1.5-5 LN SPT06 ...	1602-1.5-5 RN SPT06 ...	■	■			1.5	5	0.05	2	6°		1600...
1602-1.5-5 LN SPT12 ...	1602-1.5-5 RN SPT12 ...	■	■			1.5	5	0.05	2	12°		1600...

**VALUE-LINE**

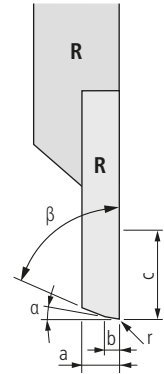
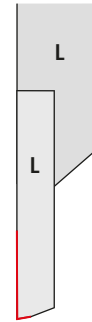
Accuracy class of UTILIS 41



1602 B-1.0-5 LN SPT06 ...	1602 B-1.0-5 RN SPT06 ...	■	■			1	5	0.05	2	6°		1600...
1602 B-1.5-5 LN SPT06 ...	1602 B-1.5-5 RN SPT06 ...	■	■			1.5	5	0.05	2	6°		1600...



Front turning



1603...

Order designation		Carbide				Dimensions							Holder
		○	●	○	○	a	b	c	α	β	r		□ 78...
<b>L</b>	<b>R</b>	-	-	●	○								
		UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX								

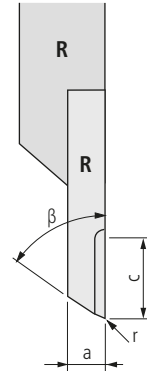
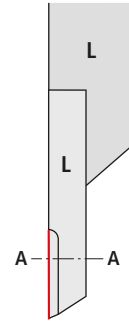
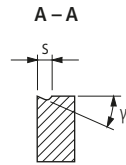
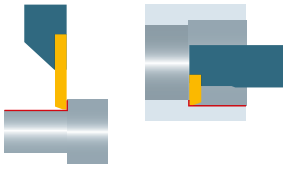
**STANDARD-LINE**

Order designation		Carbide				Dimensions							Holder
		■	■	■	■	a	b	c	α	β	r		□ 78...
1603-3.0-4 L ...	1603-3.0-4 R ...	■	■	■	■	3	1	4	3°	70°	-		1600...
1603-3.0-5 L 55008 ...	1603-3.0-5 R 55008 ...	■	■	■	■	3	-	4	-	55°	0.08		1600...
1603-3.0-5 L 55015 ...	1603-3.0-5 R 55015 ...	■	■	■	■	3	-	4	-	55°	0.15		1600...
1603-3.0-5 L 35008 ...	1603-3.0-5 R 35008 ...	■	■	■	■	3	-	4	-	35°	0.08		1600...
1603-3.0-5 L 35015 ...	1603-3.0-5 R 35015 ...	■	■	■	■	3	-	4	-	35°	0.15		1600...

**VALUE-LINE**

Order designation		Carbide				Dimensions							Holder
		■	■			a	b	c	α	β	r		□ 78...
1603 B-3.0-4 L ...	1603 B-3.0-4 R ...	■	■			3	1	4	3°	70°	-		1600...

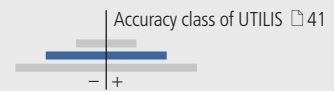
Front turning



1603... SP U...

Order designation		Carbide □ 19				Dimensions							Holder □ 78...
L	R	○	●	○	○	a	c	β	r	s	γ		
		○	○	○	●								
		○	○	○	○								
		-	-	●	○								
		UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX								

**STANDARD-LINE**

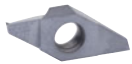


1603-3.0-4 L SP U55003 ...	1603-3.0-4 R SP U55003 ...	■	■	■	■	3	4	55°	0.03	1	12°	1600...
1603-3.0-4 L SP U55008 ...	1603-3.0-4 R SP U55008 ...	■	■	■	■	3	4	55°	0.08	1	12°	1600...
1603-3.0-4 L SP U55015 ...	1603-3.0-4 R SP U55015 ...	■	■	■	■	3	4	55°	0.15	1	12°	1600...
1603-3.0-4 L SP U35003 ...	1603-3.0-4 R SP U35003 ...	■	■	■	■	3	4	35°	0.03	1	12°	1600...
1603-3.0-4 L SP U35008 ...	1603-3.0-4 R SP U35008 ...	■	■	■	■	3	4	35°	0.08	1	12°	1600...
1603-3.0-4 L SP U35015 ...	1603-3.0-4 R SP U35015 ...	■	■	■	■	3	4	35°	0.15	1	12°	1600...

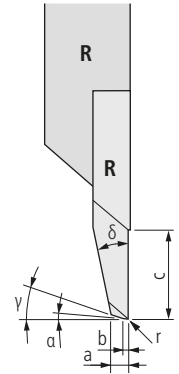
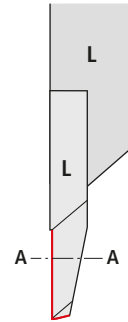
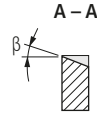




Front turning



1603... CP TOP\*

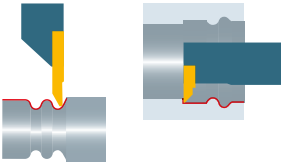


Order designation		Carbide 19				Dimensions								Holder 78...
L	R	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	a	b	c	α	β	γ	r	δ	
		○	●	○	○									
		○	○	○	●									
		○	○	○	○									
		-	-	●	○									
Accuracy class of UTILIS 41														
- +														
1603-3.0-3.5 L CP TOP ZZ ...	1603-3.0-3.5 R CP TOP ZZ ...	■	■	■	■	0.8	0.2	4	1°	15°	2°	-	25°	1600...
1603-3.0-3.5 L CP TOP 003 ...	1603-3.0-3.5 R CP TOP 003 ...	■	■	■	■	0.8	0.2	4	1°	15°	2°	0.03	25°	1600...

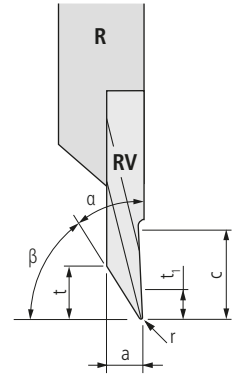
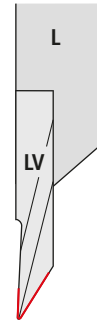
**STANDARD-LINE**

\* Description TOP 25

Copy turning (front)



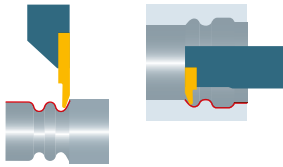
1604...V SP



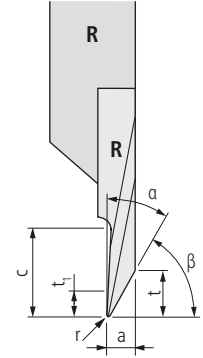
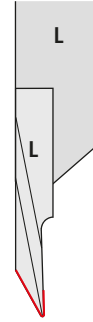
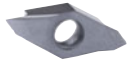
V: offset

Order designation		Carbide				19	Dimensions							Holder	
		○	●	○	○										78...
		○	○	○	●										
		-	-	●	○										
<b>L</b>	<b>R</b>	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX		a	c	α	β	r	t	t <sub>1</sub>		
Accuracy class of UTILIS 41															
1604-2.5-4-5 LV SP29005 ...	1604-2.5-4-5 RV SP29005 ...	■	■	■	■		2.5	5	29°	61°	0.05	4	2		1600...
1604-2.5-4-5 LV SP29015 ...	1604-2.5-4-5 RV SP29015 ...	■	■	■	■		2.5	5	29°	61°	0.15	4	2		1600...

**STANDARD-LINE**



Copy turning (back)

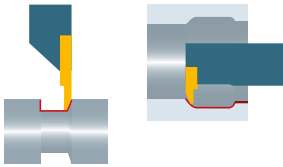


UTILIS  
**multidec**  
swiss type tools

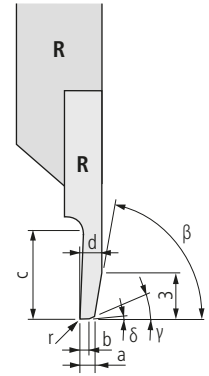
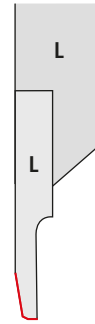
1604... SP

Order designation		Carbide				Dimensions								Holder
L	R	○	●	○	○	a	c	$\alpha$	$\beta$	r	t	t <sub>1</sub>	78...	
		○	○	○	●									
		-	-	●	○									
		UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX									
Accuracy class of UTILIS 41														
1604-1.25-2-3 L SP29005 ...	1604-1.25-2-3 R SP29005 ...	■	■	■	■	1.25	2.5	29°	61°	0.05	2	1	1600...	
1604-2.5-4-5 L SP29005 ...	1604-2.5-4-5 R SP29005 ...	■	■	■	■	2.5	5	29°	61°	0.05	4	2	1600...	
1604-2.5-4-5 L SP29015 ...	1604-2.5-4-5 R SP29015 ...	■	■	■	■	2.5	5	29°	61°	0.15	4	2	1600...	

**STANDARD-LINE**



Back turning



1604... TOP\*

Order designation		Carbide				19	Dimensions								Holder
L	R	○	●	○	○	19	a	b	c	d	β	γ	r	δ	78...
		○	○	○	●										
		-	-	●	○										
		UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX										

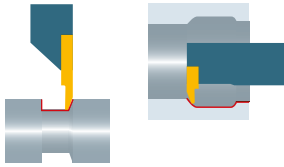
**STANDARD-LINE**

						Accuracy class of UTILIS 41								
1604-0.15-2 L TOP ZZ ...	1604-0.15-2 R TOP ZZ ...	■	■	■	■	0.15	0.05	2	1	70°	8°	-	-	1600...
1604-0.2-2 L TOP 008 ...	1604-0.2-2 R TOP 008 ...	■	■	■	■	0.25	0.15	2	1	70°	8°	0.08	-	1600...
1604-0.4-4 L TOP 008 ...	1604-0.4-4 R TOP 008 ...	■	■	■	■	0.4	0.15	4	1.6	70°	8°	0.08	-	1600...
1604-0.8-4 L TOP 008 ...	1604-0.8-4 R TOP 008 ...	■	■	■	■	0.8	0.15	4	2	70°	8°	0.08	-	1600...
1604-1.2-4 L TOP ZZ ...	1604-1.2-4 R TOP ZZ ...	■	■	■	■	1.2	0.5	4	2.4	70°	8°	-	1°	1600...

**VALUE-LINE**

						Accuracy class of UTILIS 41								
1604 B-0.8-4 L TOP 008 ...	1604 B-0.8-4 R TOP 008 ...	■	■			0.8	0.15	4	2	70°	8°	0.08	-	1600...
1604 B-1.2-4 L TOP ZZ ...	1604 B-1.2-4 R TOP ZZ ...	■	■			1.2	0.5	4	2.4	70°	8°	-	1°	1600...

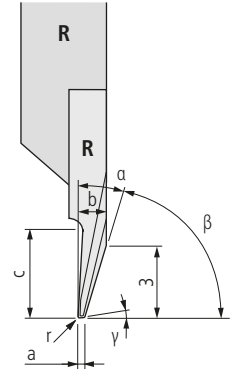
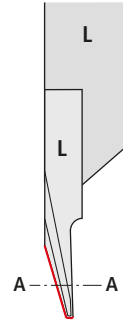
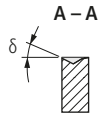
\* Description TOP 25



Back turning



1604... SP TOP\*



Order designation	Carbide	19	Dimensions	Holder
	○ ● ○ ○			78...
	○ ○ ○ ○			
	- - ● ○			
<b>L</b>	UHM 20	UHM 20 HPX	a c b α β γ δ r	
<b>R</b>	UHM 30	UHM 30 HX		

**STANDARD-LINE**

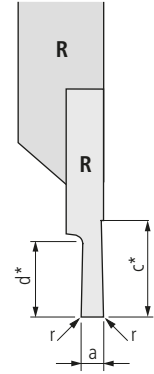
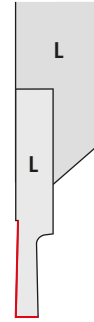
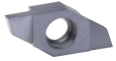
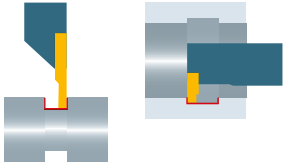
Accuracy class of UTILIS 41



1604-1.5-3 L SP TOP 20ZZ ...	1604-1.5-3 R SP TOP 20ZZ ...	■ ■ ■ ■	0.3	3	1.5	20°	70°	1.5°	15°	-	1600...
1604-1.5-3 L SP TOP 20005 ...	1604-1.5-3 R SP TOP 20005 ...	■ ■ ■ ■	0.3	3	1.5	20°	70°	1.5°	15°	0.05	1600...

\* Description TOP 25

Grooving and turning



1605...

Order designation		Carbide □ 19				Dimensions								Holder □ 78...
L	R	○	○	●	○	○	○	○	○	○	○	○	○	
		○	○	○	○	○	○	○	○	○	○	○	○	
		-	-	●	○									
		UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	a	c*	d*	r					

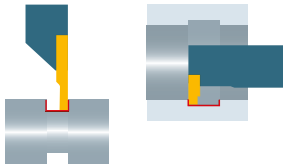
**STANDARD-LINE**

Order designation		Carbide				Dimensions								Holder
1605-0.5-1.5 L ...	1605-0.5-1.5 R ...	■	■	■	■	0.5	1.5	1.5	0.05					1600...
1605-1.0-2.5 L ...	1605-1.0-2.5 R ...	■	■	■	■	1	2.5	2.5	0.05					1600...
1605-1.5-3 L ...	1605-1.5-3 R ...	■	■	■	■	1.5	3	3	0.05					1600...

**VALUE-LINE**

Order designation		Carbide				Dimensions								Holder
1605 B-1.0-2.5 L ...	1605 B-1.0-2.5 R ...	■	■			1	2.5	2.5	0.05					1600...
1605 B-1.5-3 L ...	1605 B-1.5-3 R ...	■	■			1.5	3	3	0.05					1600...

\* c: maximal turning capacity  
d: maximal grooving capacity



Grooving and turning

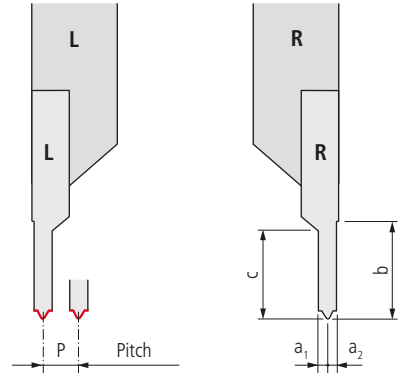
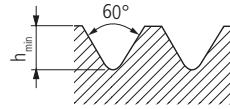
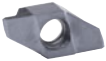
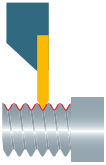


1605... CP




Order designation		Carbide				Dimensions					Holder	
L	R	○	●	○	○	a	c*	d*	r	β		Holder □ 78...
		○	○	○	●							
		-	-	●	○							
		UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX							
Accuracy class of UTILIS □ 41												
1605-0.8-2.5 L CP ...	1605-0.8-2.5 R CP ...	■	■	■	■	0.8	2.5	2.5	-	15°		1600...
1605-1.0-3.5 L CP ...	1605-1.0-3.5 R CP ...	■	■	■	■	1	3.5	3.5	-	15°		1600...
1605-1.0-3.5 L CP R05 ...	1605-1.0-3.5 R CP R05 ...	■	■	■	■	1	3.5	3.5	0.05	15°		1600...
1605-1.5-3.5 L CP ...	1605-1.5-3.5 R CP ...	■	■	■	■	1.5	3.5	3.5	-	15°		1600...
1605-1.5-3.5 L CP R08 ...	1605-1.5-3.5 R CP R08 ...	■	■	■	■	1.5	3.5	3.5	0.08	15°		1600...
1605-2.0-3.5 L CP ...	1605-2.0-3.5 R CP ...	■	■	■	■	2	3.5	3.5	-	15°		1600...
1605-2.0-3.5 L CP R08 ...	1605-2.0-3.5 R CP R08 ...	■	■	■	■	2	3.5	3.5	0.08	15°		1600...

\* c: maximal turning capacity  
d: maximal grooving capacity




Threading (full profile metric)






1606... VP

Order designation		Carbide 				Standard			Dimensions					Holder 	
L	R	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	ISO DIN13	NIHS 06-03	NIHS 06-02	P	h <sub>min</sub>	a <sub>1</sub>	a <sub>2</sub>	b	c	

PREMIUM-LINE

Order designation		Carbide 				Standard			Dimensions					Holder 	
L	R	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	ISO DIN13	NIHS 06-03	NIHS 06-02	P	h <sub>min</sub>	a <sub>1</sub>	a <sub>2</sub>	b	c	
1606-0.06-60 VP L ...	1606-0.06-60 VP R ...			■	■	-	-	S 0.2*	0.06	0.037	0.04	0.03	4	-	1600...
1606-0.08-60 VP L ...	1606-0.08-60 VP R ...			■	■	-	-	S 0.3	0.08	0.049	0.05	0.04	4	-	1600...
1606-0.09-60 VP L ...	1606-0.09-60 VP R ...			■	■	-	-	S 0.35	0.09	0.055	0.05	0.05	4	-	1600...
1606-0.1-60 VP L ...	1606-0.1-60 VP R ...			■	■	-	-	S 0.4	0.1	0.061	0.06	0.06	4	-	1600...
1606-0.125-60 VP L ...	1606-0.125-60 VP R ...			■	■	-	-	S 0.5	0.125	0.077	0.08	0.07	4	-	1600...
1606-0.15-60 VP L ...	1606-0.15-60 VP R ...			■	■	-	-	S 0.6	0.15	0.092	0.09	0.08	4	-	1600...
1606-0.175-60 VP L ...	1606-0.175-60 VP R ...	■	■	■	■	-	-	S 0.7	0.175	0.104	0.1	0.1	4	-	1600...
1606-0.2-60 VP L ...	1606-0.2-60 VP R ...	■	■	■	■	-	-	S 0.8	0.2	0.123	0.12	0.11	4	-	1600...
1606-0.225-60 VP L ...	1606-0.225-60 VP R ...	■	■	■	■	-	-	S 0.9	0.225	0.138	0.14	0.12	4	-	1600...
1606-0.25-60 VP L ...	1606-0.25-60 VP R ...	■	■	■	■	M 1/1.2	M 1/1.2	S 1/1.2	0.25	0.153	0.15	0.14	4	-	1600...
1606-0.3-60 VP L ...	1606-0.3-60 VP R ...	■	■	■	■	-	M 1.4	S 1.4	0.3	0.184	0.18	0.17	4	-	1600...
1606-0.35-60 VP L ...	1606-0.35-60 VP R ...	■	■	■	■	M 1.6	M 1.6/1.8	-	0.35	0.215	0.21	0.19	4	-	1600...
1606-0.4-60 VP L ...	1606-0.4-60 VP R ...	■	■	■	■	M 2	M 2	-	0.4	0.245	0.24	0.22	4	-	1600...
1606-0.45-60 VP L ...	1606-0.45-60 VP R ...	■	■	■	■	M 2.5	M 2.2/2.5	-	0.45	0.276	0.27	0.25	4	-	1600...

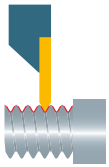
STANDARD-LINE

Order designation		Carbide 				Standard			Dimensions					Holder 	
L	R	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	ISO DIN13	NIHS 06-03	NIHS 06-02	P	h <sub>min</sub>	a <sub>1</sub>	a <sub>2</sub>	b	c	
1606-0.5-60 VP L ...	1606-0.5-60 VP R ...	■	■	■	■	M 3	M 3	-	0.5	0.307	0.28	0.28	4	1.3	1600...
1606-0.6-60 VP L ...	1606-0.6-60 VP R ...	■	■	■	■	-	M 3.5	-	0.6	0.368	0.33	0.33	4	1.5	1600...
1606-0.7-60 VP L ...	1606-0.7-60 VP R ...	■	■	■	■	M 4	M 4	-	0.7	0.429	0.39	0.39	4	1.8	1600...
1606-0.75-60 VP L ...	1606-0.75-60 VP R ...	■	■	■	■	-	M 4.5	-	0.75	0.46	0.41	0.41	4	1.9	1600...
1606-0.8-60 VP L ...	1606-0.8-60 VP R ...	■	■	■	■	M 5	M 5	-	0.8	0.491	0.44	0.44	4	2	1600...
1606-1.0-60 VP L ...	1606-1.0-60 VP R ...	■	■	■	■	M 6/7	-	-	1	0.613	0.55	0.55	4	2.5	1600...
1606-1.25-60 VP L ...	1606-1.25-60 VP R ...	■	■	■	■	M 8/9	-	-	1.25	0.767	0.69	0.69	4	3	1600...

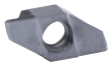
\* Similar to the norme

Recommendations for thread cutting  164

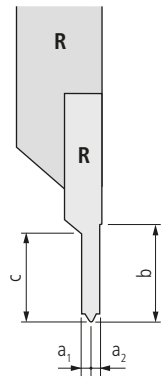
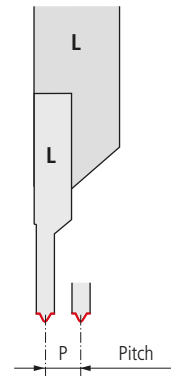
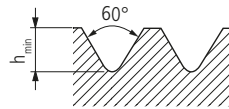




Threading (full profile UN)



1606... UN ... VP



Order designation	Carbide	Standard / thread type ANSI/ASME B1.1 (Tolerance class 2A/2B/ 3A/3B)	Dimensions						Holder 																																
			P (T/inch)	P	$h_{min}$	$a_1$	$a_2$	b		c																															
<b>L</b>	<table border="1"> <tr><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td></tr> <tr><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td></tr> <tr><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td></tr> <tr><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td></tr> </table>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<table border="1"> <tr><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td></tr> <tr><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td></tr> <tr><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td></tr> <tr><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td><td><input type="radio"/></td></tr> </table>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	UN	UNC	UNF	UNEF	UNS	UNR	
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**PREMIUM-LINE**

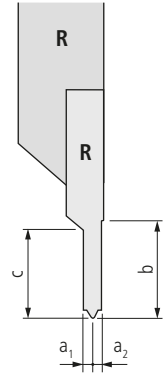
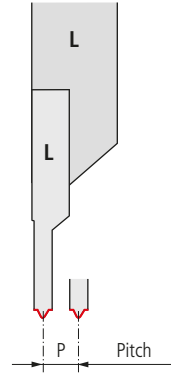
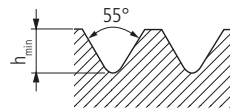
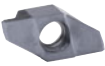
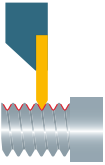
Order designation	Order designation	Carbide	Standard	P	P	$h_{min}$	$a_1$	$a_2$	b	c	Holder
1606-80 UN 60 VP L ...	1606-80 UN 60 VP R ...	<input checked="" type="checkbox"/>	UN	80	0.317	0.194	0.22	0.17	4	-	1600...
1606-72 UN 60 VP L ...	1606-72 UN 60 VP R ...	<input checked="" type="checkbox"/>	UN	72	0.353	0.217	0.25	0.19	4	-	1600...
1606-64 UN 60 VP L ...	1606-64 UN 60 VP R ...	<input checked="" type="checkbox"/>	UN	64	0.397	0.244	0.3	0.22	4	-	1600...
1606-56 UN 60 VP L ...	1606-56 UN 60 VP R ...	<input checked="" type="checkbox"/>	UN	56	0.453	0.278	0.32	0.25	4	-	1600...

**STANDARD-LINE**




Order designation	Order designation	Carbide	Standard	P	P	$h_{min}$	$a_1$	$a_2$	b	c	Holder
1606-48 UN 60 VP L ...	1606-48 UN 60 VP R ...	<input checked="" type="checkbox"/>	UN	48	0.529	0.325	0.29	0.29	4	1.4	1600...
1606-44 UN 60 VP L ...	1606-44 UN 60 VP R ...	<input checked="" type="checkbox"/>	UN	44	0.577	0.354	0.32	0.32	4	1.4	1600...
1606-40 UN 60 VP L ...	1606-40 UN 60 VP R ...	<input checked="" type="checkbox"/>	UN	40	0.635	0.39	0.35	0.35	4	1.8	1600...
1606-36 UN 60 VP L ...	1606-36 UN 60 VP R ...	<input checked="" type="checkbox"/>	UN	36	0.705	0.432	0.39	0.39	4	1.8	1600...
1606-32 UN 60 VP L ...	1606-32 UN 60 VP R ...	<input checked="" type="checkbox"/>	UN	32	0.794	0.487	0.44	0.44	4	2	1600...
1606-28 UN 60 VP L ...	1606-28 UN 60 VP R ...	<input checked="" type="checkbox"/>	UN	28	0.907	0.556	0.5	0.5	4	2.2	1600...
1606-24 UN 60 VP L ...	1606-24 UN 60 VP R ...	<input checked="" type="checkbox"/>	UN	24	1.058	0.649	0.58	0.58	4	2.2	1600...
1606-20 UN 60 VP L ...	1606-20 UN 60 VP R ...	<input checked="" type="checkbox"/>	UN	20	1.27	0.779	0.7	0.7	4	2.9	1600...


Recommendations for thread cutting 164

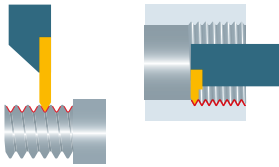
Threading (full profile pipe thread)



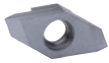
1606-G ...VP

Order designation		Carbide  19				Standard	Dimensions							Holder  78...
L	R	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	ANSI B1.1	P (T/Inch)	P	h <sub>min</sub>	a <sub>1</sub>	a <sub>2</sub>	b	c	
Accuracy class of UTILIS  41														
1606-G 28-55 VP L ...	1606-G 28-55 VP R ...			■	■	1/8	28	0.907	0.581	0.5	0.5	4	2.3	1600...
						1/16	28	0.907	0.581	0.5	0.5	4	2.3	1600...
1606-G 19-55 VP L ...	1606-G 19-55 VP R ...			■	■	1/4	19	1.337	0.856	0.74	0.74	4	3.3	1600...
						3/8	19	1.337	0.856	0.74	0.74	4	3.3	1600...
						1/2	14	1.814	1.162	1	1	4	4	1600...
1606-G 14-55 VP L ...	1606-G 14-55 VP R ...			■	■	5/8	14	1.814	1.162	1	1	4	4	1600...
						3/4	14	1.814	1.162	1	1	4	4	1600...
						7/8	14	1.814	1.162	1	1	4	4	1600...

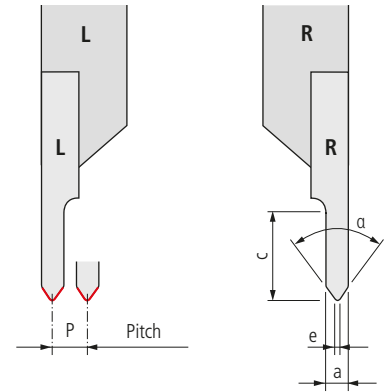
Recommendations for thread cutting  164



Threading (partial profile 55°/60°)



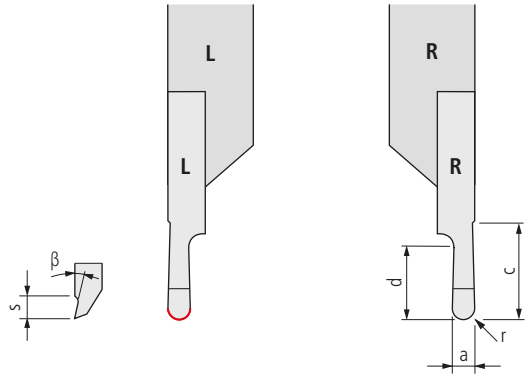
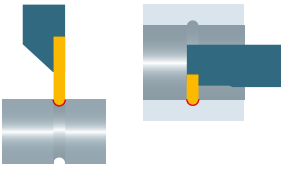
1606...



Order designation		Carbide <span>☐ 19</span>				Dimensions					Holder <span>☐ 78...</span>	
L	R	○	●	○	○	P	a	c	α	e		
		○	○	○	●							
		-	-	●	○							
		UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX							
Accuracy class of UTILIS <span>☐ 41</span>												
<b>STANDARD-LINE</b>				■	■	0.25-2	2	4	55°	0.035		1600...
1606-2-4-55 L ...	1606-2-4-55 R ...	■	■	■	■	0.25-2	2	4	60°	0.035		1600...
1606-2-4-60 L ...	1606-2-4-60 R ...											
Accuracy class of UTILIS <span>☐ 41</span>												
<b>VALUE-LINE</b>				■	■	0.25-2	2	4	55°	0.035		1600...
1606 B-2-4-55 L ...	1606 B-2-4-55 R ...	■	■			0.25-2	2	4	60°	0.035		1600...
1606 B-2-4-60 L ...	1606 B-2-4-60 R ...											

Recommendations for thread cutting ☐ 164

Radius-grooving



1607...

Order designation		Carbide □ 19				Dimensions							Holder □ 78...
L	R	○	○	●	○	○							
		○	○	○	○	○							
		-	-	●	○	○							
				●	○	○							
		UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	a	c	d	β	r	s		

**PREMIUM-LINE**

Accuracy class of UTILIS □ 41



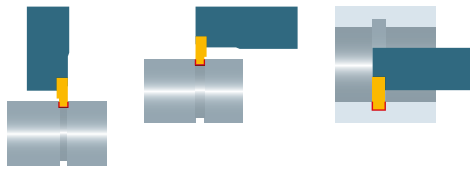
1607-R0.25-2 L ...	1607-R0.25-2 R ...	■	■	■	■	0.5	5	2	6°	0.25	2		1600...
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**STANDARD-LINE**

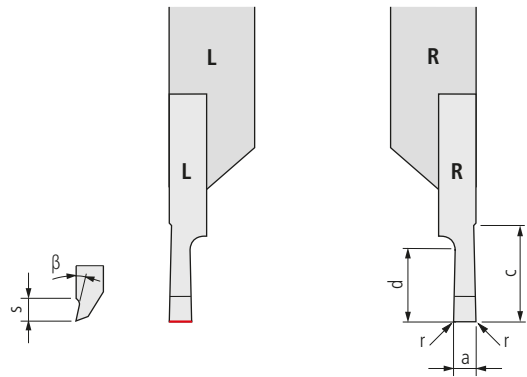
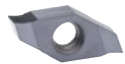
Accuracy class of UTILIS □ 41



1607-R0.4-2.5 L ...	1607-R0.4-2.5 R ...	■	■	■	■	0.8	5	2.5	6°	0.4	2		1600...
1607-R0.5-2.5 L ...	1607-R0.5-2.5 R ...	■	■	■	■	1	5	2.5	6°	0.5	2		1600...
1607-R0.6-2.5 L ...	1607-R0.6-2.5 R ...	■	■	■	■	1.2	5	2.5	6°	0.6	2		1600...
1607-R0.75-3 L ...	1607-R0.75-3 R ...	■	■	■	■	1.5	5	3	6°	0.75	2		1600...
1607-R0.8-3 L ...	1607-R0.8-3 R ...	■	■	■	■	1.6	5	3	6°	0.8	2		1600...
1607-R1.0-4 L ...	1607-R1.0-4 R ...	■	■	■	■	2	5	4	6°	1	2		1600...
1607-R1.5-4 L ...	1607-R1.5-4 R ...	■	■	■	■	3	5	4	6°	1.5	2		1600...



Grooving (radial)



1610...

Order designation		Carbide				Standard	Dimensions						Holder
L	R	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	ISO DIN	a	r	c	d	$\beta$	s	

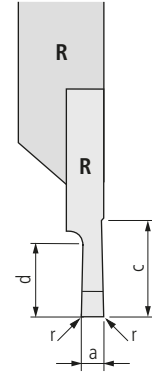
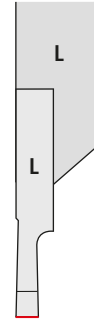
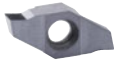
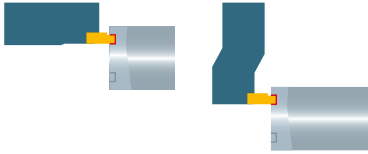
**PREMIUM-LINE**

1610-0.05-0.1 L ...	1610-0.05-0.1 R ...			■	■	-	0.05	$\pm 0.01$	-	5	0.1	6°	1	1600...
1610-0.1-0.2 L ...	1610-0.1-0.2 R ...			■	■	-	0.1	$\pm 0.01$	-	5	0.2	6°	1	1600...
1610-0.15-0.3 L ...	1610-0.15-0.3 R ...			■	■	-	0.15	$\pm 0.01$	-	5	0.3	6°	1	1600...

**STANDARD-LINE**

1610-0.24-0.5 L ...	1610-0.24-0.5 R ...	■	■	■	■	6799	0.24	+0.04/0	-	5	0.5	10°	3	1600...
1610-0.3-0.6 L ...	1610-0.3-0.6 R ...	■	■	■	■	-	0.3	$\pm 0.02$	-	5	0.6	6°	1	1600...
1610-0.34-0.6 L ...	1610-0.34-0.6 R ...	■	■	■	■	6799	0.34	+0.04/0	-	5	0.6	10°	3	1600...
1610-0.4-0.8 L ...	1610-0.4-0.8 R ...	■	■	■	■	-	0.4	$\pm 0.02$	-	5	0.8	6°	1	1600...
1610-0.44-0.8 L ...	1610-0.44-0.8 R ...	■	■	■	■	6799	0.44	+0.04/0	-	5	0.8	10°	3	1600...
1610-0.45-1.5 L ...	1610-0.45-1.5 R ...	■	■	■	■	-	0.45	$\pm 0.02$	-	5	1.5	6°	1	1600...
1610-0.5-1.0 L ...	1610-0.5-1.0 R ...	■	■	■	■	-	0.5	$\pm 0.02$	-	5	1	6°	1	1600...
1610-0.54-0.8 L ...	1610-0.54-0.8 R ...	■	■	■	■	6799	0.54	+0.05/0	-	5	0.8	10°	3	1600...
1610-0.6-1.2 L ...	1610-0.6-1.2 R ...	■	■	■	■	-	0.6	$\pm 0.02$	-	5	1.2	6°	1	1600...
1610-0.64-1.0 L ...	1610-0.64-1.0 R ...	■	■	■	■	6799	0.64	+0.05/0	-	5	1	10°	3	1600...
1610-0.64-1.2 L ...	1610-0.64-1.2 R ...	■	■	■	■	6799	0.64	+0.05/0	-	5	1.2	10°	3	1600...
1610-0.65-0.7 L ...	1610-0.65-0.7 R ...	■	■	■	■	471	0.65	$\pm 0.02$	-	5	0.7	10°	3	1600...
1610-0.7-1.4 L ...	1610-0.7-1.4 R ...	■	■	■	■	-	0.7	$\pm 0.02$	-	5	1.4	6°	1	1600...
1610-0.74-1.8 L ...	1610-0.74-1.8 R ...	■	■	■	■	6799	0.74	+0.05/0	-	5	1.8	10°	3	1600...
1610-0.85-0.9 L ...	1610-0.85-0.9 R ...	■	■	■	■	471	0.85	$\pm 0.02$	-	5	0.9	10°	3	1600...
1610-0.85-1.2 L ...	1610-0.85-1.2 R ...	■	■	■	■	-	0.85	$\pm 0.02$	-	5	1.2	10°	3	1600...
1610-0.94-2.3 L ...	1610-0.94-2.3 R ...	■	■	■	■	6799	0.94	+0.05/0	-	5	2.3	10°	3	1600...
1610-0.95-1.0 L ...	1610-0.95-1.0 R ...	■	■	■	■	471	0.95	$\pm 0.02$	-	5	1	10°	3	1600...
1610-1.0-1.14 L ...	1610-1.0-1.14 R ...	■	■	■	■	471	1	$\pm 0.02$	-	5	1.14	10°	3	1600...
1610-1.05-2.3 L ...	1610-1.05-2.3 R ...	■	■	■	■	6799	1.05	+0.08/0	-	5	2.3	10°	3	1600...
1610-1.15-2.8 L ...	1610-1.15-2.8 R ...	■	■	■	■	6799	1.15	+0.08/0	-	5	2.8	10°	3	1600...
1610-1.2-1.34 L ...	1610-1.2-1.34 R ...	■	■	■	■	471/472	1.2	$\pm 0.02$	-	5	1.34	10°	3	1600...
1610-1.25-2.8 L ...	1610-1.25-2.8 R ...	■	■	■	■	6799	1.25	+0.08/0	-	5	2.8	10°	3	1600...
1610-1.35-3.3 L ...	1610-1.35-3.3 R ...	■	■	■	■	6799	1.35	+0.08/0	-	5	3.3	10°	3	1600...
1610-1.4-1.53 L ...	1610-1.4-1.53 R ...	■	■	■	■	471/472	1.4	$\pm 0.02$	-	5	1.53	10°	3	1600...
1610-1.5-3L	1610-1.5-3R	■	■	■	■	-	1.5	$\pm 0.02$	-	5	3	10°	3	1600...
1610-1.55-3.8 L ...	1610-1.55-3.8 R ...	■	■	■	■	6799	1.55	+0.08/0	-	5	3.8	10°	3	1600...
1610-1.7-1.82 L ...	1610-1.7-1.82 R ...	■	■	■	■	471/472	1.7	$\pm 0.02$	-	5	1.82	10°	3	1600...
1610-1.95-2.0 L ...	1610-1.95-2.0 R ...	■	■	■	■	471/472	1.95	$\pm 0.02$	-	5	2	10°	3	1600...
1610-2.25-2.0 L ...	1610-2.25-2.0 R ...	■	■	■	■	471/472	2.25	$\pm 0.02$	-	5	2	10°	3	1600...
1610-2.75-2.0 L ...	1610-2.75-2.0 R ...	■	■	■	■	471/472	2.75	$\pm 0.02$	-	5	2	10°	3	1600...

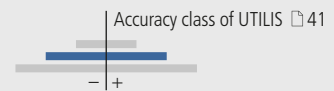
Grooving (axial)



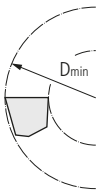
1611...

Order designation	Carbide □ 19	Dimensions							Holder □ 78...															
	<table border="1"> <tr> <td>○</td><td>○</td><td>●</td><td>○</td><td>○</td> </tr> <tr> <td>○</td><td>○</td><td>○</td><td>○</td><td>●</td> </tr> <tr> <td>-</td><td>-</td><td>●</td><td>○</td><td>○</td> </tr> </table>	○	○	●	○	○	○	○	○	○	●	-	-	●	○	○	a	r	c	D <sub>min</sub>	d	β	s	
○	○	●	○	○																				
○	○	○	○	●																				
-	-	●	○	○																				
<b>L</b>	<b>R</b>	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	±0.02																		

**STANDARD-LINE**

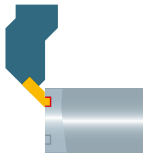


1611-0.5-1 L ...	1611-0.5-1 R ...	■	■	■	■	0.5	0.05	4	7	1	8°	1.2	1600...
1611-0.6-1.2 L ...	1611-0.6-1.2 R ...	■	■	■	■	0.6	0.05	4	8	1.2	8°	1.2	1600...
1611-0.8-1.5 L ...	1611-0.8-1.5 R ...	■	■	■	■	0.8	0.05	4	8	1.5	8°	1.2	1600...
1611-1.0-2 L ...	1611-1.0-2 R ...	■	■	■	■	1	0.05	4	8	2	8°	1.2	1600...
1611-1.5-2.5 L ...	1611-1.5-2.5 R ...	■	■	■	■	1.5	0.05	4	14	2.5	8°	1.2	1600...
1611-2.0-3 L ...	1611-2.0-3 R ...	■	■	■	■	2	0.05	4	18	3	8°	1.2	1600...
1611-2.5-3.5 L ...	1611-2.5-3.5 R ...	■	■	■	■	2.5	0.05	4	18	3.5	8°	1.2	1600...



**Attention**  
The groove must not be made underneath the D<sub>min</sub>-position.

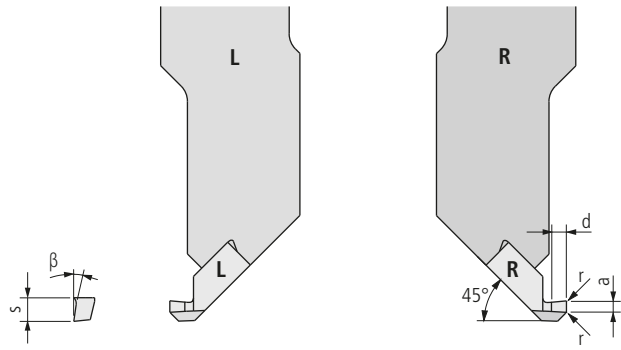
Pay attention to the "working situations" for the correct selection of the combinations of tools and inserts □ 28



Miniature grooving (axial)



1611-45...

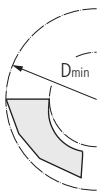


Order designation		Carbide 19				Dimensions						Holder 89
L	R	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	a	r	D <sub>min</sub>	d	β	s	
		○	●	○	○	±0.01						
		○	○	○	●							
		-	-	●	○							
		UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX							

Accuracy class of UTILIS 41												
1611-45-0.25-0.5 L ...	1611-45-0.25-0.5 R ...			■	■	0.25	-	0.8	0.5	8°	0.5	1600... 45 STA
1611-45-0.5-1.0 L ...	1611-45-0.5-1.0 R ...			■	■	0.5	-	1.6	1	8°	1	1600... 45 STA
1611-45-0.75-1.5 L ...	1611-45-0.75-1.5 R ...			■	■	0.75	-	2.4	1.5	8°	1.5	1600... 45 STA
1611-45-1.0-2.0 L ...	1611-45-1.0-2.0 R ...			■	■	1	-	3.2	2	8°	2	1600... 45 STA

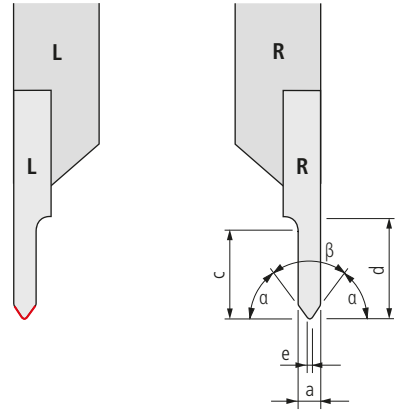
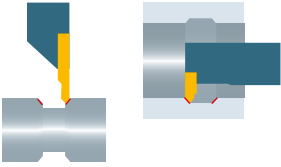
**PREMIUM-LINE**



**Attention**  
The first groove must be made exactly on the D<sub>min</sub>-position.

Pay attention to the "working situations" for the correct selection of the combinations of tools and inserts 28

Chamfering

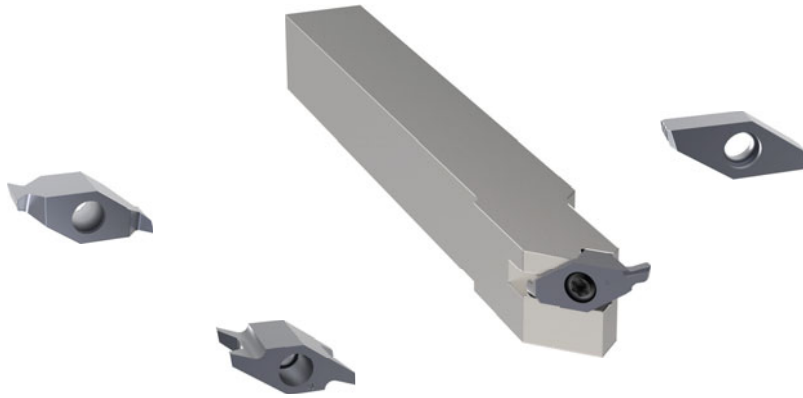


1612...

Order designation		Carbide				19	Dimensions							Holder		
		○	●	○	○										78...	
		○	●	○	●											
		○	○	○	○											
<b>L</b>	<b>R</b>	-	-	●	○		a	c	d	α	β	e				
				UHM 20	UHM 20 HPX	UHM 30										
						UHM 30 HX										
<b>STANDARD-LINE</b>												Accuracy class of UTILIS 41				
												-   +				
1612-1-4-45 L ...	1612-1-4-45 R ...			■	■		1	4	4	45°	90°	-			1600...	
1612-2-4-60 L ...	1612-2-4-60 R ...			■	■		2	4	4	60°	60°	0.035			1600...	



1694..., 1696..., 1698..., 1699...

**Product description**

Development and production of multidec® tools for your own specific needs.

**Customer's situation**

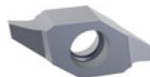
A special machining method makes it impossible or difficult to use tools from the standard multidec® range. You need a special insert, a special tool or coating which is not included in our standard product range.

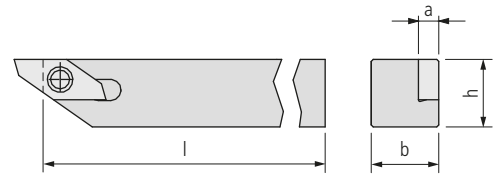
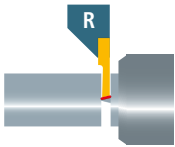
**UTILIS solution**

After detailed consultation, we will develop and make the best multidec® solution for your particular needs. Normally this will be done using standard blanks which enable the special tools to be produced and delivered quickly and at reasonable cost. The familiar multidec® quality is of course always guaranteed.

**Advantages:**

- UTILIS know-how and quality also for special tools
- Standard blanks permit fast and reasonably priced delivery
- Tools developed to meet your specific needs





1600...

Order designation		Dimensions						Inserts
L	R	h	b	l	a			49...

STANDARD-LINE

Accuracy class of UTILIS □ 41



1600-07x100 L	■	1600-07x100 R	■	7	7	100	3				16...
1600-08x80 L	■	1600-08x80 R	■	8	8	80	3				16...
1600-08x100 L	■	1600-08x100 R	■	8	8	100	3				16...
1600-10x80 L	■	1600-10x80 R	■	10	10	80	3				16...
1600-10x100 L	■	1600-10x100 R	■	10	10	100	3				16...
1600-12x100 L	■	1600-12x100 R	■	12	12	100	3				16...
1600-16x125 L	■	1600-16x125 R	■	16	16	125	3				16...
1600-20x125 L	■	1600-20x125 R	■	20	20	125	3				16...
1600-25x125 L	■	1600-25x125 R	■	25	25	125	3				16...

VALUE-LINE

Accuracy class of UTILIS □ 41



1600 B-10x100 L	■	1600 B-10x100 R	■	10	10	100	3				16...
1600 B-12x100 L	■	1600 B-12x100 R	■	12	12	100	3				16...
1600 B-16x125 L	■	1600 B-16x125 R	■	16	16	125	3				16...

1600... INCH

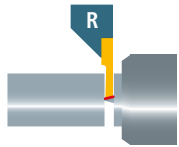
Order designation		Dimensions						Inserts
L	R	h	b	l	a			49...

STANDARD-LINE

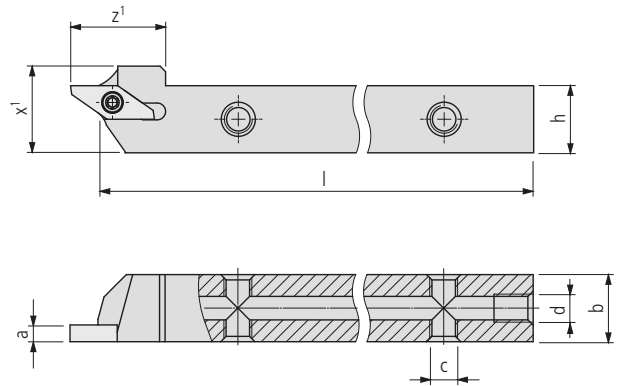
Accuracy class of UTILIS □ 41



1600-3/8"x80 L	■	1600-3/8"x80 R	■	9.525	9.525	80	3				16...
1600-3/8"x100 L	■	1600-3/8"x100 R	■	9.525	9.525	100	3				16...
1600-1/2"x100 L	■	1600-1/2"x100 R	■	12.7	12.7	100	3				16...
1600-5/8"x125 L	■	1600-5/8"x125 R	■	15.875	15.875	125	3				16...
1600-3/4"x125 L	■	1600-3/4"x125 R	■	19.05	19.05	125	3				16...



With internal cooling



1600... IC

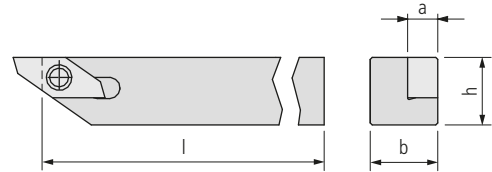
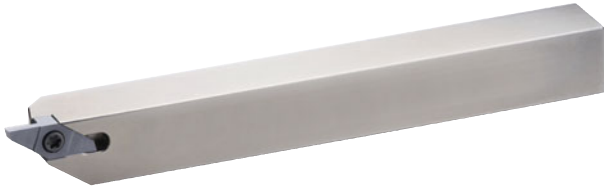
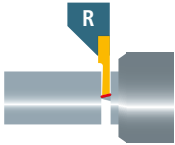
Order designation				Dimensions								Inserts
L	R	h	b	l	a	z¹	x¹	c	d	□49...		
Accuracy class of UTILIS □ 41												
1600-08x100 L IC	■	1600-08x100 R IC	■	8	10	100	3	15	11.5	M5	M5	16...
1600-10x100 L IC	■	1600-10x100 R IC	■	10	10	100	3	15	13.5	M5	M5	16...
1600-12x100 L IC	■	1600-12x100 R IC	■	12	12	100	3	17	15.5	M5	M5	16...
1600-16x125 L IC	■	1600-16x125 R IC	■	16	16	125	3	17	19.5	M5	G1/8"	16...
1600-20x125 L IC	■	1600-20x125 R IC	■	20	20	125	3	20	23.5	M5	G1/8"	16...

1600... IC INCH

Order designation				Dimensions								Inserts
L	R	h	b	l	a	z¹	x¹	c	d	□49...		
Accuracy class of UTILIS □ 41												
1600-3/8"x100 L IC	■	1600-3/8"x100 R IC	■	9.525	9.525	100	3	15	13	M5	M5	16...
1600-1/2"x100 L IC	■	1600-1/2"x100 R IC	■	12.7	12.7	100	3	17	16.2	M5	M5	16...
1600-5/8"x125 L IC	■	1600-5/8"x125 R IC	■	15.875	15.875	125	3	17	19.4	M5	G1/8"	16...
1600-3/4"x125 L IC	■	1600-3/4"x125 R IC	■	19.05	19.05	125	3	20	22.6	M5	G1/8"	16...

**Scope of delivery:** Holder without coolant connector  
 Coolant connectors □ 632

For special inserts with greater breadth



1600...4

Order designation		Dimensions						Inserts
L	R	h	b	l	a			□ 77...

STANDARD-LINE

Accuracy class of UTILIS □ 41



1600-08x80-4 L	■	1600-08x80-4 R	■	8	8	80	4				1694...*
1600-08x100-4 L	■	1600-08x100-4 R	■	8	8	100	4				1694...*
1600-10x80-4 L	■	1600-10x80-4 R	■	10	10	80	4				1694...*
1600-10x100-4 L	■	1600-10x100-4 R	■	10	10	100	4				1694...*
1600-12x100-4 L	■	1600-12x100-4 R	■	12	12	100	4				1694...*
1600-16x125-4 L	■	1600-16x125-4 R	■	16	16	125	4				1694...*
1600-20x125-4 L	■	1600-20x125-4 R	■	20	20	125	4				1694...*
1600-25x125-4 L	■	1600-25x125-4 R	■	25	25	125	4				1694...*

1600...6

Order designation		Dimensions						Inserts
L	R	h	b	l	a			□ 77...

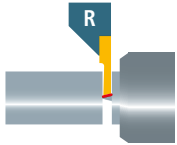
STANDARD-LINE

Accuracy class of UTILIS □ 41

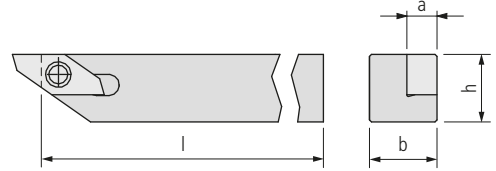
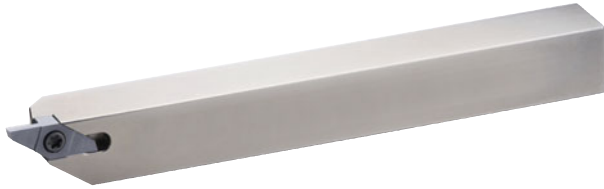


1600-10x80-6 L	■	1600-10x80-6 R	■	10	10	80	6				1696...*
1600-10x100-6 L	■	1600-10x100-6 R	■	10	10	100	6				1696...*
1600-12x100-6 L	■	1600-12x100-6 R	■	12	12	100	6				1696...*
1600-16x125-6 L	■	1600-16x125-6 R	■	16	16	125	6				1696...*
1600-20x125-6 L	■	1600-20x125-6 R	■	20	20	125	6				1696...*
1600-25x125-6 L	■	1600-25x125-6 R	■	25	25	125	6				1696...*

\* Special inserts (on demand) □ 77



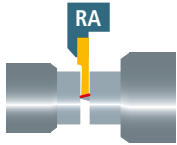
For special inserts with greater breadth



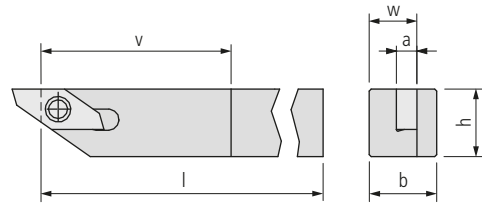
1600...8

Order designation				Dimensions								Inserts
L		R		h	b	l	a					□ 77...
Accuracy class of UTILIS □ 41												
1600-12x100-8 L	■	1600-12x100-8 R	■	12	12	100	8					1698...*
1600-16x125-8 L	■	1600-16x125-8 R	■	16	16	125	8					1698...*
1600-20x125-8 L	■	1600-20x125-8 R	■	20	20	125	8					1698...*
1600-25x125-8 L	■	1600-25x125-8 R	■	25	25	125	8					1698...*

\* Special inserts (on demand) □ 77



With off-set shank and insert



1600... A

Order designation		Dimensions							Inserts
L	R	h	b	l	v	w	a	49...	

STANDARD-LINE

Accuracy class of UTILIS 41



1600-08x80 LA	■	1600-08x80 RA	■	8	8	80	21	6	3	16...
1600-08x100 LA	■	1600-08x100 RA	■	8	8	100	21	6	3	16...
1600-10x80 LA	■	1600-10x80 RA	■	10	10	80	21	6	3	16...
1600-10x100 LA	■	1600-10x100 RA	■	10	10	100	21	6	3	16...
1600-12x100 LA	■	1600-12x100 RA	■	12	12	100	21	6	3	16...
1600-16x125 LA	■	1600-16x125 RA	■	16	16	125	21	6	3	16...

1600... A INCH

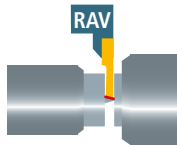
Order designation		Dimensions							Inserts
L	R	h	b	l	v	w	a	49...	

STANDARD-LINE

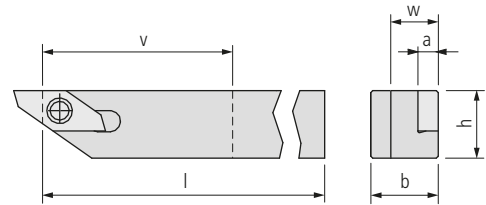
Accuracy class of UTILIS 41



1600-3/8"x80 LA	■	1600-3/8"x80 RA	■	9.525	9.525	80	21	6	3	16...
1600-3/8"x100 LA	■	1600-3/8"x100 RA	■	9.525	9.525	100	21	6	3	16...
1600-1/2"x100 LA	■	1600-1/2"x100 RA	■	12.7	12.7	100	21	6	3	16...
1600-5/8"x125 LA	■	1600-5/8"x125 RA	■	15.875	15.875	125	21	6	3	16...



With off-set shank



1600... AV

Order designation		Dimensions							Inserts
L	R	h	b	l	v	w	a		49...

STANDARD-LINE

Accuracy class of UTILIS 41



1600-08x80 LAV	■	1600-08x80 RAV	■	8	8	80	21	6	3		16...
1600-08x100 LAV	■	1600-08x100 RAV	■	8	8	100	21	6	3		16...
1600-10x80 LAV	■	1600-10x80 RAV	■	10	10	80	21	6	3		16...
1600-10x100 LAV	■	1600-10x100 RAV	■	10	10	100	21	6	3		16...
1600-12x100 LAV	■	1600-12x100 RAV	■	12	12	100	21	6	3		16...
1600-16x125 LAV	■	1600-16x125 RAV	■	16	16	125	21	6	3		16...

1600... AV INCH

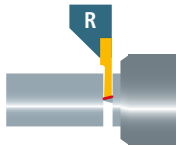
Order designation		Dimensions							Inserts
L	R	h	b	l	v	w	a		49...

STANDARD-LINE

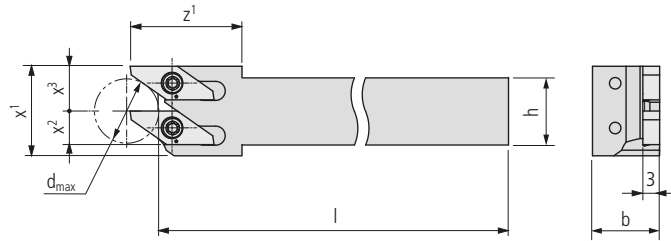
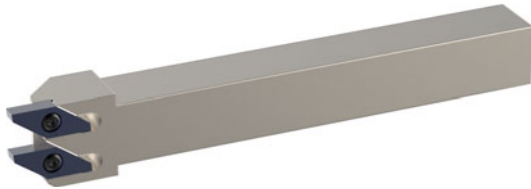
Accuracy class of UTILIS 41



1600-3/8"x80 LAV	■	1600-3/8"x80 RAV	■	9.525	9.525	80	21	6	3		16...
1600-3/8"x100 LAV	■	1600-3/8"x100 RAV	■	9.525	9.525	100	21	6	3		16...
1600-1/2"x100 LAV	■	1600-1/2"x100 RAV	■	12.7	12.7	100	21	6	3		16...
1600-5/8"x125 LAV	■	1600-5/8"x125 RAV	■	15.875	15.875	125	21	6	3		16...



"TWIN" version



1600/1600... TWIN

Order designation		Dimensions										Inserts
L	L	R	R	h	b	l	z <sup>1</sup>	x <sup>1</sup>	x <sup>2</sup>	x <sup>3</sup>	d <sub>max</sub>	□ 49...
Accuracy class of UTILIS □ 41 												
1600L/1600L-0810x100 Twin	■	1600R/1600R-0810x100 Twin	■	8	10	100	20	16	4	8	11.5	16...
1600L/1600L-10x100 Twin	■	1600R/1600R-10x100 Twin	■	10	10	100	20	16	5	8	11.5	16...
1600L/1600L-12x100 Twin	■	1600R/1600R-12x100 Twin	■	12	12	100	20	16	6	8	11.5	16...
1600L/1600L-16x125 Twin	■	1600R/1600R-16x125 Twin	■	16	16	125	20	20	8	10	19	16...
1600L/1600L-20x125 Twin	■	1600R/1600R-20x125 Twin	■	20	20	125	20	24	8	14	34	16...

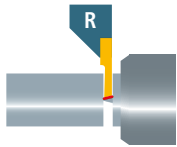
STANDARD-LINE

1600/1600... TWIN INCH

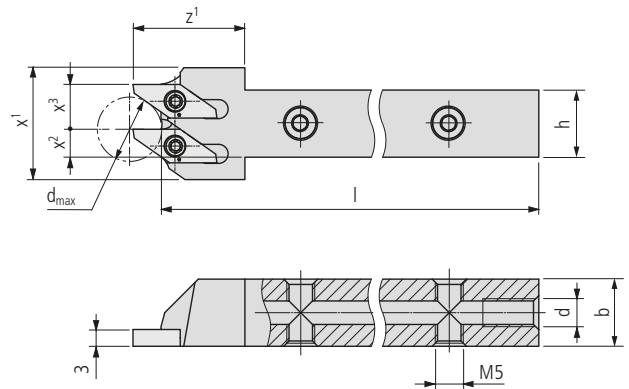
Order designation		Dimensions										Inserts
L	L	R	R	h	b	l	z <sup>1</sup>	x <sup>1</sup>	x <sup>2</sup>	x <sup>3</sup>	d <sub>max</sub>	□ 49...
Accuracy class of UTILIS □ 41 												
1600L/1600L-3/8"x100 Twin	■	1600R/1600R-3/8"x100 Twin	■	9.525	9.525	100	20	16	5	8	11.5	16...
1600L/1600L-1/2"x100 Twin	■	1600R/1600R-1/2"x100 Twin	■	12.7	12.7	100	20	16	6	8	11.5	16...
1600L/1600L-5/8"x125 Twin	■	1600R/1600R-5/8"x125 Twin	■	15.875	15.875	125	20	20	8	10	19	16...
1600L/1600L-3/4"x125 Twin	■	1600R/1600R-3/4"x125 Twin	■	19.05	19.05	125	20	24	7	14	34	16...

STANDARD-LINE





"TWIN" version with internal cooling



1600/1600... TWIN IC

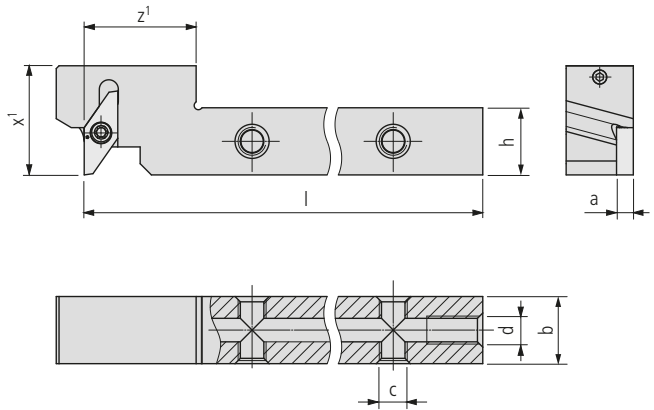
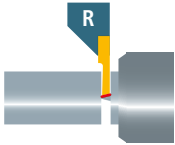
Order designation		Dimensions										Inserts	
L	L	R	R	h	b	l	z <sup>1</sup>	x <sup>1</sup>	x <sup>2</sup>	x <sup>3</sup>	d	d <sub>max</sub>	□49...
Accuracy class of UTILIS □ 41													
1600L/1600L-0812x100 Twin IC	■	1600R/1600R-0812x100 Twin IC	■	8	12	100	20	20	3	8	M5	11.5	16...
1600L/1600L-1012x100 Twin IC	■	1600R/1600R-1012x100 Twin IC	■	10	12	100	20	20	4	8	M5	11.5	16...
1600L/1600L-12x100 Twin IC	■	1600R/1600R-12x100 Twin IC	■	12	12	100	20	20	5	8	M5	11.5	16...
1600L/1600L-16x125 Twin IC	■	1600R/1600R-16x125 Twin IC	■	16	16	125	20	24	7	10	G1/8"	19	16...
1600L/1600L-20x125 Twin IC	■	1600R/1600R-20x125 Twin IC	■	20	20	125	20	28	7	14	G1/8"	34	16...

1600/1600... TWIN IC INCH

Order designation		Dimensions										Inserts	
L	L	R	R	h	b	l	z <sup>1</sup>	x <sup>1</sup>	x <sup>2</sup>	x <sup>3</sup>	d	d <sub>max</sub>	□49...
Accuracy class of UTILIS □ 41													
1600L/1600L-3/8"12x100 Twin IC	■	1600R/1600R-3/8"12x100 Twin IC	■	9.525	12	100	20	20	4	8	M5	11.5	16...
1600L/1600L-1/2"x100 Twin IC	■	1600R/1600R-1/2"x100 Twin IC	■	12.7	12.7	100	20	20	6	8	M5	11.5	16...
1600L/1600L-5/8"x125 Twin IC	■	1600R/1600R-5/8"x125 Twin IC	■	15.875	15.875	125	20	24	7	10	G1/8"	19	16...
1600L/1600L-3/4"x125 Twin IC	■	1600R/1600R-3/4"x125 Twin IC	■	19.05	19.05	125	20	28	6	14	G1/8"	34	16...

**Scope of delivery:** Holder without coolant connector  
Coolant connectors □ 632

"Y-AXIS" version with internal cooling

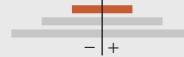


1600 YA... IC

Order designation		Dimensions										Inserts
L	R	h	b	l	a	z¹	x¹	c	d	□ 49...		

PREMIUM-LINE

Accuracy class of UTILIS □ 41



		1600 YA-12x100-20 R IC	■	12	12	100	3	20	19.5	M5	M5	16...
		1600 YA-12x100-25 R IC	■	12	12	100	3	25	19.5	M5	M5	16...
		1600 YA-12x100-30 R IC	■	12	12	100	3	30	19.5	M5	M5	16...
		1600 YA-16x125-20 R IC	■	16	16	125	3	20	19.5	M5	G1/8	16...
		1600 YA-16x125-25 R IC	■	16	16	125	3	25	19.5	M5	G1/8	16...
		1600 YA-16x125-30 R IC	■	16	16	125	3	30	19.5	M5	G1/8	16...

1600 YA... IC INCH

Order designation		Dimensions										Inserts
L	R	h	b	l	a	z¹	x¹	c	d	□ 49...		

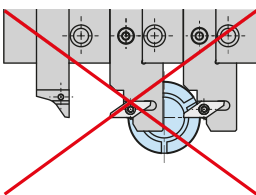
PREMIUM-LINE

Accuracy class of UTILIS □ 41

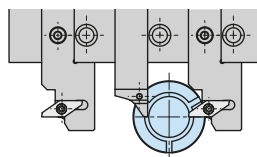


		1600 YA-1/2"x100-20 R IC	■	12.7	12.7	100	3	20	19.5	M5	M5	16...
		1600 YA-1/2"x100-25 R IC	■	12.7	12.7	100	3	25	19.5	M5	M5	16...
		1600 YA-1/2"x100-30 R IC	■	12.7	12.7	100	3	30	19.5	M5	M5	16...
		1600 YA-5/8"x125-20 R IC	■	15.875	15.875	125	3	20	19.5	M5	G1/8	16...
		1600 YA-5/8"x125-25 R IC	■	15.875	15.875	125	3	25	19.5	M5	G1/8	16...
		1600 YA-5/8"x125-30 R IC	■	15.875	15.875	125	3	30	19.5	M5	G1/8	16...

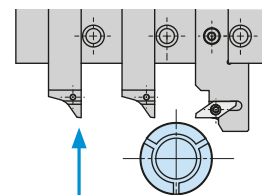
Usage notes:



To avoid problems, two Y-AXIS holders must not be mounted directly next to each other.



Mount a standard tool holder between the Y-AXIS holders.

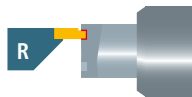


To prevent collisions, move back the holder in accordance with the overhanging length before changing the tool position.

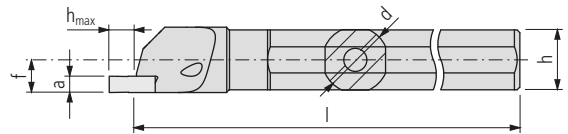
**Scope of delivery:** Holder without coolant connector  
Coolant connectors □ 632

■ New

Legend □ 6



With round shank

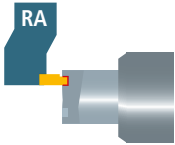


1600... 00 RD . IC

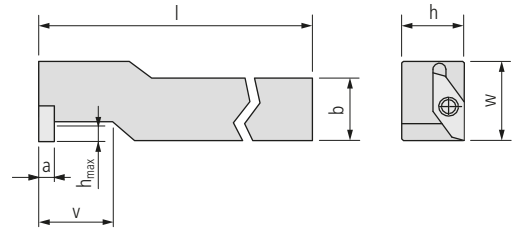
Order designation		Dimensions										Inserts
L	R	d	l	h <sub>max</sub>	a	h	f					49...
Accuracy class of UTILIS 41												
1600-12x125 00 RD L IC	■	1600-12x125 00 RD R IC	■	12	125	5	3	11	6			16...
1600-16x125 00 RD L IC	■	1600-16x125 00 RD R IC	■	16	125	5	3	15	8			16...
1600-20x125 00 RD L IC	■	1600-20x125 00 RD R IC	■	20	125	5	3	19	10			16...
1600-22x125 00 RD L IC	■	1600-22x125 00 RD R IC	■	22	125	5	3	21	11			16...

1600... 00 RD . IC INCH

Order designation		Dimensions										Inserts
L	R	d	l	h <sub>max</sub>	a	h	f					49...
Accuracy class of UTILIS 41												
1600-3/4"x125 00 RD L IC	■	1600-3/4"x125 00 RD R IC	■	19.05	125	5	3	18	9.53			16...



With off-set shank



1600... 90 ST A

Order designation		Dimensions								Inserts*
L	R	h	b	l	v	w	h <sub>max</sub>	a	□ 74...	

STANDARD-LINE

Accuracy class of UTILIS □ 41



1600-08x80 90 ST LA	■	1600-08x80 90 ST RA	■	8	8	80	17	15	4	3	1611...
1600-08x100 90 ST LA	■	1600-08x100 90 ST RA	■	8	8	100	17	15	4	3	1611...
1600-10x80 90 ST LA	■	1600-10x80 90 ST RA	■	10	10	80	17	15	4	3	1611...
1600-10x100 90 ST LA	■	1600-10x100 90 ST RA	■	10	10	100	17	15	4	3	1611...
1600-12x100 90 ST LA	■	1600-12x100 90 ST RA	■	12	12	100	17	15	4	3	1611...
1600-16x125 90 ST LA	■	1600-16x125 90 ST RA	■	16	16	125	17	16	4	3	1611...
1600-20x125 90 ST LA	■	1600-20x125 90 ST RA	■	20	20	125	17	20	4	3	1611...

1600... 90 ST A INCH

Order designation		Dimensions								Inserts*
L	R	h	b	l	v	w	h <sub>max</sub>	a	□ 74...	

STANDARD-LINE

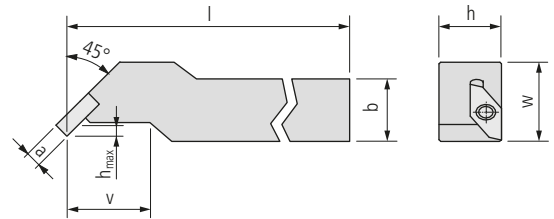
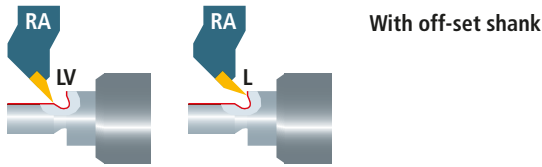
Accuracy class of UTILIS □ 41



1600-3/8"x80 90 ST LA	■	1600-3/8"x80 90 ST RA	■	9.525	9.525	80	17	15	4	3	1611...
1600-3/8"x100 90 ST LA	■	1600-3/8"x100 90 ST RA	■	9.525	9.525	100	17	15	4	3	1611...
1600-1/2"x100 90 ST LA	■	1600-1/2"x100 90 ST RA	■	12.7	12.7	100	17	15	4	3	1611...
1600-5/8"x125 90 ST LA	■	1600-5/8"x125 90 ST RA	■	15.875	15.875	125	17	15.875	4	3	1611...
1600-3/4"x125 90 ST LA	■	1600-3/4"x125 90 ST RA	■	19.05	19.05	125	17	19.05	4	3	1611...

\* Attention

Right hand holder needs left hand insert!

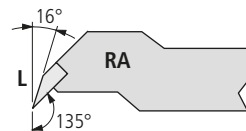
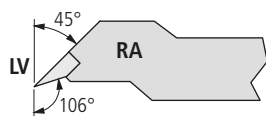


1600... 45 ST A

Order designation		Dimensions									Inserts
L	R	h	b	l	v	w	h <sub>max</sub>	a			63...
STANDARD-LINE <span style="float: right;">Accuracy class of UTILIS □ 41</span> 											
1600-08x100 45 ST LA	■	1600-08x100 45 ST RA	■	8	8	100	17	13	2	3	
1600-10x80 45 ST LA	■	1600-10x80 45 ST RA	■	10	10	80	17	13	2	3	1604...SP
1600-10x100 45 ST LA	■	1600-10x100 45 ST RA	■	10	10	100	17	13	2	3	1611-45...
1600-12x100 45 ST LA	■	1600-12x100 45 ST RA	■	12	12	100	17	13	2	3	1699...
1600-16x125 45 ST LA	■	1600-16x125 45 ST RA	■	16	16	125	17	13	2	3	

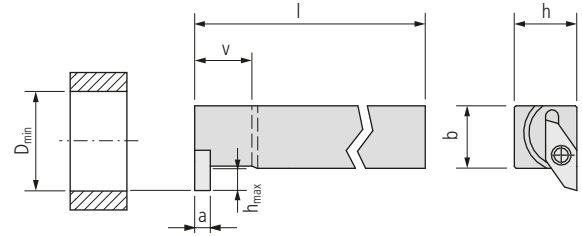
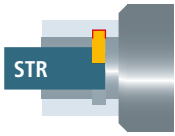
1600... 45 ST A INCH

Order designation		Dimensions									Inserts
L	R	h	b	l	v	w	h <sub>max</sub>	a			63...
STANDARD-LINE <span style="float: right;">Accuracy class of UTILIS □ 41</span> 											
1600-3/8"x80 45 ST LA	■	1600-3/8"x80 45 ST RA	■	9.525	9.525	80	17	13	2	3	
1600-3/8"x100 45 ST LA	■	1600-3/8"x100 45 ST RA	■	9.525	9.525	100	17	13	2	3	1604...SP
1600-1/2"x100 45 ST LA	■	1600-1/2"x100 45 ST RA	■	12.7	12.7	100	17	13	2	3	1611-45...
1600-5/8"x125 45 ST LA	■	1600-5/8"x125 45 ST RA	■	15.875	15.875	125	17	13	2	3	1699...



With these combinations of holder and insert, radially and axially undercuts, up to a limited depth, can be turned with standard inserts 1604... SP... Otherwise, we can grind special inserts 1699..., adapted to your needs.

90



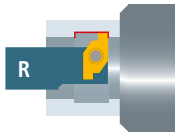
1600... 90 ST

Order designation		Dimensions									Inserts*
L	R	h	b	l	v	h <sub>max</sub>	D <sub>min</sub>	a			49...
Accuracy class of UTILIS 41											
1600-10x100 90 ST L	■	1600-10x100 90 ST R	■	10	10	100	11	4	21	3	16...
1600-12x100 90 ST L	■	1600-12x100 90 ST R	■	12	12	100	11	4	21	3	16...
1600-16x125 90 ST L	■	1600-16x125 90 ST R	■	16	16	125	11	4	21	3	16...

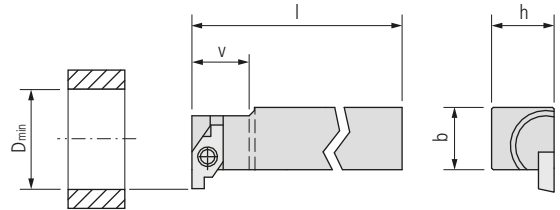
STANDARD-LINE

\* Attention  
 Right hand holder needs left hand insert!

UTILIS  
 multidec®  
 swiss type tools



For special inserts

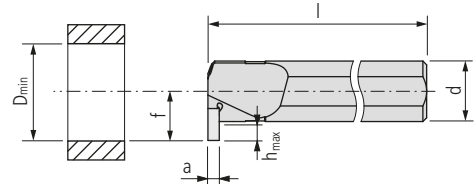
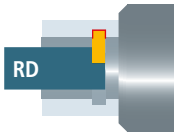


1600... 90

Order designation				Dimensions						Inserts*	
L	R			h	b	l	v	D <sub>min</sub>			□ 77...
Accuracy class of UTILIS □ 41											
1600-10x100 90 L	■	1600-10x100 90 R	■	10	10	100	11	17			1699...
1600-12x100 90 L	■	1600-12x100 90 R	■	12	12	100	11	17			1699...

**STANDARD-LINE**

**\* Attention**  
Right hand holder needs left hand insert!



1600... 90 RD . IC

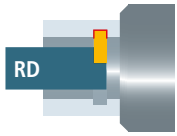
Order designation		Dimensions								Inserts*	
L	R	d	l	h <sub>max</sub>	D <sub>min</sub>	a	f			49...	
		g6									
Accuracy class of UTILIS 41											
1600-12x125 90 RD L IC	■	1600-12x125 90 RD R IC	■	12	125	3	17	3	11		16...
1600-16x150 90 RD L IC	■	1600-16x150 90 RD R IC	■	16	150	3.5	21	3	13		16...
1600-20x180 90 RD L IC	■	1600-20x180 90 RD R IC	■	20	180	4	25	3	15		16...

STANDARD-LINE

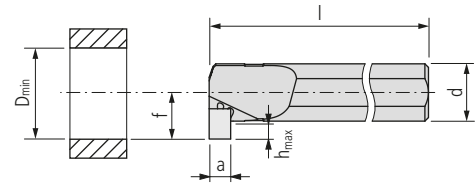
\* Attention  
 Right hand holder needs left hand insert!

UTILIS  
 multidec®  
 swiss type tools





For special inserts with greater breadth



1600... 6-8 90 RD . IC

Order designation		Dimensions								Inserts*
L	R	d	l	h <sub>max</sub>	D <sub>min</sub>	a	f			□ 77...
		g6								
Accuracy class of UTILIS □ 41										
1600-16x150-6-8 90 RD L IC	■	1600-16x150-6-8 90 RD R IC	■	16	150	3.5	21	6	13	1696/98...
1600-20x180-6-8 90 RD L IC	■	1600-20x180-6-8 90 RD R IC	■	20	180	4	25	6	15	1696/98...

STANDARD-LINE

\* Attention  
 Right hand holder needs left hand insert!

Replacement and spare parts

Illustration	Description	Dimensions	Order designation	Holder
	TORX screw	M2.5 × 6 T08	MSP 25060 T08	1600... 3*
		M2.5 × 7 T08	MSP 25070 T08	1600... 4*
		M2.5 × 9 T08	MSP 25090 T08	1600... 6* 1600... 8*

\* Cutting edge width "a"

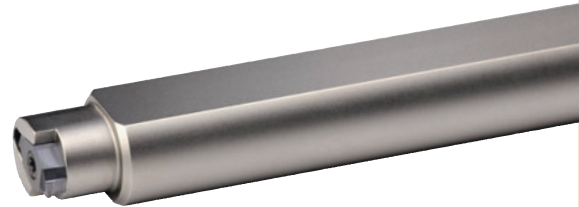
TORX screwdriver □ 664

The turning system 1700 ideally complements the existing system 1600. The inclined position of the insert in the holder enables the tool to pass close to complex shapes with no risk of collision. The inserts consist of two cutting edges. Even for the holders a wide range of possibilities with shank sizes between 8 and 20 mm are available. For Swiss-type automatic lathes special holders have been designed and complete the wide range of choices.






**Advantages:**

- Tool holder clearance given from insert seat
- Grooving inserts width starting from 0.05 mm
- "WCT" threading program for turning NIHS 60-30 threads in watch cases

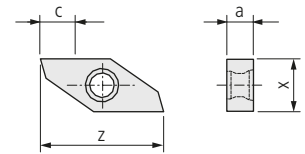
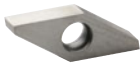


2°



Technical information		9
Inserts		
1701...		96
1706... WCT		97
1710...		98
1711...		99
1799... (special inserts)		100
HOLDERS		
1700... WCT		101
1700...		102
1700... 92 ST		103
1700... 92 ST A		104
Replacement and spare parts		105

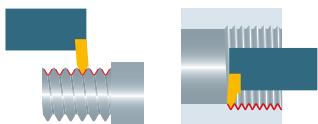
Blank



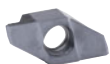
1701...

Order designation	Carbide								HSS		Dimensions				Holder
	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a	c	x	z	<input type="checkbox"/> 78...
<b>N</b>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>					
	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX		HSS	HSS HX								
											Accuracy class of UTILIS <input type="checkbox"/> 41				
<b>PREMIUM-LINE</b>															
1701-3-5 N P...*	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			3	5	6	16	1700...
											Accuracy class of UTILIS <input type="checkbox"/> 41				
<b>STANDARD-LINE</b>															
1701-3-5 N...	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			3	5	6	16	1700...

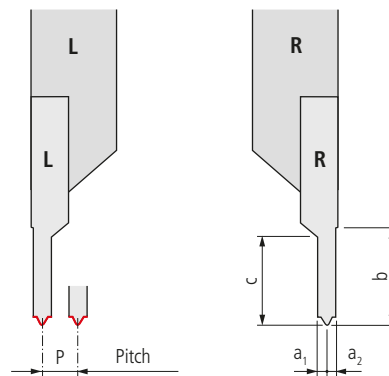
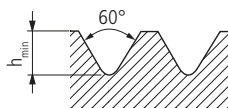
\* Mirror polished



Threading (full profile metric) watch cases



1706... WCT



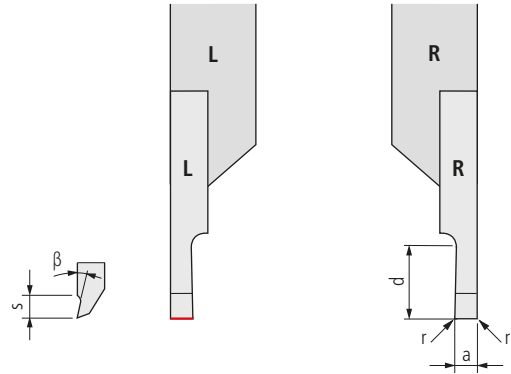
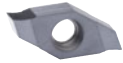
Order designation		Carbide <span style="font-size: 0.8em;">□</span> 19				Standard	Dimensions						Holder <span style="font-size: 0.8em;">□</span> 78...
<b>L</b>	<b>R</b>	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	NIHS 60-30	P	$h_{min}$	$a_1$	$a_2$	b	c	
							Accuracy class of UTILIS <span style="font-size: 0.8em;">□</span> 41						
							0.5	0.315	0.35	0.28	2	1	1700... WCT

**PREMIUM-LINE**



Application recommendation for number of passes at threading □ 164



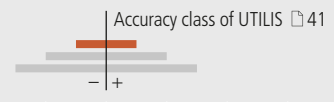
Grooving (radial)



1710...

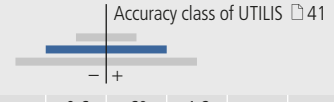
Order designation		Carbide  19				Dimensions						Holder  78...
L	R	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	a	Tolerance	r	d	$\beta$	s	

**PREMIUM-LINE**

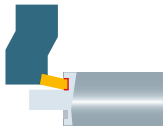


1710-0.05-0.1 L ...	1710-0.05-0.1 R ...			■	■	0.05	±0.01	-	0.1	6°	1.2	1700...
1710-0.1-0.2 L ...	1710-0.1-0.2 R ...			■	■	0.1	±0.01	-	0.2	6°	1.2	1700...
1710-0.2-0.4 L ...	1710-0.2-0.4 R ...			■	■	0.2	±0.01	-	0.4	6°	1.2	1700...

**STANDARD-LINE**



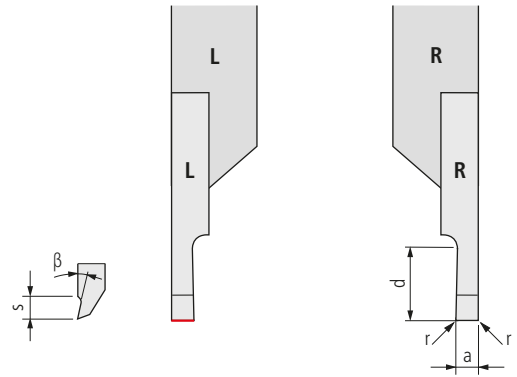
1710-0.3-0.6 L ...	1710-0.3-0.6 R ...			■	■	0.3	±0.02	-	0.6	6°	1.2	1700...
1710-0.4-0.8 L ...	1710-0.4-0.8 R ...			■	■	0.4	±0.02	-	0.8	6°	1.2	1700...
1710-0.5-1.0 L ...	1710-0.5-1.0 R ...			■	■	0.5	±0.02	-	1	6°	1.2	1700...
1710-0.6-1.2 L ...	1710-0.6-1.2 R ...			■	■	0.6	±0.02	-	1.2	6°	1.2	1700...
1710-0.7-1.4 L ...	1710-0.7-1.4 R ...			■	■	0.7	±0.02	-	1.4	6°	1.2	1700...
1710-0.8-1.6 L ...	1710-0.8-1.6 R ...			■	■	0.8	±0.02	-	1.6	6°	1.2	1700...
1710-1.0-2.0 L ...	1710-1.0-2.0 R ...			■	■	1	±0.02	-	2	6°	1.2	1700...
1710-1.5-3.0 L ...	1710-1.5-3.0 R ...			■	■	1.5	±0.02	-	3	6°	1.2	1700...
1710-2.0-4.0 L ...	1710-2.0-4.0 R ...			■	■	2	±0.02	-	4	6°	1.2	1700...



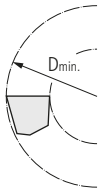
Grooving (axial)



1711...



Order designation		Carbide				Dimensions							Holder
L	R	○	●	○	○	a	r	D <sub>min.</sub>	d	β	s		Holder
		○	○	○	○								
		UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX								
STANDARD-LINE													Accuracy class of UTILIS 41
1711-0.5-1 L...	1711-0.5-1 R...		■	■		0.5	0.05	8	1	8°	1.2		1700...
1711-0.8-1.5 L...	1711-0.8-1.5 R...		■	■		0.8	0.05	8	1.5	8°	1.2		1700...
1711-1.0-2 L...	1711-1.0-2 R...		■	■		1	0.05	9	2	8°	1.2		1700...
1711-1.5-2.5 L...	1711-1.5-2.5 R...		■	■		1.5	0.05	14	2.5	8°	1.2		1700...
1711-2.0-3 L...	1711-2.0-3 R...		■	■		2	0.05	17	3	8°	1.2		1700...
1711-2.5-3.5 L...	1711-2.5-3.5 R...		■	■		2.5	0.05	18	3.5	8°	1.2		1700...



**Attention**  
The groove must not be made underneath the D<sub>min</sub>-position.

Pay attention to the "working situations" for the correct selection of the combinations of tools and inserts 28

1799...

100

UTILIS  
**multidec**<sup>®</sup>  
swiss type tools**Product description**

Development and production of multidec® tools for your own specific needs.

**Customer's situation**

A special machining method makes it impossible or difficult to use tools from the standard multidec® range. You need a special insert, a special tool or coating which is not included in our standard product range.

**UTILIS solution**

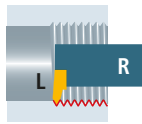
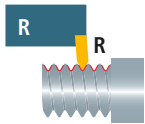
After detailed consultation, we will develop and fabricate the best multidec® solution for your particular needs. Normally this will be done using standard blanks which enable the special tools to be produced and delivered quickly and at reasonable cost. The familiar multidec® quality is of course always guaranteed.

**Advantages:**

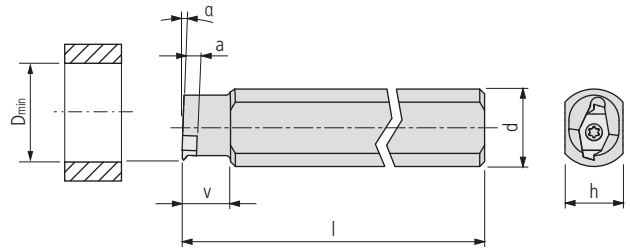
- UTILIS know-how and quality also for special tools
- Standard blanks permit fast and reasonably priced delivery
- Tools developed to meet your specific needs







For external and internal turning



1700... WCT

Order designation



Dimensions

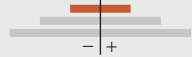
d	l	h	v	D <sub>min</sub>	a	α
g6						

Inserts\*

□ 97

PREMIUM-LINE

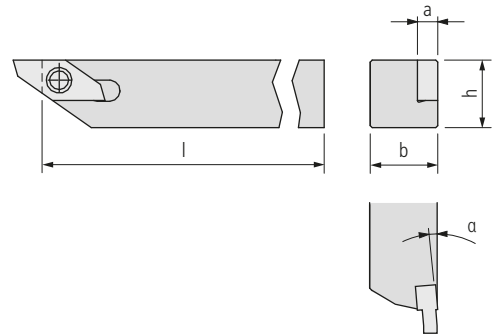
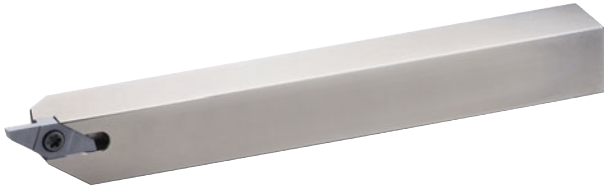
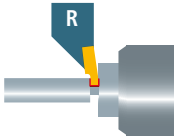
Accuracy class of UTILIS □ 41



1700-12x100 WCT CS D16 L	■	1700-12x100 WCT CS D16 R	■	16	100	12	10	14	3	2°	1706... WCT...
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\* Attention

Right hand holder needs left hand insert!

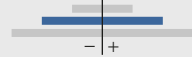


1700...

Order designation		Dimensions							Inserts*
L	R	h	b	l	a	α			□ 98

STANDARD-LINE

Accuracy class of UTILIS □ 41



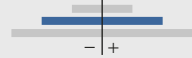
1700-08x80 L	■	1700-08x80 R	■	8	8	80	3	2°			17...
1700-08x100 L	■	1700-08x100 R	■	8	8	100	3	2°			17...
1700-10x80 L	■	1700-10x80 R	■	10	10	80	3	2°			17...
1700-10x100 L	■	1700-10x100 R	■	10	10	100	3	2°			17...
1700-12x100 L	■	1700-12x100 R	■	12	12	100	3	2°			17...
1700-16x125 L	■	1700-16x125 R	■	16	16	125	3	2°			17...
1700-20x125 L	■	1700-20x125 R	■	20	20	125	3	2°			17...

1700... INCH

Order designation		Dimensions							Inserts*
L	R	h	b	l	a	α			□ 98

STANDARD-LINE

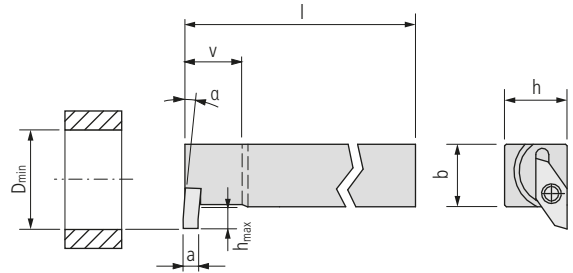
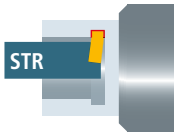
Accuracy class of UTILIS □ 41



1700-3/8"x80 L	■	1700-3/8"x80 R	■	9.525	9.525	80	3	2°			17...
1700-3/8"x100 L	■	1700-3/8"x100 R	■	9.525	9.525	100	3	2°			17...
1700-1/2"x100 L	■	1700-1/2"x100 R	■	12.7	12.7	100	3	2°			17...
1700-5/8"x125 L	■	1700-5/8"x125 R	■	15.875	15.875	125	3	2°			17...
1700-3/4"x125 L	■	1700-3/4"x125 R	■	19.05	19.05	125	3	2°			17...

\* Attention

Right hand holder needs left hand insert!



1700... 92 ST

Order designation				Dimensions								Inserts*
L		R		h	b	l	v	h <sub>max</sub>	a	α	D <sub>min</sub>	□ 98
Accuracy class of UTILIS □ 41												
1700-08x100 92 ST L	■	1700-08x100 92 ST R	■	8	8	100	11	4	3	2°	21	17...
1700-10x100 92 ST L	■	1700-10x100 92 ST R	■	10	10	100	11	4	3	2°	21	17...
1700-12x100 92 ST L	■	1700-12x100 92 ST R	■	12	12	100	11	4	3	2°	21	17...
1700-16x125 92 ST L	■	1700-16x125 92 ST R	■	16	16	125	11	4	3	2°	21	17...
1700-20x125 92 ST L	■	1700-20x125 92 ST R	■	20	20	125	11	4	3	2°	21	17...

1700... 92 ST INCH

Order designation				Dimensions								Inserts*
L		R		h	b	l	v	h <sub>max</sub>	a	α	D <sub>min</sub>	□ 98
Accuracy class of UTILIS □ 41												
1700-3/8"x100 92 ST L	■	1700-3/8"x100 92 ST R	■	9.525	9.525	100	11	4	3	2°	21	17...
1700-1/2"x100 92 ST L	■	1700-1/2"x100 92 ST R	■	12.7	12.7	100	11	4	3	2°	21	17...
1700-5/8"x125 92 ST L	■	1700-5/8"x125 92 ST R	■	15.875	15.875	125	11	4	3	2°	21	17...
1700-3/4"x125 92 ST L	■	1700-3/4"x125 92 ST R	■	19.05	19.05	125	11	4	3	2°	21	17...

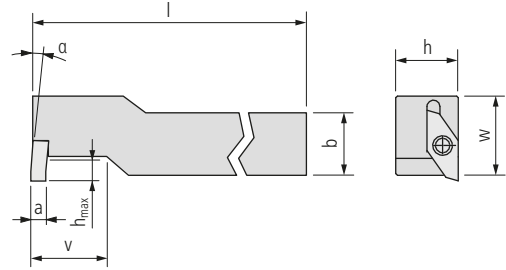
\* Attention  
Right hand holder needs left hand insert!



With off-set shank

104

UTILIS **multidec**®  
swiss type tools



1700... 92 ST A

Order designation		Dimensions										Inserts*
L	R	h	b	l	v	w	h <sub>max</sub>	a	α	□ 99		

STANDARD-LINE

Accuracy class of UTILIS □ 41



1700-08x80 92 ST LA	■	1700-08x80 92 ST RA	■	8	8	80	17	15	4	3	2°	1711...
1700-08x100 92 ST LA	■	1700-08x100 92 ST RA	■	8	8	100	17	15	4	3	2°	1711...
1700-10x80 92 ST LA	■	1700-10x80 92 ST RA	■	10	10	80	17	15	4	3	2°	1711...
1700-10x100 92 ST LA	■	1700-10x100 92 ST RA	■	10	10	100	17	15	4	3	2°	1711...
1700-12x100 92 ST LA	■	1700-12x100 92 ST RA	■	12	12	100	17	15	4	3	2°	1711...
1700-16x125 92 ST LA	■	1700-16x125 92 ST RA	■	16	16	125	17	16	4	3	2°	1711...
1700-20x125 92 ST LA	■	1700-20x125 92 ST RA	■	20	20	125	17	20	4	3	2°	1711...

1700... 92 ST A INCH

Order designation		Dimensions										Inserts*
L	R	h	b	l	v	w	h <sub>max</sub>	a	α	□ 99		

STANDARD-LINE

Accuracy class of UTILIS □ 41



1700-3/8"x80 92 ST LA	■	1700-3/8"x80 92 ST RA	■	9.525	9.525	80	17	15	4	3	2°	1711...
1700-3/8"x100 92 ST LA	■	1700-3/8"x100 92 ST RA	■	9.525	9.525	100	17	15	4	3	2°	1711...
1700-1/2"x100 92 ST LA	■	1700-1/2"x100 92 ST RA	■	12.7	12.7	100	17	15	4	3	2°	1711...
1700-5/8"x125 92 ST LA	■	1700-5/8"x125 92 ST RA	■	15.875	15.875	125	17	15.875	4	3	2°	1711...
1700-3/4"x125 92 ST LA	■	1700-3/4"x125 92 ST RA	■	19.05	19.05	125	17	19.05	4	3	2°	1711...

\* Attention

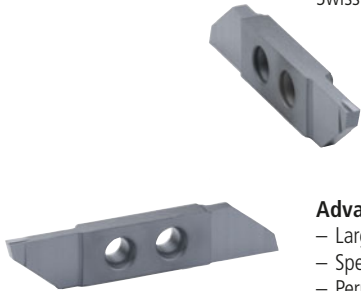
Right hand holder needs left hand insert!

Illustration	Description	Dimensions	Order designation		Holder
	TORX screw	M2.5 × 6 T08	MSP 25060 T08	■	1700...

TORX screwdriver  664

A turn and cut-off tool system for Swiss type lathes up to bar diameter 32 mm. The cutting inserts consist of two cutting edges. The insert seat, which is protected against contamination permits 100 % utilization of all cutting edges.

Even for the holders a wide range of possibilities with shank sizes between 8 and 25 mm are available. For Swiss-type automatic lathes special holders have been designed and complete the wide range of choices.



**Advantages:**

- Large selection of insert geometries with different chip breaker geometries
- Special chip breaker design for machining of small to mid-sized work pieces
- Perpendicularity guaranteed by two fixing screws, large support face and a genuine stop face for axial positioning
- The cutting forces are transferred directly from the insert to the holder; the screws are therefore not exposed to shear stress
- Inserts can be reground
- 2<sup>nd</sup> edge still usable after the first has crashed



Chip breaker "GS"

This insert with the chip breaker "GS" was developed using a revolutionary new manufacturing technology. Geometry, carbide and coating are perfectly matched to cut off all materials. The result is a cut-off insert which will increase your productivity enormously.

**Advantages:**

- Optimally tuned carbide and coating for high cutting speeds
- Good chip control by special chip breaker
- For high feeds
- Rounded cutting edge "E" for steel and easily machineable stainless steel
- Sharp cutting edge "F" for super-alloys, non-ferrous metals and stainless steels which are difficult to machine
- Can be used on all holders of the multidec®-CUT 3000 series
- Reasonably priced



"IC" tool holder with integrated cooling

Cost-efficient processing of modern materials increasingly requires accurate control of the coolant at the cutting edge. Conveying the coolant as close as possible to the cutting edge is often a difficult task in the machine rooms of Swiss type turning lathes.

The multidec®-IC program offers a wide range of holders with integrated cooling. Because of the high precision and pressure, it is possible to discharge the chip quickly and safely from the cutting edge and the workpiece, which protects the cutting edge of the insert. This means significantly longer tool life as well as very reliable serial production.

**Advantages:**

- All holders feature five possible connectors for the coolant supply
- Fixed coolant exit allows for small set-up in front of the holder
- With or without high pressure, the coolant medium always hits the cutting edge precisely

Technical information

9



Inserts

3001...	109
3002..., 3002... V	110
3002... TOP, 3002... V TOP	112
3002... 16, 3002... 16 V	114
3002... SC, 3002... V SC	116
3002... SC TOP, 3002... V SC TOP	118
3002... N SC	120
3002... SPT, 3002... V SPT	122
3002... N SPT	124
3002... GS, 3002... V GS	126
3002... N GS	128
3003...	129
3003... SP ...TOP	130
3004... V SP	131
3004... SP	132
3004... TOP	133
3004... SP TOP	134
3004... CP, 3004... V CP	135
3005...	136
3005... CP	137
3006... VP	138
3006... VP-S	139
3006... UN ...VP	140
3006-G ...VP	141
3006...	142
3007...	143
3012...	144
3099... (special inserts)	145



Holders

3000...	146
3000... IC	147
3000... AV	148
3000... AV IC	149
3000... A	150
3000... A IC	151
3000... C (Combi)	152

Clamping of the insert on holder 3000...C (Combi)

153

Replacement and spare parts

153



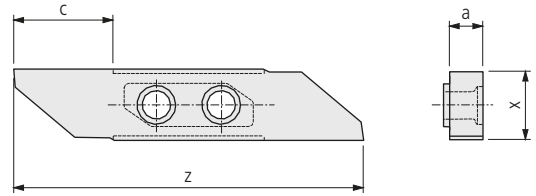
Coolant connectors and accessories

632





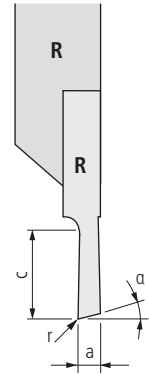
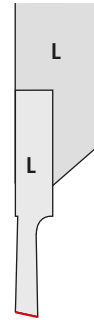
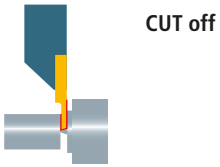
Blank



3001...

Order designation		Carbide				19	HSS		Dimensions				Holder
L	R	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX		HSS	HSS HX	a	c	x	z	146...
		○	●	○	○		●	●					
		○	○	○	●		○	○					
		-	-	●	○		●	○					
Accuracy class of UTILIS □41													
<b>PREMIUM-LINE</b>													
3001-3.5-10 L P ...*	3001-3.5-10 R P ...*	■	■	■	■				3.5	11	8	40.5	3000...
3001-3.6-17 L P ...*	3001-3.6-17 R P ...*	■	■	■	■				3.6	17	8	51.5	3000...
Accuracy class of UTILIS □41													
<b>STANDARD-LINE</b>													
3001-3.5-10 L ...	3001-3.5-10 R ...	■	■	■	■	■	■	■	3.5	11	8	40.5	3000...
3001-3.6-17 L ...	3001-3.6-17 R ...	■	■	■	■	■	■	■	3.6	17	8	51.5	3000...

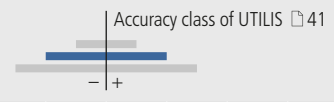
\* Mirror polished



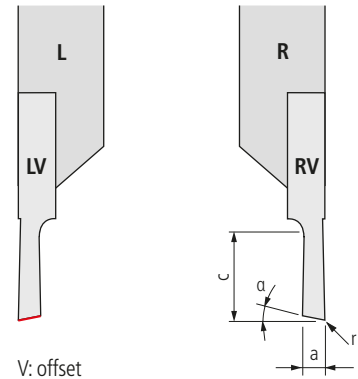
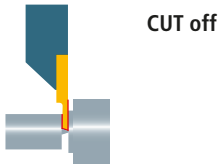
3002...

Order designation	Carbide	19	Dimensions					Holder																
	<table border="1"> <tr> <td>○</td><td>●</td><td>○</td><td>○</td> </tr> <tr> <td>○</td><td>●</td><td>○</td><td>●</td> </tr> <tr> <td>○</td><td>○</td><td>○</td><td>○</td> </tr> <tr> <td>○</td><td>○</td><td>○</td><td>○</td> </tr> </table>	○	●	○	○	○	●	○	●	○	○	○	○	○	○	○	○		a	c	α	r		146...
○	●	○	○																					
○	●	○	●																					
○	○	○	○																					
○	○	○	○																					
L	UHM 20																							
R	UHM 20 HPX																							
	UHM 30																							
	UHM 30 HX																							

**STANDARD-LINE**



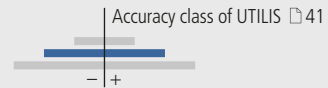
3002-0.8-6 L ...	3002-0.8-6 R ...	■	■	■	■	0.8	6	15°	-				3000...
3002-0.8-10 L ...	3002-0.8-10 R ...	■	■	■	■	0.8	10	15°	-				3000...
3002-1.0-6 L ...	3002-1.0-6 R ...	■	■	■	■	1	6	15°	-				3000...
3002-1.0-13 L ...	3002-1.0-13 R ...	■	■	■	■	1	13	15°	-				3000...
3002-1.2-6 L ...	3002-1.2-6 R ...	■	■	■	■	1.2	6	15°	-				3000...
3002-1.5-8 L ...	3002-1.5-8 R ...	■	■	■	■	1.5	8	15°	-				3000...
3002-1.5-16 L ...	3002-1.5-16 R ...	■	■	■	■	1.5	16	15°	-				3000...
3002-1.8-8 L ...	3002-1.8-8 R ...	■	■	■	■	1.8	8	15°	-				3000...
3002-2.0-10 L ...	3002-2.0-10 R ...	■	■	■	■	2	10	15°	-				3000...
3002-2.0-16 L ...	3002-2.0-16 R ...	■	■	■	■	2	16	15°	-				3000...
3002-2.5-13 L ...	3002-2.5-13 R ...	■	■	■	■	2.5	13	15°	-				3000...
3002-2.5-16 L ...	3002-2.5-16 R ...	■	■	■	■	2.5	16	15°	-				3000...
3002-3.0-16 L ...	3002-3.0-16 R ...	■	■	■	■	3	16	15°	-				3000...



3002... V

Order designation	Carbide	19	Dimensions				Holder															
	<table border="1"> <tr> <td>○</td><td>○</td><td>●</td><td>○</td><td>○</td> </tr> <tr> <td>○</td><td>○</td><td>○</td><td>○</td><td>●</td> </tr> <tr> <td>-</td><td>-</td><td>●</td><td>○</td><td>○</td> </tr> </table>	○	○	●	○	○	○	○	○	○	●	-	-	●	○	○		a	c	α	r	146...
○	○	●	○	○																		
○	○	○	○	●																		
-	-	●	○	○																		
L		UHM 20																				
		UHM 20 HPX																				
R		UHM 30																				
		UHM 30 HX																				

**STANDARD-LINE**



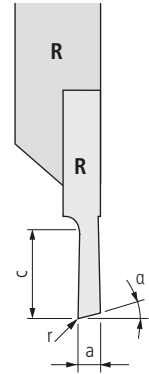
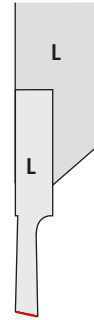
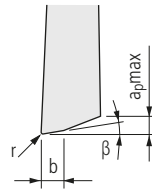
3002-0.8-6 LV ...	3002-0.8-6 RV ...	■	■	■	■	0.8	6	15°	-			3000...
3002-0.8-10 LV ...	3002-0.8-10 RV ...	■	■	■	■	0.8	10	15°	-			3000...
3002-1.0-6 LV ...	3002-1.0-6 RV ...	■	■	■	■	1	6	15°	-			3000...
3002-1.0-13 LV ...	3002-1.0-13 RV ...	■	■	■	■	1	13	15°	-			3000...
3002-1.2-6 LV ...	3002-1.2-6 RV ...	■	■	■	■	1.2	6	15°	-			3000...
3002-1.5-8 LV ...	3002-1.5-8 RV ...	■	■	■	■	1.5	8	15°	-			3000...
3002-1.5-16 LV ...	3002-1.5-16 RV ...	■	■	■	■	1.5	16	15°	-			3000...
3002-1.8-8 LV ...	3002-1.8-8 RV ...	■	■	■	■	1.8	8	15°	-			3000...
3002-2.0-10 LV ...	3002-2.0-10 RV ...	■	■	■	■	2	10	15°	-			3000...
3002-2.0-16 LV ...	3002-2.0-16 RV ...	■	■	■	■	2	16	15°	-			3000...
3002-2.5-13 LV ...	3002-2.5-13 RV ...	■	■	■	■	2.5	13	15°	-			3000...
3002-2.5-16 LV ...	3002-2.5-16 RV ...	■	■	■	■	2.5	16	15°	-			3000...
3002-3.0-16 LV ...	3002-3.0-16 RV ...	■	■	■	■	3	16	15°	-			3000...

Turning and cut off



3002... TOP\*

Detail TOP\*



Order designation		Carbide				19	Dimensions							Holder
L		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	a	c	α	r	β	b	apmax	146...
		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>								
		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>								
		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>								
R		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	a	c	α	r	β	b	apmax	146...
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>									
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>									
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>									
														Accuracy class of UTILIS 41
3002-2.0-10 L TOP 015 ...		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		2	10	15°	0.15	1.5°	0.3	0.45	3000...

**STANDARD-LINE**

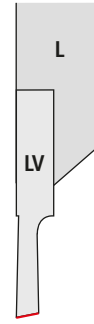
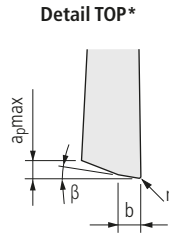
\* Description TOP 25



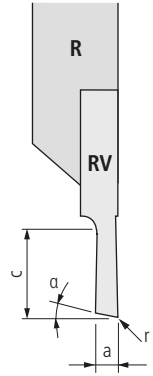
Turning and cut off



3002... V TOP\*



V: offset

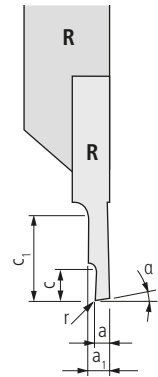
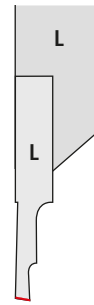
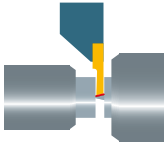


Order designation		Carbide				19	Dimensions							Holder			
		○	●	○	○									146...			
		○	○	○	○												
		○	○	○	○												
		-	-	●	○												
L	R	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX		a	c	α	r	β	b	a <sub>pmax</sub>				
Accuracy class of UTILIS 41																	
3002-2.0-10 LV TOP 015 ...		3002-2.0-10 RV TOP 015 ...				■	■	■	■	2	10	15°	0.15	1.5°	0.3	0.45	3000...

**STANDARD-LINE**

\* Description TOP 25

CUT off with counter-spindle



3002...16

Order designation		Carbide □ 19				Dimensions							Holder
L	R	○	●	○	○	a	a <sub>1</sub>	c	c <sub>1</sub>	α	r		Holder □ 146...
		○	○	○	●								
		-	-	●	○								
		UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX								

**PREMIUM-LINE**

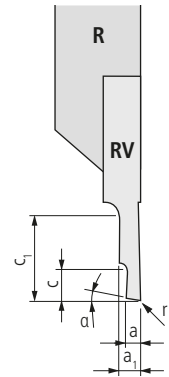
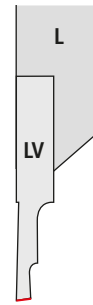
Accuracy class of UTILIS □ 41													
3002-0.5-2.5-16 L G20 ...	3002-0.5-2.5-16 R G20 ...	■	■	0.5	1.9	2.5	16	20°	-				3000...

**STANDARD-LINE**

Accuracy class of UTILIS □ 41													
3002-0.8-6-16 L ...	3002-0.8-6-16 R ...	■	■	■	■	0.8	2	6	16	15°	-		3000...
3002-1.0-6-16 L ...	3002-1.0-6-16 R ...	■	■	■	■	1	2.2	6	16	15°	-		3000...
3002-1.2-6-16 L ...	3002-1.2-6-16 R ...	■	■	■	■	1.2	2.4	6	16	15°	-		3000...



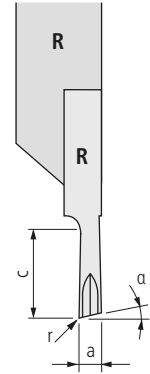
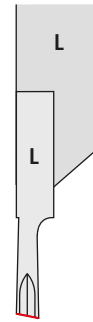
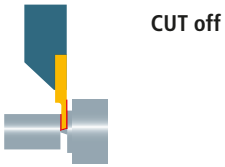
CUT off with counter-spindle



V: offset

3002...16 V

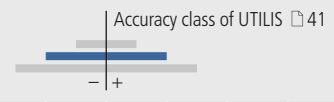
Order designation		Carbide				Dimensions							Holder
L	R	○	●	○	○	a	a <sub>1</sub>	c	c <sub>1</sub>	α	r	Holder	
		○	○	○	●								146...
		UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX								
<p><b>PREMIUM-LINE</b></p> <p>Accuracy class of UTILIS □41</p> <p>3002-0.5-2.5-16 LV G20 ...    3002-0.5-2.5-16 RV G20 ...    ■    ■    0.5    1.9    2.5    16    20°    -    3000...</p>													
<p><b>STANDARD-LINE</b></p> <p>Accuracy class of UTILIS □41</p> <p>3002-0.8-6-16 LV ...    3002-0.8-6-16 RV ...    ■    ■    ■    ■    0.8    2    6    16    15°    -    3000...</p> <p>3002-1.0-6-16 LV ...    3002-1.0-6-16 RV ...    ■    ■    ■    ■    1    2.2    6    16    15°    -    3000...</p> <p>3002-1.2-6-16 LV ...    3002-1.2-6-16 RV ...    ■    ■    ■    ■    1.2    2.4    6    16    15°    -    3000...</p>													



3002... SC

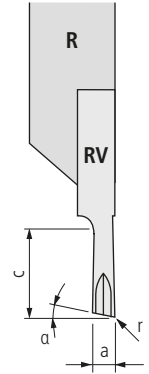
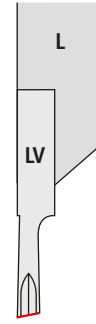
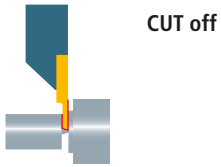
Order designation		Carbide				19	Dimensions						Holder
		○	●	○	○								146...
		○	○	○	●								
		-	-	●	○								
L	R	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX		a	c	α	r			

**STANDARD-LINE**



3002-1.5-8 L SC ...	3002-1.5-8 R SC ...	■	■	■	■	1.5	8	15°	-				3000...
3002-1.5-16 L SC ...	3002-1.5-16 R SC ...	■	■	■	■	1.5	16	15°	-				3000...
3002-2.0-10 L SC ...	3002-2.0-10 R SC ...	■	■	■	■	2	10	15°	-				3000...
3002-2.0-16 L SC ...	3002-2.0-16 R SC ...	■	■	■	■	2	16	15°	-				3000...
3002-2.5-13 L SC ...	3002-2.5-13 R SC ...	■	■	■	■	2.5	13	15°	-				3000...
3002-2.5-16 L SC ...	3002-2.5-16 R SC ...	■	■	■	■	2.5	16	15°	-				3000...
3002-3.0-16 L SC ...	3002-3.0-16 R SC ...	■	■	■	■	3	16	15°	-				3000...



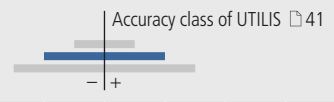


V: offset

3002... V SC

Order designation		Carbide				Dimensions				Holder
		○	●	○	○	a	c	α	r	□ 146...
		○	○	○	●					
		○	○	○	○					
<b>L</b>	<b>R</b>	-	-	●	○					
		UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX					

**STANDARD-LINE**



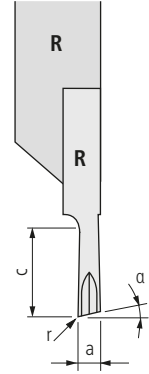
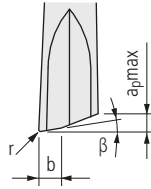
3002-1.5-8 LV SC ...	3002-1.5-8 RV SC ...	■	■	■	■	1.5	8	15°	-			3000...
3002-1.5-16 LV SC ...	3002-1.5-16 RV SC ...	■	■	■	■	1.5	16	15°	-			3000...
3002-2.0-10 LV SC ...	3002-2.0-10 RV SC ...	■	■	■	■	2	10	15°	-			3000...
3002-2.0-16 LV SC ...	3002-2.0-16 RV SC ...	■	■	■	■	2	16	15°	-			3000...
3002-2.5-13 LV SC ...	3002-2.5-13 RV SC ...	■	■	■	■	2.5	13	15°	-			3000...
3002-2.5-16 LV SC ...	3002-2.5-16 RV SC ...	■	■	■	■	2.5	16	15°	-			3000...
3002-3.0-16 LV SC ...	3002-3.0-16 RV SC ...	■	■	■	■	3	16	15°	-			3000...

Turning and cut off



3002... SC TOP\*

Detail TOP\*



Order designation		Carbide				19	Dimensions							Holder
L	R	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	a	c	α	r	β	b	a <sub>pmax</sub>	146...
		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>								
		UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX									

Accuracy class of UTILIS 41													
STANDARD-LINE													
3002-2.0-10 L SC TOP 015 ...	3002-2.0-10 R SC TOP 015 ...	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2	10	15°	0.15	1.5°	0.3	0.45	3000...

\* Description TOP 25

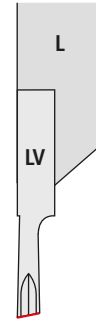
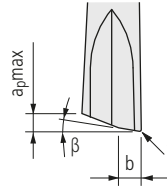


Turning and cut off

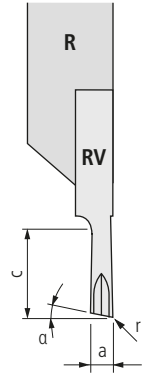


3002... V SC TOP\*

Detail TOP\*



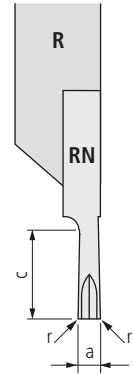
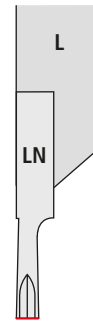
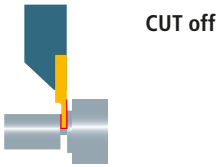
V: offset



Order designation	Carbide	19	Dimensions							Holder
	○ ● ○ ○	○ ○ ● ○	a	c	α	r	β	b	a <sub>pmax</sub>	146...
<b>L</b>	- ○ ○	- ○ ○								
<b>R</b>	○ ○ -	○ ○ ●								
	UHM 20	UHM 20 HPX								
	UHM 30	UHM 30 HX								
Accuracy class of UTILIS 41										
3002-2.0-10 LV SC TOP 015 ...	3002-2.0-10 RV SC TOP 015 ...	■ ■ ■ ■	2	10	15°	0.15	1.5°	0.3	0.45	3000...

**STANDARD-LINE**

\* Description TOP 25

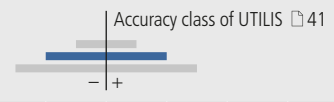


N: neutral

3002... N SC

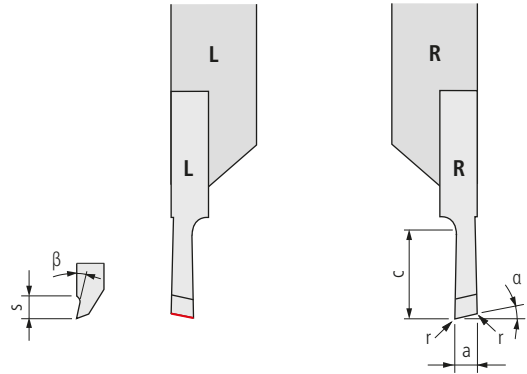
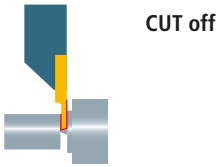
Order designation	Carbide	19	Dimensions							Holder												
	<table border="1"> <tr> <td>○</td><td>●</td><td>○</td><td>○</td> </tr> <tr> <td>○</td><td>○</td><td>○</td><td>●</td> </tr> <tr> <td>-</td><td>-</td><td>●</td><td>○</td> </tr> </table>	○	●	○	○	○	○	○	●	-	-	●	○		a	c	r					146...
○	●	○	○																			
○	○	○	●																			
-	-	●	○																			
L	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX																		

**STANDARD-LINE**



3002-1.5-10 LN SC ...	3002-1.5-10 RN SC ...	■	■	■	■	1.5	10	0.08					3000...
3002-1.5-16 LN SC ...	3002-1.5-16 RN SC ...	■	■	■	■	1.5	16	0.08					3000...
3002-2.0-10 LN SC ...	3002-2.0-10 RN SC ...	■	■	■	■	2	10	0.08					3000...
3002-2.0-16 LN SC ...	3002-2.0-16 RN SC ...	■	■	■	■	2	16	0.08					3000...
3002-2.5-13 LN SC ...	3002-2.5-13 RN SC ...	■	■	■	■	2.5	13	0.08					3000...
3002-2.5-16 LN SC ...	3002-2.5-16 RN SC ...	■	■	■	■	2.5	16	0.08					3000...
3002-3.0-16 LN SC ...	3002-3.0-16 RN SC ...	■	■	■	■	3	16	0.08					3000...

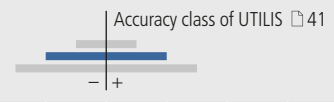




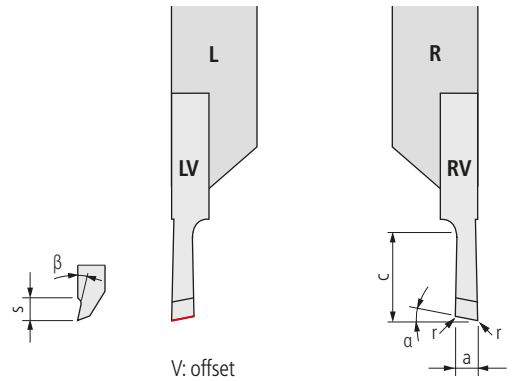
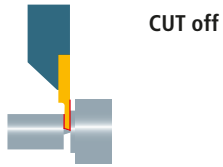
3002... SPT

Order designation	Carbide	19	Dimensions						Holder																		
	<table border="1"> <tr> <td>○</td><td>○</td><td>●</td><td>○</td><td>○</td><td>○</td> </tr> <tr> <td>○</td><td>○</td><td>○</td><td>○</td><td>○</td><td>●</td> </tr> <tr> <td>-</td><td>-</td><td>-</td><td>●</td><td>○</td><td>○</td> </tr> </table>	○	○	●	○	○	○	○	○	○	○	○	●	-	-	-	●	○	○		a	c	$\alpha$	$\beta$	r	s	146...
○	○	●	○	○	○																						
○	○	○	○	○	●																						
-	-	-	●	○	○																						
L	R	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX																						

**STANDARD-LINE**



Order designation	Order designation	Carbide	19	a	c	$\alpha$	$\beta$	r	s	Holder
3002-0.8-10 L SPT ...	3002-0.8-10 R SPT ...		■ ■	0.8	10	15°	20°	-	2	3000...
3002-1.0-13 L SPT ...	3002-1.0-13 R SPT ...		■ ■	1	13	15°	20°	-	2	3000...
3002-1.5-8 L SPT ...	3002-1.5-8 R SPT ...		■ ■	1.5	8	15°	20°	-	2	3000...
3002-1.5-8 L SPT06 ...	3002-1.5-8 R SPT06 ...	■ ■		1.5	8	15°	6°	0.05	2	3000...
3002-1.5-8 L SPT12 ...	3002-1.5-8 R SPT12 ...	■ ■		1.5	8	15°	12°	0.05	2	3000...
3002-1.5-16 L SPT ...	3002-1.5-16 R SPT ...		■ ■	1.5	16	15°	20°	-	2	3000...
3002-2.0-10 L SPT ...	3002-2.0-10 R SPT ...		■ ■	2	10	15°	20°	-	2	3000...
3002-2.0-10 L SPT06 ...	3002-2.0-10 R SPT06 ...	■ ■		2	10	15°	6°	0.05	2	3000...
3002-2.0-10 L SPT12 ...	3002-2.0-10 R SPT12 ...	■ ■		2	10	15°	12°	0.05	2	3000...
3002-2.0-16 L SPT ...	3002-2.0-16 R SPT ...		■ ■	2	16	15°	20°	-	2	3000...
3002-2.0-16 L SPT06 ...	3002-2.0-16 R SPT06 ...	■ ■		2	16	15°	6°	0.05	2	3000...
3002-2.0-16 L SPT12 ...	3002-2.0-16 R SPT12 ...	■ ■		2	16	15°	12°	0.05	2	3000...
3002-2.5-13 L SPT ...	3002-2.5-13 R SPT ...		■ ■	2.5	13	15°	20°	-	2	3000...
3002-2.5-13 L SPT06 ...	3002-2.5-13 R SPT06 ...	■ ■		2.5	13	15°	6°	0.05	2	3000...
3002-2.5-13 L SPT12 ...	3002-2.5-13 R SPT12 ...	■ ■		2.5	13	15°	12°	0.05	2	3000...
3002-2.5-16 L SPT ...	3002-2.5-16 R SPT ...		■ ■	2.5	16	15°	20°	-	2	3000...
3002-2.5-16 L SPT06 ...	3002-2.5-16 R SPT06 ...	■ ■		2.5	16	15°	6°	0.05	2	3000...
3002-2.5-16 L SPT12 ...	3002-2.5-16 R SPT12 ...	■ ■		2.5	16	15°	12°	0.05	2	3000...
3002-3.0-16 L SPT ...	3002-3.0-16 R SPT ...		■ ■	3	16	15°	20°	-	2	3000...
3002-3.0-16 L SPT06 ...	3002-3.0-16 R SPT06 ...	■ ■		3	16	15°	6°	0.05	2	3000...
3002-3.0-16 L SPT12 ...	3002-3.0-16 R SPT12 ...	■ ■		3	16	15°	12°	0.05	2	3000...



3002... V SPT

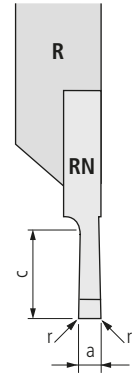
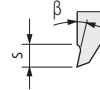
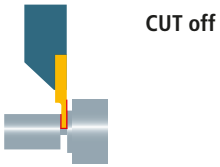
Order designation		Carbide				19	Dimensions							Holder
L	R	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX		a	c	α	β	r	s		146...

**STANDARD-LINE**

Accuracy class of UTILIS 41



3002-0.8-10 LV SPT ...	3002-0.8-10 RV SPT ...			■	■		0.8	10	15°	20°	-	2		3000...
3002-1.0-13 LV SPT ...	3002-1.0-13 RV SPT ...			■	■		1	13	15°	20°	-	2		3000...
3002-1.5-8 LV SPT ...	3002-1.5-8 RV SPT ...			■	■		1.5	8	15°	20°	-	2		3000...
3002-1.5-8 LV SPT06 ...	3002-1.5-8 RV SPT06 ...	■	■				1.5	8	15°	6°	0.05	2		3000...
3002-1.5-8 LV SPT12 ...	3002-1.5-8 RV SPT12 ...	■	■				1.5	8	15°	12°	0.05	2		3000...
3002-1.5-16 LV SPT ...	3002-1.5-16 RV SPT ...			■	■		1.5	16	15°	20°	-	2		3000...
3002-2.0-10 LV SPT ...	3002-2.0-10 RV SPT ...			■	■		2	10	15°	20°	-	2		3000...
3002-2.0-10 LV SPT06 ...	3002-2.0-10 RV SPT06 ...	■	■				2	10	15°	6°	0.05	2		3000...
3002-2.0-10 LV SPT12 ...	3002-2.0-10 RV SPT12 ...	■	■				2	10	15°	12°	0.05	2		3000...
3002-2.0-16 LV SPT ...	3002-2.0-16 RV SPT ...			■	■		2	16	15°	20°	-	2		3000...
3002-2.0-16 LV SPT06 ...	3002-2.0-16 RV SPT06 ...	■	■				2	16	15°	6°	0.05	2		3000...
3002-2.0-16 LV SPT12 ...	3002-2.0-16 RV SPT12 ...	■	■				2	16	15°	12°	0.05	2		3000...
3002-2.5-13 LV SPT ...	3002-2.5-13 RV SPT ...			■	■		2.5	13	15°	20°	-	2		3000...
3002-2.5-13 LV SPT06 ...	3002-2.5-13 RV SPT06 ...	■	■				2.5	13	15°	6°	0.05	2		3000...
3002-2.5-13 LV SPT12 ...	3002-2.5-13 RV SPT12 ...	■	■				2.5	13	15°	12°	0.05	2		3000...
3002-2.5-16 LV SPT ...	3002-2.5-16 RV SPT ...			■	■		2.5	16	15°	20°	-	2		3000...
3002-2.5-16 LV SPT06 ...	3002-2.5-16 RV SPT06 ...	■	■				2.5	16	15°	6°	0.05	2		3000...
3002-2.5-16 LV SPT12 ...	3002-2.5-16 RV SPT12 ...	■	■				2.5	16	15°	12°	0.05	2		3000...
3002-3.0-16 LV SPT ...	3002-3.0-16 RV SPT ...			■	■		3	16	15°	20°	-	2		3000...
3002-3.0-16 LV SPT06 ...	3002-3.0-16 RV SPT06 ...	■	■				3	16	15°	6°	0.05	2		3000...
3002-3.0-16 LV SPT12 ...	3002-3.0-16 RV SPT12 ...	■	■				3	16	15°	12°	0.05	2		3000...

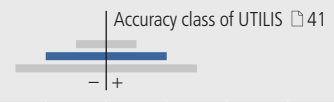


N: neutral

3002... N SPT

Order designation	Carbide	19	Dimensions					Holder															
	<table border="1"> <tr> <td>○</td><td>○</td><td>●</td><td>○</td><td>○</td> </tr> <tr> <td>○</td><td>○</td><td>○</td><td>○</td><td>●</td> </tr> <tr> <td>-</td><td>-</td><td>●</td><td>○</td><td>○</td> </tr> </table>	○	○	●	○	○	○	○	○	○	●	-	-	●	○	○		a	c	r	s	β	146...
○	○	●	○	○																			
○	○	○	○	●																			
-	-	●	○	○																			
L		UHM 20																					
R		UHM 20 HPX																					
		UHM 30																					
		UHM 30 HX																					

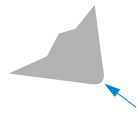
**STANDARD-LINE**



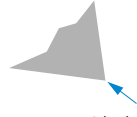
Order designation	Order designation	Carbide	19	a	c	r	s	β	Holder
3002-1.0-10 LN SPT ...	3002-1.0-10 RN SPT ...		■ ■	1	10	0.05	2	20°	3000...
3002-1.5-10 LN SPT ...	3002-1.5-10 RN SPT ...		■ ■	1.5	10	0.05	2	20°	3000...
3002-1.5-10 LN SPT06 ...	3002-1.5-10 RN SPT06 ...	■ ■		1.5	10	0.05	2	6°	3000...
3002-1.5-10 LN SPT12 ...	3002-1.5-10 RN SPT12 ...	■ ■		1.5	10	0.05	2	12°	3000...
3002-1.5-16 LN SPT ...	3002-1.5-16 RN SPT ...		■ ■	1.5	16	0.05	2	20°	3000...
3002-2.0-10 LN SPT ...	3002-2.0-10 RN SPT ...		■ ■	2	10	0.05	2	20°	3000...
3002-2.0-10 LN SPT06 ...	3002-2.0-10 RN SPT06 ...	■ ■		2	10	0.05	2	6°	3000...
3002-2.0-10 LN SPT12 ...	3002-2.0-10 RN SPT12 ...	■ ■		2	10	0.05	2	12°	3000...
3002-2.0-16 LN SPT ...	3002-2.0-16 RN SPT ...		■ ■	2	16	0.05	2	20°	3000...
3002-2.0-16 LN SPT06 ...	3002-2.0-16 RN SPT06 ...	■ ■		2	16	0.05	2	6°	3000...
3002-2.0-16 LN SPT12 ...	3002-2.0-16 RN SPT12 ...	■ ■		2	16	0.05	2	12°	3000...
3002-2.5-13 LN SPT ...	3002-2.5-13 RN SPT ...		■ ■	2.5	13	0.05	2	20°	3000...
3002-2.5-13 LN SPT06 ...	3002-2.5-13 RN SPT06 ...	■ ■		2.5	13	0.05	2	6°	3000...
3002-2.5-13 LN SPT12 ...	3002-2.5-13 RN SPT12 ...	■ ■		2.5	13	0.05	2	12°	3000...
3002-2.5-16 LN SPT ...	3002-2.5-16 RN SPT ...		■ ■	2.5	16	0.05	2	20°	3000...
3002-2.5-16 LN SPT06 ...	3002-2.5-16 RN SPT06 ...	■ ■		2.5	16	0.05	2	6°	3000...
3002-2.5-16 LN SPT12 ...	3002-2.5-16 RN SPT12 ...	■ ■		2.5	16	0.05	2	12°	3000...
3002-3.0-16 LN SPT ...	3002-3.0-16 RN SPT ...		■ ■	3	16	0.05	2	20°	3000...
3002-3.0-16 LN SPT06 ...	3002-3.0-16 RN SPT06 ...	■ ■		3	16	0.05	2	6°	3000...
3002-3.0-16 LN SPT12 ...	3002-3.0-16 RN SPT12 ...	■ ■		3	16	0.05	2	12°	3000...



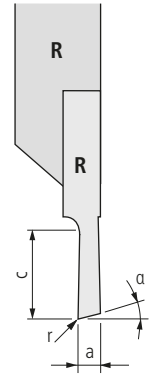
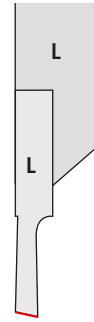




E: Insert with rounded cutting edge



F: Insert with sharp cutting edge



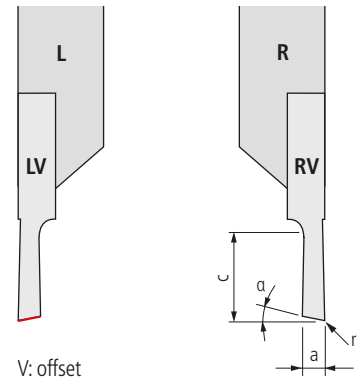
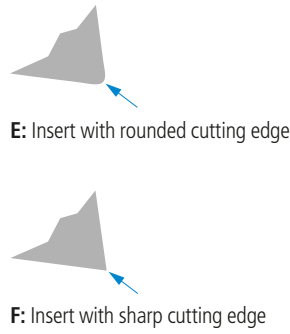
3002... E. GS

Order designation		Carbide				Dimensions				Holder
L	R	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	a	c	α	r	146...
<p>VALUE-LINE</p> <p>Accuracy class of UTILIS 41</p> <p>3002-2.0-10 EL GS ...    3002-2.0-10 ER GS ...    2    10    15°    0.2    3000...</p>										

3002... F. GS

Order designation		Carbide				Dimensions				Holder
L	R	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	a	c	α	r	146...
<p>VALUE-LINE</p> <p>Accuracy class of UTILIS 41</p> <p>3002-2.0-10 FL GS ...    3002-2.0-10 FR GS ...    2    10    15°    0.2    3000...</p>										

"GS" cutting specification 162



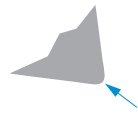
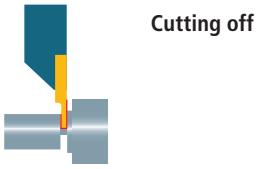
3002... E.V GS

Order designation		Carbide 19				Dimensions				Holder 146...	
L	R	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	a	c	$\alpha$	r		
<p>VALUE-LINE</p> <p>Accuracy class of UTILIS 41</p> <p>3002-2.0-10 ELV GS ...    3002-2.0-10 ERV GS ...    2    10    15°    0.2    3000...</p>											

3002... F.V GS

Order designation		Carbide 19				Dimensions				Holder 146...	
L	R	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	a	c	$\alpha$	r		
<p>VALUE-LINE</p> <p>Accuracy class of UTILIS 41</p> <p>3002-2.0-10 FLV GS ...    3002-2.0-10 FRV GS ...    2    10    15°    0.2    3000...</p>											

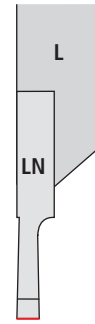
"GS" cutting specification 162



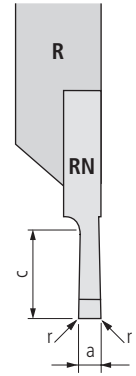
E: Insert with rounded cutting edge



F: Insert with sharp cutting edge



N: neutral



3002... E.N GS

Order designation		Carbide 19				Dimensions				Holder
L	R	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	a	c	a	r	146...
<p>VALUE-LINE</p> <p>Accuracy class of UTILIS 41</p> <p>3002-2.0-10 ELN GS ... 3002-2.0-10 ERN GS ... 2 10 0.2 3000...</p>										

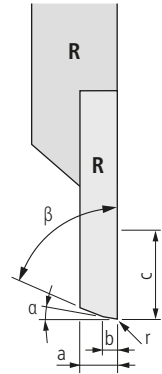
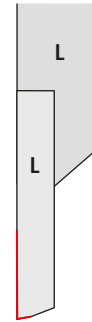
3002... F.N GS

Order designation		Carbide 19				Dimensions				Holder
L	R	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	a	c	a	r	146...
<p>VALUE-LINE</p> <p>Accuracy class of UTILIS 41</p> <p>3002-2.0-10 FLN GS ... 3002-2.0-10 FRN GS ... 2 10 0.2 3000...</p>										

"GS" cutting specification 162



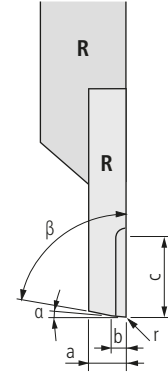
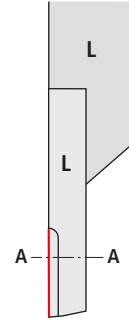
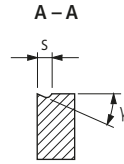
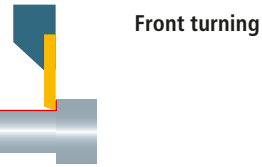
Front turning



3003...

Order designation		Carbide				Dimensions							Holder
						a	b	c	$\alpha$	$\beta$	r		
		UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX								
Accuracy class of UTILIS													
3003-3.4-8 L...	3003-3.4-8 R...					3.4	1	8	3°	70°	-		3000...

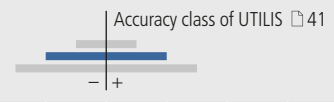
**STANDARD-LINE**



3003... SP ...TOP\*

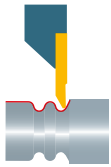
Order designation		Carbide				Dimensions							Holder	
L	R	○	●	○	○	a	b	c	α	β	s	γ	r	146...
		UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX									

**STANDARD-LINE**



3003-3.4-8 L SP U TOP ZZ ...	3003-3.4-8 R SP U TOP ZZ ...	■	■	■	■	3.4	0.2	8	1°	82°	1.2	12°	-	3000...
3003-3.4-8 L SP U TOP 45008 ...	3003-3.4-8 R SP U TOP 45008 ...	■	■	■	■	3.4	1.2	8	1°	45°	1.2	12°	0.08	3000...
3003-3.4-8 L SP U TOP 45015 ...	3003-3.4-8 R SP U TOP 45015 ...	■	■	■	■	3.4	1.2	8	1°	45°	1.2	12°	0.15	3000...

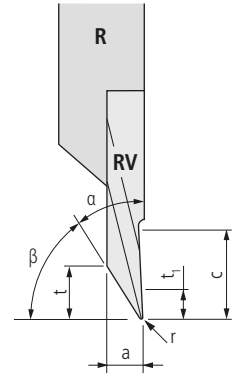
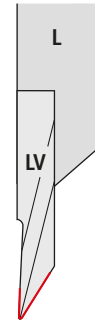
\* Description TOP 25



Copy turning (front)



3004... V SP



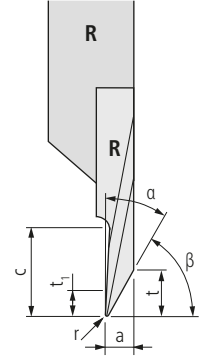
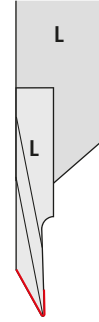
V: offset

Order designation		Carbide				Dimensions								Holder
		○	●	○	○	a	c	$\alpha$	$\beta$	r	t	$t_1$	146...	
<b>L</b>	<b>R</b>	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX									
Accuracy class of UTILIS 41														
3004-3.2-6 LV SP29008 ...	3004-3.2-6 RV SP29008 ...	■	■	■	■	3.2	11	29°	61°	0.08	5	2.5	3000...	
3004-3.2-6 LV SP29015 ...	3004-3.2-6 RV SP29015 ...	■	■	■	■	3.2	11	29°	61°	0.15	5	2.5	3000...	
3004-3.2-6 LV SP29035 ...	3004-3.2-6 RV SP29035 ...	■	■	■	■	3.2	11	29°	61°	0.35	5	2.5	3000...	
3004-3.2-6 LV SP29075 ...	3004-3.2-6 RV SP29075 ...	■	■	■	■	3.2	11	29°	61°	0.75	5	2.5	3000...	

**STANDARD-LINE**

\* Description TOP 25

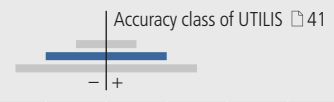
Copy turning (back)



3004... SP

Order designation		Carbide <input type="checkbox"/> 19				Dimensions							Holder <input type="checkbox"/> 146...
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	a	c	$\alpha$	$\beta$	r	t	t <sub>1</sub>	
<b>L</b>	<b>R</b>	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX								

**STANDARD-LINE**



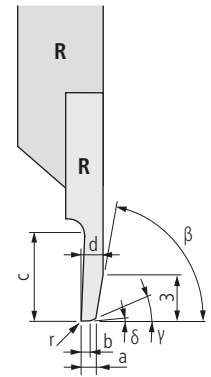
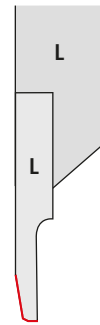
3004-3.2-6 L SP29008 ...	3004-3.2-6 R SP29008 ...	■	■	■	■	3.2	11	29°	61°	0.08	5	2.5	3000...
3004-3.2-6 L SP29015 ...	3004-3.2-6 R SP29015 ...	■	■	■	■	3.2	11	29°	61°	0.15	5	2.5	3000...
3004-3.2-6 L SP29035 ...	3004-3.2-6 R SP29035 ...	■	■	■	■	3.2	11	29°	61°	0.35	5	2.5	3000...
3004-3.2-6 L SP29075 ...	3004-3.2-6 R SP29075 ...	■	■	■	■	3.2	11	29°	61°	0.75	5	2.5	3000...
3004-3.2-5 L SP35015 ...	3004-3.2-5 R SP35015 ...	■	■	■	■	3.2	11	35°	55°	0.15	4	2	3000...
3004-3.2-5 L SP35035 ...	3004-3.2-5 R SP35035 ...	■	■	■	■	3.2	11	35°	55°	0.35	4	2	3000...

\* Description TOP  25





Back turning



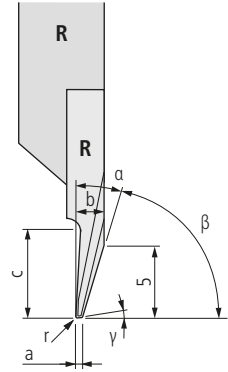
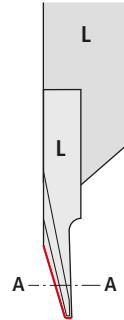
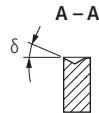
3004... TOP\*

Order designation		Carbide				Dimensions								Holder
L	R	○	●	○	○	a	b	c	d	β	γ	r	δ	146...
		○	○	○	●									
		-	-	●	○									
		UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX									
Accuracy class of UTILIS □ 41														
- +														
3004-0.8-6 L TOP ZZ ...	3004-0.8-6 R TOP ZZ ...	■	■	■	■	0.8	0.5	6	2	70°	8°	-	1°	3000...
3004-1.0-6 L TOP ZZ ...	3004-1.0-6 R TOP ZZ ...	■	■	■	■	1	0.5	6	2.2	70°	8°	-	1°	3000...
3004-1.2-8 L TOP ZZ ...	3004-1.2-8 R TOP ZZ ...	■	■	■	■	1.2	0.5	8	2.4	70°	8°	-	1°	3000...
3004-1.5-8 L TOP ZZ ...	3004-1.5-8 R TOP ZZ ...	■	■	■	■	1.5	0.5	8	2.7	70°	8°	-	1°	3000...
3004-1.8-8 L TOP ZZ ...	3004-1.8-8 R TOP ZZ ...	■	■	■	■	1.8	0.5	8	3	70°	8°	-	1°	3000...

\* Description TOP □ 25

**STANDARD-LINE**

Back turning



3004... SP TOP\*

Order designation		Carbide □ 19				Dimensions								Holder
L	R	○	●	○	○	a	c	b	α	β	γ	δ	r	□ 146...
		○	○	○	●									
		○	○	○	●									
		-	-	●	○									
UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX											

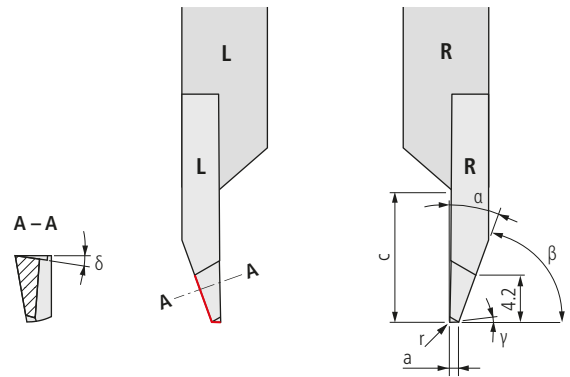
**STANDARD-LINE**

Accuracy class of UTILIS □ 41



3004-2.4-6 L SP TOP 20ZZ ...	3004-2.4-6 R SP TOP 20ZZ ...	■	■	■	■	0.5	6	2.4	20°	70°	1.5°	15°	-	3000...
3004-2.4-6 L SP TOP 20008 ...	3004-2.4-6 R SP TOP 20008 ...	■	■	■	■	0.5	6	2.4	20°	70°	1.5°	15°	0.08	3000...
3004-2.4-6 L SP TOP 20015 ...	3004-2.4-6 R SP TOP 20015 ...	■	■	■	■	0.5	6	2.4	20°	70°	1.5°	15°	0.15	3000...

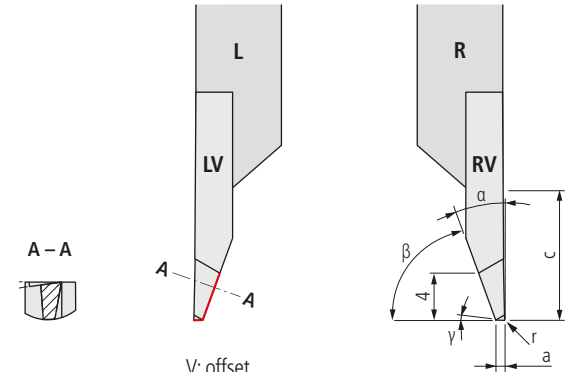
\* Description TOP □ 25



3004... CP

Order designation		Carbide				19	Dimensions							Holder
L	R	○	●	○	○		a	c	$\alpha$	$\beta$	$\gamma$	r	$\delta$	146...
		○	○	○	○									
		-	-	●	○									
				UHM 20	UHM 20 HPX									
				UHM 30	UHM 30 HX									
Accuracy class of UTILIS 41														
-   +														
3004-0.8-4 L CP ...	3004-0.8-4 R CP ...	■	■	■	■		0.8	11	20°	70°	2°	-	8°	3000...

**STANDARD-LINE**

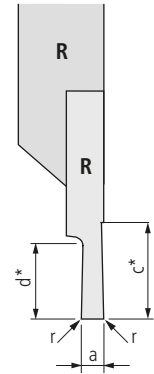
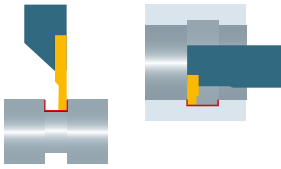


3004... V CP

Order designation		Carbide				19	Dimensions							Holder
L	R	○	●	○	○		a	c	$\alpha$	$\beta$	$\gamma$	r	$\delta$	146...
		○	○	○	○									
		-	-	●	○									
				UHM 20	UHM 20 HPX									
				UHM 30	UHM 30 HX									
Accuracy class of UTILIS 41														
-   +														
3004-0.8-4 LV CP ...	3004-0.8-4 RV CP ...			■	■		0.8	11	20°	70°	2°	-	8°	3000...

**STANDARD-LINE**

Grooving and turning



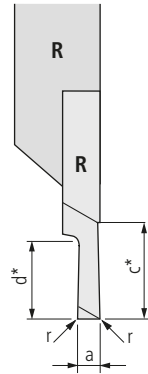
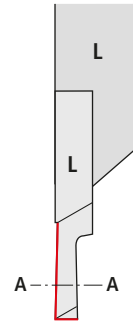
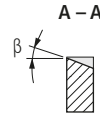
3005...

Order designation		Carbide				Dimensions								Holder
		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	a	c*	d*	r					<input type="checkbox"/> 146...
<b>L</b>	<b>R</b>	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX									
<p><b>STANDARD-LINE</b></p> <p>Accuracy class of UTILIS <input type="checkbox"/> 41</p> <p>- +</p>														
3005-1.0-8 L ...	3005-1.0-8 R ...	■	■	■	■	1	8	2.5	0.05					3000...
3005-1.5-8 L ...	3005-1.5-8 R ...	■	■	■	■	1.5	8	3	0.05					3000...
3005-2.0-8 L ...	3005-2.0-8 R ...	■	■	■	■	2	8	4	0.05					3000...
3005-2.5-8 L ...	3005-2.5-8 R ...	■	■	■	■	2.5	8	5	0.05					3000...
3005-3.0-8 L ...	3005-3.0-8 R ...	■	■	■	■	3	8	6	0.05					3000...

\* c: maximal turning capacity  
d: maximal grooving capacity



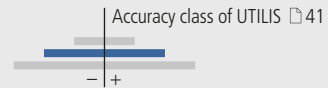
Grooving and turning



3005... CP

Order designation		Carbide				19	Dimensions					Holder	
L	R	○	●	○	○	19	a	c*	d*	r	β	Holder	
		○	○	○	●								146...
		-	-	●	○								
		UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX								

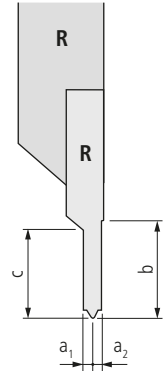
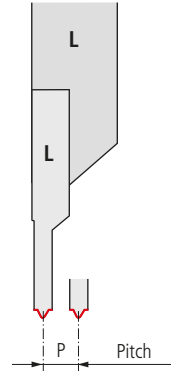
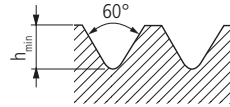
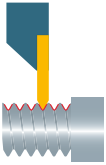
STANDARD-LINE





Order designation	Order designation	Carbide	Carbide	Carbide	Carbide	a	c*	d*	r	β	Holder
3005-0.8-8 L CP ...	3005-0.8-8 R CP ...	■	■	■	■	0.8	8	2.5	-	10°	3000...
3005-1.0-8 L CP ...	3005-1.0-8 R CP ...	■	■	■	■	1	8	3.5	-	10°	3000...
3005-1.5-8 L CP ...	3005-1.5-8 R CP ...	■	■	■	■	1.5	8	4	-	10°	3000...
3005-1.5-8 L CP R08 ...	3005-1.5-8 R CP R08 ...	■	■	■	■	1.5	8	4	0.08	10°	3000...
3005-2.0-8 L CP ...	3005-2.0-8 R CP ...	■	■	■	■	2	8	5	-	10°	3000...
3005-2.0-8 L CP R08 ...	3005-2.0-8 R CP R08 ...	■	■	■	■	2	8	5	0.08	10°	3000...
3005-2.0-8 L CP R15 ...	3005-2.0-8 R CP R15 ...	■	■	■	■	2	8	5	0.15	10°	3000...
3005-2.5-8 L CP ...	3005-2.5-8 R CP ...	■	■	■	■	2.5	8	6	-	10°	3000...
3005-2.5-8 L CP R08 ...	3005-2.5-8 R CP R08 ...	■	■	■	■	2.5	8	6	0.08	10°	3000...
3005-2.5-8 L CP R15 ...	3005-2.5-8 R CP R15 ...	■	■	■	■	2.5	8	6	0.15	10°	3000...
3005-3.0-8 L CP ...	3005-3.0-8 R CP ...	■	■	■	■	3	8	6	-	10°	3000...
3005-3.0-8 L CP R08 ...	3005-3.0-8 R CP R08 ...	■	■	■	■	3	8	6	0.08	10°	3000...
3005-3.0-8 L CP R15 ...	3005-3.0-8 R CP R15 ...	■	■	■	■	3	8	6	0.15	10°	3000...

\* c: maximal turning capacity  
d: maximal grooving capacity

Threading (full profile metric)



3006... VP

Order designation		Carbide 				Standard			Dimensions					Holder 	
L	R	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	ISO DIN13	NIHS 06-03	NIHS 06-02	P	h <sub>min</sub>	a <sub>1</sub>	a <sub>2</sub>	b	c	146...

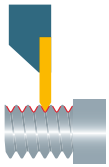
PREMIUM-LINE

Order designation		Carbide				Standard			Dimensions					Holder	
3006-0.15-10-60 VP L ...	3006-0.15-10-60 VP R ...			■	■	-	-	S 0.6	0.15	0.092	0.09	0.08	8	-	3000...
3006-0.175-10-60 VP L ...	3006-0.175-10-60 VP R ...			■	■	-	-	S 0.7	0.175	0.107	0.11	0.1	8	-	3000...
3006-0.2-10-60 VP L ...	3006-0.2-10-60 VP R ...			■	■	-	-	S 0.8	0.2	0.123	0.12	0.11	8	-	3000...
3006-0.225-10-60 VP L ...	3006-0.225-10-60 VP R ...			■	■	-	-	S 0.9	0.225	0.138	0.14	0.12	8	-	3000...
3006-0.25-10-60 VP L ...	3006-0.25-10-60 VP R ...	■	■	■	■	M 1/1.2	M 1/1.2	S 1/S1.2	0.25	0.153	0.15	0.14	8	-	3000...
3006-0.3-10-60 VP L ...	3006-0.3-10-60 VP R ...	■	■	■	■	-	M 1.4	S 1.4	0.3	0.184	0.18	0.17	8	-	3000...
3006-0.35-10-60 VP L ...	3006-0.35-10-60 VP R ...	■	■	■	■	M 1.6	M 1.6/1.8	-	0.35	0.215	0.21	0.19	8	-	3000...
3006-0.4-10-60 VP L ...	3006-0.4-10-60 VP R ...	■	■	■	■	M 2	M 2	-	0.4	0.245	0.24	0.22	8	-	3000...
3006-0.45-10-60 VP L ...	3006-0.45-10-60 VP R ...	■	■	■	■	M 2.5	M 2.2/2.5	-	0.45	0.276	0.27	0.25	8	-	3000...

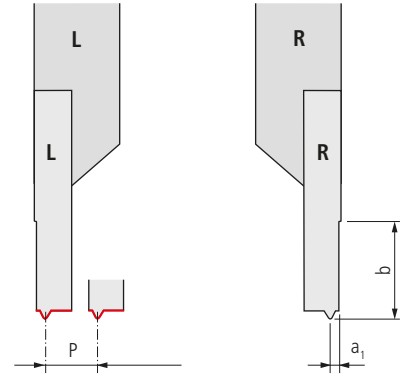
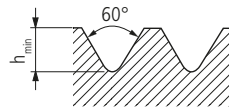
STANDARD-LINE

Order designation		Carbide				Standard			Dimensions					Holder	
3006-0.5-10-60 VP L ...	3006-0.5-10-60 VP R ...	■	■	■	■	M 3	M 3	-	0.5	0.307	0.28	0.28	8	1.3	3000...
3006-0.6-10-60 VP L ...	3006-0.6-10-60 VP R ...	■	■	■	■	-	M 3.5	-	0.6	0.368	0.33	0.33	8	1.5	3000...
3006-0.7-10-60 VP L ...	3006-0.7-10-60 VP R ...	■	■	■	■	M 4	M 4	-	0.7	0.429	0.39	0.39	8	1.8	3000...
3006-0.75-10-60 VP L ...	3006-0.75-10-60 VP R ...	■	■	■	■	-	M 4.5	-	0.75	0.46	0.41	0.41	8	1.9	3000...
3006-0.8-10-60 VP L ...	3006-0.8-10-60 VP R ...	■	■	■	■	M 5	M 5	-	0.8	0.491	0.44	0.44	8	2	3000...
3006-1.0-10-60 VP L ...	3006-1.0-10-60 VP R ...	■	■	■	■	M 6/7	-	-	1	0.613	0.55	0.55	8	2.5	3000...
3006-1.25-10-60 VP L ...	3006-1.25-10-60 VP R ...	■	■	■	■	M 8/9	-	-	1.25	0.767	0.69	0.69	8	3.1	3000...
3006-1.5-10-60 VP L ...	3006-1.5-10-60 VP R ...	■	■	■	■	M 10/11	-	-	1.5	0.92	0.83	0.83	8	3.8	3000...
3006-1.75-10-60 VP L ...	3006-1.75-10-60 VP R ...	■	■	■	■	M 12	-	-	1.75	1.073	0.96	0.96	8	4.4	3000...
3006-2.0-10-60 VP L ...	3006-2.0-10-60 VP R ...	■	■	■	■	M 14/16	-	-	2	1.227	1.1	1.1	8	5	3000...
3006-2.5-10-60 VP L ...	3006-2.5-10-60 VP R ...	■	■	■	■	M 18/20/22	-	-	2.5	1.534	1.4	1.4	8	5	3000...
3006-3.0-10-60 VP L ...	3006-3.0-10-60 VP R ...	■	■	■	■	M 24/27	-	-	3	1.84	1.65	1.65	8	5	3000...

Recommendations for thread cutting  164



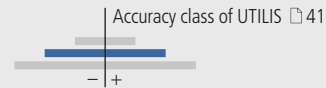
**Threading (full profile metric)**  
Strengthen type "-S"



3006... VP-S

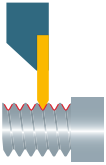
Order designation		Carbide				Standard			Dimensions				Holder
L	R					ISO DIN13	NIHS 06-03	NIHS 06-02	P	h <sub>min</sub>	a <sub>1</sub>	b	
		UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX								

**STANDARD-LINE**

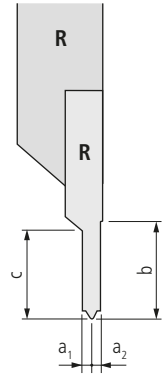
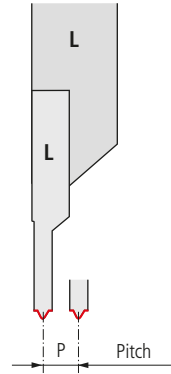
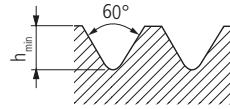


3006-0.25-60 VP-S L ...	3006-0.25-60 VP-S R ...					M 1/1.2	M 1/1.2	S1/S1.2	0.25	0.153	0.16	8		3000...
3006-0.3-60 VP-S L ...	3006-0.3-60 VP-S R ...					–	M1.4	S1.4	0.3	0.184	0.2	8		3000...
3006-0.35-60 VP-S L ...	3006-0.35-60 VP-S R ...					M1.6	M1.6/1.8	–	0.35	0.215	0.23	8		3000...
3006-0.4-60 VP-S L ...	3006-0.4-60 VP-S R ...					M2	M2	–	0.4	0.245	0.26	8		3000...
3006-0.45-60 VP-S L ...	3006-0.45-60 VP-S R ...					M2.5	M2.2/2.5	–	0.45	0.276	0.29	8		3000...
3006-0.5-60 VP-S L ...	3006-0.5-60 VP-S R ...					M3	M3	–	0.5	0.307	0.33	8		3000...
3006-0.6-60 VP-S L ...	3006-0.6-60 VP-S R ...					–	M3.5	–	0.6	0.368	0.39	8		3000...
3006-0.7-60 VP-S L ...	3006-0.7-60 VP-S R ...					M4	M4	–	0.7	0.429	0.46	8		3000...
3006-0.75-60 VP-S L ...	3006-0.75-60 VP-S R ...					–	M4.5	–	0.75	0.46	0.49	8		3000...
3006-0.8-60 VP-S L ...	3006-0.8-60 VP-S R ...					M5	M5	–	0.8	0.491	0.52	8		3000...
3006-1.0-60 VP-S L ...	3006-1.0-60 VP-S R ...					M6/7	–	–	1	0.613	0.65	8		3000...
3006-1.25-60 VP-S L ...	3006-1.25-60 VP-S R ...					M8/9	–	–	1.25	0.767	0.81	8		3000...
3006-1.5-60 VP-S L ...	3006-1.5-60 VP-S R ...					M10/11	–	–	1.5	0.92	0.98	8		3000...
3006-1.75-60 VP-S L ...	3006-1.75-60 VP-S R ...					M12	–	–	1.75	1.073	1.14	8		3000...
3006-2.0-60 VP-S L ...	3006-2.0-60 VP-S R ...					M14/16	–	–	2	1.227	1.3	8		3000...

Recommendations for thread cutting 164



Threading (full profile UN)



3006... UN ... VP

Order designation		Carbide □ 19	Standard/thread type						Dimensions						Holder	
L	R	UHM 20 UHM 20 HPX UHM 30 UHM 30 HX	UN	UNC	UNF	UNEF	UNS	UNR	P (T/Inch)	P	h <sub>min</sub>	a <sub>1</sub>	a <sub>2</sub>	b	c	□ 146...

**PREMIUM-LINE**

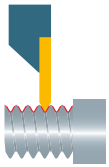
Order designation		Carbide	Standard/thread type	P (T/Inch)	P	h <sub>min</sub>	a <sub>1</sub>	a <sub>2</sub>	b	c	Holder
3006-80 UN 10-60 VP L ...	3006-80 UN 10-60 VP R ...	■ ■	● ● ● ● ● ●	80	0.317	0.194	0.19	0.17	8	-	3000...
3006-72 UN 10-60 VP L ...	3006-72 UN 10-60 VP R ...	■ ■	● ● ● ● ● ●	72	0.353	0.217	0.21	0.19	8	-	3000...
3006-64 UN 10-60 VP L ...	3006-64 UN 10-60 VP R ...	■ ■	● ● ● ● ● ●	64	0.397	0.244	0.24	0.22	8	-	3000...
3006-56 UN 10-60 VP L ...	3006-56 UN 10-60 VP R ...	■ ■	● ● ● ● ● ●	56	0.453	0.278	0.27	0.25	8	-	3000...

**STANDARD-LINE**

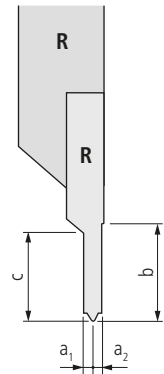
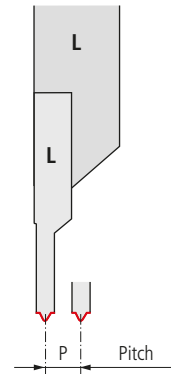
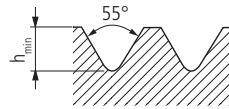
Order designation		Carbide	Standard/thread type	P (T/Inch)	P	h <sub>min</sub>	a <sub>1</sub>	a <sub>2</sub>	b	c	Holder
3006-48 UN 10-60 VP L ...	3006-48 UN 10-60 VP R ...	■ ■	● ● ● ● ● ●	48	0.529	0.325	0.29	0.29	8	1.4	3000...
3006-44 UN 10-60 VP L ...	3006-44 UN 10-60 VP R ...	■ ■	● ● ● ● ● ●	44	0.577	0.354	0.32	0.32	8	1.4	3000...
3006-40 UN 10-60 VP L ...	3006-40 UN 10-60 VP R ...	■ ■	● ● ● ● ● ●	40	0.635	0.39	0.35	0.35	8	1.8	3000...
3006-36 UN 10-60 VP L ...	3006-36 UN 10-60 VP R ...	■ ■	● ● ● ● ● ●	36	0.705	0.432	0.39	0.39	8	1.8	3000...
3006-32 UN 10-60 VP L ...	3006-32 UN 10-60 VP R ...	■ ■	● ● ● ● ● ●	32	0.794	0.487	0.44	0.44	8	2	3000...
3006-28 UN 10-60 VP L ...	3006-28 UN 10-60 VP R ...	■ ■	● ● ● ● ● ●	28	0.907	0.556	0.5	0.5	8	2.2	3000...
3006-24 UN 10-60 VP L ...	3006-24 UN 10-60 VP R ...	■ ■	● ● ● ● ● ●	24	1.058	0.649	0.58	0.58	8	2.4	3000...
3006-20 UN 10-60 VP L ...	3006-20 UN 10-60 VP R ...	■ ■	● ● ● ● ● ●	20	1.27	0.779	0.7	0.7	8	2.9	3000...
3006-18 UN 10-60 VP L ...	3006-18 UN 10-60 VP R ...	■ ■	● ● ● ● ● ●	18	1.411	0.866	0.78	0.78	8	3.4	3000...
3006-16 UN 10-60 VP L ...	3006-16 UN 10-60 VP R ...	■ ■	● ● ● ● ● ●	16	1.588	0.974	0.87	0.87	8	3.6	3000...
3006-14 UN 10-60 VP L ...	3006-14 UN 10-60 VP R ...	■ ■	● ● ● ● ● ●	14	1.814	1.113	1	1	8	3.9	3000...
3006-13 UN 10-60 VP L ...	3006-13 UN 10-60 VP R ...	■ ■	● ● ● ● ● ●	13	1.954	1.199	1.07	1.07	8	4.2	3000...

Recommendations for thread cutting □ 164





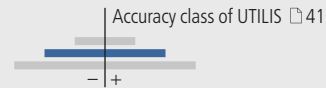
Threading (full profile pipe thread)



3006-G ...VP

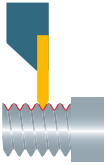
Order designation		Carbide	19	Standard	Dimensions							Holder																
L	R	<table border="1"> <tr> <td>○</td><td>●</td><td>○</td><td>○</td> </tr> <tr> <td>○</td><td>●</td><td>○</td><td>○</td> </tr> <tr> <td>○</td><td>●</td><td>○</td><td>○</td> </tr> <tr> <td>○</td><td>●</td><td>○</td><td>○</td> </tr> </table>	○	●	○	○	○	●	○	○	○	●	○	○	○	●	○	○		ANSI B1.1	P	P	$h_{min}$	$a_1$	$a_2$	b	c	146...
○	●	○	○																									
○	●	○	○																									
○	●	○	○																									
○	●	○	○																									
		UHM 20			(T/Inch)																							

**STANDARD-LINE**

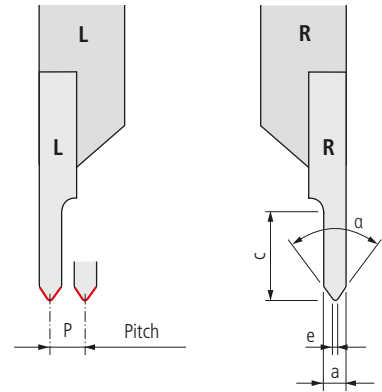


3006-G 28 10-55 VP L ...	3006-G 28 10-55 VP R ...											
				1/8	28	0.907	0.581	0.5	0.5	8	2.3	3000...
				1/16	28	0.907	0.581	0.5	0.5	8	2.3	3000...
				1/4	19	1.337	0.856	0.74	0.74	8	3.3	3000...
				3/8	19	1.337	0.856	0.74	0.74	8	3.3	3000...
				1/2	14	1.814	1.162	1	1	8	4.5	3000...
				5/8	14	1.814	1.162	1	1	8	4.5	3000...
				3/4	14	1.814	1.162	1	1	8	4.5	3000...
				7/8	14	1.814	1.162	1	1	8	4.5	3000...
				1	11	2.309	1.479	1.27	1.27	8	5	3000...
				1 1/8	11	2.309	1.479	1.27	1.27	8	5	3000...
				1 1/4	11	2.309	1.479	1.27	1.27	8	5	3000...
				1 1/2	11	2.309	1.479	1.27	1.27	8	5	3000...
				1 3/4	11	2.309	1.479	1.27	1.27	8	5	3000...
				2	11	2.309	1.479	1.27	1.27	8	5	3000...
				2 1/4	11	2.309	1.479	1.27	1.27	8	5	3000...
				2 1/2	11	2.309	1.479	1.27	1.27	8	5	3000...
				2 3/4	11	2.309	1.479	1.27	1.27	8	5	3000...
				3	11	2.309	1.479	1.27	1.27	8	5	3000...
				3 1/2	11	2.309	1.479	1.27	1.27	8	5	3000...
				4	11	2.309	1.479	1.27	1.27	8	5	3000...
				4 1/2	11	2.309	1.479	1.27	1.27	8	5	3000...
				5	11	2.309	1.479	1.27	1.27	8	5	3000...
				5 1/2	11	2.309	1.479	1.27	1.27	8	5	3000...
				6	11	2.309	1.479	1.27	1.27	8	5	3000...

Recommendations for thread cutting 164



Threading (partial profile 60°/55°)



3006...

Order designation		Carbide □ 19				Dimensions					Holder □ 146...
L	R	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	P	a	c	α	e	
		○	●	○	○						
		○	○	○	●						
		○	○	○	○						
		-	-	●	○						
<p><b>STANDARD-LINE</b></p> <p>Accuracy class of UTILIS □ 41</p> <p style="text-align: center;">- +</p>											
3006-2-6-60 L ...	3006-2-6-60 R ...	■	■	■	■	0.25-2	2	6	60°	0.035	3000...
3006-2-6-55 L ...	3006-2-6-55 R ...			■	■	0.25-2	2	6	55°	0.035	3000...
3006-3-10-60 L ...	3006-3-10-60 R ...	■	■	■	■	0.25-2	3	10	60°	0.035	3000...
3006-3-10-55 L ...	3006-3-10-55 R ...			■	■	0.25-2	3	10	55°	0.035	3000...

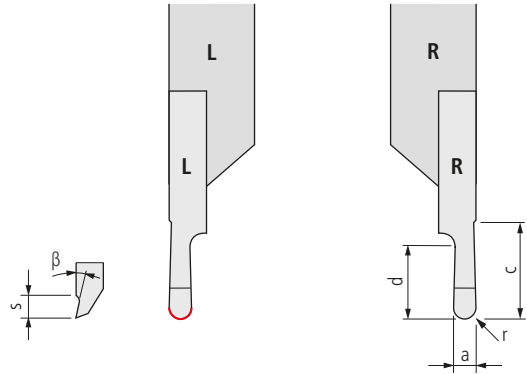
Recommendations for thread cutting □ 164



Radius-grooving



3007...



Order designation		Carbide				19	Dimensions							Holder	
L	R	○	○	●	○	○	a	c	d	$\beta$	r	s			146...
		○	○	○	○	○									
		○	○	○	○	○									
		○	○	○	○	○									
		UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX										

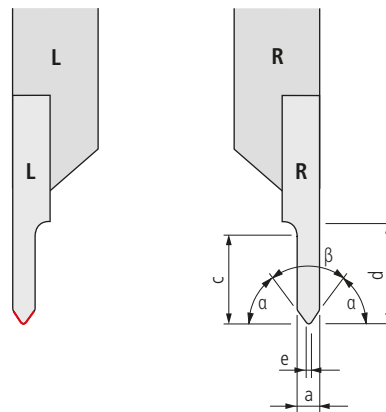
**PREMIUM-LINE**

3007-R0.25-2-10 L ...	3007-R0.25-2-10 R ...	■	■	■	■	0.5	12	2	6°	0.25	2			3000...
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**STANDARD-LINE**

3007-R0.5-2.5-10 L ...	3007-R0.5-2.5-10 R ...	■	■	■	■	1	12	2.5	6°	0.5	2			3000...
3007-R0.6-2.5-10 L ...	3007-R0.6-2.5-10 R ...	■	■	■	■	1.2	12	2.5	6°	0.6	2			3000...
3007-R0.75-3-10 L ...	3007-R0.75-3-10 R ...	■	■	■	■	1.5	12	3	6°	0.75	2			3000...
3007-R0.8-3-10 L ...	3007-R0.8-3-10 R ...	■	■	■	■	1.6	12	3	6°	0.8	2			3000...
3007-R1.0-10 L ...	3007-R1.0-10 R ...	■	■	■	■	2	12	10	6°	1	2			3000...
3007-R1.5-10 L ...	3007-R1.5-10 R ...	■	■	■	■	3	12	10	6°	1.5	2			3000...
3007-R1.5-16 L ...	3007-R1.5-16 R ...	■	■	■	■	3	17	16	6°	1.5	2			3000...

Chamfering



3012...

Order designation		Carbide				19	Dimensions						Holder
L	R	○	●	○	○		a	c	d	α	β	e	146...
		○	○	○	●								
		○	○	○	○								
		-	-	●	○								
		UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX								

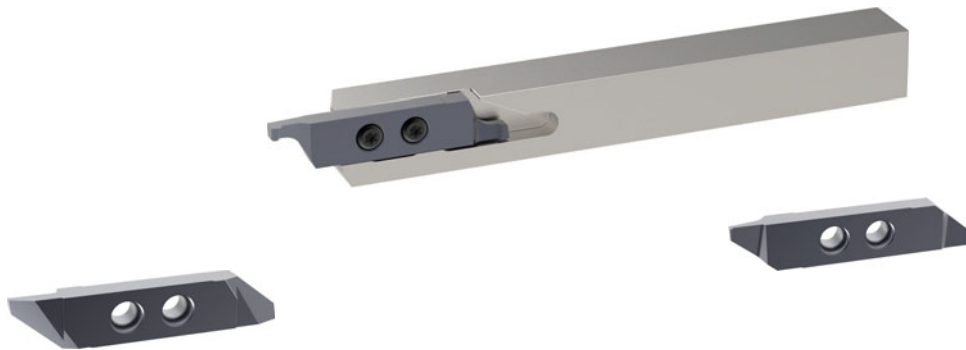
**STANDARD-LINE**

Accuracy class of UTILIS 41



3012-2-6-60 L ...	3012-2-6-60 R ...			■	■	2	2	10	60°	60°	0.035		3000...
3012-2-10-45 L ...	3012-2-10-45 R ...			■	■	2	10	12	45°	90°	-		3000...

3099...

**Product description**

Development and production of multidec® tools for your own specific needs.

**Customer's situation**

A special machining method makes it impossible or difficult to use tools from the standard multidec® range. You need a special insert, a special tool or coating which is not included in our standard product range.

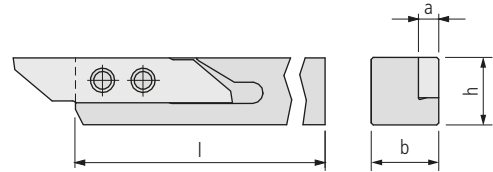
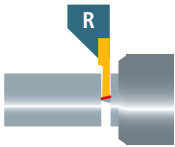
**UTILIS solution**

After detailed consultation, we will develop and make the best multidec® solution for your particular needs. Normally this will be done using standard blanks which enable the special tools to be produced and delivered quickly and at reasonable cost. The familiar multidec® quality is of course always guaranteed.

**Advantages:**

- UTILIS know-how and quality also for special tools
- Standard blanks permit fast and reasonably priced delivery
- Tools developed to meet your specific needs



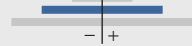


3000...

Order designation		Dimensions							Inserts
L	R	h	b	l	a				109...

STANDARD-LINE

Accuracy class of UTILIS 41



3000-08x80 L	■	3000-08x80 R	■	8	8	80	3.5				30...
3000-08x100 L	■	3000-08x100 R	■	8	8	100	3.5				30...
3000-10x80 L	■	3000-10x80 R	■	10	10	80	3.5				30...
3000-10x100 L	■	3000-10x100 R	■	10	10	100	3.5				30...
3000-12x100 L	■	3000-12x100 R	■	12	12	100	3.5				30...
3000-16x125 L	■	3000-16x125 R	■	16	16	125	3.5				30...
3000-20x125 L	■	3000-20x125 R	■	20	20	125	3.5				30...
3000-25x150 L	■	3000-25x150 R	■	25	25	150	3.5				30...

VALUE-LINE

Accuracy class of UTILIS 41



3000 B-10x100 L	■	3000 B-10x100 R	■	10	10	100	3				30...
3000 B-12x100 L	■	3000 B-12x100 R	■	12	12	100	3				30...
3000 B-16x125 L	■	3000 B-16x125 R	■	16	16	125	3				30...

3000... INCH

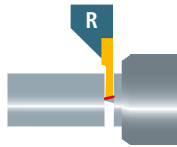
Order designation		Dimensions							Inserts
L	R	h	b	l	a				109...

STANDARD-LINE

Accuracy class of UTILIS 41



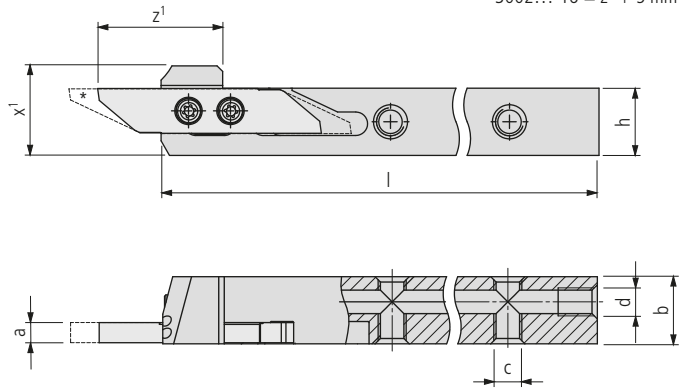
3000-3/8"x80 L	■	3000-3/8"x80 R	■	9.525	9.525	80	3.5				30...
3000-3/8"x100 L	■	3000-3/8"x100 R	■	9.525	9.525	100	3.5				30...
3000-1/2"x100 L	■	3000-1/2"x100 R	■	12.7	12.7	100	3.5				30...
3000-5/8"x125 L	■	3000-5/8"x125 R	■	15.875	15.875	125	3.5				30...
3000-3/4"x125 L	■	3000-3/4"x125 R	■	19.05	19.05	125	3.5				30...



With internal cooling



\*3002...-13 = z<sup>1</sup> + 5 mm  
 3002...-16 = z<sup>1</sup> + 5 mm

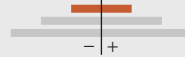


3000... IC

Order designation		Dimensions								Inserts	
L	R	h	b	l	a	z <sup>1</sup>	x <sup>1</sup>	c	d	□ 109...	

PREMIUM-LINE

Accuracy class of UTILIS □ 41



3000-08x100 L IC	■	3000-08x100 R IC	■	8	12	100	3.5	21	12.2	M5	M5	30...
3000-10x100 L IC	■	3000-10x100 R IC	■	10	12	100	3.5	21	14	M5	M5	30...
3000-12x100 L IC	■	3000-12x100 R IC	■	12	12	100	3.5	21	16	M5	M5	30...
3000-16x125 L IC	■	3000-16x125 R IC	■	16	16	125	3.5	21	20	M5	G1/8"	30...
3000-20x125 L IC	■	3000-20x125 R IC	■	20	20	125	3.5	21	24	M5	G1/8"	30...
3000-25x125 L IC	■	3000-25x125 R IC	■	25	25	125	3.5	21	29	M5	G1/8"	30...

3000... IC INCH

Order designation		Dimensions								Inserts	
L	R	h	b	l	a	z <sup>1</sup>	x <sup>1</sup>	c	d	□ 109...	

PREMIUM-LINE

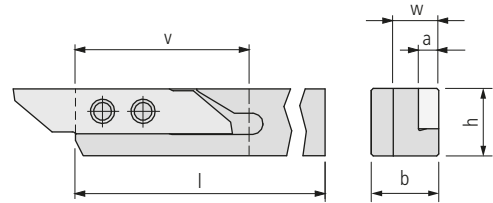
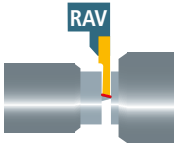
Accuracy class of UTILIS □ 41



3000-3/8"x100 L IC	■	3000-3/8"x100 R IC	■	9.525	9.525	100	3.5	21	13.5	M5	M5	30...
3000-1/2"x100 L IC	■	3000-1/2"x100 R IC	■	12.7	12.7	100	3.5	21	16.7	M5	M5	30...
3000-5/8"x125 L IC	■	3000-5/8"x125 R IC	■	15.875	15.875	125	3.5	21	19.9	M5	G1/8"	30...
3000-3/4"x125 L IC	■	3000-3/4"x125 R IC	■	19.05	19.05	125	3.5	21	23	M5	G1/8"	30...

Scope of delivery: Holder without coolant connector  
 Coolant connectors □ 632

With off-set shank

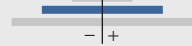


3000... AV

Order designation		Dimensions							Inserts
L	R	h	b	l	v	w	a	109...	

STANDARD-LINE

Accuracy class of UTILIS 41



3000-10x80 LAV	■	3000-10x80 RAV	■	10	10	80	28	8	3.5	30...
3000-10x100 LAV	■	3000-10x100 RAV	■	10	10	100	28	8	3.5	30...
3000-12x100 LAV	■	3000-12x100 RAV	■	12	12	100	28	8	3.5	30...
3000-16x125 LAV	■	3000-16x125 RAV	■	16	16	125	28	8	3.5	30...

3000... AV INCH

Order designation		Dimensions							Inserts
L	R	h	b	l	v	w	a	109...	

STANDARD-LINE

Accuracy class of UTILIS 41

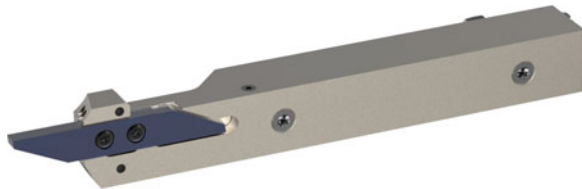


3000-3/8"x80 LAV	■	3000-3/8"x80 RAV	■	9.525	9.525	80	28	8	3.5	30...
3000-3/8"x100 LAV	■	3000-3/8"x100 RAV	■	9.525	9.525	100	28	8	3.5	30...
3000-1/2"x100 LAV	■	3000-1/2"x100 RAV	■	12.7	12.7	100	28	8	3.5	30...
3000-5/8"x125 LAV	■	3000-5/8"x125 RAV	■	15.85	15.875	125	28	8	3.5	30...

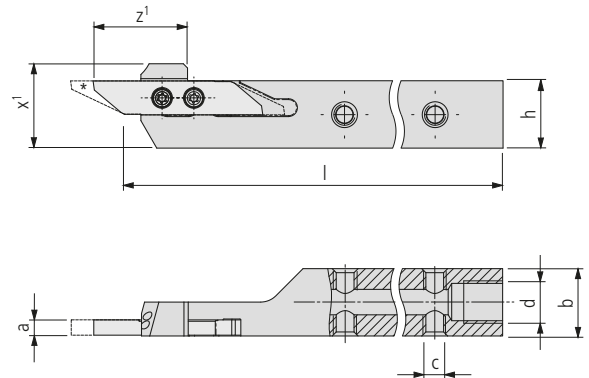




With off-set shank and internal cooling



\* 3002...-13 =  $z^1 + 5$  mm  
 3002...-16 =  $z^1 + 5$  mm



3000... AV IC

Order designation		Dimensions									Inserts	
L	R	h	b	l	a	$z^1$	$x^1$	c	d	□ 109...		
Accuracy class of UTILIS □ 41												
3000-16x125 LAV IC	■	3000-16x125 RAV IC	■	16	16	125	3.5	22	20	M5	G1/8"	30...

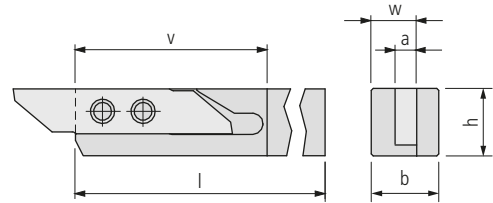
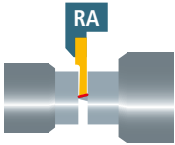
3000... AV IC INCH

Order designation		Dimensions									Inserts	
L	R	h	b	l	a	$z^1$	$x^1$	c	d	□ 109...		
Accuracy class of UTILIS □ 41												
3000-5/8"x125 LAV IC	■	3000-5/8"x125 RAV IC	■	15.875	15.875	125	3.5	22	20	M5	G1/8"	30...

**Scope of delivery:** Holder without coolant connector  
 Coolant connectors □ 632

**Note**  
 This holder type is available with interior cooling from a shank cross section of 16 mm or 5/8" .

With off-set shank and insert seat

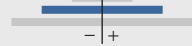


3000... A

Order designation		Dimensions							Inserts
L	R	h	b	l	v	w	a	109...	

STANDARD-LINE

Accuracy class of UTILIS 41



3000-10x80 LA	■	3000-10x80 RA	■	10	10	80	37	8	3.5	30...
3000-10x100 LA	■	3000-10x100 RA	■	10	10	100	37	8	3.5	30...
3000-12x100 LA	■	3000-12x100 RA	■	12	12	100	37	8	3.5	30...
3000-16x125 LA	■	3000-16x125 RA	■	16	16	125	37	8	3.5	30...

3000... A INCH

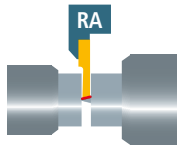
Order designation		Dimensions							Inserts
L	R	h	b	l	v	w	a	109...	

STANDARD-LINE

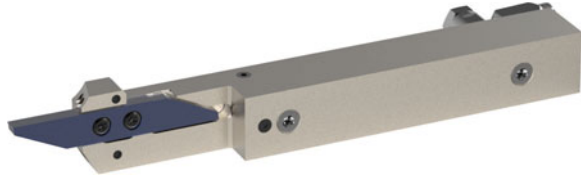
Accuracy class of UTILIS 41



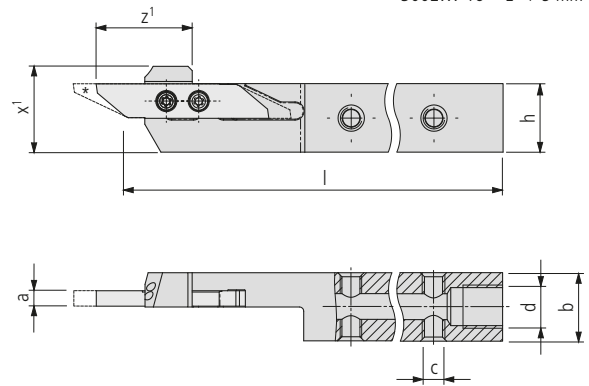
3000-3/8"x80 LA	■	3000-3/8"x80 RA	■	9.525	9.525	80	37	8	3.5	30...
3000-3/8"x100 LA	■	3000-3/8"x100 RA	■	9.525	9.525	100	37	8	3.5	30...
3000-1/2"x100 LA	■	3000-1/2"x100 RA	■	12.7	12.7	100	37	8	3.5	30...
3000-5/8"x125 LA	■	3000-5/8"x125 RA	■	15.875	15.875	125	37	8	3.5	30...



With off-set shank, insert seat and internal cooling



\*3002...-13 =  $z^1 + 5$  mm  
 3002...-16 =  $z^1 + 5$  mm



3000... A IC

Order designation		Dimensions										Inserts
L	R	h	b	l	a	$z^1$	$x^1$	c	d	□ 109...		
Accuracy class of UTILIS □ 41												
3000-16x125 LA IC	■	3000-16x125 RA IC	■	16	16	125	3.5	22	20	M5	G1/8"	30...

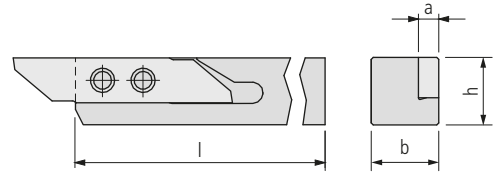
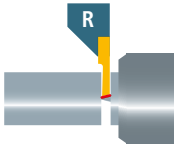
3000... A IC INCH

Order designation		Dimensions										Inserts
L	R	h	b	l	a	$z^1$	$x^1$	c	d	□ 109...		
Accuracy class of UTILIS □ 41												
3000-5/8"x125 LA IC	■	3000-5/8"x125 RA IC	■	15.875	15.875	125	3.5	22	20	M5	G1/8"	30...

**Scope of delivery:** Holder without coolant connector  
 Coolant connectors □ 632

**Note**  
 This holder type is available with interior cooling from a shank cross section of 16 mm or 5/8" .

Clamping of insert from the back side



3000... C (Combi)

Order designation		Dimensions								Inserts	
L	R	h	b	l	a					□ 109...	
Accuracy class of UTILIS □ 41											
3000-08x100 LC	■	3000-08x100 RC	■	8	8	100	3.5				30...
3000-10x100 LC	■	3000-10x100 RC	■	10	10	100	3.5				30...
3000-12x100 LC	■	3000-12x100 RC	■	12	12	100	3.5				30...
3000-16x125 LC	■	3000-16x125 RC	■	16	16	125	3.5				30...
3000-20x125 LC	■	3000-20x125 RC	■	20	20	125	3.5				30...

STANDARD-LINE

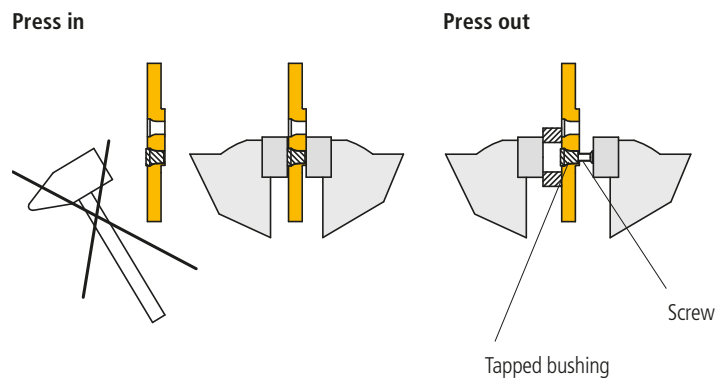
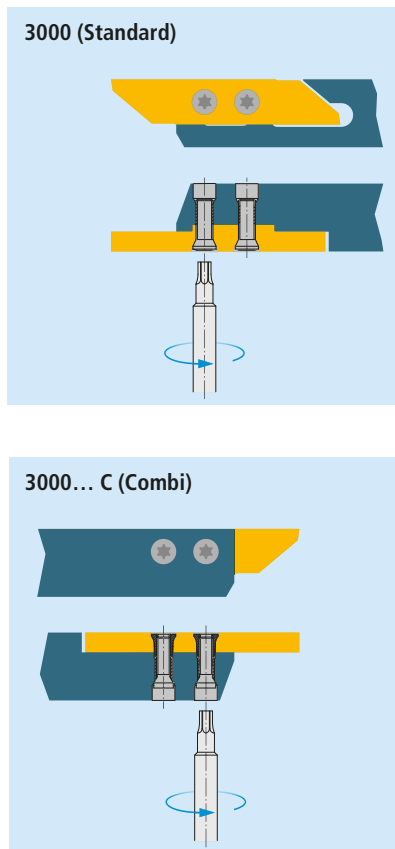
3000... C (Combi) INCH

Order designation		Dimensions								Inserts	
L	R	h	b	l	a					□ 109...	
Accuracy class of UTILIS □ 41											
3000-3/8"x100 LC	■	3000-3/8"x100 RC	■	9.525	9.525	100	3.5				30...
3000-1/2"x100 LC	■	3000-1/2"x100 RC	■	12.7	12.7	100	3.5				30...
3000-5/8"x125 LC	■	3000-5/8"x125 RC	■	15.875	15.875	125	3.5				30...
3000-3/4"x125 LC	■	3000-3/4"x125 RC	■	19.05	19.05	125	3.5				30...

STANDARD-LINE

Clamping of the insert on holder 3000...C □ 153



The regular tool holder multidec®-CUT 3000 uses the insert fixing screws from the side of the insert. The tool holder CUT 3000 C "Combi" allows in addition the insert fixing screws to be mounted from the opposite side using tapped bushings.



To avoid damage don't use excessive force while inserting and removing the tapped bushing.

## Replacement and spare parts

multidec®-CUT 3000

Illustration	Description	Dimensions	Order designation	Holder
	TORX screw	M2.5 × 9 T08	<a href="#">MSP 25090 T08</a>	■ 3000...C
		M3 × 7.3 T08	<a href="#">MSP 30073 T08</a>	■ 3000-08...* 3000...A
		M3 × 9 T08	<a href="#">MSP 30090 T08</a>	■ 3000...**
	Tapped bushing Ø 3.55	M2.5 × 4	<a href="#">MSP 25040 GB2</a>	■ 3000...C

C: Combi; A: offset shank

\* Holder up to shank width of 8 mm

\*\* Holder from shank width of 10 mm

TORX screwdriver  664



A turn and cut-off tool for Swiss type lathes up to bar diameter 20 mm. The cutting inserts consist of two cutting edges. The insert seat, which is protected against contamination permits 100% utilization of all cutting edges.

Even for holders a wide range of possibilities with shank sizes between 8 and 25 mm are available. For Swiss type automatic lathes special holders have been designed and complete the wide range of choices.

**Advantages:**

- System for grooving large and wide forms up to 6 mm
- The machine operator can grind his own cutting geometries



"IC" tool holder with integrated cooling

Cost-efficient processing of modern materials increasingly requires accurate control of the coolant at the cutting edge. Conveying the coolant as close as possible to the cutting edge is often a difficult task in the machine rooms of Swiss type turning lathes.

The multidec®-IC program offers a wide range of holders with integrated cooling. Because of the high precision and pressure, it is possible to discharge the chip quickly and safely from the cutting edge and the workpiece, which protects the cutting edge of the insert. This means significantly longer tool life as well as very reliable serial production.

**Advantages:**

- All holders feature five possible connectors for the coolant supply
- Fixed coolant exit allows for small set-up in front of the holder
- With or without high pressure, the coolant medium always hits the cutting edge precisely

Technical information	9
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Inserts	
3601...	156
3605...	157
3699... (special inserts)	158



Holders	
3600..., 3600... IC	159

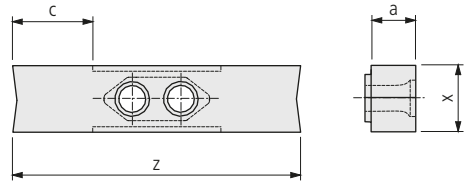


Replacement and spare parts	161
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Blank

156

UTILIS  
**multidec**<sup>®</sup>  
swiss type tools



3601...

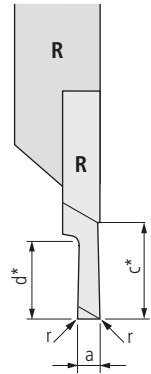
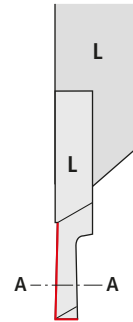
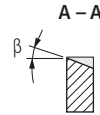
Order designation	Material				Dimensions				Holder
	Carbide	□ 19	HSS		a	c	x	z	
<b>L</b>	●	●	●	●	6	11	8	40.5	3600...
	○	○	○	○					
	○	○	○	○					
	○	○	○	○					
	UHM 30	UHM 30 HX	HSS	HSS HX					
<b>PREMIUM-LINE</b>									Accuracy class of UTILIS □ 41
3601-6-10 N P ...*	■	■							
<b>STANDARD-LINE</b>									Accuracy class of UTILIS □ 41
3601-6-10 N ...	■	■	■	■					

\* Mirror polished





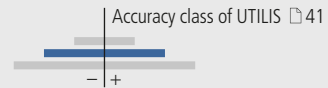
Grooving and turning



3605... CP

Order designation		Carbide		19	Dimensions					Holder
L	R	●	●		a	c*	d*	r	β	159...
		○	○							
		●	○							
		UHM 30	UHM 30 HX							

**STANDARD-LINE**



Order designation	Order designation	Material	Material	a	c*	d*	r	β	Holder
3605-4.0-10 L CP ...	3605-4.0-10 R CP ...	■	■	4	10	10	-	10°	3600...
3605-4.0-10 L CP R08 ...	3605-4.0-10 R CP R08 ...	■	■	4	10	10	0.08	10°	3600...
3605-4.0-10 L CP R15 ...	3605-4.0-10 R CP R15 ...	■	■	4	10	10	0.15	10°	3600...

\* c: maximal turning capacity  
d: maximal grooving capacity

3699...

**Product description**

Development and production of multidec® tools for your own specific needs.

**Customer's situation**

A special machining method makes it impossible or difficult to use tools from the standard multidec® range. You need a special insert, a special tool or coating which is not included in our standard product range.

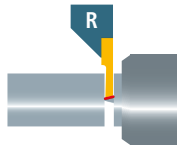
**UTILIS solution**

After detailed consultation, we will develop and make the best multidec® solution for your particular needs. Normally this will be done using standard blanks which enable the special tools to be produced and delivered quickly and at reasonable cost. The familiar multidec® quality is of course always guaranteed.

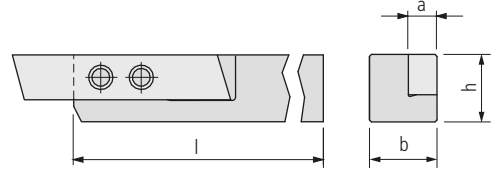
**Advantages:**

- UTILIS know-how and quality also for special tools
- Standard blanks permit fast and reasonably priced delivery
- Tools developed to meet your specific needs





Standard



3600...

Order designation		Dimensions								Inserts
L	R	h	b	l	a					□ 156...

STANDARD-LINE

Accuracy class of UTILIS □ 41



3600-10x80 L	■	3600-10x80 R	■	10	10	80	6				36...
3600-10x100 L	■	3600-10x100 R	■	10	10	100	6				36...
3600-12x100 L	■	3600-12x100 R	■	12	12	100	6				36...
3600-16x125 L	■	3600-16x125 R	■	16	16	125	6				36...
3600-20x125 L	■	3600-20x125 R	■	20	20	125	6				36...
3600-25x150 L	■	3600-25x150 R	■	25	25	150	6				36...

3600... INCH

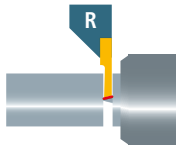
Order designation		Dimensions								Inserts
L	R	h	b	l	a					□ 156...

STANDARD-LINE

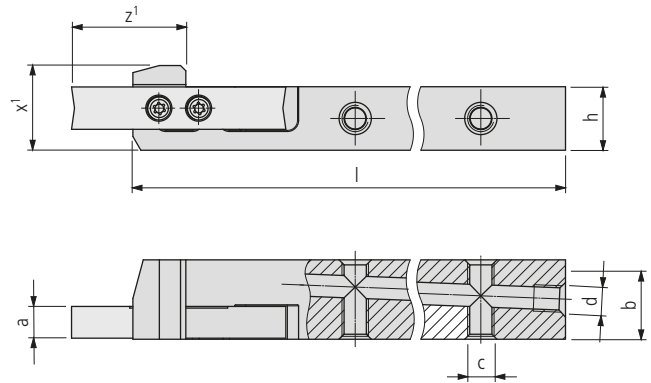
Accuracy class of UTILIS □ 41



3600-3/8"x80 L	■	3600-3/8"x80 R	■	9.525	9.525	80	6				36...
3600-3/8"x100 L	■	3600-3/8"x100 R	■	9.525	9.525	100	6				36...
3600-1/2"x100 L	■	3600-1/2"x100 R	■	12.7	12.7	100	6				36...
3600-5/8"x125 L	■	3600-5/8"x125 R	■	15.875	15.875	125	6				36...
3600-3/4"x125 L	■	3600-3/4"x125 R	■	19.05	19.05	125	6				36...



With internal cooling



3600... IC

Order designation		Dimensions										Inserts
L	R	h	b	l	a	z <sup>1</sup>	x <sup>1</sup>	c	d	156...		

PREMIUM-LINE

Accuracy class of UTILIS 41



3600-1215x100 L IC	■	3600-1215x100 R IC	■	12	15	100	6	21	16	M5	M5	36...
3600-16x125 L IC	■	3600-16x125 R IC	■	16	16	125	6	21	20	M5	G1/8"	36...
3600-20x125 L IC	■	3600-20x125 R IC	■	20	20	125	6	21	24	M5	G1/8"	36...
3600-25x125 L IC	■	3600-25x125 R IC	■	25	25	125	6	21	29	M5	G1/8"	36...

3600... IC INCH

Order designation		Dimensions										Inserts
L	R	h	b	l	a	z <sup>1</sup>	x <sup>1</sup>	c	d	156...		

PREMIUM-LINE


Accuracy class of UTILIS 41



3600-1/2" 15x100 L IC	■	3600-1/2" 15x100 R IC	■	12.7	15	100	6	21	16.7	M5	M5	36...
3600-5/8"x125 L IC	■	3600-5/8"x125 R IC	■	15.875	15.875	125	6	21	19.9	M5	G1/8"	36...
3600-3/4"x125 L IC	■	3600-3/4"x125 R IC	■	19.05	19.05	125	6	21	23	M5	G1/8"	36...

**Scope of delivery:** Holder without coolant connector

Coolant connectors 632

Illustration	Description	Dimensions	Order designation	Holder
	TORX PLUS screw	M3 × 9 T08	MSP 30090 T08	3600-10.../3600-3/8" ...*
		M3 × 11 TP09	MSP 30110 TP09	3600...**

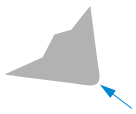
\* Holder up to shank width of 10 mm

\*\* Holder from shank width of 12 mm

TORX screwdriver  664

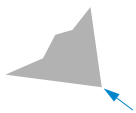
	Steel unalloyed			Steel low alloyed			Steel high alloyed			Titanium		
Hardness value (HB)	125–300			180–250			200–350			–		
Category	I			II			III			IV		
Machining method	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼
Feeds	f (mm/rev)											
	0.1–0.25	0.02–0.15	0.005–0.08	0.1–0.25	0.02–0.15	0.005–0.08	0.1–0.25	0.02–0.15	0.005–0.08	0.1–0.25	0.02–0.08	0.005–0.06
Depths of cut	a <sub>p</sub> (mm)											
	<5	<3	<2	<5	<3	<2	<4	<2.5	<1.5	<4	<2.5	<1.5
Cutting speeds	v <sub>c</sub> (m/min)											
Cutting material carbide												
UHM 20	40–110	60–120	60–140	60–100	60–120	60–130	40–90	60–110	60–120	40–60	50–70	60–80
UHM 20 HPX	150–200	180–220	200–260	80–150	100–180	160–220	70–100	90–150	120–180	50–100	60–120	60–140
UHM 30	30–70	50–80	50–100	30–60	40–80	40–90	–	30–70	30–80	–	25–60	30–70
UHM 30 HX	50–140	50–180	50–220	50–130	50–160	50–200	40–120	50–140	50–180	30–90	40–100	40–120
Cutting material HSS												
HSS	25–30	25–35	25–40	20–30	20–35	20–35	15–20	15–25	15–30	10–20	15–20	15–25
HSS HX	30–40	35–40	35–50	25–35	25–40	25–45	20–30	20–30	20–35	20–30	20–30	20–35

## Cutting specification "GS"



E: Insert with rounded cutting edge

Material number	Standards				Cutting speeds	Feeds
	DIN	AFNOR	AISI/SAE/ASTM	JIS		
1.0715	11 SMn 30, 9 SMn 28	S 250	1213	SUM 22	80–150	0.05–0.25
1.0718	11 SMn 30, 9 SMnPb 28	S 250 Pb	12 L 13	SUM 22 L, SUM 23 L, SUM 24 L		
1.0736	11 SMn 37, 9 SMn 36	S 300	1215	SUM 25		
1.0737	11 SMnPb 37, 9 SMnPb 36	S 300 Pb	12 L 14	–		
1.4104	X 12 CrMoS 17	Z 10 CF 17	430 F	SUS 430 F	120–150	0.05–0.15
1.4301	X5 CrNi 18-10	Z 6 CN 18-10	304, 304 H	SUS304	80–100	0.05–0.07
1.4305	X 8 CrNiS 18-9	Z 8 CNF 18-09	303	SUS 303	120–150	0.05–0.15
1.4435	X2 CrNiMo 18-14-3	Z3 CND 18-14-03	316L	SUS316L, SCS16	80–90	0.08–0.1
3.4365	AlZnMgCu1.5	–	7075	–	180–200	0.15–0.2



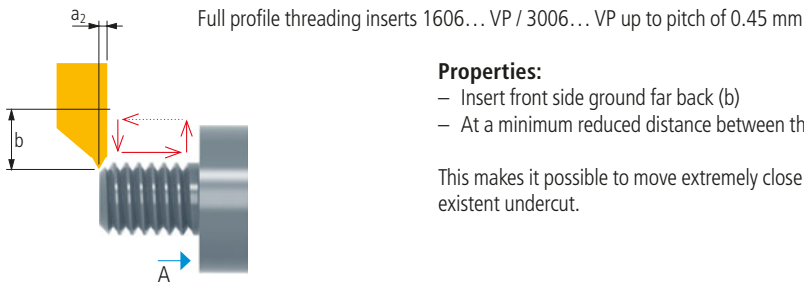
F: Insert with sharp cutting edge

Material number	Standards				Cutting speeds	Feeds
	DIN	AFNOR	AISI/SAE/ASTM	JIS		
1.4104	X 12 CrMoS 17	Z 10 CF 17	430 F	SUS 430 F	120–150	0.04–0.12
1.4301	X5 CrNi 18-10	Z 6 CN 18-10	304, 304 H	SUS304	80–100	0.04–0.06
1.4305	X 8 CrNiS 18-9	Z 8 CNF 18-09	303	SUS 303	120–150	0.04–0.12
1.4435	X2 CrNiMo 18-14-3	Z3 CND 18-14-03	316L	SUS316L, SCS16	80–90	0.06–0.08
3.7165	TiAl6V4	T-A6V	B348	KS-130AV	55–65	0.03–0.05

	Stainless steel			Stainless steel			Aluminum			Brass		
Hardness value (HB)	180–220			220–330			60–130			–		
Category	V			VI			VII			VIII		
Machining method	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼
Feeds	f (mm/rev)											
	0.1–0.2	0.01–0.12	0.005–0.08	0.1–0.2	0.01–0.12	0.005–0.08	0.1–0.3	0.02–0.25	0.005–0.20	0.1–0.3	0.02–0.15	0.005–0.10
Depths of cut	a <sub>p</sub> (mm)											
	<4	<2.5	<1.5	<4	<2.5	<1.5	<5	<3	<2	<5	<3	<2
Cutting speeds	v <sub>c</sub> (m/min)											
Cutting material carbide												
UHM 20	40–100	40–110	40–120	30–70	30–80	30–80	100–1500	120–2000	160–2500	80–300	100–400	120–500
UHM 20 HPX	90–150	110–180	160–200	70–90	90–120	110–150	–	–	–	–	–	–
UHM 30	–	30–70	30–80	–	20–40	20–40	50–1000	60–1200	80–1500	40–100	50–140	50–160
UHM 30 HX	40–100	40–140	40–180	30–60	40–70	40–90	70–1500	80–2000	100–3000	50–150	50–200	50–250
Cutting material HSS												
HSS	15–20	15–25	15–30	10–20	15–20	15–25	30–80	40–80	50–90	30–50	30–60	40–70
HSS HX	20–30	20–30	20–35	20–30	20–30	20–35	40–90	50–100	50–120	40–60	40–80	50–90

Properties and applications

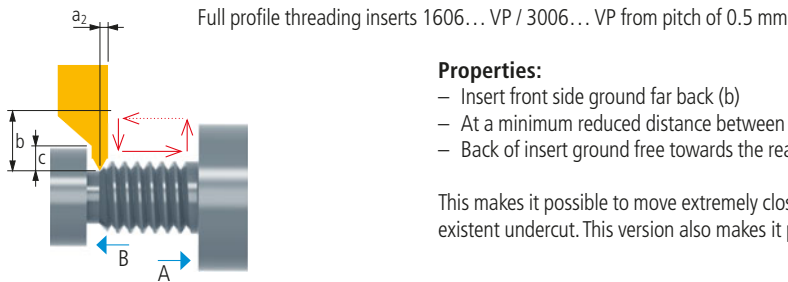
164



**Properties:**

- Insert front side ground far back (b)
- At a minimum reduced distance between the thread tip and front side ( $a_2$ )

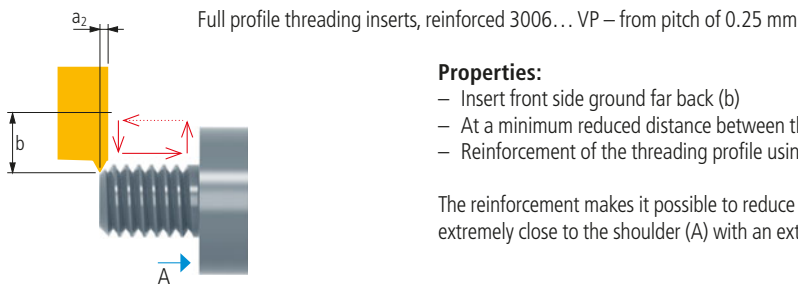
This makes it possible to move extremely close to the shoulder (A) with an extremely narrow or non-existent undercut.



**Properties:**

- Insert front side ground far back (b)
- At a minimum reduced distance between the thread tip and front side ( $a_2$ )
- Back of insert ground free towards the rear (c)

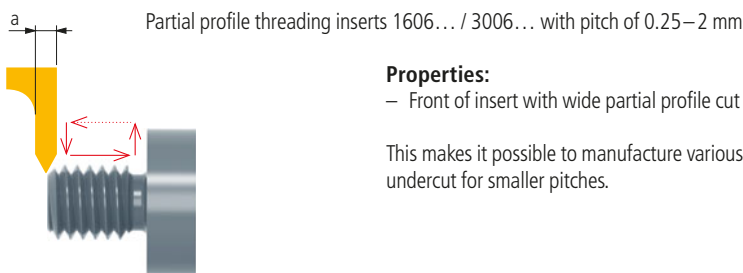
This makes it possible to move extremely close to the shoulder (A) with an extremely narrow or non-existent undercut. This version also makes it possible to manufacture a thread behind a shoulder (B).



**Properties:**

- Insert front side ground far back (b)
- At a minimum reduced distance between the thread tip and front side ( $a_2$ )
- Reinforcement of the threading profile using a special cut

The reinforcement makes it possible to reduce the number of passes by up to 20%. It is possible to move extremely close to the shoulder (A) with an extremely narrow or non-existent undercut.



**Properties:**

- Front of insert with wide partial profile cut (a) for covering a bigger pitch area

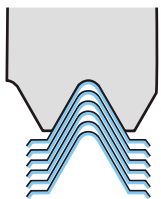
This makes it possible to manufacture various pitches with the same indexable insert, but requires an undercut for smaller pitches.



Number of passes

Pitch	(mm)	0.06–0.09	0.1–0.35	0.4	0.45	0.5	0.75	0.8	1	1.25	1.5	1.75	2–2.5
	(T/Inch)	–	80/72	64	56	48/44	40/36	32	28/24	20/19	18/16	14	13/11
Steel		2–4	3–5	3–6	3–7	5–10	7–11	7–12	8–15	10–18	11–22	12–24	15–28
Stainless steel		3–6	4–7	5–8	6–9	8–10	9–12	10–15	11–17	13–20	18–22	20–26	25–30
Titanium		3–6	4–7	5–8	6–9	8–10	9–12	10–15	11–17	13–20	18–22	20–26	25–30
Non-ferrous metal		2–4	3–5	3–6	3–7	3–8	4–9	5–10	6–11	7–14	8–16	8–16	17–22

Choice of feed movement



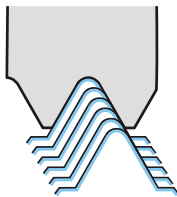
Radial feed

**Applicability:**

- For conventional lathes
- For pitches < 2 mm
- Short chipping materials

**Disadvantage:**

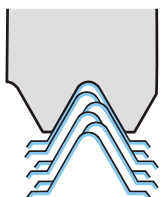
- Poor chip control



Feed on the flanks

**Applicability:**

- For CNC lathes
- For pitches 2 to 4 mm
- Long chipping materials
- Good chip control



Alternated feed

**Applicability:**

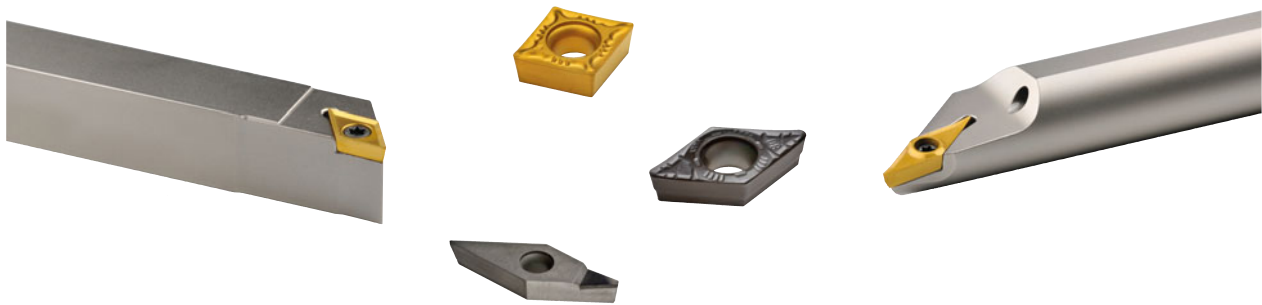
- For pitches > 4 mm
- Long chipping materials
- Regular wear of insert
- High tool-life
- Good chip control

**Disadvantage:**

- Complex CNC-programming

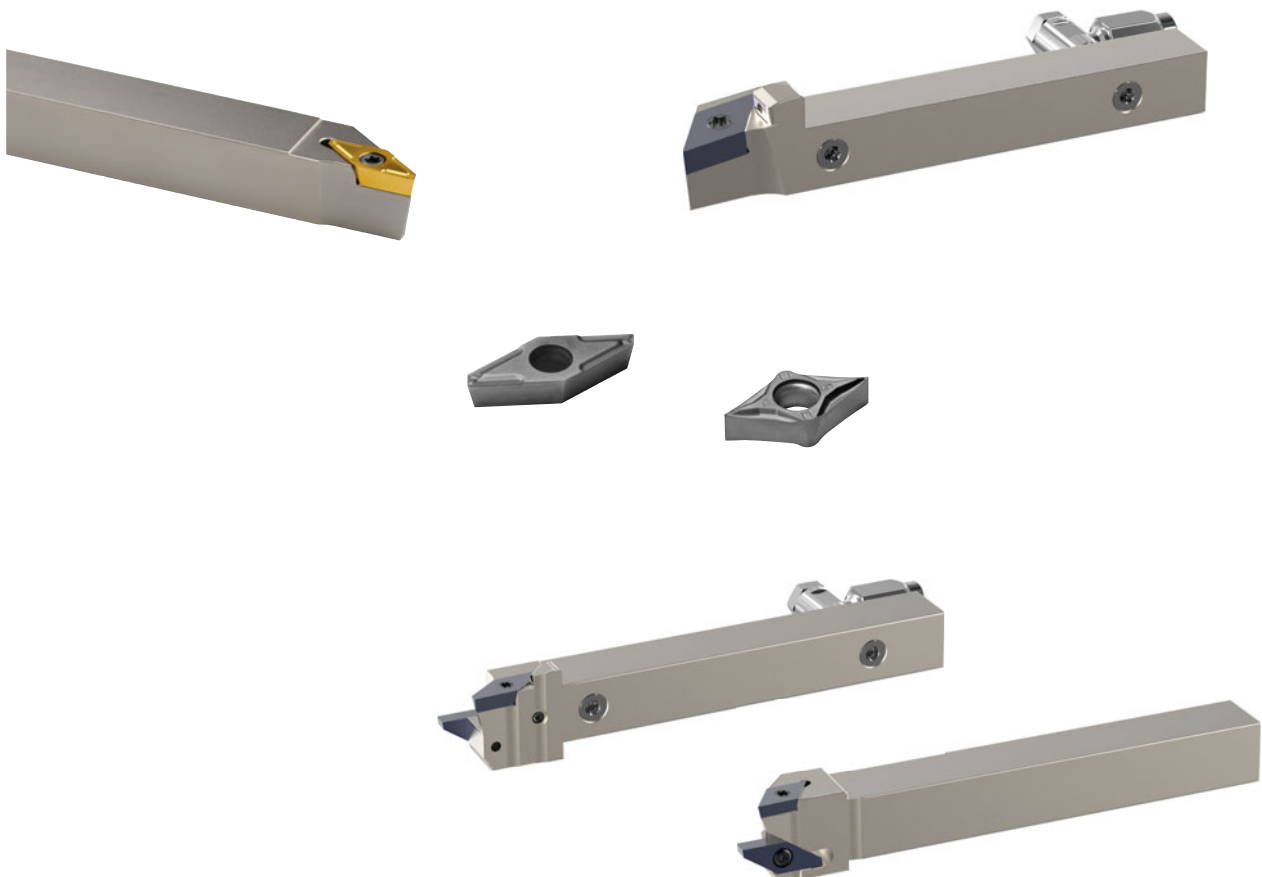
multidec®-ISO provides a very wide range of ISO standardized inserts for Swiss type machining and precision turning. All inserts consist of two or more edges and are easily indexed or changed.

At the same time multidec®-ISO provides a very stable and sharp cutting edge with a maximum radius between 0 and 0.8 mm. Innovative solutions involving coated and uncoated inserts made of carbide, cermets and diamond tips have been designed to cut very difficult materials. For all mechanical cutting conditions a large choice of sintered and ground inserts with a wide variety of chip grooves are available. Even for the holders a wide range of possibilities with shank sizes between 8 and 25 mm are available. For Swiss type automatic lathes special holders have been designed and complete the wide range of choices.



#### Advantages:


- Large range of standard ISO inserts
- Sharp cutting edges "F"
- Rounded cutting edges "E"
- Small corner radius (0-0.80 mm)
- Especially designed holders for CNC Swiss type automatic lathes (sizes 8x8 to 25x25 mm)



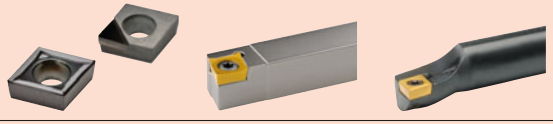
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Application OD turning  168

Application ID turning  170

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Designation system (ISO)  172

Overview type CC... (80°)  177

Overview type DC... (55°)  205

Overview type DN... (55°)  249

Overview type VC... (35°)  259

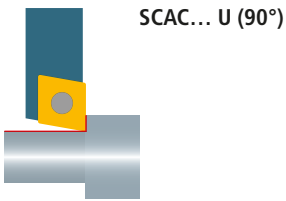
Overview type VP... (35°)  299

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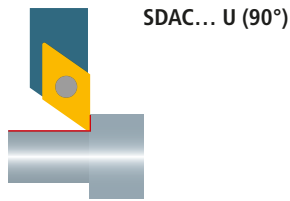
Front turning

Holders □ 199



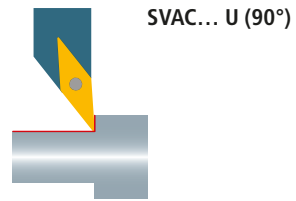
Front turning

Holders □ 229



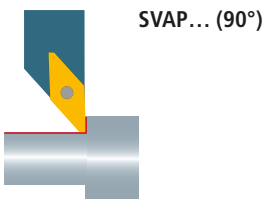
Front turning

Holders □ 279



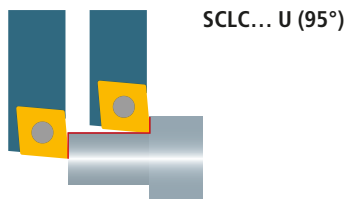
Front turning

Holders □ 303



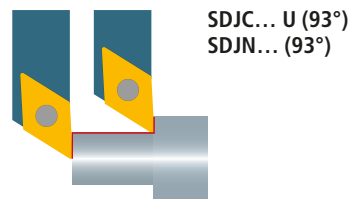
Turning and facing

Holders □ 200



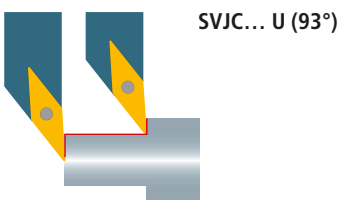
Turning and facing

Holders □ 232/252



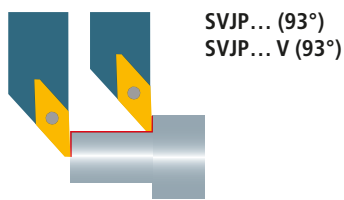
Turning and facing

Holders □ 280



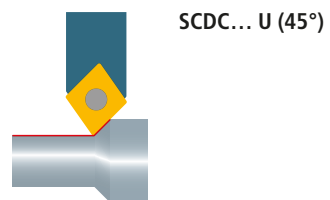
Turning and facing

Holders □ 304/306



Turning

Holders □ 199



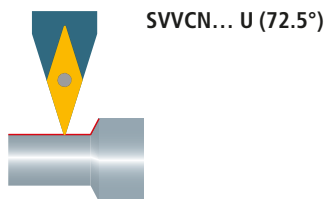
Turning

Holders □ 238



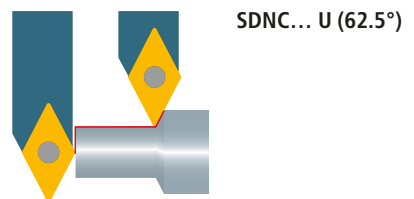
Turning

Holders □ 288



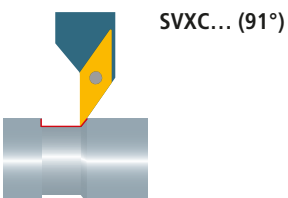
Turning and facing

Holders □ 236



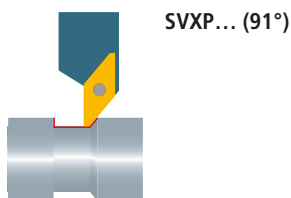
Back turning

Holders □ 290



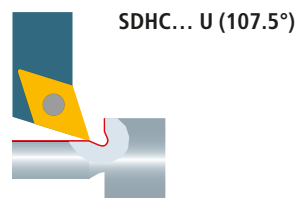
Back turning

Holders □ 312



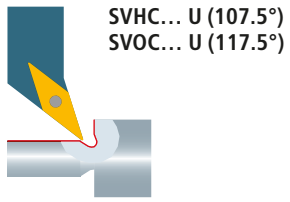
Turning and undercutting

Holders □ 230



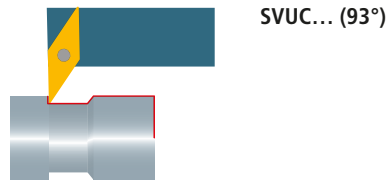
Turning and undercutting

Holders □ 282



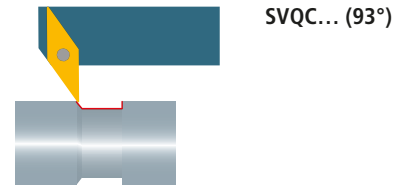
Turning and facing

Holders □ 287



Back turning

Holders □ 286

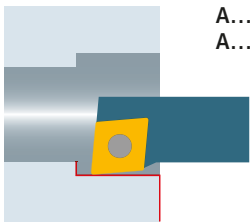


Inserts □ 177/205/249/259/299

All illustrations show right hand design. Left hand design is also available.

Turning and facing

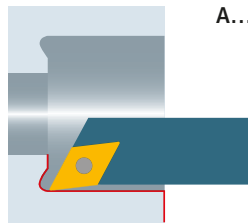
Holders □ 202/203



A... SCFC... (90°)  
A... SCLC... (95°)

Turning and facing

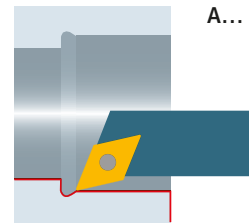
Holders □ 242



A... SDOC... (120°)

Turning and facing

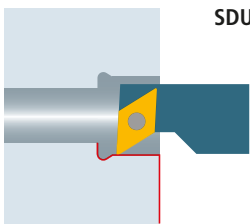
Holders □ 243



A... SDQC... (107.5°)

Turning and facing

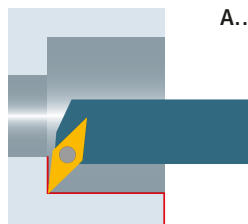
Holders □ 244



SDUC... (93°)

Turning and facing

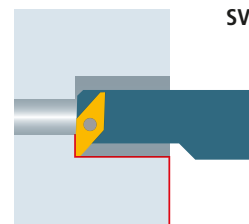
Holders □ 296



A... SVUC... (93°)

Turning and facing

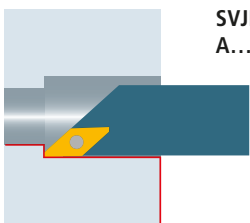
Holders □ 322



SVUP... (92°)

Turning and facing

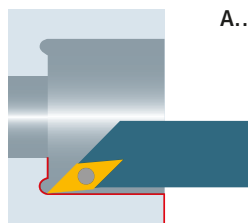
Holders □ 319/320



SVJP... (92°)  
A... SVOP... (92°)

Turning and facing

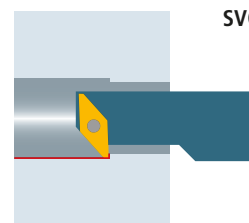
Holders □ 295



A... SVOC... (140°)

Back turning

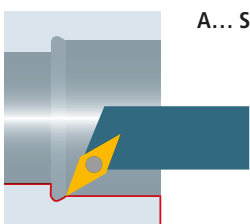
Holders □ 321



SVQP... (92°)

Turning and undercutting

Holders □ 294


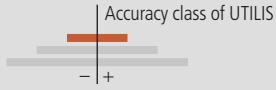
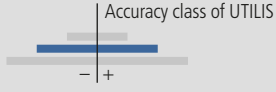
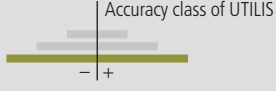


A... SVQC... (107.5°)

Inserts

□ 177/205/249/259/299

All illustrations show right hand design. Left hand design is also available.

Product line	 7	Tolerance index	Repeatability
<b>PREMIUM-LINE</b>		E	According to the ISO designation system for inserts
<b>STANDARD-LINE</b>		G	
<b>VALUE-LINE</b>		M/X	

Indexable inserts

Form of insert		
Index	$\alpha$	
V	35°	
D	55°	
C	80°	

Clearance angle		
Index	$\alpha$	
C	7°	
N	0°	
P	11°	

Tolerance			
Index	$s \pm$	$d \pm$	
E	0.025	0.025	
G	0.13	0.025	
M	0.13	0.05-0.15*	
X	0.1	0.04	

\* Dependent on dimension of insert

Distinctive mark	
Index	
W	
T	
U	
X/Z	Special shape

**DCGT 0702015 FN -A3 UHM 30 HX**

Chip breaker	Carbide	Coating

Edge length			
Index	l	d	
06	6.4	6.35	
09	9.7	9.53	
12	12.9	12.7	
07	7.75	6.35	
11	11.6	9.53	
11	11.1	6.35	
16	16.6	9.53	
10	10	6.35	

Insert thickness		
Index	s	
02	2.38	
03	3.18	
T3	3.97	
04	4.76	

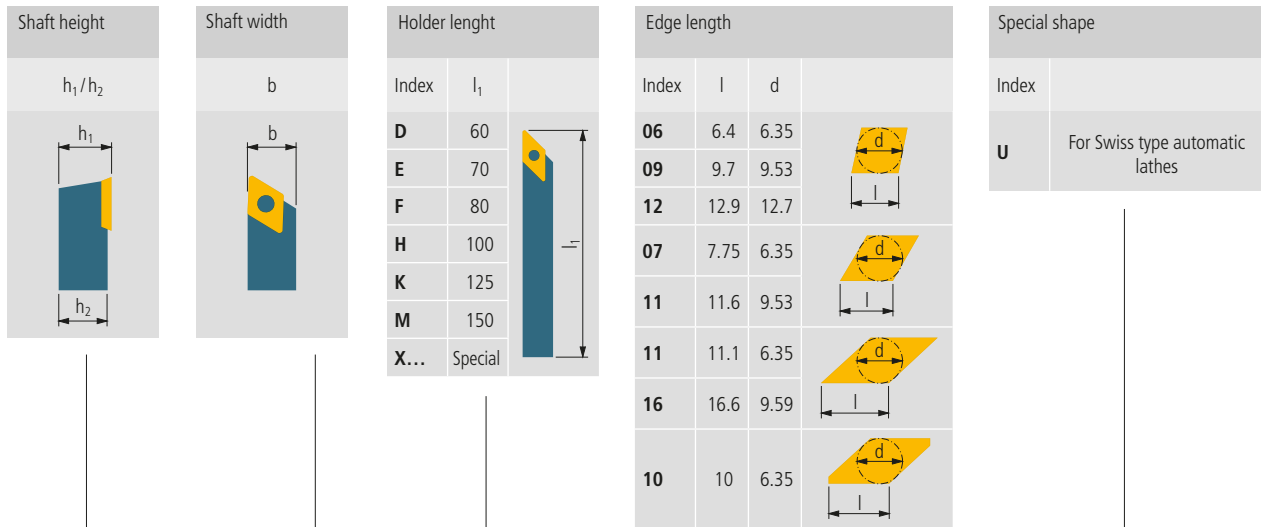
Corner radius	
Index	R
00/ZZ	0
003	0.03
006	0.06
008	0.08
01	0.1
015	0.15
02	0.2
035	0.35
04	0.4
075	0.75
08	0.8

Edge condition	
Index	
F	Sharp
E	Rounded

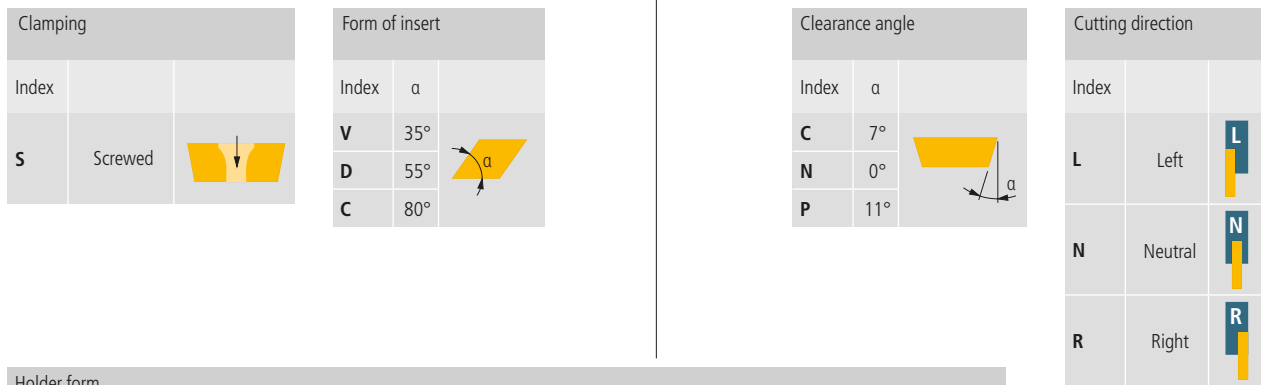
Cutting direction		
Index		
L	Left	
N	Neutral	
R	Right	



Holder OD turning



**SDJCR 1212 H07 U**



Holder form											
Index	$\alpha$		Index	$\alpha$		Index	$\alpha$		Index	$\alpha$	
<b>A</b>	90°		<b>H</b>	107.5°		<b>N</b>	63°		<b>U</b>	93°	
<b>F</b>	90°		<b>J</b>	93°		<b>O</b>	117.5°		<b>X</b>	55°	
<b>D</b>	45°		<b>L</b>	95°		<b>Q</b>	90°				

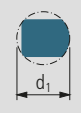
Holder ID turning

174

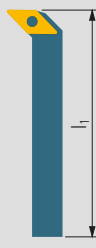
UTILIS  
**multidec**  
swiss type tools

Shaft execution	
Index	
<b>A</b>	Steel shaft with internal cooling
<b>E</b>	Carbide shaft with steel head and internal cooling

Shaft diameter
$d_1$





Holder length	
Index	$l_1$
<b>F</b>	80
<b>H</b>	100
<b>K</b>	125
<b>M</b>	150
<b>Q</b>	180
<b>R</b>	200
<b>S</b>	250
<b>T</b>	300
<b>X...</b>	Special







Edge length			
Index	$l$	$d$	
<b>06</b>	6.4	6.35	
<b>09</b>	9.7	9.53	
<b>12</b>	12.9	12.7	
<b>07</b>	7.75	6.35	
<b>11</b>	11.6	9.53	
<b>11</b>	11.1	6.35	
<b>16</b>	16.6	9.59	
<b>10</b>	10	6.35	












**A12K SDUCR 07**

Clamping		
Index		
<b>S</b>	Screwed	

Form of insert		
Index	$\alpha$	
<b>V</b>	35°	
<b>D</b>	55°	
<b>C</b>	80°	

Clearance angle		
Index	$\alpha$	
<b>C</b>	7°	
<b>N</b>	0°	
<b>P</b>	11°	

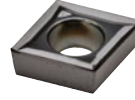
Cutting direction		
Index		
<b>L</b>	Left	
<b>N</b>	Neutral	
<b>R</b>	Right	

Holder form											
Index	$\alpha$		Index	$\alpha$		Index	$\alpha$		Index	$\alpha$	
<b>A</b>	90°		<b>H</b>	107.5°		<b>N</b>	63°		<b>U</b>	93°	
<b>F</b>	90°		<b>J</b>	93°		<b>O</b>	117.5°		<b>X</b>	55°	
<b>D</b>	45°		<b>L</b>	95°		<b>Q</b>	90°				



multidec®-ISO provides a well balanced range of tools for turning with rhombic 80° inserts and holders. Positive inserts with rounded cutting edges for roughing and sharp cutting edges for finishing are available.

These include a wide range of ground holders with hardened and nickel-plated surfaces for Swiss type automatic lathes with shank sizes from 8 to 20 mm and boring bars with diameters from 8 to 20 mm.

**Advantages:**

- High cutting volume with high feed rates
- Carbide and Cermet grades with chip breaker and coatings for all common materials
- Diamond range with CVD and PCD inserts for machining non-ferrous metals
- Cutting edge radius from 0.03 to 0.8 mm as standard
- Boring bars with steel- and carbide shank



"IC" tool holder with integrated cooling


Cost-efficient processing of modern materials increasingly requires accurate control of the coolant at the cutting edge. Conveying the coolant as close as possible to the cutting edge is often a difficult task in the machine rooms of Swiss type turning lathes.


The multidec®-IC program offers a wide range of holders with integrated cooling. Because of the high precision and pressure, it is possible to discharge the chip quickly and safely from the cutting edge and the workpiece, which protects the cutting edge of the insert. This means significantly longer tool life as well as very reliable serial production.

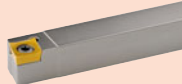
**Advantages:**


- All holders feature five possible connectors for the coolant supply
- Constant coolant discharge means low build-up at front near the holder
- With or without high pressure, the coolant medium always hits the cutting edge precisely

Technical information 9

Inserts (carbide / cermet)		
CCGT ... -PA3		178
CCGT ... -PA5		179
CCGT ... -PA7		180
CCXT ... PA9		181
CCGT ... -PF		182
CCGT ... -PF23		183
CCMT ... -PF43		184
CCMT ... -PM		185
CCMT ... -PMF		186
CCMT ... -PM25		187
CCMT ... -PM55		188
CCET ... -U		189

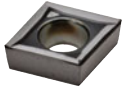
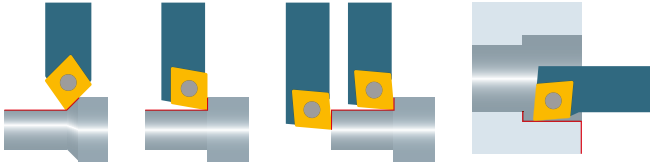
Inserts (diamond)		
CCGT ...		190
CCGT ... TOP		191
CCGT ... -UWS		192
CCGT ... TOP -UWS		193
CCGT ... -UWN		194
CCGT ... TOP -UWN		195
CCGT ... -UWR		196
CCGW ...		197
CCGW ... TOP		198

Holder (OD turning)		
SCAC... U (90°)		199
SCDC... U (45°)		199
SCLC... U (95°), SCLC... U IC (95°)		200

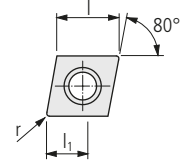
Holder (ID turning)		
A... SCFC... (90°)		202
A... SCLC... (95°)		203

Replacement and spare parts		203
-----------------------------	---	-----

Coolant connectors and accessories		632
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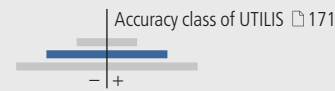
CCGT ... -PA3



Order designation	Carbide								C19		Cermet		Diamond		Dimensions			Holder
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20	l	r	l <sub>1</sub>	C199...
	-	-	●	●	●	○	○	●	○	●	●	-	-	-				
	○	●	-	-	-	○	○	-	-	-	-	-	-	-				
	●	○	-	-	-	○	○	-	-	-	-	●	●	●				

**STANDARD-LINE**

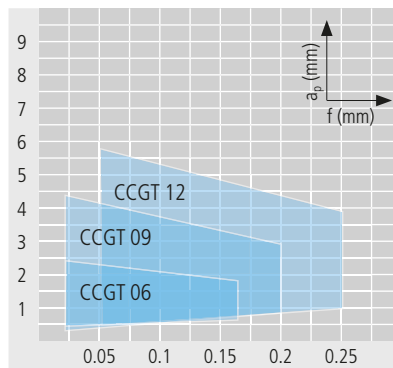
N	Order designation	Carbide								C19		Cermet		Diamond		Dimensions			Holder
		UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20	l	r	l <sub>1</sub>	SC...
	CCGT 060202 FN -PA3 ...	■	■												6.4	0.2	4		SC...06...
	CCGT 060204 FN -PA3 ...	■	■												6.4	0.4	4		SC...06...
	CCGT 09T304 FN -PA3 ...	■	■												9.7	0.4	4		SC...09...
	CCGT 09T308 FN -PA3 ...	■	■												9.7	0.8	4		SC...09...



Application range of chip breaker

**Properties:**

- polished rake
- ground clearance
- sharp cutting edge "F"
- micrograin carbide, heat and wear resistant

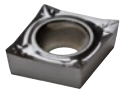
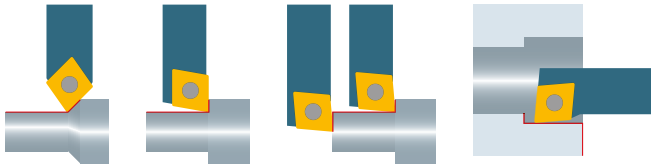


Optimal chip breaking

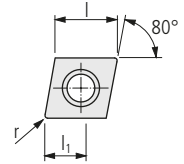
**Application:**

- micro finishing
- chip breaker for materials with difficult chip control
- stainless steel, alloyed steel, titanium, super alloy, aluminum and synthetics reinforced/composites

	I	II	III	IV	V	VI	VII	VIII	IX
▽	-	-	-	-	-	○	-	-	○
▽▽	○	○	○	○	○	○	●	-	●
▽▽▽	●	●	●	●	●	●	●	-	●



CCGT ... -PA5



β: 25°  
s: ±0.13  
C: <0.002

Order designation	Carbide								Cermet		Diamond		Dimensions	Holder					
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08			UPCD 15	UPCD 20			
	-	-	●	●	●	○	○	●	○	●	●	-	-	-	l	r	l <sub>1</sub>		Holder □ 199...
	○	●	-	-	○	○	○	-	-	-	-	-	-						
	●	○	-	-	-	○	○	-	-	-	-	-	-						
	○	○	-	-	-	○	○	-	-	-	-	-	-						

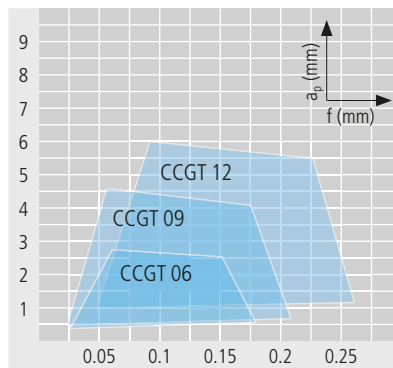
**STANDARD-LINE**

N	Order designation	Material compatibility												Accuracy class of UTILIS □ 171					
		UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20	l	r	l <sub>1</sub>	Holder
	CCGT 060202 FN -PA5 ...	■	■													6.4	0.2	4	SC...06...
	CCGT 060204 FN -PA5 ...	■	■													6.4	0.4	4	SC...06...
	CCGT 09T302 FN -PA5 ...	■	■													9.7	0.2	6	SC...09...
	CCGT 09T304 FN -PA5 ...	■	■													9.7	0.4	6	SC...09...
	CCGT 09T308 FN -PA5 ...	■	■													9.7	0.8	6	SC...09...
	CCGT 120402 FN -PA5 ...	■	■													12.9	0.2	8	SC...12...
	CCGT 120404 FN -PA5 ...	■	■													12.9	0.4	8	SC...12...
	CCGT 120408 FN -PA5 ...	■	■													12.9	0.8	8	SC...12...

Application range of chip breaker

Properties:

- polished rake
- ground clearance
- sharp cutting edge "F"
- submicrograin carbide, heat and wear resistant

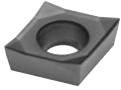
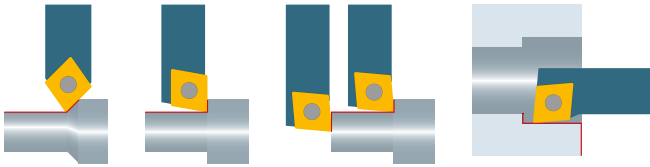


Optimal chip breaking

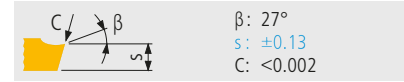
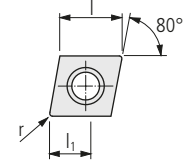
Application:

- finishing and micro finishing
- chip breaker for materials with difficult chip control
- stainless steel, alloyed steel, titanium, super alloy, aluminum and synthetics reinforced/composites

	I	II	III	IV	V	VI	VII	VIII	IX
▽	-	-	-	-	-	-	○	-	○
▽	●	●	●	○	○	●	●	-	●
▽	●	●	●	○	○	●	●	-	●



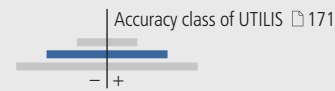
CCGT ... -PA7



Order designation	Carbide								Cermet		Diamond		Holder	
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08		UPCD 15
	○	○	○	○	○	○	○	○	○	●	●	-	-	-
	○	○	○	○	○	○	○	○	○	○	○	-	-	-
	○	○	○	○	○	○	○	○	○	○	○	-	-	-
	○	○	○	○	○	○	○	○	○	○	○	-	-	-

**STANDARD-LINE**

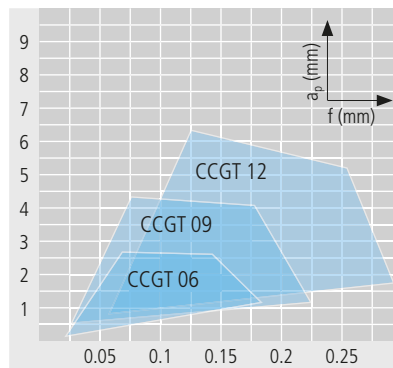
N	Order designation	Carbide								Cermet		Diamond		Holder	
		UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08		UPCD 15
	CCGT 060202 FN -PA7 ...	■	■												SC...06...
	CCGT 060204 FN -PA7 ...	■	■												SC...06...
	CCGT 09T3005 FN -PA7 ...	■	■												SC...09...
	CCGT 09T301 FN -PA7 ...	■	■												SC...09...
	CCGT 09T302 FN -PA7 ...	■	■												SC...09...
	CCGT 09T304 FN -PA7 ...	■	■												SC...09...
	CCGT 09T308 FN -PA7 ...	■	■												SC...09...
	CCGT 120402 FN -PA7 ...	■	■												SC...12...
	CCGT 120404 FN -PA7 ...	■	■												SC...12...
	CCGT 120408 FN -PA7 ...	■	■												SC...12...



**Application range of chip breaker**

**Properties:**

- ground clearance
- sharp cutting edge "F"
- micrograin carbide, heat and wear resistant



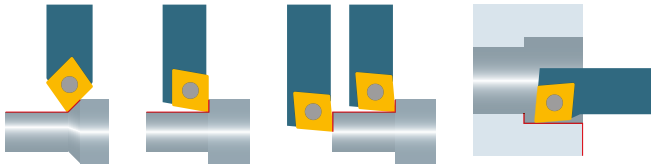
Optimal chip breaking

**Application:**

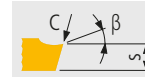
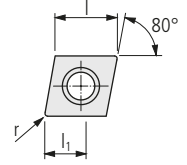
- micro finishing
- chip breaker for materials with good chip control
- stainless steel, alloyed steel, titanium, super alloy, aluminum and synthetics reinforced/composites

	I	II	III	IV	V	VI	VII	VIII	IX
▽	-	-	-	-	-	-	○	-	○
○	○	○	○	○	○	○	○	○	○
▽	●	●	●	●	●	●	●	●	●





CCXT ... -PA9



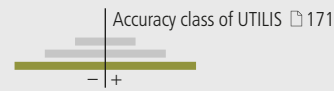
β: 25°  
s: ±0.1  
C: <0.01

Order designation	Carbide										Cermet		Diamond		Dimensions				Holder	
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20	l	r	l <sub>1</sub>			199...
	-	-	●	●	●	○	○	○	○	●	●	-	-	-						
	○	●	-	-	○	○	○	○	○	-	-	-	-	-						
	●	○	-	-	-	○	○	○	○	-	-	●	●	●						

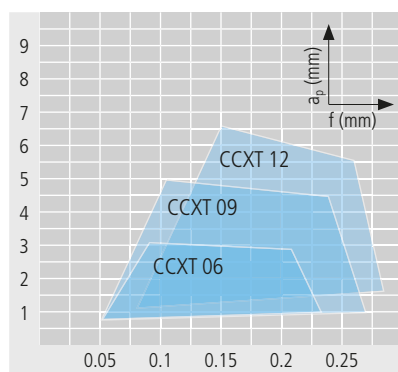
N	Order designation	Material										Dimensions				Holder					
		UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20	l	r	l <sub>1</sub>			Holder
	CCXT 060204 EN -PA9 ...	■	■												6.4	0.4	4				SC...06...
	CCXT 09T304 EN -PA9 ...	■	■												9.7	0.4	6				SC...09...
	CCXT 09T308 EN -PA9 ...	■	■												9.7	0.8	6				SC...09...

VALUE-LINE



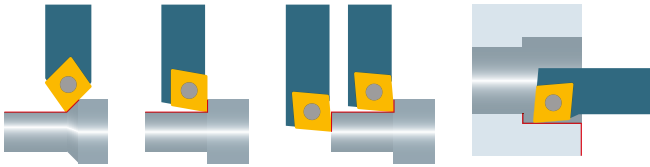
Application range of chip breaker

- Properties:**
- high precision sintered insert
  - rounded cutting edge "E"
  - micrograin carbide, heat and wear resistant
  - best performance-cost ratio

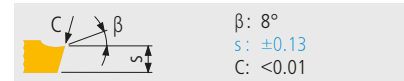
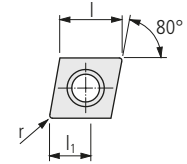


- Application:**
- finishing
  - chip breaker for soft materials with good chip control
  - alloyed steel, stainless steel, super alloy, titanium and aluminum

	I	II	III	IV	V	VI	VII	VIII	IX
▽	○	○	○	○	○	○	●	-	-
▽▽	●	●	●	○	○	○	○	-	-
▽▽▽	○	○	○	-	○	○	-	-	-



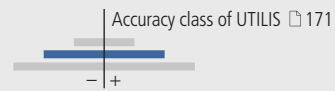
CCGT ... -PF



Order designation	Carbide										Cermet			Diamond			Holder		
	-	-	●	●	●	○	○	○	○	○	●	●	●	-	-	-		199...	
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCM 10 MZ	UCVD 08	UPCD 15	UPCD 20				

**STANDARD-LINE**

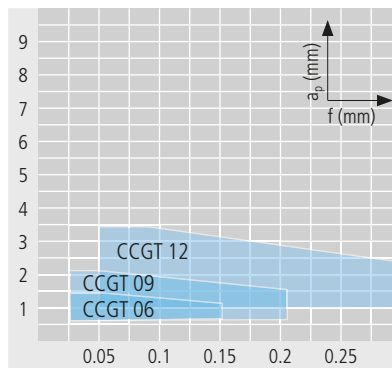
N	Order designation	Carbide										Cermet			Diamond			Holder		
		-	-	●	●	●	○	○	○	○	○	●	●	●	-	-	-			
	CCGT 060202 EN -PF ...				■				■		■	■	■				6.4	0.2	1.5	SC...06...
	CCGT 060204 EN -PF ...										■	■	■				6.4	0.4	1.5	SC...06...
	CCGT 09T302 EN -PF ...										■	■	■				9.7	0.2	2	SC...09...
	CCGT 09T304 EN -PF ...										■	■	■				9.7	0.4	2	SC...09...
	CCGT 09T308 EN -PF ...												■				9.7	0.8	2	SC...09...
	CCGT 120404 EN -PF ...										■	■					12.9	0.4	3.2	SC...12...



Application range of chip breaker

**Properties:**

- ground clearance
- little rounded cutting edge "E"
- carbide and cermet in different grades

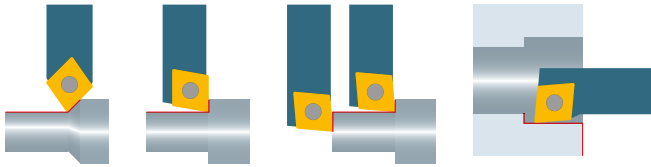


Optimal chip breaking

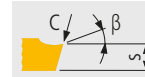
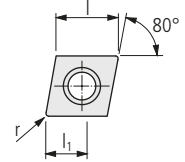
**Application:**

- finishing and micro finishing
- chip breaker for general application
- alloyed steel and stainless steel

	I	II	III	IV	V	IV	VII	VIII	IX
▲	○	○	○	-	○	○	-	-	-
●	●	●	●	-	●	●	-	-	-
▼	●	●	●	-	●	●	-	-	-



CCGT ... -PF23

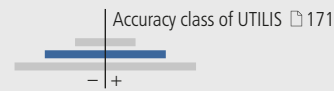


$\beta$ : 12°  
s: ±0.13  
C: <0.002

Order designation	Carbide								Cermet		Diamond		Dimensions	Holder	
	-	-	●	●	●	○	○	○	●	●	-	-			
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20	□ 199...

**STANDARD-LINE**

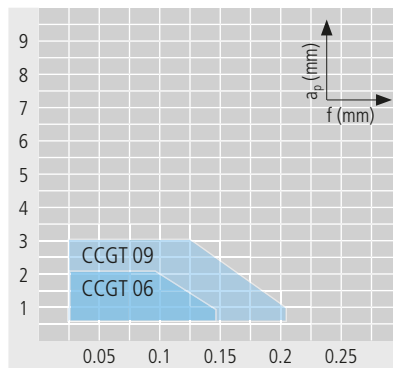
N	Order designation	Carbide								Cermet		Diamond		Dimensions	Holder		
		-	-	●	●	●	○	○	○	●	●	-	-				
	CCGT 0602005 FN -PF23 ...							■						6.4	0.05	2	SC...06...
	CCGT 060201 FN -PF23 ...							■						6.4	0.1	2	SC...06...
	CCGT 060202 FN -PF23 ...							■						6.4	0.2	2	SC...06...
	CCGT 09T3005 FN -PF23 ...							■						9.7	0.05	3	SC...09...
	CCGT 09T301 FN -PF23 ...							■						9.7	0.1	3	SC...09...
	CCGT 09T302 FN -PF23 ...							■						9.7	0.2	3	SC...09...



Application range of chip breaker

**Properties:**

- polished rake
- ground clearance
- sharp cutting edge "F"
- micrograin carbide

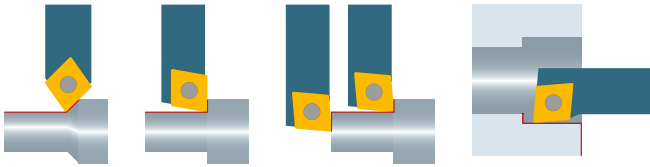


Optimal chip breaking

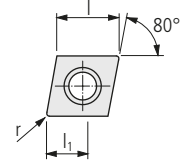
**Application:**

- micro finishing
- chip breaker for materials with difficult chip control
- alloyed steel and stainless steel

	I	II	III	IV	V	IV	VII	VIII	IX
▲	-	-	-	-	-	-	-	-	-
○	○	○	○	○	○	○	○	○	○
●	●	●	●	○	●	●	○	-	○



CCMT ... -PF43

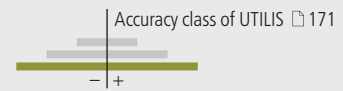


$\beta$ : 12°  
 $s$ : ±0.13  
 $C$ : <0.02

Order designation	Carbide								Cermet		Diamond			Holder	
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15		UPCD 20
	○	○	○	○	○	○	○	○	○	●	●	-	-	-	199...
	○	○	○	○	○	○	○	○	○	○	○	-	-	-	
	○	○	○	○	○	○	○	○	○	○	○	●	●	●	

Dimensions				Holder
l	r	l <sub>1</sub>		
				199...

**VALUE-LINE**

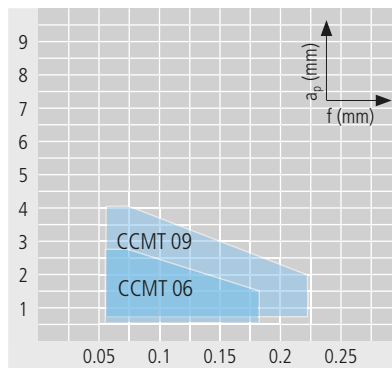


N	Order designation	Carbide								Cermet		Diamond			Holder
		UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	
	CCMT 060202 EN -PF43 ...									■					SC...06...
	CCMT 060204 EN -PF43 ...									■					SC...06...
	CCMT 09T302 EN -PF43 ...									■					SC...09...
	CCMT 09T304 EN -PF43 ...									■	■				SC...09...
	CCMT 09T308 EN -PF43 ...									■	■				SC...09...

Application range of chip breaker

Properties:

- sintered insert based on ISO standard
- rounded cutting edge "E"
- micrograin carbide

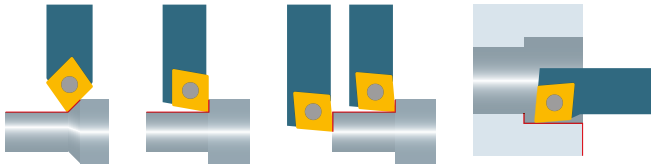


Optimal chip breaking

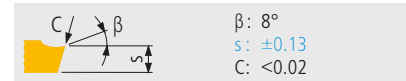
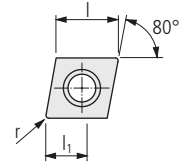
Application:

- roughing and finishing
- chip breaker for materials with difficult chip control
- alloyed steel and stainless steel

	I	II	III	IV	V	VI	VII	VIII	IX
▲	●	●	●	○	●	●	-	-	-
●	●	●	○	●	●	-	-	-	-
▼	-	-	-	-	-	-	-	-	-



CCMT ... -PM

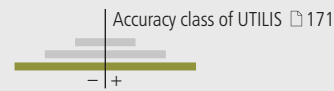


$\beta$ : 8°  
s: ±0.13  
C: <0.02

Order designation	Carbide										Cermet		Diamond		Dimensions	Holder				
	-	-	●	●	●	○	○	○	○	○	●	●	-	-			l	r	l <sub>1</sub>	
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20						

**VALUE-LINE**

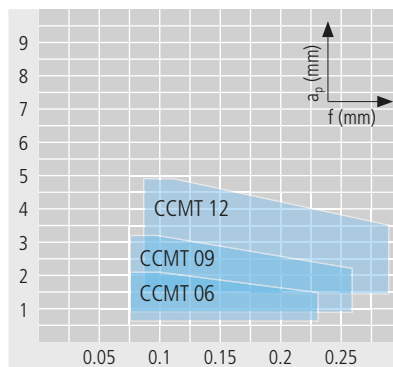
N	Order designation	Carbide										Cermet		Diamond		Dimensions	Holder			
		-	-	●	●	●	○	○	○	○	○	●	●	-	-			l	r	l <sub>1</sub>
	CCMT 060204 EN -PM ...			■		■		■							6.4	0.4	2			SC...06...
	CCMT 060208 EN -PM ...			■		■		■							6.4	0.8	2			SC...06...
	CCMT 09T304 EN -PM ...			■		■		■							9.7	0.4	3.2			SC...09...
	CCMT 09T308 EN -PM ...			■		■		■							9.7	0.8	3.2			SC...09...
	CCMT 120404 EN -PM ...			■		■		■							12.9	0.4	4.8			SC...12...
	CCMT 120408 EN -PM ...			■		■		■							12.9	0.8	4.8			SC...12...



Application range of chip breaker

Properties:

- sintered insert based on ISO standard
- rounded cutting edge "E"
- micrograin carbide



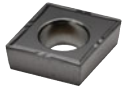
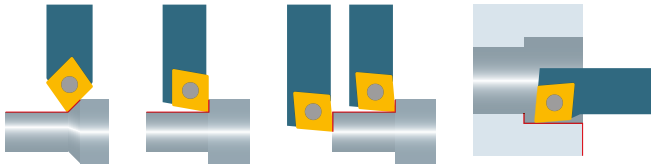
Optimal chip breaking

Application:

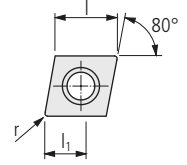
- roughing
- chip breaker for general application
- alloyed steel and stainless steel

	I	II	III	IV	V	VI	VII	VIII	IX
▲	●	●	○	-	●	●	-	-	-
○	○	○	-	○	○	-	-	-	-
▼	-	-	-	-	-	-	-	-	-





CCMT ... -PM25

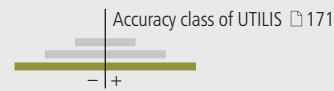


Order designation	Carbide										Cermet		Diamond		Dimensions				Holder
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20	l	r	l <sub>1</sub>	s	Holder
	-	-	●	●	●	○	○	●	○	●	●	-	-	-					□ 199...
	○	●	-	-	-	○	○	-	-	-	-	-	-	-					
	●	○	-	-	-	○	○	-	-	-	-	●	●	●					

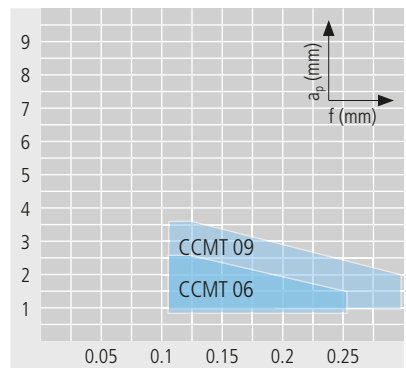
N	Order designation	Carbide										Cermet		Diamond		Dimensions				Holder
		UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20	l	r	l <sub>1</sub>	s	Holder
	CCMT 060204 EN -PM25 ...				■										6.4	0.4	2		SC...06...	
	CCMT 09T304 EN -PM25 ...				■										9.7	0.4	2.2		SC...09...	
	CCMT 09T308 EN -PM25 ...				■										9.7	0.8	3.2		SC...09...	

VALUE-LINE



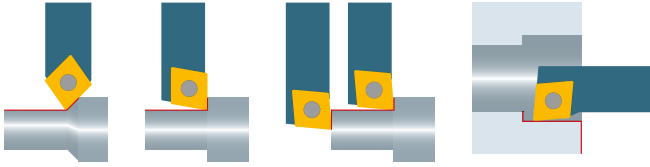
Application range of chip breaker

- Properties:**
- sintered insert based on ISO standard
  - rounded cutting edge "E"
  - micrograin carbide

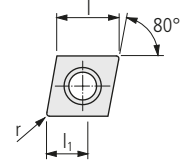


- Application:**
- roughing and finishing
  - chip breaker for materials with difficult chip control
  - stainless steel

	I	II	III	IV	V	VI	VII	VIII	IX
▲	-	-	-	-	-	-	-	-	-
○	○	○	○	-	●	●	-	-	-
▼	-	-	-	-	-	-	-	-	-



CCMT ... -PM55

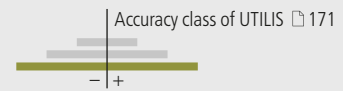


$\beta$ : 16°  
s: ±0.13  
C: <0.02

Order designation	Carbide								Cermet		Diamond		Holder	
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08		UPCD 15
	○	○	○	○	○	○	○	○	○	●	●	-	-	-
	○	○	○	○	○	○	○	○	○	○	○	-	-	-
	○	○	○	○	○	○	○	○	○	○	○	-	-	-
	○	○	○	○	○	○	○	○	○	○	○	-	-	-

Dimensions				Holder
l	r	l <sub>1</sub>		
				□ 199...

VALUE-LINE

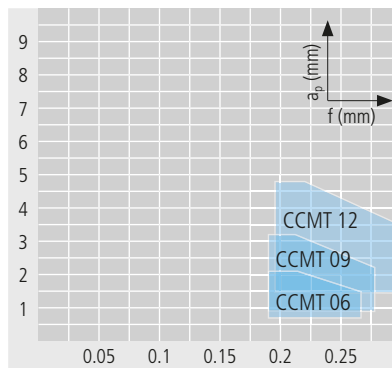


N	Order designation	Material								Dimensions			Holder
		UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	l	r	
	CCMT 060204 EN -PM55 ...				■					6.4	0.4	2.6	SC...06...
	CCMT 09T304 EN -PM55 ...				■					9.7	0.4	3	SC...09...
	CCMT 09T308 EN -PM55 ...				■					9.7	0.8	4	SC...09...
	CCMT120404 EN -PM55 ...				■					12.9	0.4	4	SC...12...
	CCMT120408 EN -PM55 ...				■					12.9	0.8	4.8	SC...12...

Application range of chip breaker

Properties:

- sintered insert based on ISO standard
- rounded cutting edge "E"
- micrograin carbide



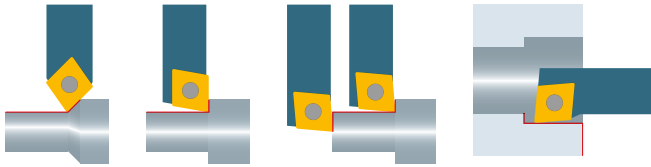
Optimal chip breaking

Application:

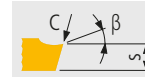
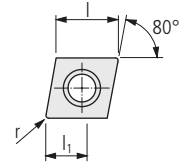
- roughing
- chip breaker for general application
- stainless steel

	I	II	III	IV	V	VI	VII	VIII	IX
▲	○	○	○	○	●	●	-	-	-
▼	-	-	-	-	-	-	-	-	-
▲▲	-	-	-	-	-	-	-	-	-





CCET ... -U



$\beta$ : 12°  
 $s$ : ±0.025  
 $C$ : <0.002

Order designation	Carbide								Cermet		Diamond		Dimensions	Holder	
	-	-	●	●	●	○	○	○	○	○	○	○			
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20	□ 199...

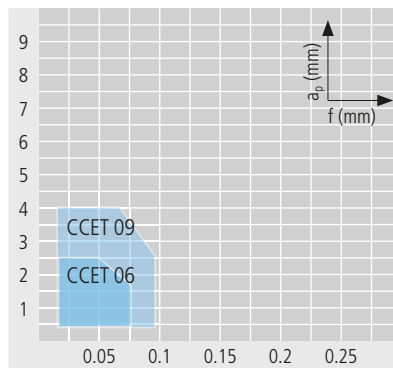
**PREMIUM-LINE**

R	Order designation	Material								Accuracy class of UTILIS □ 171			Holder	
		■	■							-	+			
	CCET 0602003 FR -U ...	■	■							6.4	0.03	2.5		SC...06...
	CCET 060201 FR -U ...	■	■							6.4	0.1	2.5		SC...06...
	CCET 060202 FR -U ...	■	■							6.4	0.2	2.5		SC...06...
	CCET 09T3003 FR -U ...	■	■							9.7	0.03	4		SC...09...
	CCET 09T301 FR -U ...	■	■							9.7	0.1	4		SC...09...
	CCET 09T302 FR -U ...	■	■							9.7	0.2	4		SC...09...

**Application range of chip breaker**

**Properties:**

- ground rake and clearance
- sharp cutting edge "F"
- submicrograin carbide, heat and wear resistant and cermet

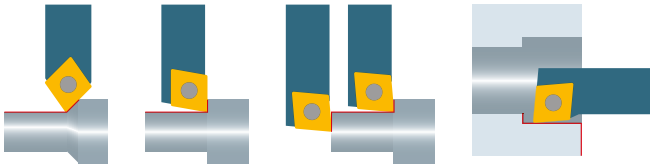


Optimal chip breaking

**Application:**

- micro finishing
- chip breaker for materials with difficult chip control
- alloyed steel and stainless steel

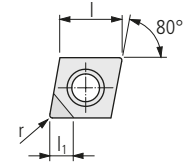
	I	II	III	IV	V	VI	VII	VIII	IX
▲	-	-	-	-	-	-	-	-	-
●	○	○	○	○	○	○	○	○	○
▼	●	●	●	○	●	●	○	-	○



190  
UTILIS  
**multidec**  
swiss type tools



CCGT ...



Order designation	Carbide								C19		Cermet		Diamond		Dimensions				Holder
	-	-	●	●	●	○	○	○	●	●	●	●	-	-	-	-	l	r	l <sub>1</sub>
UHM 10	○	○	-	-	-	-	-	-	●	●	-	-	-	-	-				□ 199...
UHM 10 HX	○	●	-	-	-	-	-	-	●	●	-	-	-	-	-				
UHM 10 MZ	○	○	-	-	-	-	-	-	●	●	-	-	-	-	-				
UHM 20 HPX	○	○	-	-	-	-	-	-	●	●	-	-	-	-	-				
UHM 20 MZ	○	○	-	-	-	-	-	-	●	●	-	-	-	-	-				
UHM 30	○	○	-	-	-	-	-	-	●	●	-	-	-	-	-				
UHM 30 HX	○	○	-	-	-	-	-	-	●	●	-	-	-	-	-				
UHM 30 MZ	○	○	-	-	-	-	-	-	●	●	-	-	-	-	-				
UHM 30 SX	○	○	-	-	-	-	-	-	●	●	-	-	-	-	-				
UCM 10	-	-	-	-	-	-	-	-	●	●	-	-	-	-	-				
UCM 10 HX	-	-	-	-	-	-	-	-	●	●	-	-	-	-	-				
UCVD 08	-	-	-	-	-	-	-	-	●	●	-	-	-	-	-				
UPCD 15	-	-	-	-	-	-	-	-	●	●	-	-	-	-	-				
UPCD 20	-	-	-	-	-	-	-	-	●	●	-	-	-	-	-				

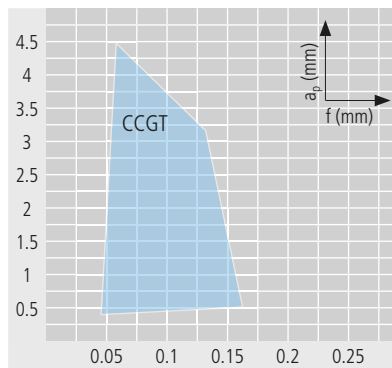
**STANDARD-LINE**

N	Order designation	Accuracy class of UTILIS □ 171		Dimensions				Holder
		-	+	l	r	l <sub>1</sub>	Holder	
	CCGT 060201 FN ...	■	■	6.4	0.1	3.5	SC...06...	
	CCGT 060202 FN ...	■	■	6.4	0.2	3.5	SC...06...	
	CCGT 060204 FN ...	■	■	6.4	0.4	3.5	SC...06...	
	CCGT 060208 FN ...	■	■	6.4	0.8	3	SC...06...	
	CCGT 09T302 FN ...	■	■	9.7	0.2	4.5	SC...09...	
	CCGT 09T304 FN ...	■	■	9.7	0.4	4.3	SC...09...	
	CCGT 09T308 FN ...	■	■	9.7	0.8	4.1	SC...09...	
	CCGT 120404 FN ...	■	■	12.9	0.4	4.3	SC...12...	
	CCGT 120408 FN ...	■	■	12.9	0.8	4.1	SC...12...	

**Application range of chip breaker**

**Properties:**

- sharp cutting edge "F"
- less cutting force
- positive cut

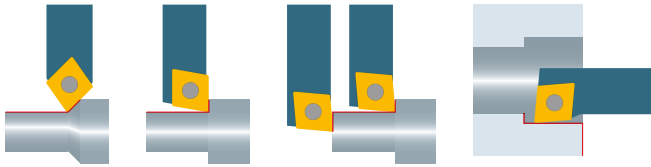


Optimal chip breaking

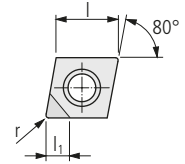
**Application:**

- finishing and micro finishing for unstable or thin-walled parts
- chip breaker for general application will generate continuous chip
- aluminum, brass, copper, bronze, platinum, gold, synthetics and synthetics reinforced/composites
- Ideal for smallest tolerance and medium surface quality

	I	II	III	IV	V	VI	VII	VIII	IX
▲	-	-	-	-	-	-	○	○	○
▲▲	-	-	-	-	-	-	●	●	●
▲▲▲	-	-	-	-	-	-	●	●	●



CCGT ... TOP\*



Order designation	Material										Dimensions				Holder
	Carbide					Cermet					Diamond				199...
	-	-	●	●	●	●	●	●	●	●	-	-	-	-	
	○	●	-	-	○	-	-	-	-	-	-	-	-	-	
	●	○	-	-	-	-	-	-	-	-	●	●	●	●	
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20	

**STANDARD-LINE**

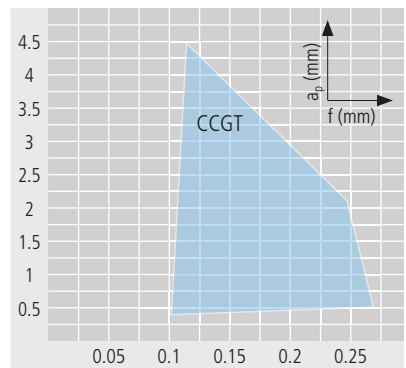
N	Order designation	Material										Dimensions				Holder
		Carbide					Cermet					Diamond				199...
	CCGT 060201 FN TOP ...										■	■	6.4	0.1	3.5	SC...06...
	CCGT 060202 FN TOP ...										■	■	6.4	0.2	3.5	SC...06...
	CCGT 060204 FN TOP ...										■	■	6.4	0.4	3.5	SC...06...
	CCGT 09T302 FN TOP ...										■	■	9.7	0.2	4.5	SC...09...
	CCGT 09T304 FN TOP ...										■	■	9.7	0.4	4.3	SC...09...
	CCGT 09T308 FN TOP ...										■	■	9.7	0.8	4.1	SC...09...
	CCGT 120404 FN TOP ...										■	■	12.9	0.4	4.3	SC...12...
	CCGT 120408 FN TOP ...										■	■	12.9	0.8	4.1	SC...12...

\* Description TOP □ 25

Application range of chip breaker

Properties:

- sharp cutting edge "F"
- less cutting force
- positive cut
- TOP system, for a better surface finish

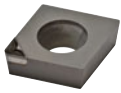
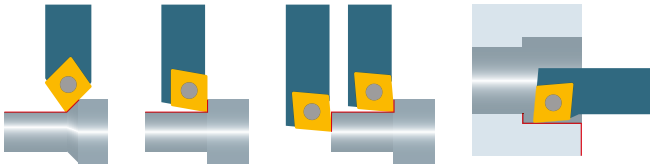


Optimal chip breaking

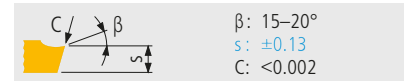
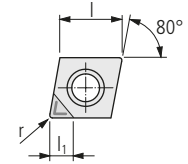
Application:

- finishing and micro finishing for unstable or thin-walled parts
- chip breaker for general application will generate continuous chip
- aluminum, brass, copper, bronze, platinum, gold, synthetics and synthetics reinforced/composites
- Ideal for smallest tolerance and medium surface quality

	I	II	III	IV	V	VI	VII	VIII	IX
▲	-	-	-	-	-	-	●	●	●
▲▲	-	-	-	-	-	-	●	●	●
▲▲▲	-	-	-	-	-	-	●	●	●



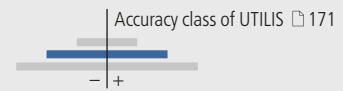
CCGT ... -UWS



$\beta$ : 15–20°  
s: ±0.13  
C: <0.002

Order designation	Carbide								C19		Cermet		Diamond		Dimensions			Holder
	-	-	●	●	●	○	○	○	●	●	-	-	-	-	l	r	l <sub>1</sub>	□ 199...
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20				

**STANDARD-LINE**

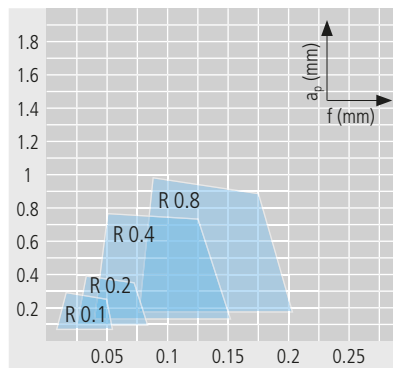


N	Order designation	Carbide								C19		Cermet		Diamond		Dimensions			Holder
		-	-	●	●	●	○	○	○	●	●	-	-	-	-	l	r	l <sub>1</sub>	□ 199...
	CCGT 060202 FN -UWS ...											■	■			6.4	0.2	3	SC...06...
	CCGT 060204 FN -UWS ...											■	■			6.4	0.4	3	SC...06...
	CCGT 060208 FN -UWS ...											■	■			6.4	0.8	3	SC...06...
	CCGT 09T302 FN -UWS ...												■			9.7	0.2	3	SC...09...
	CCGT 09T304 FN -UWS ...											■	■			9.7	0.4	3	SC...09...
	CCGT 120404 FN -UWS ...												■			12.9	0.4	3	SC...12...
	CCGT 120408 FN -UWS ...												■			12.9	0.8	3	SC...12...

Application range of chip breaker

Properties:

- sharp cutting edge "F"
- almost any cutting force
- high positive narrow chip breaker made by laser



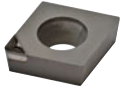
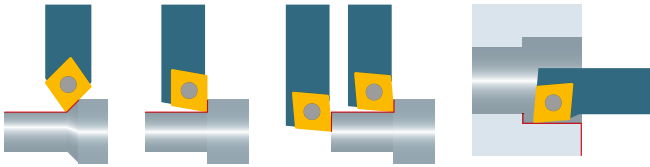
Optimal chip breaking

Application:

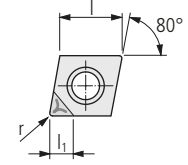
- micro finishing for unstable or thin-walled parts
- chip breaker for materials with difficult chip control
- synthetics reinforced/composites, aluminum, platinum, gold and synthetics
- Ideal for smallest tolerance and medium surface quality

	I	II	III	IV	V	VI	VII	VIII	IX
▲	-	-	-	-	-	-	-	-	-
▲	-	-	-	-	-	-	○	○	○
▲	-	-	-	-	-	-	●	●	●





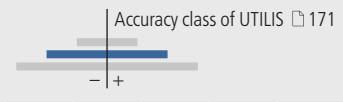
CCGT ... -UWN



$\beta$ : 15–20°  
 $s$ : ±0.13  
 $C$ : <0.005

Order designation	Carbide										C19		Cermet		Diamond		Dimensions				Holder			
	-	-	●	●	●	○	○	●	○	○	●	●	○	○	-	-	-	-	l	r	l <sub>1</sub>			199...
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20										

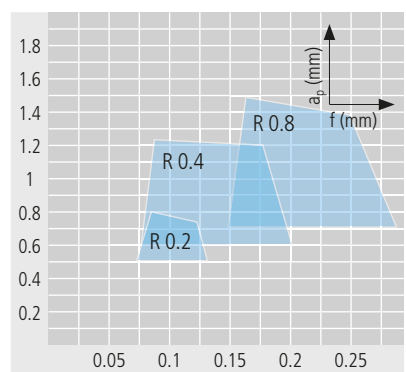
**STANDARD-LINE**



N	Order designation	Carbide										C19		Cermet		Diamond		Dimensions				Holder		
		-	-	●	●	●	○	○	●	○	○	●	●	○	○	-	-	-	-	l	r	l <sub>1</sub>		
	CCGT 060202 FN -UWN ...											■		■	6.4	0.2	3							SC...06...
	CCGT 060204 FN -UWN ...											■	■	■	6.4	0.4	3							SC...06...
	CCGT 060208 FN -UWN ...											■		■	6.4	0.8	3							SC...06...
	CCGT 09T302 FN -UWN ...											■		■	9.7	0.2	3							SC...09...
	CCGT 09T304 FN -UWN ...											■		■	9.7	0.4	3							SC...09...
	CCGT 09T308 FN -UWN ...											■		■	9.7	0.8	3							SC...09...
	CCGT 120404 FN -UWN ...											■		■	12.9	0.4	3							SC...12...
	CCGT 120408 FN -UWN ...											■		■	12.9	0.8	3							SC...12...

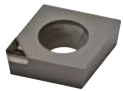
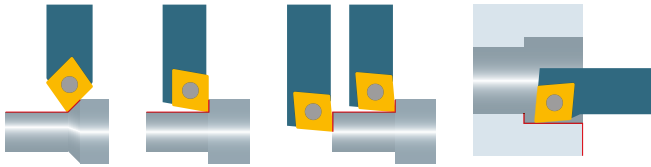
Application range of chip breaker

- Properties:**
- sharp cutting edge "F"
  - higher cutting force
  - high positive wide chip breaker made by laser

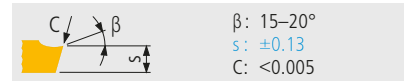
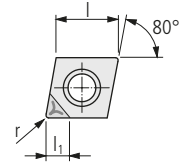


- Application:**
- finishing for stable or solid parts
  - chip breaker for materials with difficult chip control
  - synthetics reinforced/composites, aluminum, platinum, gold and synthetics
  - Ideal for smallest tolerance and best surface quality

	I	II	III	IV	V	VI	VII	VIII	IX
▲	-	-	-	-	-	-	○	○	○
▲	-	-	-	-	-	-	○	○	○
▲	-	-	-	-	-	-	-	-	-



CCGT ... TOP\* -UWN



$\beta$ : 15–20°  
 $s$ : ±0.13  
 $C$ : <0.005

Order designation	Carbide								C19		Cermet		Diamond		Dimensions			Holder
	-	-	●	●	●	○	○	○	●	●	-	-	-	-	l	r	l <sub>1</sub>	C199...
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20				

**STANDARD-LINE**

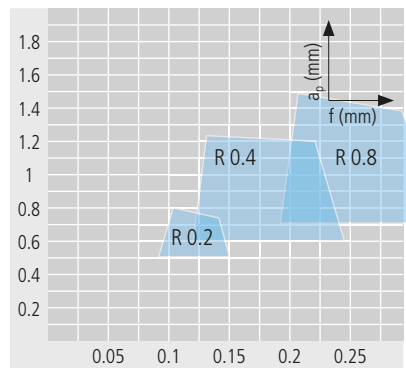
N	Order designation	Accuracy class of UTILIS C171																
		-	+	-	+	-	+	-	+	-	+	-	+					
	CCGT 060202 FN TOP -UWN ...									■	■	■	6.4	0.2	3			SC...06...
	CCGT 060204 FN TOP -UWN ...									■	■	■	6.4	0.4	3			SC...06...
	CCGT 09T302 FN TOP -UWN ...									■	■	■	9.7	0.2	3			SC...09...
	CCGT 09T304 FN TOP -UWN ...									■	■	■	9.7	0.4	3			SC...09...
	CCGT 120404 FN TOP -UWN ...									■	■	■	12.9	0.4	3			SC...12...
	CCGT 120408 FN TOP -UWN ...									■	■	■	12.9	0.8	3			SC...12...

\* Description TOP C25

Application range of chip breaker

**Properties:**

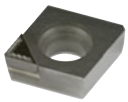
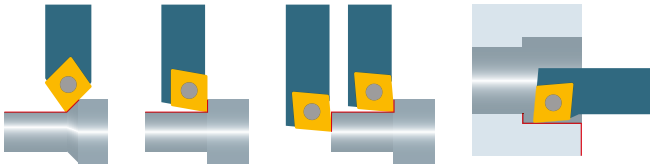
- sharp cutting edge "F"
- higher cutting force
- high positive wide chip breaker made by laser
- TOP system, for a better surface finish



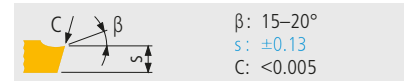
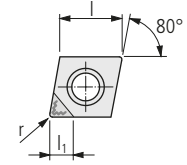
**Application:**

- finishing for stable or solid parts
- chip breaker for materials with difficult chip control
- synthetics reinforced/composites, aluminum, platinum, gold and synthetics
- Ideal for smallest tolerance and best surface quality

	I	II	III	IV	V	VI	VII	VIII	IX
▲	-	-	-	-	-	-	○	○	○
▲▲	-	-	-	-	-	-	○	○	○
▲▲▲	-	-	-	-	-	-	-	-	-



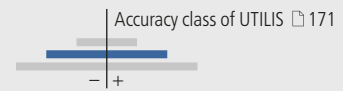
CCGT ... -UWR



$\beta$ : 15–20°  
 $s$ :  $\pm 0.13$   
 $C$ :  $< 0.005$

Order designation	Carbide										C19		Cermet		Diamond		Dimensions				Holder	
	-	-	●	●	●	○	○	●	○	○	●	●	-	-	-	-	l	r	l <sub>1</sub>			199...
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20								

**STANDARD-LINE**

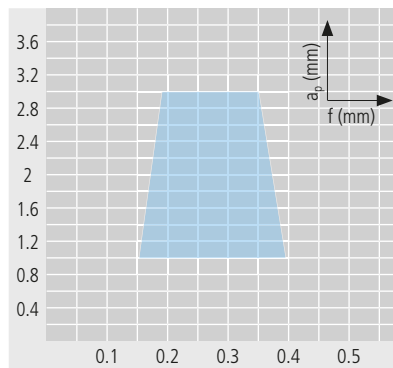


N	Order designation	Carbide										C19		Cermet		Diamond		Dimensions				Holder	
		-	-	●	●	●	○	○	●	○	○	●	●	-	-	-	-	l	r	l <sub>1</sub>			199...
	CCGT 060204 FN -UWR ...																6.4	0.4	3				SC...06...
	CCGT 09T304 FN -UWR ...																9.7	0.4	3				SC...09...
	CCGT 09T308 FN -UWR ...																9.7	0.8	3				SC...09...

Application range of chip breaker

Properties:

- sharp cutting edge "F"
- higher cutting force
- high positive wide chip breaker made by laser



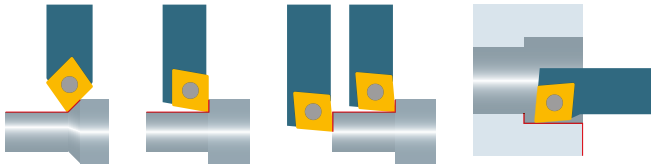
Optimal chip breaking

Application:

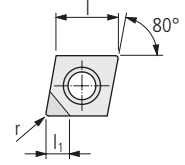
- finishing for stable or solid parts
- chip breaker for materials with difficult chip control
- synthetics reinforced/composites, aluminum, platinum, gold and synthetics
- maximum chip to chip volume

	I	II	III	IV	V	VI	VII	VIII	IX
▲	-	-	-	-	-	-	○	○	○
▲	-	-	-	-	-	-	●	●	●
▲	-	-	-	-	-	-	-	-	-





CCGW ...



Order designation	Material										Dimensions				Holder		
	Carbide								C19		Cermet		Diamond				199...
	-	-	●	●	●	○	○	○	●	○	●	●	-	-	-	-	
	○	●	-	-	-	○	○	○	○	○	-	-	-	-	-	-	
	●	○	-	-	-	-	-	-	-	-	-	-	●	●	●	●	
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20			

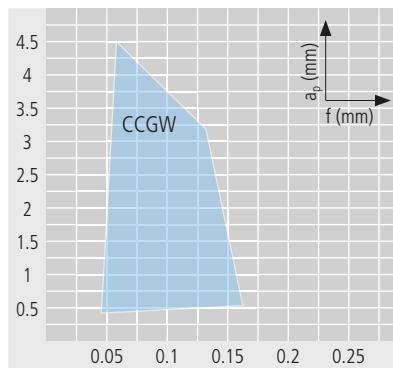
**STANDARD-LINE**

N	Order designation	Material										Accuracy class of UTILIS 171			Holder			
		Carbide								C19		Cermet		Diamond				
	CCGW 060201 FN ...										■	■	6.4	0.1	3.4		SC...06...	
	CCGW 060202 FN ...										■	■	■	6.4	0.2	3.4		SC...06...
	CCGW 060204 FN ...										■	■	■	6.4	0.4	3.2		SC...06...
	CCGW 060208 FN ...										■	■	■	6.4	0.8	3		SC...06...
	CCGW 09T302 FN ...										■	■	■	9.7	0.2	4.5		SC...09...
	CCGW 09T304 FN ...										■	■	■	9.7	0.4	4.3		SC...09...
	CCGW 09T308 FN ...										■	■	■	9.7	0.8	4.1		SC...09...
	CCGW 120404 FN ...										■	■	■	12.9	0.4	4.3		SC...12...
	CCGW 120408 FN ...										■	■	■	12.9	0.8	4.1		SC...12...

Application range of chip breaker

Properties:

- sharp cutting edge "F"
- medium cutting force
- neutral cut

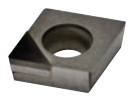
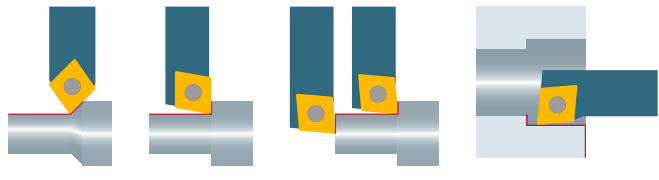


Optimal chip breaking

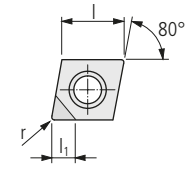
Application:

- finishing and micro finishing for stable or solid parts
- chip breaker for general application will generate continuous chip
- aluminum, brass, copper, bronze, platinum, gold, synthetics and synthetics reinforced/composites
- Ideal for smallest tolerance and high surface quality

	I	II	III	IV	V	VI	VII	VIII	IX
▲	-	-	-	-	-	-	●	●	●
▲▲	-	-	-	-	-	-	●	●	●
▲▲▲	-	-	-	-	-	-	●	●	●



CCGW ... TOP\*

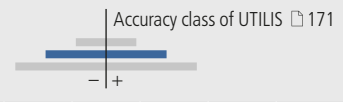


Order designation	Material										Dimensions				Holder					
	Carbide					Cermet					Diamond				□ 199...					
	-	-	●	●	●	○	○	○	○	○	●	●	●	●	●	l	r	l <sub>1</sub>		
	○	●	-	-	-	○	○	○	○	○	○	○	○	○	○					
	●	○	-	-	-	○	○	○	○	○	○	○	○	○	○					

**STANDARD-LINE**

N	Order designation	Material										Dimensions				Holder			
		Carbide					Cermet					Diamond				□ 199...			
	CCGW 060201 FN TOP ...											■	■	6.4	0.1	3.4			SC...06...
	CCGW 060202 FN TOP ...											■	■	6.4	0.2	3.4			SC...06...
	CCGW 060204 FN TOP ...											■	■	6.4	0.4	3.2			SC...06...
	CCGW 09T301 FN TOP ...											■	■	9.7	0.1	4.5			SC...09...
	CCGW 09T302 FN TOP ...											■	■	9.7	0.2	4.5			SC...09...
	CCGW 09T304 FN TOP ...											■	■	9.7	0.4	4.3			SC...09...
	CCGW 120402 FN TOP ...											■	■	12.9	0.2	4.3			SC...12...
	CCGW 120404 FN TOP ...											■	■	12.9	0.4	4.3			SC...12...

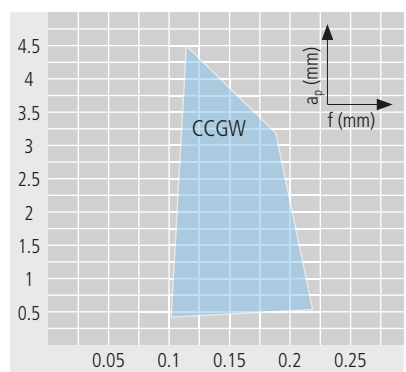
\* Description TOP □ 25



**Application range of chip breaker**

**Properties:**

- sharp cutting edge "F"
- medium cutting force
- neutral cut
- TOP system, for a better surface finish

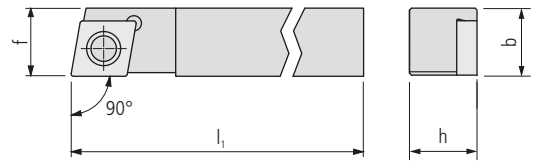
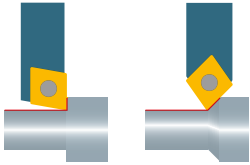


Optimal chip breaking

**Application:**

- finishing and micro finishing for stable or solid parts
- chip breaker for general application will generate continuous chip
- aluminum, brass, copper, bronze, platinum, gold, synthetics and synthetics reinforced/composites
- Ideal for smallest tolerance and high surface quality

	I	II	III	IV	V	VI	VII	VIII	IX
▽	-	-	-	-	-	-	○	○	○
▽	-	-	-	-	-	-	●	●	●
▽	-	-	-	-	-	-	●	●	●

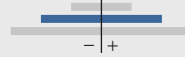


SCAC... U (90°)

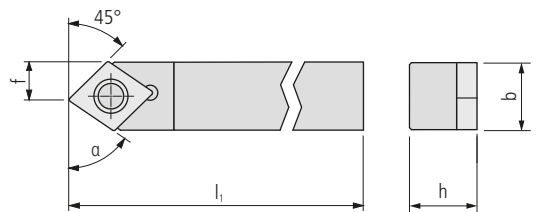
Order designation		Dimensions						Inserts
L	R	b	h	l <sub>1</sub>	f			□ 178...

STANDARD-LINE

Accuracy class of UTILIS □ 171



SCACL 0808 K06 U	■	SCACR 0808 K06 U	■	8	8	125	8		CC..0602..
SCACL 1010 M06 U	■	SCACR 1010 M06 U	■	10	10	150	10		CC..0602..
SCACL 1212 M09 U	■	SCACR 1212 M09 U	■	12	12	150	12		CC..09T3..
SCACL 1616 H09 U	■	SCACR 1616 H09 U	■	16	16	100	16		CC..09T3..
SCACL 2020 K12 U	■	SCACR 2020 K12 U	■	20	20	125	20		CC..1204..



SCDC... U (45°)

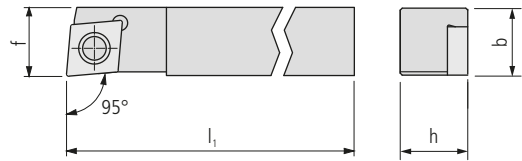
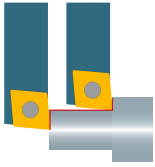
Order designation		Dimensions						Inserts
L	R	b	h	l <sub>1</sub>	f	a		□ 178...

STANDARD-LINE

Accuracy class of UTILIS □ 171



SCDCL 0808 K06 U	■			8	8	125	4	55°	CC..0602..
SCDCL 1010 M06 U	■			10	10	150	5	55°	CC..0602..
SCDCL 1212 M09 U	■			12	12	150	6	55°	CC..09T3..



SCLC... U (95°)

Order designation		Dimensions							Inserts
L	R	h	b	$l_1$	f			178...	

STANDARD-LINE

Accuracy class of UTILIS 171



SCLCL 0808 F06 U	■	SCLCR 0808 F06 U	■	8	8	80	8			CC..0602..
SCLCL 0808 H06 U	■	SCLCR 0808 H06 U	■	8	8	100	8			CC..0602..
SCLCL 1010 F06 U	■	SCLCR 1010 F06 U	■	10	10	80	10			CC..0602..
SCLCL 1010 H06 U	■	SCLCR 1010 H06 U	■	10	10	100	10			CC..0602..
SCLCL 1212 H09 U	■	SCLCR 1212 H09 U	■	12	12	100	12			CC..09T3..
SCLCL 1616 K09 U	■	SCLCR 1616 K09 U	■	16	16	125	16			CC..09T3..

SCLC... U (95°) INCH

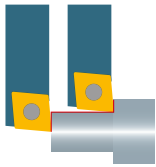
Order designation		Dimensions							Inserts
L	R	h	b	$l_1$	f			178...	

STANDARD-LINE

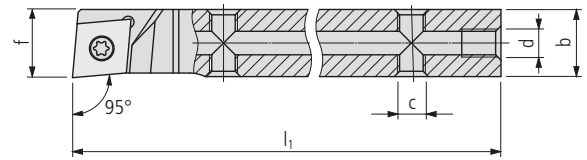
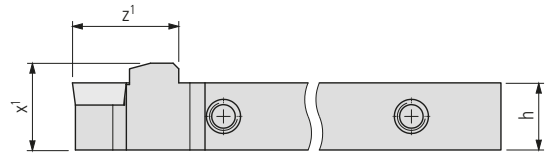
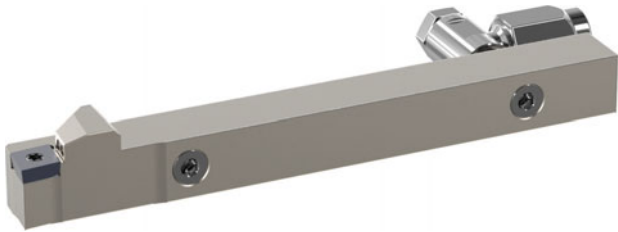
Accuracy class of UTILIS 171



SCLCL 3/8" H06 U	■	SCLCR 3/8" H06 U	■	9.525	9.525	100	9.525			CC..0602..
SCLCL 1/2" H09 U	■	SCLCR 1/2" H09 U	■	12.7	12.7	100	12.7			CC..09T3..
SCLCL 5/8" K09 U	■	SCLCR 5/8" K09 U	■	15.875	15.875	125	15.875			CC..09T3..



With internal cooling



SCLC... U IC (95°)

Order designation		Dimensions								Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 178...

PREMIUM-LINE

Accuracy class of UTILIS □ 171



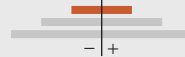
SCLCL 0808 H06 U IC	■	SCLCR 0808 H06 U IC	■	8	8	100	16	11.5	M5	M5	8	CC..0602..
SCLCL 1010 H06 U IC	■	SCLCR 1010 H06 U IC	■	10	10	100	16	13.5	M5	M5	10	CC..0602..
SCLCL 1212 H09 U IC	■	SCLCR 1212 H09 U IC	■	12	12	100	19	15.5	M5	M5	12	CC..09T3..
SCLCL 1616 K09 U IC	■	SCLCR 1616 K09 U IC	■	16	16	125	19	19.5	M5	G1/8"	16	CC..09T3..

SCLC... U IC (95°) INCH

Order designation		Dimensions								Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 178...

PREMIUM-LINE

Accuracy class of UTILIS □ 171



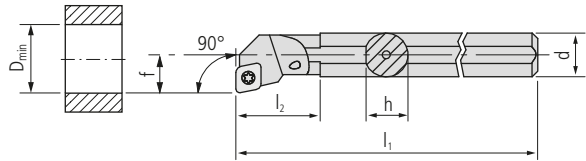
SCLCL 3/8" H06 U IC	■	SCLCR 3/8" H06 U IC	■	9.525	9.525	100	16	13	M5	M5	9.525	CC..0602..
SCLCL 1/2" H09 U IC	■	SCLCR 1/2" H09 U IC	■	12.7	12.7	100	19	16.2	M5	M5	12.7	CC..09T3..
SCLCL 5/8" K09 U IC	■	SCLCR 5/8" K09 U IC	■	15.875	15.875	125	19	19.4	M5	G1/8"	15.875	CC..09T3..

Scope of delivery: Holder without coolant connector  
 Coolant connectors □ 632



202

UTILIS **multidec**®  
swiss type tools



A... SCFC... (90°)

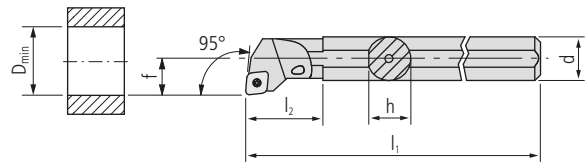
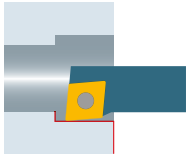
Order designation		Dimensions							Inserts
L	R	d	h	l <sub>1</sub>	l <sub>2</sub>	f	D <sub>min</sub>	□ 178...	

**STANDARD-LINE**

Accuracy class of UTILIS □ 171



A08F SCFCL 06	■	A08F SCFCR 06	■	8	7.6	80	17	5	11	CC..0602..
A10H SCFCL 06	■	A10H SCFCR 06	■	10	9.5	100	19	7	13	CC..0602..
A12K SCFCL 06	■	A12K SCFCR 06	■	12	11.5	125	22	9	16	CC..0602..



A... SCLC... (95°)

Order designation		Dimensions							Inserts
L	R	d	h	l <sub>1</sub>	l <sub>2</sub>	f	D <sub>min</sub>	□ 178...	

STANDARD-LINE

Accuracy class of UTILIS □ 171



A08F SCLCL 06	■	A08F SCLCR 06	■	8	7.6	80	17	5	11		CC..0602..
A10H SCLCL 06	■	A10H SCLCR 06	■	10	9.5	100	19	7	13		CC..0602..
A12K SCLCL 06	■	A12K SCLCR 06	■	12	11.5	125	22	9	16		CC..0602..
A16M SCLCL 09	■	A16M SCLCR 09	■	16	15	150	29	11	20		CC..09T3..
A20Q SCLCL 09	■	A20Q SCLCR 09	■	20	18.5	180	32	13	25		CC..09T3..

Replacement and spare parts

For holders (SC...) OD turning

Illustration	Description	Dimensions	Order designation	Holder
	TORX screw	M2.5 × 6 T08	MSP 25060 T08	■ SC... 06
		M3.5 × 11 T15	MSP 35110 T15	■ SC... 09
		M4.5 × 12 T15	MSP 45120 T15	■ SC... 12

For holders (... SC...) ID turning

Illustration	Description	Dimensions	Order designation	Holder
	TORX screw	M2.5 × 5 T08	MSP 25050 T08	■ A08F SC... 06 A10H SC... 06 A12K SC... 06
		M3.5 × 7.2 T15	MSP 35072 T15	■ A16M SC...09
		M3.5 × 8.6 T15	MSP 35086 T15	■ A20Q SC... 09

multidec®-ISO provides a well balanced range of tools for turning with rhombic 55° inserts and holders. Positive inserts with rounded cutting edges for roughing and sharp cutting edges for finishing are available.

These include a wide range of ground holders with hardened and nickel-plated surfaces for Swiss type automatic lathes with shank sizes from 8 to 20 mm and boring bars with diameters from 10 to 20 mm.



**Advantages:**

- Carbide and Cermet grades with chip breaker and coatings for all common materials
- Diamond range with CVD and PCD inserts for machining non-ferrous metals
- Cutting edge radius from 0.03 to 0.8 mm as standard
- Boring bars with steel- and carbide shanks



"IC" tool holder with integrated cooling

Cost-efficient processing of modern materials increasingly requires accurate control of the coolant at the cutting edge. Conveying the coolant as close as possible to the cutting edge is often a difficult task in the machine rooms of Swiss type turning lathes.

The multidec®-IC program offers a wide range of holders with integrated cooling. Because of the high precision and pressure, it is possible to discharge the chip quickly and safely from the cutting edge and the workpiece, which protects the cutting edge of the insert. This means significantly longer tool life as well as very reliable serial production.

**Advantages:**

- All holders feature five possible connectors for the coolant supply
- Constant coolant discharge means low build-up at front near the holder
- With or without high pressure, the coolant medium always hits the cutting edge precisely

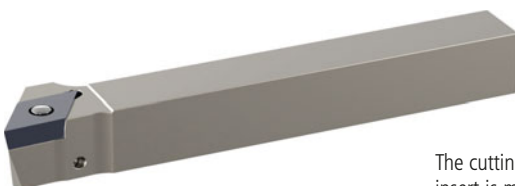


"TWIN" holder with and without integrated coolant supply

The "TWIN" range allows you to work with two inserts on the same holder. Different combinations are possible, and provide the user with a high degree of flexibility. Holders are available with shank cross-sections of 8 to 20 mm, with and without internal cooling.

**Advantages:**

- Twice the number of tools on the machine
- Two different turning operations are possible with a single tool holder
- All holders with an integrated coolant supply have five connecting options



"FC" holder with quick cutting edge change system (fast change)

The cutting edge can be changed without unclamping the holder using the "FC" holder. The indexable insert is mounted using a specially developed knee lever which is operated using a clamping screw on the rear of the holder.

**Advantages:**

- Quick indexable insert change directly in the machine
- Holder with and without integrated coolant supply



Inserts (carbide / cermet)



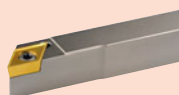
DCGT ... -A3	206
DCGT ... -PA3	207
DCGT ... -PA5	208
DCGT ... -TOP5	209
DCGT ... -PA7	210
DCXT ... -PA9	211
DCGT ... -PF	212
DCMT ... -PF	213
DCGT ... -PF23	214
DCGT ... -PF33	215
DCMT ... -PF43	216
DCMT ... -PM	217
DCMT ... -PMF	218
DCMT ... -PM25	219
DCMT ... -PM55	220
DCET ... -U	221

Inserts (diamond)



DCGT ...	222
DCGT ... TOP	223
DCGT ... -UWS	224
DCGT ... -UWN	225
DCGT ... -UWR	226
DCGW ...	227
DCGW ... TOP	228

Holder (OD turning)



SDAC... U (90°)	229
SDHC... U (107.5°), SDHC... U IC(107.5°)	230
SDJC... U (93°), SDJC... U IC (93°)	232
SDJC... U FC (93°), SDJC... U FC IC (93°)	234
SDNC... U (62.5°), SDNC... U IC (62.5°)	236
SDNCN ... U (62.5°), SDNCN ... U IC (62.5°)	238
SDJC. (93°)/1600... TWIN, SDJC. (93°)/1600... IC TWIN	240

Holder (ID turning)



A... SDOC... (120°)	242
A... SDQC... (107.5°)	243
SDUC... (93°), SDUC... IC (93°), A... SDUC... (93°)	244

Replacement and spare parts

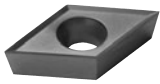
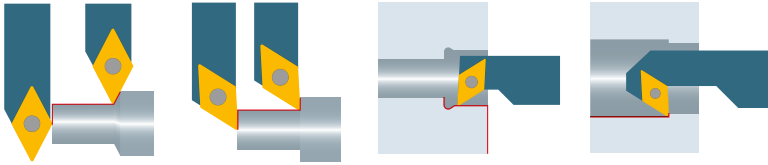


	247
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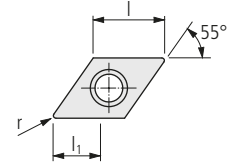


Coolant connectors and accessories

	632
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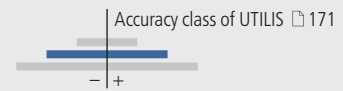


DCGT ... -A3



Order designation	Material										Dimensions				Holder	
	Carbide										Cermet	Diamond				□ 229...
	-	-	●	●	●	○	○	●	○	●	●	-	-	-	-	
	○	●	-	-	-	○	○	-	-	○	-	-	-	-	-	
	●	○	-	-	-	-	-	-	-	-	-	●	●	●	●	
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20		

**STANDARD-LINE**

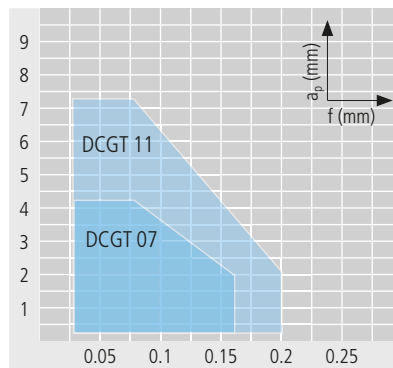


N	Order designation	Material										Dimensions				Holder	
		Carbide										Cermet	Diamond				□ 229...
	DCGT 0702006 FN -A3 ...	■	■		■								7.75	0.06	4.1		SD...07...
	DCGT 0702015 FN -A3 ...	■	■		■								7.75	0.15	4.1		SD...07...
	DCGT 0702035 FN -A3 ...	■	■		■								7.75	0.35	4.1		SD...07...
	DCGT 11T3008 FN -A3 ...	■	■		■								11.6	0.08	7.2		SD...11...
	DCGT 11T3015 FN -A3 ...	■	■		■								11.6	0.15	7.2		SD...11...
	DCGT 11T3035 FN -A3 ...	■	■		■								11.6	0.35	7.2		SD...11...

Application range of chip breaker

Properties:

- polished rake
- ground clearance
- sharp cutting edge "F"
- submicrograin carbide, heat and wear resistant

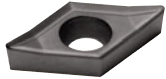
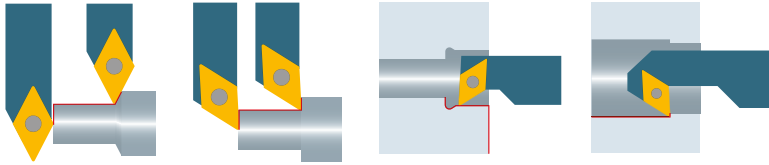


Optimal chip breaking

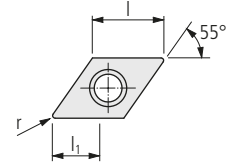
Application:

- micro finishing
- chip breaker for general application
- stainless steel, alloyed steel, titanium, super alloy, aluminum and synthetics reinforced/composites

	I	II	III	IV	V	VI	VII	VIII	IX
▽	-	-	-	-	-	-	-	-	-
○	○	○	○	○	○	○	○	○	○
●	●	●	●	●	●	●	●	●	●



DCGT ... -PA3

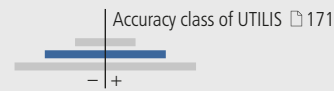


$\beta$ : 30°  
 $s$ : ±0.13  
 $C$ : <0.002

Order designation	Carbide										Cermet		Diamond			Holder				
	-	-	●	●	●	○	○	●	○	●	●	-	-	-	-		-			
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20	l	r	l <sub>1</sub>			

**STANDARD-LINE**

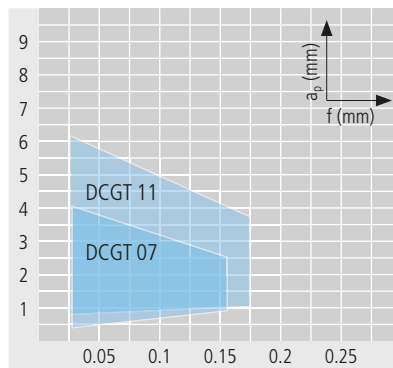
N	Order designation	Material										Dimensions			Holder					
		■	■									l	r	l <sub>1</sub>						
	DCGT 070204 FN -PA3 ...	■	■												7.75	0.4	4			SD...07...
	DCGT 11T304 FN -PA3 ...	■	■												11.6	0.4	6.2			SD...11...
	DCGT 11T308 FN -PA3 ...	■	■												11.6	0.8	6.2			SD...11...



Application range of chip breaker

Properties:

- polished rake
- ground clearance
- sharp cutting edge "F"
- micrograin carbide, heat and wear resistant

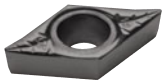
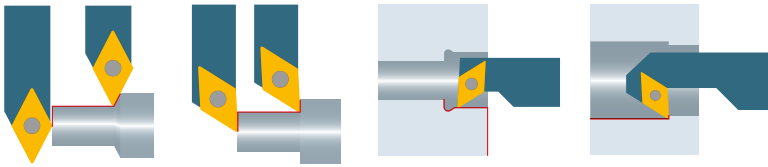


Optimal chip breaking

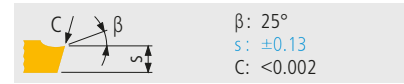
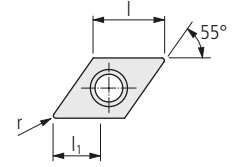
Application:

- micro finishing
- chip breaker for materials with difficult chip control
- stainless steel, alloyed steel, titanium, super alloy, aluminum and synthetics reinforced/composites

	I	II	III	IV	V	IV	VII	VIII	IX
▲	-	-	-	-	-	-	○	-	○
▲▲	○	○	○	○	○	○	●	-	●
▲▲▲	●	●	●	●	●	●	●	-	●



DCGT ... -PA5



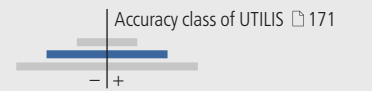
$\beta$ : 25°  
s: ±0.13  
C: <0.002

Order designation	Carbide								C19		Cermet		Diamond		Holder
	-	-	●	●	●	○	○	○	●	●	-	-	-	-	
	○	●	-	-	-	○	○	○	○	○	-	-	-	-	□ 229...
	●	○	-	-	-	-	-	-	-	-	●	●	●	●	
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20	

Dimensions				Holder
l	r	l <sub>1</sub>		

**STANDARD-LINE**

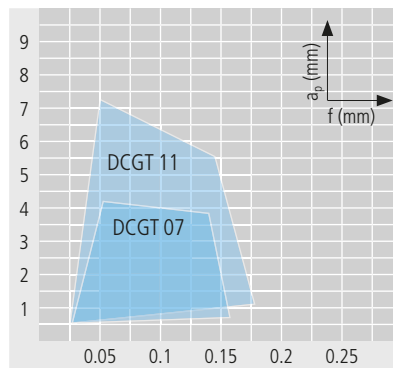
N	Order designation	Accuracy class of UTILIS □ 171											
		■	■										
	DCGT 070202 FN -PA5 ...	■	■										
	DCGT 070204 FN -PA5 ...	■	■										
	DCGT 11T302 FN -PA5 ...	■	■										
	DCGT 11T304 FN -PA5 ...	■	■										
	DCGT 11T308 FN -PA5 ...	■	■										



Application range of chip breaker

Properties:

- polished rake
- ground clearance
- sharp cutting edge "F"
- submicrograin carbide, heat and wear resistant

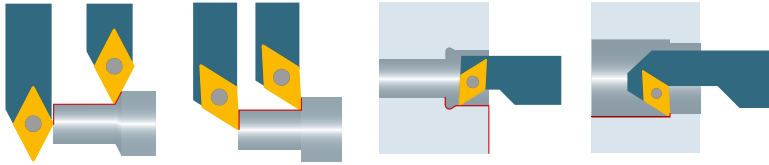


Optimal chip breaking

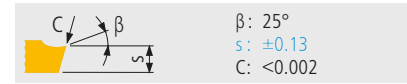
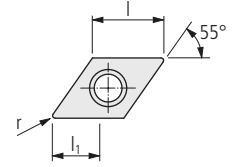
Application:

- finishing and micro finishing
- chip breaker for materials with difficult chip control
- stainless steel, alloyed steel, titanium, super alloy, aluminum and synthetics reinforced/composites

	I	II	III	IV	V	IV	VII	VIII	IX
▽	-	-	-	-	-	-	○	-	○
▽	●	●	●	○	○	●	●	-	●
▽	●	●	●	○	○	●	●	-	●



DCGT ... -TOP5\*



Order designation	Carbide										Cermet		Diamond		Holder □ 229...
	□ 19	□ 19	□ 19	□ 19	□ 19	□ 19	□ 19	□ 19	□ 19	□ 19	□ 19	□ 19	□ 19	□ 19	
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20	

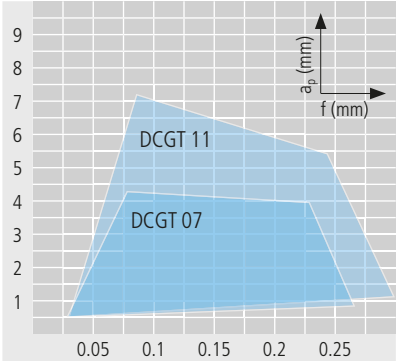
**STANDARD-LINE**

	DCGT 11T304 FL -TOP5 ...	DCGT 11T308 FL -TOP5 ...	DCGT 11T304 FN -TOP5 ...	DCGT 11T308 FN -TOP5 ...	DCGT 11T304 FR -TOP5 ...	DCGT 11T308 FR -TOP5 ...	l	r	l <sub>1</sub>	Holder
<b>L</b>	■ ■	■ ■					11.6	0.4	7.2	SD...11...
	■ ■	■ ■					11.6	0.8	7.2	SD...11...
<b>N</b>	■ ■	■ ■					11.6	0.4	7.2	SD...11...
	■ ■	■ ■					11.6	0.8	7.2	SD...11...
<b>R</b>	■ ■	■ ■					11.6	0.4	7.2	SD...11...
	■ ■	■ ■					11.6	0.8	7.2	SD...11...

\* Description TOP □ 25

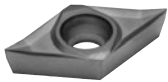
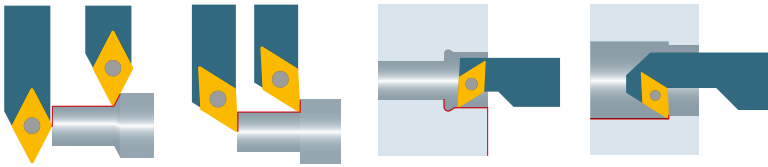
**Application range of chip breaker**

- Properties:**
- polished rake and ground clearance
  - sharp cutting edge "F"
  - micrograin carbide, heat and wear resistant
  - TOP system, for a better surface finish

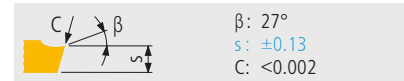
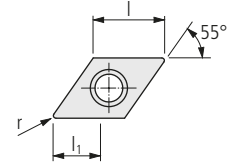


- Application:**
- finishing for 20-100% higher feed rates compared to the standard
  - chip breaker for materials with difficult chip control
  - stainless steel, alloyed steel, titanium, super alloy, aluminum and synthetics reinforced/composites

	I	II	III	IV	V	IV	VII	VIII	IX
▽	○	○	○	○	○	○	○	-	○
▽	●	●	●	○	○	○	○	-	○
▽	○	○	○	○	○	○	○	-	○



DCGT ... -PA7



Order designation	Carbide										Cermet		Diamond			Holder
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20		
	-	-	●	●	●	○	○	●	○	●	●	-	-	-	Holder	
	○	●	-	-	-	○	○	-	-	○	○	-	-	-	□ 229...	
	●	○	-	-	-	○	○	-	-	-	-	●	●	●		

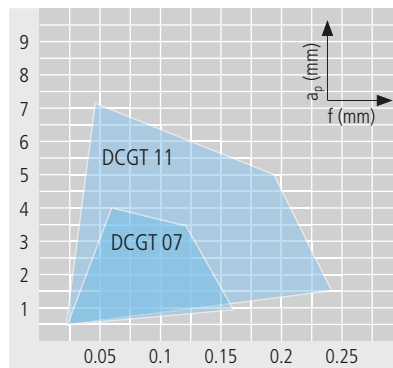
**STANDARD-LINE**

N	Order designation	Material										Accuracy class of UTILIS □ 171			Holder				
		UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15		UPCD 20			
	DCGT 0702005 FN -PA7 ...	■	■													7.75	0.05	4	SD...07...
	DCGT 070201 FN -PA7 ...	■	■													7.75	0.1	4	SD...07...
	DCGT 070202 FN -PA7 ...	■	■													7.75	0.2	4	SD...07...
	DCGT 070204 FN -PA7 ...	■	■													7.75	0.4	4	SD...07...
	DCGT 11T3005 FN -PA7 ...	■	■													11.6	0.05	7.2	SD...11...
	DCGT 11T301 FN -PA7 ...	■	■													11.6	0.1	7.2	SD...11...
	DCGT 11T302 FN -PA7 ...	■	■													11.6	0.2	7.2	SD...11...
	DCGT 11T304 FN -PA7 ...	■	■													11.6	0.4	7.2	SD...11...
	DCGT 11T308 FN -PA7 ...	■	■													11.6	0.8	7.2	SD...11...

**Application range of chip breaker**

**Properties:**

- ground clearance
- sharp cutting edge "F"
- micrograin carbide, heat and wear resistant

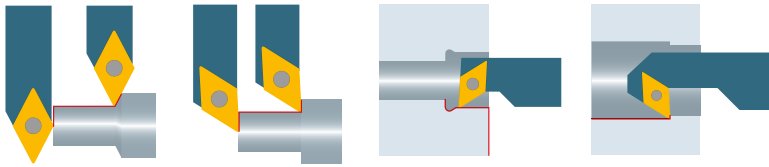


Optimal chip breaking

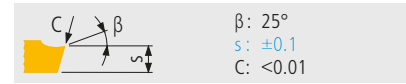
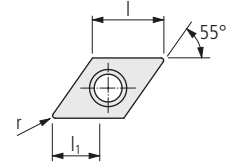
**Application:**

- micro finishing
- chip breaker for materials with good chip control
- stainless steel, alloyed steel, titanium, super alloy, aluminum and synthetics reinforced/ composites

	I	II	III	IV	V	IV	VII	VIII	IX
▽	-	-	-	-	-	-	○	-	○
▽▽	○	○	○	○	○	○	●	-	●
▽▽▽	●	●	●	○	●	●	●	-	●



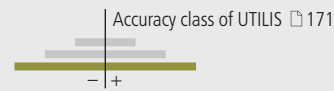
DCXT ... -PA9



Order designation	Carbide										Cermet		Diamond			Holder
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20	□ 229...	
	-	-	●	●	●	○	○	●	○	●	●	-	-	-		
	○	●	-	-	-	○	○	-	-	-	-	-	-	-		
	●	○	-	-	-	○	○	-	-	-	-	●	●	●		

**VALUE-LINE**

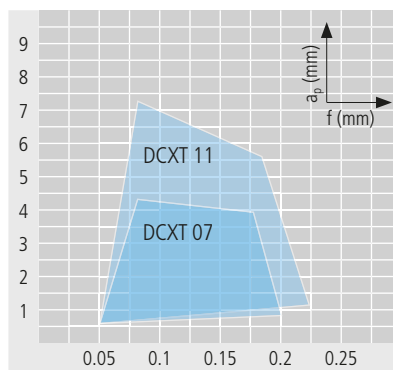
N	Order designation	Material										Dimensions			Holder				
		UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15		UPCD 20	l	r	l <sub>1</sub>
	DCXT 070204 EN -PA9 ...	■	■													7.75	0.4	4	SD...07...
	DCXT 11T304 EN -PA9 ...	■	■													11.6	0.4	7.2	SD...11...
	DCXT 11T308 EN -PA9 ...	■	■													11.6	0.8	7.2	SD...11...



Application range of chip breaker

**Properties:**

- high precision sintered insert
- rounded cutting edge "E"
- micrograin carbide, heat and wear resistant
- best performance-cost ratio

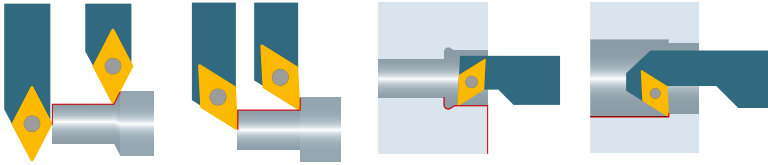


Optimal chip breaking

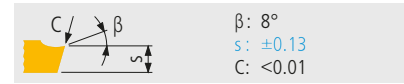
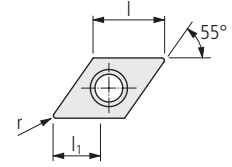
**Application:**

- finishing
- chip breaker for soft materials with good chip control
- alloyed steel, stainless steel, super alloy, titanium and aluminum

	I	II	III	IV	V	IV	VII	VIII	IX
▽	○	○	○	○	○	○	●	-	-
▽▽	●	●	●	●	●	●	○	-	-
▽▽▽	○	○	○	-	○	○	-	-	-

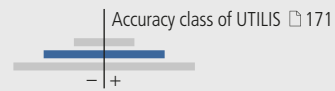


DCGT ... -PF



Order designation	Carbide										Cermet			Diamond			Holder
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCM 10 MZ	UCVD 08	UPCD 15	UPCD 20	□ 229...	
	-	-	●	●	●	○	○	○	○	●	●	●	-	-	-		
	○	●	-	-	-	○	○	○	○	-	-	-	-	-	-		
	●	○	-	-	-	○	○	○	○	-	-	-	●	●	●		

**STANDARD-LINE**

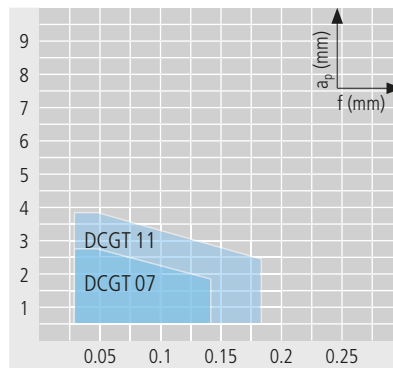


N	Order designation	Carbide										Cermet			Diamond			Holder	
		UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCM 10 MZ	UCVD 08	UPCD 15	UPCD 20	□ 229...		
	DCGT 070201 EN -PF ...										■	■				7.75	0.1	2.8	SD...07...
	DCGT 070202 EN -PF ...				■				■		■	■	■			7.75	0.2	2.8	SD...07...
	DCGT 070204 EN -PF ...										■	■	■			7.75	0.4	2.8	SD...07...
	DCGT 11T302 EN -PF ...										■	■	■			11.6	0.2	3.9	SD...11...
	DCGT 11T304 EN -PF ...										■	■	■			11.6	0.4	3.9	SD...11...
	DCGT 11T308 EN -PF ...										■	■	■			11.6	0.8	3.9	SD...11...
	DCGT 070201 FN -PF ...															7.75	0.1	2.8	SD...07...
	DCGT 070202 FN -PF ...										■	■	■			7.75	0.2	2.8	SD...07...
	DCGT 11T302 FN -PF ...										■	■	■			11.6	0.2	3.9	SD...11...
	DCGT 11T304 FN -PF ...										■	■	■			11.6	0.4	3.9	SD...11...

**Application range of chip breaker**

**Properties:**

- ground clearance
- little rounded cutting edge "E"
- sharp cutting edge "F"
- carbide and cermet in different grades



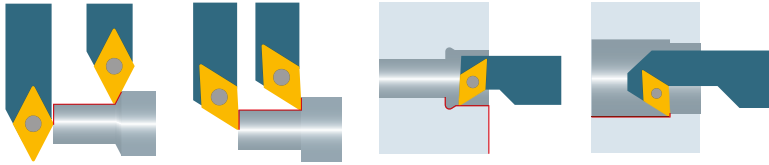
Optimal chip breaking

**Application:**

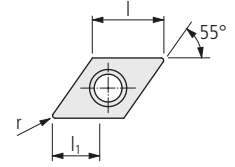
- finishing and micro finishing
- chip breaker for general application
- alloyed steel and stainless steel

	I	II	III	IV	V	IV	VII	VIII	IX
▽	○	○	○	-	○	○	-	-	-
●	●	●	●	-	●	●	-	-	-
▽	○	○	○	-	○	○	-	-	-





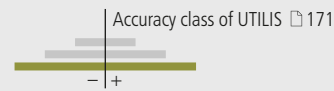
DCMT ... -PF



Order designation	Carbide										Cermet		Diamond			Holder
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20		
	-	-	●	●	●	○	○	●	○	●	●	-	-	-		
	○	●	-	-	○	○	●	-	-	○	-	-	-	-		
	●	○	-	-	-	○	○	-	-	-	-	●	●	●		

**VALUE-LINE**

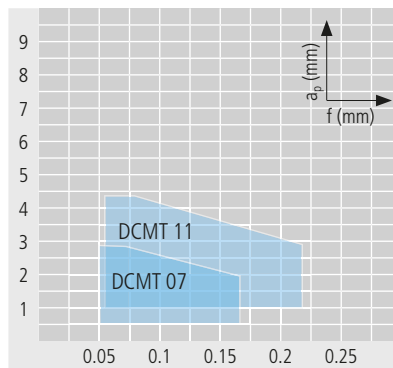
N	Order designation	Carbide										Cermet		Diamond			Holder
		UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20		
	DCMT 070204 EN -PF ...			■		■		■								SD...07...	
	DCMT 11T304 EN -PF ...			■		■		■								SD...11...	
	DCMT 11T308 EN -PF ...			■		■		■								SD...11...	



Application range of chip breaker

Properties:

- sintered insert based on ISO standard
- rounded cutting edge "E"
- carbide and cermet in different grades

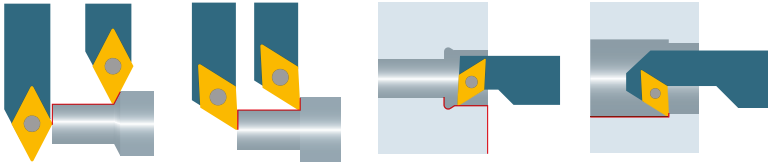


Optimal chip breaking

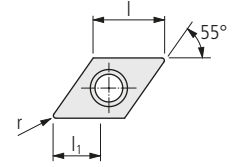
Application:

- roughing
- chip breaker for general application
- alloyed steel and stainless steel

	I	II	III	IV	V	VI	VII	VIII	IX
▲	●	●	●	-	●	●	-	-	-
○	○	○	○	-	○	○	-	-	-
▼	-	-	-	-	-	-	-	-	-

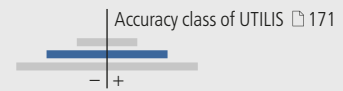


DCGT ... -PF23



Order designation	Carbide										Cermet		Diamond			Holder
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20		
	-	-	●	●	●	○	○	●	○	●	●	-	-	-	Holder	
	○	●	-	-	-	○	○	-	-	○	-	-	-	-	□ 229...	
	●	○	-	-	-	○	○	-	-	-	-	●	●	●		

**STANDARD-LINE**

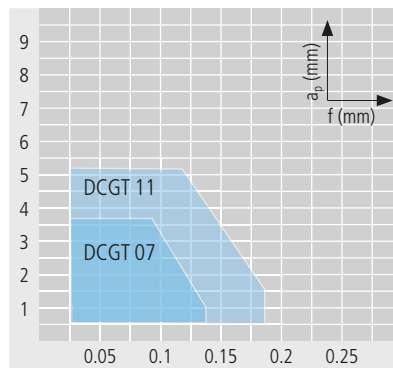


N	Order designation	Carbide										Cermet		Diamond			Holder		
		UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20				
	DCGT 0702003 EN -PF23 ...							■							7.75	0.03	3.6		SD...07...
	DCGT 0702005 FN -PF23 ...							■							7.75	0.05	3.6		SD...07...
	DCGT 070201 FN -PF23 ...							■							7.75	0.1	3.6		SD...07...
	DCGT 070202 FN -PF23 ...							■							7.75	0.2	3.6		SD...07...
	DCGT 11T3005 FN -PF23 ...							■							11.6	0.05	5.2		SD...11...
	DCGT 11T301 FN -PF23 ...							■							11.6	0.1	5.2		SD...11...
	DCGT 11T302 FN -PF23 ...							■							11.6	0.2	5.2		SD...11...

Application range of chip breaker

Properties:

- polished rake
- ground clearance
- sharp cutting edge "F"
- micrograin carbide

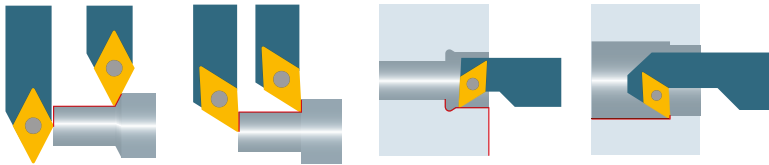


Optimal chip breaking

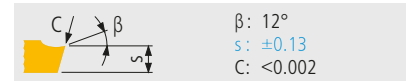
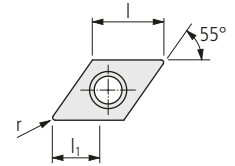
Application:

- micro finishing
- chip breaker for materials with difficult chip control
- alloyed steel and stainless steel

	I	II	III	IV	V	VI	VII	VIII	IX
▽	-	-	-	-	-	-	-	-	-
○	○	○	○	○	○	○	○	○	○
●	●	●	●	●	●	●	○	-	○



DCGT ... -PF33



Order designation	Carbide										Cermet		Diamond			Holder
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20		
	-	-	●	●	●	○	○	●	○	●	●	-	-	-	Dimensions l   r   l <sub>1</sub>	Holder □ 229...
	○	●	-	-	○	○	○	-	-	○	○	-	-	-		
	●	○	-	-	-	○	○	-	-	-	-	●	●	●		
	○	○	-	-	-	○	○	-	-	-	-	-	-	-		

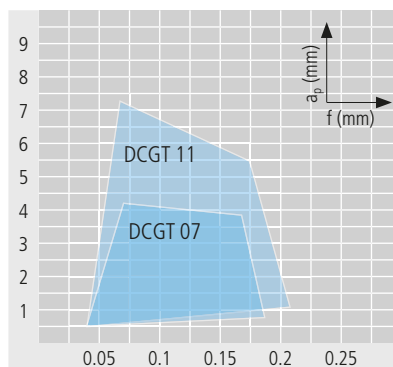
**STANDARD-LINE**

N	Order designation	Carbide										Cermet		Diamond			Holder
		UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20		
	DCGT 0702005 FN -PF33 ...						■									Accuracy class of UTILIS □ 171 -   +	SD...07...
	DCGT 070201 FN -PF33 ...						■										
	DCGT 070202 FN -PF33 ...						■										
	DCGT 070204 FN -PF33 ...						■										
	DCGT 11T3005 FN -PF33 ...						■										
	DCGT 11T301 FN -PF33 ...						■										
	DCGT 11T302 FN -PF33 ...						■										
	DCGT 11T304 FN -PF33 ...						■										

Application range of chip breaker

Properties:

- polished rake
- ground clearance
- sharp cutting edge "F"
- micrograin carbide

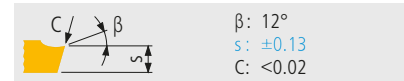
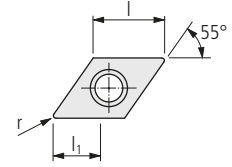
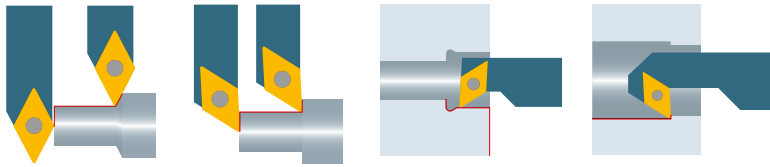


Optimal chip breaking

Application:

- micro finishing
- chip breaker for materials with difficult chip control
- alloyed steel and stainless steel

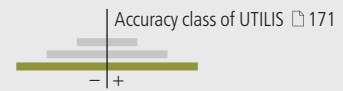
	I	II	III	IV	V	VI	VII	VIII	IX
▽	○	○	○	-	○	○	-	-	-
▽	●	●	●	-	●	●	-	-	-
▽	○	○	○	-	○	○	-	-	-



DCMT ... -PF43

Order designation	Carbide										Cermet		Diamond			Holder
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20		
	-	-	●	●	●	○	○	●	○	●	●	-	-	-	Dimensions l, r, l <sub>1</sub> Holder □ 229...	
	○	●	-	-	-	○	○	-	-	○	-	-	-	-		
	●	○	-	-	-	○	○	-	-	-	-	●	●	●		
	○	○	-	-	-	○	○	-	-	-	-	-	-	-		

**VALUE-LINE**

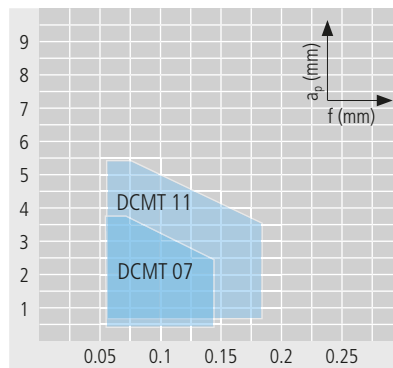


N	Order designation	Carbide										Cermet		Diamond			Holder	
		UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20			
	DCMT 070202 EN -PF43 ...					■				■								SD...07...
	DCMT 070204 EN -PF43 ...									■								SD...07...
	DCMT 11T302 EN -PF43 ...									■								SD...11...
	DCMT 11T304 EN -PF43 ...									■								SD...11...
	DCMT 11T308 EN -PF43 ...									■								SD...11...

Application range of chip breaker

Properties:

- sintered insert based on ISO standard
- rounded cutting edge "E"
- micrograin carbide

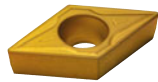
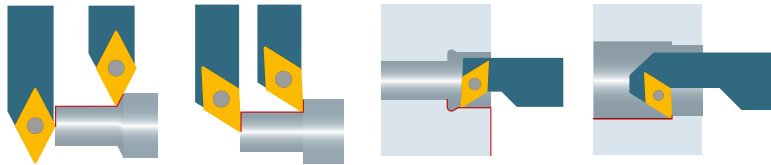


Optimal chip breaking

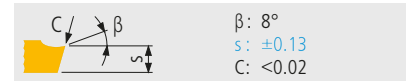
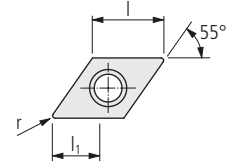
Application:

- roughing and finishing
- chip breaker for materials with difficult chip control
- alloyed steel and stainless steel

	I	II	III	IV	V	VI	VII	VIII	IX
▲	●	●	●	-	●	●	-	-	-
▼	-	-	-	-	-	-	-	-	-



DCMT ... -PM



$\beta$ : 8°  
 $s$ : ±0.13  
 $C$ : <0.02

Order designation	Carbide										Cermet		Diamond			Holder
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20		
	-	-	●	●	●	○	○	●	○	●	●	-	-	-	□ 229...	
	○	●	-	-	○	○	○	-	-	○	-	-	-			
	●	○	-	-	-	○	○	-	-	-	-	-	-			
	○	○	-	-	-	○	○	-	-	-	-	-	-			

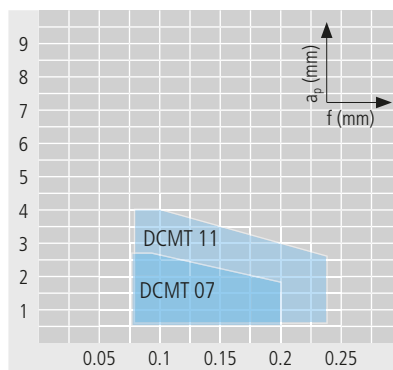
**VALUE-LINE**

N	Order designation	Carbide										Cermet		Diamond			Holder
		UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20		
	DCMT 070204 EN -PM ...			■		■		■							Accuracy class of UTILIS □ 171		
	DCMT 070208 EN -PM ...							■									
	DCMT 11T304 EN -PM ...			■		■		■									
	DCMT 11T308 EN -PM ...			■		■		■									

**Application range of chip breaker**

**Properties:**

- sintered insert based on ISO standard
- rounded cutting edge "E"
- micrograin carbide

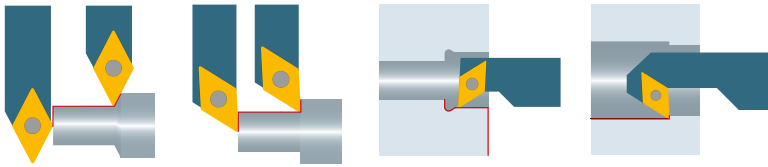


Optimal chip breaking

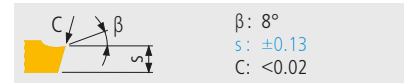
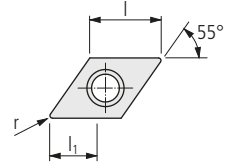
**Application:**

- roughing
- chip breaker for general application
- alloyed steel and stainless steel

	I	II	III	IV	V	VI	VII	VIII	IX
▽	●	●	●	-	●	●	-	-	-
○	○	○	○	-	○	○	-	-	-
▽	-	-	-	-	-	-	-	-	-



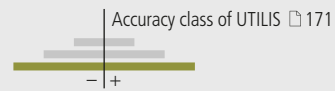
DCMT ... -PMF



Order designation	Carbide										Cermet			Diamond			Holder
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCM 10 MZ	UCVD 08	UPCD 15	UPCD 20	□ 229...	
	-	-	●	●	●	○	○	○	○	●	●	●	-	-	-		
	○	●	-	○	-	○	○	○	-	-	-	-	-	-	-		
	●	○	-	-	-	-	-	-	○	-	-	-	●	●	●		

Dimensions			Holder
l	r	l <sub>1</sub>	
			□ 229...

**VALUE-LINE**

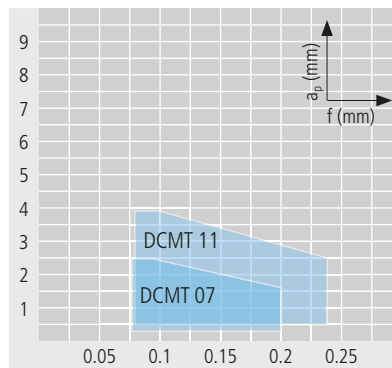


N	Order designation	Carbide										Cermet			Diamond			Holder				
		UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCM 10 MZ	UCVD 08	UPCD 15	UPCD 20						
	DCMT 070202 EN -PMF												■				7.75	0.2	2.6		SD...07...	
	DCMT 070204 EN -PMF												■					7.75	0.4	2.6		SD...07...
	DCMT 11T304 EN -PMF												■					11.6	0.4	4.1		SD...11...
	DCMT 11T308 EN -PMF												■					11.6	0.8	4.1		SD...11...

Application range of chip breaker

Properties:

- sintered insert based on ISO standard
- rounded cutting edge "E"
- micrograin carbide

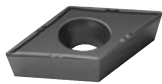
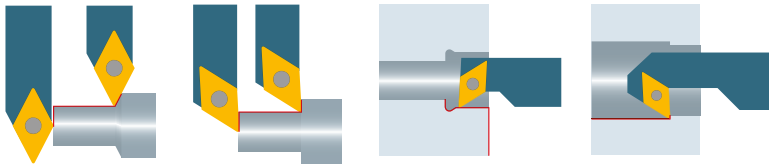


Optimal chip breaking

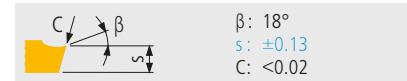
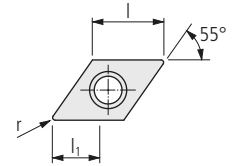
Application:

- roughing and finishing
- chip breaker for general application
- alloyed steel and stainless steel

	I	II	III	IV	V	VI	VII	VIII	IX
▲	●	●	●	-	●	●	-	-	-
▲	-	-	-	-	-	-	-	-	-



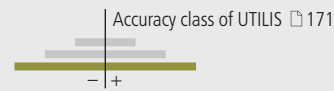
DCMT ... -PM25



Order designation	Carbide										Cermet		Diamond		Holder	
	-	-	●	●	●	○	○	●	○	●	●	-	-	-		-
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20		

**VALUE-LINE**

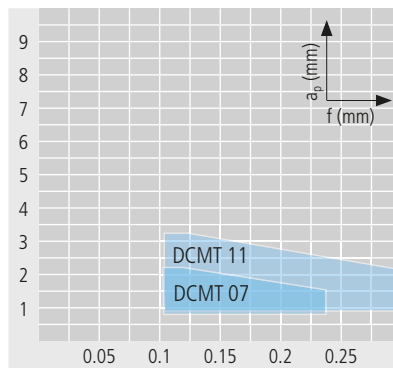
N	Order designation	Material										Dimensions			Holder				
		UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15		UPCD 20			
	DCMT 070202 EN -PM25 ...			■												7.75	0.2	1.6	SD...07...
	DCMT 070204 EN -PM25 ...			■												7.75	0.4	2	SD...07...
	DCMT11T302 EN -PM25 ...			■												11.6	0.2	2	SD...11...
	DCMT11T304 EN -PM25 ...			■												11.6	0.4	2.2	SD...11...
	DCMT11T308 EN -PM25 ...			■												11.6	0.8	3.2	SD...11...



Application range of chip breaker

Properties:

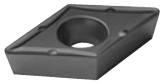
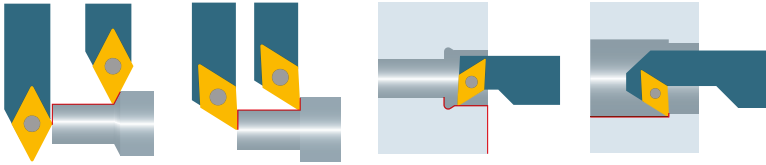
- sintered insert based on ISO standard
- rounded cutting edge "E"
- micrograin carbide



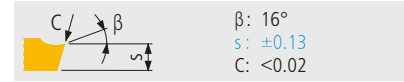
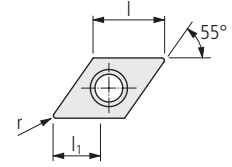
Application:

- roughing and finishing
- chip breaker for materials with difficult chip control
- stainless steel

	I	II	III	IV	V	VI	VII	VIII	IX
▲	-	-	-	-	-	-	-	-	-
○	○	○	○	●	●	-	-	-	-
▼	-	-	-	-	-	-	-	-	-



DCMT ... -PM55



Order designation	Carbide								C19		Cermet		Diamond			Dimensions	Holder	
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20				
	-	-	●	●	●	○	○	●	○	●	●	-	-	-	l	r	l <sub>1</sub>	Holder
	○	●	-	-	-	○	○	-	○	-	-	-	-	-				
	●	○	-	-	-	○	○	-	○	-	-	●	●	●	-	-	-	-

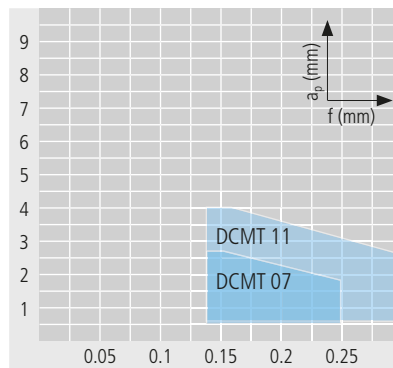
VALUE-LINE

N	Order designation	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20	l	r	l <sub>1</sub>	Holder
	DCMT 070204 EN -PM55 ...			■												7.75	0.4	2.2	SD...07...
	DCMT 070208 EN -PM55 ...			■												7.75	0.8	2.4	SD...07...
	DCMT11T304 EN -PM55 ...			■												11.6	0.4	3	SD...11...
	DCMT11T308 EN -PM55 ...			■												11.6	0.8	4	SD...11...

Application range of chip breaker

Properties:

- sintered insert based on ISO standard
- rounded cutting edge "E"
- micrograin carbide



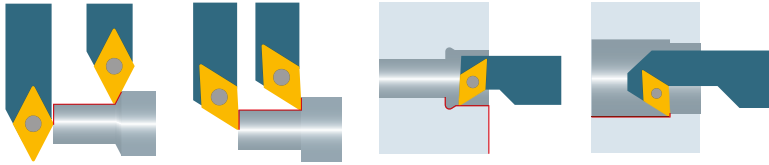
Optimal chip breaking

Application:

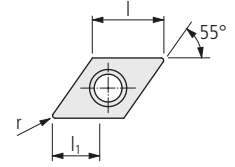
- roughing
- chip breaker for general application
- stainless steel

	I	II	III	IV	V	VI	VII	VIII	IX
▽	○	○	○	○	●	●	-	-	-
▽	-	-	-	-	-	-	-	-	-
▽	-	-	-	-	-	-	-	-	-





DCET ... -U



$\beta$ : 12°  
 $s$ : ±0.025  
 $C$ : <0.002

Order designation	Carbide										Cermet		Diamond			Holder
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20		
	-	-	●	●	●	○	○	●	○	●	●	-	-	-	Accuracy class of UTILIS □ 171	
	○	●	-	-	○	○	○	-	-	-	-	-	-			
	●	○	-	-	-	○	○	-	-	-	-	-	-			
	○	○	-	-	-	○	○	-	-	-	-	-	-			

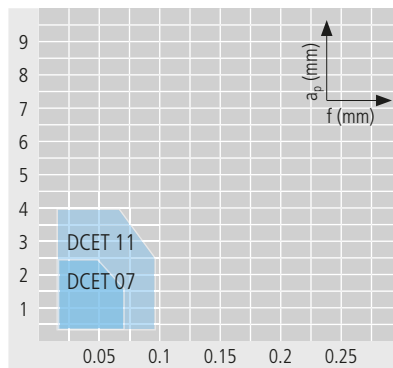
**PREMIUM-LINE**

	DCET 0702003 FR-U ...	DCET 070201 FR-U ...	DCET 070202 FR-U ...	DCET 11T301 FR-U ...	DCET 11T302 FR-U ...	DCET 11T304 FR-U ...							
<b>R</b>	■	■											
							■	■					
							■	■					
							■	■					
							■	■					
							■	■					

Application range of chip breaker

Properties:

- ground rake and clearance
- sharp cutting edge "F"
- submicrograin carbide, heat and wear resistant and cermet

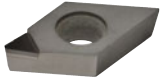
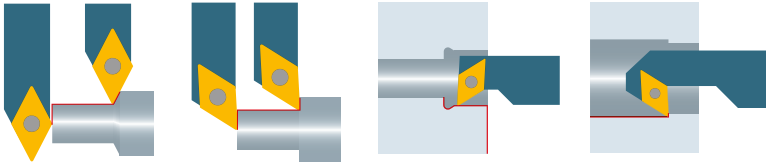


Optimal chip breaking

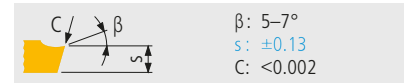
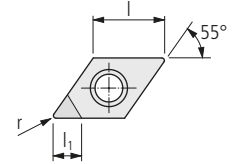
Application:

- micro finishing
- chip breaker for materials with difficult chip control
- alloyed steel and stainless steel

	I	II	III	IV	V	IV	VII	VIII	IX
▲	-	-	-	-	-	-	-	-	-
▲	○	○	○	-	○	○	-	-	-
▲	●	●	●	○	●	●	○	-	○

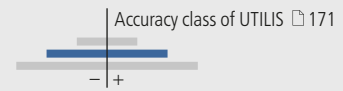


DCGT ...



Order designation	Material										Dimensions				Holder	
	Carbide										Cermet	Diamond		l	r	l <sub>1</sub>
	-	-	●	●	●	○	○	○	○	○	●	●	-			
	○	●	-	-	-	○	○	○	○	○	-	-	-	-	-	
	●	○	-	-	-	-	-	-	-	-	-	-	●	●	●	
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20		

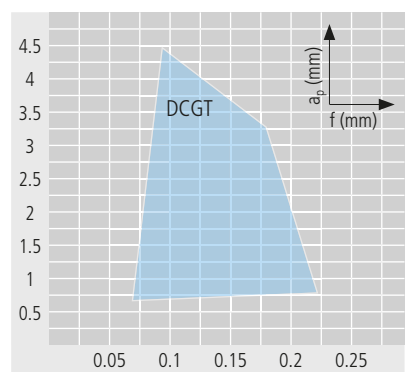
**STANDARD-LINE**



Order designation	Material		l	r	l <sub>1</sub>	Holder
	Carbide	Diamond				
DCGT 070201 FN ...		■	7.75	0.1	3.8	SD...07...
DCGT 070202 FN ...		■	7.75	0.2	3.7	SD...07...
DCGT 070204 FN ...		■	7.75	0.4	3.4	SD...07...
DCGT 070208 FN ...		■	7.75	0.8	3	SD...07...
DCGT 11T301 FN ...		■	11.6	0.1	4.8	SD...11...
DCGT 11T302 FN ...		■	11.6	0.2	4.7	SD...11...
DCGT 11T304 FN ...		■	11.6	0.4	4.3	SD...11...
DCGT 11T308 FN ...		■	11.6	0.8	4	SD...11...
DCGT 11T312 FN ...		■	11.6	1.2	3.5	SD...11...

Application range of chip breaker

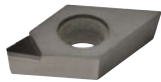
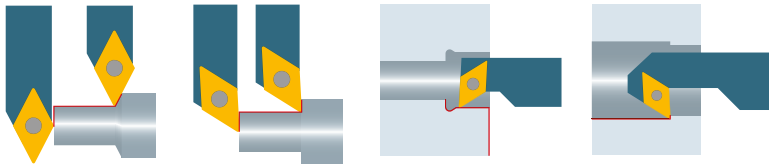
- Properties:**
- sharp cutting edge "F"
  - less cutting force
  - positive cut



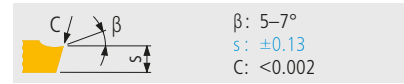
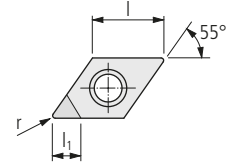
Optimal chip breaking

- Application:**
- finishing and micro finishing for unstable or thin-walled parts
  - chip breaker for general application will generate continuous chip
  - aluminum, brass, copper, bronze, platinum, gold, synthetics and synthetics reinforced/composites
  - Ideal for smallest tolerance and medium surface quality

	I	II	III	IV	V	VI	VII	VIII	IX
▽	-	-	-	-	-	-	○	○	○
▽	-	-	-	-	-	-	●	●	●
▽	-	-	-	-	-	-	●	●	●



DCGT ... TOP\*



Order designation	Material										Dimensions				Holder				
	Carbide					C19					Cermet		Diamond			□ 229...			
	-	-	●	●	●	○	○	○	○	○	●	●	-	-	-				
	○	●	-	-	-	○	○	○	○	○	-	-	-	-	-				
	●	○	-	-	-	○	○	○	○	○	-	-	●	●	●				
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20	l	r	l <sub>1</sub>		

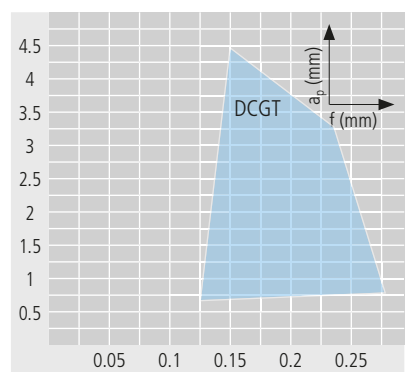
**STANDARD-LINE**

L	R	Description	Material										Dimensions				Holder		
			Carbide					C19					Cermet		Diamond				
		DCGT 070201 FL TOP ...													7.75	0.1	3.8		SD...07...
		DCGT 070202 FL TOP ...													7.75	0.2	3.7		SD...07...
		DCGT 11T301 FL TOP ...													11.6	0.1	4.8		SD...11...
		DCGT 11T302 FL TOP ...													11.6	0.2	4.7		SD...11...
		DCGT 070201 FR TOP ...													7.75	0.1	3.8		SD...07...
		DCGT 070202 FR TOP ...													7.75	0.2	3.7		SD...07...
		DCGT 11T301 FR TOP ...													11.6	0.1	4.8		SD...11...
		DCGT 11T302 FR TOP ...													11.6	0.2	4.7		SD...11...

\* Description TOP □ 25

Application range of chip breaker

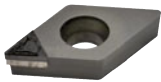
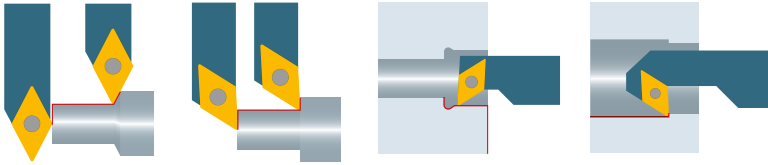
- Properties:**
- sharp cutting edge "F"
  - less cutting force
  - positive cut
  - TOP system, for a better surface finish



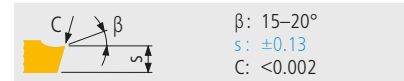
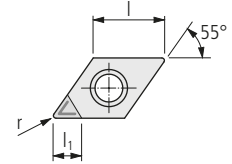
Optimal chip breaking

- Application:**
- finishing and micro finishing for unstable or thin-walled parts
  - chip breaker for general application will generate continuous chip
  - aluminum, brass, copper, bronze, platinum, gold, synthetics and synthetics reinforced/composites
  - Ideal for smallest tolerance and medium surface quality

	I	II	III	IV	V	VI	VII	VIII	IX
▲	-	-	-	-	-	-	●	●	●
▲▲	-	-	-	-	-	-	●	●	●
▲▲▲	-	-	-	-	-	-	●	●	●

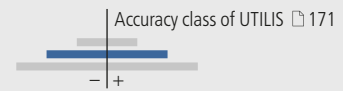


DCGT ... -UWS



Order designation	Carbide								C19		Cermet		Diamond		Dimensions	Holder		
	-	-	●	●	●	○	○	○	●	●	-	-	-	-				
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20	l	r	l <sub>1</sub>	□ 229...

**STANDARD-LINE**



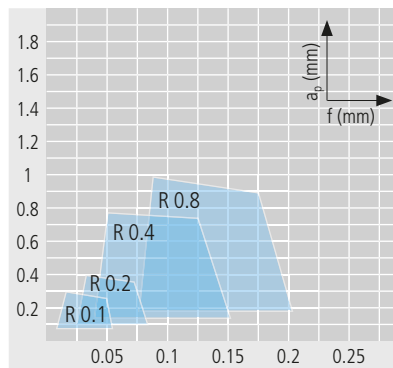
N	DCGT 070201 FN -UWS ...											■	■	7.75	0.1	3		SD...07...	
	DCGT 070202 FN -UWS ...											■	■	7.75	0.2	3		SD...07...	
	DCGT 070204 FN -UWS ...											■	■	7.75	0.4	3		SD...07...	
	DCGT 070208 FN -UWS ...											■	■	7.75	0.8	3		SD...07...	
	DCGT 11T301 FN -UWS ...												■	■	11.6	0.1	3		SD...11...
	DCGT 11T302 FN -UWS ...												■	■	11.6	0.2	3		SD...11...
	DCGT 11T304 FN -UWS ...												■	■	11.6	0.4	3		SD...11...
	DCGT 11T308 FN -UWS ...												■	■	11.6	0.8	3		SD...11...
	DCGT 11T312 FN -UWS ...												■	■	11.6	1.2	3.6		SD...11...

**Application range of chip breaker**

**Properties:**

- sharp cutting edge "F"
- almost any cutting force
- high positive narrow chip breaker made by laser

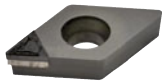
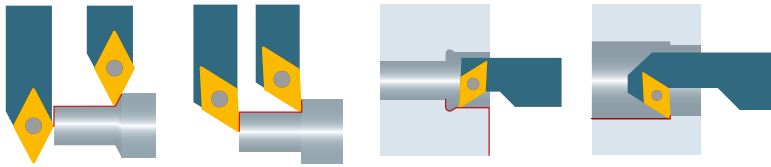
Optimal chip breaking



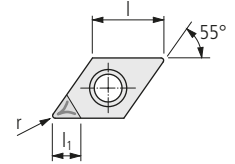
**Application:**

- micro finishing for unstable or thin-walled parts
- chip breaker for materials with difficult chip control
- synthetics reinforced/composites, aluminum, platinum, gold and synthetics
- Ideal for smallest tolerance and medium surface quality

	I	II	III	IV	V	VI	VII	VIII	IX
▲	-	-	-	-	-	-	-	-	-
▲▲	-	-	-	-	-	-	○	○	○
▲▲▲	-	-	-	-	-	-	●	●	●

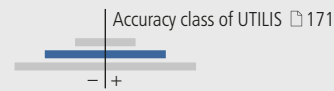


DCGT ... -UWN



Order designation	Material										Dimensions			Holder			
	Carbide					C19					Cermet	Diamond	l	r	l <sub>1</sub>	□ 229...	
	-	-	●	●	●	○	○	○	○	○	●	●	-	-	-	-	
	○	●	-	-	-	○	○	○	○	○	-	-	-	-	-	-	
	●	○	-	-	-	○	○	○	○	○	-	-	●	●	●	-	
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20		

**STANDARD-LINE**

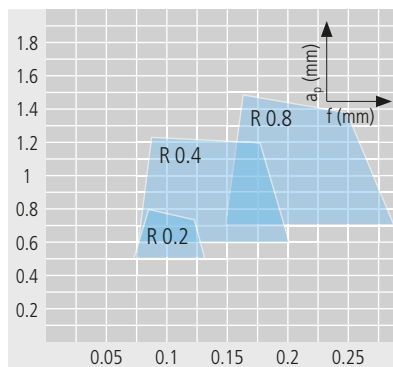


N	Order designation	Material										Dimensions			Holder		
		Carbide					C19					Cermet	Diamond	l	r	l <sub>1</sub>	Holder
	DCGT 070201 FN -UWN ...												■	7.75	0.1	3	SD...07...
	DCGT 070202 FN -UWN ...											■	■	7.75	0.2	3	SD...07...
	DCGT 070204 FN -UWN ...											■	■	7.75	0.4	3	SD...07...
	DCGT 070208 FN -UWN ...											■	■	7.75	0.8	3	SD...07...
	DCGT 11T301 FN -UWN ...												■	11.6	0.1	3	SD...11...
	DCGT 11T302 FN -UWN ...												■	11.6	0.2	3	SD...11...
	DCGT 11T304 FN -UWN ...												■	11.6	0.4	3	SD...11...
	DCGT 11T308 FN -UWN ...												■	11.6	0.8	3	SD...11...

Application range of chip breaker

Properties:

- sharp cutting edge "F"
- higher cutting force
- high positive wide chip breaker made by laser

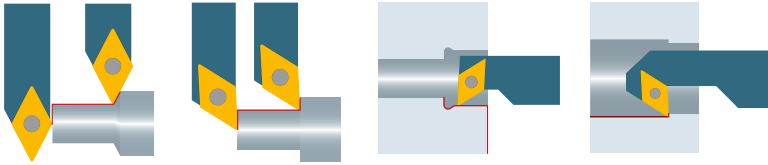


Optimal chip breaking

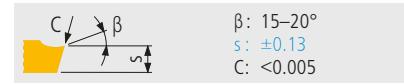
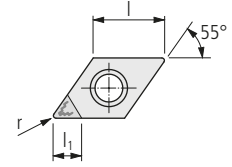
Application:

- finishing for stable or solid parts
- chip breaker for materials with difficult chip control
- synthetics reinforced/composites, aluminum, platinum, gold and synthetics
- Ideal for smallest tolerance and best surface quality

	I	II	III	IV	V	VI	VII	VIII	IX
▽	-	-	-	-	-	-	○	○	○
▽	-	-	-	-	-	-	●	●	●
▽	-	-	-	-	-	-	-	-	-

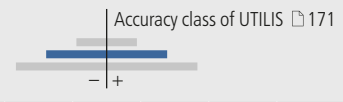


DCGT ... -UWR



Order designation	Material										Dimensions				Holder
	Carbide										Cermet	Diamond			□ 229...
	-	-	●	●	●	○	○	●	○	●	●	-	-	-	
	○	●	-	-	-	-	-	-	-	-	-	-	-	-	
	●	○	-	-	-	-	-	-	-	-	-	●	●	●	
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20	

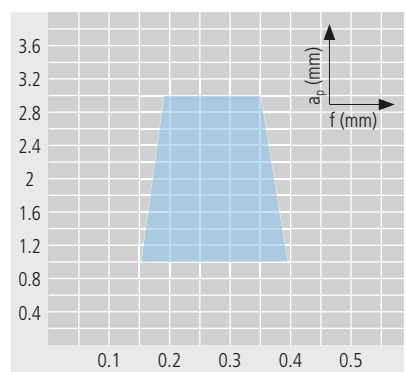
**STANDARD-LINE**



N	Order designation	Material			l	r	l <sub>1</sub>	Accuracy class	Holder
		Carbide	Cermet	Diamond					
	DCGT 070204 FN -UWR ...			■	7.75	0.4	3		SD...07...
	DCGT 11T304 FN -UWR ...			■	11.6	0.4	3		SD...11...
	DCGT 11T308 FN -UWR ...			■	11.6	0.8	3		SD...11...

Application range of chip breaker

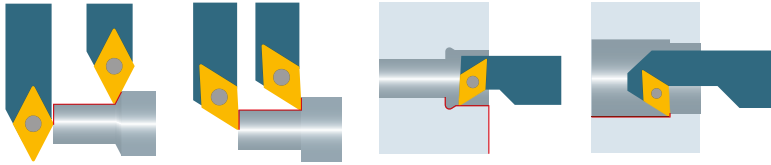
- Properties:**
- sharp cutting edge "F"
  - higher cutting force
  - high positive wide chip breaker made by laser



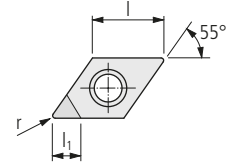
Optimal chip breaking

- Application:**
- machining of massive or solid parts
  - chip breaker for materials with difficult chip control
  - synthetics reinforced/composites, aluminum, platinum, gold and synthetics
  - maximum metal removal rate

	I	II	III	IV	V	VI	VII	VIII	IX
▲	-	-	-	-	-	-	○	○	○
▲	-	-	-	-	-	-	●	●	●
▲	-	-	-	-	-	-	-	-	-



DCGW ...



β: 0°  
s: ±0.13  
C: <0.002

Order designation	Carbide										C19		Cermet		Diamond		Dimensions				Holder
	-	-	●	●	●	○	○	○	○	○	●	●	-	-	-	-	l	r	l <sub>1</sub>		□ 229...
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20							

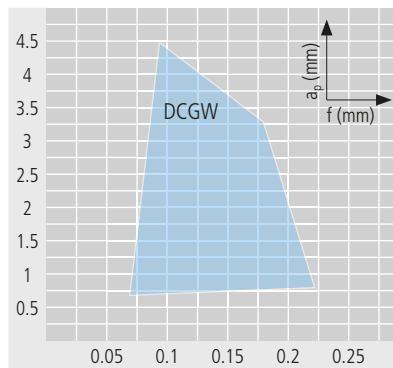
**STANDARD-LINE**

N	Order designation	Carbide										C19		Cermet		Diamond		Dimensions				Holder
		-	-	●	●	●	○	○	○	○	○	●	●	-	-	-	-	l	r	l <sub>1</sub>		SD...171
	DCGW 0702005 FN ...													■	■	■	7.75	0.05	3.5		SD...07...	
	DCGW 070201 FN ...													■	■	■	7.75	0.1	3.8		SD...07...	
	DCGW 070202 FN ...													■	■	■	7.75	0.2	3.7		SD...07...	
	DCGW 070204 FN ...													■	■	■	7.75	0.4	3.4		SD...07...	
	DCGW 070208 FN ...													■	■	■	7.75	0.8	3		SD...07...	
	DCGW 11T301 FN ...													■	■	■	11.6	0.1	4.8		SD...11...	
	DCGW 11T302 FN ...													■	■	■	11.6	0.2	4.7		SD...11...	
	DCGW 11T304 FN ...													■	■	■	11.6	0.4	4.3		SD...11...	
	DCGW 11T308 FN ...													■	■	■	11.6	0.8	4		SD...11...	
	DCGW 11T312 FN ...													■	■	■	11.6	1.2	3.6		SD...11...	

Application range of chip breaker

Properties:

- sharp cutting edge "F"
- medium cutting force
- neutral cut

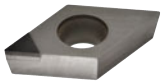
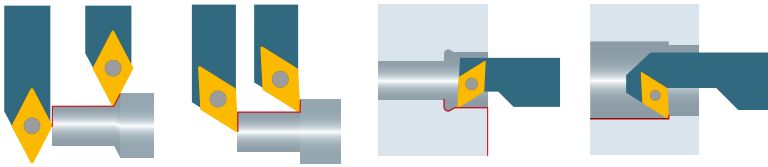


Optimal chip breaking

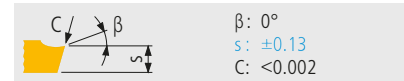
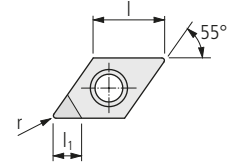
Application:

- finishing and micro finishing for stable or solid parts
- chip breaker for general application will generate continuous chip
- aluminum, brass, copper, bronze, platinum, gold, synthetics and synthetics reinforced/composites
- Ideal for smallest tolerance and high surface quality

	I	II	III	IV	V	VI	VII	VIII	IX
▲	-	-	-	-	-	-	●	●	●
▲	-	-	-	-	-	-	●	●	●
▲	-	-	-	-	-	-	●	●	●

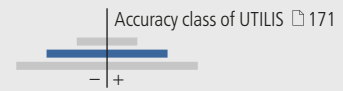


DCGW ... TOP\*



Order designation	Carbide										C19		Cermet		Diamond		Dimensions				Holder
	-	-	•	•	•	•	•	•	•	•	-	•	-	•	-	•	l	r	l <sub>1</sub>		□ 229...
UHM 10	•	•	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
UHM 10 HX	•	•	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
UHM 10 MZ	•	•	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
UHM 20 HPX	•	•	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
UHM 20 MZ	•	•	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
UHM 30	•	•	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
UHM 30 HX	•	•	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
UHM 30 MZ	•	•	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
UHM 30 SX	•	•	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
UCM 10	•	•	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
UCM 10 HX	•	•	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
UCVD 08	•	•	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
UPCD 15	•	•	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
UPCD 20	•	•	-	-	-	-	-	-	-	-	-	-	-	-	-	-					

**STANDARD-LINE**

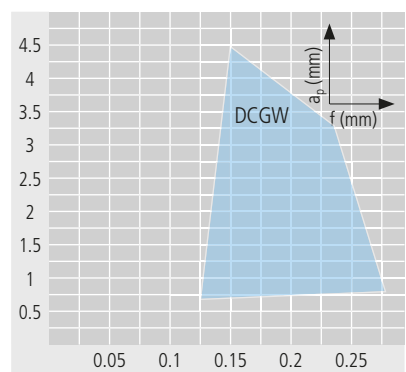


L	DCGW 11T301 FL TOP ...							■	11.6	0.1	4.8			SD...11...
	DCGW 11T302 FL TOP ...							■	11.6	0.2	4.7			SD...11...
R	DCGW 11T302 FR TOP ...							■	11.6	0.2	4.7			SD...11...
	DCGW 11T301 FR TOP ...							■	11.6	0.1	4.8			SD...11...

\* Description TOP □ 25

Application range of chip breaker

- Properties:**
- sharp cutting edge "F"
  - medium cutting force
  - neutral cut
  - TOP system, for a better surface finish

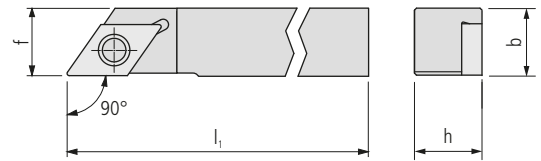
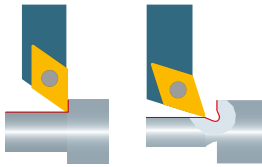


Optimal chip breaking

- Application:**
- finishing and micro finishing for stable or solid parts
  - chip breaker for general application will generate continuous chip
  - aluminum, brass, copper, bronze, platinum, gold, synthetics and synthetics reinforced/composites
  - Ideal for smallest tolerance and high surface quality

	I	II	III	IV	V	VI	VII	VIII	IX
▲	-	-	-	-	-	-	•	•	•
▲▲	-	-	-	-	-	-	•	•	•
▲▲▲	-	-	-	-	-	-	•	•	•





SDAC... U (90°)

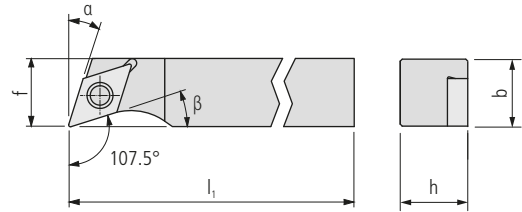
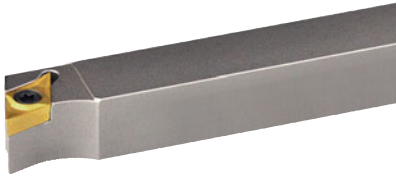
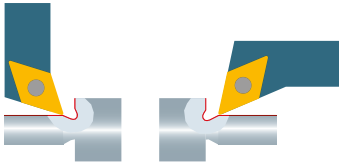
Order designation		Dimensions								Inserts
<b>L</b>	<b>R</b>	h	b	l <sub>1</sub>		f				□ 206...

**STANDARD-LINE**

Accuracy class of UTILIS □ 171



SDACL 0808 K07 U	■	SDACR 0808 K07 U	■	8	8	125		8			DC..0702..
SDACL 1010 M07 U	■	SDACR 1010 M07 U	■	10	10	150		10			DC..0702..
SDACL 1212 M07 U	■	SDACR 1212 M07 U	■	12	12	150		12			DC..0702..
SDACL 1212 M11 U	■	SDACR 1212 M11 U	■	12	12	150		12			DC..11T3..
SDACL 1616 K11 U	■	SDACR 1616 K11 U	■	16	16	125		16			DC..11T3..



SDHC... U (107.5°)

Order designation		Dimensions							Inserts
L	R	h	b	l <sub>1</sub>	f	a	β	□ 206...	

STANDARD-LINE

Accuracy class of UTILIS □ 171



SDHCL 0808 H07 U	■	SDHCR 0808 H07 U	■	8	8	100	11	17.5°	17.5°	DC..0702..
SDHCL 1010 H07 U	■	SDHCR 1010 H07 U	■	10	10	100	11	17.5°	17.5°	DC..0702..
SDHCL 1212 H07 U	■	SDHCR 1212 H07 U	■	12	12	100	12	17.5°	17.5°	DC..0702..
SDHCL 1616 K11 U	■	SDHCR 1616 K11 U	■	16	16	125	16	17.5°	17.5°	DC..11T3..

SDHC... U (107.5°) INCH

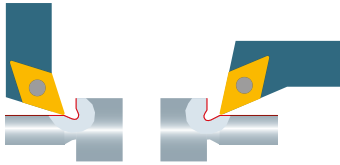
Order designation		Dimensions							Inserts
L	R	h	b	l <sub>1</sub>	f	a	β	□ 206...	

STANDARD-LINE

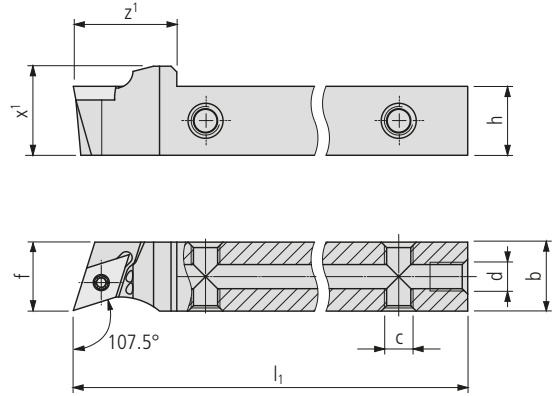
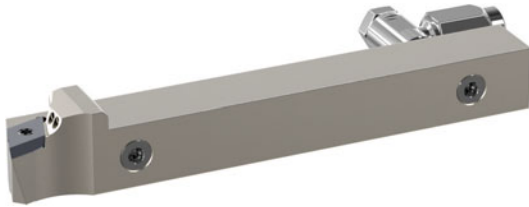
Accuracy class of UTILIS □ 171



SDHCL 3/8" H07 U	■	SDHCR 3/8" H07 U	■	9.525	9.525	100	11	17.5°	17.5°	DC..0702..
SDHCL 1/2" H07 U	■	SDHCR 1/2" H07 U	■	12.7	12.7	100	12.7	17.5°	17.5°	DC..0702..
SDHCL 5/8" K11 U	■	SDHCR 5/8" K11 U	■	15.875	15.875	125	15.875	17.5°	17.5°	DC..11T3..



With internal cooling

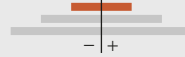


SDHC... U IC (107.5°)

Order designation		Dimensions								Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 206...

PREMIUM-LINE

Accuracy class of UTILIS □ 171



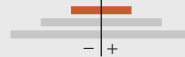
SDHCL 0808 H07 U IC	■	SDHCR 0808 H07 U IC	■	8	8	100	18	11.5	M5	M5	8	DC..0702..
SDHCL 1010 H07 U IC	■	SDHCR 1010 H07 U IC	■	10	10	100	18	13.5	M5	M5	10	DC..0702..
SDHCL 1212 H07 U IC	■	SDHCR 1212 H07 U IC	■	12	12	100	18	15.5	M5	M5	12	DC..0702..
SDHCL 1616 K11 U IC	■	SDHCR 1616 K11 U IC	■	16	16	125	21	19.5	M5	G1/8"	16	DC..11T3..

SDHC... U IC (107.5°) INCH

Order designation		Dimensions								Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 206...

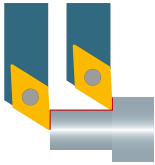
PREMIUM-LINE

Accuracy class of UTILIS □ 171



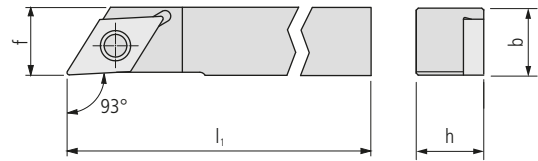
SDHCL 3/8" H07 U IC	■	SDHCR 3/8" H07 U IC	■	9.525	9.525	100	18	13	M5	M5	9.525	DC..0702..
SDHCL 1/2" H07 U IC	■	SDHCR 1/2" H07 U IC	■	12.7	12.7	100	18	16.2	M5	M5	12.7	DC..0702..
SDHCL 5/8" K11 U IC	■	SDHCR 5/8" K11 U IC	■	15.875	15.875	125	22	19.4	M5	G1/8"	15.875	DC..11T3..

Scope of delivery: Holder without coolant connector  
Coolant connectors □ 632



232

UTILIS **multidec**® swiss type tools



SDJC... U (93°)

Order designation		Dimensions						Inserts
L	R	h	b	l <sub>1</sub>	f		□ 206...	

STANDARD-LINE

Accuracy class of UTILIS □ 171



SDJCL 0808 F07 U	■	SDJCR 0808 F07 U	■	8	8	80	8			DC..0702..
SDJCL 0808 H07 U	■	SDJCR 0808 H07 U	■	8	8	100	8			DC..0702..
SDJCL 1010 F07 U	■	SDJCR 1010 F07 U	■	10	10	80	10			DC..0702..
SDJCL 1010 H07 U	■	SDJCR 1010 H07 U	■	10	10	100	10			DC..0702..
SDJCL 1010 H11 U	■	SDJCR 1010 H11 U	■	10	10	100	12			DC..11T3..
SDJCL 1212 H07 U	■	SDJCR 1212 H07 U	■	12	12	100	12			DC..0702..
SDJCL 1212 H11 U	■	SDJCR 1212 H11 U	■	12	12	100	12			DC..11T3..
SDJCL 1616 K07 U	■	SDJCR 1616 K07 U	■	16	16	125	16			DC..0702..
SDJCL 1616 K11 U	■	SDJCR 1616 K11 U	■	16	16	125	16			DC..11T3..
SDJCL 2020 K11 U	■	SDJCR 2020 K11 U	■	20	20	125	20			DC..11T3..

SDJC... U (93°) INCH

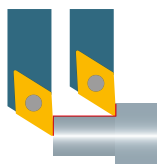
Order designation		Dimensions						Inserts
L	R	h	b	l <sub>1</sub>	f		□ 206...	

STANDARD-LINE

Accuracy class of UTILIS □ 171



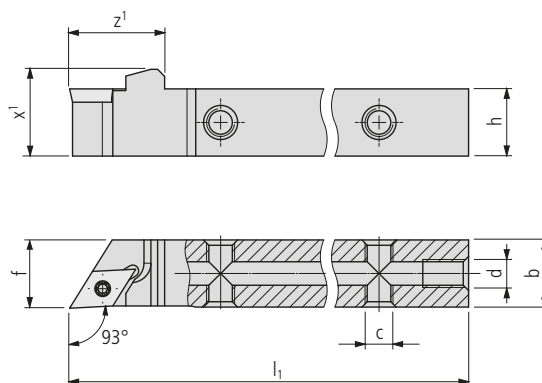
SDJCL 3/8" F07 U	■	SDJCR 3/8" F07 U	■	9.525	9.525	80	9.525			DC..0702..
SDJCL 3/8" H07 U	■	SDJCR 3/8" H07 U	■	9.525	9.525	100	9.525			DC..0702..
SDJCL 3/8" F11 U	■	SDJCR 3/8" F11 U	■	9.525	9.525	80	9.525			DC..11T3..
SDJCL 3/8" H11 U	■	SDJCR 3/8" H11 U	■	9.525	9.525	100	9.525			DC..11T3..
SDJCL 1/2" H07 U	■	SDJCR 1/2" H07 U	■	12.7	12.7	100	12.7			DC..0702..
SDJCL 1/2" H11 U	■	SDJCR 1/2" H11 U	■	12.7	12.7	100	12.7			DC..11T3..
SDJCL 5/8" K11 U	■	SDJCR 5/8" K11 U	■	15.875	15.875	125	15.875			DC..11T3..
SDJCL 3/4" K11 U	■	SDJCR 3/4" K11 U	■	19.05	19.05	125	19.05			DC..11T3..



With internal cooling



SDJCL... U IC (93°)



Order designation		Dimensions									Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 206...	

PREMIUM-LINE

Accuracy class of UTILIS □ 171



SDJCL 0808 H07 U IC	■	SDJCR 0808 H07 U IC	■	8	8	100	17	11.5	M5	M5	8	DC.. 0702..
SDJCL 1010 H07 U IC	■	SDJCR 1010 H07 U IC	■	10	10	100	17	13.5	M5	M5	10	DC.. 0702..
SDJCL 1010 H11 U IC	■	SDJCR 1010 H11 U IC	■	10	10	100	22	13.5	M5	M5	10	DC.. 11T3..
SDJCL 1212 H07 U IC	■	SDJCR 1212 H07 U IC	■	12	12	100	17	15.5	M5	M5	12	DC.. 0702..
SDJCL 1212 H11 U IC	■	SDJCR 1212 H11 U IC	■	12	12	100	22	15.5	M5	M5	12	DC.. 11T3..
SDJCL 1616 K07 U IC	■	SDJCR 1616 K07 U IC	■	16	16	125	17	15.5	M5	G1/8"	16	DC.. 0702..
SDJCL 1616 K11 U IC	■	SDJCR 1616 K11 U IC	■	16	16	125	22	19.5	M5	G1/8"	16	DC.. 11T3..
SDJCL 2020 K11 U IC	■	SDJCR 2020 K11 U IC	■	20	20	125	22	23.5	M5	G1/8"	20	DC.. 11T3..

SDJCL... U IC (93°) INCH

Order designation		Dimensions									Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 206...	

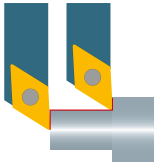
PREMIUM-LINE

Accuracy class of UTILIS □ 171

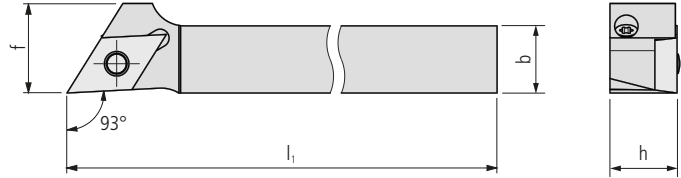


SDJCL 3/8" H07 U IC	■	SDJCR 3/8" H07 U IC	■	9.525	9.525	100	17	13	M5	M5	9.525	DC.. 0702..
SDJCL 3/8" H11 U IC	■	SDJCR 3/8" H11 U IC	■	9.525	9.525	100	22	13	M5	M5	9.525	DC.. 11T3..
SDJCL 1/2" H07 U IC	■	SDJCR 1/2" H07 U IC	■	12.7	12.7	100	17	16.2	M5	M5	12.7	DC.. 0702..
SDJCL 1/2" H11 U IC	■	SDJCR 1/2" H11 U IC	■	12.7	12.7	100	22	16.2	M5	M5	12.7	DC.. 11T3..
SDJCL 5/8" K07 U IC	■	SDJCR 5/8" K07 U IC	■	15.875	15.875	125	17	19.5	M5	G1/8"	15.875	DC.. 0702..
SDJCL 5/8" K11 U IC	■	SDJCR 5/8" K11 U IC	■	15.875	15.875	125	22	19.5	M5	G1/8"	15.875	DC.. 11T3..
SDJCL 3/4" K11 U IC	■	SDJCR 3/4" K11 U IC	■	19.05	19.05	125	22	22.6	M5	G1/8"	19.05	DC.. 11T3..

Scope of delivery: Holder without coolant connector  
Coolant connectors □ 632



"FC" version (fast change)



SDJC... U FC\* (93°)

Order designation		Dimensions								Inserts	
L	R	h	b	l <sub>1</sub>	f					□ 206...	
Accuracy class of UTILIS □ 171 											
SDJCL 1012 H11 U FC	■	SDJCR 1012 H11 U FC	■	10	12	100	16				DC..0702..
SDJCL 1212 H11 U FC	■	SDJCR 1212 H11 U FC	■	12	12	100	16				DC..0702..
SDJCL 1616 K11 U FC	■	SDJCR 1616 K11 U FC	■	16	16	125	16				DC..11T3..

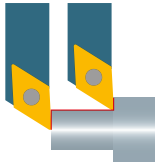
SDJC... U FC\* (93°) INCH

Order designation		Dimensions								Inserts	
L	R	h	b	l <sub>1</sub>	f					□ 206...	
Accuracy class of UTILIS □ 171 											
SDJCL 1/2" H11 U FC	■	SDJCR 1/2" H11 U FC	■	12.7	12.7	100	16				DC..0702..
SDJCL 5/8" K11 U FC	■	SDJCR 5/8" K11 U FC	■	15.875	15.875	125	15.875				DC..11T3..

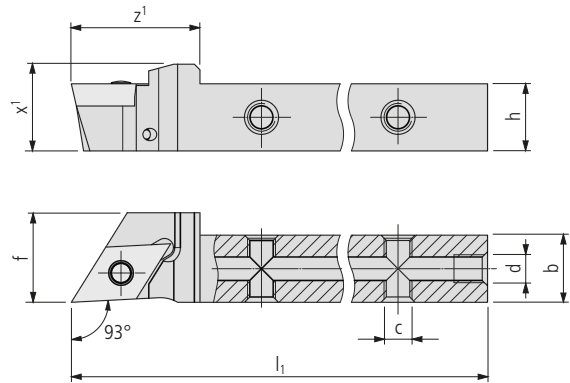
Spare parts (clamping bolts/screws) □ 203

\* Note

With this holder, the indexable insert is secured with a screw using a knee lever that can be operated from behind. This means the holder does not have to be unclamped to change the cutting edge.  
 Tighten the clamping screw to 1.2 Nm using a torque screwdriver.



"FC" version (fast change) with internal cooling



SDJC... U FC\* IC (93°)

Order designation		Dimensions										Inserts
L	R	h	b	l <sub>1</sub>	z <sub>1</sub>	x <sub>1</sub>	c	d	f	□ 206...		
Accuracy class of UTILIS □ 171												
SDJCL 1012 H11 U FC IC	■	SDJCR 1012 H11 U FC IC	■	10	12	100	23	13.5	M5	M5	16	DC..11T3..
SDJCL 1212 H11 U FC IC	■	SDJCR 1212 H11 U FC IC	■	12	12	100	23	15.5	M5	M5	16	DC..11T3..
SDJCL 1616 K11 U FC IC	■	SDJCR 1616 K11 U FC IC	■	16	16	125	23	19.5	M5	G1/8"	16	DC..11T3..

SDJC... U FC\* IC (93°) INCH

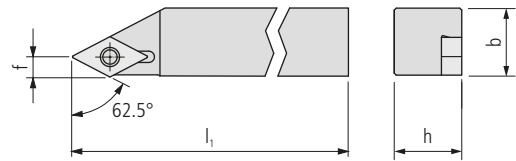
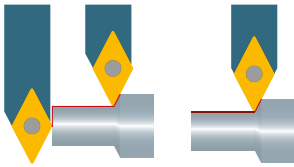
Order designation		Dimensions										Inserts
L	R	h	b	l <sub>1</sub>	z <sub>1</sub>	x <sub>1</sub>	c	d	f	□ 206...		
Accuracy class of UTILIS □ 171												
SDJCL 1/2" H11 U FC IC	■	SDJCR 1/2" H11 U FC IC	■	12.7	12.7	100	23	16.2	M5	M5	16	DC..11T3..
SDJCL 5/8" K11 U FC IC	■	SDJCR 5/8" K11 U FC IC	■	15.875	15.875	125	23	19.4	M5	G1/8"	15.875	DC..11T3..

Spare parts (clamping bolts/screws) □ 203

\* Note

With this holder, the indexable insert is secured with a screw using a knee lever that can be operated from behind. This means the holder does not have to be unclamped to change the cutting edge.  
 Tighten the clamping screw to 1.2 Nm using a torque screwdriver.

Scope of delivery: Holder without coolant connector  
 Coolant connectors □ 632



SDNC... U (62.5°)

Order designation		Dimensions						Inserts
L	R	h	b	l <sub>1</sub>	f		□ 206...	

STANDARD-LINE

Accuracy class of UTILIS □ 171



SDNCL 0808 F07 U	■	SDNCR 0808 F07 U	■	8	8	80	3.38			DC..0702..
SDNCL 0808 H07 U	■	SDNCR 0808 H07 U	■	8	8	100	3.38			DC..0702..
SDNCL 1010 F07 U	■	SDNCR 1010 F07 U	■	10	10	80	3.38			DC..0702..
SDNCL 1010 H07 U	■	SDNCR 1010 H07 U	■	10	10	100	3.38			DC..0702..
SDNCL 1212 H07 U	■	SDNCR 1212 H07 U	■	12	12	100	3.38			DC..0702..
SDNCL 1212 H11 U	■	SDNCR 1212 H11 U	■	12	12	100	5.17			DC..11T3..
SDNCL 1616 K11 U	■	SDNCR 1616 K11 U	■	16	16	125	5.17			DC..11T3..
SDNCL 2020 K11 U	■	SDNCR 2020 K11 U	■	20	20	125	5.17			DC..11T3..

SDNC... U (62.5°) INCH

Order designation		Dimensions						Inserts
L	R	h	b	l <sub>1</sub>	f		□ 206...	

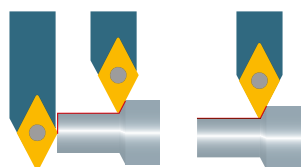
STANDARD-LINE

Accuracy class of UTILIS □ 171



SDNCL 3/8" H07 U	■	SDNCR 3/8" H07 U	■	9.525	9.525	100	3.38			DC..0702..
SDNCL 1/2" H07 U	■	SDNCR 1/2" H07 U	■	12.7	12.7	100	3.38			DC..0702..
SDNCL 1/2" H11 U	■	SDNCR 1/2" H11 U	■	12.7	12.7	100	5.17			DC..11T3..
SDNCL 5/8" K11 U	■	SDNCR 5/8" K11 U	■	15.875	15.875	125	5.17			DC..11T3..

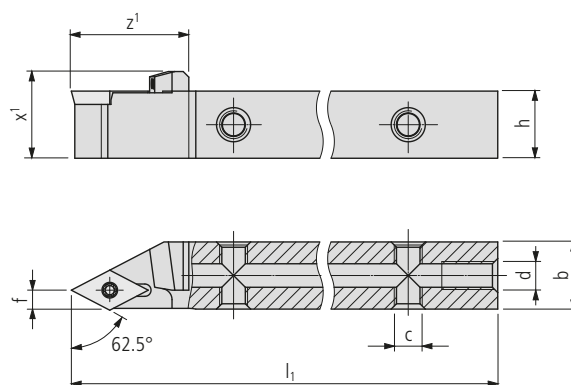




With internal cooling



SDNC... U IC (62.5°)



Order designation		Dimensions									Inserts
<b>L</b>	<b>R</b>	h	b	l <sub>1</sub>	z <sub>1</sub>	x <sub>1</sub>	c	d	f	□ 206...	

PREMIUM-LINE

Accuracy class of UTILIS □ 171



SDNCL 1010 H07 U IC	■	SDNCR 1010 H07 U IC	■	10	10	100	21	13.5	M5	M5	3.38	DC..0702..
SDNCL 1212 H07 U IC	■	SDNCR 1212 H07 U IC	■	10	10	100	21	13.5	M5	M5	3.38	DC..0702..
SDNCL 1212 H11 U IC	■	SDNCR 1212 H11 U IC	■	12	12	100	25	15.5	M5	M5	3.38	DC..11T3..
SDNCL 1616 K11 U IC	■	SDNCR 1616 K11 U IC	■	16	16	125	25	19.5	M5	G1/8"	5.37	DC..11T3..

SDNC... U IC (62.5°) INCH

Order designation		Dimensions									Inserts
<b>L</b>	<b>R</b>	h	b	l <sub>1</sub>	z <sub>1</sub>	x <sub>1</sub>	c	d	f	□ 206...	

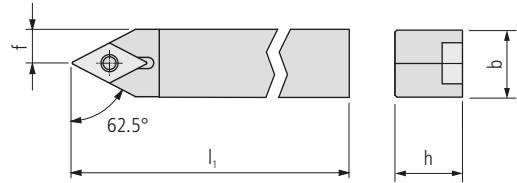
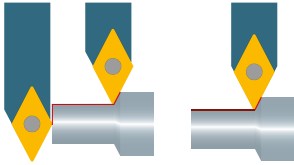
PREMIUM-LINE

Accuracy class of UTILIS □ 171



SDNCL 3/8" H07 U IC	■	SDNCR 3/8" H07 U IC	■	9.525	9.525	100	21	13	M5	M5	3.38	DC..0702..
SDNCL 1/2" H07 U IC	■	SDNCR 1/2" H07 U IC	■	12.7	12.7	100	21	16.2	M5	M5	3.38	DC..0702..
SDNCL 1/2" H11 U IC	■	SDNCR 1/2" H11 U IC	■	12.7	12.7	100	25	16.2	M5	M5	3.38	DC..11T3..
SDNCL 5/8" K11 U IC	■	SDNCR 5/8" K11 U IC	■	15.875	15.875	125	25	19.5	M5	G1/8"	5.37	DC..11T3..

Scope of delivery: Holder without coolant connector  
Coolant connectors □ 632

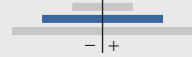


SDNCN ... U (62.5°)

Order designation		Dimensions						Inserts
N		h	b	l <sub>1</sub>	f		□ 206...	

STANDARD-LINE

Accuracy class of UTILIS □ 171



SDNCN 0808 F07 U	■		8	8	80	4		DC..0702..
SDNCN 0808 K07 U	■		8	8	125	4		DC..0702..
SDNCN 1010 E07 U	■		10	10	70	5		DC..0702..
SDNCN 1010 M07 U	■		10	10	150	5		DC..0702..
SDNCN 1212 F07 U	■		12	12	80	6		DC..0702..
SDNCN 1212 M07 U	■		12	12	150	6		DC..0702..
SDNCN 1212 M11 U	■		12	12	150	6		DC..11T3..
SDNCN 1616 H11 U	■		16	16	100	8		DC..11T3..
SDNCN 2020 K11 U	■		20	20	125	10		DC..11T3..

SDNCN ... U (62.5°) INCH

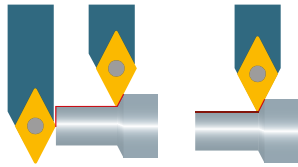
Order designation		Dimensions						Inserts
N		h	b	l <sub>1</sub>	f		□ 206...	

STANDARD-LINE

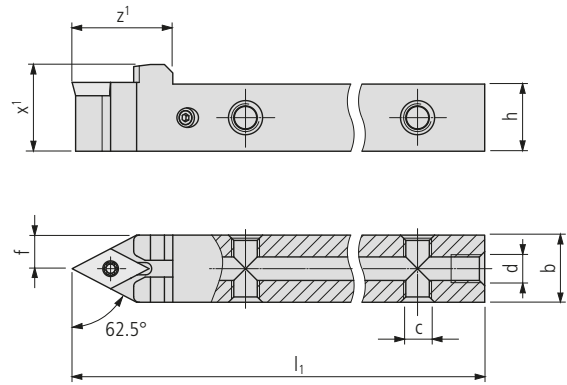
Accuracy class of UTILIS □ 171



SDNCN 3/8" H07 U	■		9.525	9.525	100	4.76		DC..0702..
SDNCN 1/2" H07 U	■		12.7	12.7	100	6.35		DC..0702..
SDNCN 1/2" H11 U	■		12.7	12.7	100	6.35		DC..11T3..
SDNCN 5/8" K11 U	■		15.875	15.875	125	7.94		DC..11T3..



With internal cooling



SDNCN ... U IC (62.5°)

Order designation				Dimensions								Inserts
N				h	b	l <sub>1</sub>	z <sub>1</sub>	x <sub>1</sub>	c	d	f	□ 206...
				Accuracy class of UTILIS □ 171								
SDNCN 0808 H07 U IC	■			8	8	100	18	11.5	M5	M5	4	DC..0702..
SDNCN 1010 H07 U IC	■			10	10	100	18	13.5	M5	M5	5	DC..0702..
SDNCN 1212 H07 U IC	■			12	12	100	18	15.5	M5	M5	6	DC..11T3..
SDNCN 1616 K11 U IC	■			16	16	125	22	19.5	M5	G1/8"	8	DC..11T3..

SDNCN ... U IC (62.5°) INCH

Order designation				Dimensions								Inserts
N				h	b	l <sub>1</sub>	z <sub>1</sub>	x <sub>1</sub>	c	d	f	□ 206...
				Accuracy class of UTILIS □ 171								
SDNCN 3/8" H07 U IC	■			9.525	9.525	100	18	13	M5	M5	4.76	DC..0702..
SDNCN 1/2" H07 U IC	■			12.7	12.7	100	18	16.2	M5	M5	6.35	DC..0702..
SDNCN 1/2" H11 U IC	■			12.7	12.7	100	18	16.2	M5	M5	6.35	DC..11T3..
SDNCN 5/8" K11 U IC	■			15.875	15.875	125	22	19.4	M5	G1/8"	7.94	DC..11T3..

Scope of delivery: Holder without coolant connector  
 Coolant connectors □ 632



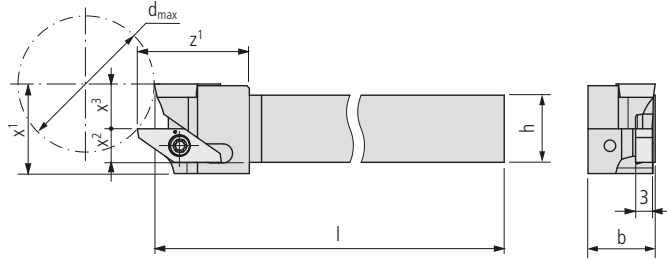
"TWIN" version

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UTILIS **multidec**® swiss type tools



SDJC. (93°)/1600... TWIN



Order designation	Dimensions									Inserts	
	h	b	l	z <sup>1</sup>	x <sup>1</sup>	x <sup>2</sup>	x <sup>3</sup>	d <sub>max</sub>	□ 206...	□ 47...	

STANDARD-LINE

Accuracy class of UTILIS □ 171



	SDJCR/1600R-0810 H07 Twin	■	8	10	100	20	16	4	8	23	DC..0702..	16...
	SDJCR/1600R-1010 H07 Twin	■	10	10	100	20	16	5	8	23	DC..0702..	16...
	SDJCR/1600R-1212 H07 Twin	■	12	12	100	20	16	6	8	23	DC..0702..	16...
	SDJCR/1600R-1616 K11 Twin	■	16	16	125	20	20	8	10	35	DC..11T3..	16...
	SDJCR/1600R-2020 K11 Twin	■	20	20	125	20	24	8	14	68	DC..11T3..	16...

SDJC. (93°)/1600... TWIN INCH

Order designation	Dimensions									Inserts	
	h	b	l	z <sup>1</sup>	x <sup>1</sup>	x <sup>2</sup>	x <sup>3</sup>	d <sub>max</sub>	□ 206...	□ 47...	

STANDARD-LINE

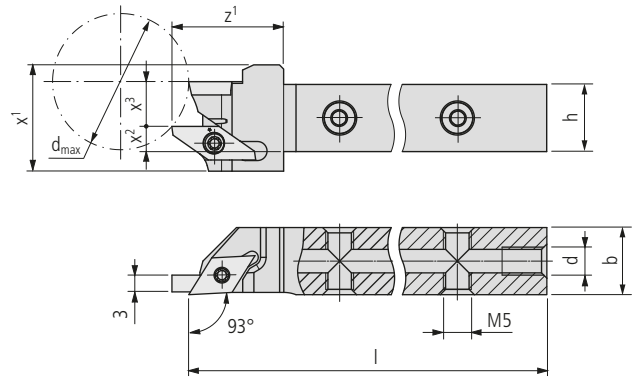
Accuracy class of UTILIS □ 171



	SDJCR/1600R-3/8" H07 Twin	■	9.525	9.525	100	20	16	4.76	8	23	DC..0702..	16...
	SDJCR/1600R-1/2" H07 Twin	■	12.7	12.7	100	20	16	6.35	8	23	DC..0702..	16...
	SDJCR/1600R-5/8" K11 Twin	■	15.875	15.875	125	20	20	7.94	10	35	DC..11T3..	16...
	SDJCR/1600R-3/4" K11 Twin	■	19.05	19.05	125	20	24	7.53	14	68	DC..11T3..	16...



"TWIN" version with internal cooling



SDJC. (93°)/1600... TWIN IC

Order designation	Dimensions									Inserts			
	h	b	l	z <sup>1</sup>	x <sup>1</sup>	x <sup>2</sup>	x <sup>3</sup>	d	d <sub>max</sub>	□ 206...	□ 47...		
Accuracy class of UTILIS □ 171													
	SDJCR/1600R-0810 H07 Twin IC	■	8	10	100	20	19	2.5	8	M5	23	DC..0702..	16...
	SDJCR/1600R-1010 H07 Twin IC	■	10	10	100	20	19	3.5	8	M5	23	DC..0702..	16...
	SDJCR/1600R-1212 H07 Twin IC	■	12	12	100	20	19	4.5	8	M5	23	DC..0702..	16...
	SDJCR/1600R-1616 K11 Twin IC	■	16	16	125	26	23	6.5	10	G1/8"	35	DC..11T3..	16...
	SDJCR/1600R-2020 K11 Twin IC	■	20	20	125	26	27	6.5	14	G1/8"	68	DC..11T3..	16...

PREMIUM-LINE

SDJC. (93°)/1600... TWIN IC INCH

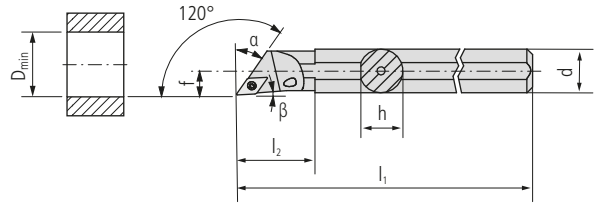
Order designation	Dimensions									Inserts			
	h	b	l	z <sup>1</sup>	x <sup>1</sup>	x <sup>2</sup>	x <sup>3</sup>	d	d <sub>max</sub>	□ 206...	□ 47...		
Accuracy class of UTILIS □ 171													
	SDJCR/1600R-3/8" H07 Twin IC	■	9.525	9.525	100	20	19	3.26	8	M5	23	DC..0702..	16...
	SDJCR/1600R-1/2" H07 Twin IC	■	12.7	12.7	100	20	19	4.85	8	M5	23	DC..0702..	16...
	SDJCR/1600R-5/8" K11 Twin IC	■	15.875	15.875	125	26	23	6.44	10	G1/8"	35	DC..11T3..	16...
	SDJCR/1600R-3/4" K11 Twin IC	■	19.05	19.05	125	26	27	5.53	14	G1/8"	68	DC..11T3..	16...

Scope of delivery: Holder without coolant connector  
Coolant connectors □ 632



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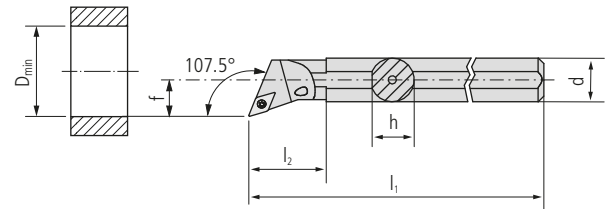
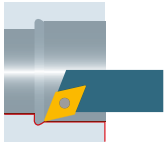
UTILIS  
**multidec**  
swiss type tools



A... SDOC... (120°)

Order designation		Dimensions								Inserts		
L	R	d	h	l <sub>1</sub>	l <sub>2</sub>	f	D <sub>min</sub>	α	β	□ 206...		
Accuracy class of UTILIS □ 171												
A12K SDOCL 07	■	A12K SDOCR 07	■	12	11.5	125	21	7	14	30°	5°	DC..0702..

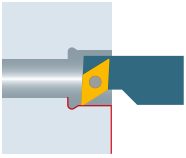
**STANDARD-LINE**



A... SDQC... (107.5°)

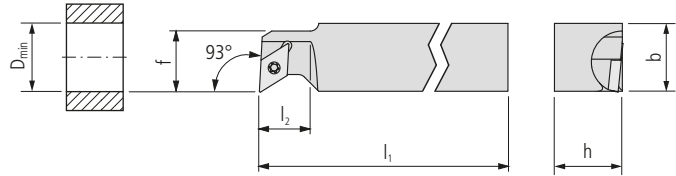
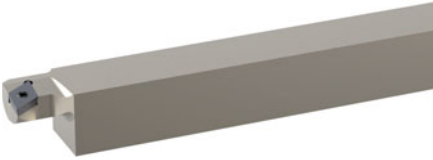
Order designation		Dimensions							Inserts	
L	R	d	h	l <sub>1</sub>	l <sub>2</sub>	f	D <sub>min</sub>	□ 206...		
Accuracy class of UTILIS □ 171										
A12K SDQCL 07	■	A12K SDQCR 07	■	12	11.5	125	22	9	16	DC..0702..
A16M SDQCL 07	■	A16M SDQCR 07	■	16	15	150	29	11	20	DC..0702..
A20Q SDQCL 07	■	A20Q SDQCR 07	■	20	18.5	180	32	13	25	DC..0702..

**STANDARD-LINE**



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UTILIS **multidec**®  
swiss type tools



SDUC... (93°)

Order designation		Dimensions							Inserts
L	R	h	b	l <sub>1</sub>	l <sub>2</sub>	f	D <sub>min</sub>	□ 206...	

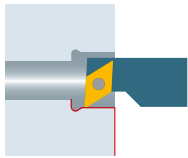
**STANDARD-LINE**

Accuracy class of UTILIS □ 171

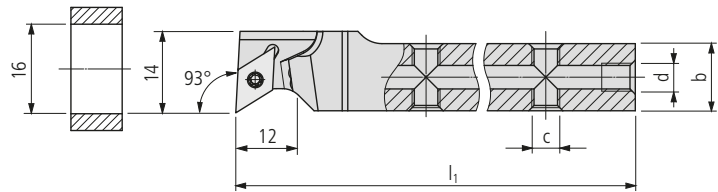
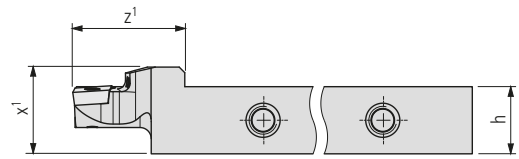


SDUCL 0808 XH07	■	SDUCR 0808 XH07	■	8	8	100	12	14	16		DC..0702..
SDUCL 1010 XH07	■	SDUCR 1010 XH07	■	10	10	100	12	14	16		DC..0702..
SDUCL 1212 XH07	■	SDUCR 1212 XH07	■	12	12	100	12	14	16		DC..0702..
SDUCL 1616 XK07	■	SDUCR 1616 XK07	■	16	16	125	12	14	16		DC..0702..





With internal cooling



SDUC... IC (93°)

Order designation		Dimensions								Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	□ 206...	

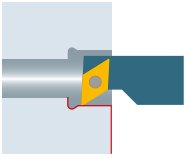
PREMIUM-LINE

Accuracy class of UTILIS □ 171



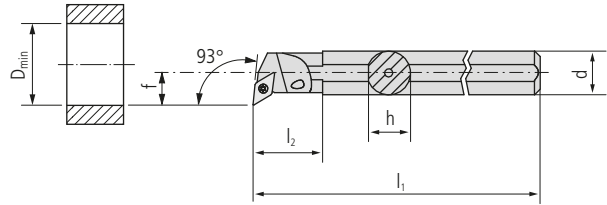
SDUCL 0810 XH07 IC	■	SDUCR 0810 XH07 IC	■	8	10	100	20	11.5	M5	M5	DC.. 0702..
SDUCL 1010 XH07 IC	■	SDUCR 1010 XH07 IC	■	10	10	100	20	13.5	M5	M5	DC.. 0702..
SDUCL 1212 XH07 IC	■	SDUCR 1212 XH07 IC	■	12	12	100	20	15.5	M5	M5	DC.. 0702..
SDUCL 1616 XH07 IC	■	SDUCR 1616 XH07 IC	■	16	16	100	20	19.5	M5	G1/8"	DC.. 0702..
SDUCL 1616 XK07 IC	■	SDUCR 1616 XK07 IC	■	16	16	125	20	19.5	M5	G1/8"	DC.. 0702..

Scope of delivery: Holder without coolant connector  
Coolant connectors □ 632



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UTILIS **multidec**® swiss type tools



A... SDUC... (93°)

Order designation		Dimensions							Inserts
L	R	d	h	l <sub>1</sub>	l <sub>2</sub>	f	D <sub>min</sub>	□ 206...	

**STANDARD-LINE**

Accuracy class of UTILIS □ 171



A10H SDUCL 07	■	A10H SDUCR 07	■	10	9	100	–	7	14	DC..0702..
A12K SDUCL 07	■	A12K SDUCR 07	■	12	11.5	125	22	9	16	DC..0702..
A16M SDUCL 07	■	A16M SDUCR 07	■	16	15	150	29	11	20	DC..0702..
A20Q SDUCL 07	■	A20Q SDUCR 07	■	20	18.5	180	32	13	25	DC..0702..
A20Q SDUCL 11	■	A20Q SDUCR 11	■	20	18.5	180	32	13	25	DC..11T3..


**For holders (SS...) OD turning**

Illustration	Description	Dimensions	Order designation		Holder
	TORX screw	M2.5 × 6 T08	MSP 25060 T08	■	SD... 07
		M3.5 × 8.6 T15	MSP 35086 T15	■	SD... 11... Twin
		M3.5 × 11 T15	MSP 35110 T15	■	SD... 11

**For holders (SD.C... FC) OD turning**

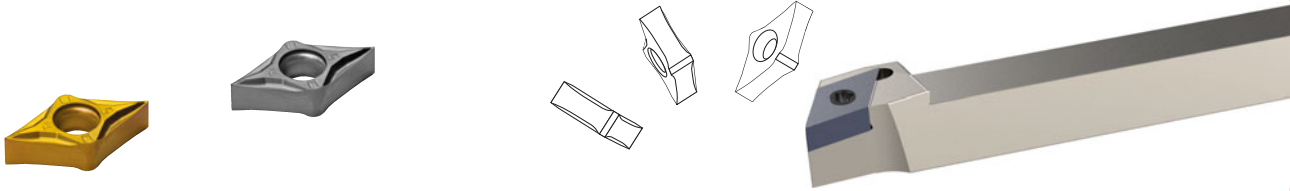
Illustration	Description	Dimensions	Order designation		Holder
	Clamping bolts	4 × 11	MSP SB 40110 FC	■	SD.C... 11 FC
	Clamping screw	M4 × 11	MSP KS 40110 FC T08	■	SD.C... 11 FC

**For holders (... SD...) ID turning**

Illustration	Description	Dimensions	Order designation		Holder
	TORX screw	M2.5 × 5.5 T07	MSP 25055 T07	■	A10H SD... 07
		M2.5 × 6 T08	MSP 25060 T08	■	A12K SD... 07 A16M SD... 07 A20Q SD... 07
		M3.5 × 8.6 T15	MSP 35086 T15	■	A20Q SD... 11

TORX screwdriver ☐ 664

This further development of multidec®-ISO provides a tool system with 4 cutting edges and the finest performance-cost ratio for Swiss type machining and precision turning. The insert consist of 4 sharp cutting edges with radius 0.08 and 0.15 mm and is easily indexed or changed. Innovative chip breakers have been designed for cutting of very difficult materials on finishing and micro-finishing applications using coated and uncoated submicrograin carbide. Even for the hardened and nickel-plated holders a wide range of possibilities with shank sizes between 10 and 25 mm are available. For Swiss type automatic lathes special holders have been designed and complete the range of choices.



#### Specific features of insert DNGU:

- Negative holder fixed with screw
- 4 positive cutting edges for the price of 2
- Sharp edges with 7° clearance angle
- Small corner radius (0.08 and 0.15 mm)
- Fine grain grade carbide
- Insert DNGU also usable on holders with toggle setting device




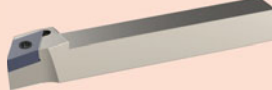


"IC" tool holder with integrated cooling

Cost-efficient processing of modern materials increasingly requires accurate control of the coolant at the cutting edge. Conveying the coolant as close as possible to the cutting edge is often a difficult task in the machine rooms of Swiss type turning lathes.

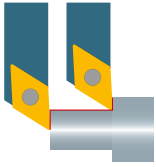
The multidec®-IC program offers a wide range of holders with integrated cooling. Because of the high precision and pressure, it is possible to discharge the chip quickly and safely from the cutting edge and the workpiece, which protects the cutting edge of the insert. This means significantly longer tool life as well as very reliable serial production.

#### Advantages:

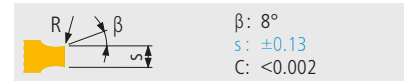
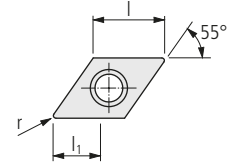
- All holders feature five possible connectors for the coolant supply
- Constant coolant discharge means low build-up at front near the holder
- With or without high pressure, the coolant medium always hits the cutting edge precisely

Technical information		9
Inserts (carbide / cermet)		
DNGU ...		250
Holders (OD turning)		
SDJN... (93°), SDJN... IC (93°)		252
SDNNN ... (62.5°), SDNNN ... IC (62.5°)		254
Replacement and spare parts		256
Coolant connectors and accessories		632

250



DNGU ... -A4



Order designation	Carbide										Cermet		Diamond			Dimensions			Holder
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20	l	r	l <sub>1</sub>	□ 252...	
	-	-	●	●	●	○	○	●	○	●	●	-	-	-					
	○	●	-	-	-	○	○	-	-	-	-	-	-	-					
	●	○	-	-	-	○	○	-	-	-	-	●	●	●					

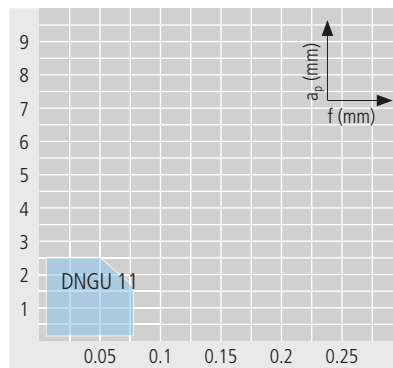
N	Order designation	Carbide										Cermet		Diamond			Dimensions			Holder
		UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20	l	r	l <sub>1</sub>	Accuracy class of UTILIS □ 171	Holder
	DNGU 1104008 FN -A4 ...				■		■	■		■					11.6	0.08	2.9	SDJN...11		
	DNGU 1104015 FN -A4 ...				■		■	■		■					11.6	0.15	2.9	SDJN...11		

STANDARD-LINE

Application range of chip breaker

Properties:

- polished rake and ground clearance
- 4 sharp cutting edge "F"
- submicrograin carbide, high toughness
- best performance-cost ratio



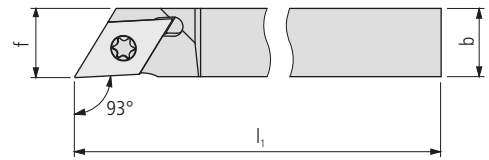
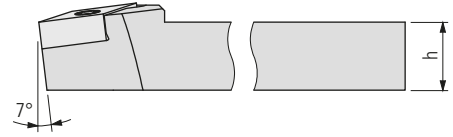
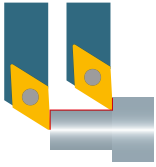
Optimal chip breaking

Application:

- micro finishing
- chip breaker for general application
- alloyed steel and stainless steel

	I	II	III	IV	V	IV	VII	VIII	IX
▲	-	-	-	-	-	-	-	-	-
▲	-	-	-	-	-	-	-	-	-
▲	●	●	●	○	●	●	-	-	-





SDJN... (93°)

Order designation		Dimensions							Inserts
L	R	h	b	l <sub>1</sub>	f			□ 250...	

STANDARD-LINE

Accuracy class of UTILIS □ 171



SDJNL 1012 F11	■	SDJNR 1012 F11	■	10	12	80	12			DN... 11...
SDJNL 1012 H11	■	SDJNR 1012 H11	■	10	12	100	12			DN... 11...
SDJNL 1212 H11	■	SDJNR 1212 H11	■	12	12	100	12			DN... 11...
SDJNL 1616 K11	■	SDJNR 1616 K11	■	16	16	125	16			DN... 11...
SDJNL 2020 K11	■	SDJNR 2020 K11	■	20	20	125	20			DN... 11...
SDJNL 2525 M11	■	SDJNR 2525 M11	■	25	25	150	25			DN... 11...

SDJN... (93°) INCH

Order designation		Dimensions							Inserts
L	R	h	b	l <sub>1</sub>	f			□ 250...	

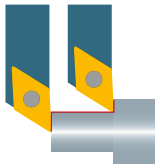
STANDARD-LINE

Accuracy class of UTILIS □ 171

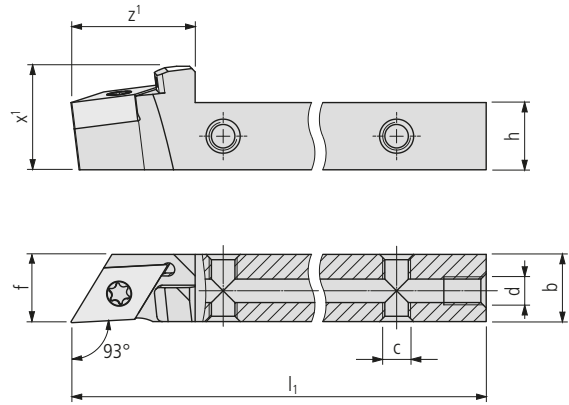


SDJNL 3/8" F11	■	SDJNR 3/8" F11	■	9.525	9.525	80	9.525			DN... 11...
SDJNL 3/8" H11	■	SDJNR 3/8" H11	■	9.525	9.525	100	9.525			DN... 11...
SDJNL 1/2" H11	■	SDJNR 1/2" H11	■	12.7	12.7	100	12.7			DN... 11...
SDJNL 5/8" K11	■	SDJNR 5/8" K11	■	15.875	15.875	125	15.875			DN... 11...
SDJNL 3/4" K11	■	SDJNR 3/4" K11	■	19.05	19.05	125	19.05			DN... 11...





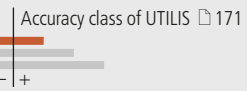
With internal cooling



SDJNL... IC (93°)

Order designation		Dimensions										Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 250...		

PREMIUM-LINE

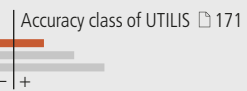


SDJNL 0808 H11 IC	■	SDJNR 0808 H11 IC	■	8	8	100	22	16.5	M5	M5	8	DN.. 11...
SDJNL 1012 H11 IC	■	SDJNR 1012 H11 IC	■	10	12	100	22	16.5	M5	M5	12	DN.. 11...
SDJNL 1212 H11 IC	■	SDJNR 1212 H11 IC	■	12	12	100	22	18.5	M5	M5	12	DN.. 11...
SDJNL 1616 K11 IC	■	SDJNR 1616 K11 IC	■	16	16	125	22	22.5	M5	G1/8"	16	DN.. 11...
SDJNL 2020 K11 IC	■	SDJNR 2020 K11 IC	■	20	20	125	22	26.5	M5	G1/8"	20	DN.. 11...
SDJNL 2525 K11 IC	■	SDJNR 2525 K11 IC	■	25	25	125	22	31.5	M5	G1/8"	25	DN.. 11...

SDJNL... IC (93°) INCH

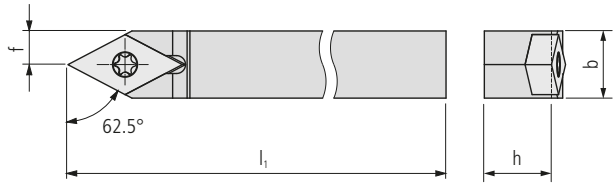
Order designation		Dimensions										Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 250...		

PREMIUM-LINE



SDJNL 3/8" H11 IC	■	SDJNR 3/8" H11 IC	■	9.525	12	100	22	16	M5	M5	12	DN.. 11...
SDJNL 1/2" H11 IC	■	SDJNR 1/2" H11 IC	■	12.7	12.7	100	22	19.2	M5	M5	12.7	DN.. 11...
SDJNL 5/8" K11 IC	■	SDJNR 5/8" K11 IC	■	15.875	15.875	125	22	22.4	M5	G1/8"	15.875	DN.. 11...
SDJNL 3/4" K11 IC	■	SDJNR 3/4" K11 IC	■	19.05	19.05	125	22	25.5	M5	G1/8"	19.05	DN.. 11...

Scope of delivery: Holder without coolant connector  
 Coolant connectors □ 632



SDN NN ... (62.5°)

Order designation		Dimensions						Inserts
N		h	b	l <sub>1</sub>	f			□ 250...

STANDARD-LINE

Accuracy class of UTILIS □ 171



SDN NN 1012 H11	■			10	12	100	6			DN..11..
SDN NN 1212 H11	■			12	12	100	6			DN..11..
SDN NN 1616 K11	■			16	16	125	8			DN..11..
SDN NN 2020 K11	■			20	20	125	10			DN..11..
SDN NN 2525 K11	■			25	25	125	12.5			DN..11..

SDN NN ... (62.5°) INCH

Order designation		Dimensions						Inserts
N		h	b	l <sub>1</sub>	f			□ 250...

STANDARD-LINE

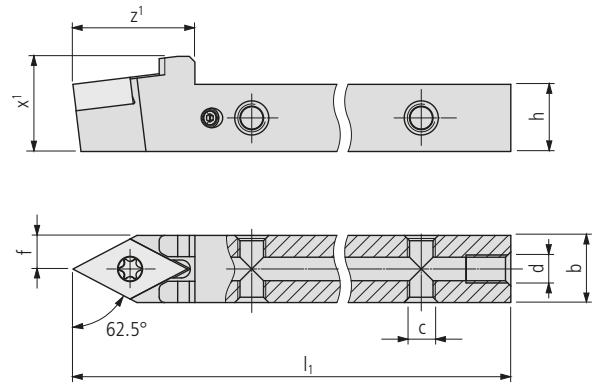
Accuracy class of UTILIS □ 171



SDN NN 3/8" H11	■			9.525	9.525	100	4.76			DN..11..
SDN NN 1/2" H11	■			12.7	12.7	100	6.35			DN..11..
SDN NN 5/8" K11	■			15.875	15.875	125	7.94			DN..11..
SDN NN 3/4" K11	■			19.05	19.05	125	9.525			DN..11..



With internal cooling



SDNNN ... IC (62.5°)

Order designation		Dimensions									Inserts
N		h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 250...	

PREMIUM-LINE

Accuracy class of UTILIS □ 171  
 - +

SDNNN 1012 H11 IC	■	10	12	100	22	15	M5	M5	6	DN..11..
SDNNN 1212 H11 IC	■	12	12	100	22	17	M5	M5	6	DN..11..
SDNNN 1616 K11 IC	■	16	16	125	22	21	M5	G1/8"	8	DN..11..
SDNNN 2020 K11 IC	■	20	20	125	22	25	M5	G1/8"	10	DN..11..
SDNNN 2525 K11 IC	■	25	25	125	25	30.5	M5	G1/8"	12.5	DN..11..

SDNNN ... IC (62.5°) INCH

Order designation		Dimensions									Inserts
N		h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 250...	


PREMIUM-LINE

Accuracy class of UTILIS □ 171  
 - +

SDNNN 3/8" H11 IC	■	9.525	9.525	100	22	14.525	M5	M5	4.76	DN..11..
SDNNN 1/2" H11 IC	■	12.7	12.7	100	22	17.7	M5	M5	6.35	DN..11..
SDNNN 5/8" K11 IC	■	15.875	15.875	125	22	20.875	M5	G1/8"	7.94	DN..11..
SDNNN 3/4" K11 IC	■	19.05	19.05	125	22	24.05	M5	G1/8"	9.525	DN..11..

Scope of delivery: Holder without coolant connector  
 Coolant connectors □ 632

## For holders (SD.N...) OD turning

Illustration	Description	Dimensions	Order designation	Holder
	TORX screw	M4×11 TP15	MSP 40110 TP15	■ SDJN. 11

256

TORX screwdriver □ 664



multidec®-ISO provides a well balanced range of tools for turning with rhombic 35° inserts and holders. Positive inserts with rounded cutting edges for roughing and sharp cutting edges for finishing are available.

These include a wide range of ground holders with hardened and nickel-plated surfaces for Swiss type automatic lathes with shank sizes from 8 to 20 mm and boring bars with diameters from 12 to 20 mm.



#### Advantages:

- Carbide and Cermet grades with chip breaker and coatings for all common materials
- Diamond range with CVD and PCD inserts for machining non-ferrous metals
- Cutting edge radius from 0.05 to 0.8 mm as standard
- Boring bars with steel- and carbide shanks



"IC" tool holder with integrated cooling

Cost-efficient processing of modern materials increasingly requires accurate control of the coolant at the cutting edge. Conveying the coolant as close as possible to the cutting edge is often a difficult task in the machine rooms of Swiss type turning lathes.

The multidec®-IC program offers a wide range of holders with integrated cooling. Because of the high precision and pressure, it is possible to discharge the chip quickly and safely from the cutting edge and the workpiece, which protects the cutting edge of the insert. This means significantly longer tool life as well as very reliable serial production.

#### Advantages:

- All holders feature five possible connectors for the coolant supply
- Constant coolant discharge means low build-up at front near the holder
- With or without high pressure, the coolant medium always hits the cutting edge precisely



"TWIN" holder with and without integrated coolant supply

The "TWIN" range allows you to work with two inserts on the same holder. Different combinations are possible, and provide the user with a high degree of flexibility. Holders are available with shank cross-sections of 8 to 20 mm, with and without internal cooling.

#### Advantages:

- Twice the number of tools on the machine
- Two different turning operations are possible with a single tool holder
- All holders with an integrated coolant supply have five connecting options

Inserts (carbide / cermet)



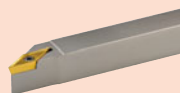
VCGT ... -A3	260
VCGT ... -PA5	261
VCGT ... -TOP5	262
VCGT ... -PA7	263
VCXT ... -PA9	264
VCGT ... -PF	265
VCMT ... -PF	266
VCGT ... -PF23	267
VCGT ... -PF33	268
VCMT ... -PF43	269
VCMT ... -PM	270
VCMT ... -PMF	271
VCMT ... -PM25	272
VCMT ... -PM55	273

Inserts (diamond)



VCGT ...	274
VCGT ... -UWS, VCGT ... -UWN, VCGT ... -UWR	275
VCGW ...	278

HOLDERS (OD turning)



SVAC... U (90°)	279
SVJC... U (93°), SVJC... U IC (93°)	280
SVHC... U (107.5°), SVHC... U IC (107.5°)	282
SVOC... U (117.5°), SVOC... U IC (117.5°)	284
SVQC... (93°)	286
SVUC... (93°)	287
SVVCN ... U (72.5°), SVVCN ... U IC (72.5°)	288
SVXC... U (91°), SVXC... U IC (91°)	290
SVJC. (93°)/1600... TWIN, SVJC. (93°)/1600... IC TWIN	292

HOLDERS (ID turning)



A... SVQC... (107.5°)	294
A... SVOC... (140°)	295
A... SVUC... (93°)	296

Replacement and spare parts

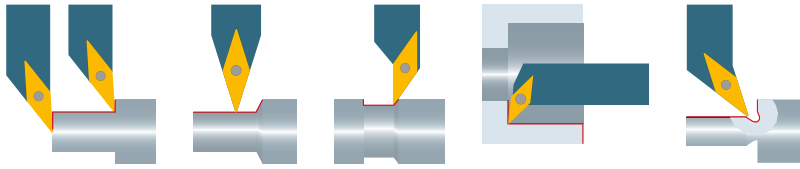


	297
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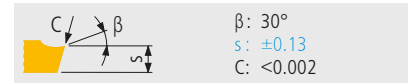
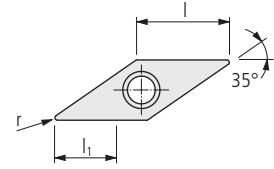
Coolant connectors and accessories



	632
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VCGT ... -A3



Order designation	Carbide								Cermet		Diamond			Holder □ 279...	
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15		UPCD 20
	-	-	●	●	●	○	○	●	○	●	●	-	-	-	
	○	●	-	-	-	○	○	-	-	○	○	-	-	-	
	●	○	-	-	-	○	○	-	-	-	-	●	●	●	

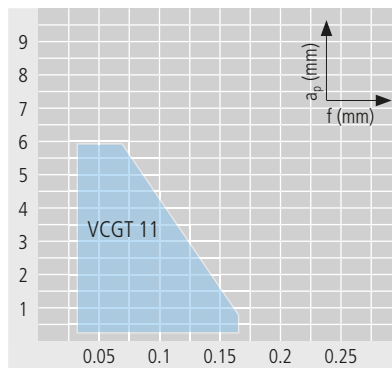
**STANDARD-LINE**

N	Order designation	Accuracy class of UTILIS □ 171											Holder		
		6.8	0.06	3	11.1	0.08	6	11.1	0.15	6	11.1	0.35		6	
	VCGT 0702006 FN -A3 ...	■	■												SV...07...
	VCGT 1103008 FN -A3 ...	■	■	■											SV...11...
	VCGT 1103015 FN -A3 ...	■	■	■											SV...11...
	VCGT 1103035 FN -A3 ...	■	■	■											SV...11...

**Application range of chip breaker**

**Properties:**

- polished rake
- ground clearance
- sharp cutting edge "F"
- submicrograin carbide, heat and wear resistant



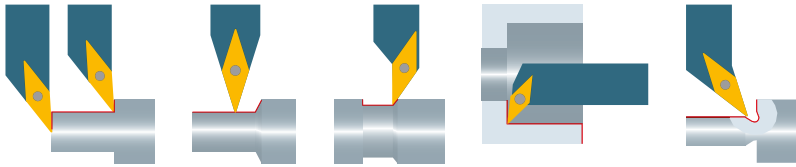
Optimal chip breaking

**Application:**

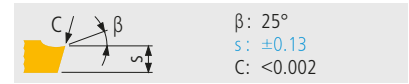
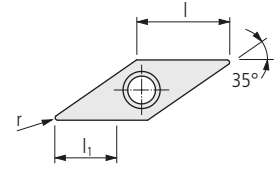
- micro finishing
- chip breaker for general application
- stainless steel, alloyed steel, titanium, super alloy, aluminum and synthetics reinforced/ composites

	I	II	III	IV	V	VI	VII	VIII	IX
▽	-	-	-	-	-	-	-	-	-
○	○	○	○	○	○	○	○	○	○
●	●	●	●	●	●	●	●	●	●





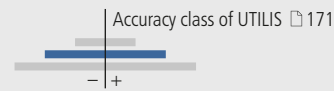
VCGT ... -PA5



Order designation	Carbide								Cermet		Diamond		Holder		
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08		UPCD 15	UPCD 20
	-	-	●	●	●	○	○	●	○	●	●	-	-	-	Dimensions l, r, l <sub>1</sub> Holder □ 279...
	○	●	-	-	○	○	○	-	-	-	-	-	-		
	●	○	-	-	-	○	○	-	-	-	-	●	●	●	

**STANDARD-LINE**

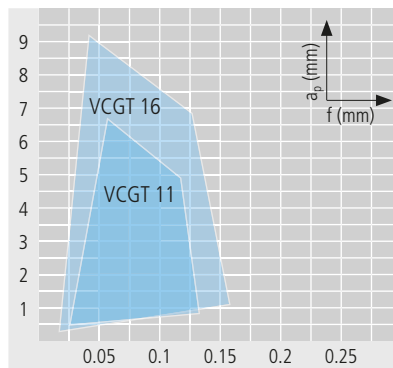
N	Order designation	Material											Dimensions			Holder			
		UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20		l	r	l <sub>1</sub>
	VCGT 110302 FN -PA5 ...	■	■													11.1	0.2	6.8	SV...11...
	VCGT 110304 FN -PA5 ...	■	■													11.1	0.4	6.8	SV...11...
	VCGT 160404 FN -PA5 ...	■	■													16.6	0.4	8.9	SV...16...
	VCGT 160408 FN -PA5 ...	■	■													16.6	0.8	8.9	SV...16...



Application range of chip breaker

**Properties:**

- polished rake
- ground clearance
- sharp cutting edge "F"
- submicrograin carbide, heat and wear resistant



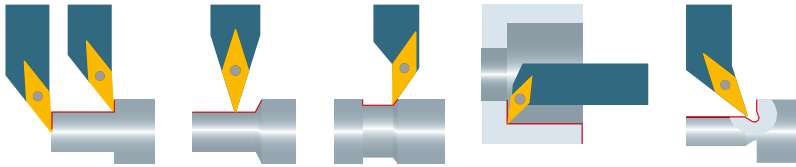
Optimal chip breaking

**Application:**

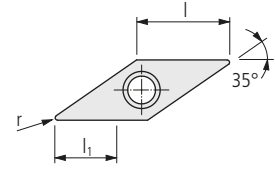
- finishing and micro finishing
- chip breaker for materials with difficult chip control
- stainless steel, alloyed steel, titanium, super alloy, aluminum and synthetics reinforced/composites

	I	II	III	IV	V	IV	VII	VIII	IX
▲	-	-	-	-	-	-	○	-	○
▲▲	●	●	●	○	○	●	●	-	●
▲▲▲	●	●	●	○	○	●	●	-	●





VCGT ... -PA7



Order designation	Carbide								Cermet		Diamond		Holder	
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08		UPCD 15
	-	-	●	●	●	○	○	○	○	●	●	-	-	-
	○	●	-	-	○	○	○	○	○	○	○	-	-	-
	●	○	-	-	-	○	○	○	○	-	-	●	●	●

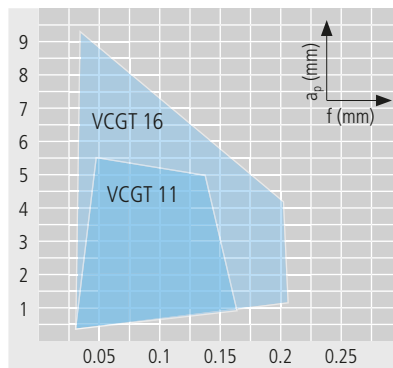
**STANDARD-LINE**

N	Order designation	Material compatibility												Accuracy class of UTILIS □ 171	Holder							
		UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08			UPCD 15	UPCD 20					
	VCGT 1103005 FN -PA7 ...	■	■														11.1	0.05	5.5			SV...11...
	VCGT 110301 FN -PA7 ...	■	■														11.1	0.1	5.5			SV...11...
	VCGT 110302 FN -PA7 ...	■	■														11.1	0.2	5.5			SV...11...
	VCGT 110304 FN -PA7 ...	■	■														11.1	0.4	5.5			SV...11...
	VCGT 110308 FN -PA7 ...	■	■														11.1	0.8	5.5			SV...11...
	VCGT 160402 FN -PA7 ...	■	■														16.6	0.2	8.9			SV...16...
	VCGT 160404 FN -PA7 ...	■	■														16.6	0.4	8.9			SV...16...
	VCGT 160408 FN -PA7 ...	■	■														16.6	0.8	8.9			SV...16...

**Application range of chip breaker**

**Properties:**

- ground clearance
- sharp cutting edge "F"
- micrograin carbide, heat and wear resistant

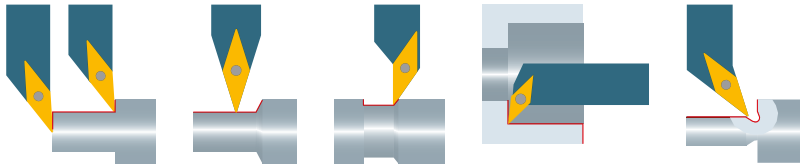


Optimal chip breaking

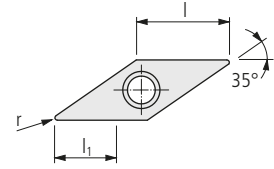
**Application:**

- micro finishing
- chip breaker for materials with good chip control
- stainless steel, alloyed steel, titanium, super alloy, aluminum and synthetics reinforced/composites

	I	II	III	IV	V	IV	VII	VIII	IX
▽	-	-	-	-	-	-	-	-	-
▽▽	○	○	○	○	○	○	○	○	○
▽▽▽	●	●	●	○	○	○	○	○	○



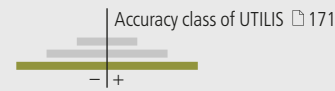
VCXT ... -PA9



Order designation	Carbide										Cermet		Diamond			Holder
	UH10	UH10HX	UH10MZ	UH20HPX	UH20MZ	UH30	UH30HX	UH30MZ	UH30SX	UCM10	UCM10HX	UCVD08	UPCD15	UPCD20		
	-	-	●	●	●	○	○	●	○	●	●	-	-	-	Holder □279...	
	○	●	-	-	-	○	○	-	-	-	-	-	-	-		
	●	○	-	-	-	○	○	-	-	-	-	●	●	●		

VALUE-LINE

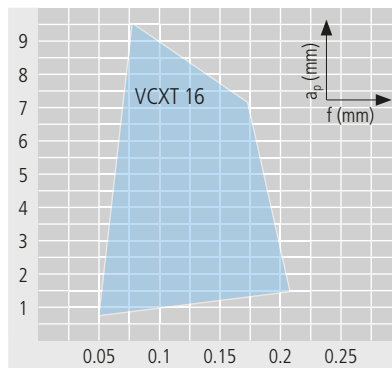
N	Order designation	Carbide										Cermet		Diamond			Holder
		UH10	UH10HX	UH10MZ	UH20HPX	UH20MZ	UH30	UH30HX	UH30MZ	UH30SX	UCM10	UCM10HX	UCVD08	UPCD15	UPCD20		
	VCXT 160404 EN -PA9 ...	■	■														
	VCXT 160408 EN -PA9 ...	■	■														



Application range of chip breaker

Properties:

- high precision sintered insert
- rounded cutting edge "E"
- micrograin carbide, heat and wear resistant
- best performance-cost ratio

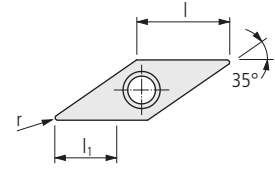


Optimal chip breaking

Application:

- finishing
- chip breaker for soft materials with good chip control
- alloyed steel, stainless steel, super alloy, titanium and aluminum

	I	II	III	IV	V	IV	VII	VIII	IX
▽	○	○	○	○	○	○	●	-	-
▽	●	●	●	●	●	●	○	-	-
▽	○	○	○	-	○	○	-	-	-



$\beta$ : 8°  
 $s$ : ±0.13  
 $C$ : <0.01

VCGT ... -PF

Order designation	Carbide								Cermet				Diamond			Holder
	-	-	●	●	●	○	○	○	●	●	●	○	○	○	□ 279...	
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCM 10 MZ	UCVD 08	UPCD 15	UPCD 20	

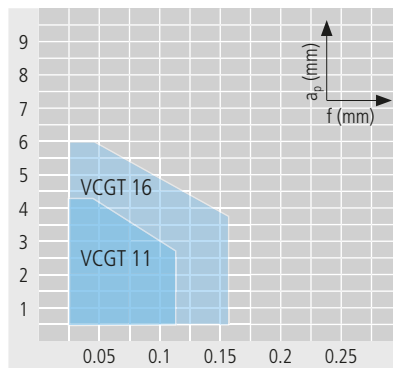
**STANDARD-LINE**

N	Order designation	Accuracy class of UTILIS □ 171													
		-	+	-	+	-	+	-	+	-	+	-	+		
	VCGT 110302 EN -PF ...		■		■		■	■	■						
	VCGT 110304 EN -PF ...		■		■		■	■	■						
	VCGT 110308 EN -PF ...		■		■		■	■	■						
	VCGT 160404 EN -PF ...									■	■	■			
	VCGT 160408 EN -PF ...									■	■	■			

Application range of chip breaker

Properties:

- ground clearance
- little rounded cutting edge "E"
- carbide and cermet in different grades

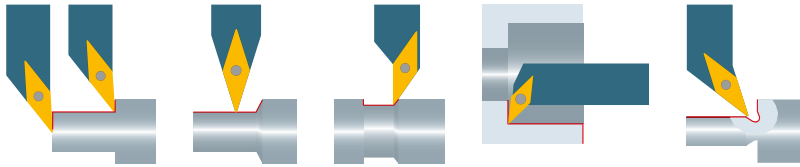


Optimal chip breaking

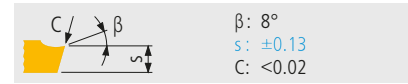
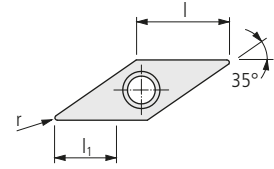
Application:

- finishing and micro finishing
- chip breaker for general application
- alloyed steel and stainless steel

	I	II	III	IV	V	IV	VII	VIII	IX
▽	○	○	○	-	○	○	-	-	-
▽	●	●	●	-	●	●	-	-	-
▽	●	●	●	-	●	●	-	-	-

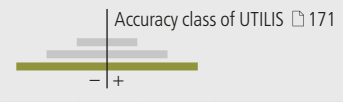


VCMT ... -PF



Order designation	Carbide								Cermet		Diamond			Holder	
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15		UPCD 20
	-	-	●	●	●	○	○	●	○	●	●	-	-	-	Dimensions l, r, l <sub>1</sub> Holder □ 279...
	○	●	-	-	-	○	○	-	-	-	-	-	-		
	●	○	-	-	-	○	○	-	-	-	-	●	●	●	
	○	○	-	-	-	○	○	-	-	-	-	-	-	-	

VALUE-LINE

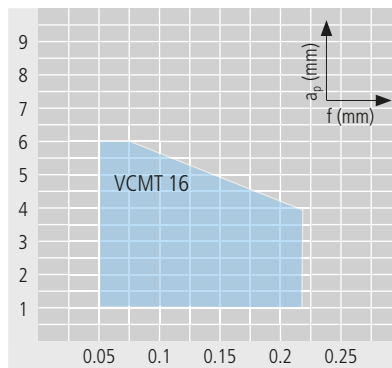


N	VCMT 160404 EN -PF ...	VCMT 160408 EN -PF ...												
			■	■	■									

Application range of chip breaker

Properties:

- sintered insert based on ISO standard
- rounded cutting edge "E"
- carbide and cermet in different grades

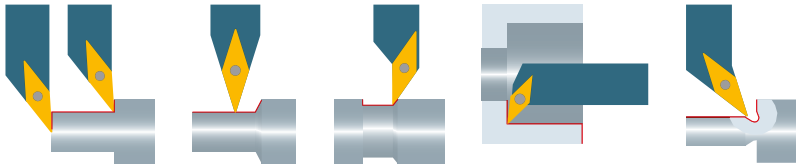


Optimal chip breaking

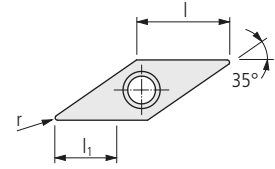
Application:

- roughing
- chip breaker for general application
- alloyed steel and stainless steel

	I	II	III	IV	V	IV	VII	VIII	IX
▽	●	●	●	-	●	●	-	-	-
○	○	○	○	-	○	○	-	-	-
▽	-	-	-	-	-	-	-	-	-



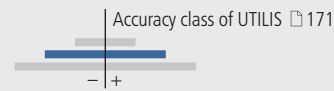
VCGT ... -PF23



Order designation	Material										Dimensions				Holder	
	Carbide										Cermet	Diamond				□ 279...
	-	-	●	●	●	○	○	●	○	●	●	-	-	-	-	
	○	●	-	-	-	○	○	-	-	-	-	-	-	-	-	
	●	○	-	-	-	-	-	-	-	-	●	●	●	-	-	
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20		

**STANDARD-LINE**

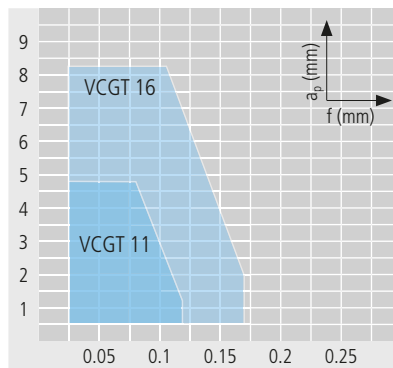
N	Order designation	Material										Dimensions				Holder
		Carbide										Cermet	Diamond			
	VCGT 1103005 FN -PF23 ...							■								SV...11...
	VCGT 110301 FN -PF23 ...							■								SV...11...
	VCGT 110302 FN -PF23 ...							■								SV...11...
	VCGT 160401 FN -PF23 ...							■								SV...16...
	VCGT 160402 FN -PF23 ...							■								SV...16...



Application range of chip breaker

**Properties:**

- polished rake
- ground clearance
- sharp cutting edge "F"
- micrograin carbide

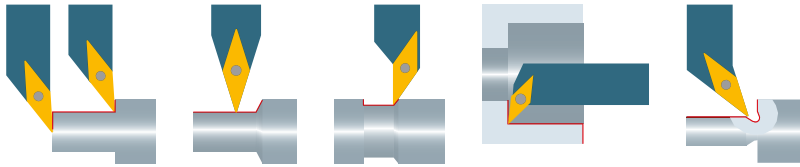


Optimal chip breaking

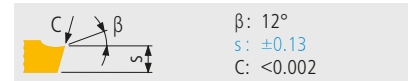
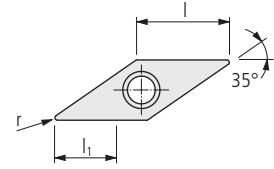
**Application:**

- micro finishing
- chip breaker for materials with difficult chip control
- alloyed steel and stainless steel

	I	II	III	IV	V	IV	VII	VIII	IX
▲	-	-	-	-	-	-	-	-	-
▲▲	○	○	○	○	○	○	○	○	○
▲▲▲	●	●	●	○	○	○	○	○	○



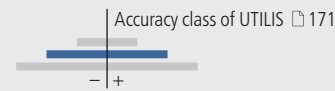
VCGT ... -PF33



Order designation	Carbide								Cermet		Diamond			Holder	
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15		UPCD 20
	-	-	●	●	●	○	○	●	○	●	●	-	-	-	Dimensions l, r, l <sub>1</sub> Holder □ 279...
	○	●	-	-	-	○	○	-	-	-	-	-	-		
	●	○	-	-	-	○	○	-	-	-	-	●	●	●	
	○	○	-	-	-	○	○	-	-	-	-	-	-	-	

**STANDARD-LINE**

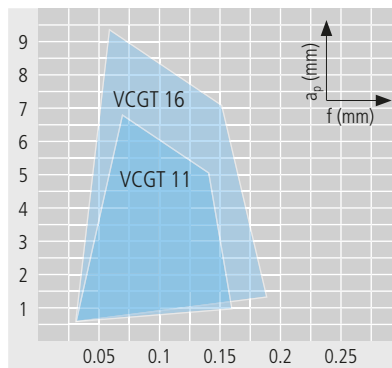
N	Order designation	Carbide								Cermet		Diamond			Holder
		UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	
	VCGT 1103005 FN -PF33 ...						■								SV...11...
	VCGT 110301 FN -PF33 ...						■								SV...11...
	VCGT 110302 FN -PF33 ...						■								SV...11...
	VCGT 110304 FN -PF33 ...						■								SV...11...
	VCGT 160401 FN -PF33 ...						■								SV...16...
	VCGT 160402 FN -PF33 ...						■								SV...16...
	VCGT 160404 FN -PF33 ...						■								SV...16...



**Application range of chip breaker**

**Properties:**

- polished rake
- ground clearance
- sharp cutting edge "F"
- micrograin carbide



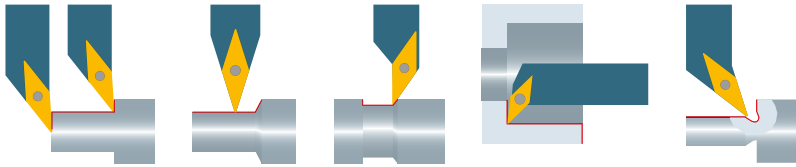
Optimal chip breaking

**Application:**

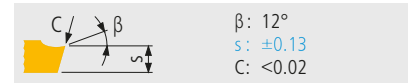
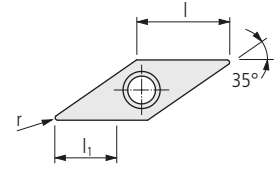
- micro finishing
- chip breaker for materials with difficult chip control
- alloyed steel and stainless steel

	I	II	III	IV	V	IV	VII	VIII	IX
▽	○	○	○	-	○	○	-	-	-
▽	●	●	●	-	●	●	-	-	-
▽	○	○	○	-	○	○	-	-	-





VCMT ... -PF43



$\beta$ : 12°  
 $s$ : ±0.13  
 $C$ : <0.02

Order designation	Carbide										Cermet		Diamond		Dimensions	Holder			
	-	-	●	●	●	○	○	○	○	○	●	●	-	-			l	r	l <sub>1</sub>
UHM 10	○	○	○	○	○	○	○	○	○	○	○	○	○	○					
UHM 10 HX	○	○	○	○	○	○	○	○	○	○	○	○	○	○					
UHM 10 MZ	○	○	○	○	○	○	○	○	○	○	○	○	○	○					
UHM 20 HPX	○	○	○	○	○	○	○	○	○	○	○	○	○	○					
UHM 20 MZ	○	○	○	○	○	○	○	○	○	○	○	○	○	○					
UHM 30	○	○	○	○	○	○	○	○	○	○	○	○	○	○					
UHM 30 HX	○	○	○	○	○	○	○	○	○	○	○	○	○	○					
UHM 30 MZ	○	○	○	○	○	○	○	○	○	○	○	○	○	○					
UHM 30 SX	○	○	○	○	○	○	○	○	○	○	○	○	○	○					
UCM 10	○	○	○	○	○	○	○	○	○	○	○	○	○	○					
UCM 10 HX	○	○	○	○	○	○	○	○	○	○	○	○	○	○					
UCVD 08	○	○	○	○	○	○	○	○	○	○	○	○	○	○					
UPCD 15	○	○	○	○	○	○	○	○	○	○	○	○	○	○					
UPCD 20	○	○	○	○	○	○	○	○	○	○	○	○	○	○					

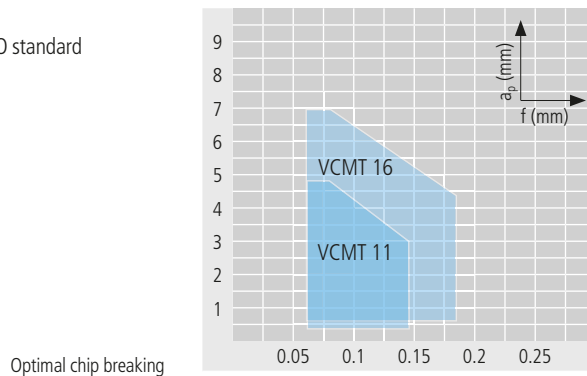
**VALUE-LINE**

N	Order designation	Carbide										Cermet		Diamond		Accuracy class of UTILIS □ 171	Holder				
		-	-	●	●	●	○	○	○	○	○	●	●	-	-			l	r	l <sub>1</sub>	
	VCMT 110302 EN -PF43 ...																			SV...11...	
	VCMT 110304 EN -PF43 ...																				SV...11...
	VCMT 160404 EN -PF43 ...																				SV...16...

Application range of chip breaker

Properties:

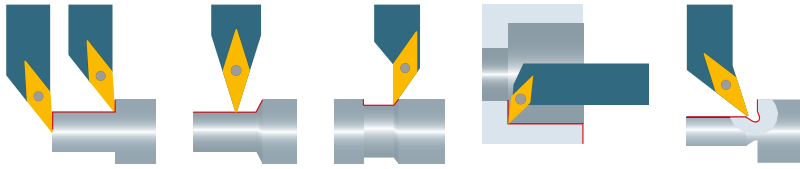
- sintered insert based on ISO standard
- rounded cutting edge "E"
- micrograin carbide



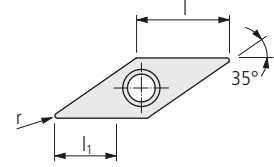
Application:

- roughing and finishing
- chip breaker for materials with difficult chip control
- alloyed steel and stainless steel

	I	II	III	IV	V	VI	VII	VIII	IX
▲▲▲	●	●	●	-	●	●	-	-	-
▲▲	●	●	●	-	●	●	-	-	-
▲	●	●	●	-	●	●	-	-	-
□	-	-	-	-	-	-	-	-	-



VCMT ... -PM

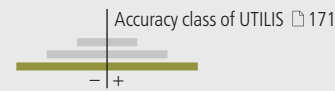


Order designation	Carbide								Cermet		Diamond		Dimensions			Holder		
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20	l	r	l <sub>1</sub>	□ 279...
	-	-	●	●	●	○	○	●	○	●	●	-	-	-				
	○	●	-	-	-	○	○	-	-	○	○	-	-	-				
	●	○	-	-	-	○	○	-	-	-	-	●	●	●				

N	Order designation	Carbide								Cermet		Diamond		Dimensions			Holder		
		UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20	l	r	l <sub>1</sub>	□ 279...
	VCMT 160404 EN-PM ...			■		■		■							16.6	0.4	6		SV...16...
	VCMT 160408 EN-PM ...			■		■		■							16.6	0.8	6		SV...16...

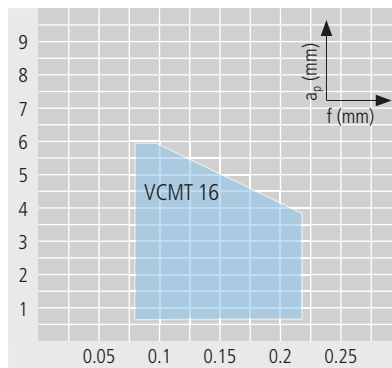
VALUE-LINE



Application range of chip breaker

Properties:

- sintered insert based on ISO standard
- rounded cutting edge "E"
- micrograin carbide



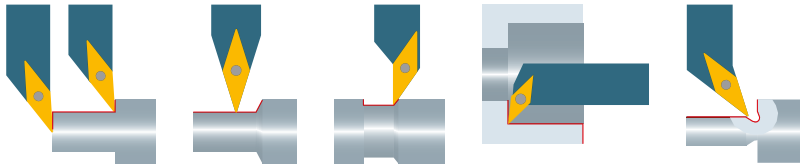
Optimal chip breaking

Application:

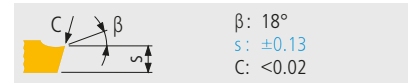
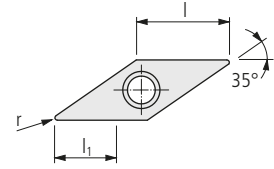
- roughing
- chip breaker for general application
- alloyed steel and stainless steel

	I	II	III	IV	V	IV	VII	VIII	IX
▽	●	●	●	-	●	●	-	-	-
○	○	○	○	-	○	○	-	-	-
▽	-	-	-	-	-	-	-	-	-





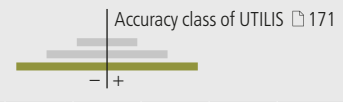
VCMT ... -PM25



Order designation	Carbide								Cermet		Diamond			Holder □ 279...	
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15		UPCD 20
	-	-	●	●	●	○	○	●	○	●	●	-	-	-	
	○	●	-	-	-	○	○	-	-	○	○	-	-	-	
	●	○	-	-	-	○	○	-	-	-	-	●	●	●	

Dimensions				Holder □ 279...
l	r	l <sub>1</sub>		

**VALUE-LINE**

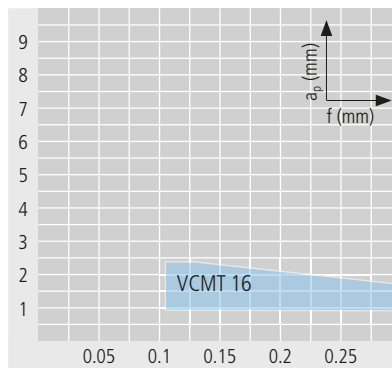


N	VCMT 160404 EN-PM25 ...													
		■								16.6	0.4	2.2		SV...16...

Application range of chip breaker

Properties:

- sintered insert based on ISO standard
- rounded cutting edge "E"
- carbide and cermet in different grades



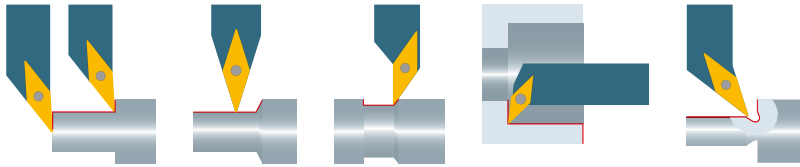
Optimal chip breaking

Application:

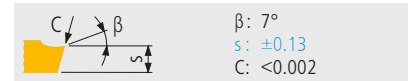
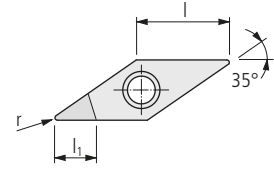
- roughing and finishing
- chip breaker for general application
- stainless steel

	I	II	III	IV	V	IV	VII	VIII	IX
▲	-	-	-	-	-	-	-	-	-
○	○	○	○	-	●	●	-	-	-
▼	-	-	-	-	-	-	-	-	-



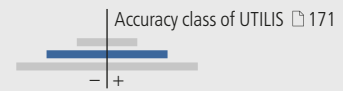


VCGT ...



Order designation	Carbide								C19		Cermet		Diamond		Dimensions				Holder				
	-	-	●	●	●	○	○	○	●	●	○	○	-	-	-	-	l	r	l <sub>1</sub>				□ 279...
UHM 10	○	○	-	-	-	-	-	-	-	-	-	-	-	-	-								
UHM 10 HX	○	●	-	-	-	-	-	-	-	-	-	-	-	-	-								
UHM 10 MZ	○	○	-	-	-	-	-	-	-	-	-	-	-	-	-								
UHM 20 HPX	○	○	-	-	-	-	-	-	-	-	-	-	-	-	-								
UHM 20 MZ	○	○	-	-	-	-	-	-	-	-	-	-	-	-	-								
UHM 30	○	○	-	-	-	-	-	-	-	-	-	-	-	-	-								
UHM 30 HX	○	○	-	-	-	-	-	-	-	-	-	-	-	-	-								
UHM 30 MZ	○	○	-	-	-	-	-	-	-	-	-	-	-	-	-								
UHM 30 SX	○	○	-	-	-	-	-	-	-	-	-	-	-	-	-								
UCM 10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
UCM 10 HX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
UCVD 08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
UPCD 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								
UPCD 20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-								

**STANDARD-LINE**

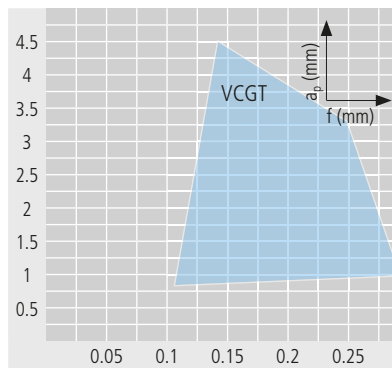


N	Order designation	Carbide								C19		Cermet		Diamond		Dimensions				Holder			
		-	-	●	●	●	○	○	○	●	●	○	○	-	-	-	-	l	r	l <sub>1</sub>			
	VCGT 110301 FN ...										■	■				11.1	0.1	5.4					SV...11...
	VCGT 110302 FN ...										■	■				11.1	0.2	4.6					SV...11...
	VCGT 110304 FN ...										■	■				11.1	0.4	3.9					SV...11...
	VCGT 110308 FN ...										■	■				11.1	0.8	3.3					SV...11...
	VCGT 160401 FN ...										■	■				16.6	0.1	6					SV...16...
	VCGT 160402 FN ...										■	■				16.6	0.2	5.9					SV...16...
	VCGT 160404 FN ...										■	■				16.6	0.4	5.5					SV...16...
	VCGT 160408 FN ...										■	■				16.6	0.8	5					SV...16...
	VCGT 160412 FN ...										■	■				16.6	1.2	4.5					SV...16...

Application range of chip breaker

**Properties:**

- sharp cutting edge "F"
- less cutting force
- positive cut

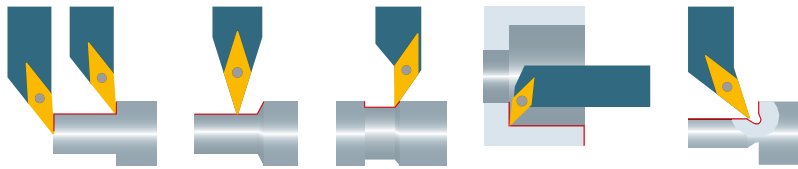


Optimal chip breaking

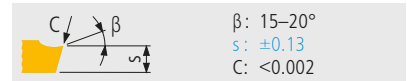
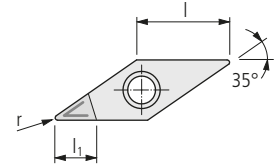
**Application:**

- finishing and micro finishing for unstable or thin-walled parts
- chip breaker for general application will generate continuous chip
- aluminum, brass, copper, bronze, platinum, gold, synthetics and synthetics reinforced/composites
- Ideal for smallest tolerance and medium surface quality

	I	II	III	IV	V	IV	VII	VIII	IX
▲	-	-	-	-	-	-	○	○	○
▲	-	-	-	-	-	-	●	●	●
▲	-	-	-	-	-	-	●	●	●

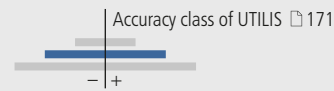


VCGT ... -UWS



Order designation	Carbide										C19		Cermet			Diamond			Holder
	-	-	●	●	●	○	○	●	○	○	●	●	-	-	-	-	-	-	
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20	l	r	l <sub>1</sub>	Holder	

**STANDARD-LINE**

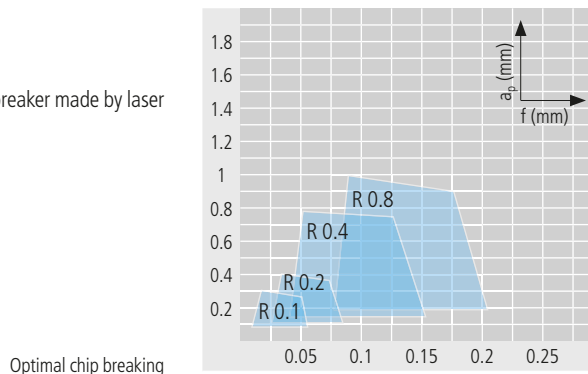


N	Order designation	Carbide										C19		Cermet			Diamond			Holder
		-	-	●	●	●	○	○	●	○	○	●	●	-	-	-	-	-	-	
	VCGT 110302 FN -UWS ...											■	■	■	11.1	0.2	4.6	SV...11...		
	VCGT 110304 FN -UWS ...											■	■	■	11.1	0.4	3.9	SV...11...		
	VCGT 110308 FN -UWS ...											■	■	■	11.1	0.8	3.3	SV...11...		
	VCGT 160401 FN -UWS ...											■	■	■	16.6	0.1	6	SV...16...		
	VCGT 160402 FN -UWS ...											■	■	■	16.6	0.2	5.9	SV...16...		
	VCGT 160404 FN -UWS ...											■	■	■	16.6	0.4	5.5	SV...16...		
	VCGT 160408 FN -UWS ...											■	■	■	16.6	0.8	5	SV...16...		
	VCGT 160412 FN -UWS ...											■	■	■	16.6	1.2	4.5	SV...16...		

Application range of chip breaker

Properties:

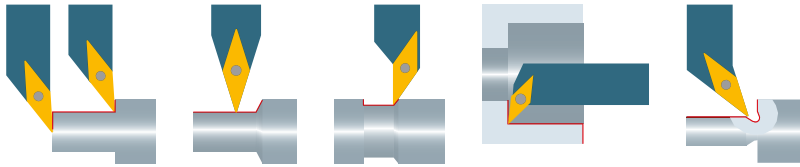
- sharp cutting edge "F"
- almost any cutting force
- high positive narrow chip breaker made by laser



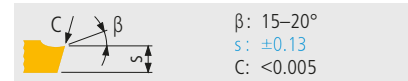
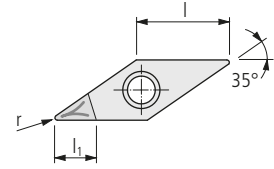
Application:

- micro finishing for unstable or thin-walled parts
- chip breaker for materials with difficult chip control
- synthetics reinforced/composites, aluminum, platinum, gold and synthetics
- Ideal for smallest tolerance and medium surface quality

	I	II	III	IV	V	IV	VII	VIII	IX
▽	-	-	-	-	-	-	-	-	-
▽▽	-	-	-	-	-	-	○	○	○
▽▽▽	-	-	-	-	-	-	●	●	●



VCGT ... -UWN



Order designation	Carbide										C19		Cermet		Diamond		Dimensions				Holder
	-	-	●	●	●	○	○	●	○	○	●	●	-	-	-	-	l	r	l <sub>1</sub>		□ 279...
UHM 10	-	-	●	●	●	○	○	●	○	○	●	●	-	-	-	-					
UHM 10 HX	○	●	-	-	-	○	○	●	○	○	○	○	-	-	-	-					
UHM 10 MZ	●	○	-	-	-	-	-	-	-	-	-	-	●	●	●	●					
UHM 20 HPX	○	○	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
UHM 20 MZ	○	○	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
UHM 30	○	○	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
UHM 30 HX	○	○	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
UHM 30 MZ	○	○	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
UHM 30 SX	○	○	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
UCM 10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
UCM 10 HX	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
UCVD 08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
UPCD 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
UPCD 20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					

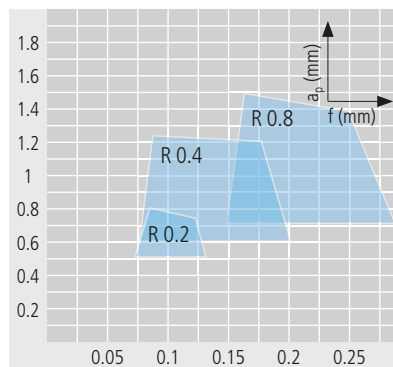
**STANDARD-LINE**

N	Order designation	Carbide										C19		Cermet		Diamond		Dimensions				Holder
		-	-	●	●	●	○	○	●	○	○	●	●	-	-	-	-	l	r	l <sub>1</sub>		□ 171
	VCGT 110302 FN -UWN ...													■	■		11.1	0.2	4.6		SV...11...	
	VCGT 110304 FN -UWN ...													■	■		11.1	0.4	3.9		SV...11...	
	VCGT 110308 FN -UWN ...													■	■		11.1	0.8	3.3		SV...11...	
	VCGT 160402 FN -UWN ...													■	■		16.6	0.2	5.9		SV...16...	
	VCGT 160404 FN -UWN ...													■	■		16.6	0.4	5.5		SV...16...	
	VCGT 160408 FN -UWN ...													■	■		16.6	0.8	5		SV...16...	
	VCGT 160412 FN -UWN ...													■	■		16.6	1.2	4.5		SV...16...	

**Application range of chip breaker**

**Properties:**

- sharp cutting edge "F"
- higher cutting force
- high positive wide chip breaker made by laser

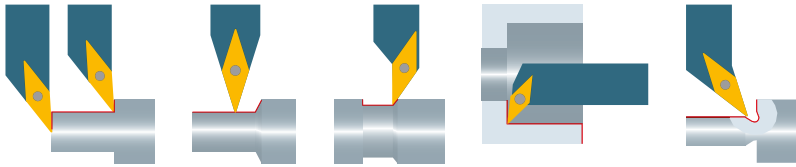


**Application:**

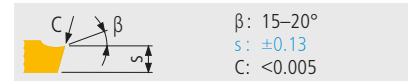
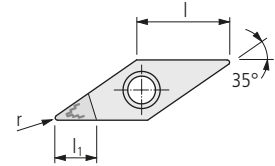
- finishing for stable or solid parts
- chip breaker for materials with difficult chip control
- synthetics reinforced/composites, aluminum, platinum, gold and synthetics
- Ideal for smallest tolerance and best surface quality

	I	II	III	IV	V	IV	VII	VIII	IX
▲	-	-	-	-	-	-	○	○	○
▲	-	-	-	-	-	-	●	●	●
▲	-	-	-	-	-	-	-	-	-





VCGT ... -UWR



Order designation	Carbide										C19		Cermet		Diamond		Holder		
	-	-	●	●	●	○	○	○	●	○	●	●	-	-	-	-		□ 279...	
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20	l	r	l <sub>1</sub>		

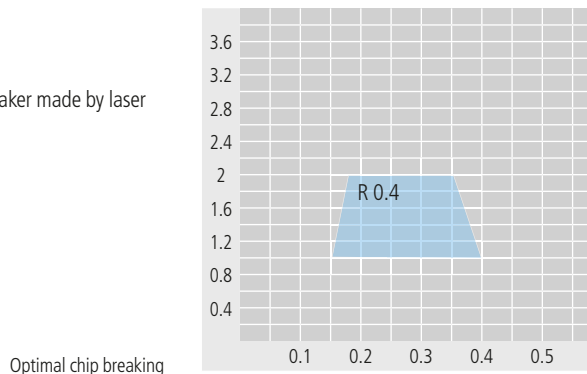
**STANDARD-LINE**

N	Order designation											Accuracy class of UTILIS □ 171		SV...11...						
												-	+		SV...16...					
	VCGT 110304 FN -UWR ...														■	11.1	0.4	3.9		
	VCGT 160404 FN -UWR ...														■	16.6	0.4	5.5		

Application range of chip breaker

Properties:

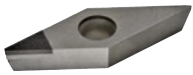
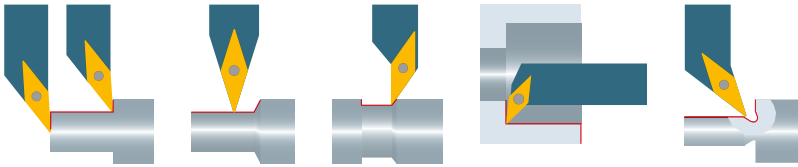
- sharp cutting edge "F"
- higher cutting force
- high positive wide chip breaker made by laser



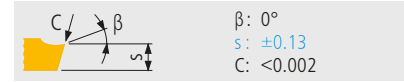
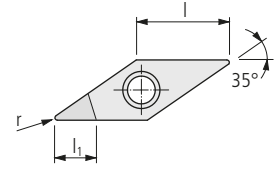
Application:

- machining of massive or solid parts
- chip breaker for materials with difficult chip control
- synthetics reinforced/composites, aluminum, platinum, gold and synthetics
- maximum metal removal rate

	I	II	III	IV	V	IV	VII	VIII	IX
▲	-	-	-	-	-	-	○	○	○
▲	-	-	-	-	-	-	●	●	●
▲	-	-	-	-	-	-	-	-	-

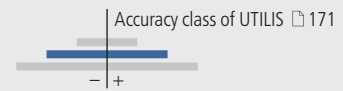


VCGW ...



Order designation	Carbide								C19		Cermet		Diamond		Dimensions				Holder	
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20	l	r	l <sub>1</sub>			□ 279...
	-	-	●	●	●	○	○	●	○	●	●	-	-	-						
	○	●	-	-	-	○	○	-	-	○	○	-	-	-						
	●	○	-	-	-	○	○	-	-	-	-	●	●	●						

**STANDARD-LINE**

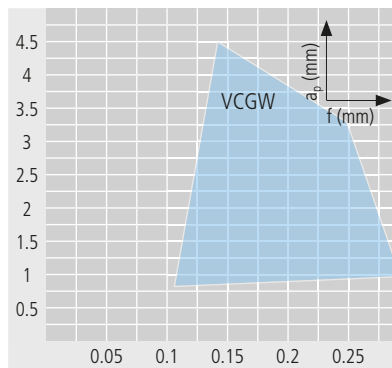


N	Order designation	Carbide								C19		Cermet		Diamond		l	r	l <sub>1</sub>			Holder
		UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20						
	VCGW 110301 FN ...											■	■	■	11.1	0.1	4.6			SV...11...	
	VCGW 110302 FN ...											■	■	■	11.1	0.2	4.6			SV...11...	
	VCGW 110304 FN ...											■	■	■	11.1	0.4	3.9			SV...11...	
	VCGW 110308 FN ...											■	■	■	11.1	0.8	3.3			SV...11...	
	VCGW 160401 FN ...													■	16.6	0.1	6			SV...16...	
	VCGW 160402 FN ...											■	■	■	16.6	0.2	5.9			SV...16...	
	VCGW 160404 FN ...											■	■	■	16.6	0.4	5.5			SV...16...	
	VCGW 160408 FN ...											■	■	■	16.6	0.8	5			SV...16...	
	VCGW 160412 FN ...											■	■	■	16.6	1.2	4.5			SV...16...	

Application range of chip breaker

**Properties:**

- sharp cutting edge "F"
- medium cutting force
- neutral cut

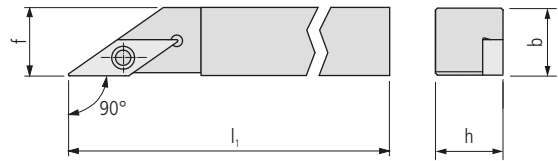
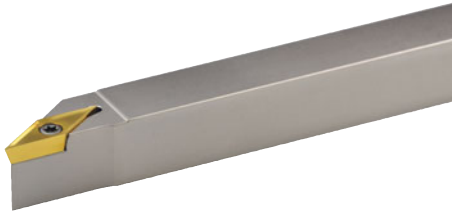


Optimal chip breaking

**Application:**

- finishing and micro finishing for stable or solid parts
- chip breaker for general application will generate continuous chip
- aluminum, brass, copper, bronze, platinum, gold, synthetics and synthetics reinforced/composites
- Ideal for smallest tolerance and high surface quality

	I	II	III	IV	V	VI	VII	VIII	IX
▲	-	-	-	-	-	-	○	○	○
▲	-	-	-	-	-	-	●	●	●
▲	-	-	-	-	-	-	●	●	●



SVAC... U (90°)

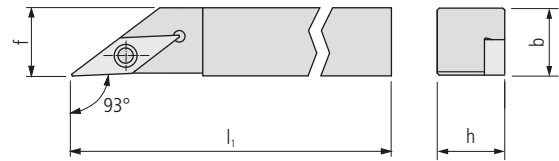
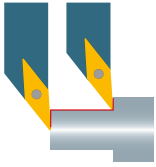
Order designation		Dimensions						Inserts
L	R	h	b	l <sub>1</sub>	f		□ 260...	

**STANDARD-LINE**

Accuracy class of UTILIS □ 171



SVACL 0808 F11 U	■	SVACR 0808 F11 U	■	8	8	80	8			VC..1103..
SVACL 0808 H07 U	■	SVACR 0808 H07 U	■	8	8	100	8			VC..0702..
SVACL 0808 H11 U	■	SVACR 0808 H11 U	■	8	8	100	8			VC..1103..
SVACL 1010 F11 U	■	SVACR 1010 F11 U	■	10	10	80	10			VC..1103..
SVACL 1010 H07 U	■	SVACR 1010 H07 U	■	10	10	100	10			VC..0702..
SVACL 1010 H11 U	■	SVACR 1010 H11 U	■	10	10	100	10			VC..1103..
SVACL 1212 H07 U	■	SVACR 1212 H07 U	■	12	12	100	12			VC..0702..
SVACL 1212 H11 U	■	SVACR 1212 H11 U	■	12	12	100	12			VC..1103..



SVJC... U (93°)

Order designation		Dimensions							Inserts
L	R	h	b	l <sub>1</sub>		f		□ 260...	

STANDARD-LINE

Accuracy class of UTILIS □ 171



SVJCL 0808 F11 U	■	SVJCR 0808 F11 U	■	8	8	80		8		VC..1103..
SVJCL 0808 H07 U	■	SVJCR 0808 H07 U	■	8	8	100		8		VC..0702..
SVJCL 0808 H11 U	■	SVJCR 0808 H11 U	■	8	8	100		8		VC..1103..
SVJCL 1010 F11 U	■	SVJCR 1010 F11 U	■	10	10	80		10		VC..1103..
SVJCL 1010 H07 U	■	SVJCR 1010 H07 U	■	10	10	100		10		VC..0702..
SVJCL 1010 H11 U	■	SVJCR 1010 H11 U	■	10	10	100		10		VC..1103..
SVJCL 1212 H07 U	■	SVJCR 1212 H07 U	■	12	12	100		12		VC..0702..
SVJCL 1212 H11 U	■	SVJCR 1212 H11 U	■	12	12	100		12		VC..1103..
SVJCL 1616 K11 U	■	SVJCR 1616 K11 U	■	16	16	125		16		VC..1103..
SVJCL 1616 K16 U	■	SVJCR 1616 K16 U	■	16	16	125		16		VC..1604..
SVJCL 2020 K11 U	■	SVJCR 2020 K11 U	■	20	20	125		20		VC..1103..
SVJCL 2020 K16 U	■	SVJCR 2020 K16 U	■	20	20	125		20		VC..1604..

SVJC... U (93°) INCH

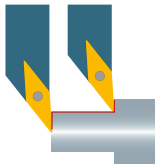
Order designation		Dimensions							Inserts
L	R	h	b	l <sub>1</sub>		f		□ 260...	

STANDARD-LINE

Accuracy class of UTILIS □ 171



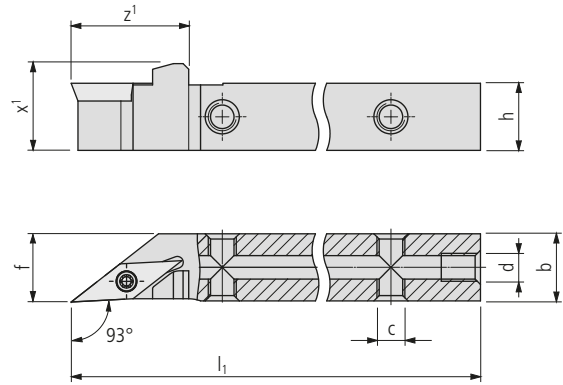
SVJCL 3/8" F11 U	■	SVJCR 3/8" F11 U	■	9.525	9.525	80		9.525		VC..1103..
SVJCL 3/8" H07 U	■	SVJCR 3/8" H07 U	■	9.525	9.525	100		9.525		VC..0702..
SVJCL 3/8" H11 U	■	SVJCR 3/8" H11 U	■	9.525	9.525	100		9.525		VC..1103..
SVJCL 1/2" H07 U	■	SVJCR 1/2" H07 U	■	12.7	12.7	100		12.7		VC..0702..
SVJCL 1/2" H11 U	■	SVJCR 1/2" H11 U	■	12.7	12.7	100		12.7		VC..1103..
SVJCL 3/4" K11 U	■	SVJCR 3/4" K11 U	■	19.05	19.05	125		19.05		VC..1103..
SVJCL 3/4" K16 U	■	SVJCR 3/4" K16 U	■	19.05	19.05	125		19.05		VC..1604..



With internal cooling



SVJCL... U IC (93°)



Order designation		Dimensions									Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 260...	

PREMIUM-LINE

Accuracy class of UTILIS □ 171



SVJCL 0808 H07 U IC	■	SVJCR 0808 H07 U IC	■	8	8	100	20	11.5	M5	M5	8	VC.. 0702..
SVJCL 0810 H11 U IC	■	SVJCR 0810 H11 U IC	■	8	10	100	21	11.5	M5	M5	10	VC.. 1103..
SVJCL 1010 H07 U IC	■	SVJCR 1010 H07 U IC	■	10	10	100	20	13.5	M5	M5	10	VC.. 0702..
SVJCL 1010 H11 U IC	■	SVJCR 1010 H11 U IC	■	10	10	100	21	13.5	M5	M5	10	VC.. 1103..
SVJCL 1212 H07 U IC	■	SVJCR 1212 H07 U IC	■	12	12	100	20	15.5	M5	M5	12	VC.. 0702..
SVJCL 1212 H11 U IC	■	SVJCR 1212 H11 U IC	■	12	12	100	21	15.5	M5	M5	12	VC.. 1103..
SVJCL 1616 K11 U IC	■	SVJCR 1616 K11 U IC	■	16	16	125	21	19.5	M5	G1/8"	16	VC.. 1103..
SVJCL 1616 K16 U IC	■	SVJCR 1616 K16 U IC	■	16	16	125	27	19.5	M5	G1/8"	16	VC.. 1604..
SVJCL 2020 K11 U IC	■	SVJCR 2020 K11 U IC	■	20	20	125	21	23.5	M5	G1/8"	20	VC.. 1103..
SVJCL 2020 K16 U IC	■	SVJCR 2020 K16 U IC	■	20	20	125	27	23.5	M5	G1/8"	20	VC.. 1604..

SVJCL... U IC (93°) INCH

Order designation		Dimensions									Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 260...	

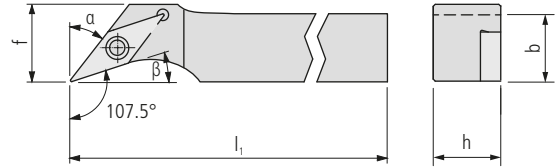
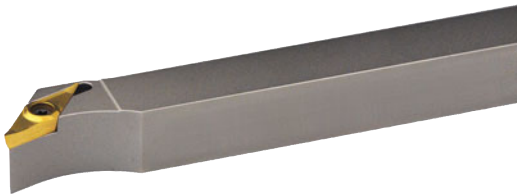
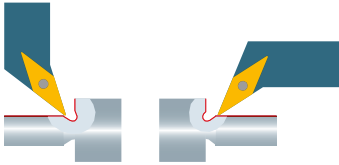
PREMIUM-LINE

Accuracy class of UTILIS □ 171



SVJCL 3/8" H07 U IC	■	SVJCR 3/8" H07 U IC	■	9.525	9.525	100	20	13	M5	M5	9.525	VC.. 0702..
SVJCL 3/8" H11 U IC	■	SVJCR 3/8" H11 U IC	■	9.525	9.525	100	21	13	M5	M5	9.525	VC.. 1103..
SVJCL 1/2" H07 U IC	■	SVJCR 1/2" H07 U IC	■	12.7	12.7	100	20	16.2	M5	M5	12.7	VC.. 0702..
SVJCL 1/2" H11 U IC	■	SVJCR 1/2" H11 U IC	■	12.7	12.7	100	21	16.2	M5	M5	12.7	VC.. 1103..
SVJCL 5/8" K11 U IC	■	SVJCR 5/8" K11 U IC	■	15.875	15.875	125	21	19.5	M5	G1/8"	15.875	VC.. 1103..
SVJCL 5/8" K16 U IC	■	SVJCR 5/8" K16 U IC	■	15.875	15.875	125	27	19.5	M5	G1/8"	15.875	VC.. 1604..
SVJCL 3/4" K11 U IC	■	SVJCR 3/4" K11 U IC	■	19.05	19.05	125	21	22.6	M5	G1/8"	19.05	VC.. 1103..
SVJCL 3/4" K16 U IC	■	SVJCR 3/4" K16 U IC	■	19.05	19.05	125	27	22.6	M5	G1/8"	19.05	VC.. 1604..

Scope of delivery: Holder without coolant connector  
 Coolant connectors □ 632



SVHC... U (107.5°)

Order designation		Dimensions							Inserts
L	R	h	b	l <sub>1</sub>	f	a	β	□ 260...	

STANDARD-LINE

Accuracy class of UTILIS □ 171



SVHCL 0808 H07 U	■	SVHCR 0808 H07 U	■	8	8	100	8	37.5°	17.5°	VC..0702..
SVHCL 1010 H07 U	■	SVHCR 1010 H07 U	■	10	10	100	10	37.5°	17.5°	VC..0702..
SVHCL 1010 H11 U	■	SVHCR 1010 H11 U	■	10	10	100	13	37.5°	17.5°	VC..1103..
SVHCL 1212 H07 U	■	SVHCR 1212 H07 U	■	12	12	100	12	37.5°	17.5°	VC..0702..
SVHCL 1212 H11 U	■	SVHCR 1212 H11 U	■	12	12	100	13	37.5°	17.5°	VC..1103..
SVHCL 1616 K11 U	■	SVHCR 1616 K11 U	■	16	16	125	16	37.5°	17.5°	VC..1103..

SVHC... U (107.5°) INCH

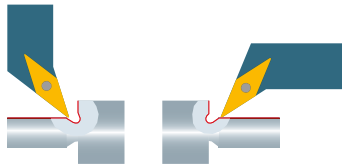
Order designation		Dimensions							Inserts
L	R	h	b	l <sub>1</sub>	f	a	β	□ 260...	

STANDARD-LINE

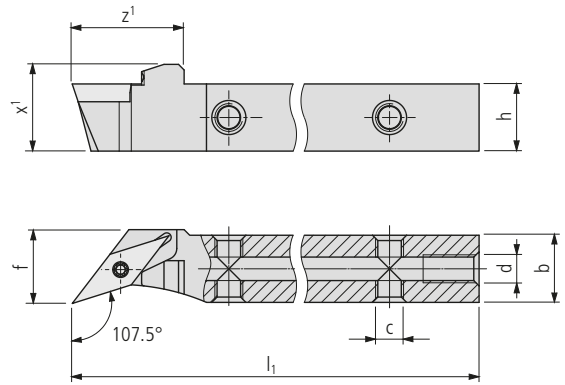
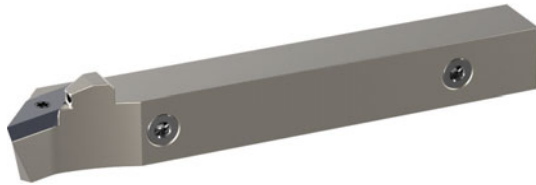
Accuracy class of UTILIS □ 171



SVHCL 3/8" H07 U	■	SVHCR 3/8" H07 U	■	9.525	9.525	100	9.525	37.5°	17.5°	VC..0702..
SVHCL 3/8" H11 U	■	SVHCR 3/8" H11 U	■	9.525	9.525	100	13	37.5°	17.5°	VC..1103..
SVHCL 1/2" H07 U	■	SVHCR 1/2" H07 U	■	12.7	12.7	100	12.7	37.5°	17.5°	VC..0702..
SVHCL 1/2" H11 U	■	SVHCR 1/2" H11 U	■	12.7	12.7	100	13	37.5°	17.5°	VC..1103..
SVHCL 5/8" K11 U	■	SVHCR 5/8" K11 U	■	15.875	15.875	125	16	37.5°	17.5°	VC..1103..



With internal cooling



SVHC... U IC (107.5°)

Order designation		Dimensions								Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 260...

PREMIUM-LINE

Accuracy class of UTILIS □ 171



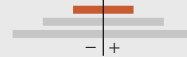
SVHCL 0808 H07 U IC	■	SVHCR 0808 H07 U IC	■	8	8	100	18	11.5	M5	M5	8	VC..0702..
SVHCL 1010 H07 U IC	■	SVHCR 1010 H07 U IC	■	10	10	100	18	13.5	M5	M5	10	VC..0702..
SVHCL 1212 H07 U IC	■	SVHCR 1212 H07 U IC	■	12	12	100	18	15.5	M5	M5	12	VC..0702..
SVHCL 1212 H11 U IC	■	SVHCR 1212 H11 U IC	■	12	12	100	22	15.5	M5	M5	13	VC..1103..
SVHCL 1616 K11 U IC	■	SVHCR 1616 K11 U IC	■	16	16	125	22	19.5	M5	G1/8"	16	VC..1103..

SVHC... U IC (107.5°) INCH

Order designation		Dimensions								Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 260...

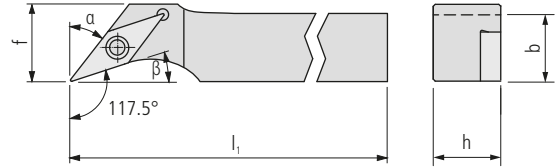
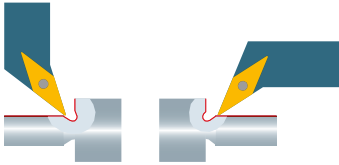
PREMIUM-LINE

Accuracy class of UTILIS □ 171



SVHCL 3/8" H07 U IC	■	SVHCR 3/8" H07 U IC	■	9.525	9.525	100	18	13	M5	M5	9.525	VC..0702..
SVHCL 1/2" H07 U IC	■	SVHCR 1/2" H07 U IC	■	12.7	12.7	100	18	16.2	M5	M5	12.7	VC..0702..
SVHCL 1/2" H11 U IC	■	SVHCR 1/2" H11 U IC	■	12.7	12.7	100	22	16.2	M5	M5	12.7	VC..1103..
SVHCL 5/8" K11 U IC	■	SVHCR 5/8" K11 U IC	■	15.875	15.875	125	22	19.4	M5	G1/8"	15.875	VC..1103..

Scope of delivery: Holder without coolant connector  
Coolant connectors □ 632



**SVOC... U (117.5°)**

Order designation		Dimensions							Inserts
L	R	h	b	l <sub>1</sub>	f	a	β	□ 260...	

**STANDARD-LINE**

Accuracy class of UTILIS □ 171



SVOCL 0808 H07 U	■	SVOCR 0808 H07 U	■	8	8	100	10	27.5°	27.5°	VC..0702..
SVOCL 1010 H07 U	■	SVOCR 1010 H07 U	■	10	10	100	10	27.5°	27.5°	VC..0702..
SVOCL 1010 H11 U	■	SVOCR 1010 H11 U	■	10	10	100	16	27.5°	27.5°	VC..1103..
SVOCL 1212 H07 U	■	SVOCR 1212 H07 U	■	12	12	100	12	27.5°	27.5°	VC..0702..
SVOCL 1212 H11 U	■	SVOCR 1212 H11 U	■	12	12	100	16	27.5°	27.5°	VC..1103..
SVOCL 1616 K11 U	■	SVOCR 1616 K11 U	■	16	16	125	16	27.5°	27.5°	VC..1103..

**SVOC... U (117.5°) INCH**

Order designation		Dimensions							Inserts
L	R	h	b	l <sub>1</sub>	f	a	β	□ 260...	

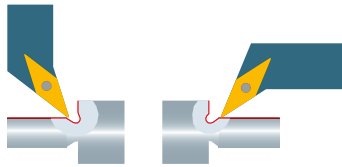
**STANDARD-LINE**

Accuracy class of UTILIS □ 171

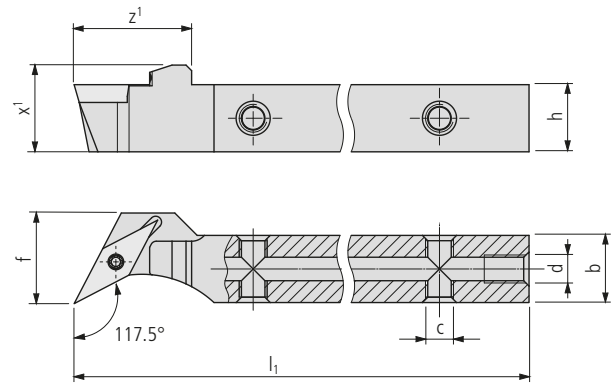


SVOCL 3/8" H07 U	■	SVOCR 3/8" H07 U	■	9.525	9.525	100	10	27.5°	27.5°	VC..0702..
SVOCL 3/8" H11 U	■	SVOCR 3/8" H11 U	■	9.525	9.525	100	16	27.5°	27.5°	VC..1103..
SVOCL 1/2" H07 U	■	SVOCR 1/2" H07 U	■	12.7	12.7	100	12.7	27.5°	27.5°	VC..0702..
SVOCL 1/2" H11 U	■	SVOCR 1/2" H11 U	■	12.7	12.7	100	16	27.5°	27.5°	VC..1103..
SVOCL 5/8" K11 U	■	SVOCR 5/8" K11 U	■	15.875	15.875	125	16	27.5°	27.5°	VC..1103..





With internal cooling



SVOC... U IC (117.5°)

Order designation		Dimensions										Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 260...		

PREMIUM-LINE

Accuracy class of UTILIS □ 171



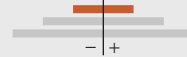
SVOCL 0808 H07 U IC	■	SVOCR 0808 H07 U IC	■	8	8	100	18	11.5	M5	M5	10	VC..0702..
SVOCL 1010 H07 U IC	■	SVOCR 1010 H07 U IC	■	10	10	100	18	13.5	M5	M5	10	VC..0702..
SVOCL 1010 H11 U IC	■	SVOCR 1010 H11 U IC	■	10	10	100	22	13.5	M5	M5	16	VC..1103..
SVOCL 1212 H07 U IC	■	SVOCR 1212 H07 U IC	■	12	12	100	18	15.5	M5	M5	12	VC..0702..
SVOCL 1212 H11 U IC	■	SVOCR 1212 H11 U IC	■	12	12	100	22	15.5	M5	M5	16	VC..1103..
SVOCL 1616 K11 U IC	■	SVOCR 1616 K11 U IC	■	16	16	125	22	19.5	M5	G1/8"	16	VC..1103..

SVOC... U IC (117.5°) INCH

Order designation		Dimensions										Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 260...		

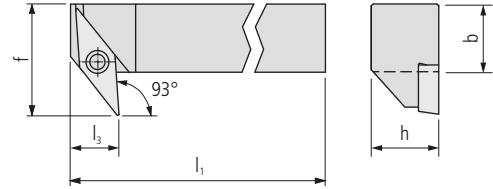
PREMIUM-LINE

Accuracy class of UTILIS □ 171



SVOCL 3/8" H07 U IC	■	SVOCR 3/8" H07 U IC	■	9.525	9.525	100	18	13	M5	M5	10	VC..0702..
SVOCL 3/8" H11 U IC	■	SVOCR 3/8" H11 U IC	■	9.525	9.525	100	22	13	M5	M5	16	VC..1103..
SVOCL 1/2" H07 U IC	■	SVOCR 1/2" H07 U IC	■	12.7	12.7	100	18	16.2	M5	M5	12.9	VC..0702..
SVOCL 1/2" H11 U IC	■	SVOCR 1/2" H11 U IC	■	12.7	12.7	100	22	16.2	M5	M5	16	VC..1103..
SVOCL 5/8" K11 U IC	■	SVOCR 5/8" K11 U IC	■	15.875	15.875	125	22	19.4	M5	G1/8"	15.875	VC..1103..

Scope of delivery: Holder without coolant connector  
Coolant connectors □ 632



SVQC... (93°)

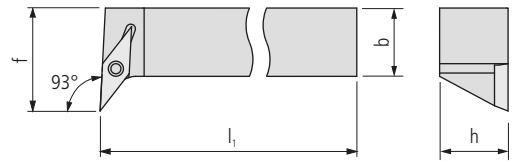
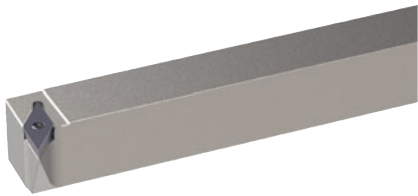
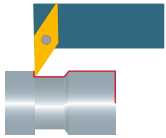
Order designation		Dimensions						Inserts
L	R	h	b	l <sub>1</sub>	f	l <sub>3</sub>	□ 260...	

**STANDARD-LINE**

Accuracy class of UTILIS □ 171



SVQCL 0808 H07	■	SVQCR 0808 H07	■	8	8	100	13.5	6	VC..0702..
SVQCL 1010 H07	■	SVQCR 1010 H07	■	10	10	100	15.5	6	VC..0702..
SVQCL 1212 H07	■	SVQCR 1212 H07	■	12	12	100	17.5	6	VC..0702..
SVQCL 1212 H11	■	SVQCR 1212 H11	■	12	12	100	20	8.5	VC..1103..
SVQCL 1616 K11	■	SVQCR 1616 K11	■	16	16	125	24	8.5	VC..1103..



SVUC... (93°)

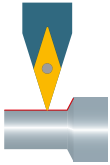
Order designation		Dimensions						Inserts
L	R	h	b	l <sub>1</sub>	f			□ 260...

**STANDARD-LINE**

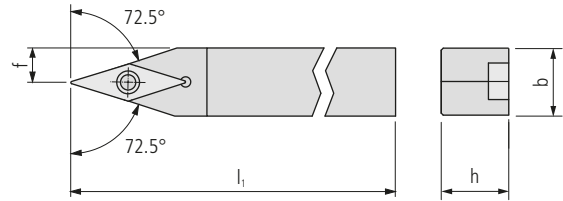
Accuracy class of UTILIS □ 171



SVUCL 0808 H07	■	SVUCR 0808 H07	■	8	8	100	13.5			VC..0702..
SVUCL 1010 H07	■	SVUCR 1010 H07	■	10	10	100	15.5			VC..0702..
SVUCL 1212 H07	■	SVUCR 1212 H07	■	12	12	100	17.5			VC..0702..
SVUCL 1212 H11	■	SVUCR 1212 H11	■	12	12	100	20			VC..1103..
SVUCL 1616 K11	■	SVUCR 1616 K11	■	16	16	125	24			VC..1103..
SVUCL 2020 K11	■	SVUCR 2020 K11	■	20	20	125	28			VC..1103..



SVVCN ... U (72.5°)



Order designation		Dimensions						Inserts
N		h	b	l <sub>1</sub>	f		□ 260...	

STANDARD-LINE

Accuracy class of UTILIS □ 171



SVVCN 0808 F11 U	■		8	8	80	4		VC..1103..
SVVCN 0808 H07 U	■		8	8	100	4		VC..0702..
SVVCN 0808 H11 U	■		8	8	100	4		VC..1103..
SVVCN 1010 F11 U	■		10	10	80	5		VC..1103..
SVVCN 1010 H07 U	■		10	10	100	5		VC..0702..
SVVCN 1010 H11 U	■		10	10	100	5		VC..1103..
SVVCN 1212 F11 U	■		12	12	80	6		VC..1103..
SVVCN 1212 H07 U	■		12	12	100	6		VC..0702..
SVVCN 1212 H11 U	■		12	12	100	6		VC..1103..
SVVCN 1616 H11 U	■		16	16	100	8		VC..1103..
SVVCN 2020 K11 U	■		20	20	125	10		VC..1103..
SVVCN 2020 K16 U	■		20	20	125	10		VC..1604..

SVVCN ... U (72.5°) INCH

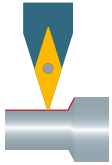
Order designation		Dimensions						Inserts
L	R	h	b	l <sub>1</sub>	f		□ 260...	

STANDARD-LINE

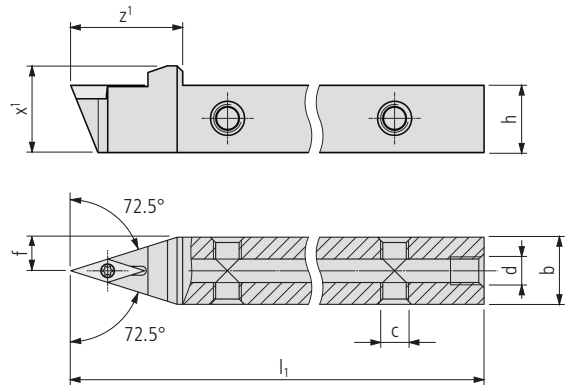
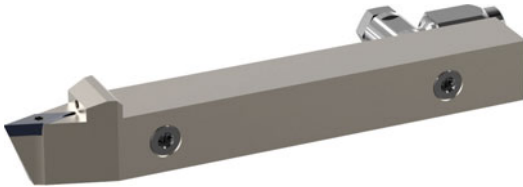
Accuracy class of UTILIS □ 171



SVVCN 3/8" H07 U	■		9.525	9.525	100	4.76		VC..0702..
SVVCN 3/8" H11 U	■		9.525	9.525	100	4.76		VC..1103..
SVVCN 1/2" H07 U	■		12.7	12.7	100	6.35		VC..0702..
SVVCN 1/2" H11 U	■		12.7	12.7	100	6.35		VC..1103..
SVVCN 5/8" K11 U	■		15.875	15.875	125	7.93		VC..1103..
SVVCN 3/4" K11 U	■		19.05	19.05	125	9.525		VC..1103..
SVVCN 3/4" K16 U	■		19.05	19.05	125	9.525		VC..1604..



With internal cooling

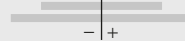


SVVCN ... U IC (72.5°)

Order designation		Dimensions										Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 260...		

PREMIUM-LINE

Accuracy class of UTILIS □ 171



SVVCN 0808 H07 U IC	■		8	8	100	20	11.5	M5	M5	4	VC..0702..
SVVCN 0810 H11 U IC	■		8	10	100	21	11.5	M5	M5	5	VC..1103..
SVVCN 1010 H07 U IC	■		10	10	100	20	13.5	M5	M5	5	VC..0702..
SVVCN 1010 H11 U IC	■		10	10	100	21	13.5	M5	M5	5	VC..1103..
SVVCN 1212 H07 U IC	■		12	12	100	20	15.5	M5	M5	6	VC..0702..
SVVCN 1212 H11 U IC	■		12	12	100	21	15.5	M5	M5	6	VC..1103..
SVVCN 1616 K11 U IC	■		16	16	125	21	19.5	M5	G1/8"	8	VC..1103..
SVVCN 2020 K11 U IC	■		20	20	125	21	23.5	M5	G1/8"	10	VC..1103..
SVVCN 2020 K16 U IC	■		20	20	125	27	23.5	M5	G1/8"	10	VC..1604..

SVVCN ... U IC (72.5°) INCH

Order designation		Dimensions										Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 260...		

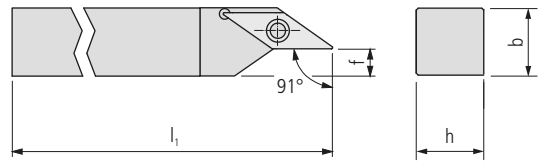
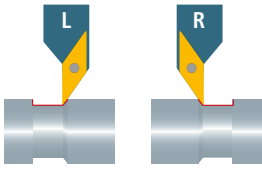
PREMIUM-LINE

Accuracy class of UTILIS □ 171



SVVCN 3/8" H07 U IC	■		9.525	9.525	100	20	13	M5	M5	4.76	VC..0702..
SVVCN 3/8" H11 U IC	■		9.525	9.525	100	20	13	M5	M5	4.76	VC..1103..
SVVCN 1/2" H07 U IC	■		12.7	12.7	100	21	15.4	M5	M5	6.35	VC..0702..
SVVCN 1/2" H11 U IC	■		12.7	12.7	100	21	15.4	M5	M5	6.35	VC..1103..
SVVCN 5/8" K11 U IC	■		15.875	15.875	125	21	18.6	M5	G1/8"	7.94	VC..1103..
SVVCN 3/4" K11 U IC	■		19.05	19.05	125	21	22.6	M5	G1/8"	9.52	VC..1103..
SVVCN 3/4" K16 U IC	■		19.05	19.05	125	27	22.6	M5	G1/8"	9.52	VC..1604..

Scope of delivery: Holder without coolant connector  
 Coolant connectors □ 632



SVXC... U (91°)

UTILIS **multidec**® swiss type tools

Order designation		Dimensions							Inserts
L	R	h	b	l <sub>1</sub>	f			□ 260...	

**STANDARD-LINE**

Accuracy class of UTILIS □ 171



SVXCL 0808 H07 U	■	SVXCR 0808 H07 U	■	8	8	100	2.5			VC..0702..
SVXCL 1010 F11 U	■	SVXCR 1010 F11 U	■	10	10	80	3			VC..1103..
SVXCL 1010 H07 U	■	SVXCR 1010 H07 U	■	10	10	100	4.5			VC..0702..
SVXCL 1010 H11 U	■	SVXCR 1010 H11 U	■	10	10	100	3			VC..1103..
SVXCL 1212 H07 U	■	SVXCR 1212 H07 U	■	12	12	100	6.5			VC..0702..
SVXCL 1212 H11 U	■	SVXCR 1212 H11 U	■	12	12	100	5			VC..1103..
SVXCL 1616 K11 U	■	SVXCR 1616 K11 U	■	16	16	125	9			VC..1103..
SVXCL 2020 K16 U	■	SVXCR 2020 K16 U	■	20	20	125	9			VC..1604..

SVXC... U (91°) INCH

Order designation		Dimensions							Inserts
L	R	h	b	l <sub>1</sub>	f			□ 260...	

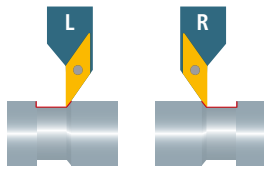
**STANDARD-LINE**

Accuracy class of UTILIS □ 171

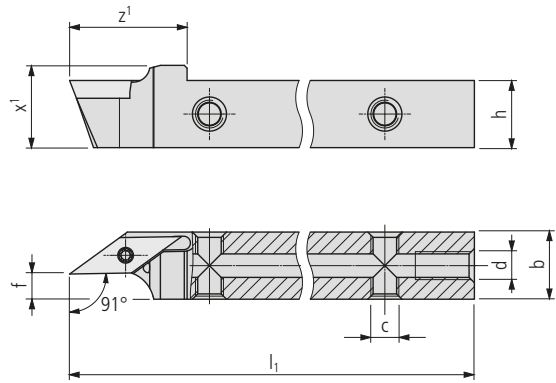


SVXCL 3/8" F11 U	■	SVXCR 3/8" F11 U	■	9.525	9.525	80	2			VC..1103..
SVXCL 3/8" H07 U	■	SVXCR 3/8" H07 U	■	9.525	9.525	100	4			VC..0702..
SVXCL 3/8" H11 U	■	SVXCR 3/8" H11 U	■	9.525	9.525	100	2			VC..1103..
SVXCL 1/2" H07 U	■	SVXCR 1/2" H07 U	■	12.7	12.7	100	7.2			VC..0702..
SVXCL 1/2" H11 U	■	SVXCR 1/2" H11 U	■	12.7	12.7	100	5			VC..1103..
SVXCL 5/8" K11 U	■	SVXCR 5/8" K11 U	■	15.875	15.875	125	8			VC..1103..
SVXCL 3/4" K16 U	■	SVXCR 3/4" K16 U	■	19.05	19.05	125	8			VC..1604..

\* Attention  
 Picture shows holder in the left-hand version



With internal cooling



SVXC... U IC (91°)

Order designation		Dimensions										Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 260...		

PREMIUM-LINE

Accuracy class of UTILIS □ 171



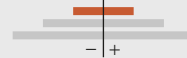
SVXCL 0808 H07 U IC	■	SVXCR 0808 H07 U IC	■	8	8	100	18	11.5	M5	M5	2.5	VC..0702..
SVXCL 1010 F11 U IC	■	SVXCR 1010 F11 U IC	■	10	10	80	21	12.7	M5	M5	3	VC..1103..
SVXCL 1010 H07 U IC	■	SVXCR 1010 H07 U IC	■	10	10	100	18	13.5	M5	M5	4.5	VC..0702..
SVXCL 1010 H11 U IC	■	SVXCR 1010 H11 U IC	■	10	10	100	21	12.7	M5	M5	3	VC..1103..
SVXCL 1212 H07 U IC	■	SVXCR 1212 H07 U IC	■	12	12	100	18	15.5	M5	M5	6.5	VC..0702..
SVXCL 1212 H11 U IC	■	SVXCR 1212 H11 U IC	■	12	12	100	21	14.7	M5	M5	5	VC..1103..
SVXCL 1616 K11 U IC	■	SVXCR 1616 K11 U IC	■	16	16	125	21	18.7	M5	G1/8"	9	VC..1103..
SVXCL 2020 K16 U IC	■	SVXCR 2020 K16 U IC	■	20	20	125	27	22	M5	G1/8"	9	VC..1604..

SVXC... U IC (91°) INCH

Order designation		Dimensions										Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 260...		

PREMIUM-LINE

Accuracy class of UTILIS □ 171



SVXCL 3/8" F11 U IC	■	SVXCR 3/8" F11 U IC	■	9.525	9.525	80	21	12.2	M5	M5	2	VC..1103..
SVXCL 3/8" H07 U IC	■	SVXCR 3/8" H07 U IC	■	9.525	9.525	100	18	13	M5	M5	4.02	VC..0702..
SVXCL 3/8" H11 U IC	■	SVXCR 3/8" H11 U IC	■	9.525	9.525	100	21	12.2	M5	M5	2	VC..1103..
SVXCL 1/2" H07 U IC	■	SVXCR 1/2" H07 U IC	■	12.7	12.7	100	18	16.2	M5	M5	7.19	VC..0702..
SVXCL 1/2" H11 U IC	■	SVXCR 1/2" H11 U IC	■	12.7	12.7	100	21	15.4	M5	M5	5	VC..1103..
SVXCL 5/8" K11 U IC	■	SVXCR 5/8" K11 U IC	■	15.875	15.875	125	21	18.6	M5	G1/8"	8	VC..1103..
SVXCL 3/4" K16 U IC	■	SVXCR 3/4" K16 U IC	■	19.05	19.05	125	27	22	M5	G1/8"	8	VC..1604..

Scope of delivery: Holder without coolant connector  
Coolant connectors □ 632

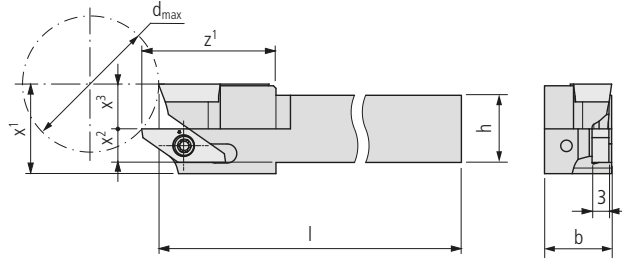


"TWIN" version

UTILIS **multidec**® swiss type tools



SVJC. (93°)/1600... TWIN



Order designation	Dimensions									Inserts	
	h	b	l	z <sup>1</sup>	x <sup>1</sup>	x <sup>2</sup>	x <sup>3</sup>	d <sub>max</sub>	□ 260...	□ 47...	

**STANDARD-LINE**

Accuracy class of UTILIS □ 171



	SVJCR/1600R-0810 H07 Twin	■	8	10	100	24	16	4	8	24	VC..0702..	16...
	SVJCR/1600R-1010 H07 Twin	■	10	10	100	24	16	5	8	24	VC..0702..	16...
	SVJCR/1600R-1212 H07 Twin	■	12	12	100	24	16	6	8	24	VC..0702..	16...
	SVJCR/1600R-0810 H11 Twin	■	8	10	100	24	16	4	8	24	VC..1103..	16...
	SVJCR/1600R-1010 H11 Twin	■	10	10	100	24	16	5	8	24	VC..1103..	16...
	SVJCR/1600R-1212 H11 Twin	■	12	12	100	24	16	6	8	24	VC..1103..	16...
	SVJCR/1600R-1616 K11 Twin	■	16	16	125	24	20	8	10	36	VC..1103..	16...
	SVJCR/1600R-2020 K11 Twin	■	20	20	125	24	24	8	14	68	VC..1103..	16...

SVJC. (93°)/1600... TWIN INCH

Order designation	Dimensions									Inserts	
	h	b	l	z <sup>1</sup>	x <sup>1</sup>	x <sup>2</sup>	x <sup>3</sup>	d <sub>max</sub>	□ 260...	□ 47...	

**STANDARD-LINE**

Accuracy class of UTILIS □ 171

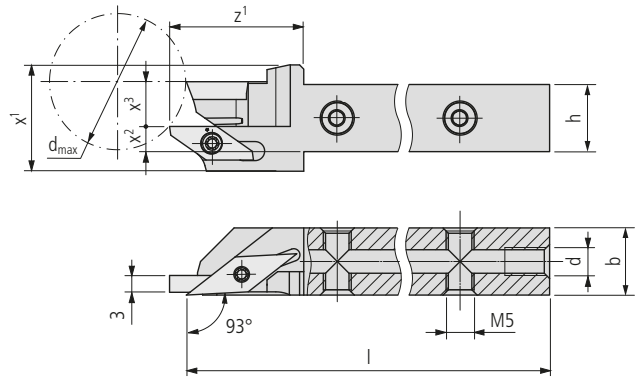


	SVJCR/1600R-3/8" H07 Twin	■	9.525	9.525	100	24	16	4.76	8	24	VC..0702..	16...
	SVJCR/1600R-1/2" H07 Twin	■	12.7	12.7	100	24	16	6.35	8	24	VC..0702..	16...
	SVJCR/1600R-3/8" H11 Twin	■	9.525	9.525	100	24	16	4.76	8	24	VC..1103..	16...
	SVJCR/1600R-1/2" H11 Twin	■	12.7	12.7	100	24	16	6.35	8	24	VC..1103..	16...
	SVJCR/1600R-5/8" K11 Twin	■	15.875	15.875	125	24	20	7.94	10	36	VC..1103..	16...
	SVJCR/1600R-3/4" K11 Twin	■	19.05	19.05	125	24	24	7.53	14	68	VC..1103..	16...





"TWIN" version with internal cooling



SVJC. (93°)/1600... TWIN IC

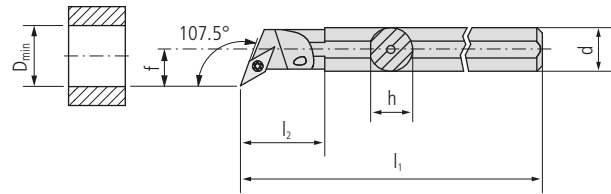
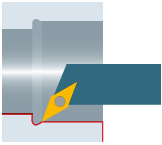
Order designation	Dimensions									Inserts			
	h	b	l	z <sup>1</sup>	x <sup>1</sup>	x <sup>2</sup>	x <sup>3</sup>	d	d <sub>max</sub>	□ 260...	□ 47...		
Accuracy class of UTILIS □ 171													
	SVJCR/1600R-0810 H07 Twin IC	■	8	10	100	24	19	2.5	8	M5	24	VC..0702..	16...
	SVJCR/1600R-1010 H07 Twin IC	■	10	10	100	24	19	3.5	8	M5	24	VC..0702..	16...
	SVJCR/1600R-1212 H07 Twin IC	■	12	12	100	24	19	4.5	8	M5	24	VC..0702..	16...
	SVJCR/1600R-0810 H11 Twin IC	■	8	10	100	24	19	2.5	8	M5	24	VC..1103..	16...
	SVJCR/1600R-1010 H11 Twin IC	■	10	10	100	24	19	3.5	8	M5	24	VC..1103..	16...
	SVJCR/1600R-1212 H11 Twin IC	■	12	12	100	24	19	4.5	8	M5	24	VC..1103..	16...
	SVJCR/1600R-1616 K11 Twin IC	■	16	16	125	24	23	6.5	10	G1/8"	36	VC..1103..	16...
	SVJCR/1600R-2020 K11 Twin IC	■	20	20	125	24	27	6.5	14	G1/8"	68	VC..1103..	16...

PREMIUM-LINE

SVJC. (93°)/1600... TWIN IC INCH

Order designation	Dimensions									Inserts			
	h	b	l	z <sup>1</sup>	x <sup>1</sup>	x <sup>2</sup>	x <sup>3</sup>	d	d <sub>max</sub>	□ 260...	□ 47...		
Accuracy class of UTILIS □ 171													
	SVJCR/1600R-3/8" H07 Twin IC	■	9.525	9.525	100	24	19	3.26	8	M5	24	VC..0702..	16...
	SVJCR/1600R-1/2" H07 Twin IC	■	12.7	12.7	100	24	19	4.85	8	M5	24	VC..0702..	16...
	SVJCR/1600R-3/8" H11 Twin IC	■	9.525	9.525	100	24	19	3.26	8	M5	24	VC..1103..	16...
	SVJCR/1600R-1/2" H11 Twin IC	■	12.7	12.7	100	24	19	4.85	8	M5	24	VC..1103..	16...
	SVJCR/1600R-5/8" K11 Twin IC	■	15.875	15.875	125	24	23	6.44	10	G1/8"	36	VC..1103..	16...
	SVJCR/1600R-3/4" K11 Twin IC	■	19.05	19.05	125	24	27	6.03	14	G1/8"	68	VC..1103..	16...

Scope of delivery: Holder without coolant connector  
 Coolant connectors □ 632



A... SVQC... (107.5°)

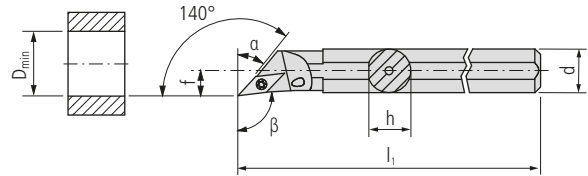
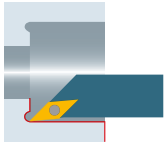
Order designation		Dimensions							Inserts
L	R	d	h	l <sub>1</sub>	l <sub>2</sub>	f	D <sub>min</sub>	□ 260...	

**STANDARD-LINE**

Accuracy class of UTILIS □ 171



A10 H SVQCL 07	■	A10 H SVQCR 07	■	10	9.5	100	23	8	16		VC..0702..
A12 K SVQCL 07	■	A12 K SVQCR 07	■	12	11.5	125	25	9	17		VC..0702..
A16 M SVQCL 07	■	A16 M SVQCR 07	■	16	15	150	29	11	20		VC..0702..
A16M SVQCL 11	■	A16M SVQCR 11	■	16	15	150	29	11	20		VC..1103..
A20Q SVQCL 11	■	A20Q SVQCR 11	■	20	18.5	180	32	13	25		VC..1103..



A... SVOC... (140°)

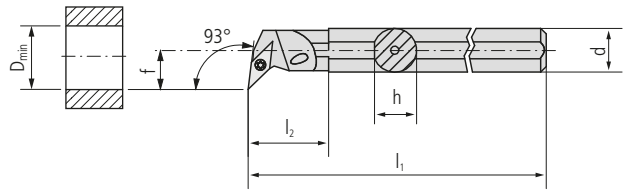
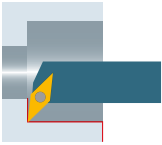
Order designation		Dimensions								Inserts
L	R	d	h	l <sub>1</sub>	f	D <sub>min</sub>	α	β	□ 260...	

**STANDARD-LINE**

Accuracy class of UTILIS □ 171



A10 H SVOCL 07	■	A10 H SVOCR 07	■	10	9.5	100	6	16	50°	95°	VC..07..
A12 K SVOCL 07	■	A12 K SVOCR 07	■	12	11.5	125	7	17	50°	95°	VC..07..
A12K SVOCL 11	■	A12K SVOCR 11	■	12	11.5	125	7	17	50°	95°	VC..11..
A16 M SVOCL 07	■	A16 M SVOCR 07	■	16	15.5	150	9	20	50°	95°	VC..07..
A16M SVOCL 11	■	A16M SVOCR 11	■	16	15.5	150	9	20	50°	95°	VC..11..



A... SVUC... (93°)

Order designation		Dimensions							Inserts
L	R	d	h	l <sub>1</sub>	l <sub>2</sub>	f	D <sub>min</sub>	□ 260...	


**STANDARD-LINE**

Accuracy class of UTILIS □ 171




A10 K SVUCL 07	■	A10 K SVUCR 07	■	10	9.5	100	23	8	16	VC..0702..
A12 K SVUCL 07	■	A12 K SVUCR 07	■	12	11.5	125	25	9	17	VC..0702..
A16 M SVUCL 07	■	A16 M SVUCR 07	■	16	15.5	150	29	11	20	VC..0702..
A16M SVUCL 11	■	A16M SVUCR 11	■	16	15	150	29	11	20	VC..1103..
A20Q SVUCL 11	■	A20Q SVUCR 11	■	20	18.5	180	32	13	25	VC..1103..

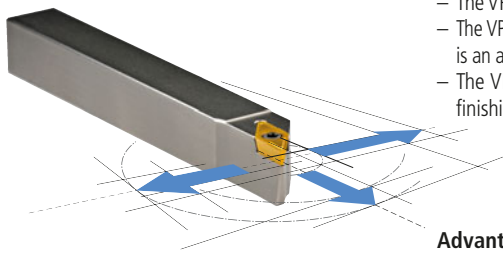
**For holders (SV...) OD turning**

Illustration	Description	Dimensions	Order designation	Holder
	TORX screw	M2 × 5.5 T06	MSP 20055 T06	SV... 07
		M2.5 × 6 T08	MSP 25060 T08	SV... 11
		M3.5 × 11 T15	MSP 35110 T15	SV... 16

**For holders (... SV...) ID turning**

Illustration	Description	Dimensions	Order designation	Holder
	TORX screw	M2.5 × 6 T08	MSP 25060 T08	A12K SV... 11 A16M SV... 11 A20Q SV... 11

TORX screwdriver  664



The "TOP" system with drag-cut permits an increase of the feed rate of up to 100% compared to conventional ISO inserts.

- The VPGT 1003... F provides a sharp cutting edge for semi-finishing, finishing and micro-finishing.
- The VPET 1003... F provides a sharp cutting edge and the tolerance of its insert height is more precise. This is an advantage as the height does not have to be reset when changing the insert.
- The VPXT 1003... E is a directly pressed insert with rounded cutting edge for roughing and semi-finishing.



**Advantages:**

- Front turning, back turning and facing with one insert
- Carbide grades and coatings for steel, stainless steel and superalloys
- Cutting edge radius from 0 to 0.35 mm available as standard
- Heat-treated holders and boring bars
- Reinforced "V" type holders for front turning with high depths of cut



"IC" tool holder with integrated cooling

Cost-efficient processing of modern materials increasingly requires accurate control of the coolant at the cutting edge. Conveying the coolant as close as possible to the cutting edge is often a difficult task in the machine rooms of Swiss type turning lathes.

The multidec®-IC program offers a wide range of holders with integrated cooling. Because of the high precision and pressure, it is possible to discharge the chip quickly and safely from the cutting edge and the workpiece, which protects the cutting edge of the insert. This means significantly longer tool life as well as very reliable serial production.

**Advantages:**

- All holders feature five possible connectors for the coolant supply
- Constant coolant discharge means low build-up at front near the holder
- With or without high pressure, the coolant medium always hits the cutting edge precisely



"TWIN" holder with and without integrated coolant supply

The "TWIN" range allows you to work with two inserts on the same holder. Different combinations are possible, and provide the user with a high degree of flexibility. Holders are available with shank cross-sections of 8 to 20 mm, with and without internal cooling.

**Advantages:**

- Twice the number of tools on the machine
- Two different turning operations are possible with a single tool holder
- All holders with an integrated coolant supply have five connecting options

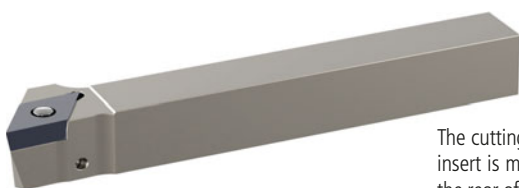


"Y-AXIS" holder with and without integrated coolant supply

Y-AXIS holders solve the chip control problems that can occur when cutting long-chip materials. With the Y-AXIS holder, the cutting edge is offset by 90° compared to the standard holder, whereby the chips fall in the bed of the machine. This prevents troublesome tumbling and flowing chips that can become caught on the cutting edge and damage it.

**Benefits:**

- Suitable for long chipping materials
- The problem of chip control is solved
- Holders with internal cooling
- All holders feature five possible connectors for the coolant supply



"FC" holder with quick cutting edge change system (fast change)

The cutting edge can be changed without unclamping the holder using the "FC" holder. The indexable insert is mounted using a specially developed knee lever which is operated using a clamping screw on the rear of the holder.

**Advantages:**

- Quick indexable insert change directly in the machine
- Holder with and without integrated coolant supply

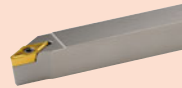
Technical information 9

Inserts (carbide / cermet)



VPET ... TOP	300
VPGT ... TOP	301
VPXT ... TOP	302

Holder (OD turning)



SVAP... (90°)	303
SVJP... (93°), SVJP... IC (93°)	304
SVJP... V (93°), SVJP... V IC (93°)	306
SVJP... FC (93°), SVJP... FC IC (93°)	308
SVJP... V FC (93°), SVJP... V FC IC (93°)	310
SVXP... (91°), SVXP... IC (91°)	312
SVJP. (93°)/1600... TWIN, SVJP. (93°)/1600... IC TWIN	314
SVJP.YA... (93°) Y-AXIS	318

Holder (ID turning)



SVJP... (92°)	319
A... SVOP... (143°)	320
SVQP... (92°)	321
SVUP... (92°)	322

Replacement and spare parts

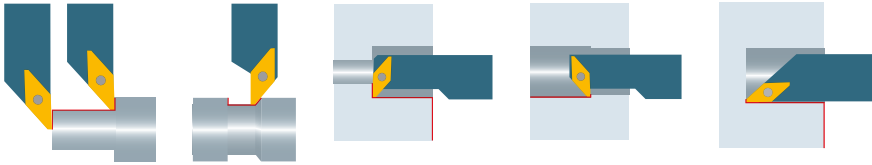


	323
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Coolant connectors and accessories



	632
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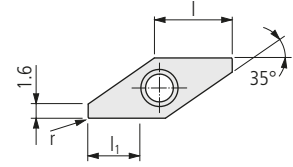


300

UTILIS  
multidec®  
swiss type tools



VPET ... -TOP\*



Order designation	Carbide								Cermet		Diamond			Holder	
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15		UPCD 20
	-	-	●	●	●	○	○	●	○	●	●	-	-	-	Dimensions l, r, l <sub>1</sub> Holder □ 303...
	○	●	-	-	-	○	○	-	-	-	-	-	-		
	●	○	-	-	-	○	○	-	-	-	-	-	-		
	○	○	-	-	-	○	○	-	-	-	-	-	-		

**PREMIUM-LINE**

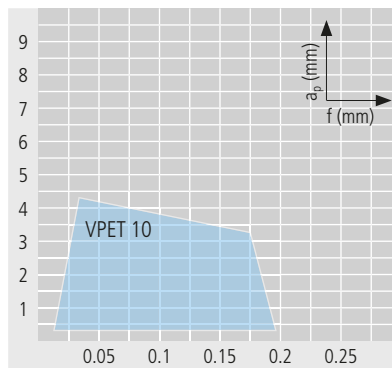
L	R	Order designation	Carbide								Cermet		Diamond			Holder
			UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	
		VPET 1003ZZ FL -TOP ...	■	■		■	■		■							Accuracy class of UTILIS □ 171 
		VPET 1003008 FL -TOP ...	■	■		■	■		■							
		VPET 1003015 FL -TOP ...	■	■		■	■		■							
		VPET 1003ZZ FR -TOP ...	■	■		■	■		■							
		VPET 1003005 FR -TOP ...	■	■		■	■		■							
		VPET 1003008 FR -TOP ...	■	■		■	■		■							
		VPET 1003015 FR -TOP ...	■	■		■	■		■							

\* Description TOP □ 25

**Application range of chip breaker**

**Properties:**

- polished rake and ground clearance
- sharp cutting edge "F"
- submicrograin carbide, high toughness
- TOP system, for a better surface finish
- Closer tolerance "E"



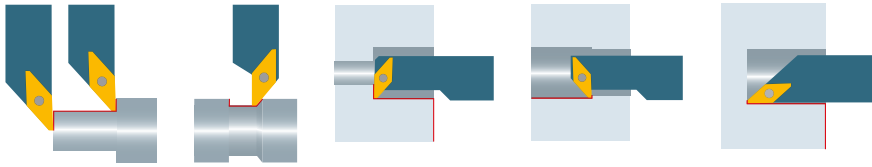
Optimal chip breaking

**Application:**

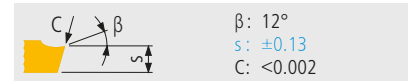
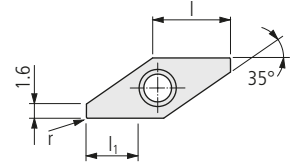
- finishing for 20-100% higher feed rates compared to the standard
- chip breaker for general application
- stainless steel, alloyed steel and super alloy

	I	II	III	IV	V	VI	VII	VIII	IX
▲	-	-	-	-	-	-	-	-	-
●	●	●	●	●	●	●	○	-	-
▼	●	●	●	●	●	●	○	-	-





VPGT ... -TOP\*



$\beta$ : 12°  
 $s$ : ±0.13  
 $C$ : <0.002

Order designation	Carbide										Cermet		Diamond			Holder
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20		
	-	-	●	●	●	○	○	●	○	●	●	-	-	-	Holder	
	○	●	-	-	-	○	○	-	-	-	-	-	-	-	□ 303...	
	●	○	-	-	-	-	-	-	-	-	-	●	●	●		

**STANDARD-LINE**

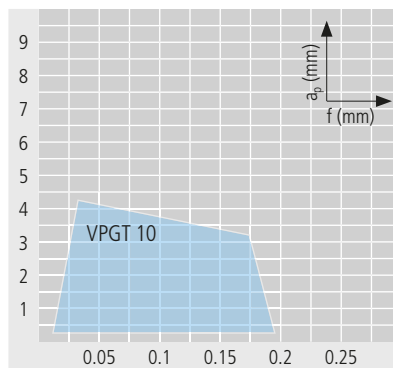
L	R	Order designation	Carbide										Cermet		Diamond			Holder	
			UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20			
		VPGT 1003008 EL-TOP ...					■	■		■						8.9	0.08	4.5	SV... ..
		VPGT 1003ZZ FL-TOP ...	■	■		■		■	■		■					8.9	0	4.5	SV... ..
		VPGT 1003008 FL-TOP ...	■	■		■		■	■		■					8.9	0.08	4.5	SV... ..
		VPGT 1003015 FL-TOP ...	■	■		■		■	■		■					8.9	0.15	4.5	SV... ..
		VPGT 1003ZZ FR-TOP ...	■			■		■	■		■					8.9	0	4.5	SV... ..
		VPGT 1003005 FR-TOP ...	■			■		■	■		■					8.9	0.05	4.5	SV... ..
		VPGT 1003008 FR-TOP ...	■	■		■		■	■		■					8.9	0.08	4.5	SV... ..
		VPGT 1003015 FR-TOP ...	■	■		■		■	■		■					8.9	0.15	4.5	SV... ..

\* Description TOP □ 25

**Application range of chip breaker**

**Properties:**

- polished rake and ground clearance
- sharp cutting edge "F"
- submicrograin carbide, high toughness
- TOP system, for a better surface finish

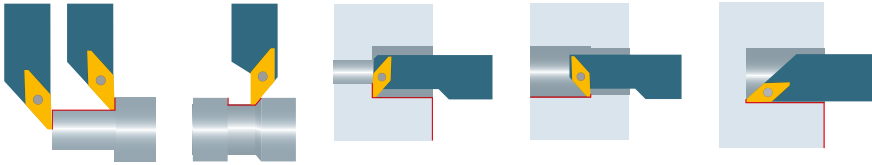


Optimal chip breaking

**Application:**

- finishing for 20-100% higher feed rates compared to the standard
- chip breaker for general application
- stainless steel, alloyed steel and super alloy

	I	II	III	IV	V	IV	VII	VIII	IX
▲	-	-	-	-	-	-	-	-	-
▲	●	●	●	●	●	●	○	-	-
▲	●	●	●	●	●	●	○	-	-

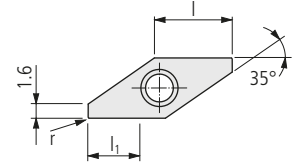


302

UTILIS  
multidec®  
swiss type tools



VPXT ... -TOP\*



Order designation	Carbide										Cermet		Diamond			Holder
	UHM 10	UHM 10 HX	UHM 10 MZ	UHM 20 HPX	UHM 20 MZ	UHM 30	UHM 30 HX	UHM 30 MZ	UHM 30 SX	UCM 10	UCM 10 HX	UCVD 08	UPCD 15	UPCD 20	□ 303...	
	-	-	●	●	●	○	○	●	○	●	●	-	-	-		
	○	●	-	-	-	○	○	-	-	○	○	-	-	-		
	●	○	-	-	-	○	○	-	-	-	-	●	●	●		

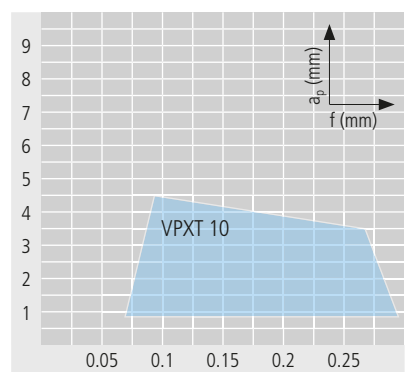
**VALUE-LINE**

	VPXT 1003015 EL -TOP ...	VPXT 1003035 EL -TOP ...											
<b>L</b>			■					8.9	0.15	4.5			SV... ..
			■					8.9	0.35	4.5			SV... ..
<b>R</b>			■					8.9	0.15	4.5			SV... ..
			■					8.9	0.35	4.5			SV... ..

\* Description TOP □ 25

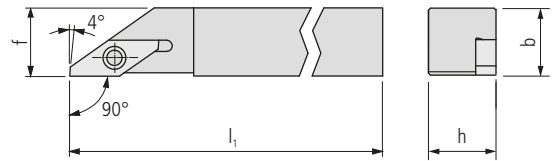
**Application range of chip breaker**

- Properties:**
- high precision sintered insert
  - rounded cutting edge "E"
  - submicrograin carbide, high toughness and hardness
  - TOP system, for a better surface finish
  - best performance-cost ratio



- Application:**
- finishing for 20-100% higher feed rates compared to the standard
  - chip breaker for general application
  - alloyed steel, stainless steel and super alloy

	I	II	III	IV	V	IV	VII	VIII	IX
▲	●	●	●	○	●	●	-	-	-
▲	●	●	●	○	●	●	-	-	-
▲	-	-	-	-	-	-	-	-	-



SVAP... (90°)

Order designation		Dimensions							Inserts
L	R	h	b	l <sub>1</sub>		f		□ 300...	

STANDARD-LINE

Accuracy class of UTILIS □ 171



SVAPL 0707 H10	■	SVAPR 0707 H10	■	7	7	100		7		VP..1003..
SVAPL 0708 H10	■	SVAPR 0708 H10	■	7	8	100		8		VP..1003..
SVAPL 0808 F10	■	SVAPR 0808 F10	■	8	8	80		8		VP..1003..
SVAPL 0808 H10	■	SVAPR 0808 H10	■	8	8	100		8		VP..1003..
SVAPL 1010 F10	■	SVAPR 1010 F10	■	10	10	80		10		VP..1003..
SVAPL 1010 H10	■	SVAPR 1010 H10	■	10	10	100		10		VP..1003..
SVAPL 1212 H10	■	SVAPR 1212 H10	■	12	12	100		12		VP..1003..

SVAP... (90°) INCH

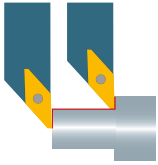
Order designation		Dimensions							Inserts
L	R	h	b	l <sub>1</sub>		f		□ 300...	

STANDARD-LINE

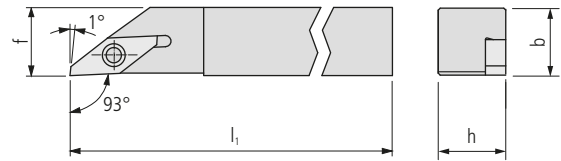
Accuracy class of UTILIS □ 171



SVAPL 3/8" F10	■	SVAPR 3/8" F10	■	9.525	9.525	80		9.525		VP..1003..
SVAPL 3/8" H10	■	SVAPR 3/8" H10	■	9.525	9.525	100		9.525		VP..1003..
SVAPL 1/2" H10	■	SVAPR 1/2" H10	■	12.7	12.7	100		12.7		VP..1003..



304



SVJP... (93°)

Order designation		Dimensions							Inserts
L	R	h	b	l <sub>1</sub>		f		□ 300...	

STANDARD-LINE

Accuracy class of UTILIS □ 171



SVJPL 0708 H10	■	SVJPR 0708 H10	■	7	8	100		8			VP..1003..
SVJPL 0808 F10	■	SVJPR 0808 F10	■	8	8	80		8			VP..1003..
SVJPL 0808 H10	■	SVJPR 0808 H10	■	8	8	100		8			VP..1003..
SVJPL 1010 F10	■	SVJPR 1010 F10	■	10	10	80		10			VP..1003..
SVJPL 1010 H10	■	SVJPR 1010 H10	■	10	10	100		10			VP..1003..
SVJPL 1212 H10	■	SVJPR 1212 H10	■	12	12	100		12			VP..1003..
SVJPL 1616 K10	■	SVJPR 1616 K10	■	16	16	125		16			VP..1003..
SVJPL 2020 K10	■	SVJPR 2020 K10	■	20	20	125		20			VP..1003..

SVJP... (93°) INCH

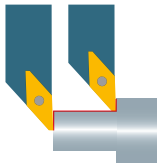
Order designation		Dimensions							Inserts
L	R	h	b	l <sub>1</sub>		f		□ 300...	

STANDARD-LINE

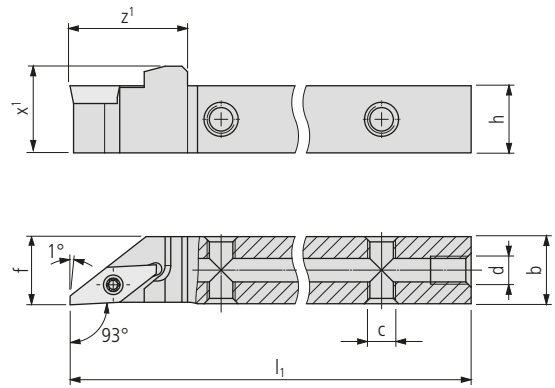
Accuracy class of UTILIS □ 171



SVJPL 3/8" F10	■	SVJPR 3/8" F10	■	9.525	9.525	80		9.525			VP..1003..
SVJPL 3/8" H10	■	SVJPR 3/8" H10	■	9.525	9.525	100		9.525			VP..1003..
SVJPL 1/2" H10	■	SVJPR 1/2" H10	■	12.7	12.7	100		12.7			VP..1003..
SVJPL 5/8" K10	■	SVJPR 5/8" K10	■	15.875	15.875	125		15.875			VP..1003..
SVJPL 3/4" K10	■	SVJPR 3/4" K10	■	19.05	19.05	125		19.05			VP..1003..



With internal cooling



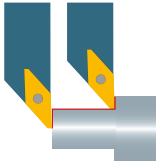
SVJP... IC (93°)

Order designation		Dimensions									Inserts	
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 300...		
Accuracy class of UTILIS □ 171												
SVJPL 0810 H10 IC	■	SVJPR 0810 H10 IC	■	8	10	100	21	11.5	M5	M5	10	VP..1003..
SVJPL 1010 H10 IC	■	SVJPR 1010 H10 IC	■	10	10	100	21	13.5	M5	M5	10	VP..1003..
SVJPL 1212 H10 IC	■	SVJPR 1212 H10 IC	■	12	12	100	21	15.5	M5	M5	12	VP..1003..
SVJPL 1616 K10 IC	■	SVJPR 1616 K10 IC	■	16	16	125	21	19.5	M5	G1/8"	16	VP..1003..
SVJPL 2020 K10 IC	■	SVJPR 2020 K10 IC	■	20	20	125	21	23.5	M5	G1/8"	20	VP..1003..

SVJP... IC (93°) INCH

Order designation		Dimensions									Inserts	
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 300...		
Accuracy class of UTILIS □ 171												
SVJPL 3/8" H10 IC	■	SVJPR 3/8" H10 IC	■	9.525	9.525	100	21	13	M5	M5	9.525	VP..1003..
SVJPL 1/2" H10 IC	■	SVJPR 1/2" H10 IC	■	12.7	12.7	100	21	16.2	M5	M5	12.7	VP..1003..
SVJPL 5/8" K10 IC	■	SVJPR 5/8" K10 IC	■	15.875	15.875	125	21	19.4	M5	G1/8"	15.875	VP..1003..
SVJPL 3/4" K10 IC	■	SVJPR 3/4" K10 IC	■	19.05	19.05	125	21	22.6	M5	G1/8"	19.05	VP..1003..

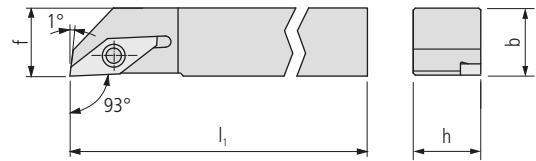
Scope of delivery: Holder without coolant connector  
 Coolant connectors □ 632



Strengthen type V

306

UTILIS **multidec**® swiss type tools



SVJPL... V (93°)

Order designation		Dimensions							Inserts
L	R	h	b	l <sub>1</sub>	f			□ 300...	

STANDARD-LINE

Accuracy class of UTILIS □ 171



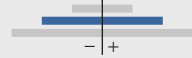
SVJPL 0810 F10 V	■	SVJPR 0810 F10 V	■	8	10	80	10			VP..1003..
SVJPL 0810 H10 V	■	SVJPR 0810 H10 V	■	8	10	100	10			VP..1003..
SVJPL 1010 F10 V	■	SVJPR 1010 F10 V	■	10	10	80	10			VP..1003..
SVJPL 1010 H10 V	■	SVJPR 1010 H10 V	■	10	10	100	10			VP..1003..
SVJPL 1212 H10 V	■	SVJPR 1212 H10 V	■	12	12	100	12			VP..1003..
SVJPL 1616 K10 V	■	SVJPR 1616 K10 V	■	16	16	125	16			VP..1003..
SVJPL 2020 K10 V	■	SVJPR 2020 K10 V	■	20	20	125	20			VP..1003..

SVJPL... V (93°) INCH

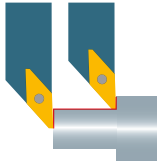
Order designation		Dimensions							Inserts
L	R	h	b	l <sub>1</sub>	f			□ 300...	

STANDARD-LINE

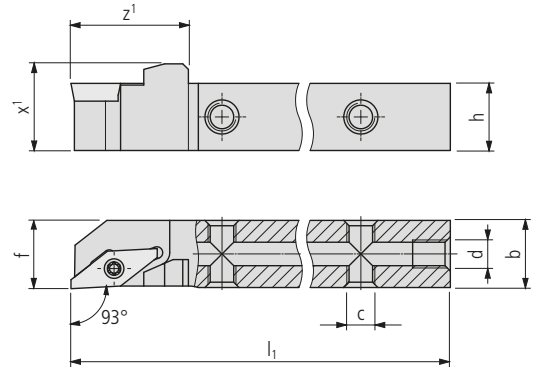
Accuracy class of UTILIS □ 171



SVJPL 3/8" F10 V	■	SVJPR 3/8" F10 V	■	9.525	9.525	80	9.525			VP..1003..
SVJPL 3/8" H10 V	■	SVJPR 3/8" H10 V	■	9.525	9.525	100	9.525			VP..1003..
SVJPL 1/2" H10 V	■	SVJPR 1/2" H10 V	■	12.7	12.7	100	12.7			VP..1003..
SVJPL 5/8" K10 V	■	SVJPL 5/8" K10 V	■	15.875	15.875	125	15.875			VP..1003..
SVJPL 3/4" K10 V	■	SVJPL 3/4" K10 V	■	19.05	19.05	125	19.05			VP..1003..



Strengthen type V with internal cooling



SVJP... V IC (93°)

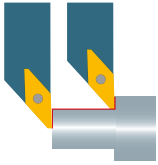
Order designation		Dimensions										Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 300...		
Accuracy class of UTILIS □ 171												
SVJPL 0810 H10 V IC	■	SVJPR 0810 H10 V IC	■	8	10	100	21	11.5	M5	M5	10	VP..1003..
SVJPL 1010 H10 V IC	■	SVJPR 1010 H10 V IC	■	10	10	100	21	13.5	M5	M5	10	VP..1003..
SVJPL 1212 H10 V IC	■	SVJPR 1212 H10 V IC	■	12	12	100	21	15.5	M5	M5	12	VP..1003..
SVJPL 1616 K10 V IC	■	SVJPR 1616 K10 V IC	■	16	16	125	21	19.5	M5	G1/8"	16	VP..1003..
SVJPL 2020 K10 V IC	■	SVJPR 2020 K10 V IC	■	20	20	125	21	23.5	M5	G1/8"	20	VP..1003..

PREMIUM-LINE

SVJP... V IC (93°) INCH

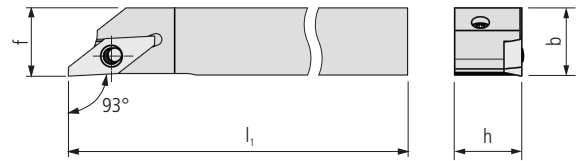
Order designation		Dimensions										Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 300...		
Accuracy class of UTILIS □ 171												
SVJPL 3/8" H10 V IC	■	SVJPR 3/8" H10 V IC	■	9.525	9.525	100	21	13	M5	M5	9.525	VP..1003..
SVJPL 1/2" H10 V IC	■	SVJPR 1/2" H10 V IC	■	12.7	12.7	100	21	16.2	M5	M5	12.7	VP..1003..
SVJPL 5/8" K10 V IC	■	SVJPR 5/8" K10 V IC	■	15.875	15.875	125	21	19.4	M5	G1/8"	15.875	VP..1003..
SVJPL 3/4" K10 V IC	■	SVJPR 3/4" K10 V IC	■	19.05	19.05	125	21	22.6	M5	G1/8"	19.05	VP..1003..

Scope of delivery: Holder without coolant connector  
 Coolant connectors □ 632



"FC" version (fast change)

308



SVJP... FC\* (93°)

Order designation		Dimensions								Inserts
L	R	h	b	l <sub>1</sub>	f					□ 300...
Accuracy class of UTILIS □ 171 										
SVJPL 1212 H10 FC	■ SVJPR 1212 H10 FC	12	12	100	12					VP..1003..
SVJPL 1616 K10 FC	■ SVJPR 1616 K10 FC	16	16	125	16					VP..1003..

SVJP... FC\* (93°) INCH

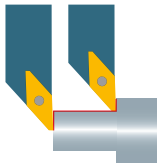
Order designation		Dimensions								Inserts
L	R	h	b	l <sub>1</sub>	f					□ 300...
Accuracy class of UTILIS □ 171 										
SVJPL 1/2" H10 FC	■ SVJPR 1/2" H10 FC	12.7	12.7	100	12.7					VP..1003..
SVJPL 5/8" K10 FC	■ SVJPR 5/8" K10 FC	15.875	15.875	125	15.875					VP..1003..

Spare parts (clamping bolts/screws) □ 323

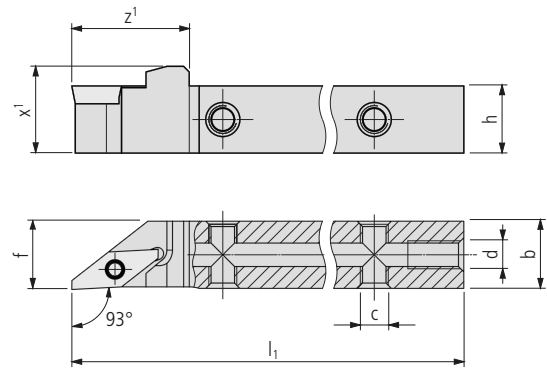
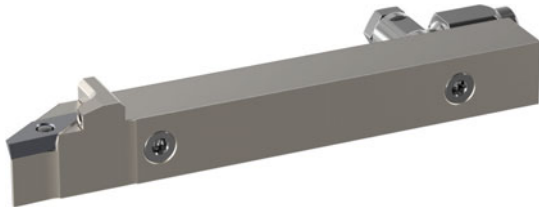
\* Note

With this holder, the indexable insert is secured with a screw using a knee lever that can be operated from behind. This means the holder does not have to be unclamped to change the cutting edge.  
 Tighten the clamping screw to 1.2 Nm using a torque screwdriver.





"FC" version (fast change) with internal cooling



SVJP... FC\* IC (93°)

Order designation		Dimensions										Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 300...		
Accuracy class of UTILIS □ 171												
SVJPL 1212 H10 FC IC	■	SVJPR 1212 H10 FC IC	■	12	12	100	21	15.5	M5	M5	12	VP..1003..
SVJPL 1616 K10 FC IC	■	SVJPR 1616 K10 FC IC	■	16	16	125	21	19.5	M5	G1/8"	16	VP..1003..

PREMIUM-LINE

SVJP... FC\* IC (93°) INCH

Order designation		Dimensions										Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 300...		
Accuracy class of UTILIS □ 171												
SVJPL 1/2" H10 FC IC	■	SVJPR 1/2" H10 FC IC	■	12.7	12.7	100	21	16.2	M5	M5	12.7	VP..1003..
SVJPL 5/8" K10 FC IC	■	SVJPR 5/8" K10 FC IC	■	15.875	15.875	125	21	19.4	M5	G1/8"	15.875	VP..1003..

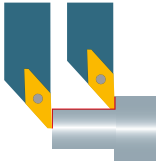
PREMIUM-LINE

Spare parts (clamping bolts/screws) □ 323

\* Note

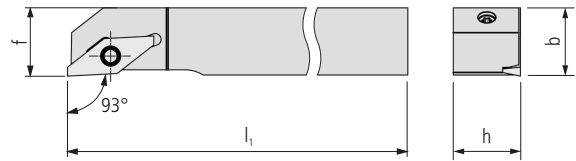
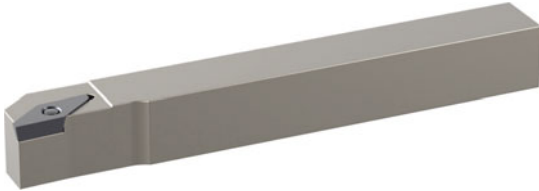
With this holder, the indexable insert is secured with a screw using a knee lever that can be operated from behind. This means the holder does not have to be unclamped to change the cutting edge.  
 Tighten the clamping screw to 1.2 Nm using a torque screwdriver.

Scope of delivery: Holder without coolant connector  
 Coolant connectors □ 632



Reinforced version V and version "FC" (fast change)

310



SVJP...V FC\* (93°)

Order designation		Dimensions								Inserts
L	R	h	b	l <sub>1</sub>	f					□ 300...
Accuracy class of UTILIS □ 171 										
SVJPL 1212 H10 V FC	■	SVJPR 1212 H10 V FC	■	12	12	100	12			VP..1003..
SVJPL 1616 K10 V FC	■	SVJPR 1616 K10 V FC	■	16	16	125	16			VP..1003..

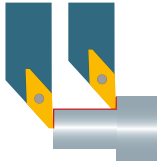
SVJP...V FC\* (93°) INCH

Order designation		Dimensions								Inserts
L	R	h	b	l <sub>1</sub>	f					□ 300...
Accuracy class of UTILIS □ 171 										
SVJPL 1/2" H10 V FC	■	SVJPR 1/2" H10 V FC	■	12.7	12.7	100	12.7			VP..1003..
SVJPL 5/8" K10 V FC	■	SVJPR 5/8" K10 V FC	■	15.875	15.875	125	15.875			VP..1003..

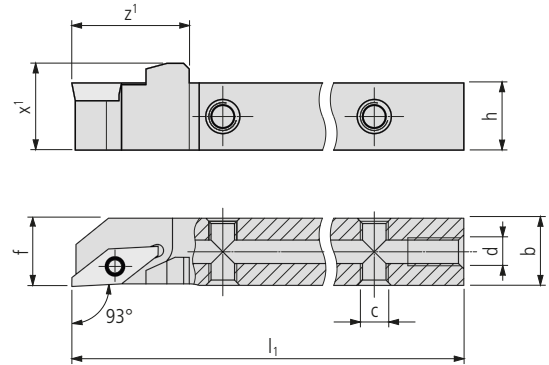
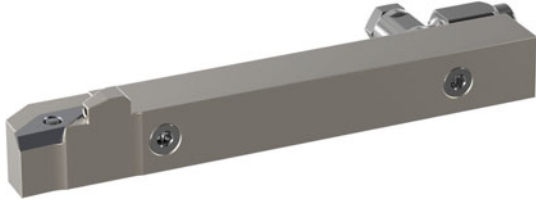
Spare parts (clamping bolts/screws) □ 323

\* Note

With this holder, the indexable insert is secured with a screw using a knee lever that can be operated from behind. This means the holder does not have to be unclamped to change the cutting edge.  
 Tighten the clamping screw to 1.2 Nm using a torque screwdriver.



Reinforced version V and version "FC" (fast change) with internal cooling



SVJP...V FC\* IC (93°)

Order designation		Dimensions										Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 300...		
Accuracy class of UTILIS □ 171												
SVJPL 1212 H10 V FC IC	■	SVJPR 1212 H10 V FC IC	■	12	12	100	21	15.5	M5	M5	12	VP..1003..
SVJPL 1616 K10 V FC IC	■	SVJPR 1616 K10 V FC IC	■	16	16	125	21	19.5	M5	G1/8"	16	VP..1003..

PREMIUM-LINE

SVJP...V FC\* IC (93°) INCH

Order designation		Dimensions										Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	c	d	f	□ 300...		
Accuracy class of UTILIS □ 171												
SVJPL 1/2" H10 V FC IC	■	SVJPR 1/2" H10 V FC IC	■	12.7	12.7	100	21	15.5	M5	M5	12.7	VP..1003..
SVJPL 5/8" K10 V FC IC	■	SVJPR 5/8" K10 V FC IC	■	15.875	15.875	125	21	19.5	M5	G1/8"	15.875	VP..1003..

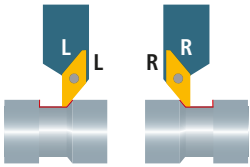
PREMIUM-LINE

Spare parts (clamping bolts/screws) □ 323

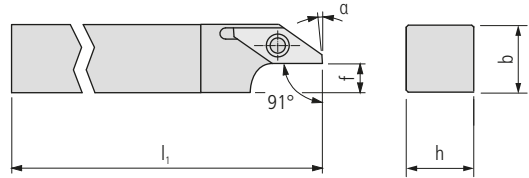
\* Note

With this holder, the indexable insert is secured with a screw using a knee lever that can be operated from behind. This means the holder does not have to be unclamped to change the cutting edge.  
 Tighten the clamping screw to 1.2 Nm using a torque screwdriver.

Scope of delivery: Holder without coolant connector  
 Coolant connectors □ 632



312



SVXP... (91°) \*

Order designation		Dimensions						Inserts
L	R	h	b	l <sub>1</sub>	f	a	□ 300...	

STANDARD-LINE

Accuracy class of UTILIS □ 171



SVXPL 0808 F10	■	SVXPR 0808 F10	■	8	8	80	1	3°	VP..1003..
SVXPL 0808 H10	■	SVXPR 0808 H10	■	8	8	100	1	3°	VP..1003..
SVXPL 1010 F10	■	SVXPR 1010 F10	■	10	10	80	3	3°	VP..1003..
SVXPL 1010 H10	■	SVXPR 1010 H10	■	10	10	100	3	3°	VP..1003..
SVXPL 1212 H10	■	SVXPR 1212 H10	■	12	12	100	5	3°	VP..1003..
SVXPL 1616 K10	■	SVXPR 1616 K10	■	16	16	125	9	3°	VP..1003..
SVXPL 2020 K10	■	SVXPR 2020 K10	■	20	20	125	13	3°	VP..1003..

SVXP... (91°) INCH

Order designation		Dimensions						Inserts
L	R	h	b	l <sub>1</sub>	f	a	□ 300...	

STANDARD-LINE

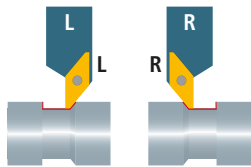
Accuracy class of UTILIS □ 171



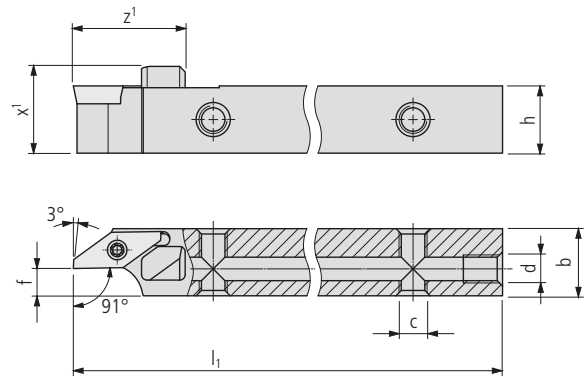
SVXPL 3/8" F10	■	SVXPR 3/8" F10	■	9.525	9.525	80	2.5	3°	VP..1003..
SVXPL 3/8" H10	■	SVXPR 3/8" H10	■	9.525	9.525	100	2.5	3°	VP..1003..
SVXPL 1/2" H10	■	SVXPR 1/2" H10	■	12.7	12.7	100	5.7	3°	VP..1003..
SVXPL 5/8" K10	■	SVXPR 5/8" K10	■	15.875	15.875	125	8.8	3°	VP..1003..
SVXPL 3/4" K10	■	SVXPR 3/4" K10	■	19.05	19.05	125	12	3°	VP..1003..

\* Attention

Picture shows holder in the left-hand version



With internal cooling

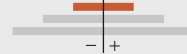


SVXP... IC (91°)

Order designation		Dimensions										Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	f	c	d	□ 300...		

PREMIUM-LINE

Accuracy class of UTILIS □ 171



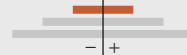
SVXPL 0808 H10 IC	■	SVXPR 0808 H10 IC	■	8	8	100	20	11.5	1	M5	M5	VP..1003..
SVXPL 1010 H10 IC	■	SVXPR 1010 H10 IC	■	10	10	100	20	13.5	3	M5	M5	VP..1003..
SVXPL 1212 H10 IC	■	SVXPR 1212 H10 IC	■	12	12	100	20	15.5	5	M5	M5	VP..1003..
SVXPL 1616 K10 IC	■	SVXPR 1616 K10 IC	■	16	16	125	20	19.5	9	M5	G1/8"	VP..1003..
SVXPL 2020 K10 IC	■	SVXPR 2020 K10 IC	■	20	20	125	20	23.5	13	M5	G1/8"	VP..1003..

SVXP... IC (91°) INCH

Order designation		Dimensions										Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	f	c	d	□ 300...		

PREMIUM-LINE

Accuracy class of UTILIS □ 171



SVXPL 3/8" H10 IC	■	SVXPR 3/8" H10 IC	■	9.525	9.525	100	20	13	2.5	M5	M5	VP..1003..
SVXPL 1/2" H10 IC	■	SVXPR 1/2" H10 IC	■	12.7	12.7	100	20	16.2	5.7	M5	M5	VP..1003..
SVXPL 5/8" K10 IC	■	SVXPR 5/8" K10 IC	■	15.875	15.875	125	20	19.4	8.8	M5	G1/8"	VP..1003..
SVXPL 3/4" K10 IC	■	SVXPR 3/4" K10 IC	■	19.05	19.05	125	20	22.6	12	M5	G1/8"	VP..1003..

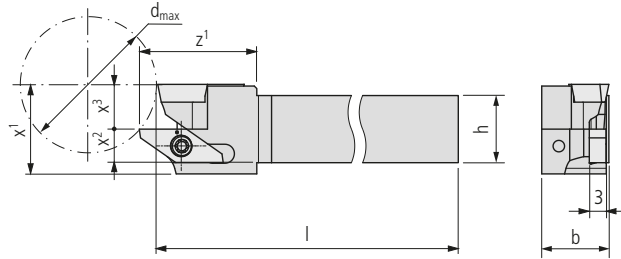
Scope of delivery: Holder without coolant connector

Coolant connectors □ 632



"TWIN" version

314



SVJP. (93°)/1600... TWIN (R-R)

Order designation	Dimensions									Inserts		
	h	b	l	z <sup>1</sup>	x <sup>1</sup>	x <sup>2</sup>	x <sup>3</sup>	d <sub>max</sub>	□ 300...	□ 47...		
Accuracy class of UTILIS □ 171 												
	SVJPR/1600R-0810 H10 Twin	■	8	10	100	21	16	4	8	23	VP..1003..	16...
	SVJPR/1600R-1010 H10 Twin	■	10	10	100	21	16	5	8	23	VP..1003..	16...
	SVJPR/1600R-1212 H10 Twin	■	12	12	100	21	16	6	8	23	VP..1003..	16...
	SVJPR/1600R-1616 K10 Twin	■	16	16	125	21	20	8	10	34	VP..1003..	16...
	SVJPR/1600R-2020 K10 Twin	■	20	20	125	21	24	8	14	63	VP..1003..	16...

STANDARD-LINE

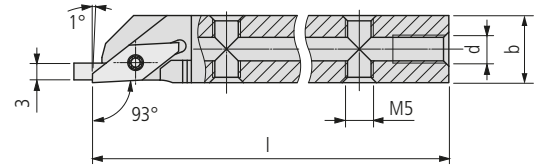
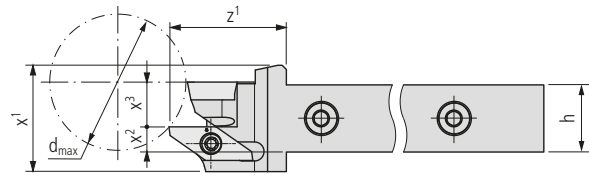
SVJP. (93°)/1600... TWIN INCH (R-R)

Order designation	Dimensions									Inserts		
	h	b	l	z <sup>1</sup>	x <sup>1</sup>	x <sup>2</sup>	x <sup>3</sup>	d <sub>max</sub>	□ 300...	□ 47...		
Accuracy class of UTILIS □ 171 												
	SVJPR/1600R-3/8" H10 Twin	■	9.525	9.525	100	21	16	4.76	8	23	VP..1003..	16...
	SVJPR/1600R-1/2" H10 Twin	■	12.7	12.7	100	21	16	6.35	8	23	VP..1003..	16...
	SVJPR/1600R-5/8" K10 Twin	■	15.875	15.875	125	21	20	7.94	10	34	VP..1003..	16...
	SVJPR/1600R-3/4" K10 Twin	■	19.05	19.05	125	21	24	7.53	14	63	VP..1003..	16...

STANDARD-LINE



"TWIN" version with internal cooling



SVJP. (93°)/1600... TWIN IC (R-R)

Order designation	Dimensions										Inserts		
	h	b	l	z <sup>1</sup>	x <sup>1</sup>	x <sup>2</sup>	x <sup>3</sup>	d	d <sub>max</sub>	□300...	□47...		
	Accuracy class of UTILIS □ 171												
	SVJPR/1600R-0810 H10 Twin IC	■	8	10	100	21	19	2.5	8	M5	23	VP..1003..	16...
	SVJPR/1600R-1010 H10 Twin IC	■	10	10	100	21	19	3.5	8	M5	23	VP..1003..	16...
	SVJPR/1600R-1212 H10 Twin IC	■	12	12	100	21	19	4.5	8	M5	23	VP..1003..	16...
	SVJPR/1600R-1616 K10 Twin IC	■	16	16	125	21	23	6.5	10	G1/8"	34	VP..1003..	16...
	SVJPR/1600R-2020 K10 Twin IC	■	20	20	125	21	27	6.5	14	G1/8"	63	VP..1003..	16...

**PREMIUM-LINE**

SVJP. (93°)/1600... TWIN IC INCH (R-R)

Order designation	Dimensions										Inserts		
	h	b	l	z <sup>1</sup>	x <sup>1</sup>	x <sup>2</sup>	x <sup>3</sup>	d	d <sub>max</sub>	□300...	□47...		
	Accuracy class of UTILIS □ 171												
	SVJPR/1600R-3/8" H10 Twin IC	■	9.525	9.525	100	21	19	3.26	8	M5	23	VP..1003..	16...
	SVJPR/1600R-1/2" H10 Twin IC	■	12.7	12.7	100	21	19	4.85	8	M5	23	VP..1003..	16...
	SVJPR/1600R-5/8" K10 Twin IC	■	15.875	15.875	125	21	23	6.44	10	G1/8"	34	VP..1003..	16...
	SVJPR/1600R-3/4" K10 Twin IC	■	19.05	19.05	125	21	27	6.03	14	G1/8"	63	VP..1003..	16...

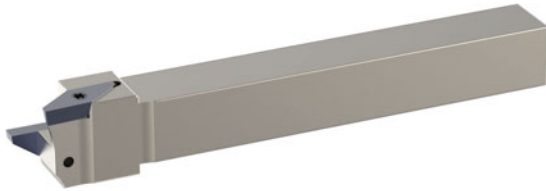
**Scope of delivery:** Holder without coolant connector  
Coolant connectors □ 632



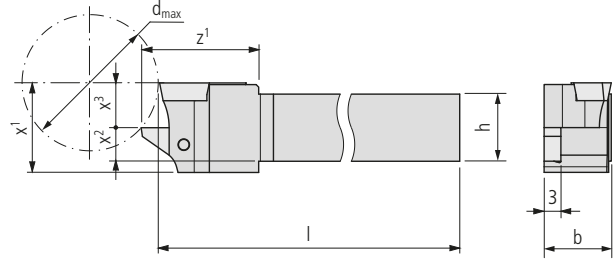
"TWIN" version

316

UTILIS **multidec**® swiss type tools



SVJP. (93°)/1600... TWIN (R-L)



Order designation	Dimensions									Inserts		
	h	b	l	z <sup>1</sup>	x <sup>1</sup>	x <sup>2</sup>	x <sup>3</sup>	d <sub>max</sub>	□ 300...	□ 47...		
Accuracy class of UTILIS □ 171 												
	SVJPR/1600L-0810 H10 Twin	■	8	10	100	21	16	4	8	23	VP..1003..	16...
	SVJPR/1600L-1010 H10 Twin	■	10	10	100	21	16	5	8	23	VP..1003..	16...
	SVJPR/1600L-1212 H10 Twin	■	12	12	100	21	16	6	8	23	VP..1003..	16...
	SVJPR/1600L-1616 K10 Twin	■	16	16	125	21	20	8	10	33	VP..1003..	16...
	SVJPR/1600L-2020 K10 Twin	■	20	20	125	21	24	8	12	63	VP..1003..	16...

STANDARD-LINE

SVJP. (93°)/1600... TWIN INCH (R-L)

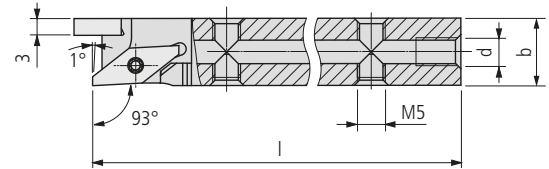
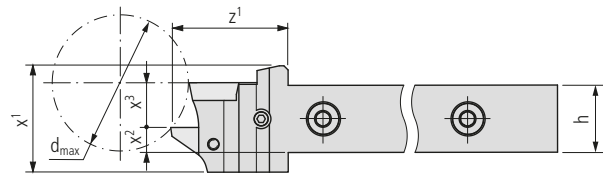
Order designation	Dimensions									Inserts		
	h	b	l	z <sup>1</sup>	x <sup>1</sup>	x <sup>2</sup>	x <sup>3</sup>	d <sub>max</sub>	□ 300...	□ 47...		
Accuracy class of UTILIS □ 171 												
	SVJPR/1600L-3/8" H10 Twin	■	9.525	9.525	100	21	16	4.76	8	23	VP..1003..	16...
	SVJPR/1600L-1/2" H10 Twin	■	12.7	12.7	100	21	16	6.35	8	23	VP..1003..	16...
	SVJPR/1600L-5/8" K10 Twin	■	15.875	15.875	125	21	20	7.94	10	33	VP..1003..	16...
	SVJPR/1600L-3/4" K10 Twin	■	19.05	19.05	125	21	24	7.53	14	63	VP..1003..	16...

STANDARD-LINE





"TWIN" version with internal cooling



SVJP. (93°)/1600... TWIN IC (R-L)

Order designation	Dimensions										Inserts		
	h	b	l	z <sup>1</sup>	x <sup>1</sup>	x <sup>2</sup>	x <sup>3</sup>	d	d <sub>max</sub>	□ 300...	□ 47...		
	Accuracy class of UTILIS □ 171												
	SVJPR/1600L-0810 H10 Twin IC	■	8	10	100	21	19	2.5	8	M5	23	VP..1003..	16...
	SVJPR/1600L-1010 H10 Twin IC	■	10	10	100	21	19	3.5	8	M5	23	VP..1003..	16...
	SVJPR/1600L-1212 H10 Twin IC	■	12	12	100	21	19	4.5	8	M5	23	VP..1003..	16...
	SVJPR/1600L-1616 K10 Twin IC	■	16	16	125	21	23	6.5	10	G1/8"	33	VP..1003..	16...
	SVJPR/1600L-2020 K10 Twin IC	■	20	20	125	21	27	6.5	14	G1/8"	63	VP..1003..	16...

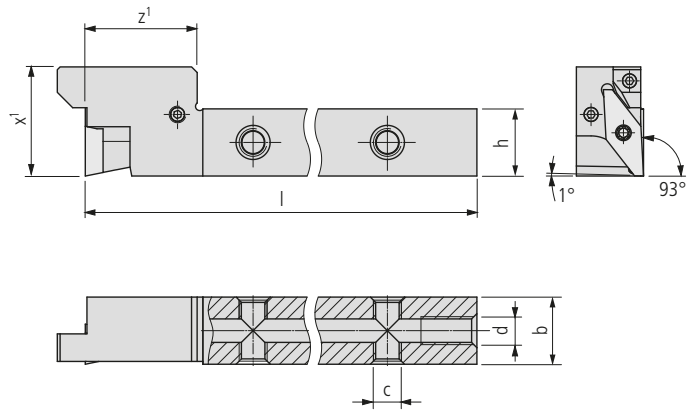
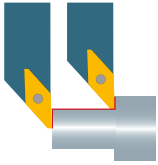
PREMIUM-LINE

SVJP. (93°)/1600... TWIN IC INCH (R-L)

Order designation	Dimensions										Inserts		
	h	b	l	z <sup>1</sup>	x <sup>1</sup>	x <sup>2</sup>	x <sup>3</sup>	d	d <sub>max</sub>	□ 300...	□ 47...		
	Accuracy class of UTILIS □ 171												
	SVJPR/1600L-3/8" H10 Twin IC	■	9.525	9.525	100	21	19	3.26	8	M5	23	VP..1003..	16...
	SVJPR/1600L-1/2" H10 Twin IC	■	12.7	12.7	100	21	19	4.85	8	M5	23	VP..1003..	16...
	SVJPR/1600L-5/8" K10 Twin IC	■	15.875	15.875	125	21	23	6.44	10	G1/8"	33	VP..1003..	16...
	SVJPR/1600L-3/4" K10 Twin IC	■	19.05	19.05	125	21	27	6.03	14	G1/8"	63	VP..1003..	16...

Scope of delivery: Holder without coolant connector  
 Coolant connectors □ 632

"Y-AXIS" version with internal cooling



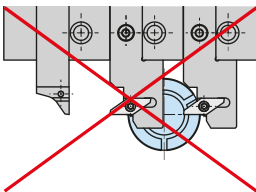
SVJPR.YA... IC (93°)

Order designation		Dimensions									Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	f	c	d	□ 300...	
Accuracy class of UTILIS □ 171											
		SVJPR YA-1212 H10-20 IC	■	12	12	100	20	19.5	M5	M5	VP.. 1003...
		SVJPR YA-1212 H10-25 IC	■	12	12	100	25	19.5	M5	M5	VP.. 1003...
		SVJPR YA-1212 H10-30 IC	■	12	12	100	30	19.5	M5	M5	VP.. 1003...
		SVJPR YA-1616 K10-20 IC	■	16	16	125	20	19.5	M5	G1/8	VP.. 1003...
		SVJPR YA-1616 K10-25 IC	■	16	16	125	25	19.5	M5	G1/8	VP.. 1003...
		SVJPR YA-1616 K10-30 IC	■	16	16	125	30	19.5	M5	G1/8	VP.. 1003...

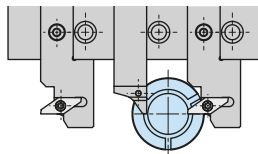
SVJPR.YA... IC (93°) INCH

Order designation		Dimensions									Inserts
L	R	h	b	l <sub>1</sub>	z <sup>1</sup>	x <sup>1</sup>	f	c	d	□ 300...	
Accuracy class of UTILIS □ 171											
		SVJPR YA-1/2" H10-20 IC	■	12.7	12.7	100	20	19.5	M5	M5	VP.. 1003...
		SVJPR YA-1/2" H10-25 IC	■	12.7	12.7	100	25	19.5	M5	M5	VP.. 1003...
		SVJPR YA-1/2" H10-30 IC	■	12.7	12.7	100	30	19.5	M5	M5	VP.. 1003...
		SVJPR YA-5/8" K10-20 IC	■	15.875	15.875	125	20	19.5	M5	G1/8	VP.. 1003...
		SVJPR YA-5/8" K10-25 IC	■	15.875	15.875	125	25	19.5	M5	G1/8	VP.. 1003...
		SVJPR YA-5/8" K10-30 IC	■	15.875	15.875	125	30	19.5	M5	G1/8	VP.. 1003...

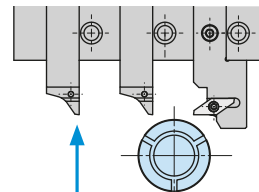
Usage notes:



To avoid problems, two Y-AXIS holders must not be mounted directly next to each other.



Mount a standard tool holder between the Y-AXIS holders.

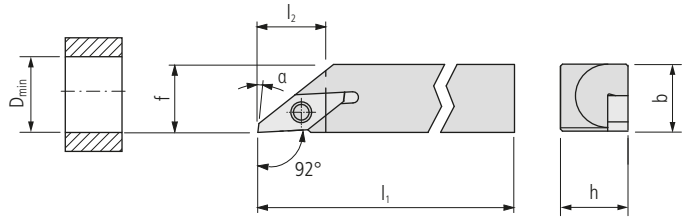
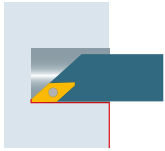


To prevent collisions, move back the holder in accordance with the overhanging length before changing the tool position.

Scope of delivery: Holder without coolant connector  
Coolant connectors □ 632

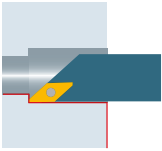
■ New

Legend □ 6



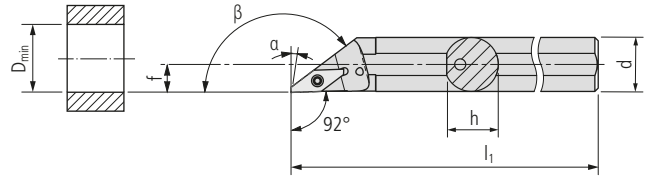
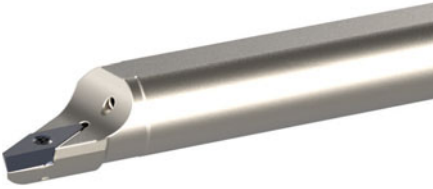
SVJP... (92°)

Order designation		Dimensions									Inserts
L	R	h	b	l <sub>1</sub>	l <sub>2</sub>	f	D <sub>min</sub>	α			
<p><b>STANDARD-LINE</b></p> <p>Accuracy class of UTILIS □ 171</p> <p style="text-align: center;">- +</p>											
SVJPL 1212 XH10	■	SVJPR 1212 XH10	■	12	12	100	12	12.2	16	2°	VP..1003..
SVJPL 1616 XK10	■	SVJPR 1616 XK10	■	16	16	125	12	16.2	16	2°	VP..1003..



320

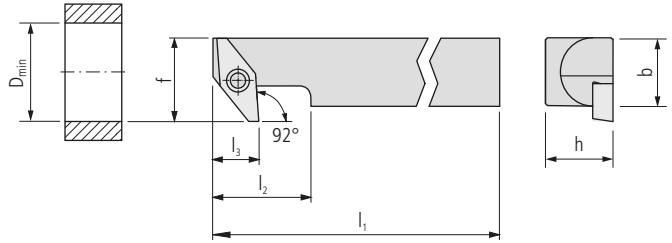
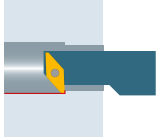
UTILIS  
**multidec**  
swiss type tools



A... SVOP... (92°)

Order designation		Dimensions								Inserts	
L	R	d	h	l <sub>1</sub>	f	D <sub>min</sub>	α	β	□ 300...		
Accuracy class of UTILIS □ 171											
A16M SVOPL 10	■	A16M SVOPR 10	■	16	15.3	150	8.3	20	2°	143°	VP..1003..

**STANDARD-LINE**

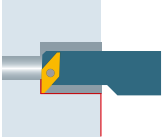


SVQP... (92°)

Order designation		Dimensions									Inserts
L	R	h	b	l <sub>1</sub>	l <sub>2</sub>	f	D <sub>min</sub>	l <sub>3</sub>	□ 300...		
Accuracy class of UTILIS □ 171											
SVQPL 1212 XH10	■	SVQPR 1212 XH10	■	12	12	100	12	15.7	16	7.7	VP..1003..
SVQPL 1616 XK10	■	SVQPR 1616 XK10	■	16	16	125	12	15.7	16	7.7	VP..1003..

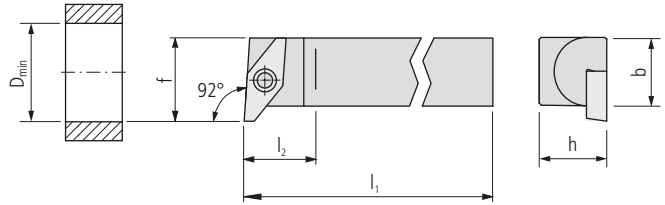
**STANDARD-LINE**

321  
UTILIS  
**multidec**  
swiss type tools



322

UTILIS  
**multidec**  
swiss type tools




SVUP... (92°)

Order designation		Dimensions							Inserts*	
L	R	h	b	l <sub>1</sub>	l <sub>2</sub>	f	D <sub>min</sub>	□ 300...		
Accuracy class of UTILIS □ 171										
SVUPL 1212 XH10	■	SVUPR 1212 XH10	■	12	12	100	12	15.7	17	VP..1003..
SVUPL 1616 XK10	■	SVUPR 1616 XK10	■	16	16	125	12	15.7	17	VP..1003..



**STANDARD-LINE**

**\* Attention**  
Right hand holder needs left hand insert!


## For holders (SV.P...) OD turning

Illustration	Description	Dimensions	Order designation		Holder
	TORX screw	M2.5 × 6 T08	MSP 25060 T08	■	SV.P... 10

## For holders (SV.P... FC) OD turning

Illustration	Description	Dimensions	Order designation		Holder
	Clamping bolts	3 × 10	MSP SB 35080 FC	■	SV.P... 10 FC
	Clamping screw	M3 × 10	MSP KS 30080 FC T06	■	SV.P... 10 FC

## For holders (... SV.P...) ID turning

Illustration	Description	Dimensions	Order designation		Holder
	TORX screw	M2.5 × 6 T08	MSP 25060 T08	■	A16M SV.P... 10

TORX screwdriver  664

	Steel unalloyed			Steel low alloyed			Steel high alloyed			Titanium		
Hardness value (HB)	125–300			180–250			200–350			–		
Category	I			II			III			IV		
Machining method	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼
Cutting speeds	v <sub>c</sub> (m/min)											
Cutting material carbide												
UHM 10	40–110	60–120	60–140	60–100	60–120	60–130	40–90	60–110	60–120	40–60	50–70	60–80
UHM 10 HX	60–180	60–220	60–260	60–170	60–200	60–240	50–160	60–180	60–220	40–120	50–130	50–150
UHM 10 MZ	180–300	220–400	250–500	150–280	200–320	250–400	120–280	180–320	180–320	–	–	–
UHM 20 HPX	150–200	180–220	200–260	80–150	100–180	160–220	70–100	90–150	120–180	50–100	60–120	60–140
UHM 20 MZ	130–180	160–220	180–260	100–160	110–180	130–220	70–150	110–160	130–190	–	–	–
UHM 30	30–70	50–80	50–100	30–60	40–80	40–90	30–50	30–70	30–80	40–50	25–60	30–70
UHM 30 HX	50–140	50–180	50–220	50–130	50–160	50–200	40–120	50–140	50–180	30–90	40–100	40–120
UHM 30 MZ	120–160	150–200	170–240	90–140	100–160	120–200	60–130	90–140	110–160	–	–	–
UHM 30 SX	50–120	50–180	50–200	50–100	50–140	50–180	40–90	50–120	50–160	–	–	–
Cutting material cermet												
UCM 10	–	180–300	220–350	–	140–250	180–300	–	140–180	160–200	–	–	–
UCM 10 HX	–	250–350	300–450	–	200–300	220–380	–	240–300	260–350	–	–	–
Cutting material diamond												
UCVD 08	–	–	–	–	–	–	–	–	–	–	–	–
UPCD 15	–	–	–	–	–	–	–	–	–	–	–	–
UPCD 20	–	–	–	–	–	–	–	–	–	–	–	–

Feed (f) and depths of cut (a<sub>p</sub>) □ 178...



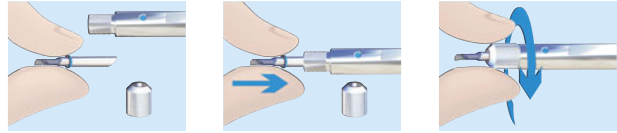
	Stainless steel			Stainless steel			Aluminum			Brass		
Hardness value (HB)	180–220			220–330			60–130			–		
Category	V			VI			VII			VIII		
Machining method	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼
Cutting speeds	$v_c$ (m/min)											
Cutting material carbide												
UHM 10	40–100	40–110	40–120	30–70	30–80	30–80	100–1500	120–2000	160–2500	80–300	100–400	120–500
UHM 10 HX	50–140	50–180	50–220	40–100	50–110	50–130	140–2500	160–3000	200–3000	100–450	100–600	100–750
UHM 10 MZ	100–180	180–250	220–300	–	–	–	–	–	–	–	–	–
UHM 20 HPX	90–150	110–180	160–200	70–90	90–120	110–150	–	–	–	–	–	–
UHM 20 MZ	90–150	110–160	130–180	50–80	30–50	40–70	–	–	–	–	–	–
UHM 30	30–60	30–70	30–80	20–30	20–40	20–40	50–1000	60–1200	80–1500	40–100	50–140	50–160
UHM 30 HX	40–100	40–140	40–180	30–60	40–70	40–90	70–1500	80–2000	100–3000	50–150	50–200	50–250
UHM 30 MZ	80–130	100–140	110–160	40–80	50–90	90–110	–	–	–	–	–	–
UHM 30 SX	30–90	40–120	40–160	20–50	30–60	30–80	60–1200	80–2000	100–3000	50–120	50–180	50–200
Cutting material cermet												
UCM 10	–	140–180	150–220	–	70–90	70–110	–	–	–	–	–	–
UCM 10 HX	–	170–230	220–280	–	80–110	110–140	–	–	–	–	–	–
Cutting material diamond												
UCVD 08	–	–	–	–	–	–	–	300–2000	300–3000	–	250–1000	300–1500
UPCD 15	–	–	–	–	–	–	–	300–2000	300–3000	–	250–1000	300–1500
UPCD 20	–	–	–	–	–	–	–	300–2000	300–3000	–	250–1000	300–1500

Feed (f) and depths of cut ( $a_p$ ) □ 178...

multidec®-BORE MICRO provides a wide range of inserts for miniaturized ID-turning (diameter between 0.5 and 8 mm). Sharp edges, small radii and ground surfaces guarantee accurate cutting. multidec-BORE MICRO is excellent for machining of common materials as well as exotic alloys. multidec®-BORE MICRO carbide tools are available with wear-resistant coatings as well as uncoated. The heat-treated tool-holder SDA ... can be fixed in a usual chuck or ID tool station. The inserts can be replaced by hand without any measuring or adjusting of axial and radial position. The unique clamping nut ensures accurate location of the boring tool and prevents vibration.

326

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**multidec**<sup>®</sup>  
 swiss type tools



**Advantages:**

- For internal machining methods with small diameters:
  - high positioning accuracy
  - internal cooling system and
  - smallest internal diameter of 0.5 mm
- Sharp cutting edges
- Different coatings are available
  - tenacious carbide grade
  - coated and uncoated


The Superclamp holder offers higher holding forces and better stability, needed especially for broaching, hard cutting with CBN and machining of finest surfaces with PCD, CVD-Diamond and MCD, in non-ferrous materials.




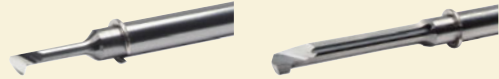
AKR-Mono is a holder for use on the outside turning position when no more inside holder fixing space is available.





Technical information 9


Application ID turning  328

Product lines and accuracy classes of UTILIS  330


Inserts  331


Holders  352

Holder Superclamp  354

Holder AKR-Mono  355

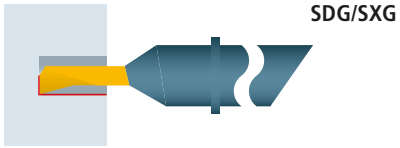
Replacement and spare parts  356

Cutting specification  358

Accessories  625

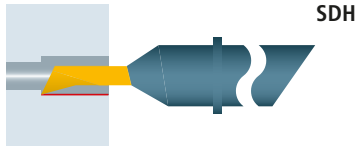
Drilling and Turning

Inserts □ 332...



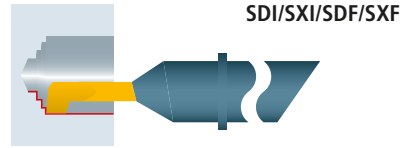
Front turning

Inserts □ 338...



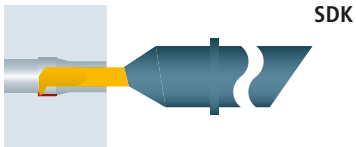
Turning and facing

Inserts □ 334...



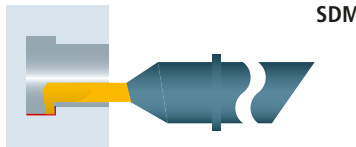
Turning and front turning

Inserts □ 339...



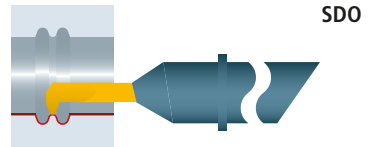
Back turning

Inserts □ 340...



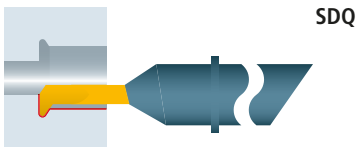
Turning

Inserts □ 341...



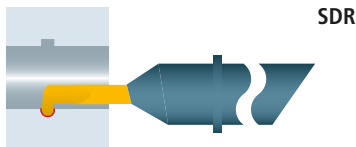
Turning

Inserts □ 342...



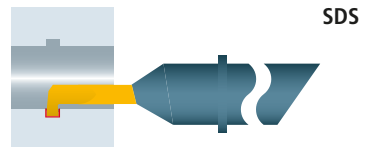
Radius-grooving

Inserts □ 343...



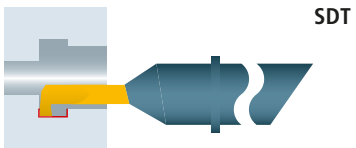
Grooving

Inserts □ 344...



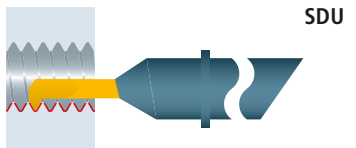
Grooving and Turning

Inserts □ 345...



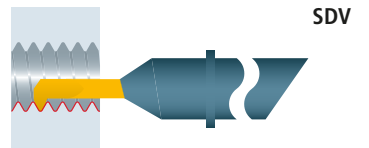
Threading (partial profile)

Inserts □ 346...



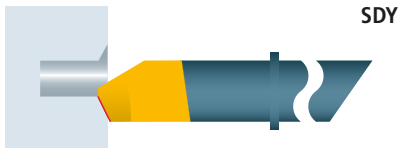
Threading (full profile)

Inserts □ 347...



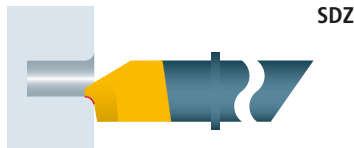
Chamfering

Inserts □ 350...



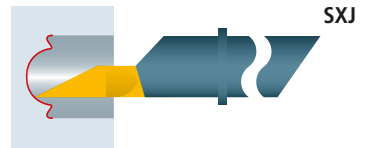
Radius

Inserts □ 351...



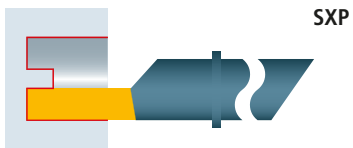
Copy turning (axial)

Inserts □ 348...






Grooving (axial)

Inserts □ 349...



Holders □ 352...

All illustrations show right hand design. Left hand design is also available.

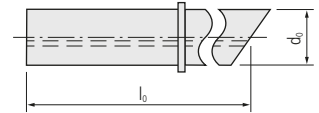
Product line	Accuracy class of UTILIS	Repeatability
<b>PREMIUM-LINE</b>		< 10 μm
<b>STANDARD-LINE</b>		< 20 μm
<b>VALUE-LINE</b>		< 50 μm

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

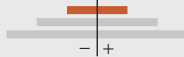



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Blank

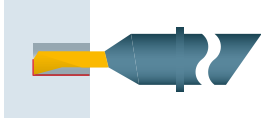


SD ...

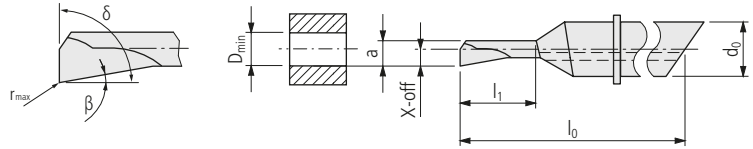
Order designation	Carbide  19	Dimensions											Holder  352...		
<b>R</b>															
															
															
	UHM 20	d <sub>0</sub>	l <sub>0</sub>												
Accuracy class of UTILIS  330 															
SD 448 R ...		4	48												SDA 4...
SD 668 R ...		6	68												SDA 6...
SD 882 R ...		8	82												SDA 8...

**PREMIUM-LINE**

331  
UTILIS multidec® swiss type tools



Drilling and turning

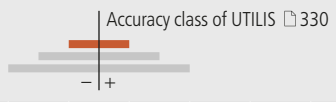


SDG ...

Order designation	Carbide		19	Dimensions											Holder 352...
	UHM 20	UHM 20 HX		D <sub>min</sub>	l <sub>1</sub>	d <sub>0</sub>	a	X-off	l <sub>0</sub>	r <sub>max</sub>	β	δ			

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swiss type tools

**PREMIUM-LINE**

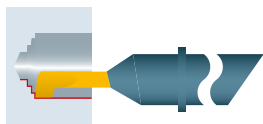


SDG 435 042 R ...	■	■	0.42	1.5	4	0.38	0.21	35	0.01	2.5°	89.5°				SDA 4...
SDG 435 052 R ...	■	■	0.52	1.8	4	0.47	0.26	35	0.02	2.5°	89.5°				SDA 4...
SDG 435 072 R ...	■	■	0.72	2.4	4	0.65	0.36	35	0.03	2.5°	89.5°				SDA 4...
SDG 435 092 R ...	■	■	0.92	3	4	0.83	0.46	35	0.02	2.5°	89.5°				SDA 4...
SDG 440 092 R ...	■	■	0.92	3	4	0.83	0.46	40	0.03	2.5°	89.5°				SDA 4...
SDG 448 092 R ...	■	■	0.92	5	4	0.83	0.46	48	0.03	2.5°	89.5°				SDA 4...
SDG 435 122 R ...	■	■	1.22	3.9	4	1.10	0.61	35	0.03	2.5°	89.5°				SDA 4...
SDG 435 142 R ...	■	■	1.42	4.5	4	1.28	0.71	35	0.02	2.5°	89.5°				SDA 4...
SDG 440 142 R ...	■	■	1.42	4.5	4	1.28	0.71	40	0.04	2.5°	89.5°				SDA 4...
SDG 448 142 R ...	■	■	1.42	7.5	4	1.28	0.71	48	0.04	2.5°	89.5°				SDA 4...
SDG 435 192 R ...	■	■	1.92	6	4	1.73	0.96	35	0.03	2.5°	89.5°				SDA 4...
SDG 440 192 R ...	■	■	1.92	6	4	1.73	0.96	40	0.04	2.5°	89.5°				SDA 4...
SDG 448 192 R ...	■	■	1.92	10	4	1.73	0.96	48	0.04	2.5°	89.5°				SDA 4...
SDG 435 242 R ...	■	■	2.42	7.5	4	2.18	1.21	35	0.03	2.5°	89.5°				SDA 4...
SDG 440 242 R ...	■	■	2.42	7.5	4	2.18	1.21	40	0.05	2.5°	89.5°				SDA 4...
SDG 448 242 R ...	■	■	2.42	12.5	4	2.18	1.21	48	0.05	2.5°	89.5°				SDA 4...
SDG 440 292 R ...	■	■	2.92	9	4	2.63	1.46	40	0.05	2.5°	89.5°				SDA 4...
SDG 448 292 R ...	■	■	2.92	15	4	2.63	1.46	48	0.05	2.5°	89.5°				SDA 4...
SDG 440 342 R ...	■	■	3.42	10.5	4	3.08	1.71	40	0.06	2.5°	89.5°				SDA 4...
SDG 448 342 R ...	■	■	3.42	17.5	4	3.08	1.71	48	0.06	2.5°	89.5°				SDA 4...
SDG 440 392 R ...	■	■	3.92	12	4	3.53	1.96	40	0.06	2.5°	89.5°				SDA 4...
SDG 448 392 R ...	■	■	3.92	20	4	3.53	1.96	48	0.06	2.5°	89.5°				SDA 4...
SDG 644 442 R ...	■	■	4.42	9	6	3.98	2.21	44	0.07	2.5°	89.5°				SDA 6...
SDG 656 442 R ...	■	■	4.42	18	6	3.98	2.21	56	0.07	2.5°	89.5°				SDA 6...
SDG 668 442 R ...	■	■	4.42	27	6	3.98	2.21	68	0.07	2.5°	89.5°				SDA 6...
SDG 644 492 R ...	■	■	4.92	10	6	4.43	2.46	44	0.07	2.5°	89.5°				SDA 6...
SDG 656 492 R ...	■	■	4.92	20	6	4.43	2.46	56	0.07	2.5°	89.5°				SDA 6...
SDG 668 492 R ...	■	■	4.92	30	6	4.43	2.46	68	0.07	2.5°	89.5°				SDA 6...
SDG 644 542 R ...	■	■	5.42	11	6	4.88	2.71	44	0.08	2.5°	89.5°				SDA 6...
SDG 656 542 R ...	■	■	5.42	22	6	4.88	2.71	56	0.08	2.5°	89.5°				SDA 6...
SDG 668 542 R ...	■	■	5.42	33	6	4.88	2.71	68	0.08	2.5°	89.5°				SDA 6...
SDG 644 592 R ...	■	■	5.92	12	6	5.33	2.96	44	0.08	2.5°	89.5°				SDA 6...
SDG 656 592 R ...	■	■	5.92	24	6	5.33	2.96	56	0.08	2.5°	89.5°				SDA 6...
SDG 668 592 R ...	■	■	5.92	36	6	5.33	2.96	68	0.08	2.5°	89.5°				SDA 6...
SDG 850 692 R ...	■	■	6.92	14	8	6.23	3.46	50	0.09	2.5°	89.5°				SDA 8...
SDG 866 692 R ...	■	■	6.92	28	8	6.23	3.46	66	0.09	2.5°	89.5°				SDA 8...
SDG 882 692 R ...	■	■	6.92	42	8	6.23	3.46	82	0.09	2.5°	89.5°				SDA 8...
SDG 850 792 R ...	■	■	7.92	16	8	7.13	3.96	50	0.1	2.5°	89.5°				SDA 8...
SDG 866 792 R ...	■	■	7.92	32	8	7.13	3.96	66	0.1	2.5°	89.5°				SDA 8...
SDG 882 792 R ...	■	■	7.92	48	8	7.13	3.96	82	0.1	2.5°	89.5°				SDA 8...

\* Left execution and other coatings on demand

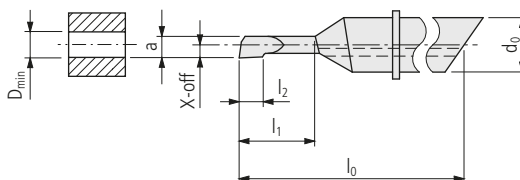
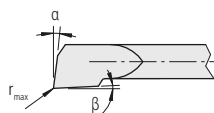






Turning and facing

334

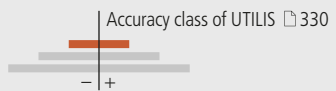


SDI ...

Order designation	Carbide		19	Dimensions											Holder
	UHM 20	UHM 20 HX		D <sub>min</sub>	l <sub>1</sub>	d <sub>0</sub>	a	X-off	l <sub>0</sub>	l <sub>2</sub>	r <sub>max</sub>	α	β	352...	

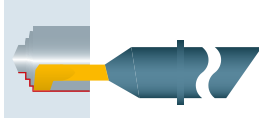
UTILIS multidec® swiss type tools

**PREMIUM-LINE**

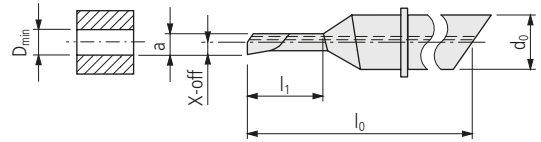
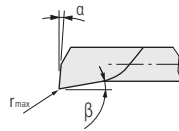


Order designation	Carbide	19	D <sub>min</sub>	l <sub>1</sub>	d <sub>0</sub>	a	X-off	l <sub>0</sub>	l <sub>2</sub>	r <sub>max</sub>	α	β	Holder
SDI 435 042 R ...	■	■	0.42	1.5	4	0.38	0.21	35	0.5	0.01	0.5°	2.5°	SDA 4...
SDI 435 052 R ...	■	■	0.52	1.8	4	0.47	0.26	35	0.6	0.02	0.5°	2.5°	SDA 4...
SDI 435 072 R ...	■	■	0.72	2.4	4	0.65	0.36	35	0.8	0.02	0.5°	2.5°	SDA 4...
SDI 435 092 R ...	■	■	0.92	3	4	0.83	0.46	35	1	0.02	0.5°	2.5°	SDA 4...
SDI 440 092 R ...	■	■	0.92	3	4	0.83	0.46	40	1	0.02	0.5°	2.5°	SDA 4...
SDI 448 092 R ...	■	■	0.92	5	4	0.83	0.46	48	1	0.02	0.5°	2.5°	SDA 4...
SDI 435 122 R ...	■	■	1.22	3.9	4	1.10	0.61	35	1.3	0.02	0.5°	2.5°	SDA 4...
SDI 435 142 R ...	■	■	1.42	4.5	4	1.28	0.71	35	1.5	0.02	0.5°	2.5°	SDA 4...
SDI 440 142 R ...	■	■	1.42	4.5	4	1.28	0.71	40	1.5	0.02	0.5°	2.5°	SDA 4...
SDI 448 142 R ...	■	■	1.42	7.5	4	1.28	0.71	48	1.5	0.02	0.5°	2.5°	SDA 4...
SDI 435 192 R ...	■	■	1.92	6	4	1.73	0.96	35	2	0.03	0.5°	2.5°	SDA 4...
SDI 440 192 R ...	■	■	1.92	6	4	1.73	0.96	40	2	0.02	0.5°	2.5°	SDA 4...
SDI 448 192 R ...	■	■	1.92	10	4	1.73	0.96	48	2	0.02	0.5°	2.5°	SDA 4...
SDI 435 242 R ...	■	■	2.42	7.5	4	2.18	1.21	35	2.5	0.03	0.5°	2.5°	SDA 4...
SDI 440 242 R ...	■	■	2.42	7.5	4	2.18	1.21	40	2.5	0.02	0.5°	2.5°	SDA 4...
SDI 448 242 R ...	■	■	2.42	12.5	4	2.18	1.21	48	2.5	0.02	0.5°	2.5°	SDA 4...
SDI 440 292 R ...	■	■	2.92	9	4	2.63	1.46	40	3	0.02	0.5°	2.5°	SDA 4...
SDI 448 292 R ...	■	■	2.92	15	4	2.63	1.46	48	3	0.02	0.5°	2.5°	SDA 4...
SDI 440 342 R ...	■	■	3.42	10.5	4	3.08	1.71	40	3.5	0.02	0.5°	2.5°	SDA 4...
SDI 448 342 R ...	■	■	3.42	17.5	4	3.08	1.71	48	3.5	0.02	0.5°	2.5°	SDA 4...
SDI 440 392 R ...	■	■	3.92	12	4	3.53	1.96	40	4	0.02	0.5°	2.5°	SDA 4...
SDI 448 392 R ...	■	■	3.92	20	4	3.53	1.96	48	4	0.02	0.5°	2.5°	SDA 4...
SDI 644 442 R ...	■	■	4.42	9	6	3.98	2.21	44	4.5	0.02	0.5°	2.5°	SDA 6...
SDI 656 442 R ...	■	■	4.42	18	6	3.98	2.21	56	4.5	0.02	0.5°	2.5°	SDA 6...
SDI 668 442 R ...	■	■	4.42	27	6	3.98	2.21	68	4.5	0.02	0.5°	2.5°	SDA 6...
SDI 644 492 R ...	■	■	4.92	10	6	4.43	2.46	44	5	0.02	0.5°	2.5°	SDA 6...
SDI 656 492 R ...	■	■	4.92	20	6	4.43	2.46	56	5	0.02	0.5°	2.5°	SDA 6...
SDI 668 492 R ...	■	■	4.92	30	6	4.43	2.46	68	5	0.02	0.5°	2.5°	SDA 6...
SDI 644 542 R ...	■	■	5.42	11	6	4.88	2.71	44	5.5	0.02	0.5°	2.5°	SDA 6...
SDI 656 542 R ...	■	■	5.42	22	6	4.88	2.71	56	5.5	0.02	0.5°	2.5°	SDA 6...
SDI 668 542 R ...	■	■	5.42	33	6	4.88	2.71	68	5.5	0.02	0.5°	2.5°	SDA 6...
SDI 644 592 R ...	■	■	5.92	12	6	5.33	2.96	44	6	0.02	0.5°	2.5°	SDA 6...
SDI 656 592 R ...	■	■	5.92	24	6	5.33	2.96	56	6	0.02	0.5°	2.5°	SDA 6...
SDI 668 592 R ...	■	■	5.92	36	6	5.33	2.96	68	6	0.02	0.5°	2.5°	SDA 6...
SDI 850 692 R ...	■	■	6.92	14	8	6.23	3.46	50	7	0.02	0.5°	2.5°	SDA 8...
SDI 866 692 R ...	■	■	6.92	28	8	6.23	3.46	66	7	0.02	0.5°	2.5°	SDA 8...
SDI 882 692 R ...	■	■	6.92	42	8	6.23	3.46	82	7	0.02	0.5°	2.5°	SDA 8...
SDI 850 792 R ...	■	■	7.92	16	8	7.13	3.96	50	8	0.02	0.5°	2.5°	SDA 8...
SDI 866 792 R ...	■	■	7.92	32	8	7.13	3.96	66	8	0.02	0.5°	2.5°	SDA 8...
SDI 882 792 R ...	■	■	7.92	48	8	7.13	3.96	82	8	0.02	0.5°	2.5°	SDA 8...

\* Left execution and other coatings on demand



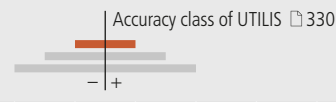
**Turning and facing**  
Strengthen type (for blind holes)



SXI ...

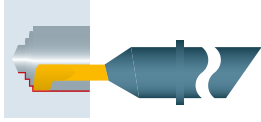
Order designation	Carbide □ 19		Dimensions											Holder	
			D <sub>min</sub>	l <sub>1</sub>	d <sub>0</sub>	a	X-off	l <sub>0</sub>	r <sub>max</sub>	α	β				□ 352...
<b>R</b>			UHM 20	UHM 20 HX											

**PREMIUM-LINE**

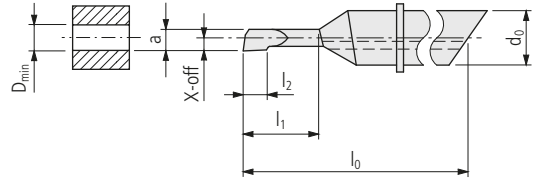
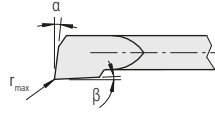


SXI 435 042 R ...	■	■	0.42	1.5	4	0.38	0.21	35	0.02	0.5°	2.5°				SDA 4...
SXI 435 052 R ...	■	■	0.52	1.8	4	0.47	0.26	35	0.02	0.5°	2.5°				SDA 4...
SXI 435 072 R ...	■	■	0.72	2.4	4	0.65	0.36	35	0.02	0.5°	2.5°				SDA 4...
SXI 435 092 R ...	■	■	0.92	3	4	0.83	0.46	35	0.02	0.5°	2.5°				SDA 4...
SXI 440 092 R ...	■	■	0.92	5	4	0.83	0.46	40	0.02	0.5°	2.5°				SDA 4...
SXI 435 122 R ...	■	■	1.22	3.9	4	1.1	0.61	35	0.02	0.5°	2.5°				SDA 4...
SXI 435 142 R ...	■	■	1.42	4.5	4	1.28	0.71	35	0.02	0.5°	2.5°				SDA 4...
SXI 440 142 R ...	■	■	1.42	7.5	4	1.28	0.71	40	0.02	0.5°	2.5°				SDA 4...
SXI 435 192 R ...	■	■	1.92	6	4	1.73	0.96	35	0.02	0.5°	2.5°				SDA 4...
SXI 440 192 R ...	■	■	1.92	10	4	1.73	0.96	40	0.02	0.5°	2.5°				SDA 4...
SXI 435 242 R ...	■	■	2.42	7.5	4	2.18	1.21	35	0.02	0.5°	2.5°				SDA 4...
SXI 440 242 R ...	■	■	2.42	12.5	4	2.18	1.21	40	0.02	0.5°	2.5°				SDA 4...
SXI 440 292 R ...	■	■	2.92	9	4	2.63	1.46	40	0.02	0.5°	2.5°				SDA 4...
SXI 448 292 R ...	■	■	2.92	15	4	2.63	1.46	48	0.02	0.5°	2.5°				SDA 4...
SXI 440 342 R ...	■	■	3.42	10.5	4	3.08	1.71	40	0.02	0.5°	2.5°				SDA 4...
SXI 448 342 R ...	■	■	3.42	17.5	4	3.08	1.71	48	0.02	0.5°	2.5°				SDA 4...
SXI 440 392 R ...	■	■	3.92	12	4	3.53	1.96	40	0.02	0.5°	2.5°				SDA 4...
SXI 448 392 R ...	■	■	3.92	20	4	3.53	1.96	48	0.02	0.5°	2.5°				SDA 4...
SXI 644 442 R ...	■	■	4.42	9	6	3.98	2.21	44	0.02	0.5°	2.5°				SDA 6...
SXI 656 442 R ...	■	■	4.42	18	6	3.98	2.21	56	0.02	0.5°	2.5°				SDA 6...
SXI 668 442 R ...	■	■	4.42	27	6	3.98	2.21	68	0.02	0.5°	2.5°				SDA 6...
SXI 644 492 R ...	■	■	4.92	10	6	4.43	2.46	44	0.02	0.5°	2.5°				SDA 6...
SXI 656 492 R ...	■	■	4.92	20	6	4.43	2.46	56	0.02	0.5°	2.5°				SDA 6...
SXI 668 492 R ...	■	■	4.92	30	6	4.43	2.46	68	0.02	0.5°	2.5°				SDA 6...
SXI 644 542 R ...	■	■	5.42	11	6	4.88	2.71	44	0.02	0.5°	2.5°				SDA 6...
SXI 656 542 R ...	■	■	5.42	22	6	4.88	2.71	56	0.02	0.5°	2.5°				SDA 6...
SXI 668 542 R ...	■	■	5.42	33	6	4.88	2.71	68	0.02	0.5°	2.5°				SDA 6...
SXI 644 592 R ...	■	■	5.92	12	6	5.33	2.96	44	0.02	0.5°	2.5°				SDA 6...
SXI 656 592 R ...	■	■	5.92	24	6	5.33	2.96	56	0.02	0.5°	2.5°				SDA 6...
SXI 668 592 R ...	■	■	5.92	36	6	5.33	2.96	68	0.02	0.5°	2.5°				SDA 6...
SXI 850 692 R ...	■	■	6.92	14	8	6.23	3.46	50	0.02	0.5°	2.5°				SDA 8...
SXI 866 692 R ...	■	■	6.92	28	8	6.23	3.46	66	0.02	0.5°	2.5°				SDA 8...
SXI 882 692 R ...	■	■	6.92	42	8	6.23	3.46	82	0.02	0.5°	2.5°				SDA 8...
SXI 850 792 R ...	■	■	7.92	16	8	7.13	3.96	50	0.02	0.5°	2.5°				SDA 8...
SXI 866 792 R ...	■	■	7.92	32	8	7.13	3.96	66	0.02	0.5°	2.5°				SDA 8...
SXI 882 792 R ...	■	■	7.92	48	8	7.13	3.96	82	0.02	0.5°	2.5°				SDA 8...

\* Left execution and other coatings on demand



Turning and facing

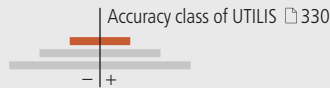


SDF ...

Order designation	Carbide		19	Dimensions											Holder		
				D <sub>min</sub>	l <sub>1</sub>	d <sub>0</sub>	a	X-off	l <sub>0</sub>	l <sub>2</sub>	r	α	β	352...			
<b>R</b>																	
	UHM 20	UHM 20 HX															

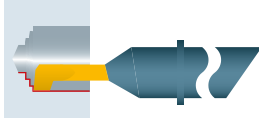
UTILIS  
**multidec**  
swiss type tools

**PREMIUM-LINE**

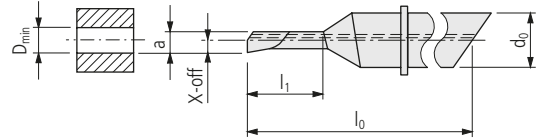
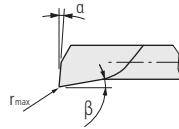


Order designation			D <sub>min</sub>	l <sub>1</sub>	d <sub>0</sub>	a	X-off	l <sub>0</sub>	l <sub>2</sub>	r	α	β	Holder
SDF 435 042 R ...	■	■	0.42	1.5	4	0.38	0.21	35	0.5	0.06	0.5°	2.5°	SDA 4...
SDF 435 092 R ...	■	■	0.92	3	4	0.83	0.46	35	1	0.06	0.5°	2.5°	SDA 4...
SDF 440 092 R ...	■	■	0.92	3	4	0.83	0.46	40	1	0.06	0.5°	2.5°	SDA 4...
SDF 448 092 R ...	■	■	0.92	5	4	0.83	0.46	48	1	0.06	0.5°	2.5°	SDA 4...
SDF 435 142 R ...	■	■	1.42	4.5	4	1.28	0.71	35	1.5	0.06	0.5°	2.5°	SDA 4...
SDF 440 142 R ...	■	■	1.42	4.5	4	1.28	0.71	40	1.5	0.06	0.5°	2.5°	SDA 4...
SDF 448 142 R ...	■	■	1.42	7.5	4	1.28	0.71	48	1.5	0.06	0.5°	2.5°	SDA 4...
SDF 435 192 R ...	■	■	1.92	6	4	1.73	0.96	35	2	0.06	0.5°	2.5°	SDA 4...
SDF 440 192 R ...	■	■	1.92	6	4	1.73	0.96	40	2	0.06	0.5°	2.5°	SDA 4...
SDF 448 192 R ...	■	■	1.92	10	4	1.73	0.96	48	2	0.06	0.5°	2.5°	SDA 4...
SDF 435 242 R ...	■	■	2.42	7.5	4	2.18	1.21	35	2.5	0.06	0.5°	2.5°	SDA 4...
SDF 440 242 R ...	■	■	2.42	7.5	4	2.18	1.21	40	2.5	0.06	0.5°	2.5°	SDA 4...
SDF 448 242 R ...	■	■	2.42	12.5	4	2.18	1.21	48	2.5	0.06	0.5°	2.5°	SDA 4...
SDF 440 292 R ...	■	■	2.92	9	4	2.63	1.46	40	3	0.06	0.5°	2.5°	SDA 4...
SDF 448 292 R ...	■	■	2.92	15	4	2.63	1.46	48	3	0.06	0.5°	2.5°	SDA 4...
SDF 440 342 R ...	■	■	3.42	10.5	4	3.08	1.71	40	3.5	0.06	0.5°	2.5°	SDA 4...
SDF 448 342 R ...	■	■	3.42	17.5	4	3.08	1.71	48	3.5	0.06	0.5°	2.5°	SDA 4...
SDF 440 392 R ...	■	■	3.92	12	4	3.53	1.96	40	4	0.06	0.5°	2.5°	SDA 4...
SDF 448 392 R ...	■	■	3.92	20	4	3.53	1.96	48	4	0.06	0.5°	2.5°	SDA 4...
SDF 644 442 R ...	■	■	4.42	9	6	3.98	2.21	44	4.5	0.08	0.5°	2.5°	SDA 6...
SDF 656 442 R ...	■	■	4.42	18	6	3.98	2.21	56	4.5	0.08	0.5°	2.5°	SDA 6...
SDF 668 442 R ...	■	■	4.42	27	6	3.98	2.21	68	4.5	0.08	0.5°	2.5°	SDA 6...
SDF 644 492 R ...	■	■	4.92	10	6	4.43	2.46	44	5	0.08	0.5°	2.5°	SDA 6...
SDF 656 492 R ...	■	■	4.92	20	6	4.43	2.46	56	5	0.08	0.5°	2.5°	SDA 6...
SDF 668 492 R ...	■	■	4.92	30	6	4.43	2.46	68	5	0.08	0.5°	2.5°	SDA 6...
SDF 644 542 R ...	■	■	5.42	11	6	4.88	2.71	44	5.5	0.08	0.5°	2.5°	SDA 6...
SDF 656 542 R ...	■	■	5.42	22	6	4.88	2.71	56	5.5	0.08	0.5°	2.5°	SDA 6...
SDF 668 542 R ...	■	■	5.42	33	6	4.88	2.71	68	5.5	0.08	0.5°	2.5°	SDA 6...
SDF 644 592 R ...	■	■	5.92	12	6	5.33	2.96	44	6	0.08	0.5°	2.5°	SDA 6...
SDF 656 592 R ...	■	■	5.92	24	6	5.33	2.96	56	6	0.08	0.5°	2.5°	SDA 6...
SDF 668 592 R ...	■	■	5.92	36	6	5.33	2.96	68	6	0.08	0.5°	2.5°	SDA 6...
SDF 850 692 R ...	■	■	6.92	14	8	6.23	3.46	50	7	0.12	0.5°	2.5°	SDA 8...
SDF 866 692 R ...	■	■	6.92	28	8	6.23	3.46	66	7	0.12	0.5°	2.5°	SDA 8...
SDF 882 692 R ...	■	■	6.92	42	8	6.23	3.46	82	7	0.12	0.5°	2.5°	SDA 8...
SDF 850 792 R ...	■	■	7.92	16	8	3.96	3.96	50	8	0.12	0.5°	2.5°	SDA 8...
SDF 866 792 R ...	■	■	7.92	32	8	3.96	3.96	66	8	0.12	0.5°	2.5°	SDA 8...
SDF 882 792 R ...	■	■	7.92	48	8	3.96	3.96	82	8	0.12	0.5°	2.5°	SDA 8...

\* Left execution and other coatings on demand



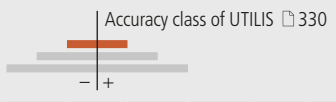
**Turning and facing**  
Strengthen type (for blind holes)



SXF ...

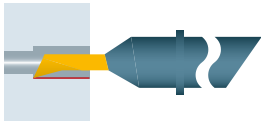
Order designation	Carbide		19	Dimensions											Holder	
	UHM 20	UHM 20 HX		D <sub>min</sub>	l <sub>1</sub>	d <sub>0</sub>	a	X-off	l <sub>0</sub>	r	α	β				

**PREMIUM-LINE**

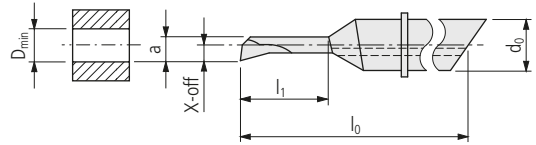
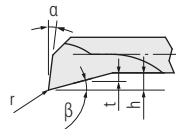


Order designation	UHM 20	UHM 20 HX	D <sub>min</sub>	l <sub>1</sub>	d <sub>0</sub>	a	X-off	l <sub>0</sub>	r	α	β								Holder
SXF 435 042 R ...	■	■	0.42	1.5	4	0.38	0.21	35	0.06	0.5°	2.5°								SDA 4R ...
SXF 435 092 R ...	■	■	0.92	3	4	0.83	0.46	35	0.06	0.5°	2.5°								SDA 4R ...
SXF 440 092 R ...	■	■	0.92	5	4	0.83	0.46	40	0.06	0.5°	2.5°								SDA 4R ...
SXF 435 142 R ...	■	■	1.42	4.5	4	1.28	0.71	35	0.06	0.5°	2.5°								SDA 4R ...
SXF 440 142 R ...	■	■	1.42	7.5	4	1.28	0.71	40	0.06	0.5°	2.5°								SDA 4R ...
SXF 435 192 R ...	■	■	1.92	6	4	1.73	0.96	35	0.06	0.5°	2.5°								SDA 4R ...
SXF 440 192 R ...	■	■	1.92	10	4	1.73	0.96	40	0.06	0.5°	2.5°								SDA 4R ...
SXF 435 242 R ...	■	■	2.42	7.5	4	2.18	1.21	35	0.06	0.5°	2.5°								SDA 4R ...
SXF 440 242 R ...	■	■	2.42	12.5	4	2.18	1.21	40	0.06	0.5°	2.5°								SDA 4R ...
SXF 440 292 R ...	■	■	2.92	9	4	2.63	1.46	40	0.06	0.5°	2.5°								SDA 4R ...
SXF 448 292 R ...	■	■	2.92	15	4	2.63	1.46	48	0.06	0.5°	2.5°								SDA 4R ...
SXF 440 342 R ...	■	■	3.42	10.5	4	3.08	1.71	40	0.06	0.5°	2.5°								SDA 4R ...
SXF 448 342 R ...	■	■	3.42	17.5	4	3.08	1.71	48	0.06	0.5°	2.5°								SDA 4R ...
SXF 440 392 R ...	■	■	3.92	12	4	3.53	1.96	40	0.06	0.5°	2.5°								SDA 4R ...
SXF 448 392 R ...	■	■	3.92	20	4	3.53	1.96	48	0.06	0.5°	2.5°								SDA 4R ...
SXF 644 442 R ...	■	■	4.42	9	6	3.98	2.21	44	0.08	0.5°	2.5°								SDA 4R ...
SXF 656 442 R ...	■	■	4.42	18	6	3.98	2.21	56	0.08	0.5°	2.5°								SDA 4R ...
SXF 668 442 R ...	■	■	4.42	27	6	3.98	2.21	68	0.08	0.5°	2.5°								SDA 4R ...
SXF 644 492 R ...	■	■	4.92	10	6	4.43	2.46	44	0.08	0.5°	2.5°								SDA 4R ...
SXF 656 492 R ...	■	■	4.92	20	6	4.43	2.46	56	0.08	0.5°	2.5°								SDA 6R ...
SXF 668 492 R ...	■	■	4.92	30	6	4.43	2.46	68	0.08	0.5°	2.5°								SDA 6R ...
SXF 644 542 R ...	■	■	5.42	11	6	4.88	2.71	44	0.08	0.5°	2.5°								SDA 6R ...
SXF 656 542 R ...	■	■	5.42	22	6	4.88	2.71	56	0.08	0.5°	2.5°								SDA 6R ...
SXF 668 542 R ...	■	■	5.42	33	6	4.88	2.71	68	0.08	0.5°	2.5°								SDA 6R ...
SXF 644 592 R ...	■	■	5.92	12	6	5.33	2.96	44	0.08	0.5°	2.5°								SDA 6R ...
SXF 656 592 R ...	■	■	5.92	24	6	5.33	2.96	56	0.08	0.5°	2.5°								SDA 6R ...
SXF 668 592 R ...	■	■	5.92	36	6	5.33	2.96	68	0.08	0.5°	2.5°								SDA 6R ...
SXF 850 692 R ...	■	■	6.92	14	8	6.23	3.46	50	0.12	0.5°	2.5°								SDA 6R ...
SXF 866 692 R ...	■	■	6.92	8	8	6.23	3.46	66	0.12	0.5°	2.5°								SDA 6R ...
SXF 882 692 R ...	■	■	6.92	42	8	6.23	3.46	82	0.12	0.5°	2.5°								SDA 6R ...
SXF 850 792 R ...	■	■	7.92	16	8	3.96	3.96	50	0.12	0.5°	2.5°								SDA 6R ...
SXF 866 792 R ...	■	■	7.92	32	8	3.96	3.96	66	0.12	0.5°	2.5°								SDA 8R ...
SXF 882 792 R ...	■	■	7.92	48	8	3.96	3.96	82	0.12	0.5°	2.5°								SDA 8R ...

\* Left execution and other coatings on demand



Front turning

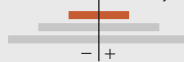


SDH ...

Order designation	Carbide		19	Dimensions											Holder			
	○	●		D <sub>min</sub>	l <sub>1</sub>	d <sub>0</sub>	a	X-off	h	t	l <sub>0</sub>	r	α	β				
R *	○	●																352...
	○	●	UHM 20	UHM 20 HX														

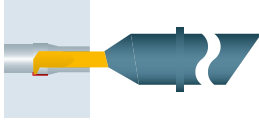
**PREMIUM-LINE**

Accuracy class of UTILIS 330

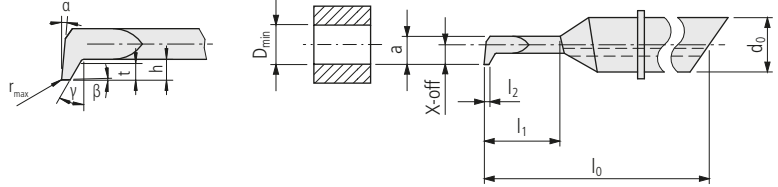


SDH 435 042 R ...	■	■	0.42	1.5	4	0.38	0.21	0.09	0.07	35	0.05	7.5°	22.5°				SDA 4...
SDH 435 092 R ...	■	■	0.92	3	4	0.83	0.46	0.19	0.15	35	0.05	7.5°	22.5°				SDA 4...
SDH 440 092 R ...	■	■	0.92	3	4	0.83	0.46	0.21	0.16	40	0.05	7.5°	22.5°				SDA 4...
SDH 448 092 R ...	■	■	0.92	5	4	0.83	0.46	0.21	0.16	48	0.05	7.5°	22.5°				SDA 4...
SDH 435 142 R ...	■	■	1.42	4.5	4	1.28	0.71	0.3	0.23	35	0.05	7.5°	22.5°				SDA 4...
SDH 440 142 R ...	■	■	1.42	4.5	4	1.28	0.71	0.31	0.23	40	0.05	7.5°	22.5°				SDA 4...
SDH 448 142 R ...	■	■	1.42	7.5	4	1.28	0.71	0.31	0.23	48	0.05	7.5°	22.5°				SDA 4...
SDH 435 192 R ...	■	■	1.92	6	4	1.73	0.96	0.4	0.31	35	0.05	7.5°	22.5°				SDA 4...
SDH 440 192 R ...	■	■	1.92	6	4	1.73	0.96	0.41	0.31	40	0.05	7.5°	22.5°				SDA 4...
SDH 448 192 R ...	■	■	1.92	10	4	1.73	0.96	0.41	0.31	48	0.05	7.5°	22.5°				SDA 4...
SDH 435 242 R ...	■	■	2.42	7.5	4	2.18	1.21	0.51	0.39	35	0.05	7.5°	22.5°				SDA 4...
SDH 440 242 R ...	■	■	2.42	7.5	4	2.18	1.21	0.52	0.39	40	0.05	7.5°	22.5°				SDA 4...
SDH 448 242 R ...	■	■	2.42	12.5	4	2.18	1.21	0.52	0.39	48	0.05	7.5°	22.5°				SDA 4...
SDH 440 292 R ...	■	■	2.92	9	4	2.63	1.46	0.62	0.47	40	0.05	7.5°	22.5°				SDA 4...
SDH 448 292 R ...	■	■	2.92	15	4	2.63	1.46	0.62	0.47	48	0.05	7.5°	22.5°				SDA 4...
SDH 440 342 R ...	■	■	3.42	10.5	4	3.08	1.71	0.72	0.54	40	0.05	7.5°	22.5°				SDA 4...
SDH 448 342 R ...	■	■	3.42	17.5	4	3.08	1.71	0.72	0.54	48	0.05	7.5°	22.5°				SDA 4...
SDH 440 392 R ...	■	■	3.92	12	4	3.53	1.96	0.83	0.62	40	0.05	7.5°	22.5°				SDA 4...
SDH 448 392 R ...	■	■	3.92	20	4	3.53	1.96	0.83	0.62	48	0.05	7.5°	22.5°				SDA 4...
SDH 644 442 R ...	■	■	4.42	9	6	3.98	2.21	0.93	0.7	44	0.05	7.5°	22.5°				SDA 6...
SDH 656 442 R ...	■	■	4.42	18	6	3.98	2.21	0.93	0.7	56	0.05	7.5°	22.5°				SDA 6...
SDH 668 442 R ...	■	■	4.42	27	6	3.98	2.21	0.93	0.7	68	0.05	7.5°	22.5°				SDA 6...
SDH 644 492 R ...	■	■	4.92	10	6	4.43	2.46	1.04	0.78	44	0.05	7.5°	22.5°				SDA 6...
SDH 656 492 R ...	■	■	4.92	20	6	4.43	2.46	1.04	0.78	56	0.05	7.5°	22.5°				SDA 6...
SDH 668 492 R ...	■	■	4.92	30	6	4.43	2.46	1.04	0.78	68	0.05	7.5°	22.5°				SDA 6...
SDH 644 542 R ...	■	■	5.42	11	6	4.88	2.71	1.14	0.85	44	0.05	7.5°	22.5°				SDA 6...
SDH 656 542 R ...	■	■	5.42	22	6	4.88	2.71	1.14	0.85	56	0.05	7.5°	22.5°				SDA 6...
SDH 668 542 R ...	■	■	5.42	33	6	4.88	2.71	1.14	0.85	68	0.05	7.5°	22.5°				SDA 6...
SDH 644 592 R ...	■	■	5.92	12	6	5.33	2.96	1.24	0.93	44	0.05	7.5°	22.5°				SDA 6...
SDH 656 592 R ...	■	■	5.92	24	6	5.33	2.96	1.24	0.93	56	0.05	7.5°	22.5°				SDA 6...
SDH 668 592 R ...	■	■	5.92	36	6	5.33	2.96	1.24	0.93	68	0.05	7.5°	22.5°				SDA 6...
SDH 850 692 R ...	■	■	6.92	14	8	6.23	3.46	1.45	1.09	50	0.05	7.5°	22.5°				SDA 8...
SDH 866 692 R ...	■	■	6.92	28	8	6.23	3.46	1.45	1.09	66	0.05	7.5°	22.5°				SDA 8...
SDH 882 692 R ...	■	■	6.92	42	8	6.23	3.46	1.45	1.09	82	0.05	7.5°	22.5°				SDA 8...
SDH 850 792 R ...	■	■	7.92	16	8	7.13	3.96	1.66	1.24	50	0.05	7.5°	22.5°				SDA 8...
SDH 866 792 R ...	■	■	7.92	32	8	7.13	3.96	1.66	1.24	66	0.05	7.5°	22.5°				SDA 8...
SDH 882 792 R ...	■	■	7.92	48	8	7.13	3.96	1.66	1.24	82	0.05	7.5°	22.5°				SDA 8...

\* Left execution and other coatings on demand



Turning and front turning



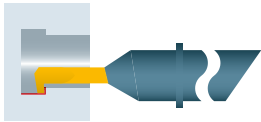
SDK ...

Order designation	Carbide		Dimensions	Accuracy class of UTILIS □ 330													Holder
	□ 19	□ 19		D <sub>min</sub>	l <sub>1</sub>	d <sub>0</sub>	a	X-off	h	t	l <sub>0</sub>	l <sub>2</sub>	r <sub>max</sub>	α	β	γ	
<b>R</b>	○	●	UHM 20														□ 352...
	○	●	UHM 20 HX														

**PREMIUM-LINE**

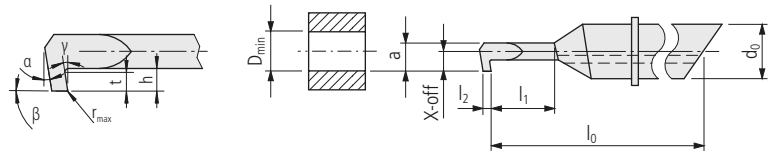
SDK 435 092 R ...	■	■	0.92	1.5	4	0.83	0.46	0.23	0.15	35	0.5	0.02	0.5°	0.5°	30°	SDA 4...
SDK 440 092 R ...	■	■	0.92	3	4	0.83	0.46	0.23	0.1	40	0.5	0.02	0.5°	0.5°	30°	SDA 4...
SDK 448 092 R ...	■	■	0.92	5	4	0.83	0.46	0.23	0.1	48	0.5	0.02	0.5°	0.5°	30°	SDA 4...
SDK 435 142 R ...	■	■	1.42	4.5	4	1.28	0.71	0.36	0.23	35	0.75	0.02	0.5°	0.5°	30°	SDA 4...
SDK 440 142 R ...	■	■	1.42	4.5	4	1.28	0.71	0.36	0.2	40	0.75	0.02	0.5°	0.5°	30°	SDA 4...
SDK 448 142 R ...	■	■	1.42	7.5	4	1.28	0.71	0.36	0.2	48	0.75	0.02	0.5°	0.5°	30°	SDA 4...
SDK 435 192 R ...	■	■	1.92	6	4	1.73	0.96	0.48	0.32	35	1	0.03	0.5°	0.5°	30°	SDA 4...
SDK 440 192 R ...	■	■	1.92	6	4	1.73	0.96	0.48	0.3	40	1	0.02	0.5°	0.5°	30°	SDA 4...
SDK 448 192 R ...	■	■	1.92	10	4	1.73	0.96	0.48	0.3	48	1	0.02	0.5°	0.5°	30°	SDA 4...
SDK 435 242 R ...	■	■	2.42	7.5	4	2.18	1.21	0.61	0.4	35	1.25	0.03	0.5°	0.5°	30°	SDA 4...
SDK 440 242 R ...	■	■	2.42	7.5	4	2.18	1.21	0.61	0.4	40	1.25	0.02	0.5°	0.5°	30°	SDA 4...
SDK 448 242 R ...	■	■	2.42	12.5	4	2.18	1.21	0.61	0.4	48	1.25	0.02	0.5°	0.5°	30°	SDA 4...
SDK 440 292 R ...	■	■	2.92	9	4	2.63	1.46	0.73	0.5	40	1.5	0.02	0.5°	0.5°	30°	SDA 4...
SDK 448 292 R ...	■	■	2.92	15	4	2.63	1.46	0.73	0.5	48	1.5	0.02	0.5°	0.5°	30°	SDA 4...
SDK 440 342 R ...	■	■	3.42	10.5	4	3.08	1.71	0.86	0.6	40	1.75	0.02	0.5°	0.5°	30°	SDA 4...
SDK 448 342 R ...	■	■	3.42	17.5	4	3.08	1.71	0.86	0.6	48	1.75	0.02	0.5°	0.5°	30°	SDA 4...
SDK 440 392 R ...	■	■	3.92	12	4	3.53	1.96	0.98	0.7	40	2	0.02	0.5°	0.5°	30°	SDA 4...
SDK 448 392 R ...	■	■	3.92	20	4	3.53	1.96	0.98	0.7	48	2	0.02	0.5°	0.5°	30°	SDA 4...
SDK 644 442 R ...	■	■	4.42	9	6	3.98	2.21	1.11	0.7	44	2.25	0.02	0.5°	0.5°	30°	SDA 6...
SDK 656 442 R ...	■	■	4.42	18	6	3.98	2.21	1.11	0.7	56	2.25	0.02	0.5°	0.5°	30°	SDA 6...
SDK 668 442 R ...	■	■	4.42	27	6	3.98	2.21	1.11	0.7	68	2.25	0.02	0.5°	0.5°	30°	SDA 6...
SDK 644 492 R ...	■	■	4.92	10	6	4.43	2.46	1.23	0.8	44	2.5	0.02	0.5°	0.5°	30°	SDA 6...
SDK 656 492 R ...	■	■	4.92	20	6	4.43	2.46	1.23	0.8	56	2.5	0.02	0.5°	0.5°	30°	SDA 6...
SDK 668 492 R ...	■	■	4.92	30	6	4.43	2.46	1.23	0.8	68	2.5	0.02	0.5°	0.5°	30°	SDA 6...
SDK 644 542 R ...	■	■	5.42	11	6	4.88	2.71	1.36	0.9	44	2.75	0.02	0.5°	0.5°	30°	SDA 6...
SDK 656 542 R ...	■	■	5.42	22	6	4.88	2.71	1.36	0.9	56	2.75	0.02	0.5°	0.5°	30°	SDA 6...
SDK 668 542 R ...	■	■	5.42	33	6	4.88	2.71	1.36	0.9	68	2.75	0.02	0.5°	0.5°	30°	SDA 6...
SDK 644 592 R ...	■	■	5.92	12	6	5.33	2.96	1.48	1	44	3	0.02	0.5°	0.5°	30°	SDA 6...
SDK 656 592 R ...	■	■	5.92	24	6	5.33	2.96	1.48	1	56	3	0.02	0.5°	0.5°	30°	SDA 6...
SDK 668 592 R ...	■	■	5.92	36	6	5.33	2.96	1.48	1	68	3	0.02	0.5°	0.5°	30°	SDA 6...
SDK 850 692 R ...	■	■	6.92	14	8	6.23	3.46	1.73	1.2	50	3.5	0.02	0.5°	0.5°	30°	SDA 8...
SDK 866 692 R ...	■	■	6.92	28	8	6.23	3.46	1.73	1.2	66	3.5	0.02	0.5°	0.5°	30°	SDA 8...
SDK 882 692 R ...	■	■	6.92	42	8	6.23	3.46	1.73	1.2	82	3.5	0.02	0.5°	0.5°	30°	SDA 8...
SDK 850 792 R ...	■	■	7.92	16	8	7.13	3.96	1.98	1.3	50	4	0.02	0.5°	0.5°	30°	SDA 8...
SDK 866 792 R ...	■	■	7.92	32	8	7.13	3.96	1.98	1.3	66	4	0.02	0.5°	0.5°	30°	SDA 8...
SDK 882 792 R ...	■	■	7.92	48	8	7.13	3.96	1.98	1.3	82	4	0.02	0.5°	0.5°	30°	SDA 8...

\* Left execution and other coatings on demand



Back turning

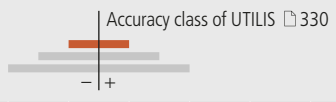
340  
UTILIS  
**multidec**  
swiss type tools



SDM ...

Order designation	Carbide		19	Dimensions												Holder		
	UHM 20	UHM 20 HX		D <sub>min</sub>	l <sub>1</sub>	d <sub>0</sub>	a	X-off	h	t	l <sub>0</sub>	l <sub>2</sub>	r <sub>max</sub>	α	β		γ	
	<input type="radio"/>	<input type="radio"/>																
	<input type="radio"/>	<input type="radio"/>																
	<input type="radio"/>	<input type="radio"/>																
	<input type="radio"/>	<input type="radio"/>																

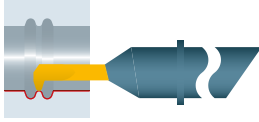
**PREMIUM-LINE**



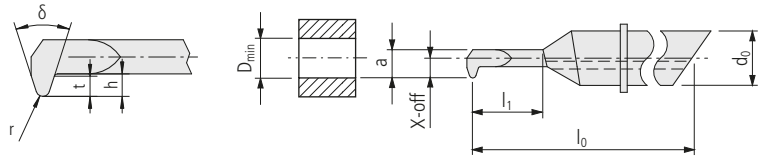
Order designation	Carbide	19	D <sub>min</sub>	l <sub>1</sub>	d <sub>0</sub>	a	X-off	h	t	l <sub>0</sub>	l <sub>2</sub>	r <sub>max</sub>	α	β	γ	Holder
SDM 435 092 R ...	■	■	0.92	1.5	4	0.83	0.46	0.23	0.15	35	0.5	0.02	30°	0.5°	0.5°	SDA 4...
SDM 440 092 R ...	■	■	0.92	3	4	0.83	0.46	0.23	0.1	40	0.5	0.02	30°	0.5°	0.5°	SDA 4...
SDM 448 092 R ...	■	■	0.92	5	4	0.83	0.46	0.23	0.1	48	0.5	0.02	30°	0.5°	0.5°	SDA 4...
SDM 435 142 R ...	■	■	1.42	4.5	4	1.28	0.71	0.36	0.23	35	0.75	0.02	30°	0.5°	0.5°	SDA 4...
SDM 440 142 R ...	■	■	1.42	4.5	4	1.28	0.71	0.36	0.2	40	0.75	0.02	30°	0.5°	0.5°	SDA 4...
SDM 448 142 R ...	■	■	1.42	7.5	4	1.28	0.71	0.36	0.2	48	0.75	0.02	30°	0.5°	0.5°	SDA 4...
SDM 435 192 R ...	■	■	1.92	6	4	1.73	0.96	0.48	0.32	35	1	0.03	30°	0.5°	0.5°	SDA 4...
SDM 440 192 R ...	■	■	1.92	6	4	1.73	0.96	0.48	0.3	40	1	0.02	30°	0.5°	0.5°	SDA 4...
SDM 448 192 R ...	■	■	1.92	10	4	1.73	0.96	0.48	0.3	48	1	0.02	30°	0.5°	0.5°	SDA 4...
SDM 435 242 R ...	■	■	2.42	7.5	4	2.18	1.21	0.61	0.4	35	1.25	0.03	30°	0.5°	0.5°	SDA 4...
SDM 440 242 R ...	■	■	2.42	7.5	4	2.18	1.21	0.61	0.4	40	1.25	0.02	30°	0.5°	0.5°	SDA 4...
SDM 448 242 R ...	■	■	2.42	12.5	4	2.18	1.21	0.61	0.4	48	1.25	0.02	30°	0.5°	0.5°	SDA 4...
SDM 440 292 R ...	■	■	2.92	9	4	2.63	1.46	0.73	0.5	40	1.5	0.02	30°	0.5°	0.5°	SDA 4...
SDM 448 292 R ...	■	■	2.92	15	4	2.63	1.46	0.73	0.5	48	1.5	0.02	30°	0.5°	0.5°	SDA 4...
SDM 440 342 R ...	■	■	3.42	10.5	4	3.08	1.71	0.86	0.6	40	1.75	0.02	30°	0.5°	0.5°	SDA 4...
SDM 448 342 R ...	■	■	3.42	17.5	4	3.08	1.71	0.86	0.6	48	1.75	0.02	30°	0.5°	0.5°	SDA 4...
SDM 440 392 R ...	■	■	3.92	12	4	3.53	1.96	0.98	0.7	40	2	0.02	30°	0.5°	0.5°	SDA 4...
SDM 448 392 R ...	■	■	3.92	20	4	3.53	1.96	0.98	0.7	48	2	0.02	30°	0.5°	0.5°	SDA 4...
SDM 644 442 R ...	■	■	4.42	9	6	3.98	2.21	1.11	0.7	44	2.25	0.02	30°	0.5°	0.5°	SDA 6...
SDM 656 442 R ...	■	■	4.42	18	6	3.98	2.21	1.11	0.7	56	2.25	0.02	30°	0.5°	0.5°	SDA 6...
SDM 668 442 R ...	■	■	4.42	27	6	3.98	2.21	1.11	0.7	68	2.25	0.02	30°	0.5°	0.5°	SDA 6...
SDM 644 492 R ...	■	■	4.92	10	6	4.43	2.46	1.23	0.8	44	2.5	0.02	30°	0.5°	0.5°	SDA 6...
SDM 656 492 R ...	■	■	4.92	20	6	4.43	2.46	1.23	0.8	56	2.5	0.02	30°	0.5°	0.5°	SDA 6...
SDM 668 492 R ...	■	■	4.92	30	6	4.43	2.46	1.23	0.8	68	2.5	0.02	30°	0.5°	0.5°	SDA 6...
SDM 644 542 R ...	■	■	5.42	11	6	4.88	2.71	1.36	0.9	44	2.75	0.02	30°	0.5°	0.5°	SDA 6...
SDM 656 542 R ...	■	■	5.42	22	6	4.88	2.71	1.36	0.9	56	2.75	0.02	30°	0.5°	0.5°	SDA 6...
SDM 668 542 R ...	■	■	5.42	33	6	4.88	2.71	1.36	0.9	68	2.75	0.02	30°	0.5°	0.5°	SDA 6...
SDM 644 592 R ...	■	■	5.92	12	6	5.33	2.96	1.48	1	44	3	0.02	30°	0.5°	0.5°	SDA 6...
SDM 656 592 R ...	■	■	5.92	24	6	5.33	2.96	1.48	1	56	3	0.02	30°	0.5°	0.5°	SDA 6...
SDM 668 592 R ...	■	■	5.92	36	6	5.33	2.96	1.48	1	68	3	0.02	30°	0.5°	0.5°	SDA 6...
SDM 850 692 R ...	■	■	6.92	14	8	6.23	3.46	1.73	1.2	50	3.5	0.02	30°	0.5°	0.5°	SDA 8...
SDM 866 692 R ...	■	■	6.92	28	8	6.23	3.46	1.73	1.2	66	3.5	0.02	30°	0.5°	0.5°	SDA 8...
SDM 882 692 R ...	■	■	6.92	42	8	6.23	3.46	1.73	1.2	82	3.5	0.02	30°	0.5°	0.5°	SDA 8...
SDM 850 792 R ...	■	■	7.92	16	8	7.13	3.96	1.98	1.3	50	4	0.02	30°	0.5°	0.5°	SDA 8...
SDM 866 792 R ...	■	■	7.92	32	8	7.13	3.96	1.98	1.3	66	4	0.02	30°	0.5°	0.5°	SDA 8...
SDM 882 792 R ...	■	■	7.92	48	8	7.13	3.96	1.98	1.3	82	4	0.02	30°	0.5°	0.5°	SDA 8...

\* Left execution and other coatings on demand





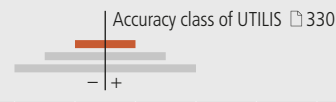
Turning



SDO ...

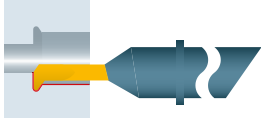
Order designation	Carbide		Dimensions	Holder												
	□ 19	□ 352...		D <sub>min</sub>	l <sub>1</sub>	d <sub>0</sub>	a	X-off	h	t	l <sub>0</sub>	r	δ			
<b>R</b>	○	●	UHM 20													
	○	●	UHM 20 HX													

**PREMIUM-LINE**

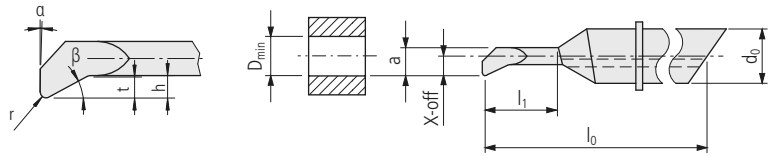


Order designation	Carbide	Holder	D <sub>min</sub>	l <sub>1</sub>	d <sub>0</sub>	a	X-off	h	t	l <sub>0</sub>	r	δ	Holder
SDO 435 092 R ...	■	■	0.92	3	4	0.83	0.46	0.31	0.23	35	0.05	59°	SDA 4...
SDO 440 092 R ...	■	■	0.92	3	4	0.83	0.46	0.31	0.2	40	0.05	59°	SDA 4...
SDO 448 092 R ...	■	■	0.92	5	4	0.83	0.46	0.31	0.2	48	0.05	59°	SDA 4...
SDO 435 142 R ...	■	■	1.42	4.5	4	1.28	0.71	0.47	0.36	35	0.05	59°	SDA 4...
SDO 440 142 R ...	■	■	1.42	4.5	4	1.28	0.71	0.47	0.4	40	0.075	59°	SDA 4...
SDO 448 142 R ...	■	■	1.42	7.5	4	1.28	0.71	0.47	0.4	48	0.075	59°	SDA 4...
SDO 435 192 R ...	■	■	1.92	6	4	1.73	0.96	0.64	0.48	35	0.05	59°	SDA 4...
SDO 440 192 R ...	■	■	1.92	6	4	1.73	0.96	0.64	0.5	40	0.1	59°	SDA 4...
SDO 448 192 R ...	■	■	1.92	10	4	1.73	0.96	0.64	0.5	48	0.1	59°	SDA 4...
SDO 435 242 R ...	■	■	2.42	7.5	4	2.18	1.21	0.81	0.61	35	0.05	59°	SDA 4...
SDO 440 242 R ...	■	■	2.42	7.5	4	2.18	1.21	0.81	0.6	40	0.125	59°	SDA 4...
SDO 448 242 R ...	■	■	2.42	12.5	4	2.18	1.21	0.81	0.6	48	0.125	59°	SDA 4...
SDO 440 292 R ...	■	■	2.92	9	4	2.63	1.46	0.97	0.7	40	0.15	59°	SDA 4...
SDO 448 292 R ...	■	■	2.92	15	4	2.63	1.46	0.97	0.7	48	0.15	59°	SDA 4...
SDO 440 342 R ...	■	■	3.42	10.5	4	3.08	1.71	1.14	0.9	40	0.175	59°	SDA 4...
SDO 448 342 R ...	■	■	3.42	17.5	4	3.08	1.71	1.14	0.9	48	0.175	59°	SDA 4...
SDO 440 392 R ...	■	■	3.92	12	4	3.53	1.96	1.31	1	40	0.2	59°	SDA 4...
SDO 448 392 R ...	■	■	3.92	20	4	3.53	1.96	1.31	1	48	0.2	59°	SDA 4...
SDO 644 442 R ...	■	■	4.42	9	6	3.98	2.21	1.47	1.1	44	0.225	59°	SDA 6...
SDO 656 442 R ...	■	■	4.42	18	6	3.98	2.21	1.47	1.1	56	0.225	59°	SDA 6...
SDO 668 442 R ...	■	■	4.42	27	6	3.98	2.21	1.47	1.1	68	0.225	59°	SDA 6...
SDO 644 492 R ...	■	■	4.92	10	6	4.43	2.46	1.64	1.2	44	0.25	59°	SDA 6...
SDO 656 492 R ...	■	■	4.92	20	6	4.43	2.46	1.64	1.2	56	0.25	59°	SDA 6...
SDO 668 492 R ...	■	■	4.92	30	6	4.43	2.46	1.64	1.2	68	0.25	59°	SDA 6...
SDO 644 542 R ...	■	■	5.42	11	6	4.88	2.71	1.8	1.4	44	0.275	59°	SDA 6...
SDO 656 542 R ...	■	■	5.42	22	6	4.88	2.71	1.8	1.4	56	0.275	59°	SDA 6...
SDO 668 542 R ...	■	■	5.42	33	6	4.88	2.71	1.8	1.4	68	0.275	59°	SDA 6...
SDO 644 592 R ...	■	■	5.92	12	6	5.33	2.96	1.97	1.5	44	0.3	59°	SDA 6...
SDO 656 592 R ...	■	■	5.92	24	6	5.33	2.96	1.97	1.5	56	0.3	59°	SDA 6...
SDO 668 592 R ...	■	■	5.92	36	6	5.33	2.96	1.97	1.5	68	0.3	59°	SDA 6...
SDO 850 692 R ...	■	■	6.92	14	8	6.23	3.46	2.3	1.7	50	0.35	59°	SDA 8...
SDO 866 692 R ...	■	■	6.92	28	8	6.23	3.46	2.3	1.7	66	0.35	59°	SDA 8...
SDO 882 692 R ...	■	■	6.92	42	8	6.23	3.46	2.3	1.7	82	0.35	59°	SDA 8...
SDO 850 792 R ...	■	■	7.92	16	8	7.13	3.96	2.64	2	50	0.4	59°	SDA 8...
SDO 866 792 R ...	■	■	7.92	32	8	7.13	3.96	2.64	2	66	0.4	59°	SDA 8...
SDO 882 792 R ...	■	■	7.92	48	8	7.13	3.96	2.64	2	82	0.4	59°	SDA 8...

\* Left execution and other coatings on demand



Turning



SDQ ...

Order designation	Carbide		19	Dimensions										Holder
	UHM 20	UHM 20 HX		D <sub>min</sub>	l <sub>1</sub>	d <sub>0</sub>	a	X-off	h	t	l <sub>0</sub>	r	a	

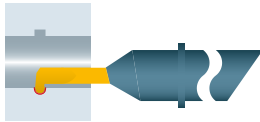
UTILIS  
**multidec**  
swiss type tools

**PREMIUM-LINE**

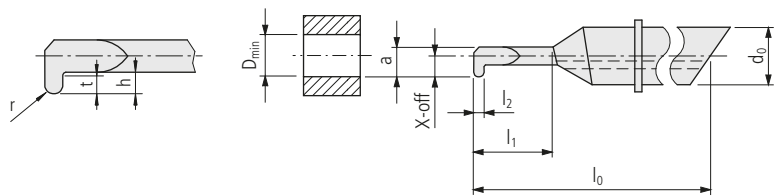
Accuracy class of UTILIS 330

SDQ 435 092 R ...	■	■	0.92	1.5	4	0.83	0.46	0.31	0.23	35	0.05	0.5°	30.5°	SDA 4...
SDQ 440 092 R ...	■	■	0.92	3	4	0.83	0.46	0.31	0.2	40	0.05	0.5°	30.5°	SDA 4...
SDQ 448 092 R ...	■	■	0.92	5	4	0.83	0.46	0.31	0.2	48	0.05	0.5°	30.5°	SDA 4...
SDQ 435 142 R ...	■	■	1.42	4.5	4	1.28	0.71	0.47	0.36	35	0.075	0.5°	30.5°	SDA 4...
SDQ 440 142 R ...	■	■	1.42	4.5	4	1.28	0.71	0.47	0.4	40	0.075	0.5°	30.5°	SDA 4...
SDQ 448 142 R ...	■	■	1.42	7.5	4	1.28	0.71	0.47	0.4	48	0.075	0.5°	30.5°	SDA 4...
SDQ 435 192 R ...	■	■	1.92	6	4	1.73	0.96	0.64	0.48	35	0.1	0.5°	30.5°	SDA 4...
SDQ 440 192 R ...	■	■	1.92	6	4	1.73	0.96	0.64	0.5	40	0.1	0.5°	30.5°	SDA 4...
SDQ 448 192 R ...	■	■	1.92	10	4	1.73	0.96	0.64	0.5	48	0.1	0.5°	30.5°	SDA 4...
SDQ 435 242 R ...	■	■	2.42	7.5	4	2.18	1.21	0.81	0.61	35	0.125	0.5°	30.5°	SDA 4...
SDQ 440 242 R ...	■	■	2.42	7.5	4	2.18	1.21	0.81	0.6	40	0.125	0.5°	30.5°	SDA 4...
SDQ 448 242 R ...	■	■	2.42	12.5	4	2.18	1.21	0.81	0.6	48	0.125	0.5°	30.5°	SDA 4...
SDQ 440 292 R ...	■	■	2.92	9	4	2.63	1.46	0.97	0.7	40	0.15	0.5°	30.5°	SDA 4...
SDQ 448 292 R ...	■	■	2.92	15	4	2.63	1.46	0.97	0.7	48	0.15	0.5°	30.5°	SDA 4...
SDQ 440 342 R ...	■	■	3.42	10.5	4	3.08	1.71	1.14	0.9	40	0.175	0.5°	30.5°	SDA 4...
SDQ 448 342 R ...	■	■	3.42	17.5	4	3.08	1.71	1.14	0.9	48	0.175	0.5°	30.5°	SDA 4...
SDQ 440 392 R ...	■	■	3.92	12	4	3.53	1.96	1.31	1	40	0.2	0.5°	30.5°	SDA 4...
SDQ 448 392 R ...	■	■	3.92	20	4	3.53	1.96	1.31	1	48	0.2	0.5°	30.5°	SDA 4...
SDQ 644 442 R ...	■	■	4.42	9	6	3.98	2.21	1.47	1.1	44	0.225	0.5°	30.5°	SDA 6...
SDQ 656 442 R ...	■	■	4.42	18	6	3.98	2.21	1.47	1.1	56	0.225	0.5°	30.5°	SDA 6...
SDQ 668 442 R ...	■	■	4.42	27	6	3.98	2.21	1.47	1.1	68	0.225	0.5°	30.5°	SDA 6...
SDQ 644 492 R ...	■	■	4.92	10	6	4.43	2.46	1.64	1.2	44	0.25	0.5°	30.5°	SDA 6...
SDQ 656 492 R ...	■	■	4.92	20	6	4.43	2.46	1.64	1.2	56	0.25	0.5°	30.5°	SDA 6...
SDQ 668 492 R ...	■	■	4.92	30	6	4.43	2.46	1.64	1.2	68	0.25	0.5°	30.5°	SDA 6...
SDQ 644 542 R ...	■	■	5.42	11	6	4.88	2.71	1.8	1.4	44	0.275	0.5°	30.5°	SDA 6...
SDQ 656 542 R ...	■	■	5.42	22	6	4.88	2.71	1.8	1.4	56	0.275	0.5°	30.5°	SDA 6...
SDQ 668 542 R ...	■	■	5.42	33	6	4.88	2.71	1.8	1.4	68	0.275	0.5°	30.5°	SDA 6...
SDQ 644 592 R ...	■	■	5.92	12	6	5.33	2.96	1.97	1.5	44	0.3	0.5°	30.5°	SDA 6...
SDQ 656 592 R ...	■	■	5.92	24	6	5.33	2.96	1.97	1.5	56	0.3	0.5°	30.5°	SDA 6...
SDQ 668 592 R ...	■	■	5.92	36	6	5.33	2.96	1.97	1.5	68	0.3	0.5°	30.5°	SDA 6...
SDQ 850 692 R ...	■	■	6.92	14	8	6.23	3.46	2.3	1.7	50	0.35	0.5°	30.5°	SDA 8...
SDQ 866 692 R ...	■	■	6.92	28	8	6.23	3.46	2.3	1.7	66	0.35	0.5°	30.5°	SDA 8...
SDQ 882 692 R ...	■	■	6.92	42	8	6.23	3.46	2.3	1.7	82	0.35	0.5°	30.5°	SDA 8...
SDQ 850 792 R ...	■	■	7.92	16	8	7.13	3.96	2.64	2	50	0.4	0.5°	30.5°	SDA 8...
SDQ 866 792 R ...	■	■	7.92	32	8	7.13	3.96	2.64	2	66	0.4	0.5°	30.5°	SDA 8...
SDQ 882 792 R ...	■	■	7.92	48	8	7.13	3.96	2.64	2	82	0.4	0.5°	30.5°	SDA 8...

\* Left execution and other coatings on demand



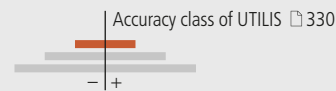
Radius-grooving



SDR ...

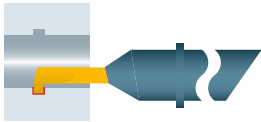
Order designation	Carbide		19	Dimensions											Holder
	UHM 20	UHM 20 HX		D <sub>min</sub>	l <sub>1</sub>	d <sub>0</sub>	a	X-off	h	t	l <sub>0</sub>	l <sub>2</sub>	r	352...	

**PREMIUM-LINE**

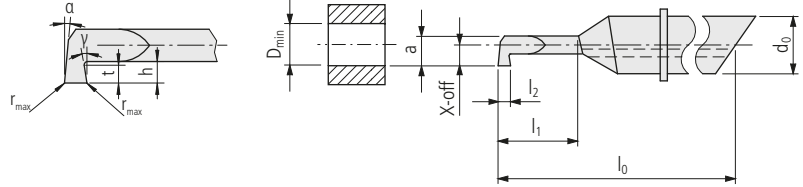


SDR 435 092 R ...	■	■	0.92	3	4	0.83	0.46	0.3	0.2	35	0.2	0.1			SDA 4...
SDR 440 092 R ...	■	■	0.92	5	4	0.83	0.46	0.3	0.2	40	0.2	0.1			SDA 4...
SDR 435 142 R ...	■	■	1.42	4.5	4	1.28	0.71	0.38	0.25	35	0.25	0.125			SDA 4...
SDR 440 142 R ...	■	■	1.42	7.5	4	1.28	0.71	0.38	0.25	40	0.25	0.125			SDA 4...
SDR 435 192 R ...	■	■	1.92	6	4	1.73	0.96	0.45	0.3	35	0.3	0.15			SDA 4...
SDR 440 192 R ...	■	■	1.92	10	4	1.73	0.96	0.45	0.3	40	0.3	0.15			SDA 4...
SDR 435 242 R ...	■	■	2.42	7.5	4	2.18	1.21	0.53	0.35	35	0.35	0.175			SDA 4...
SDR 440 242 R ...	■	■	2.42	12.5	4	2.18	1.21	0.53	0.35	40	0.35	0.175			SDA 4...
SDR 440 292 R ...	■	■	2.92	9	4	2.63	1.46	0.6	0.4	40	0.4	0.2			SDA 4...
SDR 448 292 R ...	■	■	2.92	15	4	2.63	1.46	0.6	0.4	48	0.4	0.2			SDA 4...
SDR 440 342 R ...	■	■	3.42	10.5	4	3.08	1.71	0.68	0.45	40	0.45	0.225			SDA 4...
SDR 448 342 R ...	■	■	3.42	17.5	4	3.08	1.71	0.68	0.45	48	0.45	0.225			SDA 4...
SDR 440 392 R ...	■	■	3.92	12	4	3.53	1.96	0.75	0.5	40	0.5	0.25			SDA 4...
SDR 448 392 R ...	■	■	3.92	20	4	3.53	1.96	0.75	0.5	48	0.5	0.25			SDA 4...
SDR 644 442 R ...	■	■	4.42	9	6	3.98	2.21	0.83	0.55	44	0.55	0.275			SDA 6...
SDR 656 442 R ...	■	■	4.42	18	6	3.98	2.21	0.83	0.55	56	0.55	0.275			SDA 6...
SDR 668 442 R ...	■	■	4.42	27	6	3.98	2.21	0.83	0.55	68	0.55	0.275			SDA 6...
SDR 644 492 R ...	■	■	4.92	10	6	4.43	2.46	0.9	0.6	44	0.6	0.3			SDA 6...
SDR 656 492 R ...	■	■	4.92	20	6	4.43	2.46	0.9	0.6	56	0.6	0.3			SDA 6...
SDR 668 492 R ...	■	■	4.92	30	6	4.43	2.46	0.9	0.6	68	0.6	0.3			SDA 6...
SDR 644 542 R ...	■	■	5.42	11	6	4.88	2.71	0.98	0.65	44	0.65	0.325			SDA 6...
SDR 656 542 R ...	■	■	5.42	22	6	4.88	2.71	0.98	0.65	56	0.65	0.325			SDA 6...
SDR 668 542 R ...	■	■	5.42	33	6	4.88	2.71	0.98	0.65	68	0.65	0.325			SDA 6...
SDR 644 592 R ...	■	■	5.92	12	6	5.53	2.96	1.05	0.7	44	0.7	0.35			SDA 6...
SDR 656 592 R ...	■	■	5.92	24	6	5.53	2.96	1.05	0.7	56	0.7	0.35			SDA 6...
SDR 668 592 R ...	■	■	5.92	36	6	5.53	2.96	1.05	0.7	68	0.7	0.35			SDA 6...

\* Left execution and other coatings on demand



Grooving

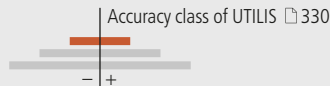


SDS ...

Order designation	Carbide		19	Dimensions											Holder 352...
	UHM 20	UHM 20 HX		D <sub>min</sub>	l <sub>1</sub>	d <sub>0</sub>	a	X-off	h	t	l <sub>0</sub>	l <sub>2</sub>	r <sub>max</sub>	α	

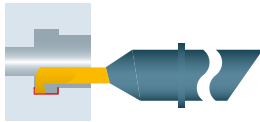
UTILIS  
**multidec**  
swiss type tools

**PREMIUM-LINE**

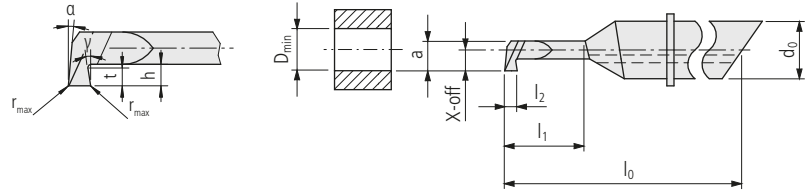


SDS 435 092 R ...	■	■	0.92	1.5	4	0.83	0.46	0.31	0.23	35	0.2	0.02	2°	2°	SDA 4...
SDS 440 092 R ...	■	■	0.92	3	4	0.83	0.46	0.31	0.2	40	0.2	0.02	2°	2°	SDA 4...
SDS 448 092 R ...	■	■	0.92	5	4	0.83	0.46	0.31	0.2	48	0.2	0.02	2°	2°	SDA 4...
SDS 435 142 R ...	■	■	1.42	4.5	4	1.28	0.71	0.47	0.36	35	0.25	0.02	2°	2°	SDA 4...
SDS 440 142 R ...	■	■	1.42	4.5	4	1.28	0.71	0.47	0.4	40	0.25	0.02	2°	2°	SDA 4...
SDS 448 142 R ...	■	■	1.42	7.5	4	1.28	0.71	0.47	0.4	48	0.25	0.02	2°	2°	SDA 4...
SDS 435 192 R ...	■	■	1.92	6	4	1.73	0.96	0.64	0.48	35	0.3	0.02	2°	2°	SDA 4...
SDS 440 192 R ...	■	■	1.92	6	4	1.73	0.96	0.64	0.5	40	0.3	0.02	2°	2°	SDA 4...
SDS 448 192 R ...	■	■	1.92	10	4	1.73	0.96	0.64	0.5	48	0.3	0.02	2°	2°	SDA 4...
SDS 435 242 R ...	■	■	2.42	7.5	4	2.18	1.21	0.81	0.61	35	0.35	0.02	2°	2°	SDA 4...
SDS 440 242 R ...	■	■	2.42	7.5	4	2.18	1.21	0.81	0.6	40	0.35	0.02	2°	2°	SDA 4...
SDS 448 242 R ...	■	■	2.42	12.5	4	2.18	1.21	0.81	0.6	48	0.35	0.02	2°	2°	SDA 4...
SDS 440 292 R ...	■	■	2.92	9	4	2.63	1.46	0.97	0.7	40	0.4	0.02	2°	2°	SDA 4...
SDS 448 292 R ...	■	■	2.92	15	4	2.63	1.46	0.97	0.7	48	0.4	0.02	2°	2°	SDA 4...
SDS 440 342 R ...	■	■	3.42	10.5	4	3.08	1.71	1.14	0.9	40	0.45	0.02	2°	2°	SDA 4...
SDS 448 342 R ...	■	■	3.42	17.5	4	3.08	1.71	1.14	0.9	48	0.45	0.02	2°	2°	SDA 4...
SDS 440 392 R ...	■	■	3.92	12	4	3.53	1.96	1.31	1	40	0.5	0.02	2°	2°	SDA 4...
SDS 448 392 R ...	■	■	3.92	20	4	3.53	1.96	1.31	1	48	0.5	0.02	2°	2°	SDA 4...
SDS 644 442 R ...	■	■	4.42	9	6	3.98	2.21	1.47	1.1	44	1	0.02	2°	2°	SDA 6...
SDS 656 442 R ...	■	■	4.42	18	6	3.98	2.21	1.47	1.1	56	1	0.02	2°	2°	SDA 6...
SDS 668 442 R ...	■	■	4.42	27	6	3.98	2.21	1.47	1.1	68	1	0.02	2°	2°	SDA 6...
SDS 644 492 R ...	■	■	4.92	10	6	4.43	2.46	1.64	1.2	44	1.5	0.02	2°	2°	SDA 6...
SDS 656 492 R ...	■	■	4.92	20	6	4.43	2.46	1.64	1.2	56	1.5	0.02	2°	2°	SDA 6...
SDS 668 492 R ...	■	■	4.92	30	6	4.43	2.46	1.64	1.2	68	1.5	0.02	2°	2°	SDA 6...
SDS 644 542 R ...	■	■	5.42	11	6	4.88	2.71	1.8	1.4	44	1	0.02	2°	2°	SDA 6...
SDS 656 542 R ...	■	■	5.42	22	6	4.88	2.71	1.8	1.4	56	1	0.02	2°	2°	SDA 6...
SDS 668 542 R ...	■	■	5.42	33	6	4.88	2.71	1.8	1.4	68	1	0.02	2°	2°	SDA 6...
SDS 644 592 R ...	■	■	5.92	12	6	5.33	2.96	1.97	1.5	44	1.5	0.02	2°	2°	SDA 6...
SDS 656 592 R ...	■	■	5.92	24	6	5.33	2.96	1.97	1.5	56	1.5	0.02	2°	2°	SDA 6...
SDS 668 592 R ...	■	■	5.92	36	6	5.33	2.96	1.97	1.5	68	1.5	0.02	2°	2°	SDA 6...
SDS 850 692 R ...	■	■	6.92	14	8	6.23	3.46	2.3	1.7	50	1.5	0.02	2°	2°	SDA 8...
SDS 866 692 R ...	■	■	6.92	28	8	6.23	3.46	2.3	1.7	66	1.5	0.02	2°	2°	SDA 8...
SDS 882 692 R ...	■	■	6.92	42	8	6.23	3.46	2.3	1.7	82	1.5	0.02	2°	2°	SDA 8...
SDS 850 792 R ...	■	■	7.92	16	8	7.13	3.96	2.64	2	50	2	0.02	2°	2°	SDA 8...
SDS 866 792 R ...	■	■	7.92	32	8	7.13	3.96	2.64	2	66	2	0.02	2°	2°	SDA 8...
SDS 882 792 R ...	■	■	7.92	48	8	7.13	3.96	2.64	2	82	2	0.02	2°	2°	SDA 8...

\* Left execution and other coatings on demand



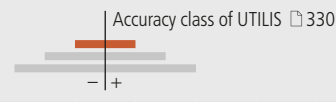
Grooving and turning



SDT ...

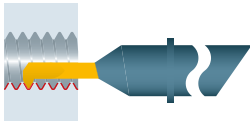
Order designation	Carbide		Dimensions											Holder	
	19	19	D <sub>min</sub>	l <sub>1</sub>	d <sub>0</sub>	a	X-off	h	t	l <sub>0</sub>	l <sub>2</sub>	r <sub>max</sub>	α	γ	352...
<b>R</b> *	○	●													
	○	●													
	○	●													
	●	○													
	UHM 20	UHM 20 HX													

**PREMIUM-LINE**

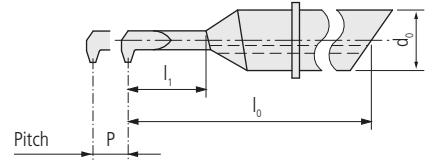
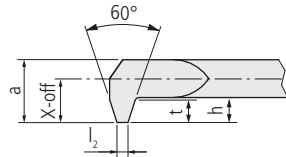


SDT 440 392 R ...	■	■	3.92	12	4	3.53	1.96	1.31	1	40	1	0.02	0°	1.5°	SDA 4...
SDT 448 392 R ...	■	■	3.92	20	4	3.53	1.96	1.31	1	48	1	0.02	0°	1.5°	SDA 4...
SDT 644 592 R ...	■	■	5.92	12	6	5.33	2.96	1.97	1.5	44	1.25	0.02	0°	1.5°	SDA 6...
SDT 656 592 R ...	■	■	5.92	24	6	5.33	2.96	1.97	1.5	56	1.25	0.02	0°	1.5°	SDA 6...
SDT 668 592 R ...	■	■	5.92	36	6	5.33	2.96	1.97	1.5	68	1.25	0.02	0°	1.5°	SDA 6...
SDT 850 792 R ...	■	■	7.92	16	8	7.13	3.96	2.64	2	50	1.5	0.02	0°	1.5°	SDA 8...
SDT 866 792 R ...	■	■	7.92	32	8	7.13	3.96	2.64	2	66	1.5	0.02	0°	1.5°	SDA 8...
SDT 882 792 R ...	■	■	7.92	48	8	7.13	3.96	2.64	2	82	1.5	0.02	0°	1.5°	SDA 8...

\* Left execution and other coatings on demand



Threading (partial profile 60°)



SDU ...

Order designation	Carbide		Standard	Dimensions									Holder	
	□ 19	□ 19		P	l <sub>1</sub>	d <sub>0</sub>	a	X-off	h	t	l <sub>0</sub>	l <sub>2</sub>		
R *	○	●	ISO DIN13											□ 352...
	○	●												
	○	●												
	●	○												
	UHM 20	UHM 20 HX												

**PREMIUM-LINE**

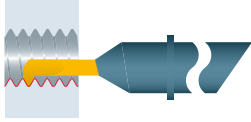
Accuracy class of UTILIS □ 330



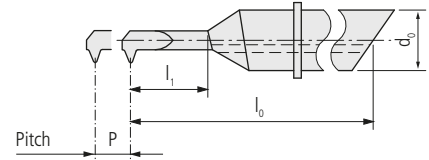
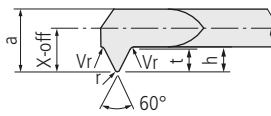
SDU 435 160 R ...	■	■	M1.6–M2	0.35–0.4	3	4	1.1	0.8	0.5	0.35	35	0.02	SDA 4...
SDU 440 160 R ...	■	■	M1.6–M2	0.35–0.4	4.8	4	1.1	0.8	0.5	0.35	40	0.02	SDA 4...
SDU 435 200 R ...	■	■	M2–M3	0.4–0.5	4.5	4	1.3	1	0.6	0.45	35	0.03	SDA 4...
SDU 440 200 R ...	■	■	M2–M3	0.4–0.5	6	4	1.3	1	0.6	0.45	40	0.03	SDA 4...
SDU 435 300 R ...	■	■	M3–M4	0.5–0.7	6	4	2	1.5	0.9	0.6	35	0.04	SDA 4...
SDU 440 300 R ...	■	■	M3–M4	0.5–0.7	9	4	2	1.5	0.9	0.6	40	0.04	SDA 4...
SDU 435 400 R ...	■	■	M4–M5	0.7–0.8	7.5	4	2.7	2	1.2	0.8	35	0.05	SDA 4...
SDU 440 400 R ...	■	■	M4–M5	0.7–0.8	12	4	2.7	2	1.2	0.8	40	0.05	SDA 4...
SDU 656 500 R ...	■	■	M5–M6	0.8–1	15	6	3.8	2.05	1.2	0.9	56	0.06	SDA 6...
SDU 656 600 R ...	■	■	M6–M7	1	18	6	4.6	2.45	1.2	0.9	56	0.07	SDA 6...
SDU 656 700 R ...	■	■	M7–M8	1–1.25	21	6	5.6	2.95	1.4	1.1	56	0.08	SDA 6...

\* Left execution and other coatings on demand

Application recommendation for number of passes at threading □ 164



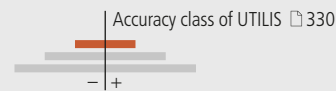
Threading (full profile metric)



SDV ...

Order designation	Carbide		Standard	Dimensions										Holder
	□ 19	□ 19		P	l <sub>1</sub>	d <sub>0</sub>	a	X-off	h	t	l <sub>0</sub>	r	Vr	
<b>R</b>	○	●	ISO DIN13	P	l <sub>1</sub>	d <sub>0</sub>	a	X-off	h	t	l <sub>0</sub>	r	Vr	□ 352...
	○	●												
	UHM 20	UHM 20 HX												

**PREMIUM-LINE**



Order designation	Carbide	Standard	P	l <sub>1</sub>	d <sub>0</sub>	a	X-off	h	t	l <sub>0</sub>	r	Vr	Holder
SDV 435 100 R ...	■	M1	0.25	3	4	0.6	0.5	0.2	0.162	35	0.02	0.04	SDA 4...
SDV 440 100 R ...	■	M1	0.25	5	4	0.6	0.5	0.2	0.162	40	0.02	0.04	SDA 4...
SDV 435 120 R ...	■	M1.2	0.25	3.6	4	0.76	0.6	0.2	0.162	35	0.02	0.04	SDA 4...
SDV 440 120 R ...	■	M1.2	0.25	6	4	0.76	0.6	0.2	0.162	40	0.02	0.04	SDA 4...
SDV 435 140 R ...	■	M1.4	0.3	4.2	4	0.92	0.7	0.23	0.194	35	0.02	0.05	SDA 4...
SDV 440 140 R ...	■	M1.4	0.3	7	4	0.92	0.7	0.23	0.194	40	0.02	0.05	SDA 4...
SDV 435 160 R ...	■	M1.6	0.35	4.8	4	1.08	0.8	0.26	0.227	35	0.03	0.05	SDA 4...
SDV 440 160 R ...	■	M1.6	0.35	8	4	1.08	0.8	0.26	0.227	40	0.03	0.05	SDA 4...
SDV 435 180 R ...	■	M1.8	0.35	5.4	4	1.24	0.9	0.26	0.227	35	0.03	0.05	SDA 4...
SDV 440 180 R ...	■	M1.8	0.35	9	4	1.24	0.9	0.26	0.227	40	0.03	0.05	SDA 4...
SDV 435 200 R ...	■	M2	0.4	6	4	1.4	1	0.3	0.258	35	0.03	0.05	SDA 4...
SDV 440 200 R ...	■	M2	0.4	10	4	1.4	1	0.3	0.258	40	0.03	0.05	SDA 4...
SDV 435 220 R ...	■	M2.2	0.45	6.6	4	1.56	1.1	0.33	0.287	35	0.03	0.05	SDA 4...
SDV 440 220 R ...	■	M2.2	0.45	11	4	1.56	1.1	0.33	0.287	40	0.03	0.05	SDA 4...
SDV 435 250 R ...	■	M2.5	0.45	7.5	4	1.8	1.25	0.33	0.287	35	0.03	0.05	SDA 4...
SDV 440 250 R ...	■	M2.5	0.45	12.5	4	1.8	1.25	0.33	0.287	40	0.03	0.05	SDA 4...
SDV 440 300 R ...	■	M3	0.5	9	4	2.2	1.5	0.37	0.316	40	0.04	0.06	SDA 4...
SDV 448 300 R ...	■	M3	0.5	15	4	2.2	1.5	0.37	0.316	48	0.04	0.06	SDA 4...
SDV 440 350 R ...	■	M3.5	0.6	10.5	4	2.6	1.75	0.43	0.374	40	0.04	0.06	SDA 4...
SDV 448 350 R ...	■	M3.5	0.6	17.5	4	2.6	1.75	0.43	0.374	48	0.04	0.06	SDA 4...
SDV 440 400 R ...	■	M4	0.7	12	4	3	2	0.5	0.432	40	0.05	0.06	SDA 4...
SDV 448 400 R ...	■	M4	0.7	20	4	3	2	0.5	0.432	48	0.05	0.06	SDA 4...
SDV 644 500 R ...	■	M5	0.8	10	6	3.8	2.5	0.57	0.5	44	0.05	0.07	SDA 6...
SDV 656 500 R ...	■	M5	0.8	20	6	3.8	2.5	0.57	0.5	56	0.05	0.07	SDA 6...
SDV 668 500 R ...	■	M5	0.8	30	6	3.8	2.5	0.57	0.5	68	0.05	0.07	SDA 6...
SDV 644 600 R ...	■	M6/7	1	12	6	4.6	3	0.7	0.62	44	0.05	0.08	SDA 6...
SDV 668 600 R ...	■	M6/7	1	36	6	4.6	3	0.7	0.62	68	0.05	0.08	SDA 6...
SDV 656 600 R ...	■	M6/M7	1	24	6	4.6	3	0.7	0.62	56	0.05	0.08	SDA 6...
SDV 644 800 R ...	■	M8	1.25	12	6	5.62	3	0.86	0.78	44	0.05	0.09	SDA 6...
SDV 656 800 R ...	■	M8	1.25	24	6	5.62	3	0.86	0.78	56	0.05	0.09	SDA 6...
SDV 668 800 R ...	■	M8	1.25	36	6	5.62	3	0.86	0.78	68	0.05	0.09	SDA 6...

\* Left execution and other coatings on demand

Application recommendation for number of passes at threading □ 164



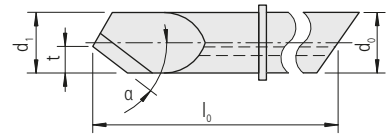






Chamfering

350



SDY ...

Order designation	Carbide	19	Dimensions										Holder		
	○	●	d <sub>0</sub>	d <sub>1</sub>	t	l <sub>0</sub>	α								352...
<b>R</b>	UHM 20	UHM 20 HX													

**PREMIUM-LINE**

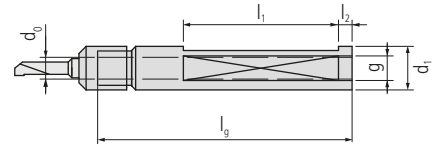
Accuracy class of UTILIS 330



SDY 440 400-30 R ...	■	■	4	4	1.75	40	30°								SDA 4...
SDY 440 400-45 R ...	■	■	4	4	1.75	40	45°								SDA 4...
SDY 440 400-60 R ...	■	■	4	4	1.75	40	60°								SDA 4...
SDY 644 600-30 R ...	■	■	6	6	2.75	44	30°								SDA 6...
SDY 644 600-45 R ...	■	■	6	6	2.75	44	45°								SDA 6...
SDY 644 600-60 R ...	■	■	6	6	2.75	44	60°								SDA 6...

\* Left execution and other coatings on demand

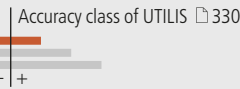




SDA ...

Order designation	Dimensions							Inserts
	d <sub>0</sub>	d <sub>1</sub>	l <sub>g</sub>	l <sub>1</sub>	l <sub>2</sub>	g	□ 331...	

**PREMIUM-LINE**

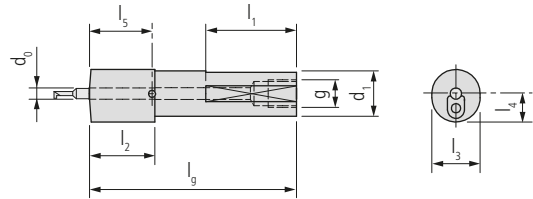


SDA 4 060 07	■	4	7	60	–	–	M5					SD.4... / SX.4...
SDA 4 060 08	■	4	8	60	27	5	M5					SD.4... / SX.4...
SDA 4 100 08	■	4	8	100	59	5	R 1/8"					SD.4... / SX.4...
SDA 4 060 10	■	4	10	60	27	5	M5					SD.4... / SX.4...
SDA 4 100 10	■	4	10	100	59	5	R 1/8"					SD.4... / SX.4...
SDA 4 060 12	■	4	12	60	27	5	R 1/8"					SD.4... / SX.4...
SDA 4 120 12	■	4	12	120	75	5	R 1/8"					SD.4... / SX.4...
SDA 4 060 12.7	■	4	12.7	60	27	5	R 1/8"					SD.4... / SX.4...
SDA 4 120 12.7	■	4	12.7	120	75	5	R 1/8"					SD.4... / SX.4...
SDA 4 060 14	■	4	14	60	27	5	R 1/8"					SD.4... / SX.4...
SDA 4 120 14	■	4	14	120	75	5	R 1/8"					SD.4... / SX.4...
SDA 4 060 16	■	4	16	60	27	5	R 1/8"					SD.4... / SX.4...
SDA 4 120 16	■	4	16	120	75	5	R 1/8"					SD.4... / SX.4...
SDA 4 060 18	■	4	18	60	27	5	R 1/8"					SD.4... / SX.4...
SDA 4 120 18	■	4	18	120	75	5	R 1/8"					SD.4... / SX.4...
SDA 4 060 19.05	■	4	19.05	60	27	5	R 1/8"					SD.4... / SX.4...
SDA 4 120 19.05	■	4	19.05	120	75	5	R 1/8"					SD.4... / SX.4...
SDA 4 060 20	■	4	20	60	27	5	R 1/8"					SD.4... / SX.4...
SDA 4 120 20	■	4	20	120	75	5	R 1/8"					SD.4... / SX.4...
SDA 4 175 20	■	4	20	175	–	–	R 1/8"					SD.4... / SX.4...
SDA 4 060 22	■	4	22	60	27	5	R 1/8"					SD.4... / SX.4...
SDA 4 120 22	■	4	22	120	75	5	R 1/8"					SD.4... / SX.4...
SDA 4 060 25	■	4	25	60	27	5	R 1/8"					SD.4... / SX.4...
SDA 4 120 25	■	4	25	120	75	5	R 1/8"					SD.4... / SX.4...
SDA 4 060 25.4	■	4	25.4	60	27	5	R 1/8"					SD.4... / SX.4...
SDA 4 120 25.4	■	4	25.4	120	75	5	R 1/8"					SD.4... / SX.4...
SDA 4 060 28	■	4	28	60	27	5	R 1/8"					SD.4... / SX.4...
SDA 4 120 28	■	4	28	120	75	5	R 1/8"					SD.4... / SX.4...
SDA 6 065 12	■	6	12	65	27	5	R 1/8"					SD.6... / SX.6...
SDA 6 100 12	■	6	12	100	59	5	R 1/8"					SD.6... / SX.6...
SDA 6 065 12.7	■	6	12.7	65	27	5	R 1/8"					SD.6... / SX.6...
SDA 6 120 12.7	■	6	12.7	120	75	5	R 1/8"					SD.6... / SX.6...
SDA 6 065 14	■	6	14	65	27	5	R 1/8"					SD.6... / SX.6...
SDA 6 120 14	■	6	14	120	75	5	R 1/8"					SD.6... / SX.6...
SDA 6 065 16	■	6	16	65	27	5	R 1/8"					SD.6... / SX.6...
SDA 6 120 16	■	6	16	120	75	5	R 1/8"					SD.6... / SX.6...
SDA 6 065 18	■	6	18	65	27	5	R 1/8"					SD.6... / SX.6...
SDA 6 120 18	■	6	18	120	75	5	R 1/8"					SD.6... / SX.6...
SDA 6 065 19.05	■	6	19.05	65	27	5	R 1/8"					SD.6... / SX.6...
SDA 6 120 19.05	■	6	19.05	120	75	5	R 1/8"					SD.6... / SX.6...
SDA 6 065 20	■	6	20	65	27	5	R 1/8"					SD.6... / SX.6...
SDA 6 120 20	■	6	20	120	75	5	R 1/8"					SD.6... / SX.6...

SDA ...

Order designation	Dimensions										Inserts □ 331...	
	d <sub>0</sub>	d <sub>1</sub>	l <sub>0</sub>	l <sub>1</sub>	l <sub>2</sub>	g						
<b>N</b>												
Accuracy class of UTILIS □ 330												
<b>PREMIUM-LINE</b>												
SDA 6 065 22	■	6	22	65	27	5	R 1/8"					SD.6... / SX.6...
SDA 6 120 22	■	6	22	120	75	5	R 1/8"					SD.6... / SX.6...
SDA 6 065 25	■	6	25	65	27	5	R 1/8"					SD.6... / SX.6...
SDA 6 120 25	■	6	25	120	75	5	R 1/8"					SD.6... / SX.6...
SDA 6 065 25.4	■	6	25.4	65	27	5	R 1/8"					SD.6... / SX.6...
SDA 6 120 25.4	■	6	25.4	120	75	5	R 1/8"					SD.6... / SX.6...
SDA 6 065 28	■	6	28	65	27	5	R 1/8"					SD.6... / SX.6...
SDA 6 120 28	■	6	28	120	75	5	R 1/8"					SD.6... / SX.6...
SDA 8 070 14	■	8	14	70	27	5	R 1/8"					SD.8... / SX.8...
SDA 8 100 14	■	8	14	100	59	5	R 1/8"					SD.8... / SX.8...
SDA 8 070 16	■	8	16	70	27	5	R 1/8"					SD.8... / SX.8...
SDA 8 120 16	■	8	16	120	75	5	R 1/8"					SD.8... / SX.8...
SDA 8 120 18	■	8	18	120	75	5	R 1/8"					SD.8... / SX.8...
SDA 8 070 19.05	■	8	19.05	70	27	5	R 1/8"					SD.8... / SX.8...
SDA 8 120 19.05	■	8	19.05	120	75	5	R 1/8"					SD.8... / SX.8...
SDA 8 070 20	■	8	20	70	27	5	R 1/8"					SD.8... / SX.8...
SDA 8 120 20	■	8	20	120	75	5	R 1/8"					SD.8... / SX.8...
SDA 8 070 22	■	8	22	70	27	5	R 1/8"					SD.8... / SX.8...
SDA 8 120 22	■	8	22	120	75	5	R 1/8"					SD.8... / SX.8...
SDA 8 070 25	■	8	25	70	27	5	R 1/8"					SD.8... / SX.8...
SDA 8 120 25	■	8	25	120	75	5	R 1/8"					SD.8... / SX.8...
SDA 8 070 25.4	■	8	25.4	70	27	5	R 1/8"					SD.8... / SX.8...
SDA 8 120 25.4	■	8	25.4	120	75	5	R 1/8"					SD.8... / SX.8...
SDA 8 070 28	■	8	28	70	27	5	R 1/8"					SD.8... / SX.8...
SDA 8 120 28	■	8	28	120	75	5	R 1/8"					SD.8... / SX.8...

Reduction sleeve □ 671

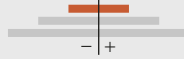


SDA ... SC

Order designation	Dimensions										Inserts □ 331...
	d <sub>0</sub>	d <sub>1</sub>	l <sub>g</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	l <sub>5</sub>	g		

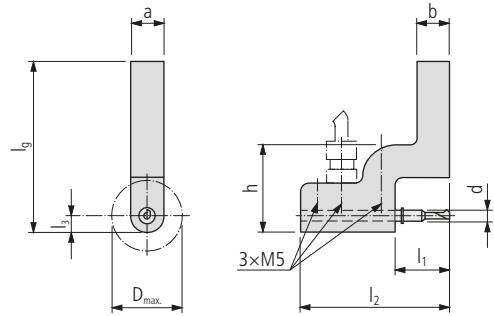
**PREMIUM-LINE**

Accuracy class of UTILIS □ 330



SDA 4 073 050 07 SC	■	4	7	73	32	23	9	10	22.5	M5	SD.4... / SX.4...
SDA 4 073 050 08 SC	■	4	8	73	32	23	9	10	22.5	M5	SD.4... / SX.4...
SDA 4 073 050 10 SC	■	4	10	73	32	23	11	10	22.5	M5	SD.4... / SX.4...
SDA 4 073 050 12 SC	■	4	12	73	32	23	13	10	22.5	G1/8"	SD.4... / SX.4...
SDA 4 073 050 12.7 SC	■	4	12.7	73	32	23	13	10	22.5	G1/8"	SD.4... / SX.4...
SDA 4 073 050 16 SC	■	4	16	73	32	23	17	10	22.5	G1/8"	SD.4... / SX.4...
SDA 4 073 050 19.05 SC	■	4	19.05	73	32	23	20	10	22.5	G1/8"	SD.4... / SX.4...
SDA 4 133 110 19.05 SC	■	4	19.05	133	64	23	20	10	22.5	G1/8"	SD.4... / SX.4...
SDA 4 073 000 20 SC	■	4	20	73	32	—	20	10	22.5	G1/8"	SD.4... / SX.4...
SDA 4 133 000 25 SC	■	4	25	133	64	—	25	12.5	22.5	G1/8"	SD.4... / SX.4...
SDA 4 133 000 25.40 SC	■	4	25.4	133	64	—	25.4	12.7	22.5	G1/8"	SD.4... / SX.4...
SDA 4 073 000 28 SC	■	4	28	73	—	—	25	14	22.5	G1/8"	SD.4... / SX.4...
SDA 6 078 055 12 SC	■	6	12	78	32	23	13	11.2	26.2	G1/8"	SD.6... / SX.6...
SDA 6 078 055 12.7 SC	■	6	12.7	78	32	23	13	11.2	26.2	G1/8"	SD.6... / SX.6...
SDA 6 078 055 16 SC	■	6	16	78	32	23	17	11.2	26.2	G1/8"	SD.6... / SX.6...
SDA 6 078 055 19.05 SC	■	6	19.05	78	32	23	20	11.2	26.2	G1/8"	SD.6... / SX.6...
SDA 6 133 110 19.05 SC	■	6	19.05	133	64	23	20	11.2	26.2	G1/8"	SD.6... / SX.6...
SDA 6 078 055 20 SC	■	6	20	78	32	23	20	11.2	26.2	G1/8"	SD.6... / SX.6...
SDA 6 133 000 22 SC	■	6	22	133	64	—	22	11.5	26.2	G1/8"	SD.6... / SX.6...
SDA 6 078 000 28 SC	■	6	28	78	—	—	25	14	26.2	G1/8"	SD.6... / SX.6...
SDA 8 083 060 14 SC	■	8	14	83	32	23	17	12.3	27.9	G1/8"	SD.8... / SX.8...
SDA 8 083 060 16 SC	■	8	16	83	32	23	17	12.3	27.9	G1/8"	SD.8... / SX.8...
SDA 8 083 060 19.05 SC	■	8	19.05	83	32	23	20	12.3	27.9	G1/8"	SD.8... / SX.8...
SDA 8 083 060 20 SC	■	8	20	83	32	23	20	12.3	27.9	G1/8"	SD.8... / SX.8...
SDA 8 083 000 28 SC	■	8	28	83	—	—	25	14	27.9	G1/8"	SD.8... / SX.8...




Reduction sleeve □ 671



AKR M...

Order designation		Dimensions										Inserts
R	PREMIUM-LINE	d	a	b	l <sub>1</sub>	D <sub>max</sub>	h	l <sub>g</sub>	l <sub>2</sub>	l <sub>3</sub>	□ 331...	
		Accuracy class of UTILIS □ 330 										
		4	8	8	20	26	30	104	55	4	SD.4.../SX.4...	
		4	8	8	30	26	30	104	65	4	SD.448.../SX.448...	
		4	10	10	20	26	31	105	55	5	SD.4.../SX.4...	
		4	10	10	30	26	31	105	65	5	SD.448.../SX.448...	
		4	12	12	20	26	32	106	55	6	SD.4.../SX.4...	
		4	12	12	30	26	32	106	65	6	SD.448.../SX.448...	
		4	12.7	12.7	20	26	32.5	106.5	55	6.5	SD.4.../SX.4...	
		4	12.7	12.7	30	26	32.5	106.5	65	6.5	SD.448.../SX.448...	
		4	16	16	20	26	34	133	55	8	SD.4.../SX.4...	
		4	16	16	30	26	34	133	65	8	SD.448.../SX.448...	
		6	10	10	21.5	26	32	105	61	5	SD.644.../SX.644...	
		6	10	10	33.5	26	32	105	73	5	SD.656.../SX.656...	
		6	10	10	45.5	26	32	105	85	5	SD.668.../SX.668...	
		6	12	12	21.5	26	33	106	61	6	SD.644.../SX.644...	
		6	12	12	33.5	26	33	106	73	6	SD.656.../SX.656...	
		6	12	12	45.5	26	33	106	85	6	SD.668.../SX.668...	
		6	12.7	12.7	21.5	26	33.5	106.5	61	6.5	SD.644.../SX.644...	
		6	12.7	12.7	33.5	26	33.5	106.5	73	6.5	SD.656.../SX.656...	
		6	12.7	12.7	45.5	26	33.5	106.5	85	6.5	SD.668.../SX.668...	
		6	16	16	21.5	26	35	133	61	8	SD.644.../SX.644...	
		6	16	16	33.5	26	35	133	73	8	SD.656.../SX.656...	
		6	16	16	45.5	26	35	133	85	8	SD.668.../SX.668...	


For holders (SDA ...)

Illustration	Description	Dimensions	Order designation	Inserts	Holder
	Nut	M8 × 0.5	MSP SDA 4M	■	SDA 4...
		M12 × 0.6	MSP SDA 6M	■	SDA 6...
		M14 × 0.75	MSP SDA 8M	■	SDA 8...
	Aligning device		SDA 4X	■	SDA 4...
			SDA 6X	■	SDA 6...
			SDA 8X	■	SDA 8...
	Retaining ring		MSP SDA 4S	■	SD. 4...
			MSP SDA 6S	■	SD. 6...
			MSP SDA 8S	■	SD. 8...



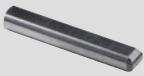
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UTILIS  
multidec®  
swiss type tools

For holders (SDA ...SC)

Illustration	Description	Dimensions	Order designation	Holder
	Grub screw	M4 × 15 L/R	MSP 40150 T08	■ SDA ...SC
	Thrust piece		MSP SDA DS	■ SDA ...SC
	Torx screwdriver	TX 08	MSP TX08 SDA SC	■ SDA ...SC

For holders (AKR M...)

Illustration	Description	Dimensions	Order designation	Holder
	Clamping screw	M5 × 10	MSP 50100 IB2.5	■ AKR M...
	Allen key	SW 2.5	MSP IB2.5	■ AKR M...
	Stop-Pin	4 × 25	MSP 40250 AN D4	■ AKR M...D4
		6 × 30	MSP 60300 AN D6	■ AKR M...D6





## Cutting specification

multidec®-BORE MICRO

	Steel unalloyed			Steel low alloyed			Steel high alloyed			Titanium		
Hardness value (HB)	125–300			180–250			200–350			–		
Category	I			II			III			IV		
Machining method	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼
Cutting speeds	v <sub>c</sub> (m/min)											
Cutting material carbide												
UHM 20	–	–	20–120	–	–	20–100	–	–	20–90	–	–	20–70
UHM 20 HX	–	–	30–160	–	–	30–140	–	–	30–130	–	–	30–100

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	Stainless steel			Stainless steel			Aluminum			Brass		
Hardness value (HB)	180–220			220–330			60–130			–		
Category	V			VI			VII			VIII		
Machining method	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼
Cutting speeds	v <sub>c</sub> (m/min)											
Cutting material carbide												
UHM 20	–	–	20–80	–	–	20–60	–	–	50–220	–	–	30–110
UHM 20 HX	–	–	30–120	–	–	30–100	–	–	60–350	–	–	50–180

Feed (f) and depths of cut (ap) □ 359

**SDG – SXG – SDH – SDI – SXI – SDY – SDZ**

D (mm)	Steel unalloyed		Steel low alloyed		Steel high alloyed		Stainless steel		Titanium		Aluminum		Brass	
	f (mm)	a <sub>p</sub> (mm)	f (mm)	a <sub>p</sub> (mm)	f (mm)	a <sub>p</sub> (mm)	f (mm)	a <sub>p</sub> (mm)	f (mm)	a <sub>p</sub> (mm)	f (mm)	a <sub>p</sub> (mm)	f (mm)	a <sub>p</sub> (mm)
≤1	0.01–0.02	0.1–0.2	0.01–0.017	0.1–0.17	0.007–0.017	0.07–0.17	0.007–0.017	0.07–0.17	0.006–0.02	0.06–0.2	0.01–0.025	0.1–0.25	0.01–0.025	0.1–0.25
2	0.012–0.022	0.12–0.22	0.012–0.02	0.12–0.2	0.008–0.018	0.08–0.18	0.008–0.018	0.08–0.18	0.008–0.02	0.08–0.2	0.015–0.03	0.15–0.3	0.015–0.03	0.15–0.3
3	0.015–0.025	0.15–0.25	0.014–0.024	0.14–0.24	0.009–0.019	0.09–0.19	0.009–0.019	0.09–0.19	0.01–0.02	0.1–0.2	0.015–0.035	0.15–0.35	0.015–0.035	0.15–0.35
4	0.015–0.027	0.15–0.27	0.015–0.025	0.15–0.25	0.01–0.02	0.1–0.2	0.01–0.02	0.1–0.2	0.01–0.02	0.1–0.2	0.015–0.035	0.15–0.35	0.015–0.035	0.15–0.35
6	0.015–0.03	0.15–0.3	0.015–0.025	0.15–0.25	0.01–0.02	0.1–0.2	0.01–0.02	0.1–0.2	0.01–0.025	0.1–0.25	0.015–0.04	0.15–0.4	0.015–0.04	0.15–0.4
8	0.015–0.03	0.15–0.3	0.015–0.025	0.15–0.25	0.01–0.02	0.1–0.2	0.01–0.02	0.1–0.2	0.01–0.025	0.1–0.25	0.015–0.05	0.15–0.5	0.015–0.04	0.15–0.4

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UTILIS  
**multidec**  
swiss type tools

**SDK – SDM – SDO – SDQ – SDT – SXJ – SXP**

D (mm)	Steel unalloyed		Steel low alloyed		Steel high alloyed		Stainless steel		Titanium		Aluminum		Brass	
	f (mm)	a <sub>p</sub> (mm)	f (mm)	a <sub>p</sub> (mm)	f (mm)	a <sub>p</sub> (mm)	f (mm)	a <sub>p</sub> (mm)	f (mm)	a <sub>p</sub> (mm)	f (mm)	a <sub>p</sub> (mm)	f (mm)	a <sub>p</sub> (mm)
≤1	0.01–0.02	0.1–0.2	0.01–0.017	0.1–0.17	0.007–0.015	0.07–0.15	0.007–0.015	0.07–0.15	0.006–0.012	0.06–0.12	0.007–0.012	0.07–0.12	0.007–0.012	0.07–0.12
2	0.01–0.022	0.1–0.22	0.01–0.02	0.1–0.2	0.008–0.017	0.08–0.17	0.008–0.017	0.08–0.17	0.008–0.015	0.08–0.15	0.01–0.015	0.1–0.15	0.01–0.015	0.1–0.15
3	0.01–0.025	0.1–0.25	0.01–0.022	0.1–0.22	0.009–0.02	0.09–0.2	0.009–0.02	0.09–0.2	0.008–0.017	0.08–0.17	0.01–0.02	0.1–0.2	0.01–0.02	0.1–0.2
4	0.01–0.025	0.1–0.25	0.01–0.025	0.1–0.25	0.01–0.022	0.1–0.22	0.01–0.022	0.1–0.22	0.008–0.02	0.08–0.2	0.01–0.025	0.1–0.25	0.01–0.025	0.1–0.25
6	0.01–0.025	0.1–0.25	0.01–0.025	0.1–0.25	0.01–0.025	0.1–0.25	0.01–0.025	0.1–0.25	0.008–0.02	0.08–0.2	0.01–0.03	0.1–0.3	0.01–0.03	0.1–0.3
8	0.01–0.025	0.1–0.25	0.01–0.025	0.1–0.25	0.01–0.025	0.1–0.25	0.01–0.025	0.1–0.25	0.008–0.02	0.08–0.2	0.01–0.035	0.1–0.35	0.01–0.03	0.1–0.3

**SDR – SDS**

	Steel unalloyed	Steel low alloyed	Steel high alloyed	Stainless steel	Titanium	Aluminum	Brass
	f (mm)	f (mm)	f (mm)	f (mm)	f (mm)	f (mm)	f (mm)
	0.007–0.020	0.005–0.015	0.005–0.015	0.005–0.015	0.005–0.015	0.007–0.020	0.007–0.020

**SDU – SDV (Threading)**

Application recommendation for number of passes at threading □ 164

Polygonal punching is a chip-removing procedure for manufacturing of inside profiles in holes which are usually not continuous. During this procedure, the tool is pushed into a hole in several so-called strokes, and the outline of the broaching tool is introduced into the workpiece.

We can supply square, hexagonal and TORX broaching tools made from carbide from our standard product range. We can also manufacture customised shapes and intermediate sizes on request.






**Benefits:**

- Short machining times
- Complex geometries with sharp edges are possible
- Full profile tools reduce the number of strokes
- Reliable process with long tool life

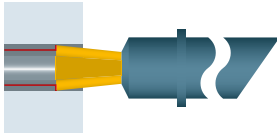
**Overview**

*multidec®-BROACH*

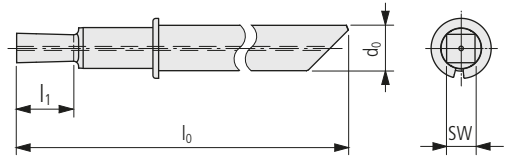
Technical information		9
Product lines and accuracy classes of UTILIS		362
Broaching tool		363
Accessories		625

Product line	Accuracy class of UTILIS	Repeatability
<b>PREMIUM-LINE</b>		< 10 µm
<b>STANDARD-LINE</b>		< 20 µm
<b>VALUE-LINE</b>		< 50 µm


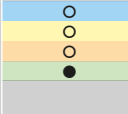








362



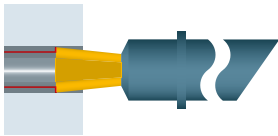
Polygonal punching square



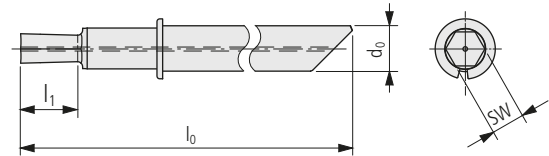
SD-BRS ...

Order designation	Carbide  19	Dimensions						Holder
		SW	$l_1$	$d_0$	$l_0$			
	 UHM 20							
Accuracy class of UTILIS  362 								
SD-BRS 435 100 ...		1	1.5	4	35			SDA 4...
SD-BRS 435 150 ...		1.5	2	4	35			SDA 4...
SD-BRS 435 200 ...		2	2.5	4	35			SDA 4...
SD-BRS 644 300 ...		3	3.5	6	44			SDA 6...
SD-BRS 644 400 ...		4	6	6	44			SDA 6...
SD-BRS 850 500 ...		5	7	8	50			SDA 8...

**PREMIUM-LINE**



Polygonal punching hexagonal



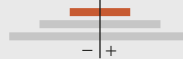
364

SD-BRH ...

Order designation	Carbide □ 19	Dimensions								Holder □ 352...
		SW	l <sub>1</sub>	d <sub>0</sub>	l <sub>0</sub>					
	 UHM 20									

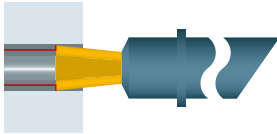
**PREMIUM-LINE**

Accuracy class of UTILIS □ 362

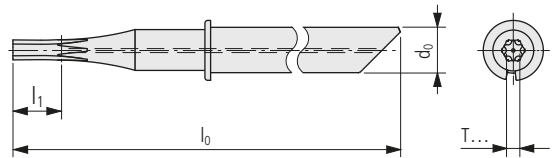


SD-BRH 435 100 ...	■	1	1.5	4	35					SDA 4...
SD-BRH 435 150 ...	■	1.5	2	4	35					SDA 4...
SD-BRH 435 200 ...	■	2	2.5	4	35					SDA 4...
SD-BRH 435 300 ...	■	3	3.5	4	35					SDA 4...
SD-BRH 644 400 ...	■	4	6	6	44					SDA 6...
SD-BRH 850 500 ...	■	5	7	8	50					SDA 8...
SD-BRH 850 600 ...	■	6	8	8	50					SDA 8...





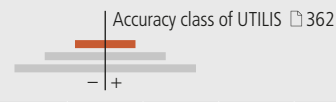
Polygonalpunching TORX



SD-BRT ...

Order designation	Carbide □ 19	Standard	Dimensions							Holder
										□ 352...
	UHM 20	ISO 10664	$l_1$	$d_0$	$l_0$					

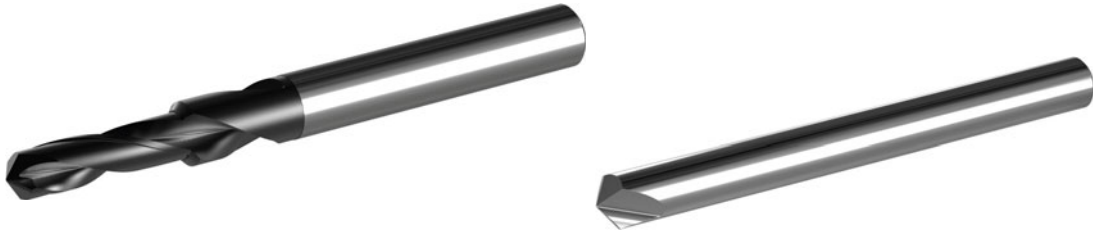
**PREMIUM-LINE**



SD-BRT 440 002 ...	■	T2	1.5	4	40					SDA 4...
SD-BRT 440 003 ...	■	T3	1.5	4	40					SDA 4...
SD-BRT 440 006 ...	■	T6	2.5	4	40					SDA 4...
SD-BRT 440 008 ...	■	T8	2.5	4	40					SDA 4...
SD-BRT 440 010 ...	■	T10	3.5	4	40					SDA 4...
SD-BRT 644 020	■	T20	6	6	44					SDA 6...
SD-BRT 644 030 ...	■	T30	8	6	44					SDA 6...
SD-BRT 850 040 ...	■	T40	9	8	50					SDA 8...

365  
UTILIS multidec®  
swiss type tools

multidec®-DRILL contains of a wide range of high-precision solid carbide drills and centre drills. This includes the range from Ø 0.5 to 5 mm and centre drills with tip angles of 90°, 120° or 140°. multidec®-DRILL is characterised by its high stability and precision, and makes a decisive contribution to achieving high quality because of its excellent positioning capability and self-centering characteristic, and makes the work easier. The design also provides good chip removal and the tool life is increased significantly because of the coating (HX).






366

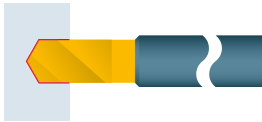
**Benefits:**

- High degree of accuracy and stability
- Self-centering
- Excellent positioning capability
- Good chip removal
- Complete range of solid carbide twist drills from Ø 0.5 - 5 mm
- Centre drills with tip angle of 90°, 120° or 140°
- Coating (HX) for longer tool life
- Diameter coordinated to metric thread sizes
- Intermediate sizes possible on request

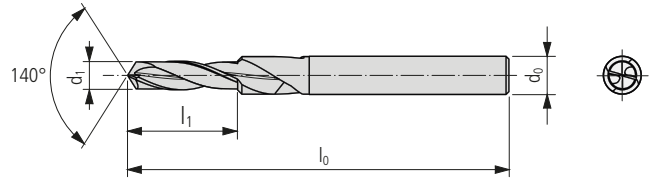
Technical information		9
Product lines and accuracy classes of UTILIS		368
Center drills		369
Drills		370

Product line	Accuracy class of UTILIS	Repeatability
<b>PREMIUM-LINE</b>		< 10 μm
<b>STANDARD-LINE</b>		< 20 μm
<b>VALUE-LINE</b>		< 50 μm





Drilling



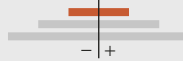
370

DRS ...

Order designation	Carbide		Dimensions							Core hole drill for
			d <sub>1</sub>	l <sub>1</sub>	d <sub>0</sub>	l <sub>0</sub>				ISO DIN13
	UHM 20	UHM 20 HX								

**PREMIUM-LINE**

Accuracy class of UTILIS 368



DRS 338 050 ...			0.5	1.5	3	38					–
DRS 338 075 ...			0.75	2.3	3	38					M 1
DRS 338 085 ...			0.85	2.6	3	38					M 1.1
DRS 338 095 ...			0.95	2.9	3	38					M 1.2
DRS 338 100 ...			1	3	3	38					–
DRS 338 110 ...			1.1	3.3	3	38					M 1.4
DRS 338 125 ...			1.25	3.8	3	38					M 1.6
DRS 338 145 ...			1.45	4.4	3	38					M 1.8
DRS 338 150 ...			1.5	4.5	3	38					–
DRS 338 160 ...			1.6	4.8	3	38					M 2
DRS 338 175 ...			1.75	5.3	3	38					M 2.2
DRS 338 200 ...			2	6	3	38					–
DRS 338 205 ...			2.05	6.2	3	38					M 2.5
DRS 338 250 ...			2.5	7.5	3	38					M 3
DRS 442 290 ...			2.9	8.7	4	42					M 3.5
DRS 442 300 ...			3.0	9.0	4	42					–
DRS 442 330 ...			3.3	9.9	4	42					M 4
DRS 442 350 ...			3.5	10.5	4	42					–
DRS 650 400 ...			4	12	6	50					–
DRS 650 425 ...			4.25	12.8	6	50					M 5
DRS 650 450 ...			4.5	13.5	6	50					–
DRS 650 500 ...			5	15	6	50					M 6

UTILIS  
**multidec**  
swiss type tools



In thread milling, the thread is produced by helical interpolation. The cutting process enables threads with one or two teeth to be obtained with a nominal diameter of 1 mm or more.



**Advantages:**

- The thread depth is equal to the drill depth
- Lower torque than with tapping and roll form tapping
- Short milling chips avoid chip problems
- High Speed Cutting (HSC) possible
- Reliable process with longer life time



Technical information 9

Product lines and accuracy classes of UTILIS

**STANDARD-LINE**

374



Thread milling tools

WHS ...	375
WHL ...	376
WHA ...	377
WHB ...	378
WHC ...	379
WHD ...	381

	Stahl (Vergütet) Titan (V2) / Alu Titan (V2) / Inconel	Stahl (Vergütet) Titan (V2) / Alu Titan (V2) / Inconel	Stahl (Vergütet) Titan (V2) / Alu Titan (V2) / Inconel	Stahl Titan Titanium
Wahl Diam. Wahl Wahl Wahl Wahl Wahl	125-200	180-250	200-250	-
Wahl	1	1	1	1
Wahl	▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼	▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼	▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼	▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼ ▼

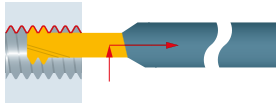
Cutting specification

383

Application recommendation

385

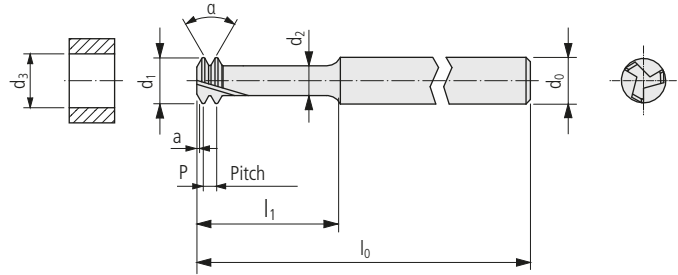
Product line	7	Repeatability
<b>PREMIUM-LINE</b>	<p>Accuracy class of UTILIS</p>	< 10 μm
<b>STANDARD-LINE</b>	<p>Accuracy class of UTILIS</p>	< 20 μm
<b>VALUE-LINE</b>	<p>Accuracy class of UTILIS</p>	< 50 μm



3 flutes, 2 teeth (full profile metric)



WHS ... (Short version)



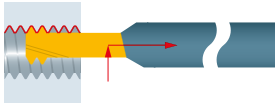
Order designation	Carbide □ 19		Standard	Dimensions									Core hole	
	UHM 20	UHM 20 HX		ISO DIN13	P	l <sub>1</sub>	d <sub>1</sub>	d <sub>2</sub>	a	d <sub>0</sub>	l <sub>0</sub>	α	d <sub>3</sub>	

**PREMIUM-LINE**

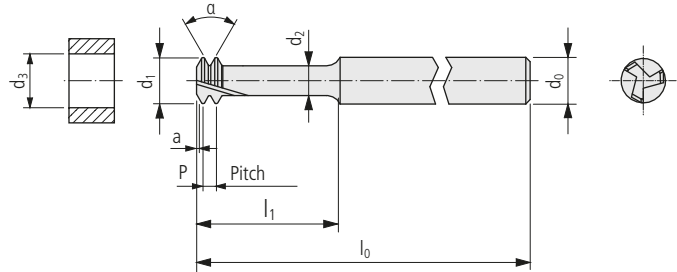
Accuracy class of UTILIS □ 374

WHS 338 010 025 ...	■	■	M1	0.25	2.3	0.64	0.24	0.03	3	38	60°	0.75	0/+0.03
WHS 338 012 025 ...	■	■	M1.2	0.25	2.8	0.84	0.44	0.03	3	38	60°	0.95	0/+0.03
WHS 338 014 030 ...	■	■	M1.4	0.3	3.2	0.98	0.53	0.03	3	38	60°	1.1	0/+0.04
WHS 338 016 035 ...	■	■	M1.6	0.35	3.7	1.12	0.61	0.03	3	38	60°	1.25	0/+0.04
WHS 338 018 035 ...	■	■	M1.8	0.35	4.1	1.32	0.81	0.03	3	38	60°	1.45	0/+0.04
WHS 338 020 040 ...	■	■	M2	0.4	4.6	1.46	0.9	0.03	3	38	60°	1.6	0/+0.05
WHS 338 022 045 ...	■	■	M2.2	0.45	5.1	1.6	0.98	0.03	3	38	60°	1.75	0/+0.05
WHS 338 023 040 ...	■	■	M2.3	0.4	5.2	1.76	1.2	0.03	3	38	60°	1.9	0/+0.05
WHS 338 025 045 ...	■	■	M2.5	0.45	5.8	1.9	1.28	0.03	3	38	60°	2.05	0/+0.05
WHS 338 030 050 ...	■	■	M3	0.5	6.9	2.34	1.67	0.03	3	38	60°	2.5	0/+0.05
WHS 338 035 060 ...	■	■	M3.5	0.6	8.1	2.71	1.93	0.03	3	38	60°	2.9	0/+0.06
WHS 442 040 070 ...	■	■	M4	0.7	9.2	3.09	2.2	0.03	4	42	60°	3.3	0/+0.06
WHS 442 045 075 ...	■	■	M4.5	0.75	10.4	3.53	2.56	0.03	4	42	60°	3.75	0/+0.07
WHS 442 050 080 ...	■	■	M5	0.8	11.5	3.97	2.95	0.03	4	42	60°	4.2	0/+0.07

Application recommendation □ 385



3 flutes, 2 teeth (full profile metric)



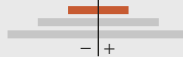
WHL ... (Long version)

376

Order designation	Carbide □ 19		Standard	Dimensions								Core hole	
	UHM 20	UHM 20 HX		P	l <sub>1</sub>	d <sub>1</sub>	d <sub>2</sub>	a	d <sub>0</sub>	l <sub>0</sub>	α	d <sub>3</sub>	

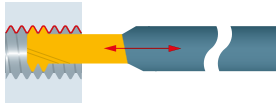
**PREMIUM-LINE**

Accuracy class of UTILIS □ 374



WHL 338 010 025 ...	■	■	M1	0.25	4.6	0.64	0.24	0.03	3	38	60°	0.75	0/+0.03
WHL 338 012 025 ...	■	■	M1.2	0.25	5.5	0.84	0.44	0.03	3	38	60°	0.95	0/+0.03
WHL 338 014 030 ...	■	■	M1.4	0.3	6.4	0.98	0.53	0.03	3	38	60°	1.1	0/+0.04
WHL 338 016 035 ...	■	■	M1.6	0.35	7.4	1.12	0.61	0.03	3	38	60°	1.25	0/+0.04
WHL 338 018 035 ...	■	■	M1.8	0.35	8.3	1.32	0.81	0.03	3	38	60°	1.45	0/+0.04
WHL 338 020 040 ...	■	■	M2	0.4	9.2	1.46	0.9	0.03	3	38	60°	1.6	0/+0.05
WHL 338 022 045 ...	■	■	M2.2	0.45	10.1	1.6	0.98	0.03	3	38	60°	1.75	0/+0.05
WHL 338 023 040 ...	■	■	M2.3	0.4	10.4	1.76	1.2	0.03	3	38	60°	1.9	0/+0.05
WHL 338 025 045 ...	■	■	M2.5	0.45	11.5	1.9	1.28	0.03	3	38	60°	2.05	0/+0.05
WHL 338 030 050 ...	■	■	M3	0.5	13.8	2.34	1.67	0.03	3	38	60°	2.5	0/+0.05
WHL 338 035 060 ...	■	■	M3.5	0.6	16.1	2.71	1.93	0.03	3	38	60°	2.9	0/+0.06
WHL 442 040 070 ...	■	■	M4	0.7	18.4	3.09	2.2	0.03	4	42	60°	3.3	0/+0.06
WHL 442 045 075 ...	■	■	M4.5	0.75	20.7	3.53	2.56	0.03	4	42	60°	3.75	0/+0.07
WHL 442 050 080 ...	■	■	M5	0.8	23	3.97	2.95	0.03	4	42	60°	4.2	0/+0.07

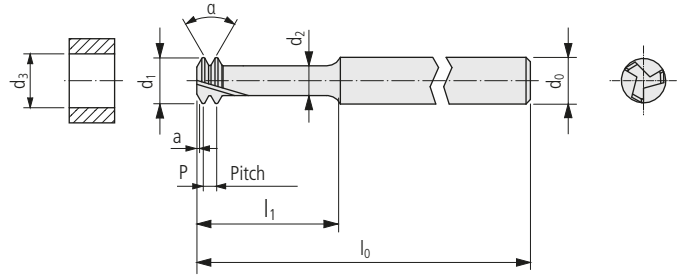
Application recommendation □ 385



3 flutes, 2 teeth (full profile metric)  
Strengthen type



WHA ... (Short version)



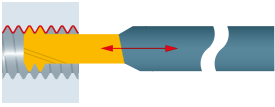
Order designation	Carbide □ 19		Standard	Dimensions								Core hole	
	UHM 20	UHM 20 HX		P	l <sub>1</sub>	d <sub>1</sub>	d <sub>2</sub>	a	d <sub>0</sub>	l <sub>0</sub>	a	d <sub>3</sub>	

**PREMIUM-LINE**

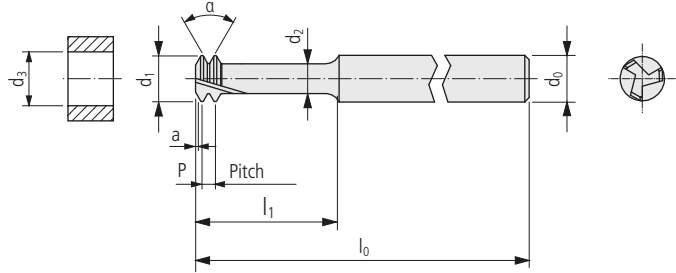
Accuracy class of UTILIS □ 374

WHA 338 010 025 ...	■	■	M1.0	0.25	2.3	0.83	0.41	0.03	3	38	60°	0.75	0/+0.03
WHA 338 012 025 ...	■	■	M1.2	0.25	2.8	1.03	0.61	0.03	3	38	60°	0.95	0/+0.03
WHA 338 014 030 ...	■	■	M1.4	0.3	3.2	1.21	0.74	0.03	3	38	60°	1.1	0/+0.04
WHA 338 016 035 ...	■	■	M1.6	0.35	3.7	1.39	0.88	0.03	3	38	60°	1.25	0/+0.04
WHA 338 018 035 ...	■	■	M1.8	0.35	4.1	1.59	1.08	0.03	3	38	60°	1.45	0/+0.04
WHA 338 020 040 ...	■	■	M2.0	0.4	4.6	1.76	1.19	0.03	3	38	60°	1.6	0/+0.05
WHA 338 022 045 ...	■	■	M2.2	0.45	5.1	1.94	1.31	0.03	3	38	60°	1.75	0/+0.05
WHA 338 023 040 ...	■	■	M2.3	0.4	5.2	2.06	1.49	0.03	3	38	60°	1.9	0/+0.05
WHA 338 025 045 ...	■	■	M2.5	0.45	5.8	2.24	1.61	0.03	3	38	60°	2.05	0/+0.05
WHA 338 030 050 ...	■	■	M3.0	0.5	6.9	2.72	2.04	0.03	3	38	60°	2.5	0/+0.05
WHA 442 035 060 ...	■	■	M3.5	0.6	8.1	3.16	2.37	0.03	4	42	60°	2.9	0/+0.06
WHA 442 040 070 ...	■	■	M4.0	0.7	9.2	3.62	2.71	0.03	4	42	60°	3.3	0/+0.06

Application recommendation □ 385



3 flutes, 2 teeth (full profile metric)  
Strengthen type



WHB ... (Long version)

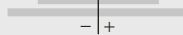
378

UTILIS  
**multidec**  
swiss type tools

Order designation	Carbide □ 19		Standard	Dimensions								Core hole	
	UHM 20	UHM 20 HX		P	l <sub>1</sub>	d <sub>1</sub>	d <sub>2</sub>	a	d <sub>0</sub>	l <sub>0</sub>	α	d <sub>3</sub>	

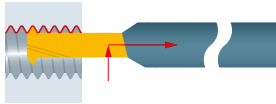
**PREMIUM-LINE**

Accuracy class of UTILIS □ 374



WHB 338 010 025 ...	■	■	M1.0	0.25	4.6	0.83	0.41	0.03	3	38	60°	0.75	0/+0.03
WHB 338 012 025 ...	■	■	M1.2	0.25	5.6	1.03	0.61	0.03	3	38	60°	0.95	0/+0.03
WHB 338 014 030 ...	■	■	M1.4	0.3	6.4	1.21	0.74	0.03	3	38	60°	1.1	0/+0.04
WHB 338 016 035 ...	■	■	M1.6	0.35	7.4	1.39	0.88	0.03	3	38	60°	1.25	0/+0.04
WHB 338 018 035 ...	■	■	M1.8	0.35	8.2	1.59	1.08	0.03	3	38	60°	1.45	0/+0.04
WHB 338 020 040 ...	■	■	M2.0	0.4	9.2	1.76	1.19	0.03	3	38	60°	1.6	0/+0.05
WHB 338 022 045 ...	■	■	M2.2	0.45	10.2	1.94	1.31	0.03	3	38	60°	1.75	0/+0.05
WHB 338 023 040 ...	■	■	M2.3	0.4	10.4	2.06	1.49	0.03	3	38	60°	1.9	0/+0.05
WHB 338 025 045 ...	■	■	M2.5	0.45	11.6	2.24	1.61	0.03	3	38	60°	2.05	0/+0.05
WHB 338 030 050 ...	■	■	M3.0	0.5	13.8	2.72	2.04	0.03	3	38	60°	2.5	0/+0.05
WHB 442 035 060 ...	■	■	M3.5	0.6	16.2	3.16	2.37	0.03	4	42	60°	2.9	0/+0.06
WHB 442 040 070 ...	■	■	M4.0	0.7	18.4	3.62	2.71	0.03	4	42	60°	3.3	0/+0.06

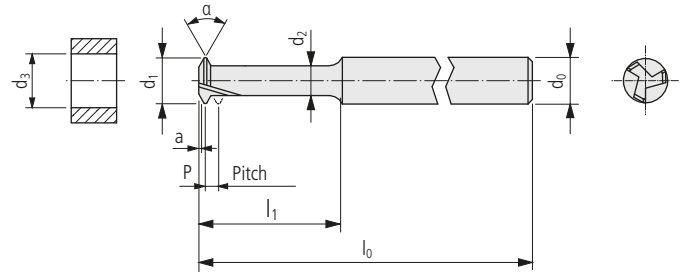
Application recommendation □ 385



3 flutes, 1 tooth (full profile metric)



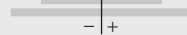
WHC ... (Short version)



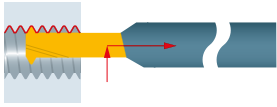
Order designation	Carbide □ 19		Standard	Dimensions								Core hole	
	UHM 20	UHM 20 HX		ISO DIN13	P	l <sub>1</sub>	d <sub>1</sub>	d <sub>2</sub>	a	d <sub>0</sub>	l <sub>0</sub>	α	d <sub>3</sub>

**PREMIUM-LINE**

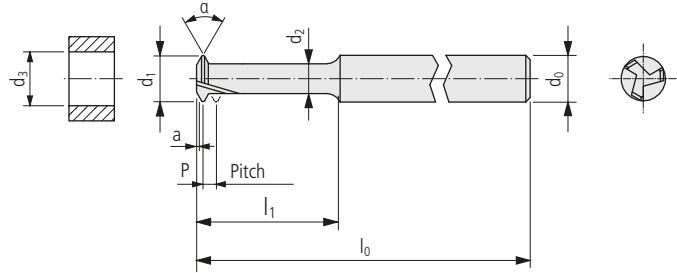
Accuracy class of UTILIS □ 374



WHC 338 010 025 ...	■	■	M1.0	0.25	2.5	0.68	0.3	0.03	3	38	60°	0.75	0/+0.03
WHC 338 012 025 ...	■	■	M1.2	0.25	2.7	0.88	0.5	0.03	3	38	60°	0.95	0/+0.03
WHC 338 014 025 ...	■	■	M1.4	0.25	2.9	1.08	0.7	0.03	3	38	60°	1.15	0/+0.03
WHC 338 016 025 ...	■	■	M1.6	0.25	3.1	1.28	0.9	0.03	3	38	60°	1.35	0/+0.03
WHC 338 018 025 ...	■	■	M1.8	0.25	3.3	1.48	1.1	0.03	3	38	60°	1.55	0/+0.03
WHC 338 020 025 ...	■	■	M2.0	0.25	3.5	1.68	1.3	0.03	3	38	60°	1.75	0/+0.03
WHC 338 014 030 ...	■	■	M1.4	0.3	3.2	1.02	0.58	0.03	3	38	60°	1.1	0/+0.04
WHC 338 016 030 ...	■	■	M1.6	0.3	3.4	1.22	0.78	0.03	3	38	60°	1.3	0/+0.04
WHC 338 018 030 ...	■	■	M1.8	0.3	3.6	1.42	0.98	0.03	3	38	60°	1.5	0/+0.04
WHC 338 020 030 ...	■	■	M2.0	0.3	3.8	1.62	1.18	0.03	3	38	60°	1.7	0/+0.04
WHC 338 022 030 ...	■	■	M2.2	0.3	4	1.82	1.38	0.03	3	38	60°	1.9	0/+0.04
WHC 338 016 035 ...	■	■	M1.6	0.35	3.7	1.16	0.65	0.03	3	38	60°	1.25	0/+0.04
WHC 338 018 035 ...	■	■	M1.8	0.35	3.9	1.36	0.85	0.03	3	38	60°	1.45	0/+0.04
WHC 338 020 035 ...	■	■	M2.0	0.35	4.1	1.56	1.05	0.03	3	38	60°	1.65	0/+0.04
WHC 338 022 035 ...	■	■	M2.2	0.35	4.3	1.76	1.25	0.03	3	38	60°	1.85	0/+0.04
WHC 338 025 035 ...	■	■	M2.5	0.35	4.6	2.06	1.55	0.03	3	38	60°	2.15	0/+0.04
WHC 338 030 035 ...	■	■	M3.0	0.35	5.1	2.56	2.05	0.03	3	38	60°	2.65	0/+0.04
WHC 338 035 035 ...	■	■	M3.5	0.35	5.6	3.06	2.55	0.03	3	38	60°	3.15	0/+0.04
WHC 338 020 040 ...	■	■	M2.0	0.4	4.4	1.50	0.92	0.03	3	38	60°	1.6	0/+0.05
WHC 338 022 040 ...	■	■	M2.2	0.4	4.6	1.70	1.12	0.03	3	38	60°	1.8	0/+0.05
WHC 338 025 040 ...	■	■	M2.5	0.4	4.9	2.00	1.42	0.03	3	38	60°	2.1	0/+0.05
WHC 338 030 040 ...	■	■	M3	0.4	5.4	2.50	1.92	0.03	3	38	60°	2.6	0/+0.05
WHC 338 035 040 ...	■	■	M3.5	0.4	5.9	2.98	2.4	0.03	3	38	60°	3.1	0/+0.05
WHC 338 022 045 ...	■	■	M2.2	0.45	4.9	1.64	1	0.03	3	38	60°	1.75	0/+0.05
WHC 338 025 045 ...	■	■	M2.5	0.45	5.2	1.94	1.3	0.03	3	38	60°	2.05	0/+0.05
WHC 338 030 045 ...	■	■	M3	0.45	5.7	2.44	1.8	0.03	3	38	60°	2.55	0/+0.05
WHC 338 035 045 ...	■	■	M3.5	0.45	6.2	2.94	2.3	0.03	3	38	60°	3.05	0/+0.05
WHC 442 040 045 ...	■	■	M4	0.45	6.7	3.44	2.8	0.03	3	38	60°	3.55	0/+0.05
WHC 338 030 050 ...	■	■	M3	0.5	6	2.38	1.68	0.03	3	38	60°	2.5	0/+0.05
WHC 338 035 050 ...	■	■	M3.5	0.5	6.5	2.88	2.18	0.03	3	38	60°	3	0/+0.05
WHC 442 040 050 ...	■	■	M4	0.5	7	3.38	2.68	0.03	4	42	60°	3.5	0/+0.05
WHC 442 045 050 ...	■	■	M4.5	0.5	7.5	3.88	3.18	0.03	4	42	60°	4	0/+0.05
WHC 442 035 060 ...	■	■	M3.5	0.6	7.1	2.75	1.95	0.03	4	42	60°	2.9	0/+0.06
WHC 442 040 060 ...	■	■	M4	0.6	7.6	3.25	2.45	0.03	4	42	60°	3.4	0/+0.06
WHC 442 045 060 ...	■	■	M4.5	0.6	8.1	3.75	2.95	0.03	4	42	60°	3.9	0/+0.06
WHC 442 040 070 ...	■	■	M4	0.7	8.2	3.13	2.19	0.03	4	42	60°	3.3	0/+0.06
WHC 442 045 070 ...	■	■	M4.5	0.7	8.7	3.63	2.71	0.03	4	42	60°	3.8	0/+0.06
WHC 442 045 075 ...	■	■	M4.5	0.75	9	3.57	2.57	0.03	4	42	60°	3.75	0/+0.07
WHC 442 050 075 ...	■	■	M5	0.75	9.5	3.98	2.98	0.03	4	42	60°	4.25	0/+0.07
WHC 442 050 080 ...	■	■	M5	0.8	9.8	3.98	2.92	0.03	4	42	60°	4.2	0/+0.07



3 flutes, 1 tooth (full profile UNC/UNF)

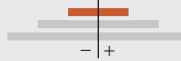


WHC ... UNC ... (INCH) (Short version)

Order designation	Carbide □ 19		Standard	Dimensions								Core hole	
	UHM 20	UHM 20 HX		P	P	l <sub>1</sub>	d <sub>1</sub>	d <sub>2</sub>	d <sub>0</sub>	l <sub>0</sub>	α	d <sub>3</sub>	

**PREMIUM-LINE**

Accuracy class of UTILIS □ 374



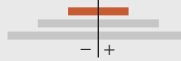
WHC 338-01-64 UNC ...	■	■	1-64	64	0.397	4.2	1.36	0.81	3	38	60°	1.5	0/+0.04
WHC 338-02-56 UNC ...	■	■	2-56	56	0.454	4.9	1.62	1	3	38	60°	1.78	0/+0.05
WHC 338-03-48 UNC ...	■	■	3-48	48	0.529	5.7	1.86	1.15	3	38	60°	2.05	0/+0.05
WHC 442-04-40 UNC ...	■	■	4-40	40	0.635	6.7	2.06	1.22	4	42	60°	2.27	0/+0.06
WHC 442-05-40 UNC ...	■	■	5-40	40	0.635	7	2.39	1.55	4	42	60°	2.59	0/+0.06
WHC 442-06-32 UNC ...	■	■	6-32	32	0.794	8.3	2.52	1.49	4	42	60°	2.77	0/+0.07
WHC 442-08-32 UNC ...	■	■	8-32	32	0.794	8.9	3.18	2.16	4	42	60°	3.42	0/+0.07

WHC ... UNF ... (INCH) (Short version)

Order designation	Carbide □ 19		Standard	Dimensions								Core hole	
	UHM 20	UHM 20 HX		P	P	l <sub>1</sub>	d <sub>1</sub>	d <sub>2</sub>	d <sub>0</sub>	l <sub>0</sub>	α	d <sub>3</sub>	

**PREMIUM-LINE**

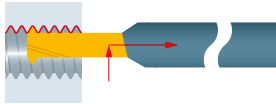
Accuracy class of UTILIS □ 374



WHC 338-00-80 UNF ...	■	■	0-80	80	0.317	3.4	1.12	0.67	3	38	60°	1.25	0/+0.04
WHC 338-01-72 UNF ...	■	■	1-72	72	0.353	4	1.41	0.91	3	38	60°	1.55	0/+0.04
WHC 338-02-64 UNF ...	■	■	2-64	64	0.396	4.1	1.69	1.14	3	38	60°	1.9	0/+0.04
WHC 338-03-56 UNF ...	■	■	3-56	56	0.453	5.2	1.95	1.32	3	38	60°	2.15	0/+0.05
WHC 338-04-48 UNF ...	■	■	4-48	48	0.529	6	2.19	1.46	3	38	60°	2.4	0/+0.05
WHC 338-05-44 UNF ...	■	■	5-44	44	0.577	6.6	2.46	1.68	3	38	60°	2.7	0/+0.05
WHC 442-06-40 UNF ...	■	■	6-40	40	0.635	7.3	2.72	1.87	4	42	60°	2.95	0/+0.06
WHC 442-08-36 UNF ...	■	■	8-36	36	0.705	8.4	3.29	2.37	4	42	60°	3.5	0/+0.06
WHC 442-10-32 UNF ...	■	■	10-32	32	0.794	9.6	3.84	2.82	4	42	60°	4.1	0/+0.07

Application recommendation □ 385

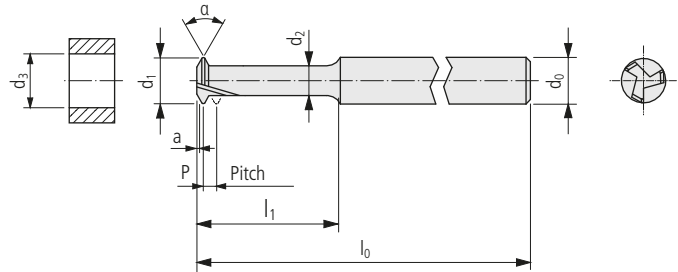




3 flutes, 1 tooth (full profile metric)



WHD ... (Long version)

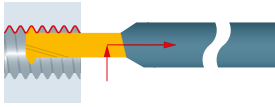


Order designation	Carbide □ 19		Standard	Dimensions								Core hole	
	UHM 20	UHM 20 HX		ISO DIN13	P	l <sub>1</sub>	d <sub>1</sub>	d <sub>2</sub>	a	d <sub>0</sub>	l <sub>0</sub>	α	d <sub>3</sub>

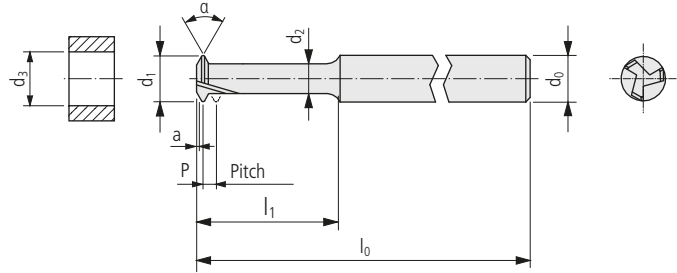
**PREMIUM-LINE**

Accuracy class of UTILIS □ 374

WHD 338 010 025 ...	■	■	M1.0	0.25	3.5	0.68	0.3	0.03	3	38	60°	0.75	0/+0.03
WHD 338 012 025 ...	■	■	M1.2	0.25	3.9	0.88	0.5	0.03	3	38	60°	0.95	0/+0.03
WHD 338 014 025 ...	■	■	M1.4	0.25	4.3	1.08	0.7	0.03	3	38	60°	1.15	0/+0.03
WHD 338 016 025 ...	■	■	M1.6	0.25	4.7	1.28	0.9	0.03	3	38	60°	1.35	0/+0.03
WHD 338 018 025 ...	■	■	M1.8	0.25	5.1	1.48	1.1	0.03	3	38	60°	1.55	0/+0.03
WHD 338 020 025 ...	■	■	M2.0	0.25	5.5	1.68	1.3	0.03	3	38	60°	1.75	0/+0.03
WHD 338 014 030 ...	■	■	M1.4	0.3	4.6	1.02	0.58	0.03	3	38	60°	1.1	0/+0.04
WHD 338 016 030 ...	■	■	M1.6	0.3	5	1.22	0.78	0.03	3	38	60°	1.3	0/+0.04
WHD 338 018 030 ...	■	■	M1.8	0.3	5.4	1.42	0.98	0.03	3	38	60°	1.5	0/+0.04
WHD 338 020 030 ...	■	■	M2.0	0.3	5.8	1.62	1.18	0.03	3	38	60°	1.7	0/+0.04
WHD 338 022 030 ...	■	■	M2.2	0.3	6.2	1.82	1.38	0.03	3	38	60°	1.9	0/+0.04
WHD 338 016 035 ...	■	■	M1.6	0.35	5.3	1.16	0.65	0.03	3	38	60°	1.25	0/+0.04
WHD 338 018 035 ...	■	■	M1.8	0.35	5.7	1.36	0.85	0.03	3	38	60°	1.45	0/+0.04
WHD 338 020 035 ...	■	■	M2.0	0.35	6.1	1.56	1.05	0.03	3	38	60°	1.65	0/+0.04
WHD 338 022 035 ...	■	■	M2.2	0.35	6.5	1.76	1.25	0.03	3	38	60°	1.85	0/+0.04
WHD 338 025 035 ...	■	■	M2.5	0.35	7.1	2.06	1.55	0.03	3	38	60°	2.15	0/+0.04
WHD 338 030 035 ...	■	■	M3.0	0.35	8.1	2.56	2.05	0.03	3	38	60°	2.65	0/+0.04
WHD 338 035 035 ...	■	■	M3.5	0.35	9.1	3.06	2.55	0.03	3	38	60°	3.15	0/+0.04
WHD 338 020 040 ...	■	■	M2.0	0.4	6.4	1.50	0.93	0.03	3	38	60°	1.6	0/+0.05
WHD 338 022 040 ...	■	■	M2.2	0.4	6.8	1.70	1.13	0.03	3	38	60°	1.8	0/+0.05
WHD 338 025 040 ...	■	■	M2.5	0.4	7.4	2.00	1.43	0.03	3	38	60°	2.1	0/+0.05
WHD 338 030 040 ...	■	■	M3	0.4	8.4	2.50	1.93	0.03	3	38	60°	2.6	0/+0.05
WHD 338 035 040 ...	■	■	M3.5	0.4	9.4	2.98	2.41	0.03	3	38	60°	3.1	0/+0.05
WHD 338 022 045 ...	■	■	M2.2	0.45	7.1	1.64	1.01	0.03	3	38	60°	1.75	0/+0.05
WHD 338 025 045 ...	■	■	M2.5	0.45	7.7	1.94	1.31	0.03	3	38	60°	2.05	0/+0.05
WHD 338 030 045 ...	■	■	M3	0.45	8.7	2.44	1.81	0.03	3	38	60°	2.55	0/+0.05
WHD 338 035 045 ...	■	■	M3.5	0.45	9.7	2.94	2.31	0.03	3	38	60°	3.05	0/+0.05
WHD 442 040 045 ...	■	■	M4	0.45	10.7	3.44	2.81	0.03	3	38	60°	3.55	0/+0.05
WHD 338 030 050 ...	■	■	M3	0.5	9	2.38	1.69	0.03	3	38	60°	2.5	0/+0.05
WHD 338 035 050 ...	■	■	M3.5	0.5	10	2.88	2.19	0.03	3	38	60°	3	0/+0.05
WHD 442 040 050 ...	■	■	M4	0.5	11	3.38	2.69	0.03	4	42	60°	3.5	0/+0.05
WHD 442 045 050 ...	■	■	M4.5	0.5	12	3.88	3.19	0.03	4	42	60°	4	0/+0.05
WHD 442 035 060 ...	■	■	M3.5	0.6	10.6	2.75	1.95	0.03	4	42	60°	2.9	0/+0.06
WHD 442 040 060 ...	■	■	M4	0.6	11.6	3.25	2.45	0.03	4	42	60°	3.4	0/+0.06
WHD 442 045 060 ...	■	■	M4.5	0.6	12.6	3.75	2.95	0.03	4	42	60°	3.9	0/+0.06
WHD 442 040 070 ...	■	■	M4	0.7	12.2	3.13	2.21	0.03	4	42	60°	3.3	0/+0.06
WHD 442 045 070 ...	■	■	M4.5	0.7	13.2	3.63	2.71	0.03	4	42	60°	3.8	0/+0.06
WHD 442 045 075 ...	■	■	M4.5	0.75	13.5	3.57	2.59	0.03	4	42	60°	3.75	0/+0.07
WHD 442 050 075 ...	■	■	M5	0.75	14.5	3.98	3.00	0.03	4	42	60°	4.25	0/+0.07
WHD 442 050 080 ...	■	■	M5	0.8	14.8	3.98	2.94	0.03	4	42	60°	4.2	0/+0.07



3 flutes, 1 tooth (full profile UNC/UNF)



WHD ... UNC ... (INCH) (Long version)

Order designation	Carbide □ 19		Standard	Dimensions								Core hole	
	UHM 20	UHM 20 HX		P	P	l <sub>1</sub>	d <sub>1</sub>	d <sub>2</sub>	d <sub>0</sub>	l <sub>0</sub>	α	d <sub>3</sub>	

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UTILIS multidec® swiss type tools

**PREMIUM-LINE**

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WHD 338-01-64 UNC ...	■	■	1-64	64	0.397	6.1	1.36	0.81	3	38	60°	1.5	0/+0.04
WHD 338-02-56 UNC ...	■	■	2-56	56	0.454	7.1	1.62	1	3	38	60°	1.78	0/+0.05
WHD 338-03-48 UNC ...	■	■	3-48	48	0.529	8.2	1.86	1.15	3	38	60°	2.05	0/+0.05
WHD 442-04-40 UNC ...	■	■	4-40	40	0.635	9.5	2.06	1.22	4	42	60°	2.27	0/+0.06
WHD 442-05-40 UNC ...	■	■	5-40	40	0.635	10.2	2.39	1.55	4	42	60°	2.59	0/+0.06
WHD 442-06-32 UNC ...	■	■	6-32	32	0.794	11.8	2.52	1.49	4	42	60°	2.77	0/+0.07
WHD 442-08-32 UNC ...	■	■	8-32	32	0.794	13.1	3.18	2.16	4	42	60°	3.42	0/+0.07

WHD ... UNF ... (INCH) (Long version)

Order designation	Carbide □ 19		Standard	Dimensions								Core hole	
	UHM 20	UHM 20 HX		P	P	l <sub>1</sub>	d <sub>1</sub>	d <sub>2</sub>	d <sub>0</sub>	l <sub>0</sub>	α	d <sub>3</sub>	

**PREMIUM-LINE**

Accuracy class of UTILIS □ 374

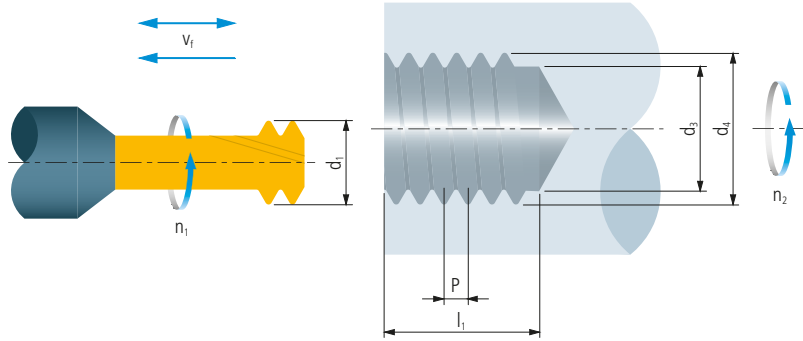
WHD 338-00-80 UNF ...	■	■	0-80	80	0.317	5	1.12	0.67	3	38	60°	1.25	0/+0.04
WHD 338-01-72 UNF ...	■	■	1-72	72	0.353	5.8	1.41	0.91	3	38	60°	1.55	0/+0.04
WHD 338-02-64 UNF ...	■	■	2-64	64	0.396	6.8	1.69	1.14	3	38	60°	1.9	0/+0.04
WHD 338-03-56 UNF ...	■	■	3-56	56	0.453	7.8	1.95	1.32	3	38	60°	2.15	0/+0.05
WHD 338-04-48 UNF ...	■	■	4-48	48	0.529	8.9	2.19	1.46	3	38	60°	2.4	0/+0.05
WHD 338-05-44 UNF ...	■	■	5-44	44	0.577	9.8	2.46	1.68	3	38	60°	2.7	0/+0.05
WHD 442-06-40 UNF ...	■	■	6-40	40	0.635	10.8	2.72	1.87	4	42	60°	2.95	0/+0.06
WHD 442-08-36 UNF ...	■	■	8-36	36	0.705	12.6	3.29	2.37	4	42	60°	3.5	0/+0.06
WHD 442-10-32 UNF ...	■	■	10-32	32	0.794	14.4	3.84	2.82	4	42	60°	4.1	0/+0.07

Application recommendation □ 385

	Steel unalloyed			Steel low alloyed			Steel high alloyed			Titanium		
Hardness value (HB)	125–300			180–250			200–350			–		
Category	I			II			III			IV		
Machining method	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼
Cutting speeds	$v_c$ (m/min)											
Cutting material carbide												
UHM 20	–	–	20–120	–	–	20–100	–	–	20–90	–	–	20–70
UHM 20 HX	–	–	30–160	–	–	30–140	–	–	30–130	–	–	30–100

	Stainless steel			Stainless steel			Aluminum			Brass		
Hardness value (HB)	180–220			220–330			60–130			–		
Category	V			VI			VII			VIII		
Machining method	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼
Cutting speeds	$v_c$ (m/min)											
Cutting material carbide												
UHM 20	–	–	20–80	–	–	20–60	–	–	50–220	–	–	30–110
UHM 20 HX	–	–	30–120	–	–	30–100	–	–	60–350	–	–	50–180





$$v_f = z \cdot f_z \cdot n_1$$

$$n_1 = \frac{v_c \cdot 1000}{\pi \cdot d_1}$$

$$n_2 = \frac{v_i}{\pi \cdot d_1}$$

**Explanation**

- $v_f$  Feed (mm/min)
- $d_1$  Tool diameter (mm)
- $n_1$  Tool revolutions (rev/min)
- $d_4$  Work piece diameter (mm)
- $n_2$  Revolutions (rev/min)
- $v_c$  Cutting speed (m/min)
- $P$  Pitch (mm)
- $l_1$  Length of one milling pass (mm)
- $z$  Number of teeth
- $d_3$  Drilling diameter (mm)
- $f_z$  Feed per tooth (mm)

**Determine the drilling diameter**

For the preparation of drilling before thread whirling, it is necessary to know at first the tolerance of the desired thread. To avoid overload of the tool the diameter must not exceed the max. diameter as mentioned in the following table.

Example: M 1.4, pitch 0.3, tolerance desired of the thread 6H on high level (1.11)  
 Diameter of the hole to be drilled min = 1.11 – (2 × 0.04) 1.03 mm minimum

Engraving is a chip-removing procedure for which ornaments, text and decorations are cut into the material. The removal of the material creates a surface structure which visually stands out against the background. Engravings manufactured in this way have the advantage of greater durability than other procedures.

The product range includes standardised, finished-ground carbide gravers which provide extremely good performance in all materials and also pre-ground semifinished products for grinding yourself.

**Benefits:**

- Standardised tools with point angle of 30° for engraving from 0.2 to 2 mm
- Pre-ground blanks, with lapped chip surface, available for individually grindable tools
- Sharp cutting edges
- Reliable process with long tool life

Technical information	9
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Product lines and accuracy classes of UTILIS	388
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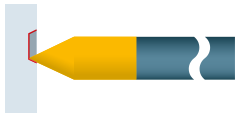
STANDARD-LINE

Engraving graver	
FGA ...	389
FGB ...	389
FGQ ...	390
FGR ...	390

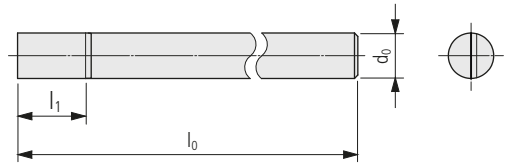


Product line	Accuracy class of UTILIS	Repeatability
<b>PREMIUM-LINE</b>		< 10 µm
<b>STANDARD-LINE</b>		< 20 µm
<b>VALUE-LINE</b>		< 50 µm


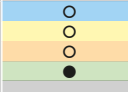

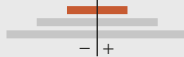












Blank



FGA ...


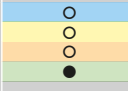










Order designation	Carbide  19	Dimensions							Holder
		$l_1$	$l_0$	$d_0$					
	 UHM 20								
Accuracy class of UTILIS  388 									
FGA 020 032 ...		3	32	2					
FGA 025 032 ...		4	32	2.5					
FGA 030 036 ...		5	36	3					
FGA 040 042 ...		6	42	4					
FGA 050 050 ...		8	50	5					
FGA 060 060 ...		10	60	6					
FGA 080 060 ...		12	60	8					
FGA 100 060 ...		15	60	10					

**PREMIUM-LINE**

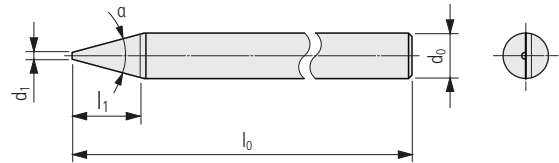
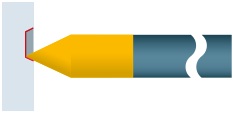
389

UTILIS  
**multidec**  
swiss type tools

FGB ...

Order designation	Carbide  19	Dimensions							Holder
		$l_1$	$l_0$	$d_0$					
	 UHM 20								
Accuracy class of UTILIS  388 									
FGB 020 042 ...		4	42	2					
FGB 025 042 ...		5	42	2.5					
FGB 030 050 ...		6	50	3					
FGB 040 060 ...		8	60	4					
FGB 050 075 ...		10	75	5					
FGB 060 100 ...		12	100	6					
FGB 080 100 ...		16	100	8					
FGB 100 100 ...		20	100	10					

**PREMIUM-LINE**



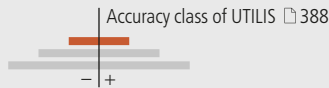
FGQ ...

Order designation	Carbide □ 19	Dimensions						Holder
		d <sub>1</sub>	α	l <sub>1</sub>	l <sub>0</sub>	d <sub>0</sub>		
	 UHM 20							

390

UTILIS  
multidec®  
swiss type tools

**PREMIUM-LINE**

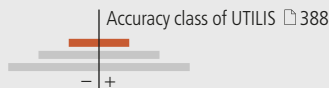


FGQ 020 032 ...	■	0.2	30°	3	32	2			
FGQ 025 032 ...	■	0.4	30°	4	32	2.5			
FGQ 030 036 ...	■	0.5	30°	5	36	3			
FGQ 040 042 ...	■	0.6	30°	6	42	4			
FGQ 050 050 ...	■	0.8	30°	8	50	5			
FGQ 060 060 ...	■	1	30°	10	60	6			
FGQ 080 060 ...	■	1.5	30°	12	60	8			
FGQ 100 060 ...	■	2	30°	15	60	10			

FGR ...

Order designation	Carbide □ 19	Dimensions						Holder
		d <sub>1</sub>	α	l <sub>1</sub>	l <sub>0</sub>	d <sub>0</sub>		
	 UHM 20							

**PREMIUM-LINE**



FGR 020 042 ...	■	0.2	30°	4	42	2			
FGR 025 042 ...	■	0.4	30°	5	42	2.5			
FGR 030 050 ...	■	0.5	30°	6	50	3			
FGR 040 060 ...	■	0.6	30°	8	60	4			
FGR 050 075 ...	■	0.8	30°	10	75	5			
FGR 060 100 ...	■	1	30°	12	100	6			
FGR 080 100 ...	■	1.5	30°	16	100	8			
FGR 100 100 ...	■	2	30°	20	100	10			



multidec®-WHIRLING is a multiple cutter thread whirling tool system designed to significantly improve productivity – essential in today's mass production. Unlike single point threading which requires multiple passes, thread whirling produces a finished thread free from burr in a single pass. The use of up to 12 cutting inserts greatly reduces machining time.

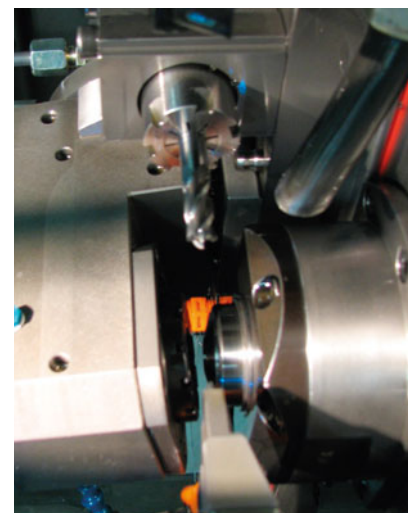
For optimized use, UTILIS supplies variants for specific machines with different cutting diameters and lengths.



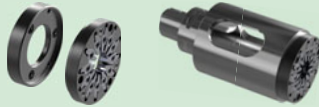
The inserts used in multidec®-WHIRLING are based on those in multidec®-CUT. This groove/lathe tool system is ideal for Swiss type turning machines with a maximum bar passage diameter of 10 mm. The inserts have two cutting edges that are screwed onto the holders with a repeat accuracy of <math>< 0.01\text{ mm}</math>.

#### Specialities and advantage:

- Up to 12 inserts increase productivity and reduce vibration considerably
- Little concentricity tolerance and high exchange accuracy of inserts  $< \pm 0.005\text{ mm}$  guarantee threads of high-quality
- Quick and simple change of the Whirling tool reduces set up time
- Threads without cutting ridge decrease re-machining of parts
- Using UTILIS standard blanks allows short delivery time and best possible coating for demanded application
- Whirling tools with different flight circles and multi start threads available




Technical information 9


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Replacement and spare parts  484

Usage recommendations and measurement of length difference 485

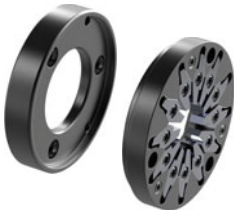
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Order guideline for execution of special thread profiles 490

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MWT... (Type A)



**xModular-System**

Flexible, two-part system, which reduces set-up time with the fast change whirling ring (the adapter remains in the whirling device); guaranteed concentricity of  $\pm 0.005\text{mm}$ .

MWT... (Type B)



**Mono-system**

Highly compact single component system. This enables high concentricity of  $\pm 0.005\text{mm}$  to be achieved.

MWT... (Type C)



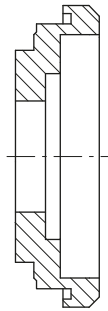
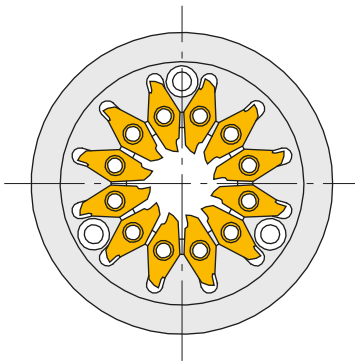
**QuickChange-System**

Unlike the xModular-System the whirling ring is removed or inserted by rotation. Here too, the guaranteed concentricity of  $\pm 0.005\text{mm}$  is maintained.

MWA...  
Adapter



MWR...  
Whirling ring



MWI...  
Inserts



MWT... (HSK...)



MWT... (PSC...)

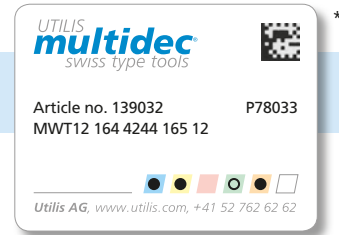
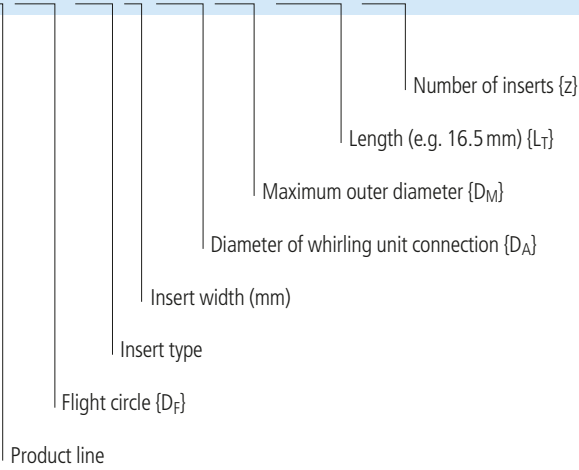


MWT... (ER...)

The designation of every part includes all important information according to the following system:

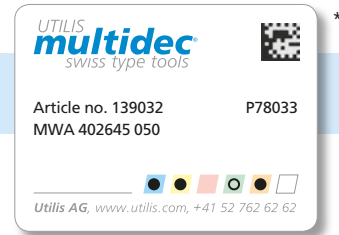
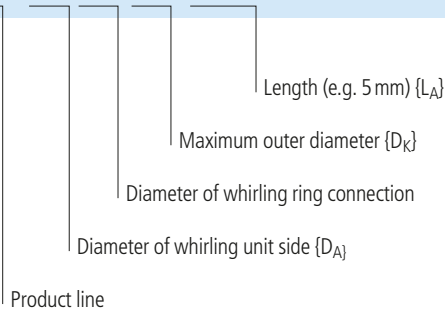
Whirling head

**MWT12 164 4244 165 12**



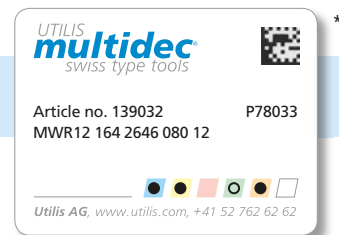
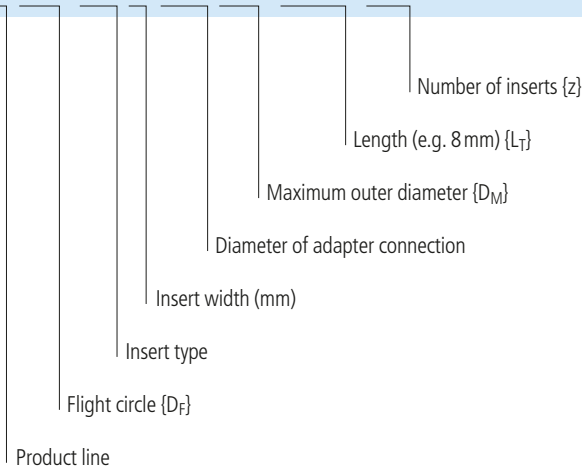
Adapter

**MWA 402645 050**



Whirling ring

**MWR12 164 2646 080 12**

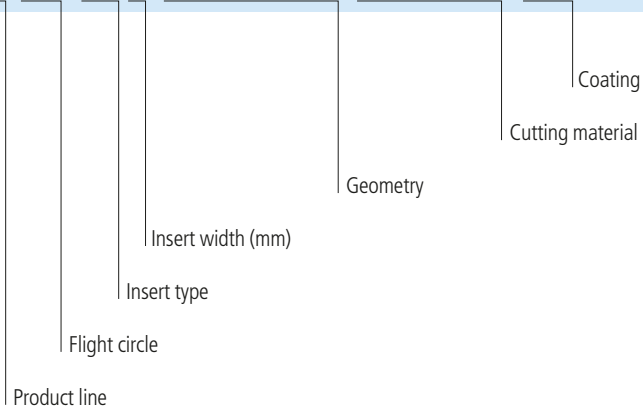


Product line	Accuracy class of UTILIS	Repeatability
<b>PREMIUM-LINE</b>		< 10 µm
<b>STANDARD-LINE</b>		< 20 µm

Designation system

Inserts

**MWI12 164 HA3.5 VP UHM30 HX**



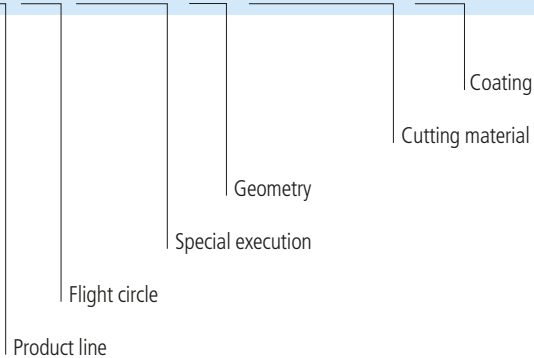
UTILIS **multidec**  
swiss type tools

Article no. 139032 P78033  
MWI12 164 HA3.5 VP UHM30 HX

Utilis AG, www.utilis.com, +41 52 762 62 62

Special inserts

**MWI12 0001 VP UHM30 HX**



UTILIS **multidec**  
swiss type tools

Article no. 139032 P78033  
MWI12 0001 VP UHM30 HX

Utilis AG, www.utilis.com, +41 52 762 62 62

\* Packaging Information 346

396  
UTILIS **multidec**  
swiss type tools



Machine		Driven toolholder				
Manufacturer	Type	Manufacturer	Type			
			A	B	C	
			400 ...	460 ...	464 ...	
BENZINGER	TNI	WTO		■		
CITIZEN	A 20	CITIZEN		■		
		PCM	■			
	A 2 20	CITIZEN		■		
	A 3 20	CITIZEN		■		
	A 32	CITIZEN		■		
	A 2 32	CITIZEN		■		
	C 12	JARVIS	■			
	C 16		JARVIS	■		
			MADAULA	■		
			PCM	■		■
		W & F		■		
	C 20	PCM	■			
	C 32		CITIZEN		■	
			PCM	■	■	
	K 12		MADAULA		■	
			PCM		■	
	K 16		MADAULA		■	
			PCM		■	
	L 12 VII	PCM			■	
	L 12	PCM	■	■		
	L 16		MADAULA	■		
			PCM	■	■	
			WTO		■	
	L 20	CITIZEN		■		
	L 2 20	CITIZEN		■		
	L 7 20		JARVIS	■		
			MADAULA	■		
			PCM	■		
			WTO		■	
			W & F		■	
	L 25		JARVIS	■		
			MADAULA	■		
L 32		PCM	■	■		
		CITIZEN		■		
		JARVIS	■			
M 12		MADAULA	■			
		PCM	■		■	
		JARVIS	■			
M 16		MADAULA	■			
		PCM	■		■	
		PCM	■		■	
M 4 16	CITIZEN		■			
M 3 20	CITIZEN		■			
M 4 20	CITIZEN		■			
M 20		JARVIS	■			
		MADAULA	■			
		MT	■			
M 3 32		PCM	■	■		
		CITIZEN		■		
M 4 32	CITIZEN		■			
M 32		JARVIS	■			
		MADAULA	■			
		MT	■			
DAESUNG NOMURA	NN 20	PCM	■	■		
		WTO		■		

Machine		Driven toolholder			
Manufacturer	Type	Manufacturer	Type		
			A	B	C
			400 ...	460 ...	464 ...
DMG MORI	NLX 2500	WTO		■	
	SPEED 12 7	PCM	■		
	SPEED 20 8	DMG		■	
	SPEED 20 11	DMG		■	
		PCM	■	■	
	SPRINT 20 8	DMG		■	
	SPRINT 42 10	MT		■	
DOOSAN	BMT 55	WTO		■	
	PUMA ST 20 G/GS	WTO		■	
	PUMA ST 20	WTO		■	
	PUMA ST 26 G/GS	WTO		■	
	PUMA ST 26	WTO		■	
	PUMA ST 32 G/GS	WTO		■	
	PUMA ST 32	WTO		■	
	PUMA ST 35 G/GS	WTO		■	
	PUMA ST 35	WTO		■	
	PUMA TT 1500	WTO		■	
	PUMA TT 1800 MS	WTO		■	
	PUMA TT 1800 SY	WTO		■	
	PUMA TT MS	WTO		■	
	PUMA TT SY	WTO		■	
	PUMA TT	WTO		■	
	BMT 45	WTO		■	
EMCO	BMT 55	WTO		■	
	Hyperturn 65	WTO		■	
	Maxxturn 65	WTO		■	
GANESH	SL 20	WTO		■	
GOODWAY	SW 20	WTO		■	
	SW 32	WTO		■	
	SW 42	WTO		■	
HANWHA	STL 32	MADAULA	■		
		WTO		■	
	STL 35	MADAULA	■		
		WTO		■	
	STL 38	MADAULA	■		
		WTO		■	
	STL 45	WTO		■	
	XD 12	MADAULA	■		
		WTO		■	
	XD 16	MADAULA	■		
		WTO		■	
	XD 20	MADAULA	■		
		WTO		■	
		W & F		■	
XD 26	MADAULA	■			
	WTO		■		
XD 32	ALPSTOOL	■			
	WTO		■		
XD 35	WTO		■		
XD 38	WTO		■		
XDI 20	WTO		■		
XE 20	WTO		■		
XE 26	WTO		■		
HASEGAWA	JS 1 W	HASEGAWA	■		
JINN FA	JSL 20	JINN FA	■		
LEISTRITZ	LWN 90	LEISTRITZ	■		
MAIER	BASIC ML 20	MAIER	■		

Machine		Driven toolholder			
Manufacturer	Type	Manufacturer	Type		
			A	B	C
			400 ...	460 ...	464 ...
MANURHIN	KMK 426	WTO		■	
	KMK 432	WTO			
	KMK 526	WTO		■	
	KMK 532	WTO		■	
	KMK 626	WTO		■	
	KMK 632	WTO		■	
MAZAK	QTN 200 MS	WTO		■	
	QTN 200 MSY	WTO		■	
	QTN 200 M	WTO		■	
	QTN 200 MY	WTO		■	
	QTN 200	WTO		■	
	QTN 250 MS	WTO		■	
	QTN 250 MSY	WTO		■	
	QTN 250 M	WTO		■	
	QTN 250 MY	WTO		■	
	QTN 250	WTO		■	
	SQ 200 M	WTO		■	
	SQ 200	WTO		■	
	SQ 250 M	WTO		■	
	SQ 250	WTO		■	
	SQT 200 MS	WTO		■	
	SQT 200 MSY	WTO		■	
	SQT 200 M	WTO		■	
	SQT 200 MY	WTO		■	
	SQT 200	WTO		■	
	SQT 250 MS	WTO		■	
SQT 250 MSY	WTO		■		
SQT 250 M	WTO		■		
SQT 250 MY	WTO		■		
SQT 250	WTO		■		
MONNIER+ZAHNER	M 600	MONNIER+ZAHNER	■		
	M 621	MONNIER+ZAHNER	■		
NEXTURN	SA 20	PCM	■		
		WTO		■	
	SA 26	WTO		■	
		PCM	■		
SA 32	WTO		■		
	PCM	■			
NOMURA	NN 16	PCM	■		
		MT	■		
	NN 20 UB 8	PCM	■		
		WTO		■	
NN 32 YB 2	MT	■			

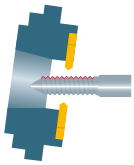
Machine		Driven toolholder			
Manufacturer	Type	Manufacturer	Type		
			A	B	C
			400 ...	460 ...	464 ...
STAR	ECAS 12	AERPIZ	■		
		MADAULA	■		
		STAR	■		
		WTO		■	
	ECAS 20	MADAULA	■		
		PCM		■	
		STAR	■		
		SU-matic	■		
	ECAS 32	WTO	■	■	
		STAR	■		
	SB 12	WTO		■	
	SB 16	WTO		■	
	SB 20	PCH	■		
		STAR	■		
	SR 10	WTO		■	
		MADAULA	■		
		PCM			■
		STAR	■		
	SR 16	SU-matic	■		
		MADAULA	■		
		STAR	■		
		SU-matic	■		
	SR 20	WTO		■	
		alpha ant	■		
		MADAULA	■		
		PCM	■		
	SR 32	STAR	■		
		WTO		■	
		SU-matic	■		
		WTO		■	
	SR 38	STAR	■		
	ST 20	STAR	■		
		WTO	■	■	
	ST 38	WTO	■	■	
		STAR	■		
	SV 12	MADAULA	■		
		STAR	■		
		WTO	■	■	
		MADAULA	■		
	SV 20	PCM	■		
STAR		■			
WTO		■	■		
MADAULA		■			
SV 32	STAR	■			
	WTO	■	■		
SV 38	WTO	■	■		
SW 12 R II	PCM			■	
	STAR	■			
SW 12	WTO		■		
	STAR	■			
	WTO		■		
TAKISAWA	TCY 160	WTO		■	
	TCY 200	WTO		■	

398



Machine		Driven toolholder			
Manufacturer	Type	Manufacturer	Type		
			A	B	C
			400 ...	460 ...	464 ...
TORNOS	CT 20	W & F		■	
	DECO 7	TORNOS	■		
	DECO 10	PCM	■		
		TORNOS	■		
	DECO 13	W & F	■		
		MADAULA	■		
		PCM	■		
	DECO 16	TORNOS	■		■
		W & F	■		
	DECO 20	ALBERTI UMBERTO	■		
		MADAULA	■		
		PCM	■		
		PIBOMULTI	■		
		TORNOS	■		
	DECO 26	W & F	■		
		MADAULA	■		
		PCM	■		
		PIBOMULTI	■		
	DECO	TORNOS	■		
		WTO		■	
		W & F	■		
	EvoDECO 10	TORNOS	■		
		MADAULA	■		
	EvoDECO 16	PCM	■		
		TORNOS	■		■
	EvoDECO 20	W & F	■		
		TORNOS	■		■
	EvoDECO 32	TORNOS	■		■
		MADAULA	■		
	Gamma 20/6	TORNOS	■		
W & F			■		
MultiALPHA 6x32	TORNOS	■			
MultiALPHA 8x20	TORNOS	■			
MultiALPHA 8x28	TORNOS	■			
MultiDECO 20/6	PIBOMULTI	■			
MultiSIGMA 8x24	TORNOS	■			
MultiSIGMA 8x28	TORNOS	■			
MultiSWISS 6x14	TORNOS	■			
SIGMA 20	MADAULA	■			
	TORNOS	■			
SIGMA 32	TORNOS	■			
SWISS GT 13	TORNOS	■			
SWISS GT 26	TORNOS		■		
SWISS ST 26	TORNOS	■			
TRAUB	TNK 36	TRAUB		■	
	TNL 12	TRAUB		■	
	TNL 18	TRAUB		■	
	TNL 26	TRAUB	■	■	
	TNL 32	TRAUB		■	

Machine		Driven toolholder			
Manufacturer	Type	Manufacturer	Type		
			A	B	C
			400 ...	460 ...	464 ...
TSUGAMI	B 0265	WTO			
	B 0266	WTO		■	
	B 0325	TSUGAMI	■		
		WTO		■	
	B 0326	TSUGAMI	■		
		WTO		■	
	B 0385	TSUGAMI	■		
		WTO		■	
	BH 20	TSUGAMI	■		
	BH 207	TSUGAMI	■		
	BH 38	TSUGAMI	■		
	HS 207	MADAULA	■		
	NP 16	PCM	■	■	
		MADAULA	■		
	S 205	MADAULA	■		
		TSUGAMI	■		
		WTO		■	
	S 206	SONGGIA	■		
		MADAULA	■		
		TSUGAMI	■		
WTO	TSUGAMI	■			
	WTO		■		
SS 20	TSUGAMI	■			
SS 26	WTO		■		
SS 32	TSUGAMI	■			
	WTO		■		
UTILIS	UTILIS		■		

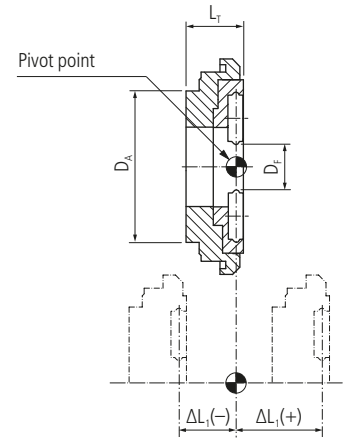


Type A

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$ ±	

400

**PREMIUM-LINE**

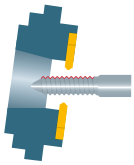
Accuracy class of UTILIS □ 396



AERPIZ	OM171-00	■	MWT06 164 4040 111 09	■	6	40	40	40	9	4	11.1	0
			MWT06 164 4040 116 09	■	6	40	40	40	9	4.5	11.6	0.4
			MWT06 164 4040 144 09	■	6	40	40	40	9	7.3	14.4	3.3
			MWT06 164 4040 154 09	■	6	40	40	40	9	8.3	15.4	4.3
			MWT06 164 4040 161 09	■	6	40	40	40	9	9	16.1	5
			MWT06 164 4040 181 09	■	6	40	40	40	9	11	18.1	7
			MWT06 164 4040 196 09	■	6	40	40	40	9	12.5	19.6	8.5
			MWT06 164 4040 231 09	■	6	40	40	40	9	16	23.1	12
			MWT12 164 4040 111 09	■	12	40	40	40	9	4	11.1	0
			MWT12 164 4040 116 09	■	12	40	40	40	9	4.5	11.6	0.4
			MWT12 164 4040 144 09	■	12	40	40	40	9	7.3	14.4	3.3
			MWT12 164 4040 154 09	■	12	40	40	40	9	8.3	15.4	4.3
			MWT12 164 4040 161 09	■	12	40	40	40	9	9	16.1	5
			MWT12 164 4040 181 09	■	12	40	40	40	9	11	18.1	7
			MWT12 164 4040 196 09	■	12	40	40	40	9	12.5	19.6	8.5
			MWT12 164 4040 231 09	■	12	40	40	40	9	16	23.1	12
			MWT12 164 4040 111 12	■	12	40	40	40	12	4	11.1	0
			MWT12 164 4040 116 12	■	12	40	40	40	12	4.5	11.6	0.4
			MWT12 164 4040 144 12	■	12	40	40	40	12	7.3	14.4	3.3
			MWT12 164 4040 154 12	■	12	40	40	40	12	8.3	15.4	4.3
			MWT12 164 4040 161 12	■	12	40	40	40	12	9	16.1	5
			MWT12 164 4040 181 12	■	12	40	40	40	12	11	18.1	7
			MWT12 164 4040 196 12	■	12	40	40	40	12	12.5	19.6	8.5
			MWT12 164 4040 231 12	■	12	40	40	40	12	16	23.1	12
			MWT15 164 4040 111 09	■	15	40	40	40	9	4	11.1	0
			MWT15 164 4040 116 09	■	15	40	40	40	9	4.5	11.6	0.4
			MWT15 164 4040 144 09	■	15	40	40	40	9	7.3	14.4	3.3
			MWT15 164 4040 154 09	■	15	40	40	40	9	8.3	15.4	4.3
			MWT15 164 4040 161 09	■	15	40	40	40	9	9	16.1	5
			MWT15 164 4040 181 09	■	15	40	40	40	9	11	18.1	7
			MWT15 164 4040 196 09	■	15	40	40	40	9	12.5	19.6	8.5
			MWT15 164 4040 231 09	■	15	40	40	40	9	16	23.1	12
			MWT06 164 4045 120 09	■	6	40	45	46	9	4	12	0
			MWT06 164 4045 125 09	■	6	40	45	46	9	4.5	12.5	0.5
			MWT06 164 4045 153 09	■	6	40	45	46	9	7.3	15.3	3.3
			MWT06 164 4045 163 09	■	6	40	45	46	9	8.3	16.3	4.3
			MWT06 164 4045 170 09	■	6	40	45	46	9	9	17	5
			MWT06 164 4045 190 09	■	6	40	45	46	9	11	19	7

\* Number of teeth



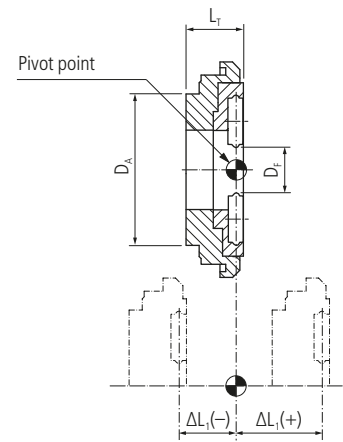


Type A

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$ ±	

402

Accuracy class of UTILIS □ 396

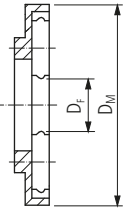
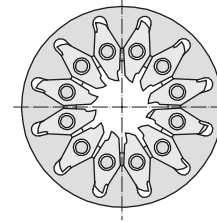
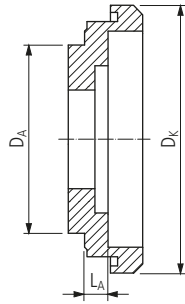
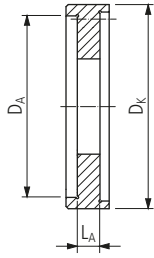
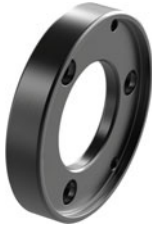


**PREMIUM-LINE**

AERPIZ	OM171-00	■	MWT06 164 4045 205 09	■	6	40	45	46	9	12.5	20.5	8.5
			MWT06 164 4045 240 09	■	6	40	45	46	9	16	24	12
			MWT08 164 4045 120 09	■	8	40	45	46	9	4	12	0
			MWT08 164 4045 125 09	■	8	40	45	46	9	4.5	12.5	0.5
			MWT08 164 4045 153 09	■	8	40	45	46	9	7.3	15.3	3.3
			MWT08 164 4045 163 09	■	8	40	45	46	9	8.3	16.3	4.3
			MWT08 164 4045 170 09	■	8	40	45	46	9	9	17	5
			MWT08 164 4045 190 09	■	8	40	45	46	9	11	19	7
			MWT08 164 4045 205 09	■	8	40	45	46	9	12.5	20.5	8.5
			MWT08 164 4045 240 09	■	8	40	45	46	9	16	24	12
			MWT12 164 4045 120 09	■	12	40	45	46	9	4	12	0
			MWT12 164 4045 125 09	■	12	40	45	46	9	4.5	12.5	0.5
			MWT12 164 4045 153 09	■	12	40	45	46	9	7.3	15.3	3.3
			MWT12 164 4045 163 09	■	12	40	45	46	9	8.3	16.3	4.3
			MWT12 164 4045 170 09	■	12	40	45	46	9	9	17	5
			MWT12 164 4045 190 09	■	12	40	45	46	9	11	19	7
			MWT12 164 4045 205 09	■	12	40	45	46	9	12.5	20.5	8.5
			MWT12 164 4045 240 09	■	12	40	45	46	9	16	24	12
			MWT12 164 4045 120 12	■	12	40	45	46	12	4	12	0
			MWT12 164 4045 125 12	■	12	40	45	46	12	4.5	12.5	0.5
			MWT12 164 4045 153 12	■	12	40	45	46	12	7.3	15.3	3.3
			MWT12 164 4045 163 12	■	12	40	45	46	12	8.3	16.3	4.3
			MWT12 164 4045 170 12	■	12	40	45	46	12	9	17	5
			MWT12 164 4045 190 12	■	12	40	45	46	12	11	19	7
			MWT12 164 4045 205 12	■	12	40	45	46	12	12.5	20.5	8.5
			MWT12 164 4045 240 12	■	12	40	45	46	12	16	24	12
			MWT15 164 4045 120 09	■	15	40	45	46	9	4	12	0
			MWT15 164 4045 125 09	■	15	40	45	46	9	4.5	12.5	0.5
			MWT15 164 4045 153 09	■	15	40	45	46	9	7.3	15.3	3.3
			MWT15 164 4045 163 09	■	15	40	45	46	9	8.3	16.3	4.3
			MWT15 164 4045 170 09	■	15	40	45	46	9	9	17	5
			MWT15 164 4045 190 09	■	15	40	45	46	9	11	19	7
			MWT15 164 4045 205 09	■	15	40	45	46	9	12.5	20.5	8.5
			MWT15 164 4045 240 09	■	15	40	45	46	9	16	24	12

\* Number of teeth

Continuation



MWA...

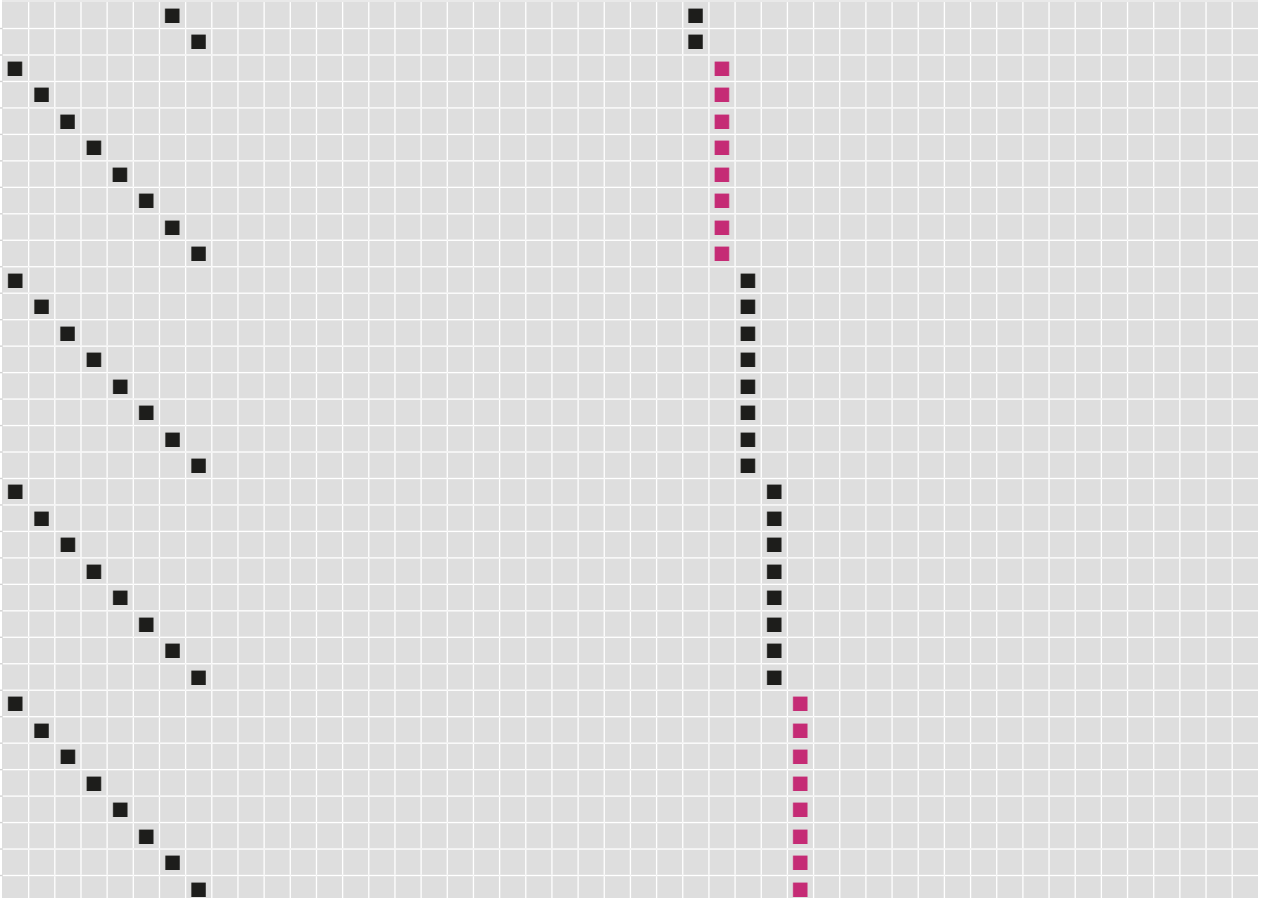
MWR...

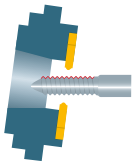
Adapter

Whirling ring

MWA 402540 040  
 MWA 402540 045  
 MWA 402540 073  
 MWA 402540 083  
 MWA 402540 090  
 MWA 402540 110  
 MWA 402540 125  
 MWA 402540 160

MWR06 164 2546 091 09  
 MWR08 164 2546 080 09  
 MWR12 164 2546 080 09  
 MWR12 164 2546 080 12  
 MWR15 164 2546 080 09



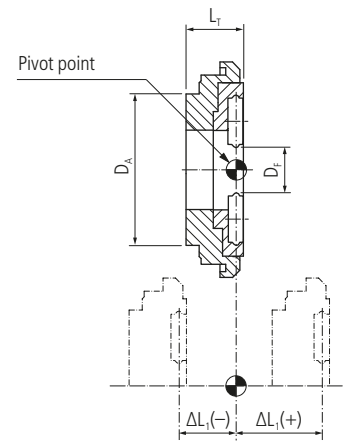


Type A

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	ΔL <sub>1</sub>	±

**PREMIUM-LINE**

Accuracy class of UTILIS □ 396

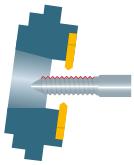


ALBERTI UMBERTO	ATO.DE.20.0800	■	MWT06 164 4055 103 09	■	6	40	55	55	9	2.3	10.3	0
			MWT06 164 4055 115 09	■	6	40	55	55	9	3.5	11.5	1.2
			MWT06 164 4055 153 09	■	6	40	55	55	9	7.3	15.3	5
			MWT08 164 4055 103 09	■	8	40	55	55	9	2.3	10.3	0
			MWT08 164 4055 115 09	■	8	40	55	55	9	3.5	11.5	1.2
			MWT08 164 4055 153 09	■	8	40	55	55	9	7.3	15.3	5
			MWT12 164 4055 103 09	■	12	40	55	55	9	2.3	10.3	0
			MWT12 164 4055 115 09	■	12	40	55	55	9	3.5	11.5	1.2
			MWT12 164 4055 153 09	■	12	40	55	55	9	7.3	15.3	5
			MWT12 164 4055 103 12	■	12	40	55	55	12	2.3	10.3	0
			MWT12 164 4055 115 12	■	12	40	55	55	12	3.5	11.5	1.2
			MWT12 164 4055 153 12	■	12	40	55	55	12	7.3	15.3	5
			MWT15 164 4055 103 09	■	15	40	55	55	9	2.3	10.3	0
			MWT15 164 4055 115 09	■	15	40	55	55	9	3.5	11.5	1.2
			MWT15 164 4055 153 09	■	15	40	55	55	9	7.3	15.3	5
			MWT15 164 4055 103 12	■	15	40	55	55	12	2.3	10.3	0
			MWT15 164 4055 115 12	■	15	40	55	55	12	3.5	11.5	1.2
			MWT15 164 4055 153 12	■	15	40	55	55	12	7.3	15.3	5
ALPSTOOL	ZZA08-13000	■	MWT08 164 4546 145 09	■	8	45	45	46	9	6.5	14.5	1
			MWT08 164 4546 240 09	■	8	45	45	46	9	16	24	8.5
			MWT08 164 4546 280 09	■	8	45	45	46	9	20	28	12.5
			MWT12 164 4546 145 09	■	12	45	45	46	9	6.5	14.5	1
			MWT12 164 4546 240 09	■	12	45	45	46	9	16	24	8.5
			MWT12 164 4546 280 09	■	12	45	45	46	9	20	28	12.5
			MWT12 164 4546 145 12	■	12	45	45	46	12	6.5	14.5	1
			MWT12 164 4546 240 12	■	12	45	45	46	12	16	24	8.5
			MWT12 164 4546 280 12	■	12	45	45	46	12	20	28	12.5
			MWT15 164 4546 145 09	■	15	45	45	46	9	6.5	14.5	1
			MWT15 164 4546 240 09	■	15	45	45	46	9	16	24	8.5
			MWT15 164 4546 280 09	■	15	45	45	46	9	20	28	12.5
			MWT15 164 4546 145 12	■	15	45	45	46	12	6.5	14.5	1
			MWT15 164 4546 240 12	■	15	45	45	46	12	16	24	8.5
			MWT15 164 4546 280 12	■	15	45	45	46	12	20	28	12.5
DMG	45x15	■	MWT08 164 4046 115 09	■	8	40	46	46	9	3.5	11.5	0
			MWT12 164 4046 115 09	■	12	40	46	46	9	3.5	11.5	0
			MWT12 164 4046 115 12	■	12	40	46	46	12	3.5	11.5	0
			MWT15 164 4046 115 09	■	15	40	46	46	9	3.5	11.5	0
			MWT15 164 4046 115 12	■	15	40	46	46	12	3.5	11.5	0

\* Number of teeth





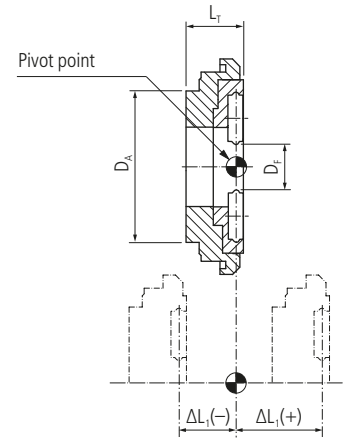


Type A

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	ΔL <sub>1</sub>	±

**PREMIUM-LINE**

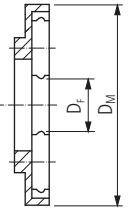
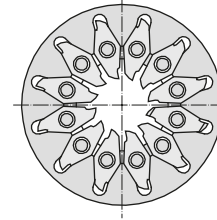
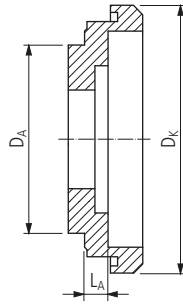
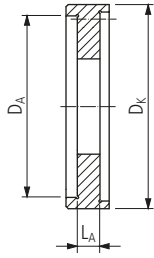
Accuracy class of UTILIS □ 396



HASEGAWA	JS-1W	■	MWT12 164 9494 250 03	■	12	94	94	94	3	22.5	25	0
			MWT12 164 9494 250 09	■	12	94	94	94	9	22.5	25	0
			MWT12 164 9494 250 12	■	12	94	94	94	12	22.5	25	0
			MWT15 164 9494 250 09	■	15	94	94	94	9	22.5	25	0
JARVIS	LTR0128 LTR0132 LTR0139 LTR0168 LTR0183 CHS-1B6	■	MWT06 164 4053 121 09	■	6	40	53	46	9	4.3	12.1	0
			MWT06 164 4053 131 09	■	6	40	53	46	9	5.3	13.1	1
			MWT08 164 4053 121 09	■	8	40	53	46	9	4.3	12.1	0
			MWT08 164 4053 131 09	■	8	40	53	46	9	5.3	13.1	1
			MWT12 164 4053 121 09	■	12	40	53	46	9	4.3	12.1	0
			MWT12 164 4053 131 09	■	12	40	53	46	9	5.3	13.1	1
			MWT12 164 4053 121 12	■	12	40	53	46	12	4.3	12.1	0
			MWT12 164 4053 131 12	■	12	40	53	46	12	5.3	13.1	1
			MWT15 164 4053 121 09	■	15	40	53	46	9	4.3	12.1	0
			MWT15 164 4053 131 09	■	15	40	53	46	9	5.3	13.1	1
			MWT15 164 4053 121 12	■	15	40	53	46	12	4.3	12.1	0
			MWT15 164 4053 131 12	■	15	40	53	46	12	5.3	13.1	1
JARVIS	LTR0131 LTR0169 LTR0170 CHS-2B6	■	MWT06 164 3746 121 09	■	6	37	46	46	9	4.1	12.1	0
			MWT06 164 3746 221 09	■	6	37	46	46	9	14.1	22.1	10
			MWT08 164 3746 121 09	■	8	37	46	46	9	4.1	12.1	0
			MWT08 164 3746 221 09	■	8	37	46	46	9	14.1	22.1	10
			MWT12 164 3746 121 09	■	12	37	46	46	9	4.1	12.1	0
			MWT12 164 3746 221 09	■	12	37	46	46	9	14.1	22.1	10
			MWT12 164 3746 121 12	■	12	37	46	46	12	4.1	12.1	0
			MWT12 164 3746 221 12	■	12	37	46	46	12	14.1	22.1	10
			MWT15 164 3746 121 09	■	15	37	46	46	9	4.1	12.1	0
			MWT15 164 3746 221 09	■	15	37	46	46	9	14.1	22.1	10
			MWT15 164 3746 121 12	■	15	37	46	46	12	4.1	12.1	0
			MWT15 164 3746 221 12	■	15	37	46	46	12	14.1	22.1	10
JINN FA	STR 260100	■	MWT12 164 4244 155 09	■	12	42	42	44	9	7.5	15.5	0
			MWT12 164 4244 155 12	■	12	42	42	44	12	7.5	15.5	0
			MWT15 164 4244 155 12	■	15	42	42	44	12	7.5	15.5	0
LEISTRITZ	WR796	■	MWT12 164 4294 250 03	■	12	42	94	94	3	22	25	0
			MWT12 164 4294 250 09	■	12	42	94	94	9	22	25	0
			MWT12 164 4294 250 12	■	12	42	94	94	12	22	25	0
			MWT15 164 4294 250 09	■	15	42	94	94	9	22	25	0
LEISTRITZ	WR 926	■	MWT25 164 152170 200 09	■	25	152	170	58	9	10	20	-
			MWT25 164 152170 200 12	■	25	152	170	58	12	10	20	-

\* Number of teeth

Continuation



MWA...

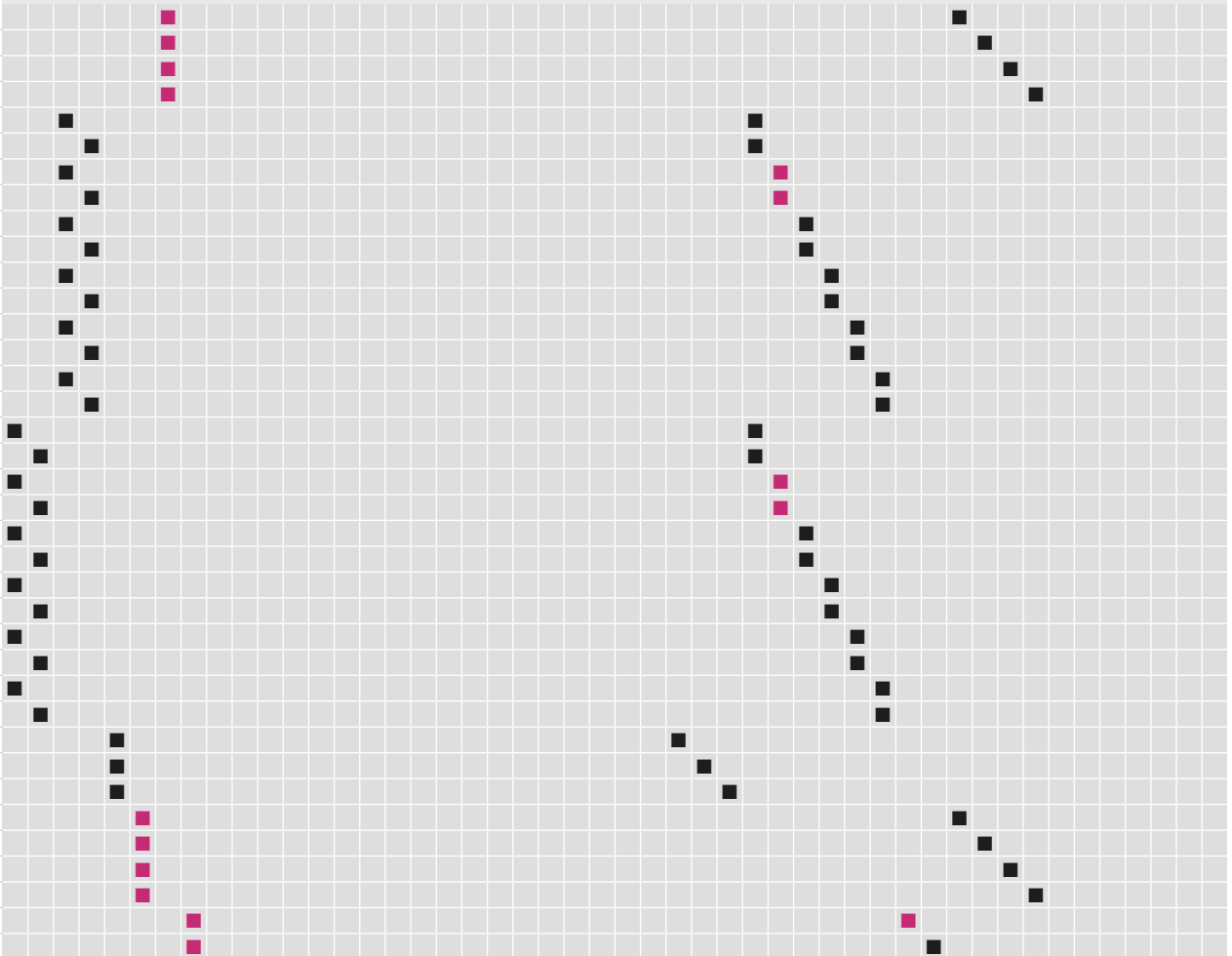
MWR...

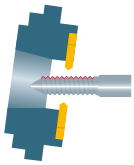
Adapter

Whirling ring

- MWA 372646 04 1
- MWA 372646 14 1
- MWA 402652 04 3
- MWA 402652 05 3
- MWA 422642 07 5
- MWA 423294 22 0
- MWA 944294 22 5
- MWA 15239170 10 0

- MWR12 164 2644 080 09
- MWR12 164 2644 080 12
- MWR15 164 2644 080 12
- MWR06 164 2646 080 09
- MWR08 164 2646 080 09
- MWR12 164 2646 080 09
- MWR12 164 2646 080 12
- MWR15 164 2646 080 09
- MWR15 164 2646 080 12
- MWR25 164 3958 100 09
- MWR25 164 3958 100 12
- MWR12 164 4246 055 03
- MWR12 164 4246 055 09
- MWR12 164 4246 055 12
- MWR15 164 4246 055 09





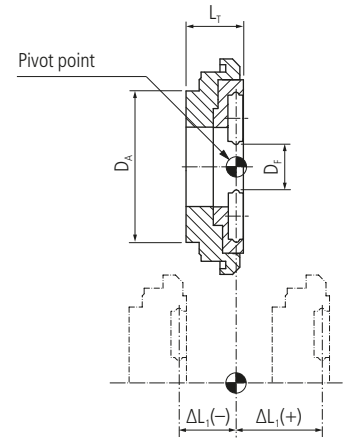
Type A

**Attention**

Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT...



Driven toolholder		Whirling tool										
Manufacturer	Type	Order designation	Dimensions									
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$		±

408

**PREMIUM-LINE**

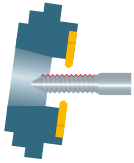
Accuracy class of UTILIS  $\square$  396



MADAULA	CZ.035.C16	■	MWT12 164 3546 169 03	■	12	35	46	46	3	8.9	16.9	0
			MWT12 164 3546 219 03	■	12	35	46	46	3	13.9	21.9	5
			MWT12 164 3546 169 09	■	12	35	46	46	9	8.9	16.9	0
			MWT12 164 3546 219 09	■	12	35	46	46	9	13.9	21.9	5
			MWT12 164 3546 169 12	■	12	35	46	46	12	8.9	16.9	0
			MWT12 164 3546 219 12	■	12	35	46	46	12	13.9	21.9	5
			MWT15 164 3546 169 09	■	15	35	46	46	9	8.9	16.9	0
MWT15 164 3546 219 09	■	15	35	46	46	9	13.9	21.9	5			

\* Number of teeth



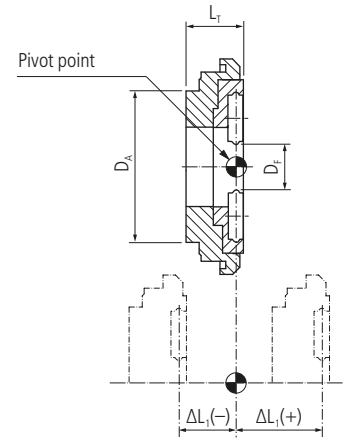


Type A

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$ ±	

410

Accuracy class of UTILIS □ 396



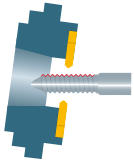
UTILIS  
**multidec**  
swiss type tools

**PREMIUM-LINE**

Manufacturer	Type	Order designation	Color	Dimensions								
				D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$	
MADAULA	ST.035.34 P.035.00049 1110.00037	MWT06 164 4040 111 09	■	6	40	40	40	9	4	11.1	0	
		MWT06 164 4040 116 09	■	6	40	40	40	9	4.5	11.6	0.4	
		MWT06 164 4040 144 09	■	6	40	40	40	9	7.3	14.4	3.3	
		MWT06 164 4040 154 09	■	6	40	40	40	9	8.3	15.4	4.3	
		MWT06 164 4040 161 09	■	6	40	40	40	9	9	16.1	5	
		MWT06 164 4040 181 09	■	6	40	40	40	9	11	18.1	7	
		MWT06 164 4040 196 09	■	6	40	40	40	9	12.5	19.6	8.5	
		MWT06 164 4040 231 09	■	6	40	40	40	9	16	23.1	12	
		MWT12 164 4040 111 09	■	12	40	40	40	9	4	11.1	0	
		MWT12 164 4040 116 09	■	12	40	40	40	9	4.5	11.6	0.4	
		MWT12 164 4040 144 09	■	12	40	40	40	9	7.3	14.4	3.3	
		MWT12 164 4040 154 09	■	12	40	40	40	9	8.3	15.4	4.3	
		MWT12 164 4040 161 09	■	12	40	40	40	9	9	16.1	5	
		MWT12 164 4040 181 09	■	12	40	40	40	9	11	18.1	7	
		MWT12 164 4040 196 09	■	12	40	40	40	9	12.5	19.6	8.5	
		MWT12 164 4040 231 09	■	12	40	40	40	9	16	23.1	12	
		MWT12 164 4040 111 12	■	12	40	40	40	12	4	11.1	0	
		MWT12 164 4040 116 12	■	12	40	40	40	12	4.5	11.6	0.4	
		MWT12 164 4040 144 12	■	12	40	40	40	12	7.3	14.4	3.3	
		MWT12 164 4040 154 12	■	12	40	40	40	12	8.3	15.4	4.3	
		MWT12 164 4040 161 12	■	12	40	40	40	12	9	16.1	5	
		MWT12 164 4040 181 12	■	12	40	40	40	12	11	18.1	7	
		MWT12 164 4040 196 12	■	12	40	40	40	12	12.5	19.6	8.5	
		MWT12 164 4040 231 12	■	12	40	40	40	12	16	23.1	12	
		MWT15 164 4040 111 09	■	15	40	40	40	9	4	11.1	0	
		MWT15 164 4040 116 09	■	15	40	40	40	9	4.5	11.6	0.4	
		MWT15 164 4040 144 09	■	15	40	40	40	9	7.3	14.4	3.3	
		MWT15 164 4040 154 09	■	15	40	40	40	9	8.3	15.4	4.3	
		MWT15 164 4040 161 09	■	15	40	40	40	9	9	16.1	5	
		MWT15 164 4040 181 09	■	15	40	40	40	9	11	18.1	7	
		MWT15 164 4040 196 09	■	15	40	40	40	9	12.5	19.6	8.5	
		MWT15 164 4040 231 09	■	15	40	40	40	9	16	23.1	12	
MWT06 164 4045 120 09	■	6	40	45	46	9	4	12	0			
MWT06 164 4045 125 09	■	6	40	45	46	9	4.5	12.5	0.5			
MWT06 164 4045 153 09	■	6	40	45	46	9	7.3	15.3	3.3			
MWT06 164 4045 163 09	■	6	40	45	46	9	8.3	16.3	4.3			
MWT06 164 4045 170 09	■	6	40	45	46	9	9	17	5			
MWT06 164 4045 190 09	■	6	40	45	46	9	11	19	7			

\* Number of teeth



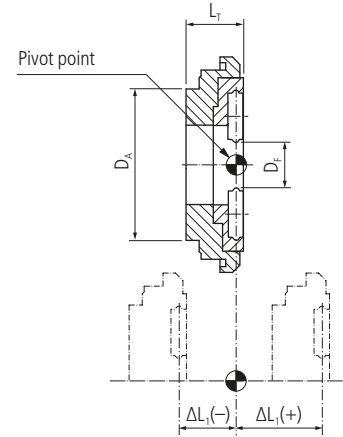


Type A

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$ ±	

412

Accuracy class of UTILIS □ 396



**PREMIUM-LINE**

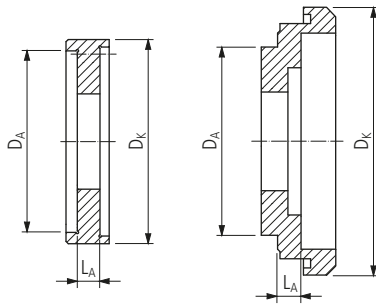
UTILIS  
**multidec**  
swiss type tools

MADAULA	1110.00037	■	MWT06 164 4045 205 09	■	6	40	45	46	9	12.5	20.5	8.5
			MWT06 164 4045 240 09	■	6	40	45	46	9	16	24	12
			MWT08 164 4045 120 09	■	8	40	45	46	9	4	12	0
			MWT08 164 4045 125 09	■	8	40	45	46	9	4.5	12.5	0.5
			MWT08 164 4045 153 09	■	8	40	45	46	9	7.3	15.3	3.3
			MWT08 164 4045 163 09	■	8	40	45	46	9	8.3	16.3	4.3
			MWT08 164 4045 170 09	■	8	40	45	46	9	9	17	5
			MWT08 164 4045 190 09	■	8	40	45	46	9	11	19	7
			MWT08 164 4045 205 09	■	8	40	45	46	9	12.5	20.5	8.5
			MWT08 164 4045 240 09	■	8	40	45	46	9	16	24	12
			MWT12 164 4045 120 09	■	12	40	45	46	9	4	12	0
			MWT12 164 4045 125 09	■	12	40	45	46	9	4.5	12.5	0.5
			MWT12 164 4045 153 09	■	12	40	45	46	9	7.3	15.3	3.3
			MWT12 164 4045 163 09	■	12	40	45	46	9	8.3	16.3	4.3
			MWT12 164 4045 170 09	■	12	40	45	46	9	9	17	5
			MWT12 164 4045 190 09	■	12	40	45	46	9	11	19	7
			MWT12 164 4045 205 09	■	12	40	45	46	9	12.5	20.5	8.5
			MWT12 164 4045 240 09	■	12	40	45	46	9	16	24	12
			MWT12 164 4045 120 12	■	12	40	45	46	12	4	12	0
			MWT12 164 4045 125 12	■	12	40	45	46	12	4.5	12.5	0.5
			MWT12 164 4045 153 12	■	12	40	45	46	12	7.3	15.3	3.3
			MWT12 164 4045 163 12	■	12	40	45	46	12	8.3	16.3	4.3
			MWT12 164 4045 170 12	■	12	40	45	46	12	9	17	5
			MWT12 164 4045 190 12	■	12	40	45	46	12	11	19	7
			MWT12 164 4045 205 12	■	12	40	45	46	12	12.5	20.5	8.5
			MWT12 164 4045 240 12	■	12	40	45	46	12	16	24	12
			MWT15 164 4045 120 09	■	15	40	45	46	9	4	12	0
			MWT15 164 4045 125 09	■	15	40	45	46	9	4.5	12.5	0.5
			MWT15 164 4045 153 09	■	15	40	45	46	9	7.3	15.3	3.3
			MWT15 164 4045 163 09	■	15	40	45	46	9	8.3	16.3	4.3
			MWT15 164 4045 170 09	■	15	40	45	46	9	9	17	5
			MWT15 164 4045 190 09	■	15	40	45	46	9	11	19	7
			MWT15 164 4045 205 09	■	15	40	45	46	9	12.5	20.5	8.5
			MWT15 164 4045 240 09	■	15	40	45	46	9	16	24	12

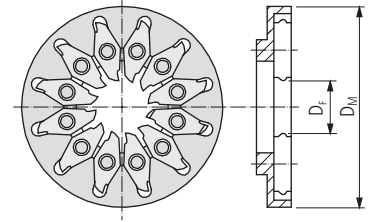
\* Number of teeth



Continuation



MWA...



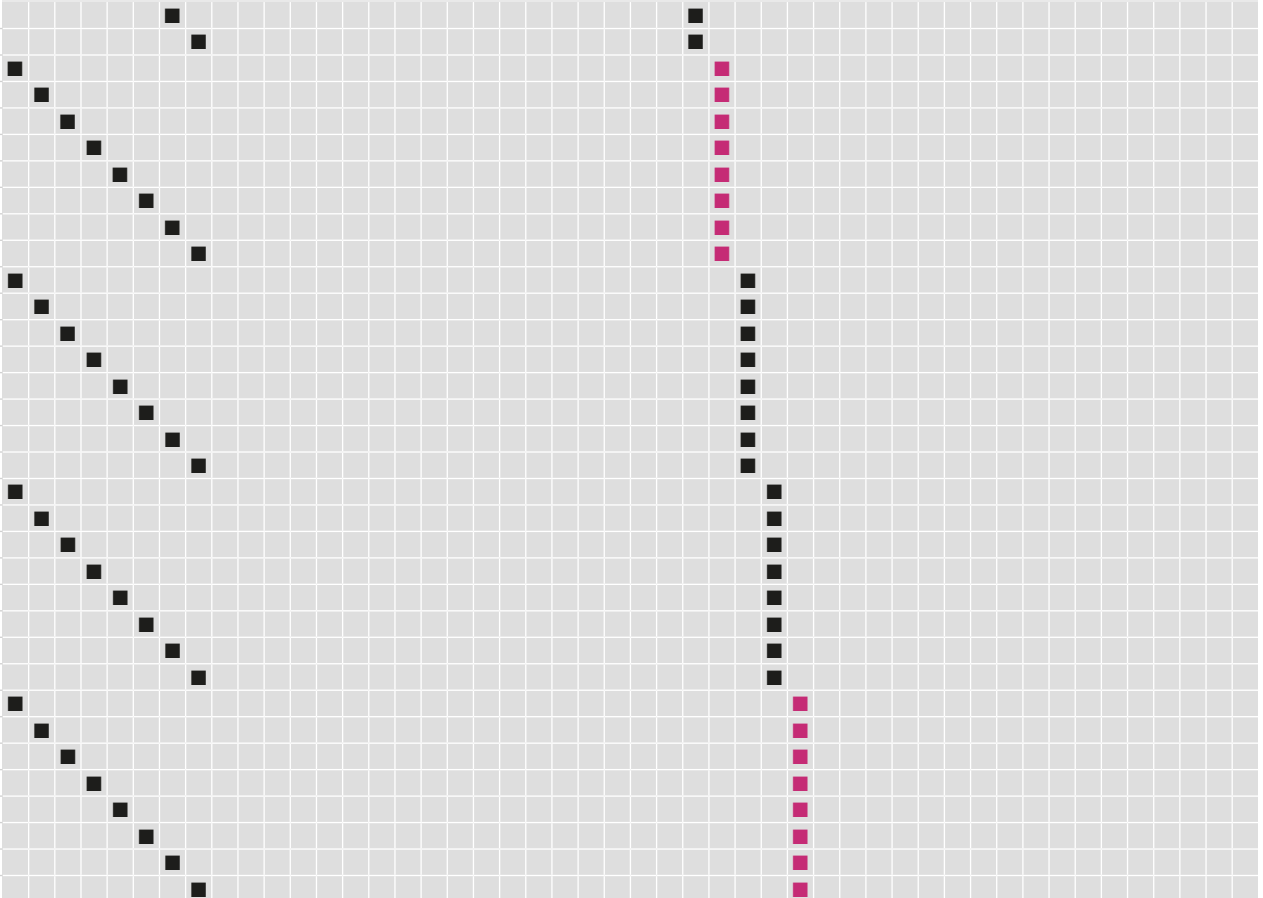
MWR...

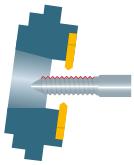
Adapter

- MWA 402540 040
- MWA 402540 045
- MWA 402540 073
- MWA 402540 083
- MWA 402540 090
- MWA 402540 110
- MWA 402540 125
- MWA 402540 160

Whirling ring

- MWR06 164 2546 091 09
- MWR08 164 2546 080 09
- MWR12 164 2546 080 09
- MWR12 164 2546 080 12
- MWR15 164 2546 080 09





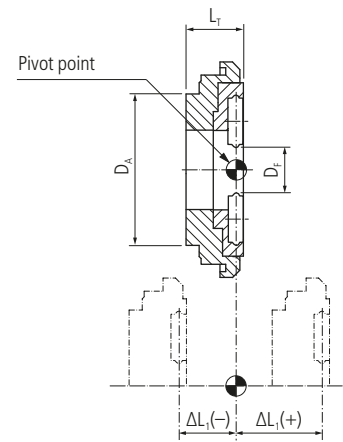
Type A

**Attention**

Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT...



Driven toolholder		Whirling tool										
Manufacturer	Type	Order designation	Dimensions									
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$		
										±		

414

**PREMIUM-LINE**

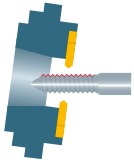
Accuracy class of UTILIS □ 396



MADAULA	P.035.00064 1110.00054	■	MWT06 164 4050 135 09	■	6	40	50	46	9	5.5	13.5	0
		■	MWT06 164 4050 191 09	■	6	40	50	46	9	11.1	19.1	5.6
		■	MWT08 164 4050 135 09	■	8	40	50	46	9	5.5	13.5	0
		■	MWT08 164 4050 191 09	■	8	40	50	46	9	11.1	19.1	5.6
		■	MWT12 164 4050 135 09	■	12	40	50	46	9	5.5	13.5	0
		■	MWT12 164 4050 191 09	■	12	40	50	46	9	11.1	19.1	5.6
		■	MWT12 164 4050 135 12	■	12	40	50	46	12	5.5	13.5	0
		■	MWT12 164 4050 191 12	■	12	40	50	46	12	11.1	19.1	5.6
		■	MWT15 164 4050 135 09	■	15	40	50	46	9	5.5	13.5	0
		■	MWT15 164 4050 191 09	■	15	40	50	46	9	11.1	19.1	5.6
	■	MWT15 164 4050 135 12	■	15	40	50	46	12	5.5	13.5	0	
	■	MWT15 164 4050 191 12	■	15	40	50	46	12	11.1	19.1	5.6	
	■	MWT06 164 5067 120 09	■	6	50	67	46	9	4	12	0	
	■	MWT06 164 5067 220 09	■	6	50	67	46	9	14	22	10	
	■	MWT06 164 5067 260 09	■	6	50	67	46	9	18	26	14	
	■	MWT08 164 5067 120 09	■	8	50	67	46	9	4	12	0	
	■	MWT08 164 5067 220 09	■	8	50	67	46	9	14	22	10	
	■	MWT08 164 5067 260 09	■	8	50	67	46	9	18	26	14	
	■	MWT12 164 5067 120 09	■	12	50	67	46	9	4	12	0	
	■	MWT12 164 5067 220 09	■	12	50	67	46	9	14	22	10	
■	MWT12 164 5067 260 09	■	12	50	67	46	9	18	26	14		
■	MWT12 164 5067 120 12	■	12	50	67	46	12	4	12	0		
■	MWT12 164 5067 220 12	■	12	50	67	46	12	14	22	10		
■	MWT12 164 5067 260 12	■	12	50	67	46	12	18	26	14		
■	MWT15 164 5067 120 09	■	15	50	67	46	9	4	12	0		
■	MWT15 164 5067 220 09	■	15	50	67	46	9	14	22	10		
■	MWT15 164 5067 260 09	■	15	50	67	46	9	18	26	14		
■	MWT15 164 5067 120 12	■	15	50	67	46	12	4	12	0		
■	MWT15 164 5067 220 12	■	15	50	67	46	12	14	22	10		
■	MWT15 164 5067 260 12	■	15	50	67	46	12	18	26	14		

\* Number of teeth



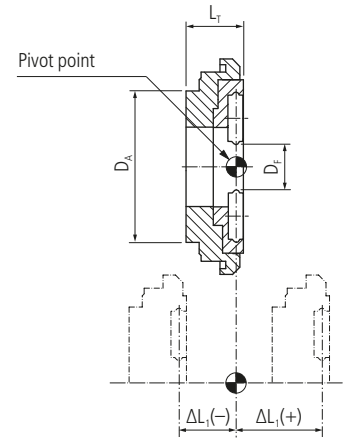


Type A

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$ ±	

**PREMIUM-LINE**

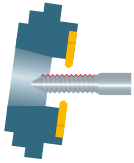
Accuracy class of UTILIS □ 396



MADAULA	1110.00065 9999.00444 CZ.035.L16/L20 CZ.035.L20N-15 CZ.035.L25/L35 DE.035.13/15 HW.035.XD2-15 P.035.00002 P.035.00004 P.035.00010 P.035.00014 P.035.00023 P.035.00062 P.035.00066 P.035.00067 TS.035.S205-15	■	MWT06 164 4055 103 09	■	6	40	55	55	9	2.3	10.3	0
		■	MWT06 164 4055 115 09	■	6	40	55	55	9	3.5	11.5	1.2
		■	MWT06 164 4055 153 09	■	6	40	55	55	9	7.3	15.3	5
		■	MWT08 164 4055 103 09	■	8	40	55	55	9	2.3	10.3	0
		■	MWT08 164 4055 115 09	■	8	40	55	55	9	3.5	11.5	1.2
		■	MWT08 164 4055 153 09	■	8	40	55	55	9	7.3	15.3	5
		■	MWT12 164 4055 103 09	■	12	40	55	55	9	2.3	10.3	0
		■	MWT12 164 4055 115 09	■	12	40	55	55	9	3.5	11.5	1.2
		■	MWT12 164 4055 153 09	■	12	40	55	55	9	7.3	15.3	5
		■	MWT12 164 4055 103 12	■	12	40	55	55	12	2.3	10.3	0
		■	MWT12 164 4055 115 12	■	12	40	55	55	12	3.5	11.5	1.2
		■	MWT12 164 4055 153 12	■	12	40	55	55	12	7.3	15.3	5
		■	MWT15 164 4055 103 09	■	15	40	55	55	9	2.3	10.3	0
		■	MWT15 164 4055 115 09	■	15	40	55	55	9	3.5	11.5	1.2
		MAIER	2-020-W15-2000 2-020-W35-1001	■	MWT15 164 4055 153 09	■	15	40	55	55	9	7.3
■	MWT15 164 4055 103 12			■	15	40	55	55	12	2.3	10.3	0
■	MWT15 164 4055 115 12			■	15	40	55	55	12	3.5	11.5	1.2
■	MWT15 164 4055 153 12			■	15	40	55	55	12	7.3	15.3	5
■	MWT06 164 4046 300 09			■	6	40	44	46	9	22	30	6
■	MWT08 164 4046 240 09			■	8	40	46	46	9	16	24	12.5
■	MWT08 164 4046 300 09			■	8	40	44	46	9	22	30	6
■	MWT12 164 4046 240 09			■	12	40	46	46	9	16	24	12.5
■	MWT12 164 4046 300 09			■	12	40	44	46	9	22	30	6
■	MWT12 164 4046 240 12			■	12	40	46	46	12	16	24	12.5
■	MWT12 164 4046 300 12			■	12	40	44	46	12	22	30	6
■	MWT15 164 4046 240 09			■	15	40	46	46	9	16	24	12.5
■	MWT15 164 4046 300 09	■	15	40	44	46	9	22	30	6		
■	MWT15 164 4046 240 12	■	15	40	46	46	12	16	24	12.5		
■	MWT15 164 4046 300 12	■	15	40	44	46	12	22	30	6		

\* Number of teeth



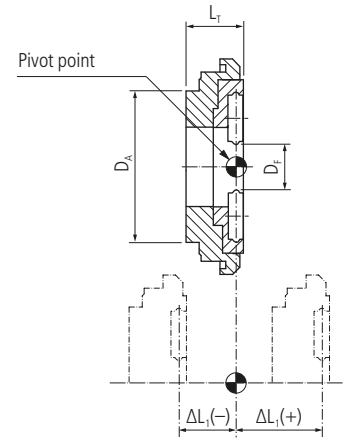


Type A

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$ ±	

Accuracy class of UTILIS □ 396



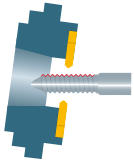
**PREMIUM-LINE**

UTILIS  
**multidec**  
swiss type tools

MADAULA	DE.035.S20 HW.035.STL HW.035.XD2 P.035.00010 P.035.00014	■	MWT12 164 4548 145 09	■	12	45	48	48	9	6.5	14.5	0
		■	MWT12 164 4548 240 09	■	12	45	48	48	9	16	24	9.5
		■	MWT12 164 4548 280 09	■	12	45	48	48	9	20	28	13.5
		■	MWT12 164 4548 145 12	■	12	45	48	48	12	6.5	14.5	0
		■	MWT12 164 4548 240 12	■	12	45	48	48	12	16	24	9.5
		■	MWT12 164 4548 280 12	■	12	45	48	48	12	20	28	13.5
		■	MWT15 164 4548 145 09	■	15	45	48	48	9	6.5	14.5	0
		■	MWT15 164 4548 240 09	■	15	45	48	48	9	16	24	9.5
		■	MWT15 164 4548 280 09	■	15	45	48	48	9	20	28	13.5
		■	MWT15 164 4548 145 12	■	15	45	48	48	12	6.5	14.5	0
	1110.00055 CZ.035.M12/M16 CZ.035.M12/M16T CZ.035.M12/M16T-15 CZ.035.M20/M32T CZ.035.M20/M32T P.035.00063	■	MWT12 164 4046 115 03	■	12	40	46	46	3	3.5	11.5	0
		■	MWT12 164 4046 130 03	■	12	40	46	46	3	5	13	1.5
		■	MWT12 164 4046 190 03	■	12	40	46	46	3	11	19	7.5
		■	MWT12 164 4046 240 03	■	12	40	46	46	3	16	24	12.5
		■	MWT12 164 4046 280 03	■	12	40	46	46	3	20	28	16.5
		■	MWT12 164 4046 115 09	■	12	40	46	46	9	3.5	11.5	0
		■	MWT12 164 4046 130 09	■	12	40	46	46	9	5	13	1.5
		■	MWT12 164 4046 190 09	■	12	40	46	46	9	11	19	7.5
		■	MWT12 164 4046 240 09	■	12	40	46	46	9	16	24	12.5
		■	MWT12 164 4046 280 09	■	12	40	46	46	9	20	28	16.5
MONNIER+ZAHNER N92-00.00	■	MWT06 164 85128 295 09	■	6	85	128	128	9	2.1	29.5	0	
	■	MWT08 164 85128 295 09	■	8	85	128	128	9	2.1	29.5	0	
	■	MWT12 164 85128 295 09	■	12	85	128	128	9	2.1	29.5	0	
	■	MWT12 164 85128 295 12	■	12	85	128	128	12	2.1	29.5	0	
	■	MWT15 164 85128 295 09	■	15	85	128	128	9	2.1	29.5	0	
	■	MWT15 164 85128 295 12	■	15	85	128	128	12	2.1	29.5	0	

\* Number of teeth



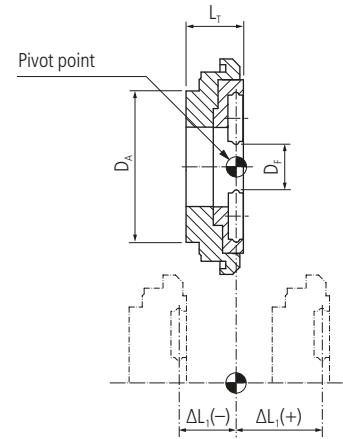


Type A

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$ ±	

420

Accuracy class of UTILIS □ 396



UTILIS  
**multidec**  
swiss type tools

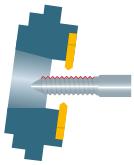
**PREMIUM-LINE**

MT	CTZ0040112 NMR0010112 NMR0070112 SPC19210000	■	MWT12 164 4046 115 03	■	12	40	46	46	3	3.5	11.5	0		
		■	MWT12 164 4046 130 03	■	12	40	46	46	3	5	13	1.5		
		■	MWT12 164 4046 190 03	■	12	40	46	46	3	11	19	7.5		
		■	MWT12 164 4046 240 03	■	12	40	46	46	3	16	24	12.5		
		■	MWT12 164 4046 280 03	■	12	40	46	46	3	20	28	16.5		
		■	MWT12 164 4046 115 09	■	12	40	46	46	9	3.5	11.5	0		
		■	MWT12 164 4046 130 09	■	12	40	46	46	9	5	13	1.5		
		■	MWT12 164 4046 190 09	■	12	40	46	46	9	11	19	7.5		
		■	MWT12 164 4046 240 09	■	12	40	46	46	9	16	24	12.5		
		■	MWT12 164 4046 280 09	■	12	40	46	46	9	20	28	16.5		
		■	MWT12 164 4046 115 12	■	12	40	46	46	12	3.5	11.5	0		
		■	MWT12 164 4046 130 12	■	12	40	46	46	12	5	13	1.5		
		■	MWT12 164 4046 190 12	■	12	40	46	46	12	11	19	7.5		
		■	MWT12 164 4046 240 12	■	12	40	46	46	12	16	24	12.5		
		■	MWT12 164 4046 280 12	■	12	40	46	46	12	20	28	16.5		
		PCM	DE13-W15 DE20-W15 GW-TDM-D13 LSW-101 GSW-261-000	■	MWT15 164 4046 115 09	■	15	40	46	46	9	3.5	11.5	0
				■	MWT15 164 4046 130 09	■	15	40	46	46	9	5	13	1.5
				■	MWT15 164 4046 190 09	■	15	40	46	46	9	11	19	7.5
■	MWT15 164 4046 240 09			■	15	40	46	46	9	16	24	12.5		
■	MWT15 164 4046 280 09			■	15	40	46	46	9	20	28	16.5		
■	MWT06 164 4055 103 09			■	6	40	55	55	9	2.3	10.3	0		
■	MWT06 164 4055 115 09			■	6	40	55	55	9	3.5	11.5	1.2		
■	MWT06 164 4055 153 09			■	6	40	55	55	9	7.3	15.3	5		
■	MWT08 164 4055 103 09			■	8	40	55	55	9	2.3	10.3	0		
■	MWT08 164 4055 115 09			■	8	40	55	55	9	3.5	11.5	1.2		
■	MWT08 164 4055 153 09			■	8	40	55	55	9	7.3	15.3	5		
■	MWT12 164 4055 103 09			■	12	40	55	55	9	2.3	10.3	0		
■	MWT12 164 4055 115 09			■	12	40	55	55	9	3.5	11.5	1.2		
■	MWT12 164 4055 153 09			■	12	40	55	55	9	7.3	15.3	5		
■	MWT12 164 4055 103 12			■	12	40	55	55	12	2.3	10.3	0		
■	MWT12 164 4055 115 12			■	12	40	55	55	12	3.5	11.5	1.2		
■	MWT12 164 4055 153 12			■	12	40	55	55	12	7.3	15.3	5		
■	MWT15 164 4055 103 09			■	15	40	55	55	9	2.3	10.3	0		
■	MWT15 164 4055 115 09	■	15	40	55	55	9	3.5	11.5	1.2				
■	MWT15 164 4055 153 09	■	15	40	55	55	9	7.3	15.3	5				
■	MWT15 164 4055 103 12	■	15	40	55	55	12	2.3	10.3	0				
■	MWT15 164 4055 115 12	■	15	40	55	55	12	3.5	11.5	1.2				
■	MWT15 164 4055 153 12	■	15	40	55	55	12	7.3	15.3	5				

\* Number of teeth





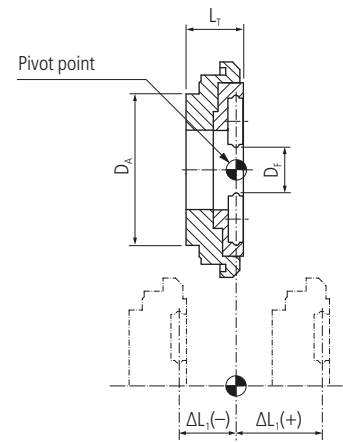


Type A

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



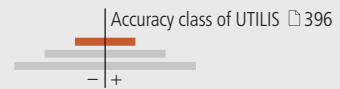
MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$ ±	

422

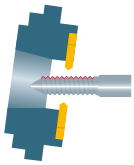
**PREMIUM-LINE**



PCM	DE20-W15-II	■	MWT06 164 4057 105 09	■	6	40	57	46	9	2.5	10.5	0
			MWT06 164 4057 155 09	■	6	40	57	46	9	7.5	15.5	5
			MWT06 164 4057 170 09	■	6	40	57	46	9	9	17	6.5
			MWT06 164 4057 175 09	■	6	40	57	46	9	9.5	17.5	7
			MWT06 164 4057 205 09	■	6	40	57	46	9	12.5	20.5	10
			MWT08 164 4057 105 09	■	8	40	57	46	9	2.5	10.5	0
			MWT08 164 4057 155 09	■	8	40	57	46	9	7.5	15.5	5
			MWT08 164 4057 170 09	■	8	40	57	46	9	9	17	6.5
			MWT08 164 4057 175 09	■	8	40	57	46	9	9.5	17.5	7
			MWT08 164 4057 205 09	■	8	40	57	46	9	12.5	20.5	10
			MWT12 164 4057 105 09	■	12	40	57	46	9	2.5	10.5	0
			MWT12 164 4057 155 09	■	12	40	57	46	9	7.5	15.5	5
			MWT12 164 4057 170 09	■	12	40	57	46	9	9	17	6.5
			MWT12 164 4057 175 09	■	12	40	57	46	9	9.5	17.5	7
			MWT12 164 4057 205 09	■	12	40	57	46	9	12.5	20.5	10
			MWT12 164 4057 105 12	■	12	40	57	46	12	2.5	10.5	0
			MWT12 164 4057 155 12	■	12	40	57	46	12	7.5	15.5	5
			MWT12 164 4057 170 12	■	12	40	57	46	12	9	17	6.5
			MWT12 164 4057 175 12	■	12	40	57	46	12	9.5	17.5	7
			MWT12 164 4057 205 12	■	12	40	57	46	12	12.5	20.5	10
			MWT15 164 4057 105 09	■	15	40	57	46	9	2.5	10.5	0
			MWT15 164 4057 155 09	■	15	40	57	46	9	7.5	15.5	5
			MWT15 164 4057 170 09	■	15	40	57	46	9	9	17	6.5
			MWT15 164 4057 175 09	■	15	40	57	46	9	9.5	17.5	7
			MWT15 164 4057 205 09	■	15	40	57	46	9	12.5	20.5	10
			MWT15 164 4057 105 12	■	15	40	57	46	12	2.5	10.5	0
			MWT15 164 4057 155 12	■	15	40	57	46	12	7.5	15.5	5
			MWT15 164 4057 170 12	■	15	40	57	46	12	9	17	6.5
			MWT15 164 4057 175 12	■	15	40	57	46	12	9.5	17.5	7
			MWT15 164 4057 205 12	■	15	40	57	46	12	12.5	20.5	10

\* Number of teeth





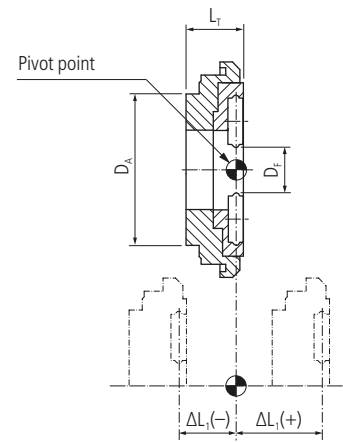
Type A

**Attention**

Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT...



Driven toolholder		Whirling tool										
Manufacturer	Type	Order designation	Dimensions									
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$		
										±		

424

Accuracy class of UTILIS  $\square$  396

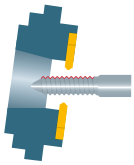


**PREMIUM-LINE**

Manufacturer	Type	Order designation	Color	Dimensions								
				D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$	
PCM	KSW-101-000 LSW-101-L20-000 LSW-215-000 LSW-424-15 LSW-424-II MSW-101-000 NN20-W15 SPW-1220	MWT12 164 4046 115 03	■	12	40	46	46	3	3.5	11.5	0	
		MWT12 164 4046 130 03	■	12	40	46	46	3	5	13	1.5	
		MWT12 164 4046 190 03	■	12	40	46	46	3	11	19	7.5	
		MWT12 164 4046 240 03	■	12	40	46	46	3	16	24	12.5	
		MWT12 164 4046 280 03	■	12	40	46	46	3	20	28	16.5	
		MWT12 164 4046 115 09	■	12	40	46	46	9	3.5	11.5	0	
		MWT12 164 4046 130 09	■	12	40	46	46	9	5	13	1.5	
		MWT12 164 4046 190 09	■	12	40	46	46	9	11	19	7.5	
		MWT12 164 4046 240 09	■	12	40	46	46	9	16	24	12.5	
		MWT12 164 4046 280 09	■	12	40	46	46	9	20	28	16.5	
		MWT12 164 4046 115 12	■	12	40	46	46	12	3.5	11.5	0	
		MWT12 164 4046 130 12	■	12	40	46	46	12	5	13	1.5	
		MWT12 164 4046 190 12	■	12	40	46	46	12	11	19	7.5	
		MWT12 164 4046 240 12	■	12	40	46	46	12	16	24	12.5	
		MWT12 164 4046 280 12	■	12	40	46	46	12	20	28	16.5	
		MWT15 164 4046 115 09	■	15	40	46	46	9	3.5	11.5	0	
		MWT15 164 4046 130 09	■	15	40	46	46	9	5	13	1.5	
		MWT15 164 4046 190 09	■	15	40	46	46	9	11	19	7.5	
MWT15 164 4046 240 09	■	15	40	46	46	9	16	24	12.5			
MWT15 164 4046 280 09	■	15	40	46	46	9	20	28	16.5			

\* Number of teeth



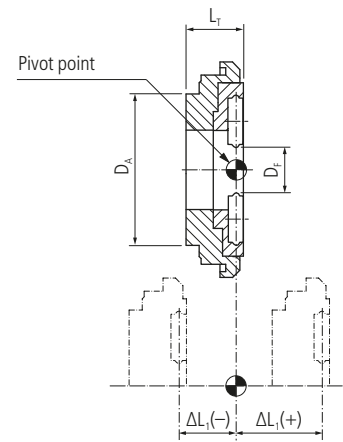


Type A

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



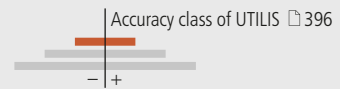
MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$ ±	

426

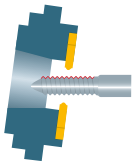
**PREMIUM-LINE**



PCH	HP-681-72	■	MWT06 164 4040 111 09	■	6	40	40	40	9	4	11.1	0
			MWT06 164 4040 116 09	■	6	40	40	40	9	4.5	11.6	0.4
			MWT06 164 4040 144 09	■	6	40	40	40	9	7.3	14.4	3.3
			MWT06 164 4040 154 09	■	6	40	40	40	9	8.3	15.4	4.3
			MWT06 164 4040 161 09	■	6	40	40	40	9	9	16.1	5
			MWT06 164 4040 181 09	■	6	40	40	40	9	11	18.1	7
			MWT06 164 4040 196 09	■	6	40	40	40	9	12.5	19.6	8.5
			MWT06 164 4040 231 09	■	6	40	40	40	9	16	23.1	12
			MWT12 164 4040 111 09	■	12	40	40	40	9	4	11.1	0
			MWT12 164 4040 116 09	■	12	40	40	40	9	4.5	11.6	0.4
			MWT12 164 4040 144 09	■	12	40	40	40	9	7.3	14.4	3.3
			MWT12 164 4040 154 09	■	12	40	40	40	9	8.3	15.4	4.3
			MWT12 164 4040 161 09	■	12	40	40	40	9	9	16.1	5
			MWT12 164 4040 181 09	■	12	40	40	40	9	11	18.1	7
			MWT12 164 4040 196 09	■	12	40	40	40	9	12.5	19.6	8.5
			MWT12 164 4040 231 09	■	12	40	40	40	9	16	23.1	12
			MWT12 164 4040 111 12	■	12	40	40	40	12	4	11.1	0
			MWT12 164 4040 116 12	■	12	40	40	40	12	4.5	11.6	0.4
			MWT12 164 4040 144 12	■	12	40	40	40	12	7.3	14.4	3.3
			MWT12 164 4040 154 12	■	12	40	40	40	12	8.3	15.4	4.3
			MWT12 164 4040 161 12	■	12	40	40	40	12	9	16.1	5
			MWT12 164 4040 181 12	■	12	40	40	40	12	11	18.1	7
			MWT12 164 4040 196 12	■	12	40	40	40	12	12.5	19.6	8.5
			MWT12 164 4040 231 12	■	12	40	40	40	12	16	23.1	12
			MWT15 164 4040 111 09	■	15	40	40	40	9	4	11.1	0
			MWT15 164 4040 116 09	■	15	40	40	40	9	4.5	11.6	0.4
			MWT15 164 4040 144 09	■	15	40	40	40	9	7.3	14.4	3.3
			MWT15 164 4040 154 09	■	15	40	40	40	9	8.3	15.4	4.3
			MWT15 164 4040 161 09	■	15	40	40	40	9	9	16.1	5
			MWT15 164 4040 181 09	■	15	40	40	40	9	11	18.1	7
			MWT15 164 4040 196 09	■	15	40	40	40	9	12.5	19.6	8.5
			MWT15 164 4040 231 09	■	15	40	40	40	9	16	23.1	12
			MWT06 164 4045 120 09	■	6	40	45	46	9	4	12	0
			MWT06 164 4045 125 09	■	6	40	45	46	9	4.5	12.5	0.5
			MWT06 164 4045 153 09	■	6	40	45	46	9	7.3	15.3	3.3
			MWT06 164 4045 163 09	■	6	40	45	46	9	8.3	16.3	4.3
			MWT06 164 4045 170 09	■	6	40	45	46	9	9	17	5
			MWT06 164 4045 190 09	■	6	40	45	46	9	11	19	7

\* Number of teeth



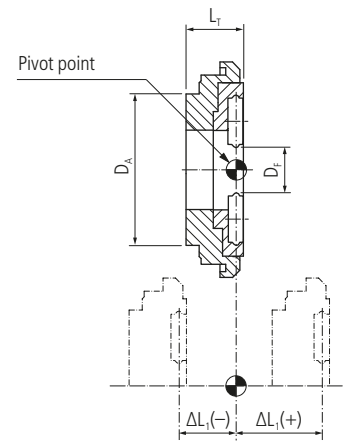


Type A

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$ ±	

428

Accuracy class of UTILIS □ 396



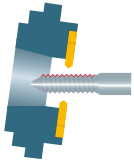
**PREMIUM-LINE**

PCH	HP-681-72	■	MWT06 164 4045 205 09	■	6	40	45	46	9	12.5	20.5	8.5
			MWT06 164 4045 240 09	■	6	40	45	46	9	16	24	12
			MWT08 164 4045 120 09	■	8	40	45	46	9	4	12	0
			MWT08 164 4045 125 09	■	8	40	45	46	9	4.5	12.5	0.5
			MWT08 164 4045 153 09	■	8	40	45	46	9	7.3	15.3	3.3
			MWT08 164 4045 163 09	■	8	40	45	46	9	8.3	16.3	4.3
			MWT08 164 4045 170 09	■	8	40	45	46	9	9	17	5
			MWT08 164 4045 190 09	■	8	40	45	46	9	11	19	7
			MWT08 164 4045 205 09	■	8	40	45	46	9	12.5	20.5	8.5
			MWT08 164 4045 240 09	■	8	40	45	46	9	16	24	12
			MWT12 164 4045 120 09	■	12	40	45	46	9	4	12	0
			MWT12 164 4045 125 09	■	12	40	45	46	9	4.5	12.5	0.5
			MWT12 164 4045 153 09	■	12	40	45	46	9	7.3	15.3	3.3
			MWT12 164 4045 163 09	■	12	40	45	46	9	8.3	16.3	4.3
			MWT12 164 4045 170 09	■	12	40	45	46	9	9	17	5
			MWT12 164 4045 190 09	■	12	40	45	46	9	11	19	7
			MWT12 164 4045 205 09	■	12	40	45	46	9	12.5	20.5	8.5
			MWT12 164 4045 240 09	■	12	40	45	46	9	16	24	12
			MWT12 164 4045 120 12	■	12	40	45	46	12	4	12	0
			MWT12 164 4045 125 12	■	12	40	45	46	12	4.5	12.5	0.5
			MWT12 164 4045 153 12	■	12	40	45	46	12	7.3	15.3	3.3
			MWT12 164 4045 163 12	■	12	40	45	46	12	8.3	16.3	4.3
			MWT12 164 4045 170 12	■	12	40	45	46	12	9	17	5
			MWT12 164 4045 190 12	■	12	40	45	46	12	11	19	7
			MWT12 164 4045 205 12	■	12	40	45	46	12	12.5	20.5	8.5
			MWT12 164 4045 240 12	■	12	40	45	46	12	16	24	12
			MWT15 164 4045 120 09	■	15	40	45	46	9	4	12	0
			MWT15 164 4045 125 09	■	15	40	45	46	9	4.5	12.5	0.5
			MWT15 164 4045 153 09	■	15	40	45	46	9	7.3	15.3	3.3
			MWT15 164 4045 163 09	■	15	40	45	46	9	8.3	16.3	4.3
			MWT15 164 4045 170 09	■	15	40	45	46	9	9	17	5
			MWT15 164 4045 190 09	■	15	40	45	46	9	11	19	7
			MWT15 164 4045 205 09	■	15	40	45	46	9	12.5	20.5	8.5
			MWT15 164 4045 240 09	■	15	40	45	46	9	16	24	12

\* Number of teeth





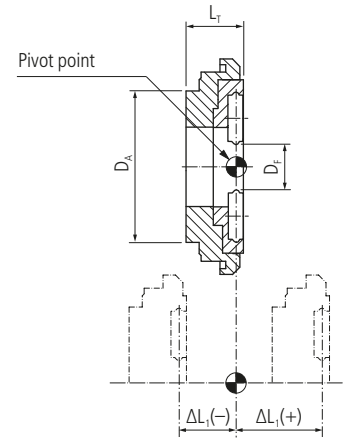


Type A

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



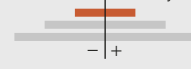
MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$ ±	

430

Accuracy class of UTILIS □ 396



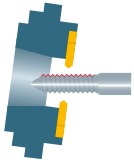
UTILIS  
**multidec**  
swiss type tools

**PREMIUM-LINE**

PCM	GSW-251-PR- 1-A SR20J-W20-3D	■	MWT06 164 4040 111 09	■	6	40	40	40	9	4	11.1	0
			MWT06 164 4040 116 09	■	6	40	40	40	9	4.5	11.6	0.4
			MWT06 164 4040 144 09	■	6	40	40	40	9	7.3	14.4	3.3
			MWT06 164 4040 154 09	■	6	40	40	40	9	8.3	15.4	4.3
			MWT06 164 4040 161 09	■	6	40	40	40	9	9	16.1	5
			MWT06 164 4040 181 09	■	6	40	40	40	9	11	18.1	7
			MWT06 164 4040 196 09	■	6	40	40	40	9	12.5	19.6	8.5
			MWT06 164 4040 231 09	■	6	40	40	40	9	16	23.1	12
			MWT12 164 4040 111 09	■	12	40	40	40	9	4	11.1	0
			MWT12 164 4040 116 09	■	12	40	40	40	9	4.5	11.6	0.4
			MWT12 164 4040 144 09	■	12	40	40	40	9	7.3	14.4	3.3
			MWT12 164 4040 154 09	■	12	40	40	40	9	8.3	15.4	4.3
			MWT12 164 4040 161 09	■	12	40	40	40	9	9	16.1	5
			MWT12 164 4040 181 09	■	12	40	40	40	9	11	18.1	7
			MWT12 164 4040 196 09	■	12	40	40	40	9	12.5	19.6	8.5
			MWT12 164 4040 231 09	■	12	40	40	40	9	16	23.1	12
			MWT12 164 4040 111 12	■	12	40	40	40	12	4	11.1	0
			MWT12 164 4040 116 12	■	12	40	40	40	12	4.5	11.6	0.4
			MWT12 164 4040 144 12	■	12	40	40	40	12	7.3	14.4	3.3
			MWT12 164 4040 154 12	■	12	40	40	40	12	8.3	15.4	4.3
			MWT12 164 4040 161 12	■	12	40	40	40	12	9	16.1	5
			MWT12 164 4040 181 12	■	12	40	40	40	12	11	18.1	7
			MWT12 164 4040 196 12	■	12	40	40	40	12	12.5	19.6	8.5
			MWT12 164 4040 231 12	■	12	40	40	40	12	16	23.1	12
			MWT15 164 4040 111 09	■	15	40	40	40	9	4	11.1	0
			MWT15 164 4040 116 09	■	15	40	40	40	9	4.5	11.6	0.4
			MWT15 164 4040 144 09	■	15	40	40	40	9	7.3	14.4	3.3
			MWT15 164 4040 154 09	■	15	40	40	40	9	8.3	15.4	4.3
			MWT15 164 4040 161 09	■	15	40	40	40	9	9	16.1	5
			MWT15 164 4040 181 09	■	15	40	40	40	9	11	18.1	7
			MWT15 164 4040 196 09	■	15	40	40	40	9	12.5	19.6	8.5
			MWT15 164 4040 231 09	■	15	40	40	40	9	16	23.1	12
			MWT06 164 4045 120 09	■	6	40	45	46	9	4	12	0
			MWT06 164 4045 125 09	■	6	40	45	46	9	4.5	12.5	0.5
			MWT06 164 4045 153 09	■	6	40	45	46	9	7.3	15.3	3.3
			MWT06 164 4045 163 09	■	6	40	45	46	9	8.3	16.3	4.3
			MWT06 164 4045 170 09	■	6	40	45	46	9	9	17	5
			MWT06 164 4045 190 09	■	6	40	45	46	9	11	19	7

\* Number of teeth



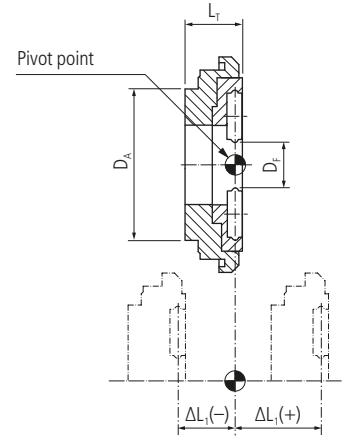


Type A

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$ ±	

432

Accuracy class of UTILIS □ 396

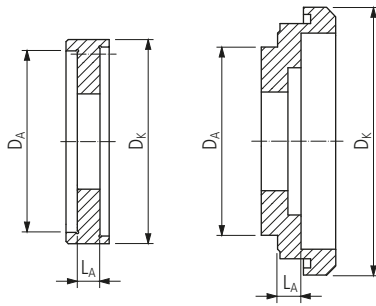


**PREMIUM-LINE**

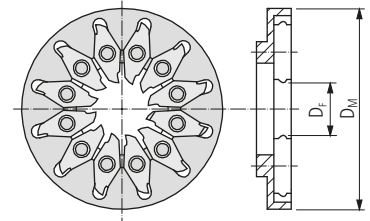
PCM	SR20J-W20-3D	■	MWT06 164 4045 205 09	■	6	40	45	46	9	12.5	20.5	8.5
			MWT06 164 4045 240 09	■	6	40	45	46	9	16	24	12
			MWT08 164 4045 120 09	■	8	40	45	46	9	4	12	0
			MWT08 164 4045 125 09	■	8	40	45	46	9	4.5	12.5	0.5
			MWT08 164 4045 153 09	■	8	40	45	46	9	7.3	15.3	3.3
			MWT08 164 4045 163 09	■	8	40	45	46	9	8.3	16.3	4.3
			MWT08 164 4045 170 09	■	8	40	45	46	9	9	17	5
			MWT08 164 4045 190 09	■	8	40	45	46	9	11	19	7
			MWT08 164 4045 205 09	■	8	40	45	46	9	12.5	20.5	8.5
			MWT08 164 4045 240 09	■	8	40	45	46	9	16	24	12
			MWT12 164 4045 120 09	■	12	40	45	46	9	4	12	0
			MWT12 164 4045 125 09	■	12	40	45	46	9	4.5	12.5	0.5
			MWT12 164 4045 153 09	■	12	40	45	46	9	7.3	15.3	3.3
			MWT12 164 4045 163 09	■	12	40	45	46	9	8.3	16.3	4.3
			MWT12 164 4045 170 09	■	12	40	45	46	9	9	17	5
			MWT12 164 4045 190 09	■	12	40	45	46	9	11	19	7
			MWT12 164 4045 205 09	■	12	40	45	46	9	12.5	20.5	8.5
			MWT12 164 4045 240 09	■	12	40	45	46	9	16	24	12
			MWT12 164 4045 120 12	■	12	40	45	46	12	4	12	0
			MWT12 164 4045 125 12	■	12	40	45	46	12	4.5	12.5	0.5
			MWT12 164 4045 153 12	■	12	40	45	46	12	7.3	15.3	3.3
			MWT12 164 4045 163 12	■	12	40	45	46	12	8.3	16.3	4.3
			MWT12 164 4045 170 12	■	12	40	45	46	12	9	17	5
			MWT12 164 4045 190 12	■	12	40	45	46	12	11	19	7
			MWT12 164 4045 205 12	■	12	40	45	46	12	12.5	20.5	8.5
			MWT12 164 4045 240 12	■	12	40	45	46	12	16	24	12
			MWT15 164 4045 120 09	■	15	40	45	46	9	4	12	0
			MWT15 164 4045 125 09	■	15	40	45	46	9	4.5	12.5	0.5
			MWT15 164 4045 153 09	■	15	40	45	46	9	7.3	15.3	3.3
			MWT15 164 4045 163 09	■	15	40	45	46	9	8.3	16.3	4.3
			MWT15 164 4045 170 09	■	15	40	45	46	9	9	17	5
			MWT15 164 4045 190 09	■	15	40	45	46	9	11	19	7
			MWT15 164 4045 205 09	■	15	40	45	46	9	12.5	20.5	8.5
			MWT15 164 4045 240 09	■	15	40	45	46	9	16	24	12

\* Number of teeth

Continuation



MWA...



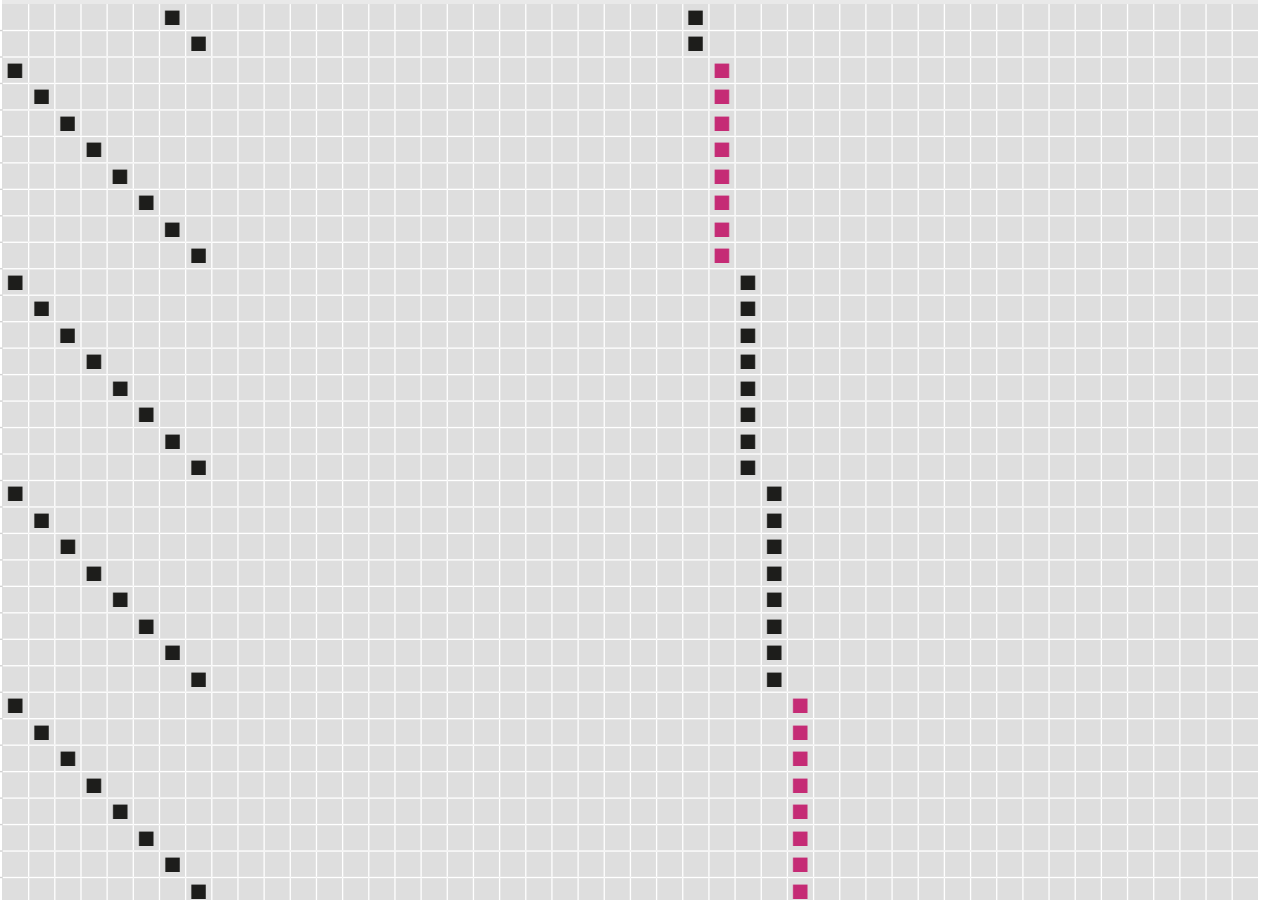
MWR...

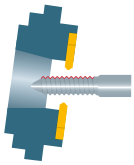
Adapter

MWA 402540 040  
 MWA 402540 045  
 MWA 402540 073  
 MWA 402540 083  
 MWA 402540 090  
 MWA 402540 110  
 MWA 402540 125  
 MWA 402540 160

Whirling ring

MWR06 164 2546 091 09  
 MWR08 164 2546 080 09  
 MWR12 164 2546 080 09  
 MWR12 164 2546 080 12  
 MWR15 164 2546 080 09



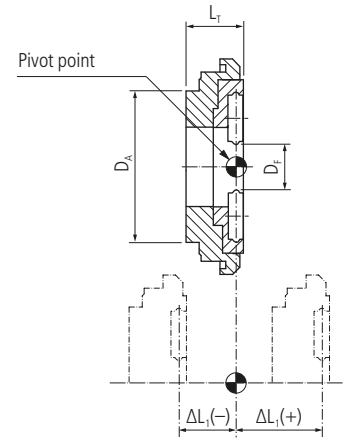


Type A

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$ ±	

Accuracy class of UTILIS □ 396

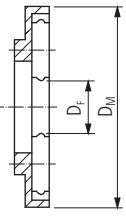
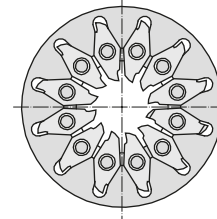
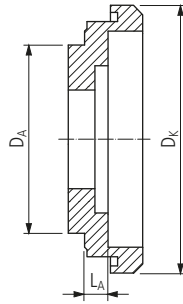
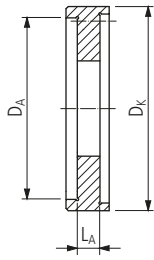
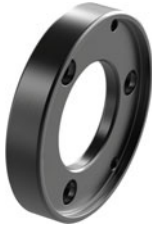


**PREMIUM-LINE**

Manufacturer	Type	Order designation	Color	z*	D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$	
PCM	BSW-215 NESA-32-000	MWT06 164 4046 172 09	■	6	40	45	46	9	9.2	17.2	0	
		MWT06 164 4046 242 09	■	6	40	45	46	9	16.2	24.2	7	
		MWT08 164 4046 172 09	■	8	40	45	46	9	9.2	17.2	0	
		MWT08 164 4046 242 09	■	8	40	45	46	9	16.2	24.2	7	
		MWT12 164 4046 172 09	■	12	40	45	46	9	9.2	17.2	0	
		MWT12 164 4046 242 09	■	12	40	45	46	9	16.2	24.2	7	
		MWT12 164 4046 172 12	■	12	40	45	46	12	9.2	17.2	0	
		MWT12 164 4046 242 12	■	12	40	45	46	12	16.2	24.2	7	
		MWT15 164 4046 172 09	■	15	40	45	46	9	9.2	17.2	0	
		MWT15 164 4046 242 09	■	15	40	45	46	9	16.2	24.2	7	
	MWT15 164 4046 172 12	■	15	40	45	46	12	9.2	17.2	0		
	MWT15 164 4046 242 12	■	15	40	45	46	12	16.2	24.2	7		
	LSW-420	■	MWT12 164 4546 155 03	■	12	45	45	46	3	10	15.5	0
			MWT12 164 4546 155 09	■	12	45	45	46	9	10	15.5	0
			MWT12 164 4546 155 12	■	12	45	45	46	2	10	15.5	0
			MWT15 164 4546 155 09	■	15	45	45	46	9	10	15.5	0
			MWT12 164 3546 169 03	■	12	35	46	46	3	8.9	16.9	0
			MWT12 164 3546 219 03	■	12	35	46	46	3	13.9	21.9	5
	LSW-424-000	■	MWT12 164 3546 169 09	■	12	35	46	46	9	8.9	16.9	0
			MWT12 164 3546 219 09	■	12	35	46	46	9	13.9	21.9	5
			MWT12 164 3546 169 12	■	12	35	46	46	12	8.9	16.9	0
			MWT12 164 3546 219 12	■	12	35	46	46	12	13.9	21.9	5
			MWT15 164 3546 169 09	■	15	35	46	46	9	8.9	16.9	0
			MWT15 164 3546 219 09	■	15	35	46	46	9	13.9	21.9	5
			MWT08 164 4555 130 09	■	8	45	55	46	9	5	13	0
			MWT12 164 4555 130 12	■	12	45	55	46	12	5	13	0
	SV20-W15	■	MWT12 164 4555 130 12	■	15	45	55	46	12	5	13	0
			MWT06 164 4242 115 07	■	6	42	42	42	7	3.5	11.5	0
			MWT06 164 4242 135 07	■	6	42	42	42	7	5.5	13.5	2
			MWT06 164 4242 165 07	■	6	42	42	42	7	8.5	16.5	5
	DE10-W15	■	MWT06 164 4242 185 07	■	6	42	42	42	7	10.5	18.5	7
			MWT06 164 4242 115 09	■	6	42	42	42	9	3.5	11.5	0
			MWT06 164 4242 135 09	■	6	42	42	42	9	5.5	13.5	2
			MWT06 164 4242 165 09	■	6	42	42	42	9	8.5	16.5	5
			MWT06 164 4242 185 09	■	6	42	42	42	9	10.5	18.5	7

\* Number of teeth

Continuation



MWA...

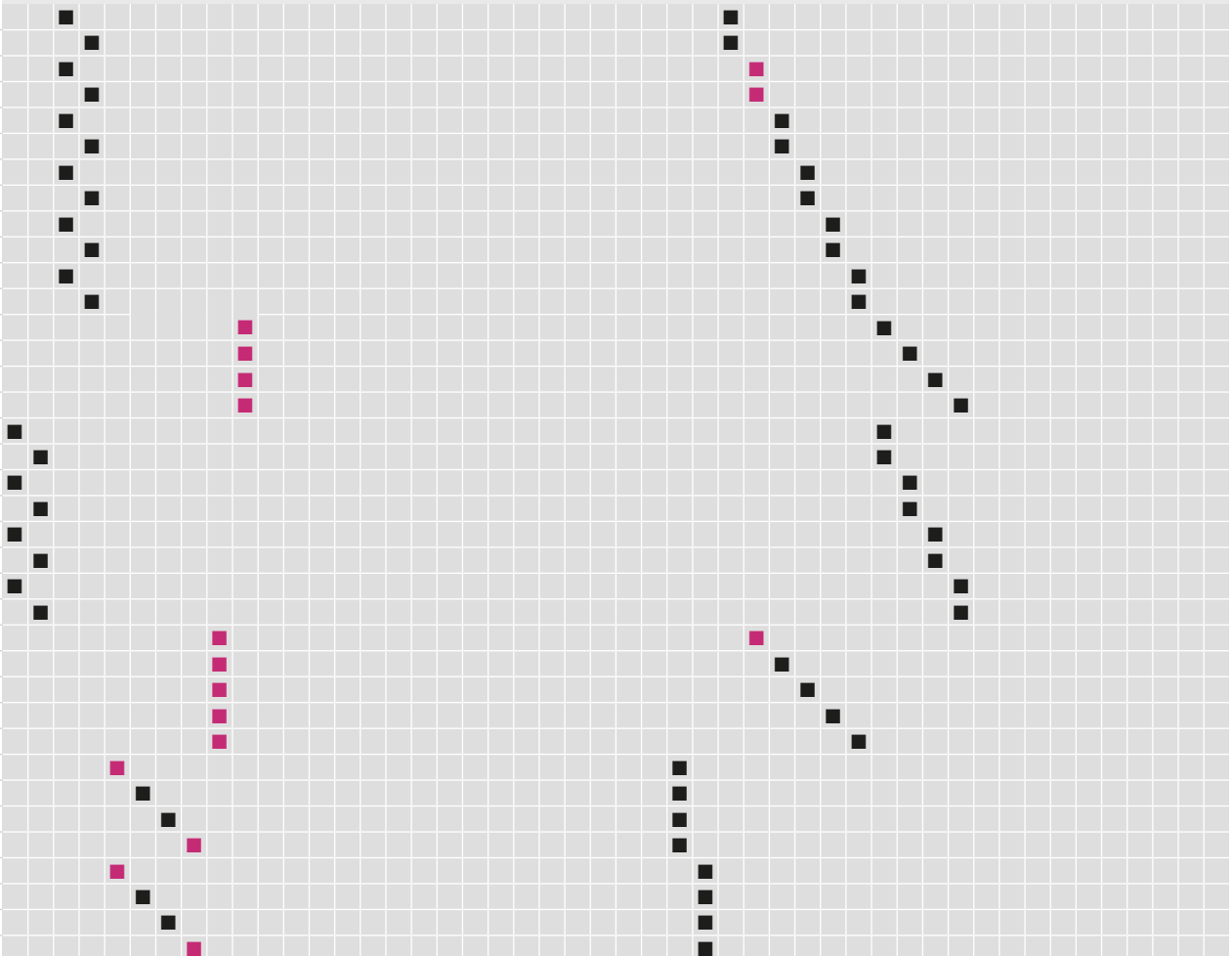
MWR...

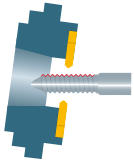
Adapter

Whirling ring

- MWA 354246 089
- MWA 354246 139
- MWA 402645 092
- MWA 402645 162
- MWA 422042 035
- MWA 422042 055
- MWA 422042 085
- MWA 422042 105
- MWA 452655 050
- MWA 454245 100

- MWR06 164 2042 080 07
- MWR06 164 2042 080 09
- MWR06 164 2646 080 09
- MWR08 164 2646 080 09
- MWR12 164 2646 080 09
- MWR12 164 2646 080 12
- MWR15 164 2646 080 09
- MWR15 164 2646 080 12
- MWR15 164 2648 080 12
- MWR12 164 4246 055 03
- MWR12 164 4246 055 09
- MWR12 164 4246 055 12



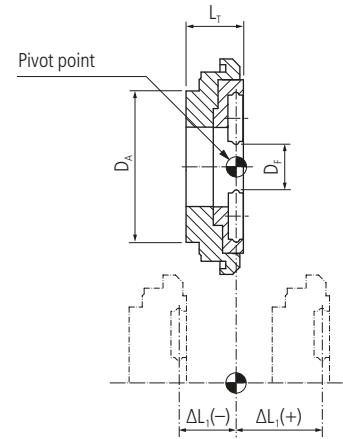


Type A

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$ ±	

436

Accuracy class of UTILIS □ 396



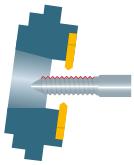
**PREMIUM-LINE**

PIBOMULTI	TOR-D20-TB24-000 TOR-D20-TB24-100	■ ■	MWT06 164 4057 105 09	■	6	40	57	46	9	2.5	10.5	0
			MWT06 164 4057 155 09	■	6	40	57	46	9	7.5	15.5	5
			MWT06 164 4057 170 09	■	6	40	57	46	9	9	17	6.5
			MWT06 164 4057 175 09	■	6	40	57	46	9	9.5	17.5	7
			MWT06 164 4057 205 09	■	6	40	57	46	9	12.5	20.5	10
			MWT08 164 4057 105 09	■	8	40	57	46	9	2.5	10.5	0
			MWT08 164 4057 155 09	■	8	40	57	46	9	7.5	15.5	5
			MWT08 164 4057 170 09	■	8	40	57	46	9	9	17	6.5
			MWT08 164 4057 175 09	■	8	40	57	46	9	9.5	17.5	7
			MWT08 164 4057 205 09	■	8	40	57	46	9	12.5	20.5	10
			MWT12 164 4057 105 09	■	12	40	57	46	9	2.5	10.5	0
			MWT12 164 4057 155 09	■	12	40	57	46	9	7.5	15.5	5
			MWT12 164 4057 170 09	■	12	40	57	46	9	9	17	6.5
			MWT12 164 4057 175 09	■	12	40	57	46	9	9.5	17.5	7
			MWT12 164 4057 205 09	■	12	40	57	46	9	12.5	20.5	10
			MWT12 164 4057 105 12	■	12	40	57	46	12	2.5	10.5	0
			MWT12 164 4057 155 12	■	12	40	57	46	12	7.5	15.5	5
			MWT12 164 4057 170 12	■	12	40	57	46	12	9	17	6.5
			MWT12 164 4057 175 12	■	12	40	57	46	12	9.5	17.5	7
			MWT12 164 4057 205 12	■	12	40	57	46	12	12.5	20.5	10
			MWT15 164 4057 105 09	■	15	40	57	46	9	2.5	10.5	0
			MWT15 164 4057 155 09	■	15	40	57	46	9	7.5	15.5	5
			MWT15 164 4057 170 09	■	15	40	57	46	9	9	17	6.5
			MWT15 164 4057 175 09	■	15	40	57	46	9	9.5	17.5	7
			MWT15 164 4057 205 09	■	15	40	57	46	9	12.5	20.5	10
			MWT15 164 4057 105 12	■	15	40	57	46	12	2.5	10.5	0
			MWT15 164 4057 155 12	■	15	40	57	46	12	7.5	15.5	5
			MWT15 164 4057 170 12	■	15	40	57	46	12	9	17	6.5
			MWT15 164 4057 175 12	■	15	40	57	46	12	9.5	17.5	7
			MWT15 164 4057 205 12	■	15	40	57	46	12	12.5	20.5	10

\* Number of teeth







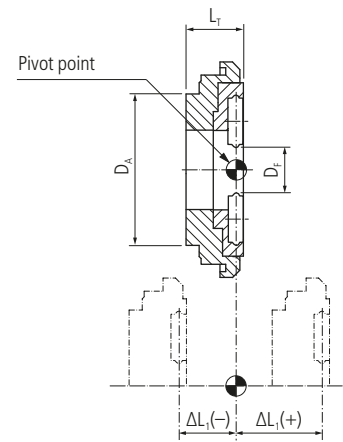
Type A

**Attention**

Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT...



Driven toolholder		Whirling tool										
Manufacturer	Type	Order designation	Dimensions									
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$		±

438

Accuracy class of UTILIS □ 396

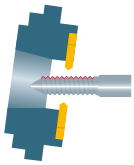


**PREMIUM-LINE**

SONGGIA	TSS260100	■	MWT12 164 4548 145 09	■	12	45	48	48	9	6.5	14.5	0
			MWT12 164 4548 240 09	■	12	45	48	48	9	16	24	9.5
			MWT12 164 4548 280 09	■	12	45	48	48	9	20	28	13.5
			MWT12 164 4548 145 12	■	12	45	48	48	12	6.5	14.5	0
			MWT12 164 4548 240 12	■	12	45	48	48	12	16	24	9.5
			MWT12 164 4548 280 12	■	12	45	48	48	12	20	28	13.5
			MWT15 164 4548 145 09	■	15	45	48	48	9	6.5	14.5	0
			MWT15 164 4548 240 09	■	15	45	48	48	9	16	24	9.5
			MWT15 164 4548 280 09	■	15	45	48	48	9	20	28	13.5
			MWT15 164 4548 145 12	■	15	45	48	48	12	6.5	14.5	0
			MWT15 164 4548 240 12	■	15	45	48	48	12	16	24	9.5
			MWT15 164 4548 280 12	■	15	45	48	48	12	20	28	13.5
STAR	10159-00	■	MWT06 164 3346 165 09	■	6	33	46	46	9	8.5	16.5	0
			MWT08 164 3346 165 09	■	8	33	46	46	9	8.5	16.5	0
			MWT12 164 3346 165 09	■	12	33	46	46	9	8.5	16.5	0
			MWT12 164 3346 165 12	■	12	33	46	46	12	8.5	16.5	0
			MWT15 164 3346 165 09	■	15	33	46	46	9	8.5	16.5	0
			MWT15 164 3346 165 12	■	15	33	46	46	12	8.5	16.5	0

\* Number of teeth



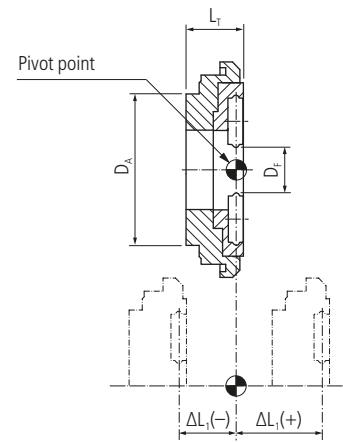


Type A

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$ ±	

440

Accuracy class of UTILIS □ 396

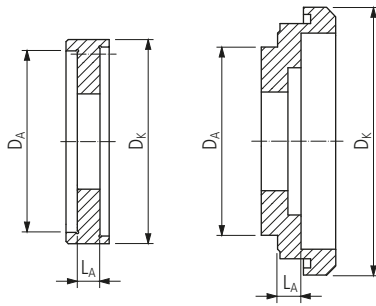
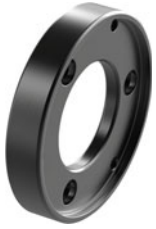


**PREMIUM-LINE**

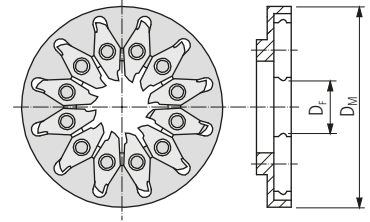
Manufacturer	Type	Order designation	Color	Dimensions								
				D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$	
STAR	0M171-00 101-72-00 421-73-00 431-72-00 541-78-00 581-71 591-72-00 661-72-00 681-72-00 7.074.191 7.076.225 7.170.882	MWT06 164 4040 111 09	■	6	40	40	40	9	4	11.1	0	
		MWT06 164 4040 116 09	■	6	40	40	40	9	4.5	11.6	0.4	
		MWT06 164 4040 144 09	■	6	40	40	40	9	7.3	14.4	3.3	
		MWT06 164 4040 154 09	■	6	40	40	40	9	8.3	15.4	4.3	
		MWT06 164 4040 161 09	■	6	40	40	40	9	9	16.1	5	
		MWT06 164 4040 181 09	■	6	40	40	40	9	11	18.1	7	
		MWT06 164 4040 196 09	■	6	40	40	40	9	12.5	19.6	8.5	
		MWT06 164 4040 231 09	■	6	40	40	40	9	16	23.1	12	
		MWT12 164 4040 111 09	■	12	40	40	40	9	4	11.1	0	
		MWT12 164 4040 116 09	■	12	40	40	40	9	4.5	11.6	0.4	
		MWT12 164 4040 144 09	■	12	40	40	40	9	7.3	14.4	3.3	
		MWT12 164 4040 154 09	■	12	40	40	40	9	8.3	15.4	4.3	
		MWT12 164 4040 161 09	■	12	40	40	40	9	9	16.1	5	
		MWT12 164 4040 181 09	■	12	40	40	40	9	11	18.1	7	
		MWT12 164 4040 196 09	■	12	40	40	40	9	12.5	19.6	8.5	
		MWT12 164 4040 231 09	■	12	40	40	40	9	16	23.1	12	
		MWT12 164 4040 111 12	■	12	40	40	40	12	4	11.1	0	
		MWT12 164 4040 116 12	■	12	40	40	40	12	4.5	11.6	0.4	
		MWT12 164 4040 144 12	■	12	40	40	40	12	7.3	14.4	3.3	
		MWT12 164 4040 154 12	■	12	40	40	40	12	8.3	15.4	4.3	
		MWT12 164 4040 161 12	■	12	40	40	40	12	9	16.1	5	
		MWT12 164 4040 181 12	■	12	40	40	40	12	11	18.1	7	
		MWT12 164 4040 196 12	■	12	40	40	40	12	12.5	19.6	8.5	
		MWT12 164 4040 231 12	■	12	40	40	40	12	16	23.1	12	
		MWT15 164 4040 111 09	■	15	40	40	40	9	4	11.1	0	
		MWT15 164 4040 116 09	■	15	40	40	40	9	4.5	11.6	0.4	
		MWT15 164 4040 144 09	■	15	40	40	40	9	7.3	14.4	3.3	
		MWT15 164 4040 154 09	■	15	40	40	40	9	8.3	15.4	4.3	
		MWT15 164 4040 161 09	■	15	40	40	40	9	9	16.1	5	
		MWT15 164 4040 181 09	■	15	40	40	40	9	11	18.1	7	
		MWT15 164 4040 196 09	■	15	40	40	40	9	12.5	19.6	8.5	
		MWT15 164 4040 231 09	■	15	40	40	40	9	16	23.1	12	
MWT06 164 4045 120 09	■	6	40	45	46	9	4	12	0			
MWT06 164 4045 125 09	■	6	40	45	46	9	4.5	12.5	0.5			
MWT06 164 4045 153 09	■	6	40	45	46	9	7.3	15.3	3.3			
MWT06 164 4045 163 09	■	6	40	45	46	9	8.3	16.3	4.3			
MWT06 164 4045 170 09	■	6	40	45	46	9	9	17	5			
MWT06 164 4045 190 09	■	6	40	45	46	9	11	19	7			

\* Number of teeth

Continuation

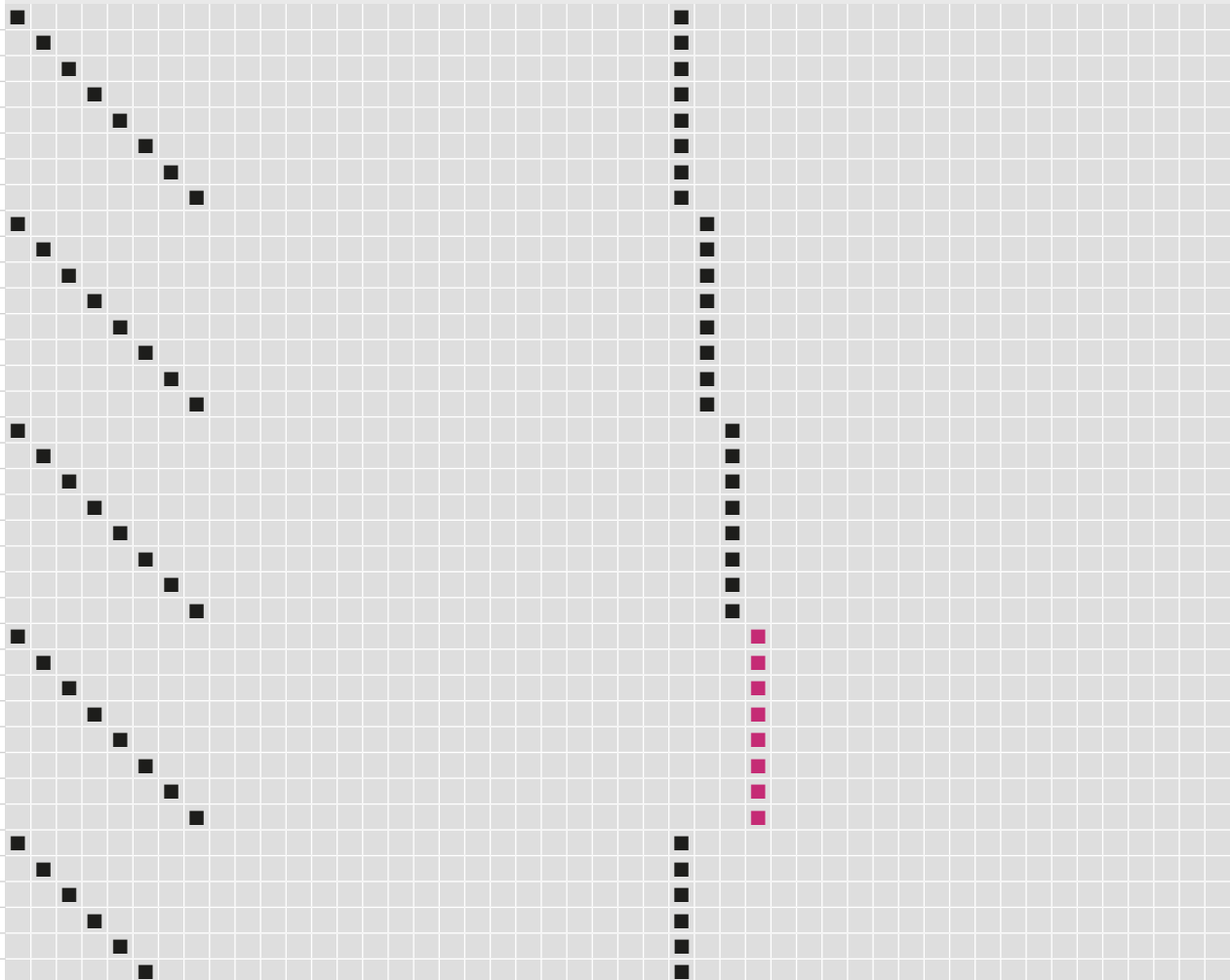


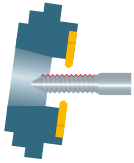
MWA...



MWR...

Adapter						Whirling ring									
MWA 402540 040	MWA 402540 045	MWA 402540 073	MWA 402540 083	MWA 402540 090	MWA 402540 110	MWA 402540 125	MWA 402540 160	MWR06 164 2546 091 09	MWR12 164 2546 080 09	MWR12 164 2546 080 12	MWR15 164 2546 080 09				



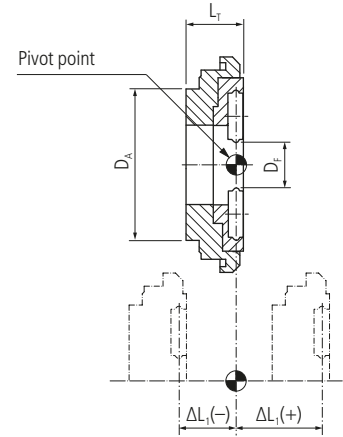


Type A

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )

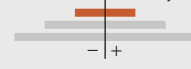


MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$ ±	

Accuracy class of UTILIS □ 396



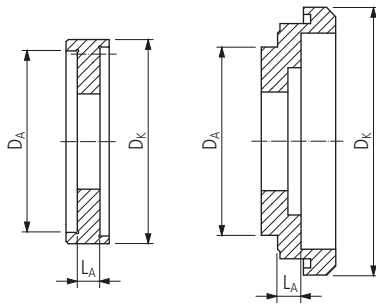
**PREMIUM-LINE**

UTILIS  
**multidec**  
swiss type tools

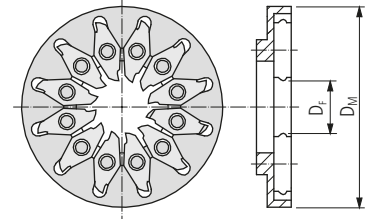
Manufacturer	Type	Order designation	Color	Dimensions								
				D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$	
STAR	0M171-00 101-72-00 421-73-00 431-72-00 541-78-00 581-71 591-72-00 661-72-00 681-72-00 7.074.191 7.076.225 7.170.882	MWT06 164 4045 205 09	■	6	40	45	46	9	12.5	20.5	8.5	
		MWT06 164 4045 240 09	■	6	40	45	46	9	16	24	12	
		MWT08 164 4045 120 09	■	8	40	45	46	9	4	12	0	
		MWT08 164 4045 125 09	■	8	40	45	46	9	4.5	12.5	0.5	
		MWT08 164 4045 153 09	■	8	40	45	46	9	7.3	15.3	3.3	
		MWT08 164 4045 163 09	■	8	40	45	46	9	8.3	16.3	4.3	
		MWT08 164 4045 170 09	■	8	40	45	46	9	9	17	5	
		MWT08 164 4045 190 09	■	8	40	45	46	9	11	19	7	
		MWT08 164 4045 205 09	■	8	40	45	46	9	12.5	20.5	8.5	
		MWT08 164 4045 240 09	■	8	40	45	46	9	16	24	12	
		MWT12 164 4045 120 09	■	12	40	45	46	9	4	12	0	
		MWT12 164 4045 125 09	■	12	40	45	46	9	4.5	12.5	0.5	
		MWT12 164 4045 153 09	■	12	40	45	46	9	7.3	15.3	3.3	
		MWT12 164 4045 163 09	■	12	40	45	46	9	8.3	16.3	4.3	
		MWT12 164 4045 170 09	■	12	40	45	46	9	9	17	5	
		MWT12 164 4045 190 09	■	12	40	45	46	9	11	19	7	
		MWT12 164 4045 205 09	■	12	40	45	46	9	12.5	20.5	8.5	
		MWT12 164 4045 240 09	■	12	40	45	46	9	16	24	12	
		MWT12 164 4045 120 12	■	12	40	45	46	12	4	12	0	
		MWT12 164 4045 125 12	■	12	40	45	46	12	4.5	12.5	0.5	
		MWT12 164 4045 153 12	■	12	40	45	46	12	7.3	15.3	3.3	
		MWT12 164 4045 163 12	■	12	40	45	46	12	8.3	16.3	4.3	
		MWT12 164 4045 170 12	■	12	40	45	46	12	9	17	5	
		MWT12 164 4045 190 12	■	12	40	45	46	12	11	19	7	
		MWT12 164 4045 205 12	■	12	40	45	46	12	12.5	20.5	8.5	
		MWT12 164 4045 240 12	■	12	40	45	46	12	16	24	12	
		MWT15 164 4045 120 09	■	15	40	45	46	9	4	12	0	
		MWT15 164 4045 125 09	■	15	40	45	46	9	4.5	12.5	0.5	
		MWT15 164 4045 153 09	■	15	40	45	46	9	7.3	15.3	3.3	
		MWT15 164 4045 163 09	■	15	40	45	46	9	8.3	16.3	4.3	
		MWT15 164 4045 170 09	■	15	40	45	46	9	9	17	5	
		MWT15 164 4045 190 09	■	15	40	45	46	9	11	19	7	
MWT15 164 4045 205 09	■	15	40	45	46	9	12.5	20.5	8.5			
MWT15 164 4045 240 09	■	15	40	45	46	9	16	24	12			

\* Number of teeth

Continuation



MWA...



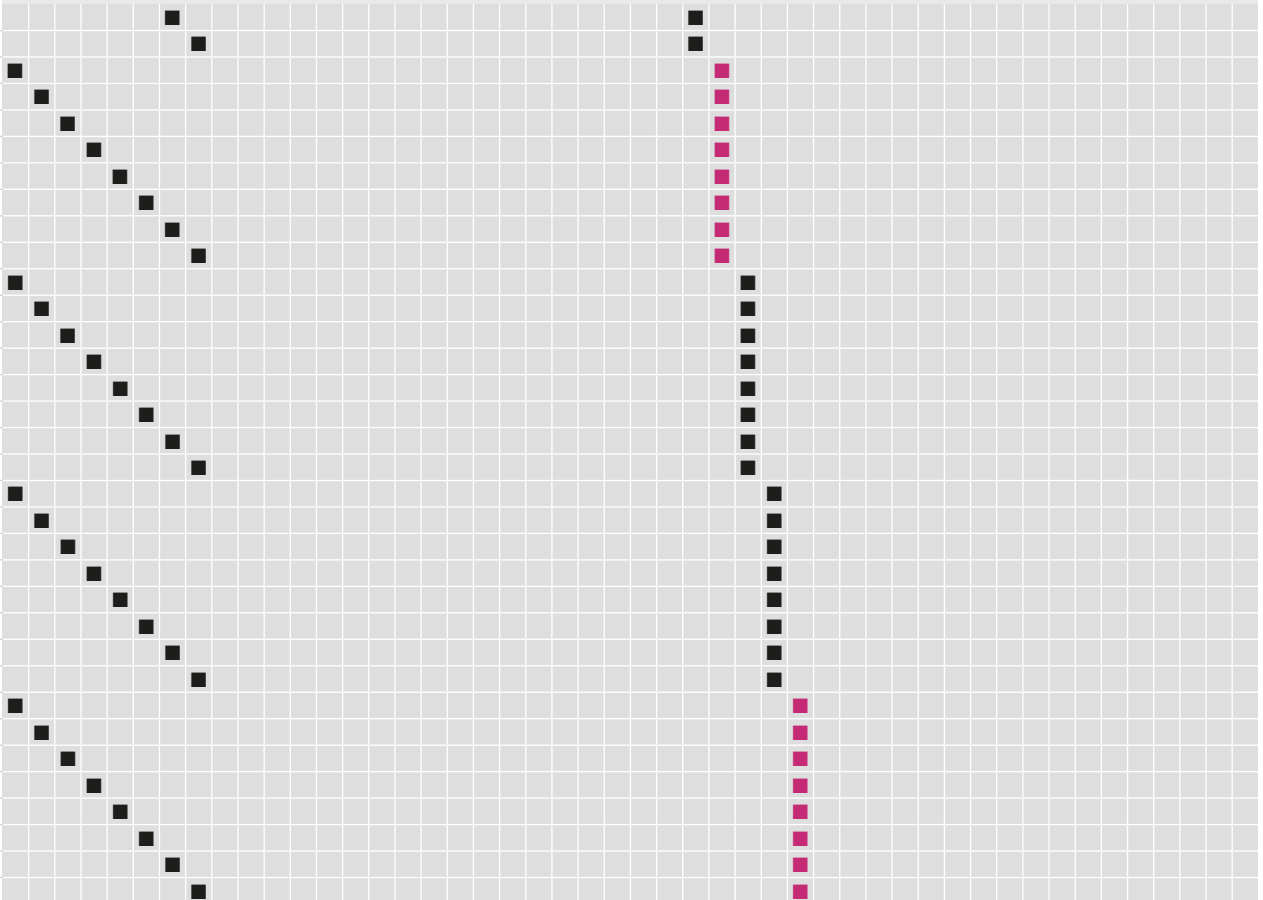
MWR...

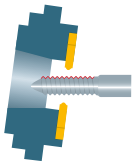
Adapter

MWA 402540 040  
 MWA 402540 045  
 MWA 402540 073  
 MWA 402540 083  
 MWA 402540 090  
 MWA 402540 110  
 MWA 402540 125  
 MWA 402540 160

Whirling ring

MWR06 164 2546 091 09  
 MWR08 164 2546 080 09  
 MWR12 164 2546 080 09  
 MWR12 164 2546 080 12  
 MWR15 164 2546 080 09





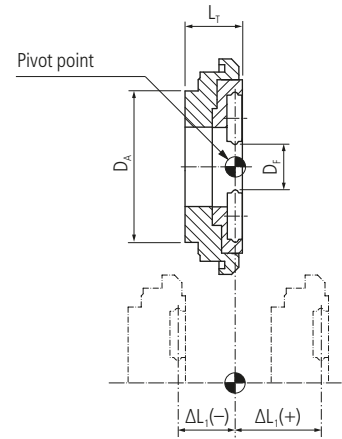
Type A

**Attention**

Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT...

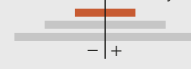


Driven toolholder		Whirling tool										
Manufacturer	Type	Order designation	Dimensions									
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$		±

444

**PREMIUM-LINE**

Accuracy class of UTILIS □ 396

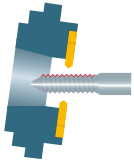


STAR	7.073.586 7.073.590 7.073.670 7.073.671 7.073.765	■	MWT12 164 4044 135 09	■	12	40	44	44	9	5.5	13.5	0
		■	MWT12 164 4044 200 09	■	12	40	44	44	9	12	20	6.5
		■	MWT12 164 4044 250 09	■	12	40	44	44	9	17	25	11.5
		■	MWT12 164 4044 135 12	■	12	40	44	44	12	5.5	13.5	0
		■	MWT12 164 4044 200 12	■	12	40	44	44	12	12	20	6.5
		■	MWT12 164 4044 250 12	■	12	40	44	44	12	17	25	11.5
		■	MWT15 164 4044 135 12	■	15	40	44	44	12	5.5	13.5	0
		■	MWT15 164 4044 200 12	■	15	40	44	44	12	12	20	6.5
		■	MWT15 164 4044 250 12	■	15	40	44	44	12	17	25	11.5

\* Number of teeth





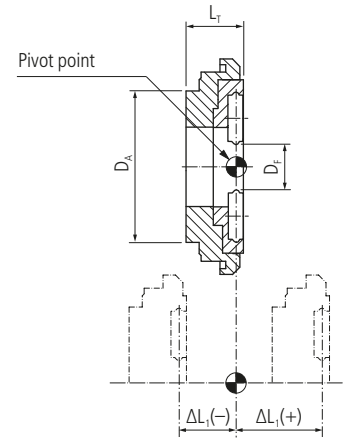


Type A

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$ ±	

446

Accuracy class of UTILIS □ 396



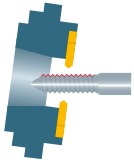
UTILIS  
**multidec**  
swiss type tools

**PREMIUM-LINE**

SU-matic	AWS 1:1	■	MWT06 164 4040 111 09	■	6	40	40	40	9	4	11.1	0
			MWT06 164 4040 116 09	■	6	40	40	40	9	4.5	11.6	0.4
			MWT06 164 4040 144 09	■	6	40	40	40	9	7.3	14.4	3.3
			MWT06 164 4040 154 09	■	6	40	40	40	9	8.3	15.4	4.3
			MWT06 164 4040 161 09	■	6	40	40	40	9	9	16.1	5
			MWT06 164 4040 181 09	■	6	40	40	40	9	11	18.1	7
			MWT06 164 4040 196 09	■	6	40	40	40	9	12.5	19.6	8.5
			MWT06 164 4040 231 09	■	6	40	40	40	9	16	23.1	12
			MWT12 164 4040 111 09	■	12	40	40	40	9	4	11.1	0
			MWT12 164 4040 116 09	■	12	40	40	40	9	4.5	11.6	0.4
			MWT12 164 4040 144 09	■	12	40	40	40	9	7.3	14.4	3.3
			MWT12 164 4040 154 09	■	12	40	40	40	9	8.3	15.4	4.3
			MWT12 164 4040 161 09	■	12	40	40	40	9	9	16.1	5
			MWT12 164 4040 181 09	■	12	40	40	40	9	11	18.1	7
			MWT12 164 4040 196 09	■	12	40	40	40	9	12.5	19.6	8.5
			MWT12 164 4040 231 09	■	12	40	40	40	9	16	23.1	12
			MWT12 164 4040 111 12	■	12	40	40	40	12	4	11.1	0
			MWT12 164 4040 116 12	■	12	40	40	40	12	4.5	11.6	0.4
			MWT12 164 4040 144 12	■	12	40	40	40	12	7.3	14.4	3.3
			MWT12 164 4040 154 12	■	12	40	40	40	12	8.3	15.4	4.3
			MWT12 164 4040 161 12	■	12	40	40	40	12	9	16.1	5
			MWT12 164 4040 181 12	■	12	40	40	40	12	11	18.1	7
			MWT12 164 4040 196 12	■	12	40	40	40	12	12.5	19.6	8.5
			MWT12 164 4040 231 12	■	12	40	40	40	12	16	23.1	12
			MWT15 164 4040 111 09	■	15	40	40	40	9	4	11.1	0
			MWT15 164 4040 116 09	■	15	40	40	40	9	4.5	11.6	0.4
			MWT15 164 4040 144 09	■	15	40	40	40	9	7.3	14.4	3.3
			MWT15 164 4040 154 09	■	15	40	40	40	9	8.3	15.4	4.3
			MWT15 164 4040 161 09	■	15	40	40	40	9	9	16.1	5
			MWT15 164 4040 181 09	■	15	40	40	40	9	11	18.1	7
			MWT15 164 4040 196 09	■	15	40	40	40	9	12.5	19.6	8.5
			MWT15 164 4040 231 09	■	15	40	40	40	9	16	23.1	12
			MWT06 164 4045 120 09	■	6	40	45	46	9	4	12	0
MWT06 164 4045 125 09	■	6	40	45	46	9	4.5	12.5	0.5			
MWT06 164 4045 153 09	■	6	40	45	46	9	7.3	15.3	3.3			
MWT06 164 4045 163 09	■	6	40	45	46	9	8.3	16.3	4.3			
MWT06 164 4045 170 09	■	6	40	45	46	9	9	17	5			
MWT06 164 4045 190 09	■	6	40	45	46	9	11	19	7			

\* Number of teeth



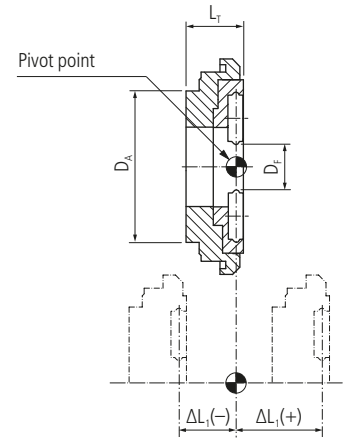


Type A

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$ ±	

Accuracy class of UTILIS □ 396

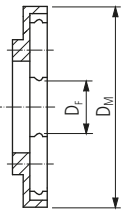
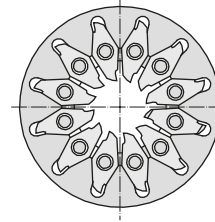
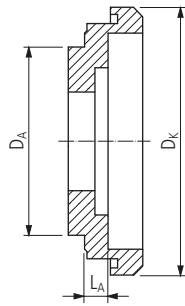
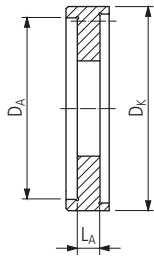


**PREMIUM-LINE**

TORNOS	260448	■	MWT12 164 44M50 120 12	■	12	44	M50	46	12	3	12	0
	305217 305218	■	MWT06 164 4242 115 07	■	6	42	42	42	7	3.5	11.5	0
			MWT06 164 4242 135 07	■	6	42	42	42	7	5.5	13.5	2
			MWT06 164 4242 165 07	■	6	42	42	42	7	8.5	16.5	5
			MWT06 164 4242 185 07	■	6	42	42	42	7	10.5	18.5	7
	226-1900 199223 306101 306432 307087 307180 398541 418302 472088 992381 1013013 3281-Y691 462-2365 462-2370	■	MWT06 164 4242 115 09	■	6	42	42	42	9	3.5	11.5	0
			MWT06 164 4242 135 09	■	6	42	42	42	9	5.5	13.5	2
			MWT06 164 4242 165 09	■	6	42	42	42	9	8.5	16.5	5
			MWT06 164 4242 185 09	■	6	42	42	42	9	10.5	18.5	7
			MWT06 164 4057 105 09	■	6	40	57	46	9	2.5	10.5	0
			MWT06 164 4057 155 09	■	6	40	57	46	9	7.5	15.5	5
			MWT06 164 4057 170 09	■	6	40	57	46	9	9	17	6.5
			MWT06 164 4057 175 09	■	6	40	57	46	9	9.5	17.5	7
			MWT06 164 4057 205 09	■	6	40	57	46	9	12.5	20.5	10
			MWT08 164 4057 105 09	■	8	40	57	46	9	2.5	10.5	0
			MWT08 164 4057 155 09	■	8	40	57	46	9	7.5	15.5	5
			MWT08 164 4057 170 09	■	8	40	57	46	9	9	17	6.5
			MWT08 164 4057 175 09	■	8	40	57	46	9	9.5	17.5	7
			MWT08 164 4057 205 09	■	8	40	57	46	9	12.5	20.5	10
			MWT12 164 4057 105 09	■	12	40	57	46	9	2.5	10.5	0
			MWT12 164 4057 155 09	■	12	40	57	46	9	7.5	15.5	5
			MWT12 164 4057 170 09	■	12	40	57	46	9	9	17	6.5
			MWT12 164 4057 175 09	■	12	40	57	46	9	9.5	17.5	7
			MWT12 164 4057 205 09	■	12	40	57	46	9	12.5	20.5	10
			MWT15 164 4057 105 09	■	15	40	57	46	9	2.5	10.5	0
	MWT15 164 4057 155 09	■	15	40	57	46	9	7.5	15.5	5		
	MWT15 164 4057 170 09	■	15	40	57	46	9	9	17	6.5		
	MWT15 164 4057 175 09	■	15	40	57	46	9	9.5	17.5	7		
	MWT15 164 4057 205 09	■	15	40	57	46	9	12.5	20.5	10		
	MWT15 164 4057 105 12	■	15	40	57	46	12	2.5	10.5	0		
	MWT15 164 4057 155 12	■	15	40	57	46	12	7.5	15.5	5		
	MWT15 164 4057 170 12	■	15	40	57	46	12	9	17	6.5		
	MWT15 164 4057 175 12	■	15	40	57	46	12	9.5	17.5	7		
	MWT15 164 4057 205 12	■	15	40	57	46	12	12.5	20.5	10		

\* Number of teeth

Continuation



MWA...

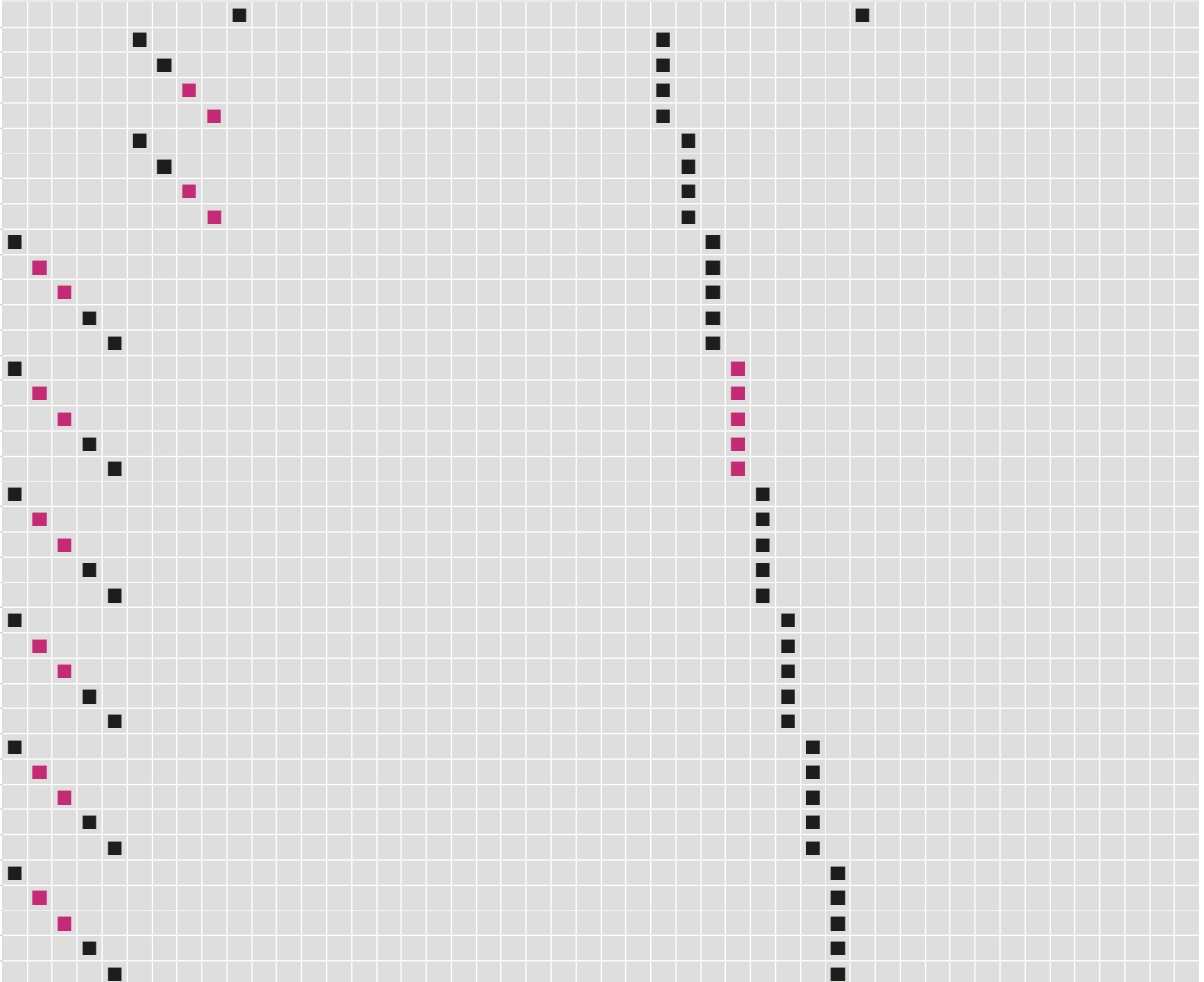
MWR...

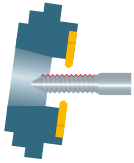
Adapter

Whirling ring

MWA 402657 025
MWA 402657 075
MWA 402657 090
MWA 402657 095
MWA 402657 125
MWA 422042 035
MWA 422042 055
MWA 422042 085
MWA 422042 105
MWA 462M50 030

MWR06 164 2042 080 07
MWR06 164 2042 080 09
MWR06 164 2646 080 09
MWR08 164 2646 080 09
MWR12 164 2646 080 09
MWR12 164 2646 080 12
MWR15 164 2646 080 09
MWR15 164 2646 080 12
MWR12 164 4446 090 12



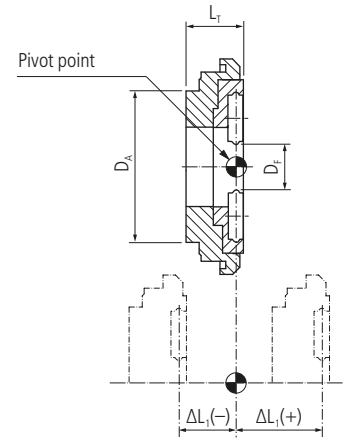


Type A

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	ΔL <sub>1</sub>	±

450

Accuracy class of UTILIS □ 396



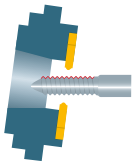
UTILIS  
**multidec**  
swiss type tools

**PREMIUM-LINE**

TORNOS	306279 306281 417627	■ ■ ■	MWT06 164 5067 120 09	■	6	50	67	46	9	4	12	0
			MWT06 164 5067 220 09	■	6	50	67	46	9	14	22	10
MWT06 164 5067 260 09			■	6	50	67	46	9	18	26	14	
MWT08 164 5067 120 09			■	8	50	67	46	9	4	12	0	
MWT08 164 5067 220 09			■	8	50	67	46	9	14	22	10	
MWT08 164 5067 260 09			■	8	50	67	46	9	18	26	14	
MWT12 164 5067 120 09			■	12	50	67	46	9	4	12	0	
MWT12 164 5067 220 09			■	12	50	67	46	9	14	22	10	
MWT12 164 5067 260 09			■	12	50	67	46	9	18	26	14	
MWT12 164 5067 120 12			■	12	50	67	46	12	4	12	0	
MWT12 164 5067 220 12			■	12	50	67	46	12	14	22	10	
MWT12 164 5067 260 12			■	12	50	67	46	12	18	26	14	
MWT15 164 5067 120 09			■	15	50	67	46	9	4	12	0	
MWT15 164 5067 220 09			■	15	50	67	46	9	14	22	10	
MWT15 164 5067 260 09			■	15	50	67	46	9	18	26	14	
MWT15 164 5067 120 12	■	15	50	67	46	12	4	12	0			
MWT15 164 5067 220 12	■	15	50	67	46	12	14	22	10			
MWT15 164 5067 260 12	■	15	50	67	46	12	18	26	14			
462-2360	■	MWT06 164 4050 105 09	■	6	40	50	50	9	2.5	10.5	0	
		MWT06 164 4050 175 09	■	6	40	50	50	9	9.5	17.5	7	
		MWT06 164 4050 205 09	■	6	40	50	50	9	12.5	20.5	10	
		MWT08 164 4050 105 09	■	8	40	50	50	9	2.5	10.5	0	
		MWT08 164 4050 175 09	■	8	40	50	50	9	9.5	17.5	7	
		MWT08 164 4050 205 09	■	8	40	50	50	9	12.5	20.5	10	
		MWT12 164 4050 105 09	■	12	40	50	50	9	2.5	10.5	0	
		MWT12 164 4050 175 09	■	12	40	50	50	9	9.5	17.5	7	
		MWT12 164 4050 205 09	■	12	40	50	50	9	12.5	20.5	10	
		MWT12 164 4050 105 12	■	12	40	50	50	12	2.5	10.5	0	
		MWT12 164 4050 175 12	■	12	40	50	50	12	9.5	17.5	7	
		MWT12 164 4050 205 12	■	12	40	50	50	12	12.5	20.5	10	
		MWT15 164 4050 105 09	■	15	40	50	50	9	2.5	10.5	0	
		MWT15 164 4050 175 09	■	15	40	50	50	9	9.5	17.5	7	
		MWT15 164 4050 205 09	■	15	40	50	50	9	12.5	20.5	10	
		MWT15 164 4050 105 12	■	15	40	50	50	12	2.5	10.5	0	
		MWT15 164 4050 175 12	■	15	40	50	50	12	9.5	17.5	7	
		MWT15 164 4050 205 12	■	15	40	50	50	12	12.5	20.5	10	

\* Number of teeth



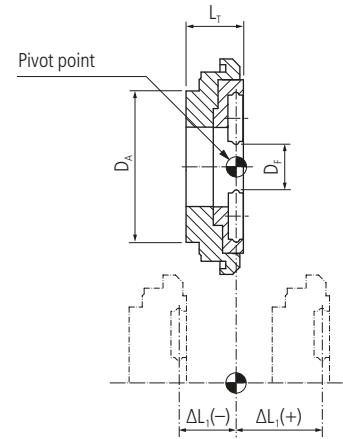


Type A

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )

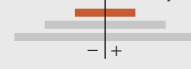


MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$ ±	

Accuracy class of UTILIS  $\square$  396



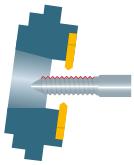
**PREMIUM-LINE**

TRAUB	836461 836046	■	MWT06 164 54106 120 09	■	6	54	106	46	9	4	12	0
			MWT06 164 54106 130 09	■	6	54	106	46	9	5	13	1
			MWT08 164 54106 120 09	■	8	54	106	46	9	4	12	0
			MWT08 164 54106 130 09	■	8	54	106	46	9	5	13	1
			MWT12 164 54106 120 09	■	12	54	106	46	9	4	12	0
			MWT12 164 54106 120 12	■	12	54	106	46	12	4	12	0
			MWT12 164 54106 130 09	■	12	54	106	46	9	5	13	1
			MWT12 164 54106 130 12	■	12	54	106	46	12	5	13	1
	MWT15 164 54106 120 09	■	15	54	106	46	9	4	12	0		
	MWT15 164 54106 120 12	■	15	54	106	46	12	4	12	0		
	MWT15 164 54106 130 09	■	15	54	106	46	9	5	13	1		
	MWT15 164 54106 130 12	■	15	54	106	46	12	5	13	1		
	MWT06 164 2842 179 07	■	6	28	42	42	7	6.9	17.9	0		
	MWT06 164 2842 179 09	■	6	28	42	42	9	6.9	17.9	0		
MWT06 164 M3442 194 07	■	6	M34	42	42	7	-	19.4	0			
MWT06 164 M3442 194 09	■	6	M34	42	42	9	-	19.4	0			
TSUGAMI	3268-Y271 3263-Y480 3263-Y481 3234-Y342 UZ. 3234-Y343 GUZ.	■	MWT06 164 5265 166 09	■	6	52	46	65	9	8.7	16.6	0
			MWT06 164 5265 220 09	■	6	52	46	65	9	14	22	5.3
			MWT08 164 5265 166 09	■	8	52	46	65	9	8.7	16.6	0
			MWT08 164 5265 220 09	■	8	52	46	65	9	14	22	5.3
			MWT12 164 5265 166 09	■	12	52	46	65	9	8.7	16.6	0
			MWT12 164 5265 220 09	■	12	52	46	65	9	14	22	5.3
			MWT12 164 5265 166 12	■	12	52	46	65	12	8.7	16.6	0
			MWT12 164 5265 220 12	■	12	52	46	65	12	14	22	5.3
			MWT15 164 5265 166 09	■	15	52	46	65	9	8.7	16.6	0
			MWT15 164 5265 220 09	■	15	52	46	65	9	14	22	5.3
			MWT15 164 5265 166 12	■	15	52	46	65	12	8.7	16.6	0
			MWT15 164 5265 220 12	■	15	52	46	65	12	14	22	5.3

\* Number of teeth





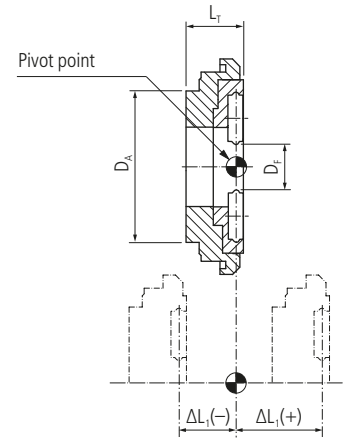


Type A

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$ ±	

Accuracy class of UTILIS □ 396



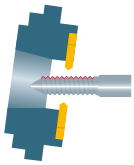
**PREMIUM-LINE**

UTILIS  
**multidec**  
swiss type tools

TSUGAMI	3281-Y451 3268-Y452 3268-Y453 3268-Y454 3268-Y455	■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■	MWT06 164 5252 160 09	■	6	52	52	46	9	8	16	0
			MWT06 164 5252 190 09	■	6	52	52	46	9	11	19	3
			MWT06 164 5252 220 09	■	6	52	52	46	9	14	22	6
			MWT08 164 5252 160 09	■	8	52	52	46	9	8	16	0
			MWT08 164 5252 190 09	■	8	52	52	46	9	11	19	3
			MWT08 164 5252 220 09	■	8	52	52	46	9	14	22	6
			MWT12 164 5252 160 09	■	12	52	52	46	9	8	16	0
			MWT12 164 5252 190 09	■	12	52	52	46	9	11	19	3
			MWT12 164 5252 220 09	■	12	52	52	46	9	14	22	6
			MWT12 164 5252 160 12	■	12	52	52	46	12	8	16	0
			MWT12 164 5252 190 12	■	12	52	52	46	12	11	19	3
			MWT12 164 5252 220 12	■	12	52	52	46	12	14	22	6
			MWT15 164 5252 160 09	■	15	52	52	46	9	8	16	0
			MWT15 164 5252 190 09	■	15	52	52	46	9	11	19	3
			MWT15 164 5252 220 09	■	15	52	52	46	9	14	22	6
MWT15 164 5252 160 12	■	15	52	52	46	12	8	16	0			
MWT15 164 5252 190 12	■	15	52	52	46	12	11	19	3			
MWT15 164 5252 220 12	■	15	52	52	46	12	14	22	6			
WTO	419900001-44 419900002-44 419900005-44 67969 TN762002	■ ■ ■ ■ ■ ■ ■ ■ ■	MWT12 164 4044 135 09	■	12	40	44	44	9	5.5	13.5	0
			MWT12 164 4044 200 09	■	12	40	44	44	9	12	20	6.5
			MWT12 164 4044 250 09	■	12	40	44	44	9	17	25	11.5
			MWT12 164 4044 135 12	■	12	40	44	44	12	5.5	13.5	0
			MWT12 164 4044 200 12	■	12	40	44	44	12	12	20	6.5
			MWT12 164 4044 250 12	■	12	40	44	44	12	17	25	11.5
			MWT15 164 4044 135 12	■	15	40	44	44	12	5.5	13.5	0
			MWT15 164 4044 200 12	■	15	40	44	44	12	12	20	6.5
			MWT15 164 4044 250 12	■	15	40	44	44	12	17	25	11.5
	419900001-44 TN762002	■ ■	MWT06 164 4046 300 09	■	6	40	44	46	9	22	30	6
			MWT08 164 4046 240 09	■	8	40	46	46	9	16	24	12.5
			MWT08 164 4046 300 09	■	8	40	44	46	9	22	30	6
			MWT12 164 4046 240 09	■	12	40	46	46	9	16	24	12.5
			MWT12 164 4046 300 09	■	12	40	44	46	9	22	30	6
			MWT12 164 4046 240 12	■	12	40	46	46	12	16	24	12.5
MWT12 164 4046 300 12	■	12	40	44	46	12	22	30	6			
MWT15 164 4046 240 09	■	15	40	46	46	9	16	24	12.5			
MWT15 164 4046 300 09	■	15	40	44	46	9	22	30	6			
MWT15 164 4046 240 12	■	15	40	46	46	12	16	24	12.5			
MWT15 164 4046 300 12	■	15	40	44	46	12	22	30	6			

\* Number of teeth



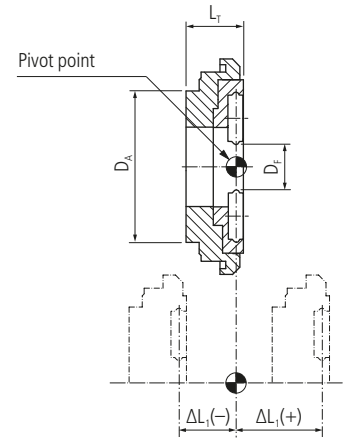


Type A

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$ ±	

456

Accuracy class of UTILIS □ 396

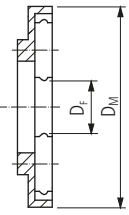
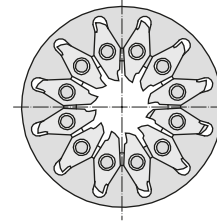
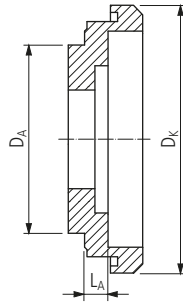
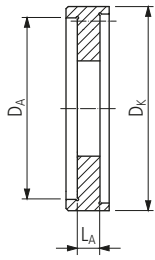


**PREMIUM-LINE**

W & F	AG.SPI.Z35.0200.002 MPU.Z35.0800.GA	■	MWT06 164 4055 103 09	■	6	40	55	55	9	2.3	10.3	0	
		■	MWT06 164 4055 115 09	■	6	40	55	55	9	3.5	11.5	1.2	
		■	MWT06 164 4055 153 09	■	6	40	55	55	9	7.3	15.3	5	
		■	MWT08 164 4055 103 09	■	8	40	55	55	9	2.3	10.3	0	
		■	MWT08 164 4055 115 09	■	8	40	55	55	9	3.5	11.5	1.2	
		■	MWT08 164 4055 153 09	■	8	40	55	55	9	7.3	15.3	5	
		■	MWT12 164 4055 103 09	■	12	40	55	55	9	2.3	10.3	0	
		■	MWT12 164 4055 115 09	■	12	40	55	55	9	3.5	11.5	1.2	
		■	MWT12 164 4055 153 09	■	12	40	55	55	9	7.3	15.3	5	
		■	MWT12 164 4055 103 12	■	12	40	55	55	12	2.3	10.3	0	
		■	MWT12 164 4055 115 12	■	12	40	55	55	12	3.5	11.5	1.2	
		■	MWT12 164 4055 153 12	■	12	40	55	55	12	7.3	15.3	5	
		■	MWT15 164 4055 103 09	■	15	40	55	55	9	2.3	10.3	0	
		■	MWT15 164 4055 115 09	■	15	40	55	55	9	3.5	11.5	1.2	
		■	MWT15 164 4055 153 09	■	15	40	55	55	9	7.3	15.3	5	
		■	MWT15 164 4055 103 12	■	15	40	55	55	12	2.3	10.3	0	
	■	MWT15 164 4055 115 12	■	15	40	55	55	12	3.5	11.5	1.2		
	■	MWT15 164 4055 153 12	■	15	40	55	55	12	7.3	15.3	5		
	■	MPU.TO.0800.DE10	■	MWT06 164 4242 115 07	■	6	42	42	42	7	3.5	11.5	0
	■		MWT06 164 4242 135 07	■	6	42	42	42	7	5.5	13.5	2	
	■		MWT06 164 4242 165 07	■	6	42	42	42	7	8.5	16.5	5	
	■		MWT06 164 4242 185 07	■	6	42	42	42	7	10.5	18.5	7	
	■		MWT06 164 4242 115 09	■	6	42	42	42	9	3.5	11.5	0	
	■		MWT06 164 4242 135 09	■	6	42	42	42	9	5.5	13.5	2	
	■		MWT06 164 4242 165 09	■	6	42	42	42	9	8.5	16.5	5	
	■		MWT06 164 4242 185 09	■	6	42	42	42	9	10.5	18.5	7	

\* Number of teeth

Continuation



MWA...

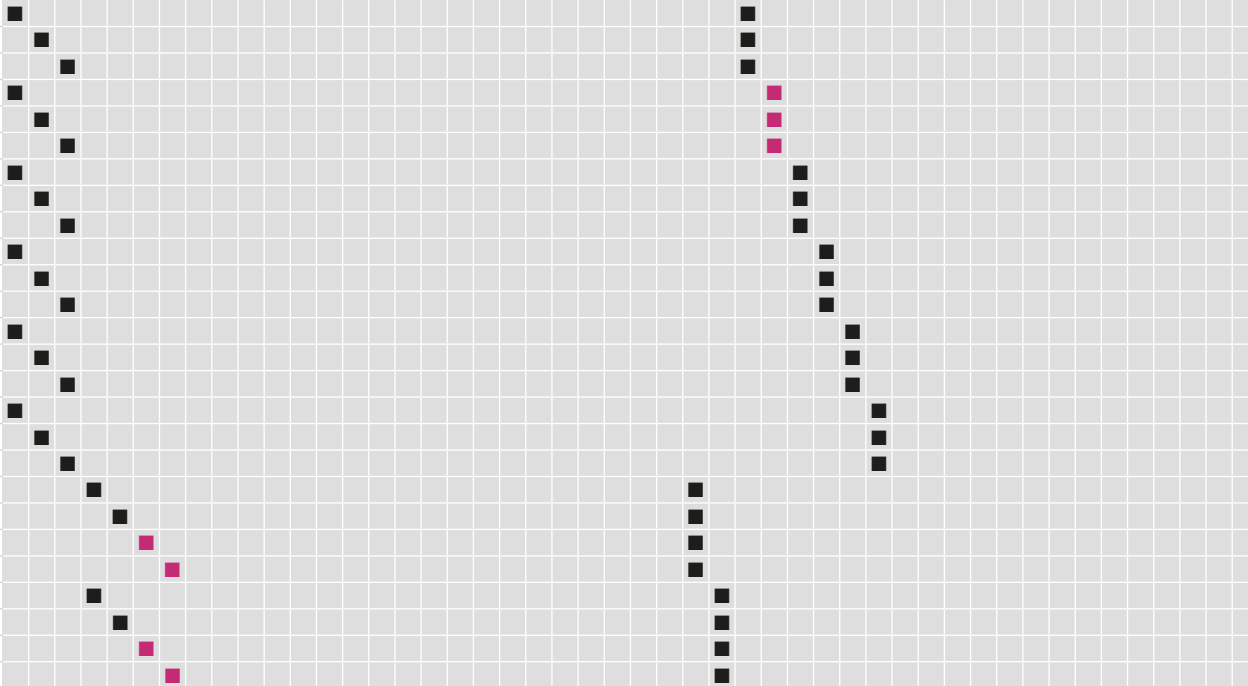
MWR...

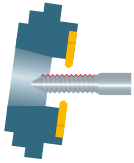
Adapter

Whirling ring

- MWA 402655 023
- MWA 402655 035
- MWA 402655 073
- MWA 422042 035
- MWA 422042 055
- MWA 422042 085
- MWA 422042 105

- MWR06 164 2042 080 07
- MWR06 164 2042 080 09
- MWR06 164 2646 080 09
- MWR08 164 2646 080 09
- MWR12 164 2646 080 09
- MWR12 164 2646 080 12
- MWR15 164 2646 080 09
- MWR15 164 2646 080 12



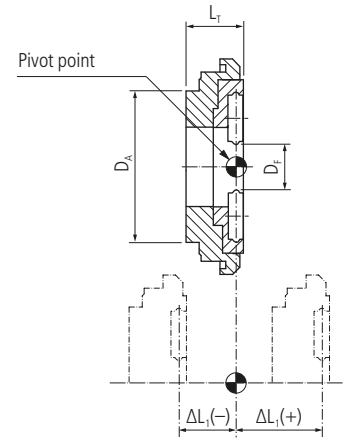


Type A

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$ ±	

458

Accuracy class of UTILIS □ 396

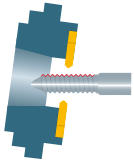


**PREMIUM-LINE**

Manufacturer	Type	Order designation	Color	Dimensions								
				D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$	
W & F	MPU.TO.0800.DE13 MPU.TO.0800.DE20 MPU.TO.0800.DE20S MPU.TO.M800.DE20	MWT06 164 4057 105 09	■	6	40	57	46	9	2.5	10.5	0	
		MWT06 164 4057 155 09	■	6	40	57	46	9	7.5	15.5	5	
		MWT06 164 4057 170 09	■	6	40	57	46	9	9	17	6.5	
		MWT06 164 4057 175 09	■	6	40	57	46	9	9.5	17.5	7	
		MWT06 164 4057 205 09	■	6	40	57	46	9	12.5	20.5	10	
		MWT08 164 4057 105 09	■	8	40	57	46	9	2.5	10.5	0	
		MWT08 164 4057 155 09	■	8	40	57	46	9	7.5	15.5	5	
		MWT08 164 4057 170 09	■	8	40	57	46	9	9	17	6.5	
		MWT08 164 4057 175 09	■	8	40	57	46	9	9.5	17.5	7	
		MWT08 164 4057 205 09	■	8	40	57	46	9	12.5	20.5	10	
		MWT12 164 4057 105 09	■	12	40	57	46	9	2.5	10.5	0	
		MWT12 164 4057 155 09	■	12	40	57	46	9	7.5	15.5	5	
		MWT12 164 4057 170 09	■	12	40	57	46	9	9	17	6.5	
		MWT12 164 4057 175 09	■	12	40	57	46	9	9.5	17.5	7	
		MWT12 164 4057 205 09	■	12	40	57	46	9	12.5	20.5	10	
		MWT12 164 4057 105 12	■	12	40	57	46	12	2.5	10.5	0	
		MWT12 164 4057 155 12	■	12	40	57	46	12	7.5	15.5	5	
		MWT12 164 4057 170 12	■	12	40	57	46	12	9	17	6.5	
		MWT12 164 4057 175 12	■	12	40	57	46	12	9.5	17.5	7	
		MWT12 164 4057 205 12	■	12	40	57	46	12	12.5	20.5	10	
		MWT15 164 4057 105 09	■	15	40	57	46	9	2.5	10.5	0	
		MWT15 164 4057 155 09	■	15	40	57	46	9	7.5	15.5	5	
		MWT15 164 4057 170 09	■	15	40	57	46	9	9	17	6.5	
		MWT15 164 4057 175 09	■	15	40	57	46	9	9.5	17.5	7	
		MWT15 164 4057 205 09	■	15	40	57	46	9	12.5	20.5	10	
		MWT15 164 4057 105 12	■	15	40	57	46	12	2.5	10.5	0	
		MWT15 164 4057 155 12	■	15	40	57	46	12	7.5	15.5	5	
		MWT15 164 4057 170 12	■	15	40	57	46	12	9	17	6.5	
MWT15 164 4057 175 12	■	15	40	57	46	12	9.5	17.5	7			
MWT15 164 4057 205 12	■	15	40	57	46	12	12.5	20.5	10			

\* Number of teeth



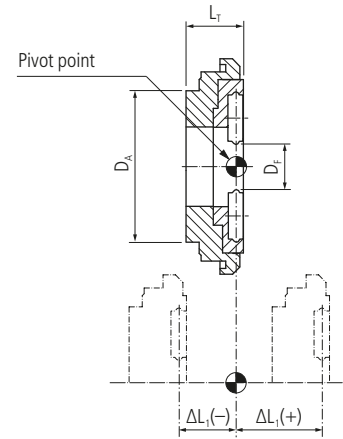


Type B

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



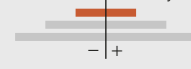
MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$ ±	

**PREMIUM-LINE**

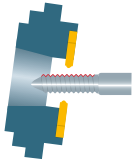
Accuracy class of UTILIS □ 396



CITIZEN	BTW-1000 BTW-2000 BTW-5000 BTW-6000 BTW-3000 BTW-3100 BTW-4000	■	MWT12 164 3347 145 09	■	12	33	47	-	9	-	14.5	0
		■	MWT12 164 3347 145 12	■	12	33	47	-	12	-	14.5	0
		■	MWT12 164 3347 170 09	■	12	33	47	-	9	-	17	2.5
		■	MWT12 164 3347 170 12	■	12	33	47	-	12	-	17	2.5
		■	MWT12 166 3347 145 09	■	12	33	47	-	9	-	14.5	0
		■	MWT12 166 3347 145 12	■	12	33	47	-	12	-	14.5	0
		■	MWT12 166 3347 170 09	■	12	33	47	-	9	-	17	2.5
		■	MWT12 166 3347 170 12	■	12	33	47	-	12	-	17	2.5
		■	MWT12 168 3347 145 09	■	12	33	47	-	9	-	14.5	0
		■	MWT12 164 2546 070 09	■	12	25	46	-	9	-	7	0
DMG	2123031 2647002 2723028 2858071 2646709	■	MWT12 164 2546 070 12	■	12	25	46	-	12	-	7	0
		■	MWT12 164 4249 120 09	■	12	42	49	49	9	-	12	0
		■										
		■										
		■										
MADAULA	CZ.035.K12/K16 CZ.035.K12/K16-15 CZ.035.M12/M16 CZ.035.M12/M16T-15 CZ.035.M20/M32T CZ.035.M20/M32T P.035.00063 1110.00055	■	MWT06 164 2035 165 07	■	6	20	35	35	7	-	16.5	0
		■	MWT06 164 2035 165 09	■	6	20	35	35	9	-	16.5	0
		■	MWT06 164 2035 225 07	■	6	20	35	35	7	-	22.5	4
		■	MWT06 164 2035 225 09	■	6	20	35	35	9	-	22.5	4
		■	MWT06 164 2035 240 09	■	6	20	35	35	9	-	24	7.5
		■	MWT08 164 2038 185 09	■	8	20	38	38	9	-	18.5	2
		■	MWT08 164 2038 200 09	■	8	20	38	38	9	-	20	3.5
		■	MWT08 164 2038 225 09	■	8	20	38	38	9	-	22.5	4
		■	MWT12 164 4045 100 09	■	12	40	45	-	9	-	10	0
		■	MWT06 164 4253 388 09	■	6	42	53	53	9	-	38.8	0
	P.035.00083	■	MWT06 164 4253 415 09	■	6	42	53	53	9	-	41.5	2.7
		■	MWT06 164 4253 428 09	■	6	42	53	53	9	-	42.8	4
		■	MWT06 164 4253 460 09	■	6	42	53	53	9	-	46	7.2
		■	MWT08 164 4253 388 09	■	8	42	53	53	9	-	38.8	0
MAIER	MAIER MLK	■	MWT06 164 3333 180 07	■	6	33	33	-	7	-	18	0
		■	MWT06 164 3333 180 08	■	6	33	33	-	8	-	18	0
MT	CTZ0040112 NMR0010112 NMR0070112 SPC1921000	■	MWT12 164 4045 100 09	■	12	40	45	-	9	-	10	0
		■										

\* Number of teeth



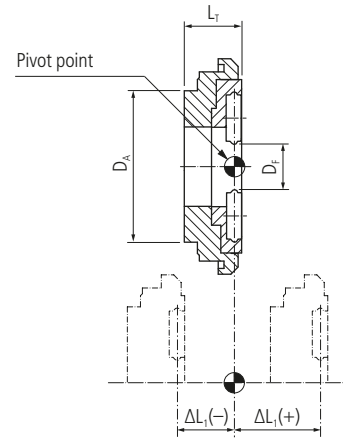


Type B

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$ ±	

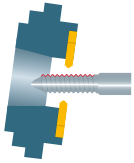
**PREMIUM-LINE**

Accuracy class of UTILIS  $\square$  396



PCM	E20-WI-000	■	MWT06 164 2035 165 07	■	6	20	35	35	7	–	16.5	0
	GSW-101-000	■	MWT06 164 2035 165 09	■	6	20	35	35	9	–	16.5	0
	LSW-515-000	■	MWT06 164 2035 225 07	■	6	20	35	35	7	–	22.5	4
	LSW-515-PR	■	MWT06 164 2035 225 09	■	6	20	35	35	9	–	22.5	4
	KSW-101-000	■	MWT06 164 2035 240 09	■	6	20	35	35	9	–	24	7.5
	LSW-101-L20-000	■	MWT08 164 2038 185 09	■	8	20	38	38	9	–	18.5	2
	LSW-215-000	■	MWT08 164 2038 200 09	■	8	20	38	38	9	–	20	3.5
	LSW-424-15	■	MWT08 164 2038 225 09	■	8	20	38	38	9	–	22.5	4
	MSW-101-000	■	MWT12 164 4045 100 09	■	12	40	45	–	9	–	10	0
	NN20-W15	■										
SPW-1220	■											
STAR	7.073.590	■	MWT12 164 4044 100 09	■	12	40	44	–	9	–	10	0
		■	MWT12 164 4044 100 12	■	12	40	44	–	12	–	10	0
	7.074.260 7.079.555	■	MWT12 164 4253 310 09	■	12	42	53	53	9	–	31	0
		■	MWT12 164 4253 335 09	■	12	42	53	53	9	–	33.5	2.5
		■	MWT12 164 4253 385 09	■	12	42	53	53	9	–	38.5	7.5
		■	MWT12 164 4253 405 09	■	12	42	53	53	9	–	40.5	9.5
		■	MWT12 164 4253 310 12	■	12	42	53	53	12	–	31	0
		■	MWT12 164 4253 335 12	■	12	42	53	53	12	–	33.5	2.5
		■	MWT12 164 4253 385 12	■	12	42	53	53	12	–	38.5	7.5
		■	MWT12 164 4253 405 12	■	12	42	53	53	12	–	40.5	9.5
TORNOS	307232	■	MWT06 164 3151 200 07	■	6	31	51	–	7	–	20	0
	386251	■	MWT06 164 3151 200 09	■	6	31	51	–	9	–	20	0
	398856	■										
417165	■											
417174	■											
TRAUB	836461 836046	■	MWT06 164 54106 130 09	■	6	54	106	46	9	5	13	1
		■	MWT12 164 54106 130 09	■	12	54	106	46	9	5	13	1
		■	MWT12 164 54106 130 12	■	12	54	106	46	12	5	13	1
		■	MWT15 164 54106 130 09	■	15	54	106	46	9	5	13	1
		■	MWT15 164 54106 130 12	■	15	54	106	46	12	5	13	1
■	MWT25 166 54106 140 12	■	25	54	106	–	12	–	14	0		

\* Number of teeth

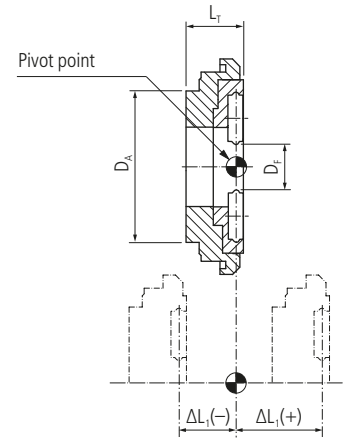


Type B

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$	±

462

PREMIUM-LINE

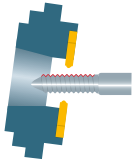
Accuracy class of UTILIS □ 396



Manufacturer	Type	Order designation	D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$	±	
TRAUB	900884 984769 984770 W7045009 W7045012 W7045055 987320	■ MWT12 164 4158 065 12	12	41	-	58	12	-	6.5	0		
		■ MWT12 164 4158 080 12	12	41	-	58	12	-	8	1.5		
		■ MWT15 164 4158 065 12	15	41	-	58	12	-	6.5	0		
		■ MWT25 164 4158 065 09	25	41	-	58	9	-	6.5	0		
		■ MWT25 164 4158 080 09	25	41	-	58	9	-	8	1.5		
		■ MWT15 164 4158 115 12	15	41	-	58	12	-	11.5	5		
		■ MWT06 164 3776 068 09	6	37	76	-	9	-	6.8	0		
		■ MWT06 164 3776 078 09	6	37	76	-	9	-	7.8	0		
		■ MWT12 164 3776 068 03	12	37	76	-	3	-	6.8	0		
		■ MWT12 164 3776 068 09	12	37	76	-	9	-	6.8	0		
TRAUB	989520	■ MWT12 164 3776 068 12	12	37	76	-	12	-	6.8	0		
		■ MWT06 164 M3442 171 09	6	M34	42	-	9	-	17.1	-		
WTO	419900000-00, -25, -32, -35, -39, -40, -46, -50, -55 419900001-00, -32, -35 419900002-30, -32, -34, -55 419900003-30, -32, -55 419900004-30, -32 419900005-30, -44 419900006-30 419900007-30, -44 419900008-44 419900009-30 419942000-31, -32, -35, -39, -46, -50 419942000-00, -25, -40, -55 419942001-35 419942001-00, -32 419942002-30, -32, -34 419942002-55 419942003-32 419942003-30, -55 419942004-30, -32 419942005-30, -34, -44 419942006-30 419942007-30, -44 419942008-44 419942009-30 419954004-34 TN762004	■ MWT06 164 4244 165 09	6	42	44	44	9	-	16.5	6		
		■ MWT06 164 4244 195 09	6	42	44	44	9	-	19.5	9		
		■ MWT12 164 4244 105 09	12	42	44	44	9	-	10.5	0		
		■ MWT12 164 4244 105 12	12	42	44	44	12	-	10.5	0		
		■ MWT12 164 4244 165 09	12	42	44	44	9	-	16.5	6		
		■ MWT12 164 4244 165 12	12	42	44	44	12	-	16.5	6		
		■ MWT12 164 4244 205 09	12	42	44	44	9	-	20.5	10		
		■ MWT12 164 4244 205 12	12	42	44	44	12	-	20.5	10		
		■ MWT12 164 4244 305 09	12	42	44	44	9	-	30.5	20		
		■ MWT12 164 4244 305 12	12	42	44	44	12	-	30.5	20		
		■ MWT15 164 4244 140 09	15	42	44	44	9	-	14	3.5		
		■ MWT15 164 4244 185 09	15	42	44	44	9	-	18.5	8		
		■ MWT15 164 4244 205 09	15	42	44	44	9	-	20.5	10		
		■ MWT15 164 4244 205 12	15	42	44	44	12	-	20.5	10		

\* Number of teeth

UTILIS  
multidec®  
swiss type tools



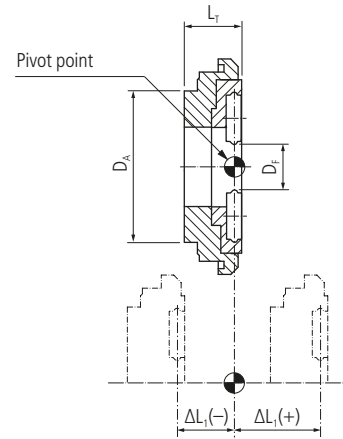
Type B

**Attention**

Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



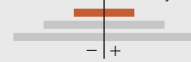
MWT...



Driven toolholder		Whirling tool										
Manufacturer	Type	Order designation	Dimensions									$\Delta L_1$
			$D_F$	$D_A$	$D_K$	$D_M$	$z^*$	$L_A$	$L_T$	$\pm$		

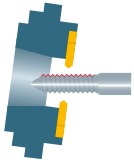
**PREMIUM-LINE**

Accuracy class of UTILIS  $\square$  396



WTO	419900000-45	■	MWT06 164 5456 125 07	■	6	54	56	56	7	-	12.5	0
	419900001-46, -60	■	MWT06 164 5456 125 09	■	6	54	56	56	9	-	12.5	0
	419900002-35	■	MWT12 164 5456 125 09	■	12	54	56	56	9	-	12.5	0
	419900003-34, -35	■	MWT12 164 5456 125 12	■	12	54	56	56	12	-	12.5	0
	419900004-34	■	MWT15 164 5456 125 09	■	15	54	56	56	9	-	12.5	0
	419900005-32	■	MWT15 164 5456 125 12	■	15	54	56	56	12	-	12.5	0
	419900006-32	■	MWT25 164 5456 125 09	■	25	54	56	56	9	-	12.5	0
	419900007-32	■	MWT25 164 5456 125 12	■	25	54	56	56	12	-	12.5	0
	419900010-30, -44	■	MWT12 164 5456 175 09	■	12	54	56	56	9	-	17.5	5
	419900011-30, -44	■	MWT12 164 5456 175 12	■	12	54	56	56	12	-	17.5	5
	419900012-30	■	MWT15 164 5456 175 09	■	15	54	56	56	9	-	17.5	5
	419900013-30	■	MWT25 164 5456 175 09	■	25	54	56	56	9	-	17.5	5
	419954000-45	■	MWT25 164 5456 175 12	■	25	54	56	56	12	-	17.5	5
	419954001-39, -46	■										
	419954002-35	■										
	419954003-34, -35	■										
	419954005-32	■										
	419954006-32	■										
	419954007-32	■										
	419954010-30, -44	■										
419954011-30, -44	■											
419954012-30	■											
419954013-30	■											
TN762006	■											
W & F	MPU.M0800.C16	■	MWT06 164 WF55 093 07	■	6	WF	55	55	7	-	9.3	0
	MPU.TO.0800.DE20S	■	MWT06 164 WF55 143 07	■	6	WF	55	55	7	-	14.3	5
	MPU.TO.M0800.CT20	■	MWT06 164 WF55 173 07	■	6	WF	55	55	7	-	17.3	8
	MPU.TO.M800.DE20	■	MWT06 164 WF55 093 09	■	6	WF	55	55	9	-	9.3	0
	MPU.Z30.M0800.XD20	■	MWT06 164 WF55 143 09	■	6	WF	55	55	9	-	14.3	5
	MPU.Z31.M0800.L20	■	MWT06 164 WF55 173 09	■	6	WF	55	55	9	-	17.3	8
	MPU.Z34.M0800.SR20	■	MWT12 164 WF55 093 09	■	12	WF	55	55	9	-	9.3	0
	MPU.Z35.M0800.GA	■	MWT12 164 WF55 143 09	■	12	WF	55	55	9	-	14.3	5
	MPU.LSW.101.M0800.L20N	■	MWT12 164 WF55 173 09	■	12	WF	55	55	9	-	17.3	8
	WFV.M0800.R-K HSK	■	MWT12 164 WF55 093 12	■	12	WF	55	55	12	-	9.3	0
		■	MWT12 164 WF55 143 12	■	12	WF	55	55	12	-	14.3	5
		■	MWT12 164 WF55 173 12	■	12	WF	55	55	12	-	17.3	8
		■	MWT15 164 WF55 093 09	■	15	WF	55	55	9	-	9.3	0
	■	MWT15 164 WF55 093 12	■	15	WF	55	55	12	-	9.3	0	

\* Number of teeth

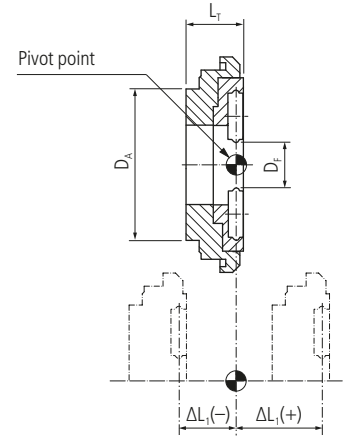


Type C

**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



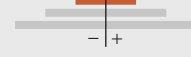
MWT...



Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>A</sub>	L <sub>T</sub>	$\Delta L_1$ ±	

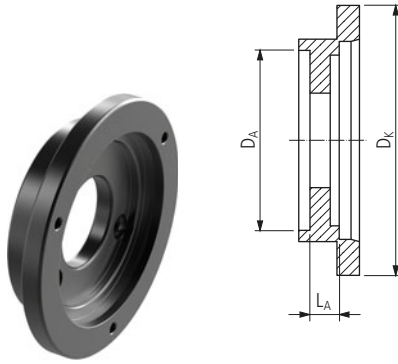
**PREMIUM-LINE**

Accuracy class of UTILIS □ 396

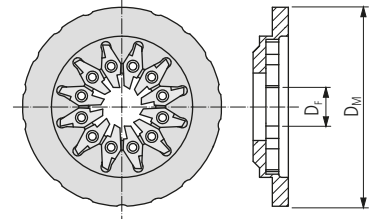


MADAULA	CZ.035.C16	■	MWT12 164 3546 169 03 QC	■	12	42	46	46	3	8.9	16.9	0	
PCM	LSW-215-000	■	MWT12 164 4060 130 09 QC	■	12	40	60	60	9	11	13	0	
	NN20-W15	■	MWT12 164 4060 130 12 QC	■	12	40	60	60	12	11	13	0	
	LSW-424-000	■	MWT12 164 3546 169 03 QC	■	12	42	46	46	3	8.9	16.9	0	
	GSW-210	SR-10J-GSW-010	■	MWT06 164 252838 120 07	■	6	25	38	28	7	6.5	12	0
			■	MWT06 164 252838 120 09	■	6	25	38	28	9	6.5	12	0
TORNOS	306101	■	MWT06 164 2536 126 07	■	6	28	36	36	7	6.6	12.6	0	
			MWT06 164 2536 126 09	■	6	28	36	36	9	6.6	12.6	0	
			MWT06 164 4057 105 07 QC	■	6	40	57	57	7	2	10.5	0	
			MWT06 164 4057 155 07 QC	■	6	40	57	57	7	7	15.5	5	
			MWT06 164 4057 185 07 QC	■	6	40	57	57	7	10	18.5	8	
			MWT06 164 4057 205 07 QC	■	6	40	57	57	7	12	20.5	10	
			MWT06 164 4057 105 09 QC	■	6	40	57	57	9	2	10.5	0	
			MWT06 164 4057 155 09 QC	■	6	40	57	57	9	7	15.5	5	
			MWT06 164 4057 185 09 QC	■	6	40	57	57	9	10	18.5	8	
			MWT06 164 4057 205 09 QC	■	6	40	57	57	9	12	20.5	10	
			MWT08 164 4057 105 09 QC	■	8	40	57	57	9	2	10.5	0	
			MWT08 164 4057 155 09 QC	■	8	40	57	57	9	7	15.5	5	
			MWT08 164 4057 185 09 QC	■	8	40	57	57	9	10	18.5	8	
			MWT08 164 4057 205 09 QC	■	8	40	57	57	9	12	20.5	10	
			MWT12 164 4057 105 09 QC	■	12	40	57	57	9	2	10.5	0	
			MWT12 164 4057 155 09 QC	■	12	40	57	57	9	7	15.5	5	
			MWT12 164 4057 185 09 QC	■	12	40	57	57	9	10	18.5	8	
			MWT12 164 4057 205 09 QC	■	12	40	57	57	9	12	20.5	10	
			MWT12 164 4057 105 12 QC	■	12	40	57	57	12	2	10.5	0	
			MWT12 164 4057 155 12 QC	■	12	40	57	57	12	7	15.5	5	
			MWT12 164 4057 185 12 QC	■	12	40	57	57	12	10	18.5	8	
			MWT12 164 4057 205 12 QC	■	12	40	57	57	12	12	20.5	10	
			MWT15 164 4057 105 09 QC	■	15	40	57	57	9	2	10.5	0	
			MWT15 164 4057 155 09 QC	■	15	40	57	57	9	7	15.5	5	
			MWT15 164 4057 185 09 QC	■	15	40	57	57	9	10	18.5	8	
MWT15 164 4057 205 09 QC	■	15	40	57	57	9	12	20.5	10				
MWT15 164 4057 105 12 QC	■	15	40	57	57	12	2	10.5	0				
MWT15 164 4057 155 12 QC	■	15	40	57	57	12	7	15.5	5				
MWT15 164 4057 185 12 QC	■	15	40	57	57	12	10	18.5	8				
MWT15 164 4057 205 12 QC	■	15	40	57	57	12	12	20.5	10				

\* Number of teeth



MWA...



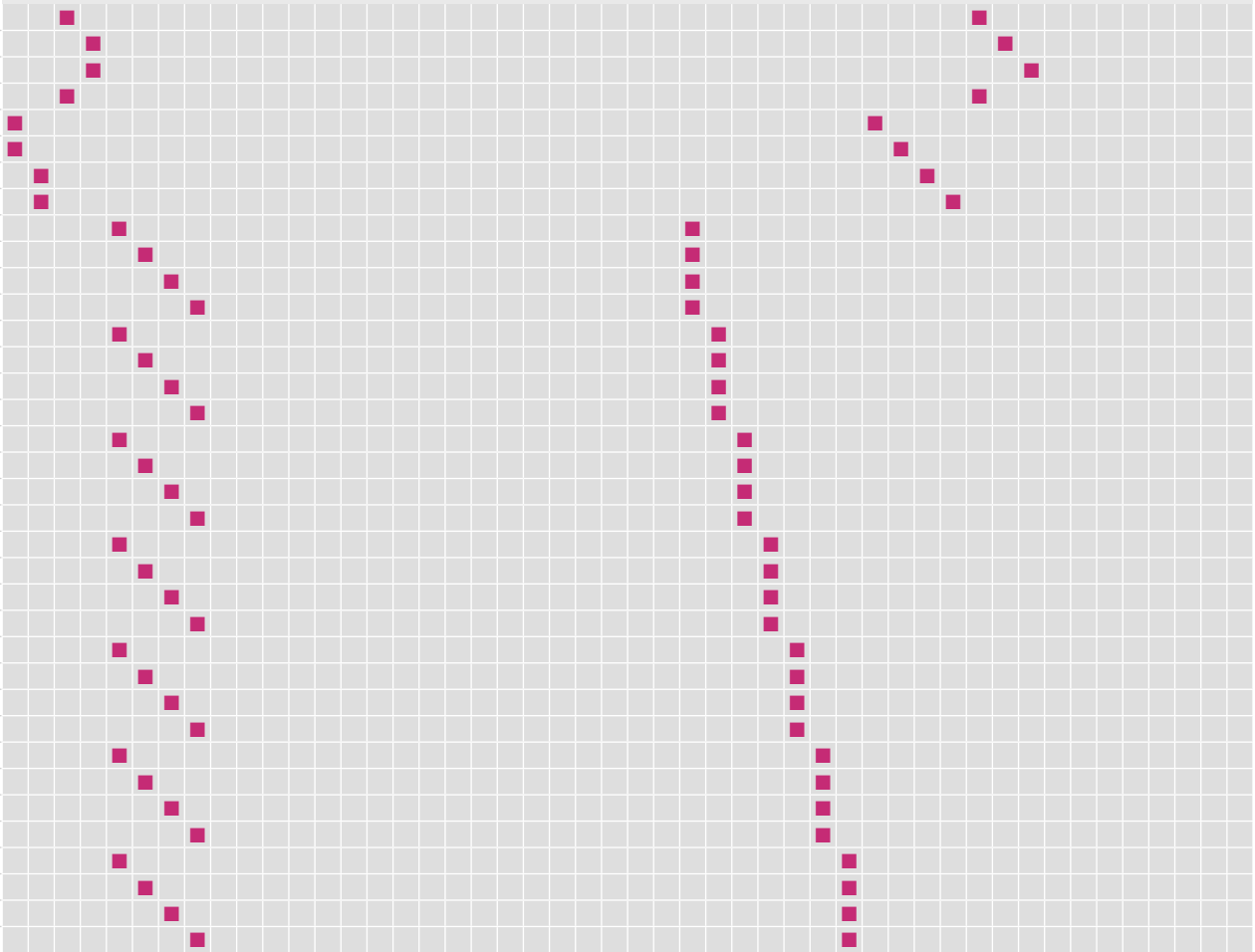
MWR...

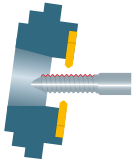
Adapter

- MWA 25M2438 065
- MWA 252836 066
- MWA 354046 089 QC
- MWA 404460 110 QC
- MWA 404657 020 QC
- MWA 404657 070 QC
- MWA 404657 100 QC
- MWA 404657 120 QC

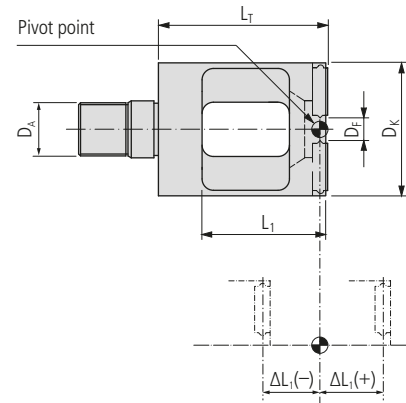
Whirling ring

- MWR06 164 4646 085 07 QC
- MWR06 164 4646 085 09 QC
- MWR08 164 4646 085 09 QC
- MWR12 164 4646 085 09 QC
- MWR12 164 4646 085 12 QC
- MWR15 164 4646 085 09 QC
- MWR15 164 4646 085 12 QC
- MWR06 164 M2435 055 07
- MWR06 164 M2435 055 09
- MWR06 164 2536 060 07 QC
- MWR06 164 2536 060 09 QC
- MWR12 164 4046 080 03 QC
- MWR12 164 4460 020 09 QC
- MWR12 164 4460 020 12 QC





**Attention**  
Only valid for inserts with 4 mm thickness ( $\Delta L_1$ )



MWT... (TORNOS)

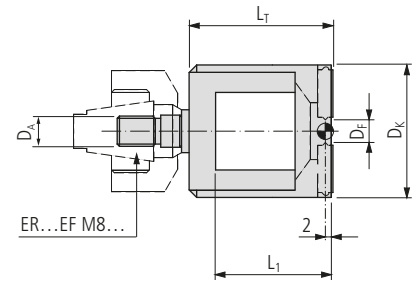
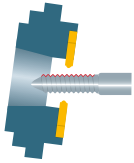
Driven toolholder		Whirling tool									
Manufacturer	Type	Order designation	Dimensions								
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	z*	L <sub>T</sub>	L <sub>1</sub>			$\Delta L_1$
											±
		Accuracy class of UTILIS $\square$ 396									
TORNOS	305115	■ MWT06 164 M1435 440 07 ■	6	M14	35	7	44	32.5			0

\* Number of teeth

466

**PREMIUM-LINE**

UTILIS  
**multidec**<sup>®</sup>  
swiss type tools

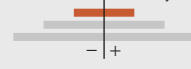


MWT... (ER)

Driven toolholder		Whirling tool							
Manufacturer	Type	Order designation	Dimensions						
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	z*	L <sub>T</sub>	L <sub>1</sub>	

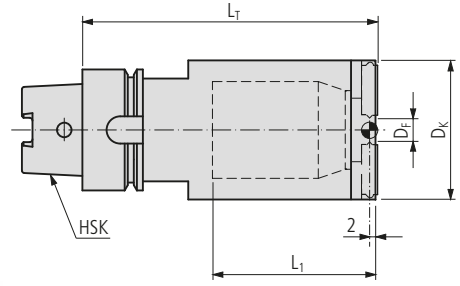
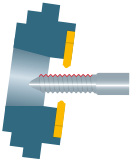
**PREMIUM-LINE**

Accuracy class of UTILIS □ 396



TORNOS	305115	■	MWT06 164 M1435 440 07	■	6	M14	35	7	44	32.5	
	418212	■	MWT12 164 M1441 440 09	■	12	M14	41	9	44	32.5	
	570952	■									
UTILIS	ER...EF...	■	MWT06 164 0400 07	■	6	M8	35	7	40	32.5	

\* Number of teeth  
\*\* Collets □ 670



MWT... HSK...

Driven toolholder		Whirling tool										
Manufacturer	Type	Order designation	Dimensions									
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>T</sub>	L <sub>1</sub>			

468

Accuracy class of UTILIS □ 396



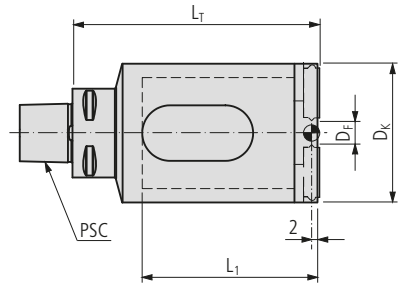
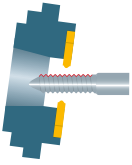
**PREMIUM-LINE**

Manufacturer	Type	Order designation	Color	D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>T</sub>	L <sub>1</sub>	Accuracy class of UTILIS □ 396	
											-	+
UTILIS	A 40	MWT06 164 2646 0950 09 HSK40 A	■	6	HSK40 A	46	46	9	89	95		
		MWT08 164 2646 0950 09 HSK40 A	■	8	HSK40 A	46	46	9	89	95		
		MWT12 164 2646 0950 09 HSK40 A	■	12	HSK40 A	46	46	9	89	95		
		MWT12 164 2646 0950 12 HSK40 A	■	12	HSK40 A	46	46	12	89	95		
		MWT15 164 2646 0950 09 HSK40 A	■	15	HSK40 A	46	46	9	89	95		
		MWT15 164 2646 0950 12 HSK40 A	■	15	HSK40 A	46	46	12	89	95		
	C 40	MWT25 164 3958 0710 09 HSK40 C	■	25	HSK40 C	58	58	9	61	71		
		MWT25 164 3958 0710 12 HSK40 C	■	25	HSK40 C	58	58	12	61	71		
		MWT06 164 2646 0920 09 HSK40 E	■	6	HSK40 E	46	46	9	86	92		
		MWT06 164 2646 0950 09 HSK40 E	■	6	HSK40 E	46	46	9	89	95		
	E 40	MWT08 164 2646 0920 09 HSK40 E	■	8	HSK40 E	46	46	9	86	92		
		MWT08 164 2646 0950 09 HSK40 E	■	8	HSK40 E	46	46	9	89	95		
		MWT12 164 2646 0920 09 HSK40 E	■	12	HSK40 E	46	46	9	86	92		
		MWT12 164 2646 0950 09 HSK40 E	■	12	HSK40 E	46	46	9	89	95		
		MWT12 164 2646 0920 12 HSK40 E	■	12	HSK40 E	46	46	12	86	92		
		MWT12 164 2646 0950 12 HSK40 E	■	12	HSK40 E	46	46	12	89	95		
		MWT15 164 2646 0920 09 HSK40 E	■	15	HSK40 E	46	46	9	86	92		
		MWT15 164 2646 0950 09 HSK40 E	■	15	HSK40 E	46	46	9	89	95		
		MWT15 164 2646 0920 12 HSK40 E	■	15	HSK40 E	46	46	12	86	92		
		MWT15 164 2646 0950 12 HSK40 E	■	15	HSK40 E	46	46	12	89	95		

\* Number of teeth







MWT... PSC...

Driven toolholder		Whirling tool										
Manufacturer	Type	Order designation	Dimensions									
			D <sub>F</sub>	D <sub>A</sub>	D <sub>K</sub>	D <sub>M</sub>	z*	L <sub>T</sub>	L <sub>1</sub>			

470

Accuracy class of UTILIS □ 396

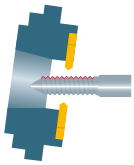


**PREMIUM-LINE**

UTILIS	PSC	■	MWT06 164 PSC3250 0880 09	■	6	PSC32	50	46	9	80	88	
			MWT08 164 PSC3250 0880 09	■	8	PSC32	50	46	9	80	88	
			MWT12 164 PSC3250 0880 09	■	12	PSC32	50	46	9	80	88	
			MWT12 164 PSC3250 0880 12	■	12	PSC32	50	46	12	80	88	
			MWT15 164 PSC3250 0880 09	■	15	PSC32	50	46	9	80	88	
			MWT15 164 PSC3250 0880 12	■	15	PSC32	50	46	12	80	88	

\* Number of teeth

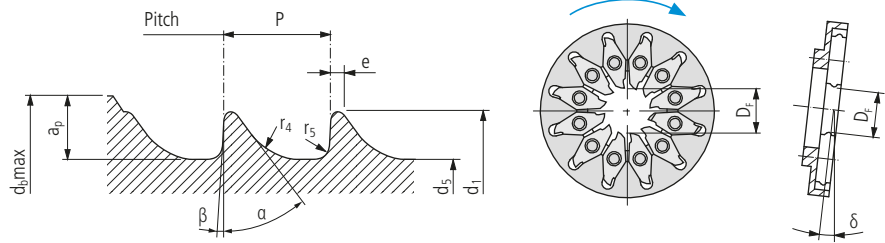




Threadwhirling full profile



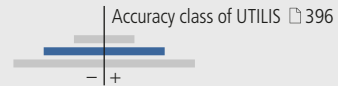
MWI... HA... VP



Order designation	Carbide						ISO 5835	Dimensions											
	UHM 10	UHM 10 HX	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX		D <sub>F</sub> *	d <sub>1</sub>	d <sub>5</sub>	Tolerance	P	δ	e	r <sub>4</sub>	r <sub>5</sub>	α/β	a <sub>p</sub>	d <sub>b</sub> max
	-	-	○	●	○	○		0/-0.15											

472

STANDARD-LINE



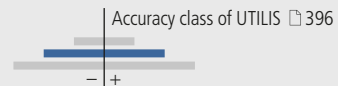
Order designation	Carbide	ISO 5835	D <sub>F</sub> *	d <sub>1</sub>	d <sub>5</sub>	Tolerance	P	δ	e	r <sub>4</sub>	r <sub>5</sub>	α/β	a <sub>p</sub>	d <sub>b</sub> max
MWI06 164 HA1.5 VP ...	■ ■ ■ ■ ■ ■	HA1.5	6	1.5	1.1	0/-0.1	0.5	7.3°	0.1	0.3	0.1	35°/3°	3	7
MWI06 164 HA2.0 VP ...	■ ■ ■ ■ ■ ■	HA2.0	6	2	1.3	0/-0.1	0.6	6.9°	0.1	0.4	0.1	35°/3°	3	7
MWI06 164 HA2.7 VP ...	■ ■ ■ ■ ■ ■	HA2.7	6	2.7	1.9	0/-0.15	1	8.1°	0.1	0.6	0.2	35°/3°	3	7.5
MWI12 164 HA1.5 VP ...	■ ■ ■ ■ ■ ■	HA1.5	12	1.5	1.1	0/-0.1	0.5	7.3°	0.1	0.3	0.1	35°/3°	4	9
MWI12 164 HA2.0 VP ...	■ ■ ■ ■ ■ ■	HA2.0	12	2	1.3	0/-0.1	0.6	6.9°	0.1	0.4	0.1	35°/3°	4	9
MWI12 164 HA2.7 VP ...	■ ■ ■ ■ ■ ■	HA2.7	12	2.7	1.9	0/-0.15	1	8.1°	0.1	0.6	0.2	35°/3°	4	9.5
MWI12 164 HA3.5 VP ...	■ ■ ■ ■ ■ ■	HA3.5	12	3.5	2.4	0/-0.15	1.25	7.9°	0.1	0.8	0.2	35°/3°	4	10
MWI12 164 HA4.0 VP ...	■ ■ ■ ■ ■ ■	HA4.0	12	4	2.9	0/-0.15	1.5	8.1°	0.1	0.8	0.2	35°/3°	4	10.5
MWI12 164 HA4.5 VP ...	■ ■ ■ ■ ■ ■	HA4.5	12	4.5	3	0/-0.15	1.75	8.6°	0.1	1	0.3	35°/3°	4	11
MWI12 164 HA5.0 VP ...	■ ■ ■ ■ ■ ■	HA5.0	12	5	3.5	0/-0.15	1.75	7.6°	0.1	1	0.3	35°/3°	4	11

UTILIS multidec swiss type tools

MWI... HB... VP

Order designation	Carbide						ISO 5835	Dimensions										
UHM 10	UHM 10 HX	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	D <sub>F</sub> *		d <sub>1</sub>	d <sub>5</sub>	Tolerance	P	δ	e	r <sub>4</sub>	r <sub>5</sub>	α/β	a <sub>p</sub>	d <sub>b</sub> max
	-	-	○	●	○	○		0/-0.15										

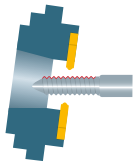
STANDARD-LINE



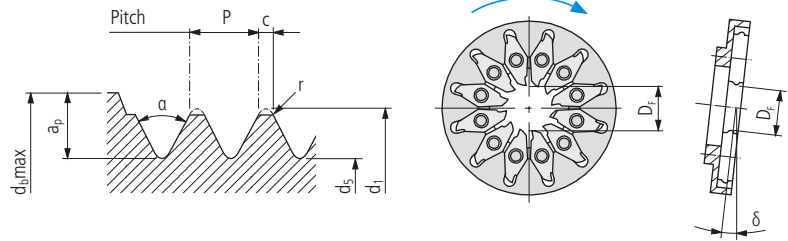
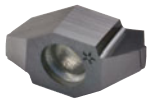
MWI12 164 HB4.0 VP ...	■ ■ ■ ■ ■ ■	HB4.0	12	4	1.9	0/-0.15	1.75	11°	0.1	0.8	0.3	25°/5°	4	9.5
MWI12 164 HB6.5 VP ...	■ ■ ■ ■ ■ ■	HB6.5	12	6.5	3	0/-0.15	2.75	10.6°	0.2	1.2	0.8	25°/5°	4	11

Execution of special thread profil □ 490

\* Note  
The flight circle [D<sub>F</sub>] of the insert must match that of the whirling head.



Threadwhirling full profile



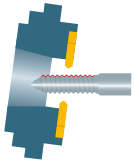
MWI... HC... VP

Order designation	Carbide						Standard	Dimensions											
	UHM 10	UHM 10 HX	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX		ISO 9268	D <sub>F</sub> *	d <sub>1</sub>	d <sub>5</sub>	P	δ	c	r	α	a <sub>p</sub>	d <sub>p</sub> max	
	○	○	○	○	○	○			min.	max.	min.	max.							
<p><b>STANDARD-LINE</b></p> <p>Accuracy class of UTILIS 396</p> <p>— +</p>																			
MWI06 164 HC2.9 VP ...	■	■	■	■	■	■	HC2.9	6	2.79	2.9	2.03	2.18	1.06	7.76°	0.1	0.05	60°	3	8.5
MWI06 164 HC3.5 VP ...	■	■	■	■	■	■	HC3.5	6	3.43	3.53	2.51	2.64	1.27	7.61°	0.1	0.05	60°	3	9
MWI06 164 HC3.9 VP ...	■	■	■	■	■	■	HC3.9	6	3.78	3.91	2.77	2.92	1.27	6.89°	0.1	0.05	60°	3	9.5
MWI06 164 HC4.2 VP ...	■	■	■	■	■	■	HC4.2	6	4.09	4.22	2.95	3.25	1.27	6.36°	0.1	0.05	60°	3	10
MWI12 164 HC2.9 VP ...	■	■	■	■	■	■	HC2.9	12	2.79	2.9	2.03	2.18	1.06	7.76°	0.1	0.05	60°	4	10.5
MWI12 164 HC3.5 VP ...	■	■	■	■	■	■	HC3.5	12	3.43	3.53	2.51	2.64	1.27	7.61°	0.1	0.05	60°	4	11
MWI12 164 HC3.9 VP ...	■	■	■	■	■	■	HC3.9	12	3.78	3.91	2.77	2.92	1.27	6.89°	0.1	0.05	60°	4	11.5
MWI12 164 HC4.2 VP ...	■	■	■	■	■	■	HC4.2	12	4.09	4.22	2.95	3.25	1.27	6.36°	0.1	0.05	60°	4	12

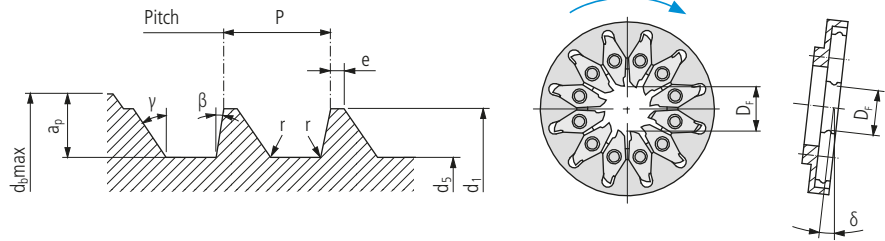
Execution of special thread profile 490

\* Note

The flight circle [D<sub>F</sub>] of the insert must match that of the whirling head.



Threadwhirling full profile



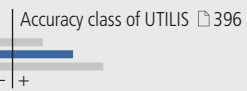
MWI... HD... VP

Order designation	Carbide □ 19						Standard	Dimensions										
	-	-	○	●	○	○		D <sub>F</sub> *	d <sub>1</sub>	d <sub>5</sub>	P	δ	e	r	γ	β	a <sub>p</sub>	d <sub>p,max</sub>
	UHM 10	UHM 10 HX	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	ISO 9268		±0.03	±0.03								

474

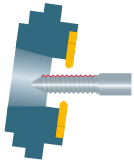
STANDARD-LINE

Order designation	Carbide □ 19		Standard	D <sub>F</sub> *	d <sub>1</sub>	d <sub>5</sub>	P	δ	e	r	γ	β	a <sub>p</sub>	d <sub>p,max</sub>
	■	■												
MWI06 164 HD4.0 VP ...	■	■	HD4.0	6	4	2.92	1.59	8.36°	0.1	0.01	45°	10°	3	9.5
MWI06 164 HD4.5 VP ...	■	■	HD4.5	6	4.5	2.92	2.18	10.64°	0.1	0.01	45°	10°	3	10
MWI12 164 HD4.0 VP ...	■	■	HD4.0	12	4	2.92	1.59	8.36°	0.1	0.01	45°	10°	4	11.5
MWI12 164 HD4.5 VP ...	■	■	HD4.5	12	4.5	2.92	2.18	10.64°	0.1	0.01	45°	10°	4	12

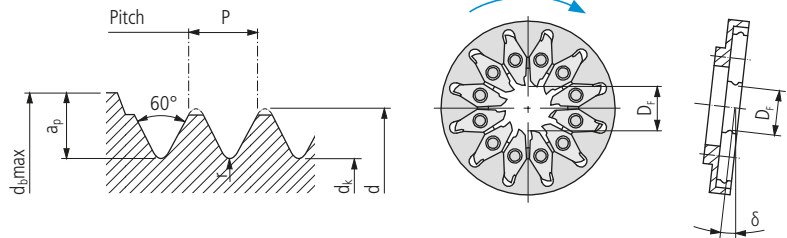
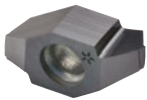


Execution of special thread profil □ 490

**\* Note**  
The flight circle {D<sub>F</sub>} of the insert must match that of the whirling head.



Threadwhirling full profile



MWI... M... VP

Order designation	Carbide □ 19						Standard	Dimensions							
	UHM 10	UHM 10 HX	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX		ISO DIN13	D <sub>F</sub> *	d	d <sub>k</sub>	P	δ	r	a <sub>p</sub>

**PREMIUM-LINE**

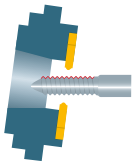
	UHM 10	UHM 10 HX	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	Standard	D <sub>F</sub> *	d	d <sub>k</sub>	P	δ	r	a <sub>p</sub>	d <sub>pmax</sub>
MWI06 164 M1.4 VP ...	■	■	■	■	■	■	M1.4	6	1.4	1.012	0.3	4.53°	0.033	3	6.5
MWI06 164 M1.6 VP ...	■	■	■	■	■	■	M1.6	6	1.6	1.151	0.35	4.63°	0.041	3	7
MWI06 164 M2x0.25 VP ...	■	■	■	■	■	■	M2x0.25	6	2	1.693	0.25	2.5°	0.036	3	7.5
MWI06 164 M2 VP ...	■	■	■	■	■	■	M2	6	2	1.509	0.4	4.17°	0.048	3	7
MWI06 164 M3x0.35 VP ...	■	■	■	■	■	■	M3x0.35	6	3	2.571	0.35	2.3°	0.051	3	8.5
MWI06 164 M3 VP ...	■	■	■	■	■	■	M3	6	3	2.387	0.5	3.39°	0.062	3	8
MWI12 164 M1.6 VP ...	■	■	■	■	■	■	M1.6	12	1.6	1.151	0.35	4.63°	0.041	4	9
MWI12 164 M2x0.25 VP ...	■	■	■	■	■	■	M2x0.25	12	2	1.693	0.25	2.5°	0.036	4	9.5
MWI12 164 M2 VP ...	■	■	■	■	■	■	M2	12	2	1.509	0.4	4.17°	0.048	4	9
MWI12 164 M2.5 VP ...	■	■	■	■	■	■	M2.5	12	2.5	1.928	0.45	3.7°	0.055	4	9.5
MWI12 164 M3x0.35 VP ...	■	■	■	■	■	■	M3x0.35	12	3	2.571	0.35	2.3°	0.051	4	10.5

**STANDARD-LINE**

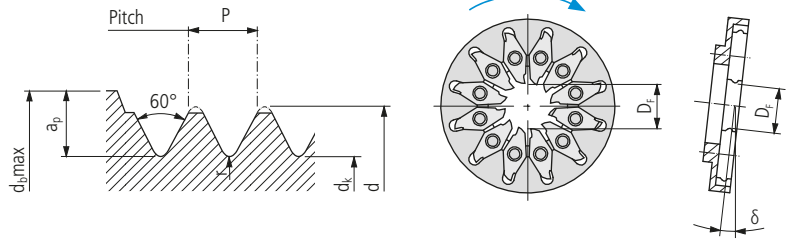
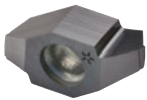
	UHM 10	UHM 10 HX	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	Standard	D <sub>F</sub> *	d	d <sub>k</sub>	P	δ	r	a <sub>p</sub>	d <sub>pmax</sub>
MWI12 164 M3 VP ...	■	■	■	■	■	■	M3	12	3	2.387	0.5	3.39°	0.062	4	10
MWI12 164 M3.5 VP ...	■	■	■	■	■	■	M3.5	12	3.5	2.744	0.6	3.5°	0.077	4	8.5
MWI12 164 M4x0.5 VP ...	■	■	■	■	■	■	M4x0.5	12	4	3.387	0.5	2.5°	0.072	4	11
MWI12 164 M4 VP ...	■	■	■	■	■	■	M4	12	4	3.141	0.7	3.58°	0.091	4	11
MWI12 164 M5x0.5 VP ...	■	■	■	■	■	■	M5x0.5	12	5	4.387	0.5	1.9°	0.072	4	12
MWI12 164 M5 VP ...	■	■	■	■	■	■	M5	12	5	4.019	0.8	3.24°	0.105	4	11.5
MWI12 164 M6x0.75 VP ...	■	■	■	■	■	■	M6x0.75	12	6	5.08	0.75	2.5°	0.108	4	13
MWI12 164 M6 VP ...	■	■	■	■	■	■	M6	12	6	4.773	1	3.39°	0.134	4	12.5
MWI12 164 M7 VP ...	■	■	■	■	■	■	M7	12	7	5.753	1	2.86°	0.134	4	13.5
MWI12 164 M8x0.75 VP ...	■	■	■	■	■	■	M8x0.75	12	8	7.08	0.75	1.8°	0.108	4	15
MWI12 164 M8 VP ...	■	■	■	■	■	■	M8	12	8	6.466	1.25	3.15°	0.17	4	14
MWI12 164 M8x1.0 VP ...	■	■	■	■	■	■	M8x1	12	8	6.773	1	2.5°	0.144	4	14.5
MWI12 164 M10x0.75 VP ...	■	■	■	■	■	■	M10x0.75	12	10	9.08	0.75	1.4°	0.108	4	17
MWI12 164 M10x1.0 VP ...	■	■	■	■	■	■	M10x1	12	10	8.773	1	1.9°	0.144	4	16.5
MWI12 164 M10x1.25 VP ...	■	■	■	■	■	■	M10x1.25	12	10	8.466	1.25	2.5°	0.18	4	16
MWI12 164 M10 VP ...	■	■	■	■	■	■	M10	12	10	8.16	1.5	3.01°	0.207	4	16

Execution of special thread profil □ 490

**\* Note**  
The flight circle {D<sub>F</sub>} of the insert must match that of the whirling head.



Threadwhirling full profile



MWI...UNC VP

Order designation	Carbide □ 19						Standard**	Dimensions									
	UHM 10	UHM 10 HX	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX		ANSI B1.1	D <sub>F</sub> *	d	d <sub>K</sub>	P	δ	r	a <sub>p</sub>	d <sub>b</sub> max	

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**PREMIUM-LINE**

MWI12 164 01-64UNC VP ...	■	■	■	■	■	■	01-64	12	1.854	1.347	0.397	4.51°			0.047	4	9.5
MWI12 164 02-56UNC VP ...	■	■	■	■	■	■	02-56	12	2.184	1.608	0.454	4.35°			0.055	4	10

**STANDARD-LINE**

MWI12 164 03-48UNC VP ...	■	■	■	■	■	■	03-48	12	2.515	1.845	0.529	4.42°			0.066	4	10
MWI12 164 04-40UNC VP ...	■	■	■	■	■	■	04-40	12	2.845	2.046	0.635	4.73°			0.082	4	10.5
MWI12 164 05-40UNC VP ...	■	■	■	■	■	■	05-40	12	3.175	2.376	0.635	4.17°			0.082	4	11
MWI12 164 06-32UNC VP ...	■	■	■	■	■	■	06-32	12	3.505	2.511	0.794	4.8°			0.105	4	11
MWI12 164 08-32UNC VP ...	■	■	■	■	■	■	08-32	12	4.166	3.172	0.794	3.94°			0.105	4	12
MWI12 164 10-24UNC VP ...	■	■	■	■	■	■	10-24	12	4.826	3.508	1.058	4.62°			0.143	4	12.5
MWI12 164 12-24UNC VP ...	■	■	■	■	■	■	12-24	12	5.486	4.168	1.058	3.99°			0.143	4	13
MWI12 164 1/4-20UNC VP ...	■	■	■	■	■	■	1/4-20	12	6.35	4.772	1.27	4.16°			0.173	4	14
MWI12 164 5/16-18UNC VP ...	■	■	■	■	■	■	5/16-18	12	7.95	6.199	1.411	3.63°			0.194	4	15.5
MWI12 164 3/8-16UNC VP ...	■	■	■	■	■	■	3/8-16	12	9.525	7.557	1.588	3.39°			0.219	4	17

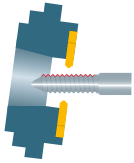
\*\* Tolerance class 2A and 3A on customer request

Execution of special thread profil □ 490

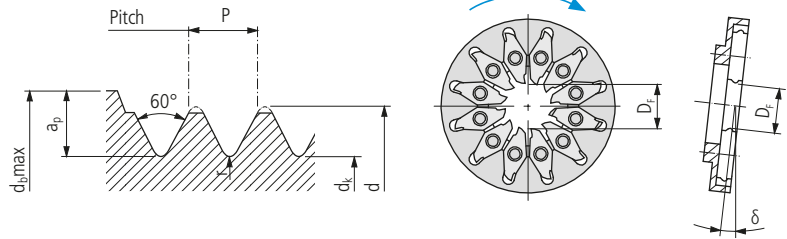
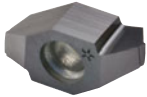
**\* Note**  
The flight circle {D<sub>F</sub>} of the insert must match that of the whirling head.

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Threadwhirling full profile



MWI...UNF VP

Order designation	Carbide □ 19						Standard**	Dimensions									
	UHM 10	UHM 10 HX	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX		D <sub>F</sub> *	d	d <sub>K</sub>	P	δ	r	a <sub>p</sub>	d <sub>p,max</sub>		
	●	○	○	○	○	○	ANSI B1.1										

PREMIUM-LINE

Order designation	Material	Standard**	D <sub>F</sub> *	d	d <sub>K</sub>	P	δ	r	a <sub>p</sub>	d <sub>p,max</sub>
MWI12 164 00-80UNF VP ...	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	00-80	12	1.524	1.114	0.318	4.38°	0.036	4	9
MWI12 164 01-72UNF VP ...	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	01-72	12	1.854	1.401	0.353	3.95°	0.041	4	9.5
MWI12 164 02-64UNF VP ...	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	02-64	12	1.727	1.22	0.397	4.90°	0.047	4	9.5
MWI12 164 03-56UNF VP ...	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	03-56	12	2.515	1.938	0.454	3.71°	0.055	4	10

STANDARD-LINE

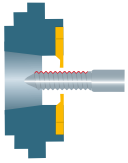
Order designation	Material	Standard**	D <sub>F</sub> *	d	d <sub>K</sub>	P	δ	r	a <sub>p</sub>	d <sub>p,max</sub>
MWI12 164 04-48UNF VP ...	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	04-48	12	2.845	2.176	0.529	3.84°	0.066	4	10.5
MWI12 164 05-44UNF VP ...	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	05-44	12	3.175	2.447	0.577	3.74°	0.073	4	11
MWI12 164 06-40UNF VP ...	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	06-40	12	3.505	2.706	0.635	3.72°	0.082	4	11
MWI12 164 08-36UNF VP ...	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	08-36	12	4.166	3.28	0.706	3.45°	0.092	4	12
MWI12 164 10-32UNF VP ...	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	10-32	12	4.826	3.832	0.794	3.34°	0.105	4	10.5
MWI12 164 12-28UNF VP ...	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	12-28	12	5.486	4.354	0.907	3.36°	0.121	4	11
MWI12 164 1/4-28UNF VP ...	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	1/4-28	12	6.35	5.217	0.907	2.86°	0.121	4	14
MWI12 164 5/16-24UNF VP ...	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	5/16-24	12	7.95	6.632	1.058	2.65°	0.143	4	15.5
MWI12 164 3/8-24UNF VP ...	■ ■ ■ ■ ■ ■ ■ ■ ■ ■	3/8-24	12	9.525	8.207	1.058	2.18°	0.143	4	17.5

\*\* Tolerance class 2A and 3A on customer request

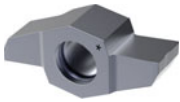
Execution of special thread profil □ 490

\* Note

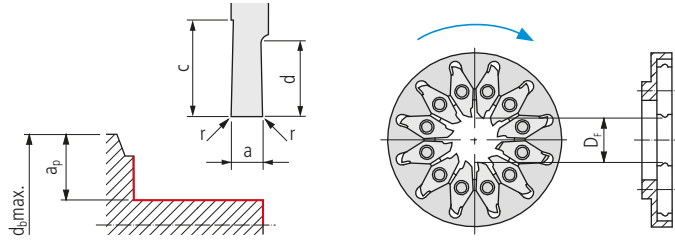
The flight circle {D<sub>F</sub>} of the insert must match that of the whirling head.



Cylindrical whirling



MWI... 1603...



Order designation	Carbide						Dimensions						
	UHM 10	UHM 10 HX	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX	D <sub>F</sub> *	a	c	d	r	a <sub>p</sub>	d <sub>p</sub> max
	-	-	○	○	○	○							
	○	○	○	○	○	○							
	●	○	-	-	-	-							

**STANDARD-LINE**

Accuracy class of UTILIS 396

MWI12 1603-0.4-3.5 ...	■	■	■	■	■	■	12	4	4	4				0.05	4	d+(2 × a <sub>p</sub> )
MWI12 1605-3.5-3.5 ...	■	■	■	■	■	■	12	3.5	3.5	3.5				0.05	4	d+(2 × a <sub>p</sub> )

**\* Note**  
The flight circle {D<sub>F</sub>} of the insert must match that of the whirling head.

UTILIS  
**multidec**  
swiss type tools

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The multidec®-WHIRLING box contains tools for daily use on the machine. The protective foam inlay ensures that the parts are always located at the same place in the case. Spaces are provided for the whirling head for specific applications and the matching whirling plates (4 unmounted sets in all). Dummies can be supplied optionally to protect vacant plate positions.



Illustration with whirling head and plates (these have to be ordered separately)

#### Contents:

- Handle for torque screwdriver 1.2 Nm
- Alternative torque screwdriver blade for Torx screws
- Allen key
- High performance grease
- Spare screws for the whirling adapter and whirling ring
- Spare Torx screws for the indexing plates

#### STARTER-SET

Order designation

Starter-Set

The digital inclinometer gives you more flexibility in machine set-up and adjusting the thread pitch angle. The calculation and complicated movement by a certain distance are not required, particularly since the space situation in machines is not always the best. The UMI DI-490 (MEMS principle = Micro-Electro-Mechanical System) consists of a compact housing. Three magnets on the underside makes the attachment in the machine compartment easier. The zero point can be calibrated and stored internally, in order to change between relative and absolute measurement at any time.



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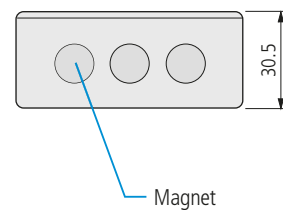
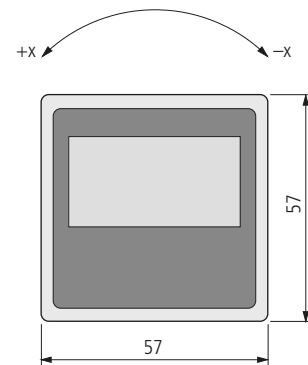
UTILIS  
**multidec**<sup>®</sup>  
swiss type tools

UMI ...

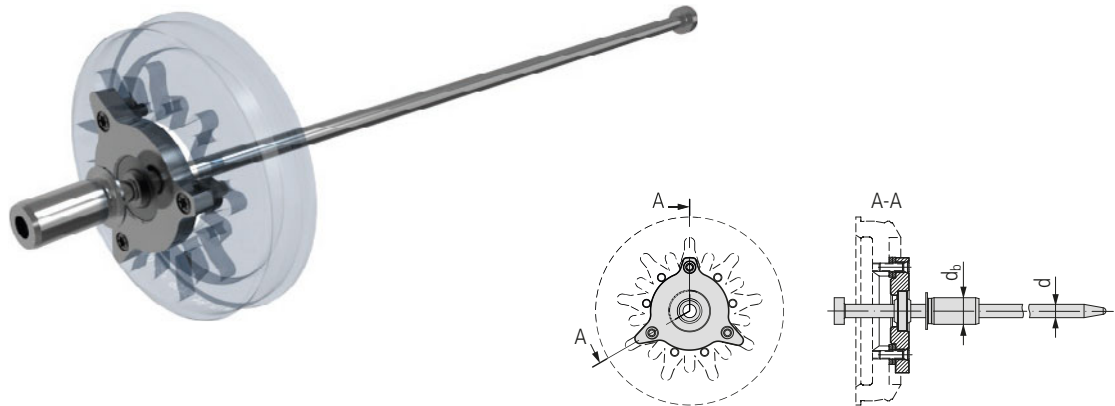
Order designation	
UMI DI-490	■

**Technical data:**

- Measuring accuracy 0.2°
- Measuring range (X) 4 × 90°
- Display resolution 0.05°
- Temperature range 0 to 40 °C
- Weight 200 g
- Protection class IP54



Centering device for manual adjustment of the point height compensation with 3 different sizes of centering adapter for the guide bushing.



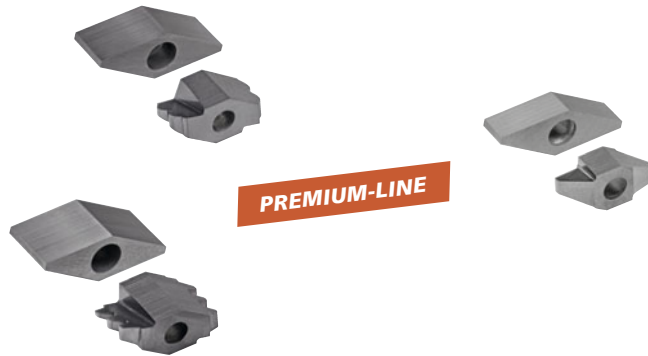
MWV...

Order designation		Dimensions			
		$D_F$	$d$	$d_b$	$z$
MWV06 07 402000	■	6	4	6, 8, 10	7
MWV06 00 402000	■	6	4	6, 8, 10	9, 12
MWV12 00 402000	■	12	4	6, 8, 10	9, 12
MWV15 00 402000	■	15	4	6, 8, 10	9, 12
MWV25 00 402000	■	25	4	6, 8, 10	9, 12

TORX screwdriver □ 664

**Explanation:**

- $D_F$  Cutting edge flying circle
- $d$  Needle diameter
- $d_b$  Bar diameter of guide bushing
- $z$  Number of whirling tool teeth

**Product description**

Development and production of multidec® tools for your own specific needs.

**Customer's situation**

A special machining method makes it impossible or difficult to use tools from the standard multidec® range. You need a special insert, a special tool or coating which is not included in our standard product range.

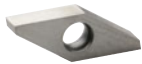
**UTILIS solution**

After detailed consultation, we will develop and make the best multidec® solution for your particular needs. Normally this will be done using standard blanks which enable the special tools to be produced and delivered quickly and at reasonable cost. The familiar multidec® quality is of course always guaranteed.

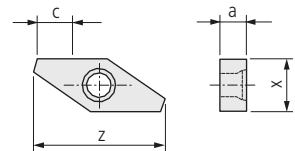
**Advantages:**

- UTILIS know-how and quality also for special tools
- Standard blanks permit fast and reasonably priced delivery
- Tools developed to meet your specific needs

Blank



1601-4.../6.../8...



1601...

Order designation	Carbide □ 19						Dimensions				Holder	
	-	-	○	●	○	○	a	c	x	z		
	○	●	○	○	○	○						
	●	○	-	-	-	-						
	UHM10	UHM 10 HX	UHM 20	UHM 20 HPX	UHM 30	UHM 30 HX						



Accuracy class of UTILIS □ 396	-				+				
	4	5	6	16	4	5	6	16	
1601-4-5 N ...	■	■	■	■	■	■	■	■	MWR... / MWT...
1601-6-5 N ...			■	■	■	■	■	■	MWR... / MWT...
1601-8-5 N ...					■	■			MWR... / MWT...

**STANDARD-LINE**








Execution of special thread profil □ 482

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For inserts

Illustration	Description	Dimensions	Order designation	Inserts
	TORX screw	M2.5 × 6	MSP 25060 T08	■
		M2.5 × 7	MSP 25070 T08	■
		M2.5 × 9	MSP 25090 T08	■
	UTILIS MWI-Dummy		MWI DUMMY	■

For whirling tool/adapter

Illustration	Description	Dimensions	Order designation	Holder
	Flat-head socket screw	M3 × 8	MSP 30080 SE IB2.5	■
		M3 × 12	MSP 30120 SE IB2.5	■
		M4 × 6	MSP 40060 SE IB2.5	■
		M4 × 10	MSP 40100 SE IB2.5	■
		M4 × 12	MSP 40120 SE IB2.5	■
		M4 × 14	MSP 40140 SE IB2.5	■
	Socket head screw	M3 × 4	MSP 30040 IB2.5	■
		M3 × 6	MSP 30060 IB2.5	■
		M3 × 7	MSP 30070 IB2.5	■
		M3 × 8	MSP 30080 IB2.5	■
		M3 × 10	MSP 30100 IB2.5	■
		M3 × 12	MSP 30120 IB2.5	■
		M3 × 16	MSP 30160 IB2.5	■
		M3 × 20	MSP 30200 IB2.5	■
		M3 × 25	MSP 30250 IB2.5	■
		M4 × 8	MSP 40080 IB3	■
		M4 × 10	MSP 40100 IB3	■
		M4 × 12	MSP 40120 IB3	■
		M4 × 14	MSP 40140 IB3	■
		M4 × 16	MSP 40160 IB3	■
		Socket head screw DIN 7984	M3 × 8	MSP 30080 NK IB2.5
M3 × 16	MSP 30160 NK IB2.5		■	
M4 × 6	MSP 40060 LK IB2.5		■	
	Butt head screw	M4 × 10	MSP 40100 LK IB2.5	■
		M4 × 16	MSP 40160 LK IB2.5	■
		M4 × 16	MSP 40160 LK IB2.5	■
	TORX screw	M3 × 7.3	MSP 30073 T08	■
		M3 × 9	MSP 30090 T08	■
		M3 × 11	MSP 30110 TP09 Torx Plus	■
		M3 × 16	MSP 30160 TP08 Torx Plus	■
		M3 × 7.3	MSP 30073 T10	■
		M4 × 9	MSP 40090 T15	■
		M4 × 11	MSP 40110 TP15 Torx Plus	■
M4 × 14.4	MSP 40144 TP15 Torx Plus	■		
	Set screw / grub screw	M3 × 5	MSP 30050 IB1.5	■
	Allen key	SW 1.5	MSP IB1.5	■
		SW 2	MSP IB2	■
		SW 2.5	MSP IB2.5	■
		SW 3	MSP IB3	■
		SW 4	MSP IB4	■
		SW 5	MSP IB5	■
		SW 6	MSP IB6	■
		SW 8	MSP IB8	■
		SW 10	MSP IB10	■
	TORX screwdriver	T08	MSP TX-S08	■
		T09	MSP TX-S09	■
		T10	MSP TX-S10	■
		T15	MSP TX-S15	■
		TP08	MSP TXP-S08 Torx Plus	■
		TP09	MSP TXP-S09 Torx Plus	■
		TP10	MSP TXP-S10 Torx Plus	■
		TP15	MSP TXP-S15 Torx Plus	■

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$$\tan \delta = \frac{P}{\pi \cdot d_4}$$

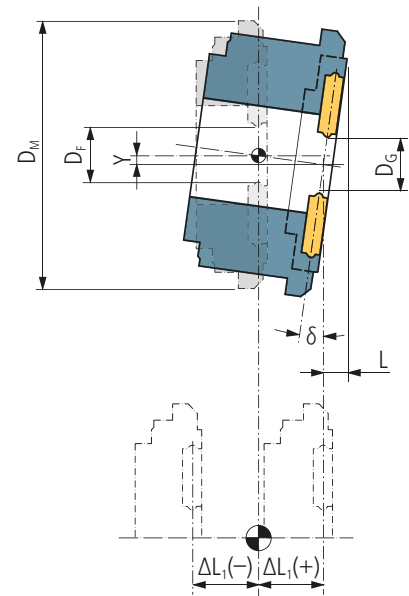
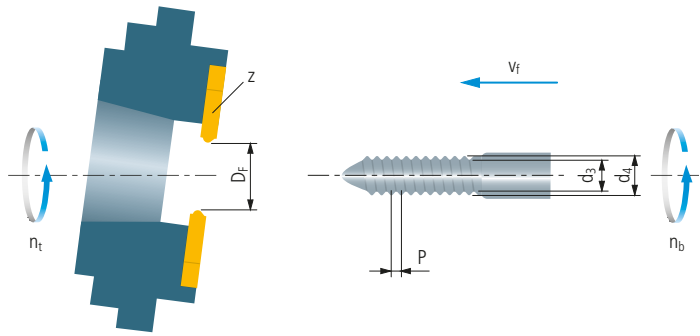
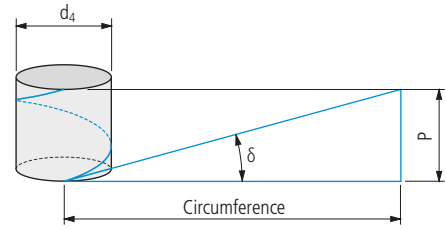
$$\delta = \frac{\arctan \cdot P}{\pi \cdot d_4}$$

$$v_f = z \cdot f_z \cdot n_t$$

$$n_t = \frac{v_c \cdot 1000}{\pi \cdot D_F}$$

$$n_b = \frac{v_f}{\pi \cdot d_3}$$

$$Y = \sin \delta \cdot \Delta L_1$$



Please visit our website [www.utilis.com](http://www.utilis.com) for further thread whirling calculations

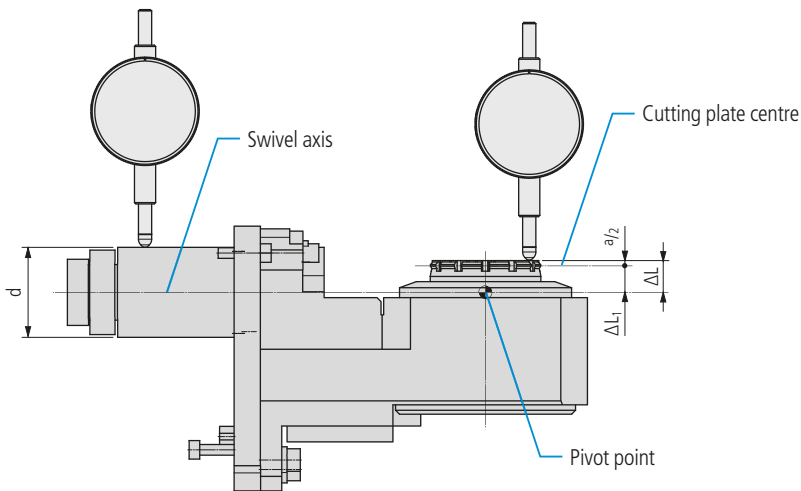
### Explanation

- d<sub>3</sub> Core diameter (mm)
- d<sub>4</sub> Thread diameter of work piece (mm)
- D<sub>F</sub> Flight circle (mm)
- D<sub>G</sub> Max. bar passage diameter (mm)
- D<sub>M</sub> Ring diameter outside (mm)
- f<sub>z</sub> Feed per tooth (mm)
- L Overhang length (mm)
- ΔL<sub>1</sub> Positioning relative to the pivot point (mm)
- n<sub>t</sub> Tool revolutions (rev/min)
- n<sub>b</sub> Work piece revolutions (rev/min)
- P Pitch (mm)
- v<sub>f</sub> Work piece feed (mm/min)
- v<sub>c</sub> Cutting speed (m/min)
- Y Tip height adjustment
- z Number of teeth
- δ Lead angle (°)

The measurement of the length difference  $\Delta L_1$  is appropriate for determination when the following situations exist:

- New whirling tool or holder
- Checking the  $\Delta L_1$
- After a machine collision
- Point height compensation

Outside the machine the length difference  $\Delta L_1$  must be determined using the height measuring device for calculating the point height and correcting it if necessary using the following procedure:



1. The swivel axis is usually the centre axis of the arbor. In order to do this, the diameter  $d$  must be measured and halved. This position must be zeroed and used as a reference for further measurement.

2. We take the uppermost surface of the cutting edge as the second measuring point. The difference results in  $\Delta L$

3. Use dimension  $a/2$  (half the cutting edge width) in accordance with the whirling tool designation for the remaining calculation. The length difference  $\Delta L_1$  is calculated from this, whereby the exact point height compensation can be adjusted.

See usage examples □ 485

Whirling tool designation	$a/2$	$\Delta L$	$\Delta L_1 = \Delta L - a/2$
MWT.. 164 ... .. .	2		
MWT.. 166 ... .. .	3		
MWT.. 168 ... .. .	4		



## Overhang length

Angle $\delta$	Distance (Ring diameter outside)						
	L (D <sub>M</sub> = 25)	L (D <sub>M</sub> = 42)	L (D <sub>M</sub> = 44)	L (D <sub>M</sub> = 45)	L (D <sub>M</sub> = 46)	L (D <sub>M</sub> = 48)	L (D <sub>M</sub> = 58)
0°	2	2	2	2	2	2	2
1°	2.4	2.7	2.8	2.8	2.8	2.8	3
2°	2.9	3.5	3.5	3.6	3.6	3.7	4
3°	3.3	4.2	4.3	4.4	4.4	4.5	5
4°	3.7	4.9	5.1	5.1	5.2	5.4	6.1
5°	4.2	5.7	5.8	5.9	6	6.2	7.1
6°	4.6	6.4	6.6	6.7	6.8	7	8.1
7°	5.1	7.2	7.4	7.5	7.6	7.9	9.1
8°	5.5	7.9	8.2	8.3	8.5	8.7	10.2
9°	6	8.7	9	9.1	9.3	9.6	11.2
10°	6.4	9.4	9.8	9.9	10.1	10.5	12.2
11°	6.9	10.2	10.6	10.7	10.9	11.3	13.3
12°	7.3	10.9	11.4	11.6	11.8	12.2	14.3
13°	7.8	11.7	12.2	12.4	12.6	13.1	15.4
14°	8.2	12.5	13	13.2	13.5	14	16.5
15°	8.7	13.3	13.8	14.1	14.3	14.9	17.5
16°	9.2	14	14.6	14.9	15.2	15.8	18.6
17°	9.6	14.8	15.5	15.8	16.1	16.7	19.7
18°	10.1	15.6	16.3	16.6	16.9	17.6	20.8
19°	10.6	16.5	17.2	17.5	17.8	18.5	22
20°	11.1	17.3	18	18.4	18.7	19.5	23.1
21°	11.6	18.1	18.9	19.3	19.7	20.4	24.3
22°	12.1	19	19.8	20.2	20.6	21.4	25.4
23°	12.6	19.8	20.7	21.1	21.5	22.4	26.6
24°	13.1	20.7	21.6	22	22.5	23.4	27.8
25°	13.7	21.6	22.5	23	23.5	24.4	29

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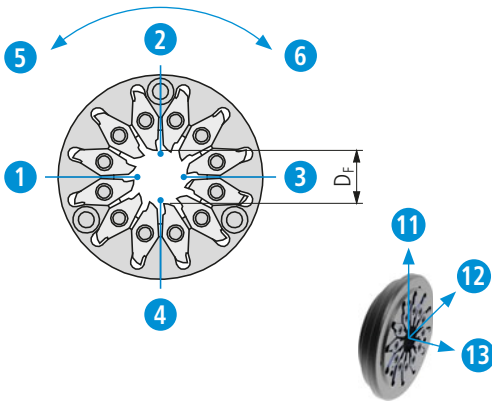
## Max. bar passage diameter

Angle $\delta$	Distance			
	D <sub>G</sub>	D <sub>G</sub>	D <sub>G</sub>	D <sub>G</sub>
<b>0° (D<sub>F</sub> = D<sub>G</sub>)</b>	<b>6</b>	<b>12</b>	<b>15</b>	<b>25</b>
1°	6	12	15	25
2°	6	11.99	14.99	24.98
3°	5.99	11.98	14.98	24.97
4°	5.99	11.97	14.96	24.94
5°	5.98	11.95	14.94	24.9
6°	5.97	11.93	14.92	24.86
7°	5.96	11.91	14.89	24.81
8°	5.94	11.88	14.85	24.76
9°	5.93	11.85	14.82	24.69
10°	5.91	11.82	14.77	24.62
11°	5.89	11.78	14.72	24.54
12°	5.87	11.74	14.67	24.45
13°	5.85	11.69	14.62	24.36
14°	5.82	11.64	14.55	24.26
15°	5.8	11.59	14.49	24.15
16°	5.77	11.54	14.42	24.03
17°	5.74	11.48	14.34	23.91
18°	5.71	11.41	14.27	23.78
19°	5.67	11.35	14.18	23.64
20°	5.64	11.28	14.1	23.49
21°	5.6	11.2	14	23.34
22°	5.56	11.13	13.91	23.18
23°	5.52	11.05	13.81	23.01
24°	5.48	10.96	13.7	22.84
25°	5.44	10.88	13.59	22.66

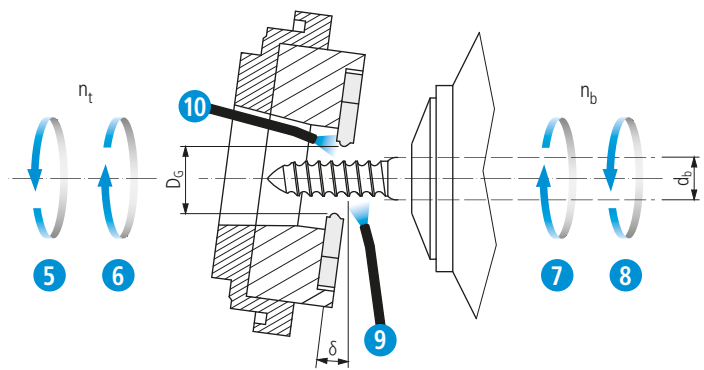
	Steel unalloyed			Steel low alloyed			Steel high alloyed			Titanium		
Hardness value (HB)	125–300			180–250			200–350			–		
Category	I			II			III			IV		
Machining method	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼
Feed per tooth	$f_z$ (mm)											
	–	0.02–0.15	0.005–0.08	–	0.02–0.15	0.005–0.08	–	0.02–0.15	0.005–0.08	–	0.01–0.08	0.005–0.05
Depths of cut	$a_p$ (mm)											
MWI06	3											
MWI12/15/25	4											
Cutting speeds	$v_c$ (m/min)											
Cutting material carbide												
UHM 20	–	50–80	50–100	–	40–80	40–90	–	30–70	30–80	–	50–80	80–120
UHM 20 HPX	–	80–180	120–220	–	50–140	100–180	–	50–120	80–160	–	80–120	100–150
UHM 30	–	50–80	50–100	–	40–80	40–90	–	30–70	30–80	–	50–80	80–120
UHM 30 HX	–	80–180	120–220	–	50–140	100–180	–	50–120	80–160	–	80–120	100–150

	Stainless steel			Stainless steel			Aluminum			Brass		
Hardness value (HB)	180–220			220–330			60–130			–		
Category	V			VI			VII			VIII		
Machining method	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼	▼	▼▼	▼▼▼
Feed per tooth	$f_z$ (mm)											
	–	0.01–0.1	0.005–0.05	–	0.01–0.1	0.005–0.05	–	–	–	–	0.02–0.15	0.005–0.1
Depths of cut	$a_p$ (mm)											
MWI06	3											
MWI12/15/25	4											
Cutting speeds	$v_c$ (m/min)											
Cutting material carbide												
UHM 20	–	50–100	50–150	–	30–70	40–80	–	–	–	–	50–140	50–160
UHM 20 HPX	–	80–150	100–250	–	50–100	70–120	–	–	–	–	–	–
UHM 30	–	50–100	50–150	–	30–70	40–80	–	–	–	–	50–140	50–160
UHM 30 HX	–	80–150	100–250	–	50–100	70–120	–	–	–	–	–	–

Cutting position



Turning direction of whirling unit



Turning direction of the bar

Machine specifications				
Manufacturer				
Type				
Manufacturer of driven tool				
Type of driven tool				
Flight circle $D_f$	[mm]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		6	12	15 25
Mounting place (turret, gang rack, elsewhere)				
Enter axes (X, Y, Z)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		11	12	13
High pressure cooling?	[bar]	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		≤30	>30	No
Cooling direction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		9	10	
Turning direction of whirling unit	[ $n_t$ ]	<input type="checkbox"/>	<input type="checkbox"/>	
	$n_t = n_b$	5	6	

Material				
Designation	(DIN)			
Bar diameter	[ $d_b$ ]			
Turning direction of the bar	[ $n_b$ ]	<input type="checkbox"/>	<input type="checkbox"/>	
	$n_b = n_t$	7	8	
Cutting position		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		1	2	3 4

Insert				
Thread drawing	(No.)			
Full profile	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		Yes	No	
Number of thread starts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		1	2	3
Coating	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
		Yes	No	

490  
UTILIS multidec® swiss type tools

Company \_\_\_\_\_

Responsible person \_\_\_\_\_

Road \_\_\_\_\_

Postal code, City \_\_\_\_\_

Phone \_\_\_\_\_

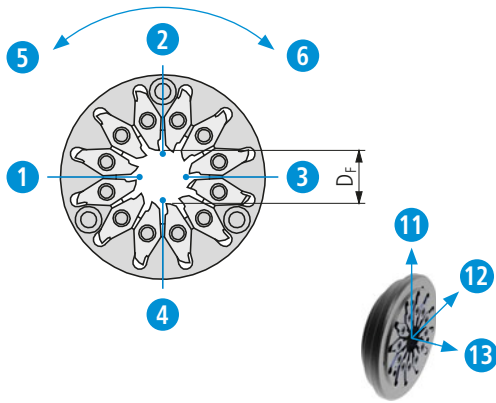
Fax \_\_\_\_\_

E-mail \_\_\_\_\_

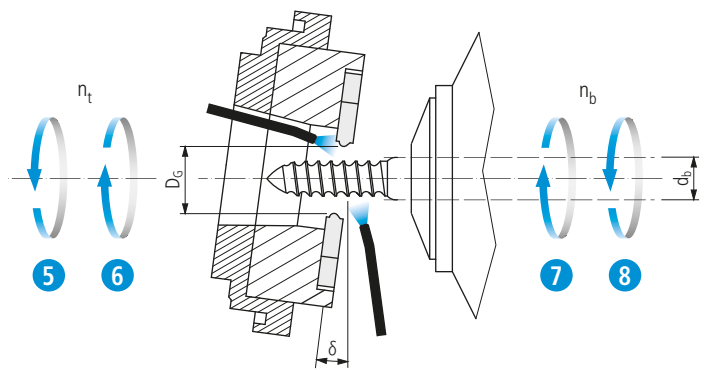


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info@utilis.com, www.utilis.com

Cutting position



Turning direction of whirling unit



Turning direction of the bar

**Machine specifications**

Turning direction of whirling unit	[n <sub>t</sub> ]	<input type="checkbox"/>	<input type="checkbox"/>
	n <sub>t</sub> = n <sub>b</sub>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
High-pressure cooling in place?	[bar]	<input type="checkbox"/>	<input type="checkbox"/>
	≤30 >30 No	<input type="checkbox"/>	<input type="checkbox"/>
Is the guide bush set flush?		<input type="checkbox"/>	<input type="checkbox"/>
	Yes No	<input type="checkbox"/>	<input type="checkbox"/>
Distance to the guide bush	[<d <sub>b</sub> ]		

**Driven tool**

Manufacturer			
Type			
Has the gradient angle been set?	[°]	<input type="checkbox"/>	<input type="checkbox"/>
	Yes No	<input type="checkbox"/>	<input type="checkbox"/>
Enter axes (X, Y, Z)		<input type="checkbox"/>	<input type="checkbox"/>
		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Center height corrected?		<input type="checkbox"/>	<input type="checkbox"/>
	Yes No	<input type="checkbox"/>	<input type="checkbox"/>
Type of whirling head			
Concentricity set to max. 5 μm?		<input type="checkbox"/>	<input type="checkbox"/>
	Yes No	<input type="checkbox"/>	<input type="checkbox"/>
Condition of whirling head	(MWT...)		

**Material**

Bar diameter	[d <sub>b</sub> ]		
Turning direction of the bar	[n <sub>b</sub> ]	<input type="checkbox"/>	<input type="checkbox"/>
	n <sub>b</sub> = n <sub>t</sub>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Cutting position		<input type="checkbox"/>	<input type="checkbox"/>
		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Cutting speed / feed	[v <sub>f</sub> / f <sub>z</sub> ]		
Problem with chips?		<input type="checkbox"/>	<input type="checkbox"/>
	Yes No	<input type="checkbox"/>	<input type="checkbox"/>
Vibrations?		<input type="checkbox"/>	<input type="checkbox"/>
	Yes No	<input type="checkbox"/>	<input type="checkbox"/>

**Insert**

Order designation		
Cutting edge screwed tight with 1.2 Nm?	<input type="checkbox"/>	<input type="checkbox"/>
	Yes No	<input type="checkbox"/>
Centre of profile at point of rotation?	<input type="checkbox"/>	<input type="checkbox"/>
	Yes No	<input type="checkbox"/>
Distance to point of rotation	[mm]	
Cutting from the same production batch?	<input type="checkbox"/>	<input type="checkbox"/>
	Yes No	<input type="checkbox"/>
Are cutting edges evenly worn?	<input type="checkbox"/>	<input type="checkbox"/>
	Yes No	<input type="checkbox"/>
Cutting edges cleaned prior to fitting/change?	<input type="checkbox"/>	<input type="checkbox"/>
	Yes No	<input type="checkbox"/>

Tool Systems enables UTILIS inserts to be used on various well-known lathe tool systems. High quality UTILIS inserts like multidec®-CUT, -TOP and -BORE MICRO can therefore also be fitted on other manufacturers' cutting tool interfaces. This gives users maximum flexibility and independence. On the following pages, UTILIS proposes a wide range of holders for tool systems and machine-based tool systems.

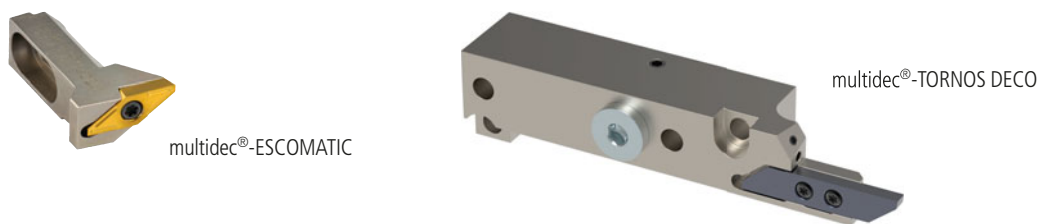
**Tool systems for turning machines and Swiss-type automatic lathes**



**Tool system for turn-mill machines**






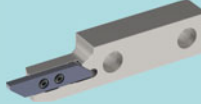



**Machine-based tool systems**





Technical information 9


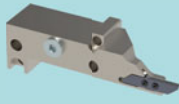

Tool systems for turning machines and Swiss type automatic lathes

Overview multidec®-SHORT		495
Overview multidec®-BACKTOOLS		503
Overview multidec®-MODULINE		533
Overview multidec®-TECKO		543
Overview multidec®-KM™		549
Overview multidec®-HSK		561
Overview multidec®-PSC		573

Tool system for turn-mill machines

Overview multidec®-MULTITASK		583
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Machine-based tool systems

Overview multidec®-ESCOMATIC		607
Overview multidec®-TORNOS DECO		615
Accessories		625

multidec®-SHORT is a range of holders with short holders multidec®-CUT, -ISO and -TOP indexable inserts. All holders are equipped with internal cooling.



**Benefits:**

- All holders feature three connecting options for the coolant supply
- Fixed coolant discharge, therefore low build-up at front at the holder
- With or without high pressure, the coolant medium always hits the cutting edge precisely

**Compatibility with QS quick tool change system:**

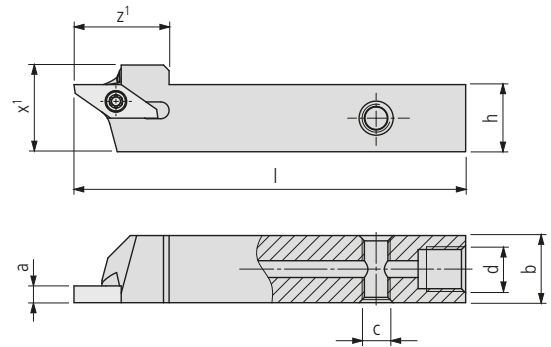
multidec®-SHORT holders can also be used in the QS quick tool change system from Sandvik Coromant. The coolant transfer tube can be screwed into the holder at the rear fur using the internal coolant supply.



Technical information		9
HOLDERS		496
REPLACEMENT AND SPARE PARTS		501



"SHORT" version with internal cooling



1600... IC-S

Order designation		Dimensions								Inserts		
L	R	h	b	l	a	z <sup>1</sup>	x <sup>1</sup>	c	d	□47...		
Accuracy class of UTILIS □ 41 												
1600-12x70 L IC-S	■	1600-12x70 R IC-S	■	12	12	70	3	17	15.5	M5	M8×1	16...
1600-16x70 L IC-S	■	1600-16x70 R IC-S	■	16	16	70	3	17	19.5	M5	M8×1	16...

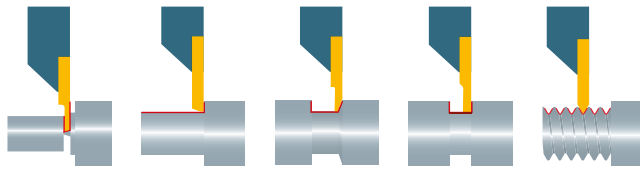
496

1600... IC-S INCH

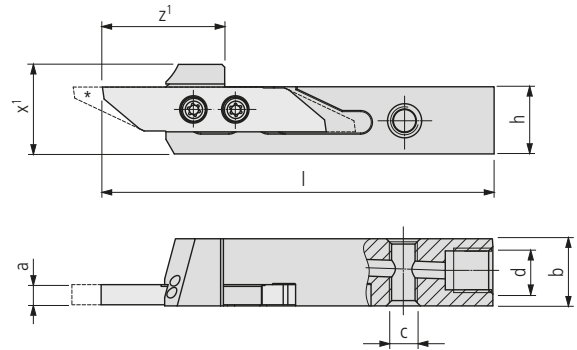
Order designation		Dimensions								Inserts		
L	R	h	b	l	a	z <sup>1</sup>	x <sup>1</sup>	c	d	□47...		
Accuracy class of UTILIS □ 41 												
1600-1/2"x70 L IC-S	■	1600-1/2"x70 R IC-S	■	12.7	12.7	70	3	17	16.2	M5	M8×1	16...
1600-5/8"x70 L IC-S	■	1600-5/8"x70 R IC-S	■	15.875	15.875	70	3	17	19.375	M5	M8×1	16...

UTILIS  
 multidec®  
 swiss type tools

**Scope of delivery:** Holder without coolant connector  
 Coolant connectors □ 633



"SHORT" version with internal cooling



3000... IC-S

Order designation		Dimensions									Inserts	
L	R	h	b	l	a	z <sup>1</sup>	x <sup>1</sup>	c	d	□ 107...		
Accuracy class of UTILIS □ 41 												
3000-12x70 L IC-S	■	3000-12x70 R IC-S	■	12	12	70	3	22	16	M5	M8 x 1	30...
3000-16x70 L IC-S	■	3000-16x70 R IC-S	■	16	16	70	3	22	20	M5	M8 x 1	30...

PREMIUM-LINE

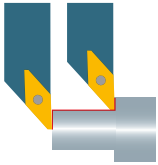
3000... IC-S INCH

Order designation		Dimensions									Inserts	
L	R	h	b	l	a	z <sup>1</sup>	x <sup>1</sup>	c	d	□ 107...		
Accuracy class of UTILIS □ 41 												
3000-1/2"x70 L IC-S	■	3000-1/2"x70 R IC-S	■	12.7	12.7	70	3	22	16.7	M5	M8 x 1	30...
3000-5/8"x70 L IC-S	■	3000-5/8"x70 R IC-S	■	15.875	15.875	70	3	22	19.875	M5	M8 x 1	30...

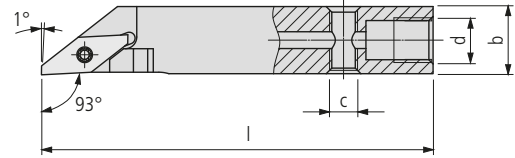
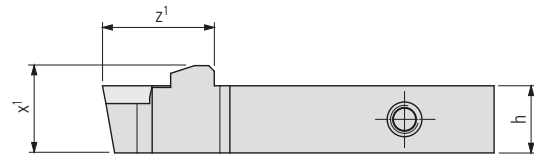
PREMIUM-LINE

• Long insert z<sup>1</sup>+5 mm

Scope of delivery: Holder without coolant connector  
 Coolant connectors □ 633



"SHORT" version with internal cooling



SVJP... IC-S (93°)

Order designation		Dimensions								Inserts	
L	R	h	b	l	z¹	x¹	c	d	□ 299...		
Accuracy class of UTILIS □ 171 											
SVJPL 12 E10 IC-S	■	SVJPR 12 E10 IC-S	■	12	12	70	20	15.6	M5	M8 × 1	VP..1003..
SVJPL 16 E10 IC-S	■	SVJPR 16 E10 IC-S	■	16	16	70	20	19.6	M5	M8 × 1	VP..1003..

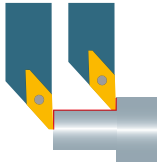
PREMIUM-LINE

498

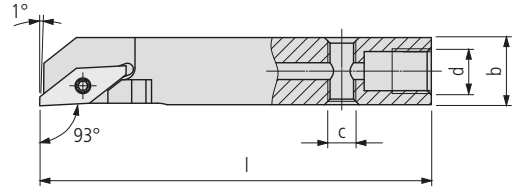
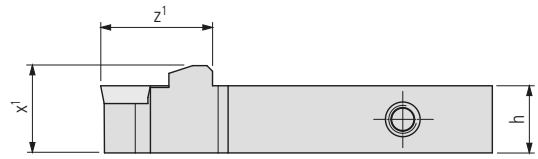
SVJP... IC-S (93°) INCH

Order designation		Dimensions								Inserts	
L	R	h	b	l	z¹	x¹	c	d	□ 299...		
Accuracy class of UTILIS □ 171 											
SVJPL 1/2" E10 IC-S	■	SVJPR 1/2" E10 IC-S	■	12.7	12.7	70	20	16.3	M5	M8 × 1	VP..1003..
SVJPL 5/8" E10 IC-S	■	SVJPR 5/8" E10 IC-S	■	15.875	15.875	70	20	19.475	M5	M8 × 1	VP..1003..

Scope of delivery: Holder without coolant connector  
 Coolant connectors □ 633



Reinforced version V "SHORT" with internal cooling



SVJP... V IC-S (93°)

Order designation		Dimensions									Inserts
L	R	h	b	l	z¹	x¹	c	d		□ 299...	
Accuracy class of UTILIS □ 171											
SVJPL 12 E10 V IC-S	■	SVJPR 12 E10 V IC-S	■	12	12	70	20	15.6	M5	M8 × 1	VP..1003..
SVJPL 16 E10 V IC-S	■	SVJPR 16 E10 V IC-S	■	16	16	70	20	19.6	M5	M8 × 1	VP..1003..

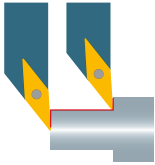
PREMIUM-LINE

SVJP... V IC-S (93°) INCH

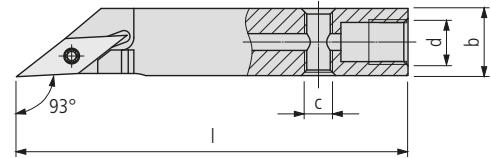
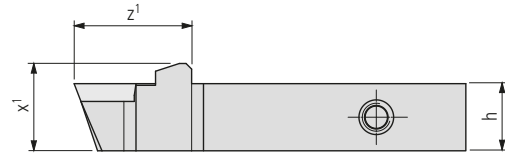
Order designation		Dimensions									Inserts
L	R	h	b	l	z¹	x¹	c	d		□ 299...	
Accuracy class of UTILIS □ 171											
SVJPL 1/2" E10 V IC-S	■	SVJPR 1/2" E10 V IC-S	■	12.7	12.7	70	20	16.3	M5	M8 × 1	VP..1003..
SVJPL 5/8" E10 V IC-S	■	SVJPR 5/8" E10 V IC-S	■	15.875	15.875	70	20	19.475	M5	M8 × 1	VP..1003..

PREMIUM-LINE

Scope of delivery: Holder without coolant connector  
Coolant connectors □ 633



"SHORT" version with internal cooling



SVJC... IC-S (93°)

Order designation		Dimensions								Inserts
L	R	h	b	l	z <sup>1</sup>	x <sup>1</sup>	c	d	□ 259...	
Accuracy class of UTILIS □ 171 										
SVJCL 12 E07 IC-S	■ SVJCR 12 E07 IC-S	12	12	70	20	15.6	M5	M8 × 1	VC..0702..	
SVJCL 12 E11 IC-S	■ SVJCR 12 E11 IC-S	12	12	70	21	15.6	M5	M8 × 1	VC..1103..	
SVJCL 16 E11 IC-S	■ SVJCR 16 E11 IC-S	16	16	70	21	19.6	M5	M8 × 1	VC..1103..	


SVJC... IC-S (93°) INCH

Order designation		Dimensions								Inserts
L	R	h	b	l	z <sup>1</sup>	x <sup>1</sup>	c	d	□ 259...	
Accuracy class of UTILIS □ 171 										
SVJCL 1/2" E07 IC-S	■ SVJCR 1/2" E07 IC-S	12.7	12.7	70	20	16.3	M5	M8 × 1	VC..0702..	
SVJCL 1/2" E11 IC-S	■ SVJCR 1/2" E11 IC-S	12.7	12.7	70	21	16.3	M5	M8 × 1	VC..1103..	
SVJCL 5/8" E11 IC-S	■ SVJCR 5/8" E11 IC-S	15.875	15.875	70	21	19.475	M5	M8 × 1	VC..1103..	

Scope of delivery: Holder without coolant connector  
 Coolant connectors □ 633

PREMIUM-LINE



Illustration	Description	Dimensions	Order designation	Holder
	TORX screw	M2.5 × 6 T08	MSP 25060 T08	1600... SV.P.10 SV... 11
		M3 × 9 T08	MSP 30090 T08	3000...
		M2 × 5.5	MSP 20055 T06	VC... 07

TORX screwdriver  665

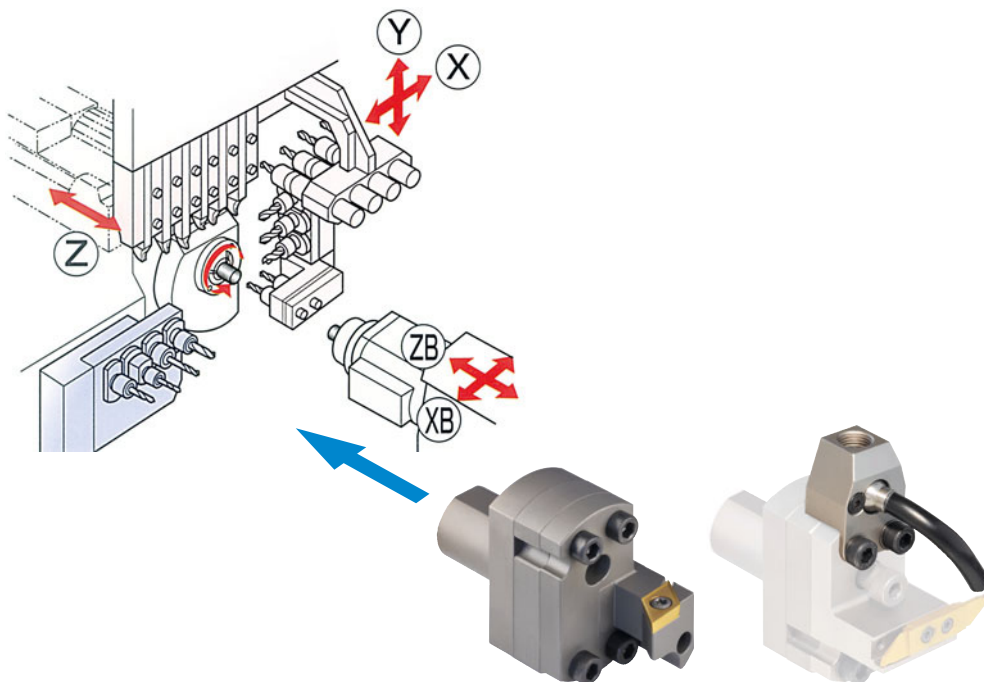
multidec®-BACKTOOLS is a product range used for reverse-side machining on Swiss type turning machines with counter spindles. The tool enables a part to be fully machined in a single operation.













This modular system is characterized by outstanding stability and versatility.

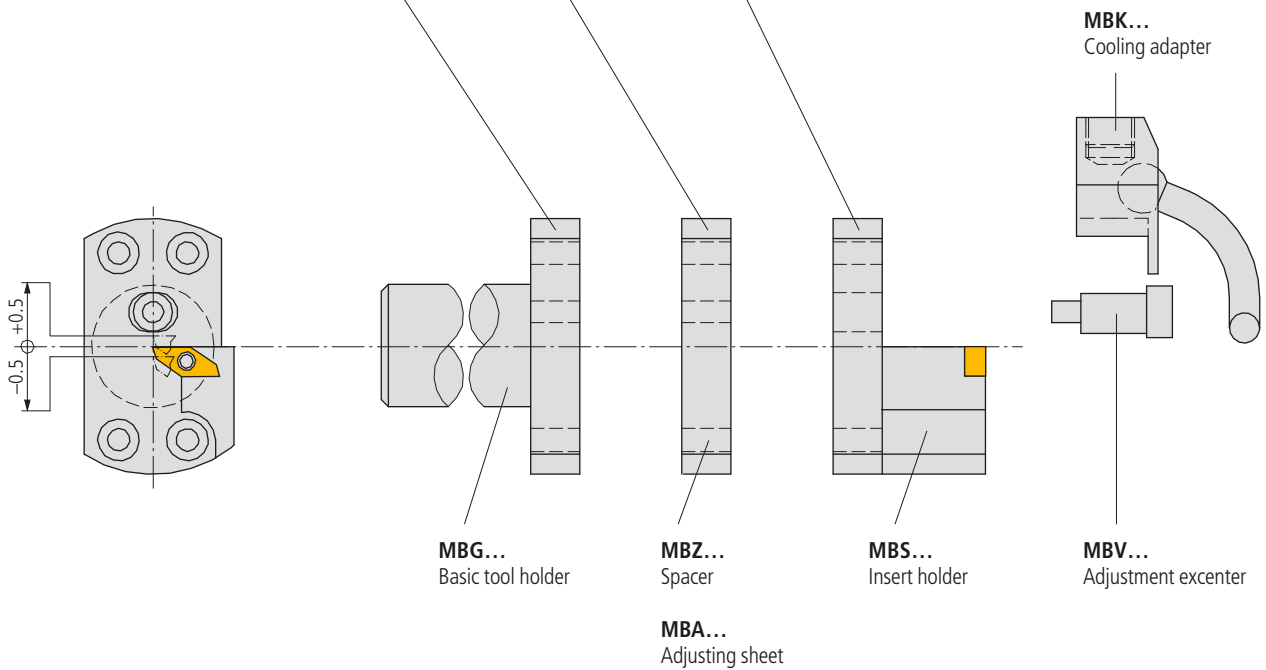
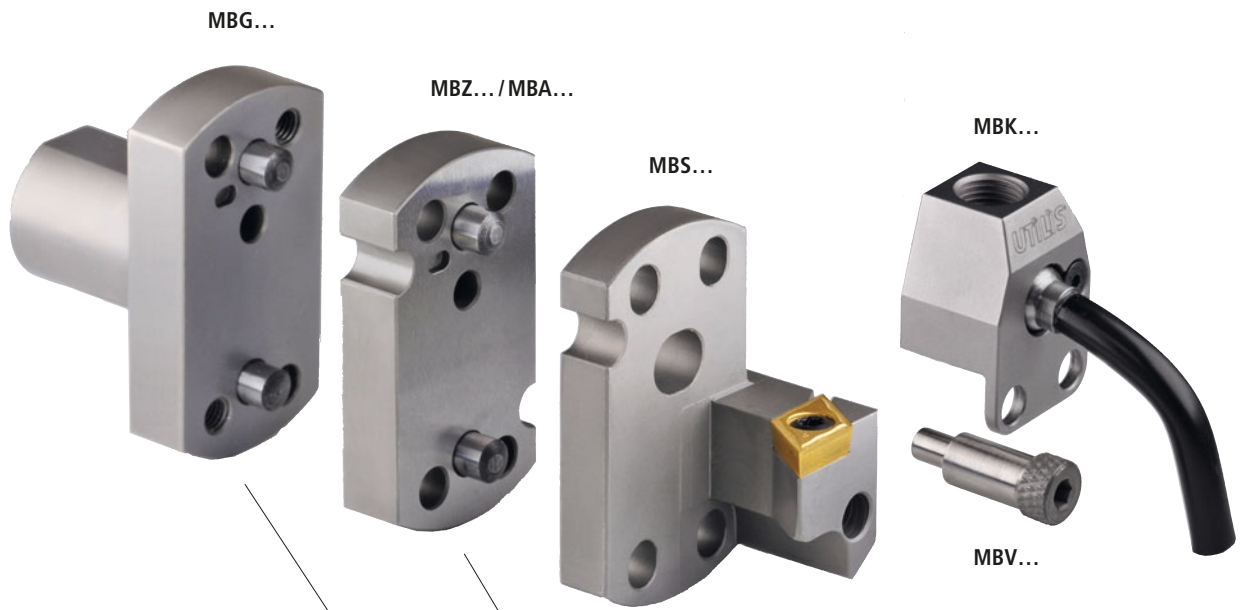


**Advantages:**

- Complete machining in a single operation is possible
- High stability
- Modular design
  - Basic tool holder
  - Spacer
  - Insert holder
- Precise and convenient center height adjustment by means of an eccentric screw for machines without Y-axis ( $\pm 0.5$  mm)
- Internal cooling possible
- Basic tool holder for common machines



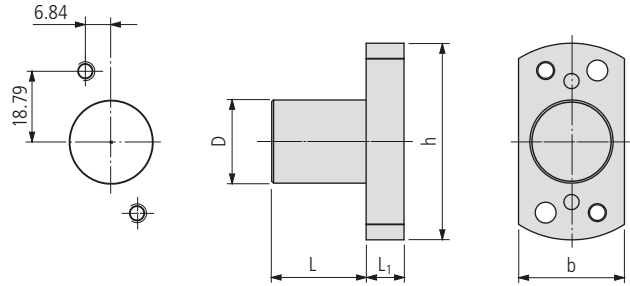
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Collet holders		524
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Compatibility overview

Basic tool holder	Spacer (optional)	Insert holder, collet holders and tool holders
MBG ... B02	MBZ ST 02-...	MBS ...02
MBG ... B05	MBZ ST 05-...	MBS ...05
MBG ... B90*	MBZ ST 90-...	MBS ...90

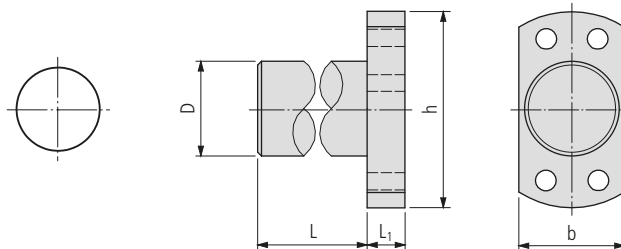
\* Height not adjustable (only for machines with Y axis)



MBG 01 ...

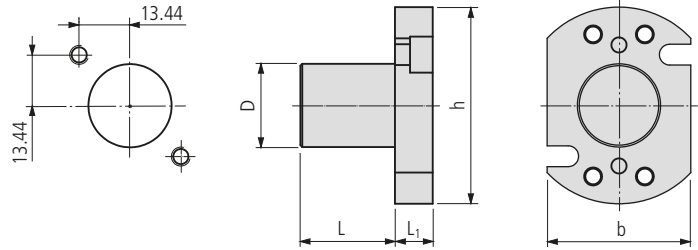
Order designation		Dimensions					Shape	Type of machine	Spacer	Insert holder
		D	L	b	h	L <sub>1</sub>				
MBG 01 2200 025 B02	■	22	25	28	52	10		STAR SR10J/SR20R ECAS 12/20, SR32J*	MBZ ST 02-...	MBS ... 02
MBG 01 2300 019 B02	■	23	19	28	49	16		HANWHA XD 12H	MBZ ST 02-...	MBS ... 02

\* Valid from machine number ...161



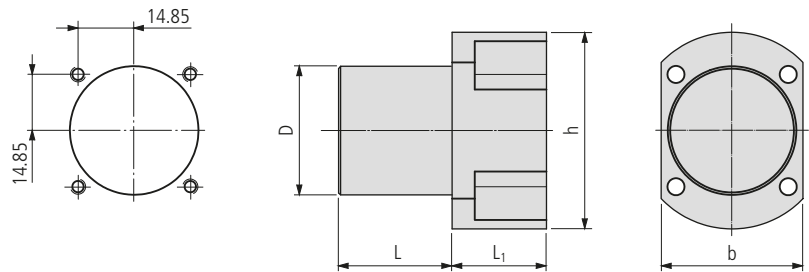
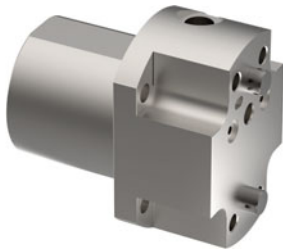
MBG 02 ...

Order designation		Dimensions					Shape	Type of machine	Spacer	Insert holder
		D	L	b	h	L <sub>1</sub>				
MBG 02 1587 040 B02	■	5/8" (15.875)	40	28	52	10		CITIZEN R07, TSUGAMI BS20B	MBZ ST 02-...	MBS ... 02
MBG 02 1600 019 B02	■	16	19	28	52	10		MANURHIN KMX 4/13	MBZ ST 02-...	MBS ... 02
MBG 02 1600 020 B02	■	16	20	28	52	10		STAR RNC16B	MBZ ST 02-...	MBS ... 02
MBG 02 1905 060 B02	■	3/4" (19.05)	60	28	52	10		CITIZEN C16, L20, M16	MBZ ST 02-...	MBS ... 02
MBG 02 2000 030 B02	■	20	30	28	52	10		TSUGAMI S205	MBZ ST 02-...	MBS ... 02
MBG 02 2000 040 B02	■	20	40	28	52	10		GILDEMEISTER Sprint20, HANWHA SL12H, TSUGAMI B012, B020, S205	MBZ ST 02-...	MBS ... 02
MBG 02 2000 060 B02	■	20	60	28	52	10		TSUGAMI BS12, BS20	MBZ ST 02-...	MBS ... 02
MBG 02 2000 070 B02	■	20	70	28	52	10		TORNOS Gamma 20	MBZ ST 02-...	MBS ... 02
MBG 02 2000 100 B02	■	20	100	28	52	10		MANHURIN Swing 7-13, TORNOS DECO (7/10, 13, 20), CITIZEN K16	MBZ ST 02-...	MBS ... 02
MBG 02 2200 015 B02	■	22	15	28	52	10		STAR SR10J	MBZ ST 02-...	MBS ... 02
MBG 02 2200 070 B02	■	22	70	28	52	10		STAR SA16, SB16, TORNOS Delta 20, Gamma 20	MBZ ST 02-...	MBS ... 02
MBG 02 2500 035 B02	■	25	35	28	52	10		TSUGAMI Piastra	MBZ ST 02-...	MBS ... 02
MBG 02 2500 050 B02	■	25	50	28	52	10		MANHURIN Swing 10-20, 10-26, 10-32	MBZ ST 02-...	MBS ... 02
MBG 02 2500 060 B02	■	25	60	28	52	10		CITIZEN L20, HANWHA STL32/35H, STL33/35J	MBZ ST 02-...	MBS ... 02
MBG 02 2500 100 B02	■	25	100	28	52	10		MANHURIN KMX5/20, 5/26, 5/32, Swing 7-20, 7-26, TORNOS DECO (7/10, 13, 20)	MBZ ST 02-...	MBS ... 02
MBG 02 2540 070 B02	■	1" (25.4)	70	28	52	10		CITIZEN C32, L32, M32	MBZ ST 02-...	MBS ... 02
MBG 02 2800 006 B02	■	28	6	28	52	10		HANWHA SL26/35HPD	MBZ ST 02-...	MBS ... 02
MBG 02 2800 040 B02	■	28	40	28	52	10		TRAUB TNL12	MBZ ST 02-...	MBS ... 02
MBG 02 2800 078 B02	■	28	78	28	52	10		TRAUB TNL/C 12, TNL/C 12K	MBZ ST 02-...	MBS ... 02
MBG 02 3200 025 B02	■	32	25	28	52	10		HANWHA XD32	MBZ ST 02-...	MBS ... 02
MBG 02 3200 070 B02	■	32	70	32	52	10		TORNOS Delta 38-5a	MBZ ST 02-...	MBS ... 02
MBG 02 3300 040 B02	■	33	40	35	52	10		HANWHA XD20/32 H, -J	MBZ ST 02-...	MBS ... 02
MBG 02 3400 044 B02	■	34	44	35	52	10		HANWHA SL20/26/35HPH	MBZ ST 02-...	MBS ... 02



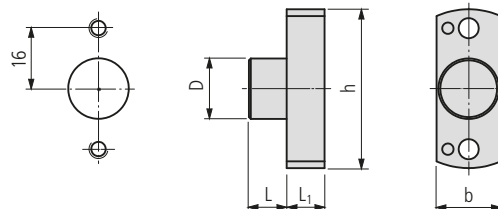
MBG 03 ...

Order designation		Dimensions					Shape	Type of machine	Spacer	Insert holder
		D	L	b	h	L <sub>1</sub>				
MBG 03 2200 025 B02	■	22	25	38	52	10	●	STAR SR32, SR32J	MBZ ST 02-...	MBS ... 02
MBG 03 3100 015 B02	■	31	15	38	52	10	●	CITIZEN A32-VII	MBZ ST 02-...	MBS ... 02



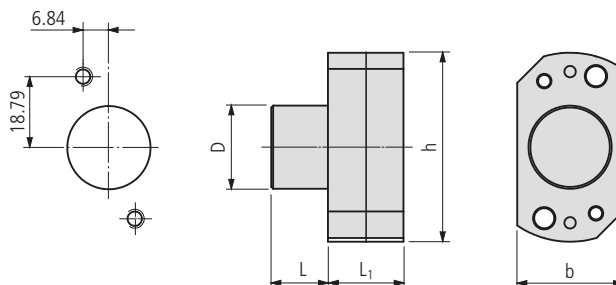
MBG 04 ...

Order designation		Dimensions					Shape	Type of machine	Spacer	Insert holder
		D	L	b	h	L <sub>1</sub>				
MBG 04 3400 018 B02 IC	■	34	18	38	52	25	●	MAIER MLK DY36	MBZ ST 02-... IC	MBS ... 02 IC
MBG 04 3400 030 B02 IC	■	34	30	38	52	25	●	MAIER ML12C, ML16C, ML16D, ML20/26/32	MBZ ST 02-... IC	MBS ... 02 IC
MBG 04 3400 025 B90	■	34	25	37.5	37.5	8	●	STAR SV-38R	MBZ ST 90-	MBS ... 90



MBG 05 ...

Order designation		Dimensions					Shape	Type of machine	Spacer	Insert holder
		D	L	b	h	L <sub>1</sub>				
MBG 05 1500 010 B05	■	15	10	17	51	10		HANWHA XD12H	MBZ ST 05-...	MBS ... 05
MBG 05 1600 010 B05	■	16	10	17	51	10		STAR SR10J	MBZ ST 05-...	MBS ... 05

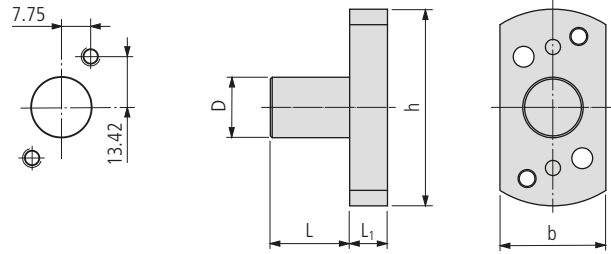


MBG 06 ...

Order designation		Dimensions					Shape	Type of machine	Spacer	Insert holder
		D	L	b	h	L <sub>1</sub>				
MBG 06 2200 015 B06*	■	22	15	28	50	20		STAR SR10J	MBZ ST 02-...	MBS ... 02

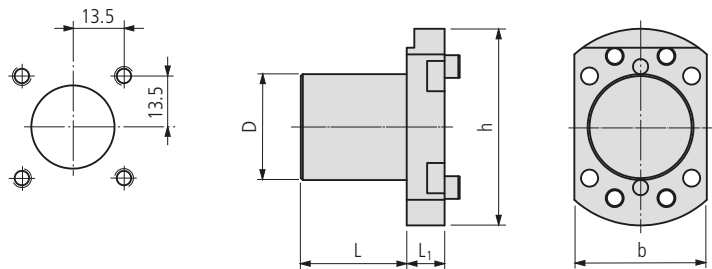
\* With adjusting sheet





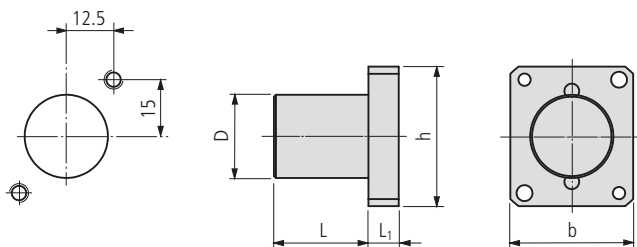
MBG 07 ...

Order designation		Dimensions					Shape	Type of machine	Spacer	Insert holder
		D	L	b	h	L <sub>1</sub>				
MBG 07 1600 021 B02	■	16	21	28	25	10		STAR SR16, SR20	MBZ ST 02-...	MBS ... 02



MBG 08 ...

Order designation		Dimensions					Shape	Type of machine	Spacer	Insert holder
		D	L	b	h	L <sub>1</sub>				
MBG 08 2800 028 B02	■	28	28	35	25	10		TORNOS CT20	MBZ ST 02-...	MBS ... 02

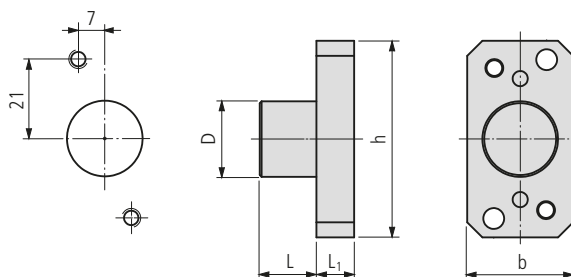


MBG 09 ...

Order designation		Dimensions					Shape	Type of machine	Spacer	Insert holder
		D	L	b	h	L <sub>1</sub>				
MBG 09 2200 025 B90	■	22	25	32.5	37	8	●	STAR SW-20, SR-20W	MBZ ST 90-...	MBS ... 90
MBG 09 2500 015 B90	■	25	15	32.5	37	8	●	TSUGAMI BO 326 EII	MBZ ST 90-...	MBS ... 90
MBG 09 2500 050 B90	■	25	50	32.5	37	8	●	HANWHA XDI 20	MBZ ST 90-...	MBS ... 90

510

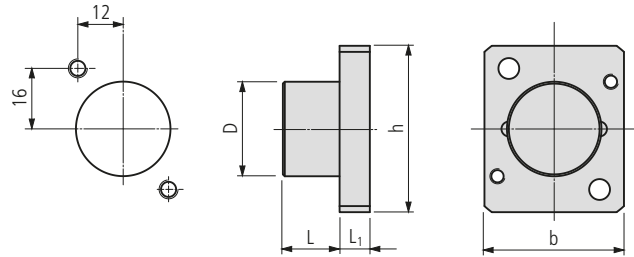
UTILIS  
multidec®  
swiss type tools



MBG 10 ...

Order designation		Dimensions					Shape	Type of machine	Spacer	Insert holder
		D	L	b	h	L <sub>1</sub>				
MBG 10 2000 015 B02	■	20	15	28	25	10	●	STAR SR10J	MBZ ST 02-...	MBS ... 02

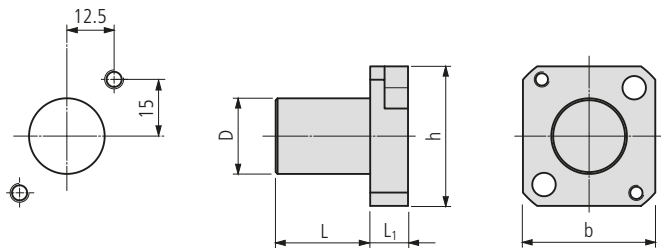
\* Check hole pattern



MBG 12 ...

Order designation		Dimensions					Shape	Type of machine	Spacer	Insert holder
		D	L	b	h	L <sub>1</sub>				
MBG 12 2500 015 B90*	■	25	15	44	36.9	8		TSUGAMI BO 266, BO 326	MBZ ST 90-	MBS ... 90

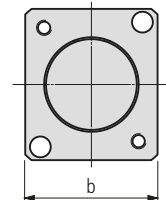
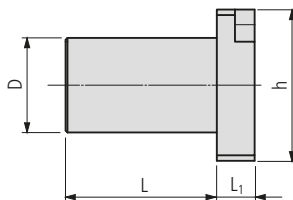
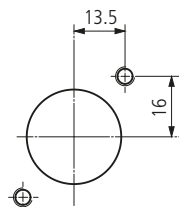
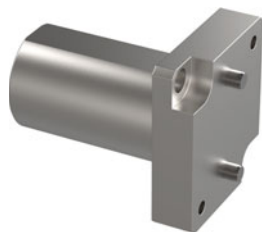
\* With adjusting sheet



MBG 13 ...

Order designation		Dimensions					Shape	Type of machine	Spacer	Insert holder
		D	L	b	h	L <sub>1</sub>				
MBG 13 2000 025 B90*	■	20	25	36.9	36.9	10		TORNOS GT13, GT26	MBZ ST 90-	MBZ ST 90-

\* With adjusting sheet



**MBG 14 ...**

Order designation		Dimensions					Shape	Type of machine	Spacer	Insert holder
		D	L	b	h	L <sub>1</sub>				
MBG 14 2500 040 B90*	■	25	40	35	40	10		NEXTURN SR20XII	MBZ ST 90-	MBZ ST 90-

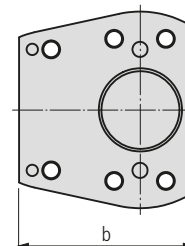
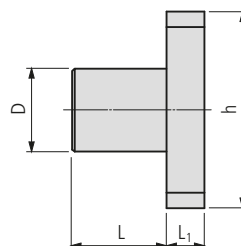
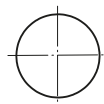
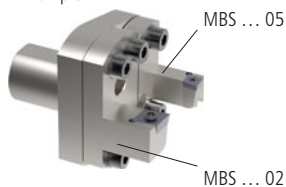
\* With adjusting sheet

512

UTILIS  
**multidec**<sup>®</sup>  
swiss type tools



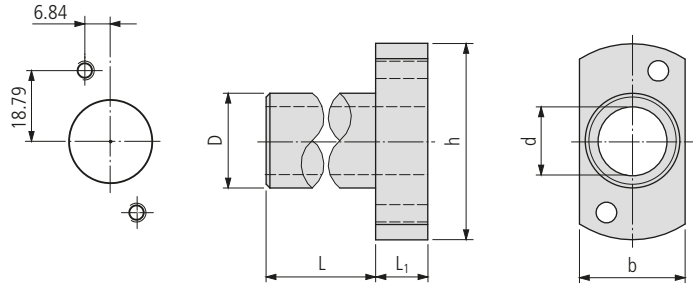
Example:



**MBG 02 ... B02 05**

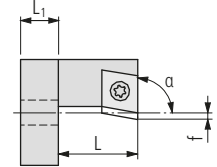
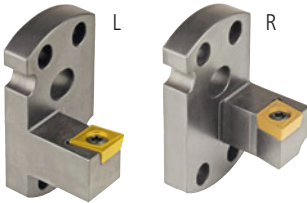
Order designation		Dimensions					Shape	Type of machine	Spacer	Insert holder
		D	L	b	h	L <sub>1</sub>				
MBG 02 1905 040 B02 05*	■	3/4" /(19.05)	40	46	52	10		Various*	MBZ ST 02/05-...	MBS ... 02/05
MBG 02 2200 025 B02 05*	■	22	25	46	52	10		STAR SR20R SR32J	MBZ ST 02/05-...	MBS ... 02/05

\* Check hole pattern



MBG-T ...

Order designation		Dimensions						Shape	Type of machine
		D	L	d	b	h	L <sub>1</sub>		
MBG-T 02 10 2200 025	■	22	25	10	28	52	15	●	STAR SR10J, SA16, SB16, SB20E, SB20G, SB20N
MBG-T 02 16 2200 025	■	22	25	16	28	52	15	●	STAR SA 16, SB 16, SR10J

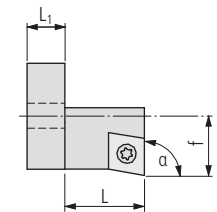
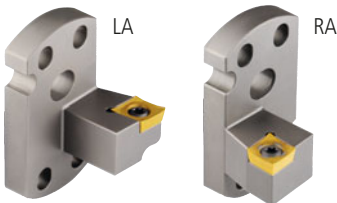


MBS ...-CC

Order designation				Dimensions				Basic tool holder	Spacer	Inserts
L		R		α	f	L	L <sub>1</sub>	MBG...	MBZ...	□ 177...
MBS 093-CC L 06 I02*	■	MBS 093-CC R 06 I02*	■	93°		20	8	MBG ... B02	MBZ ST 02- ...	CC.. 0602...
MBS 090-CC L 09 I02*	■	MBS 090-CC R 09 I02*	■	90°		20	8	MBG ... B02	MBZ ST 02- ...	CC.. 09T3...
		MBS 090-CC R 09 I02 IC*	■	90°		20	8	MBG ... B02 IC	MBZ ST 02- ... IC	CC.. 09T3...
MBS 093-CC L 09 I02*	■	MBS 093-CC R 09 I02*	■	93°		20	8	MBG ... B02	MBZ ST 02- ...	CC.. 09T3...
MBS 093-CC L 09 I02-30*	■	MBS 093-CC R 09 I02-30*	■	93°		30	8	MBG ... B02	MBZ ST 02- ...	CC.. 09T3...
MBS 095-CC L 09 I02*	■	MBS 095-CC R 09 I02*	■	95°		20	8	MBG ... B02	MBZ ST 02- ...	CC.. 09T3...
MBS 093-CC L 06 I05*	■	MBS 093-CC R 06 I05*	■	93°		20	8	MBG ... B05	MBZ ST 05- ...	CC.. 0602...
MBS 095-CC L 09 I05*	■	MBS 095-CC R 09 I05*	■	95°		20	8	MBG ... B05	MBZ ST 05- ...	CC.. 09T3...
		MBS 090-CC R 06 I90	■	90°	-5	20	7	MBG ... B90	MBZ ST 90- ...	CC.. 0602...
		MBS 090-CC R 09 I90	■	90°		20	7	MBG ... B90	MBZ ST 90- ...	CC.. 09T3...

\* Setting the centre height with adjustment excenter MBV E04

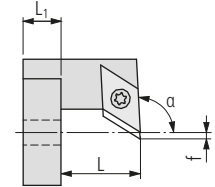
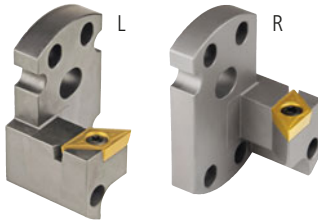
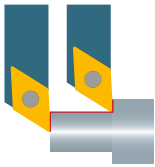
UTILIS multidec® swiss type tools



MBS ...-CC .A

Order designation				Dimensions				Basic tool holder	Spacer	Inserts
L		R		α	f	L	L <sub>1</sub>	MBG...	MBZ...	□ 177...
MBS 090-CC LA 09 I02*	■	MBS 090-CC RA 09 I02*	■	90°	18	20	8	MBG ... B02	MBZ ST 02- ...	CC.. 09T3...
MBS 093-CC LA 06 I02*	■	MBS 093-CC RA 06 I02*	■	93°	18	20	8	MBG ... B02	MBZ ST 02- ...	CC.. 0602...
MBS 093-CC LA 09 I02*	■	MBS 093-CC RA 09 I02*	■	93°	18	20	8	MBG ... B02	MBZ ST 02- ...	CC.. 09T3...
MBS 093-CC LA 09 I02-30*	■	MBS 093-CC RA 09 I02-30*	■	93°	18	30	8	MBG ... B02	MBZ ST 02- ...	CC.. 09T3...
MBS 095-CC LA 09 I02*	■	MBS 095-CC RA 09 I02*	■	95°	18	20	8	MBG ... B02	MBZ ST 02- ...	CC.. 09T3...
MBS 093-CC LA 06 I05*	■	MBS 093-CC RA 06 I05*	■	93°	12.5	20	8	MBG ... B05	MBZ ST 05- ...	CC.. 0602...
MBS 095-CC LA 09 I05*	■	MBS 095-CC RA 09 I05*	■	95°	12.5	20	8	MBG ... B05	MBZ ST 05- ...	CC.. 09T3...
MBS 095-CC LA 09 I90	■			95°	16.25	20	7	MBG ... B90	MBZ ST 90- ...	CC.. 09T3...

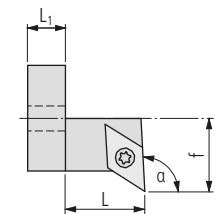
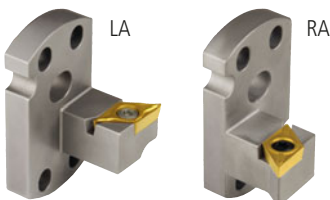
\* Setting the centre height with adjustment excenter MBV E04



MBS ...-DC

Order designation				Dimensions				Basic tool holder	Spacer	Inserts
L	■	R	■	α	f	L	L <sub>1</sub>	MBG...	MBZ...	□ 205...
MBS 093-DC L 11 I02*	■	MBS 093-DC R 11 I02*	■	93°		20	8	MBG ... B02	MBZ ST 02- ...	DC.. 11T3...
	■	MBS 093-DC R 11 I02 IC*	■	93°		20	8	MBG ... B02 IC	MBZ ST 02- ... IC	DC.. 11T3...
MBS 093-DC L 11 I02 30*	■	MBS 093-DC R 11 I02 30*	■	93°		30	8	MBG ... B02	MBZ ST 02- ...	DC.. 11T3...
MBS 093-DC L 11 I02 40*	■	MBS 093-DC R 11 I02 40*	■	93°		40	8	MBG ... B02	MBZ ST 02- ...	DC.. 11T3...
MBS 093-DC-L 07 I05*	■	MBS 093-DC R 07 I05*	■	93°		20	8	MBG ... B05	MBZ ST 05- ...	DC.. 0702...
MBS 093-DC L 07 I90	■	MBS 093-DC R 07 I90	■	93°	-2.25	20	7	MBG ... B90	MBZ ST 90- ...	DC.. 0702...
MBS 093-DC L 11 I90	■	MBS 093-DC R 11 I90	■	93°		20	7	MBG ... B90	MBZ ST 90- ...	DC.. 11T3...
MBS 093-DC L 11 I90 30	■	MBS 093-DC R 11 I90 30	■	93°		30	7	MBG ... B90	MBZ ST 90- ...	DC.. 11T3...

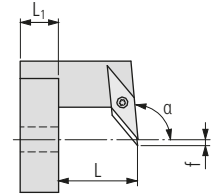
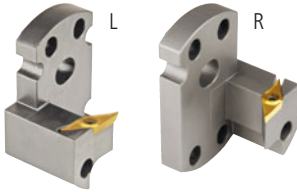
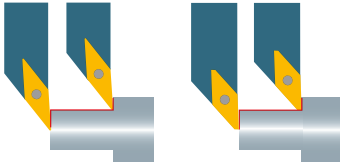
\* Setting the centre height with adjustment excenter MBV E04



MBS ...-DC .A

Order designation				Dimensions				Basic tool holder	Spacer	Inserts
L	■	R	■	α	f	L	L <sub>1</sub>	MBG...	MBZ...	□ 205...
MBS 093-DC LA 11 I02*	■	MBS 093-DC RA 11 I02*	■	93°	18	20	8	MBG ... B02	MBZ ST 02- ...	DC.. 11T3...
MBS 093-DC LA 11 I02-30*	■	MBS 093-DC RA 11 I02-30*	■	93°	18	30	8	MBG ... B02	MBZ ST 02- ...	DC.. 11T3...
MBS 093-DC LA 11 I02-40*	■	MBS 093-DC RA 11 I02-40*	■	93°	18	40	8	MBG ... B02	MBZ ST 02- ...	DC.. 11T3...
MBS 093-DC LA 07 I05*	■	MBS 093-DC RA 07 I05*	■	93°	8.5	20	8	MBG ... B05	MBZ ST 05- ...	DC.. 0702...
MBS 093-DC LA 07 I90	■	MBS 093-DC RA 07 I90	■	93°	17	20	7	MBG ... B90	MBZ ST 90- ...	DC.. 0702...
MBS 093-DC LA 11 I90	■	MBS 093-DC RA 11 I90	■	93°	17	20	7	MBG ... B90	MBZ ST 90- ...	DC.. 11T3...
MBS 093-DC LA 11 I90-30*	■			93°	17	30	7	MBG ... B90	MBZ ST 90- ...	DC.. 11T3...

\* Setting the centre height with adjustment excenter MBV E04

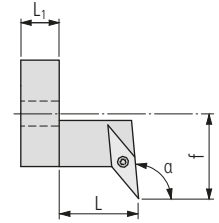
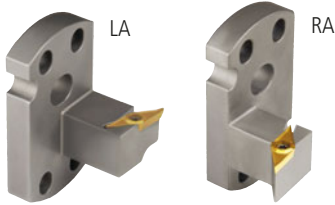
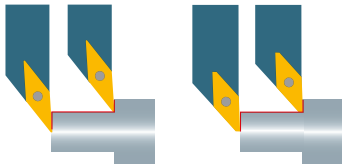


MBS ...-VC

Order designation				Dimensions				Basic tool holder	Spacer	Inserts
L		R		α	f	L	L <sub>1</sub>	MBG...	MBZ...	□ 259...
	■		■	72.5°		20	8	MBG ... B02	MBZ ST 02- ...	VC.. 1103...
	■		■	93°		20	8	MBG ... B02	MBZ ST 02- ...	VC.. 0702...
	■		■	93°		20	8	MBG ... B02	MBZ ST 02- ...	VC.. 1103...
	■		■	95°		20	8	MBG ... B02	MBZ ST 02- ...	VC.. 1103...
	■		■	93°		30	8	MBG ... B02	MBZ ST 02- ...	VC.. 1103...
	■		■	95°		40	8	MBG ... B02	MBZ ST 02- ...	VC.. 1103...
	■		■	110°		20	8	MBG ... B02	MBZ ST 02- ...	VC.. 1103...
	■		■	117.5°		20	8	MBG ... B02	MBZ ST 02- ...	VC.. 1103...
	■		■	140°		23	8	MBG ... B02	MBZ ST 02- ...	VC.. 1103...
			■	162.5°		25	8	MBG ... B02	MBZ ST 02- ...	VC.. 1103...
	■		■	93°		20	8	MBG ... B02	MBZ ST 02- ...	VC.. 0702...
	■		■	93°		20	7	MBG ... B02	MBZ ST 02- ...	VC.. 0702...
	■		■	93°	2.25	20	8	MBG ... B90	MBZ ST 90- ...	VC.. 1103...
	■		■	95°	2.25	20	7	MBG ... B90	MBZ ST 90- ...	VC.. 1103...
	■		■	95°	2.25	20	7	MBG ... B90	MBZ ST 90- ... IC	VC.. 1103...
			■	95°		30	7	MBG ... B90	MBZ ST 02- ...	VC.. 1103...
			■	110°		20	7	MBG ... B90	MBZ ST 02- ...	VC.. 1103...
			■	162.5°		25	7	MBG ... B90	MBZ ST 90- ...	VC.. 1103...

\* Setting the centre height with adjustment excenter MBV E04

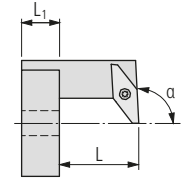
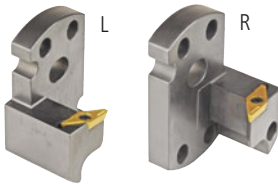
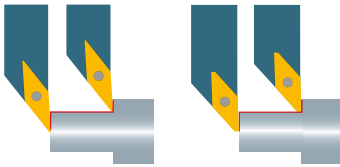




MBS ...-VC .A

Order designation				Dimensions				Basic tool holder	Spacer	Inserts
L	R	Color	Color	α	f	L	L <sub>1</sub>	MBG...	MBZ...	□ 259...
								MBG ... B02	MBZ ST 02- ...	VC.. 1103...
MBG ... B02	MBZ ST 02- ...	VC.. 1103...		72.5°	18	25	8	MBG ... B02	MBZ ST 02- ...	VC.. 1103...
MBG ... B02	MBZ ST 02- ...	VC.. 1103...		93°	18	20	8	MBG ... B02	MBZ ST 02- ...	VC.. 1103...
MBG ... B02	MBZ ST 02- ...	VC.. 1103...		93°	18	30	8	MBG ... B02	MBZ ST 02- ...	VC.. 1103...
MBG ... B02	MBZ ST 02- ...	VC.. 1103...		95°	18	20	8	MBG ... B02	MBZ ST 02- ...	VC.. 1103...
MBG ... B02	MBZ ST 02- ...	VC.. 1103...		95°	18	40	8	MBG ... B02	MBZ ST 02- ...	VC.. 1103...
MBG ... B02	MBZ ST 02- ...	VC.. 1103...		110°	18	20	8	MBG ... B02	MBZ ST 02- ...	VC.. 1103...
MBG ... B02	MBZ ST 02- ...	VC.. 1103...		117.5°	18	20	8	MBG ... B02	MBZ ST 02- ...	VC.. 1103...
MBG ... B02	MBZ ST 02- ...	VC.. 1103...		140°	18	23	8	MBG ... B02	MBZ ST 02- ...	VC.. 1103...
MBG ... B90	MBZ ST 02- ...	VC.. 1103...		93°	17	20	7	MBG ... B90	MBZ ST 02- ...	VC.. 1103...

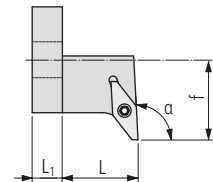
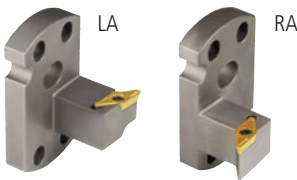
\* Setting the centre height with adjustment excenter MBV E04



MBS ...-VP

Order designation				Dimensions			Basic tool holder	Spacer	Inserts
L	■	R	■	α	L	L <sub>1</sub>	MBG...	MBZ...	□ 299...
				MBS 093-VP L 10 I02*	MBS 093-VP R 10 I02*	93°	20	8	MBG ... B02
MBS 093-VP L 10 I90	MBS 093-VP R 10 I90	93°	20	7	MBG ... B90	MBZ ST 90- ...	VP.. 1003...		

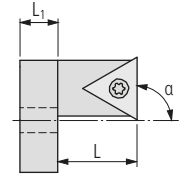
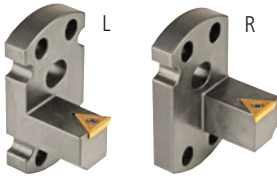
\* Setting the centre height with adjustment excenter MBV E04



MBS ...-VP .A

Order designation				Dimensions				Basic tool holder	Spacer	Inserts
L	■	R	■	α	f	L	L <sub>1</sub>	MBG...	MBZ...	□ 299...
				MBS 093-VP LA 10 I02*	MBS 093-VP RA 10 I02*	93°	28	20	8	MBG ... B02
MBS 093-VP LA 10 I02	MBS 093-VP RA 10 I02	93°	17	20	8	MBG ... B02	MBZ ST 02- ...	VP.. 1003...		

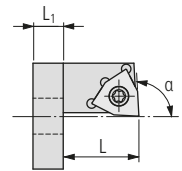
\* Setting the centre height with adjustment excenter MBV E04



MBS ...-TC

Order designation		Dimensions			Basic tool holder	Spacer	Inserts
L	R	$\alpha$	L	L <sub>1</sub>	MBG...	MBZ...	
MBS 090-TC L 11 I02*	MBS 090-TC R 11 I02*	90°	20	8	MBG ... B02	MBZ ST 02- ...	TC.. 1102...

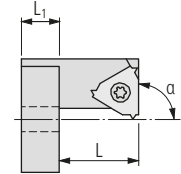
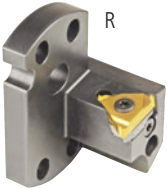
\* Setting the centre height with adjustment excenter MBV E04



MBS ...-W0134

Order designation		Dimensions			Basic tool holder	Spacer	Inserts
L	R	$\alpha$	L	L <sub>1</sub>	MBG...	MBZ...	
MBS 093-W0134 L I02*	MBS 093-W0134 R I02*	93°	20	8	MBG ... B02	MBZ ST 02- ...	W0134...

\* Setting the centre height with adjustment excenter MBV E04



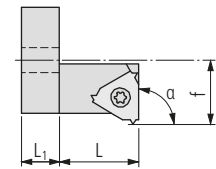
MBS ...-16 ER

Order designation				Dimensions				Basic tool holder	Spacer	Inserts
L	R	Color	Material	α	L	L <sub>1</sub>	MBG...	MBZ...	Inserts	
										MBS 090-16 ER L I02
MBS 090-16 ER L I02-30*	■	MBS 090-16 ER R I02-30*	■	90°	30	8	MBG ... B02	MBZ ST 02- ...	16ER	
MBS 090-16 ER L I02-40*	■	MBS 090-16 ER R I02-40*	■	90°	40	8	MBG ... B02	MBZ ST 02- ...	16ER	
		MBS 090-16 ER RA I90	■	90°	20	7	MBG ... B90	MBZ ST 90- ...	16ER	
		MBS 090-16 ER RA I90-31	■	90°	31	7	MBG ... B90	MBZ ST 90- ...	16ER	

\* Setting the centre height with adjustment excenter MBV E04

520

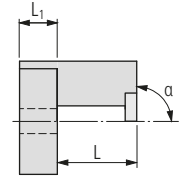
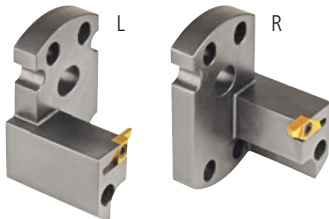
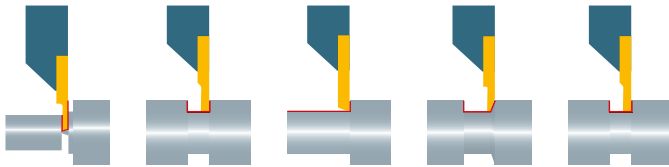
UTILIS **multidec**® swiss type tools



MBS ...-16 ER .A

Order designation				Dimensions				Basic tool holder	Spacer	Inserts
L	R	Color	Material	α	f	L	L <sub>1</sub>	MBG...	MBZ...	Inserts
MBS 090-16 ER LA I02-30*	■	MBS 090-16 ER RA I02-30*	■	90°	17.66	30	8	MBG ... B02	MBZ ST 02- ...	16ER
MBS 090-16 ER LA I02-40*	■	MBS 090-16 ER RA I02 40*	■	90°	17.66	40	8	MBG ... B02	MBZ ST 02- ...	16ER

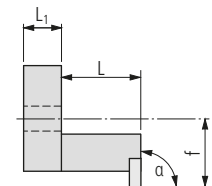
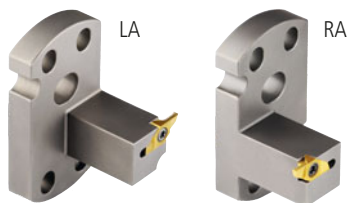
\* Setting the centre height with adjustment excenter MBV E04



MBS ...-Cut ...

Order designation				Dimensions				Basic tool holder	Spacer	Inserts
L		R		α	L	L <sub>1</sub>	MBG...	MBZ...	□47...	
										MBS 090-Cut L 16 I02* MBS 135-Cut L 16 I02* MBS 090-Cut L 16 I05* MBS 090-Cut L 16 I90

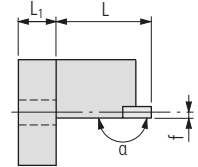
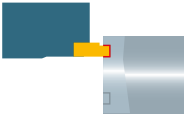
\* Setting the centre height with adjustment excenter MBV E04



MBS ...-Cut .A ...

Order designation				Dimensions				Basic tool holder	Spacer	Inserts
L		R		α	f	L	L <sub>1</sub>	MBG...	MBZ...	□47...

\* Setting the centre height with adjustment excenter MBV E04



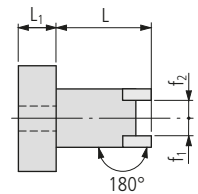
MBS 180-Cut ...

Order designation				Dimensions				Basic tool holder	Spacer	Inserts
L		R		$\alpha$	f	L	L <sub>1</sub>	MBG...	MBZ...	47...
				180°		20	8	MBG ... B02	MBZ ST 02- ...	16...
				180°		20	8	MBG ... B05	MBZ ST 05- ...	16...
				180°	-6.25	20	7	MBG ... B90	MBZ ST 90- ...	16...

\* Setting the centre height with adjustment excenter MBV E04

522

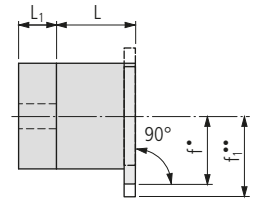
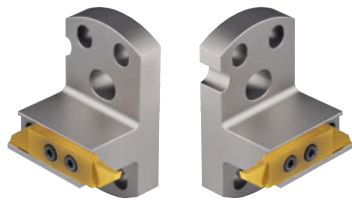
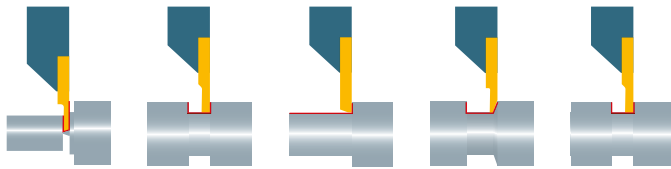
UTILIS **multidec**® swiss type tools



MBS 180-Cut ... twin .

Order designation				Dimensions				Basic tool holder	Spacer	Inserts
N				f <sub>1</sub>	f <sub>2</sub>	L	L <sub>1</sub>	MBG...	MBZ...	47...
				-4.5	4.5	20	8	MBG ... B02	MBZ ST 02- ...	16...
				3	11	20	8	MBG ... B02	MBZ ST 02- ...	16...

\* Setting the centre height with adjustment excenter MBV E04

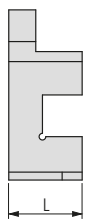


MBS 090-Cut N 30 ...

Order designation				Dimensions				Basic tool holder	Spacer	Inserts
N				f	f <sub>1</sub>	L	L <sub>1</sub>	MBG...	MBZ...	□ 107...
				MBS 090-Cut N 30 I02*	■			27	33	20
MBS 090-Cut N 30 I90	■			29	35	20	7	MBG ... B90	MBZ ST 90- ...	30...

• Short insert; •• Long insert

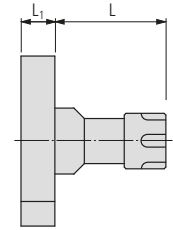
\* Setting the centre height with adjustment excenter MBV E04



MBS 090 1212 ...

Order designation				Dimensions			Basic tool holder	Spacer	Type of holder
L				L			MBG...	MBZ...	
				MBS 090 1212 T02*	■				
MBS 090 1212 T90	■					22	MBG ... B90	MBZ ST 90- ...	12 × 12

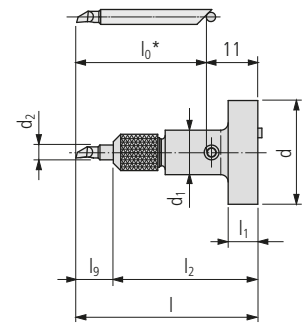
\* Setting the centre height with adjustment excenter MBV E04



## MBS E...

Order designation		Dimensions		Basic tool holder	Spacer	Type
		L	L <sub>1</sub>			
MBS E08 20 C02	■	20	8	MBG ... B02	MBZ ST 02- ...	ER08
MBS E08 30 C02	■	30	8	MBG ... B02	MBZ ST 02- ...	ER08
MBS E11 25 C02	■	25	8	MBG ... B02	MBZ ST 02- ...	ER11
MBS E11 35 C02	■	35	8	MBG ... B02	MBZ ST 02- ...	ER11
MBS E16 25 C02	■	25	8	MBG ... B02	MBZ ST 02- ...	ER16
MBS E16 35 C02	■	35	8	MBG ... B02	MBZ ST 02- ...	ER16
MBS E20 35 C02	■	35	8	MBG ... B02	MBZ ST 02- ...	ER20
MBS E20 45 C02	■	45	8	MBG ... B02	MBZ ST 02- ...	ER20
MBS E08 20 C05	■	20	8	MBG ... B05	MBZ ST 05- ...	ER08
MBS E08 30 C05	■	30	8	MBG ... B05	MBZ ST 05- ...	ER08
MBS E11 25 C05	■	25	8	MBG ... B05	MBZ ST 05- ...	ER11
MBS E11 35 C05	■	35	8	MBG ... B05	MBZ ST 05- ...	ER11
MBS E08 20 C90	■	20	7	MBG ... B90	MBZ ST 90- ...	ER08
MBS E08 30 C90	■	30	7	MBG ... B90	MBZ ST 90- ...	ER08
MBS E11 25 C90	■	25	7	MBG ... B90	MBZ ST 90- ...	ER11
MBS E11 35 C90	■	35	7	MBG ... B90	MBZ ST 90- ...	ER11
MBS E16 25 C90	■	25	7	MBG ... B90	MBZ ST 90- ...	ER16
MBS E16 35 C90	■	35	7	MBG ... B90	MBZ ST 90- ...	ER16
MBS E20 25 C90	■	25	7	MBG ... B90	MBZ ST 90- ...	ER20
MBS E20 35 C90	■	35	7	MBG ... B90	MBZ ST 90- ...	ER20



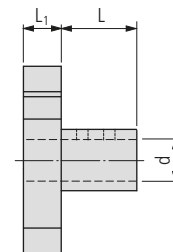


MBS SDA...

$$l = l_0 + 11$$

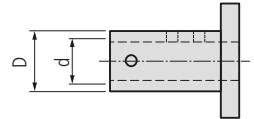
$$l_9 = l - l_2$$

Order designation		Dimensions				Basic tool holder	Spacer	Inserts
		d <sub>1</sub>	d <sub>2</sub>	L <sub>2</sub>	L <sub>1</sub>			
<b>N</b>								
MBS SDA4 IT02 IC	■					MBG ... B02	MBZ ST 02-...	SD. 4... / SX. 4...
MBS SDA6 IT02 IC	■					MBG ... B02	MBZ ST 02-...	SD. 6... / SX. 6...
MBS SDA8 IT02 IC	■					MBG ... B02	MBZ ST 02-...	SD. 8... / SX. 8...
MBS SDA4 IT05 IC	■					MBG ... B05	MBZ ST 05-...	SD. 4... / SX. 4...



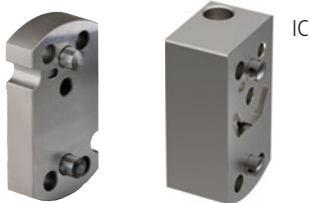
MBS ... IT..

Order designation				Dimensions			Basic tool holder	Spacer	
N	Color	Material	Coating	d	L	L <sub>1</sub>	MBG...	MBZ...	
				MBS 10 IT02	■			10	13
MBS 12 IT02	■			12	13	8	MBG ... B02	MBZ ST 02- ...	
MBS 14 IT02	■			14	13	8	MBG ... B02	MBZ ST 02- ...	
MBS 10 IT05	■			10	13	8	MBG ... B05	MBZ ST 05- ...	
MBS 10 IT90	■			10	14	7	MBG ... B90	MBZ ST 90- ...	
MBS 12 IT90	■			12	13	7	MBG ... B90	MBZ ST 90- ...	



MBR ...

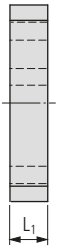
Order designation		Dimensions									
		D	d								
MBR D10-02	■	10	2								
MBR D10-03	■	10	3								
MBR D10-04	■	10	4								
MBR D10-05	■	10	5								
MBR D10-06	■	10	6								
MBR D10-07	■	10	7								
MBR D10-08	■	10	8								
MBR D12-04	■	12	4								
MBR D12-05	■	12	5								
MBR D12-06	■	12	6								
MBR D12-07	■	12	7								
MBR D12-08	■	12	8								
MBR D12-09	■	12	9								
MBR D12-10	■	12	10								



MBZ ...

Order designation		Dimensions				Basic tool holder	Insert holder, collet holders and tool holders
		L <sub>1</sub>				MBG...	MBS...
MBZ ST 02-10	■	10				MBG ... B02	MBS ... 02
MBZ ST 02-20	■	20				MBG ... B02	MBS ... 02
MBZ ST 02-20 IC	■	20				MBG ... B02	MBS ... 02 IC
MBZ ST 02-25	■	25				MBG ... B02	MBS ... 02
MBZ ST 02-25 IC	■	25				MBG ... B02	MBS ... 02 IC
MBZ ST 02-30	■	30				MBG ... B02	MBS ... 02
MBZ ST 02-30 IC	■	30				MBG ... B02	MBS ... 02 IC
MBZ ST 05-10	■	10				MBG ... B05	MBS ... 05
MBZ ST 05-20	■	20				MBG ... B05	MBS ... 05
MBZ ST 90-10	■	10				MBG ... B90	MBS ... 90
MBZ ST 90-20	■	20				MBG ... B90	MBS ... 90
MBZ ST 90-20 IC	■	20				MBG ... B90	MBS ... 90 IC
MBZ ST 90-25 IC	■	25				MBG ... B90	MBS ... 90 IC
MBZ ST 90-30	■	30				MBG ... B90	MBS ... 90

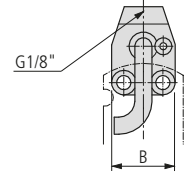
Matching allen head screws □ 531



**MBA ...**

Order designation		Dimensions				Basic tool holder MBG...	Insert holder, collet holders and tool holders MBS...
		L <sub>1</sub>					
MBA 02-05	■	10				MBG ... B02	MBS ... 05
MBA 06-02*	■	10				MBG ... B06	MBS ... 02

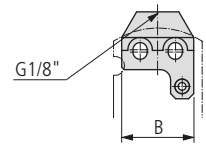
\* Included with basic holders MBG ... B06



**MBK Cool Flex**

Order designation		Dimensions		Basic tool holder	Spacer	Insert holder, collet holders and tool holders
<div style="display: flex; align-items: center;"> <div style="background-color: #0056b3; color: white; padding: 2px 5px; margin-right: 5px;">N</div> <div style="background-color: #ffc107; width: 10px; height: 10px; margin-right: 5px;"></div> </div>		B		MBG...	MBZ...	MBS...
	MBK Cool Flex	■	22.3	MBG ... B02	MBZ ST 02-...	MBS ...02

530



**MBK Cool Fix**

Order designation				Dimensions		Basic tool holder	Spacer	Insert holder, collet holders and tool holders
<div style="display: flex; align-items: center;"> <div style="background-color: #0056b3; color: white; padding: 2px 5px; margin-right: 5px;">L</div> <div style="background-color: #ffc107; width: 10px; height: 10px; margin-right: 5px;"></div> </div>	<div style="display: flex; align-items: center;"> <div style="background-color: #0056b3; color: white; padding: 2px 5px; margin-right: 5px;">R</div> <div style="background-color: #ffc107; width: 10px; height: 10px; margin-right: 5px;"></div> </div>			B		MBG...	MBZ...	MBS...
		MBK Cool Fix L	■	MBK Cool Fix R	■	28	MBG ... B02	MBZ ST 02-...

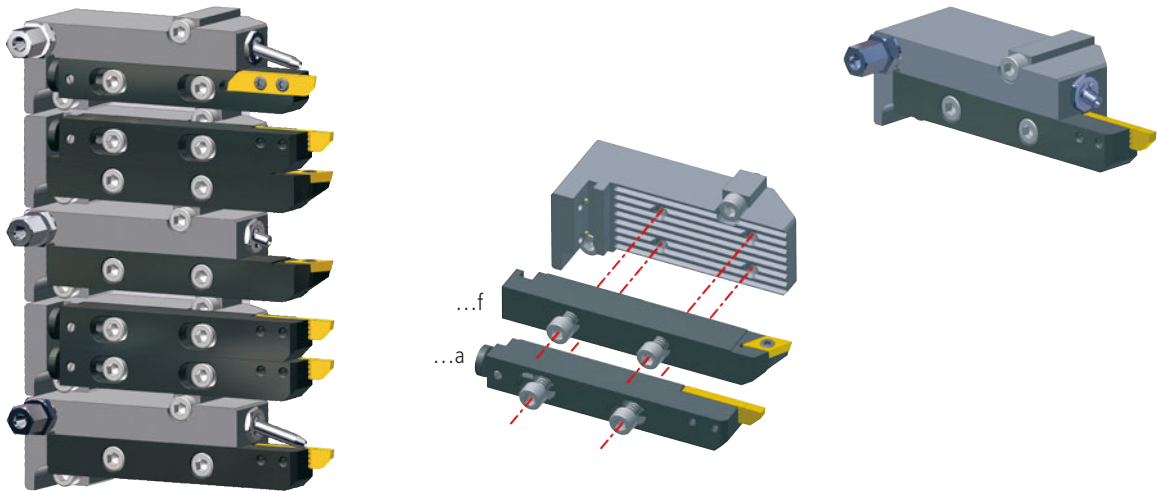
Illustration	Description	Dimensions	Order designation	Inserts	
	Adjustment excenter		MBV E04	■	
	Adjustment excenter mini		MBV E05	■	
	TORX screw	M2.5 × 6 T08	MSP 25060 T08	■	CC06, DC07, TC11, VC11, VP10, 1600...
		M2.5 × 7 T08	MSP 25070 T08	■	1600... 4
		M2.5 × 9 T08	MSP 25090 T08	■	1600... 6 1600... 8
		M3 × 7.3 T08	MSP 30073 T08	■	3000-08... 3000...A
		M3 × 9 T08	MSP 30090 T08	■	3000...
		M3.5 × 11 T15	MSP 35110T15	■	CC09, DC11
		M3 × 12 T10	MSP UNC 540120T10	■	16ER...
	Shim screw		MSP UNC 540070 T10	■	16ER...
	Anvil		YE3	■	16ER...
	Socket head screw	M4 × 12 DIN912	MSP M412	■	
		M4 × 20 DIN912	MSP M420	■	
		M4 × 35 DIN912	MSP M435	■	
		M4 × 40 DIN912	MSP M440	■	
		M4 × 45 DIN912	MSP M445	■	
		M4 × 50 DIN912	MSP M450	■	
		M5 × 16 DIN912	MSP M516	■	
		M5 × 25 DIN912	MSP M525	■	
		M5 × 35 DIN912	MSP M535	■	
M5 × 45 DIN912	MSP M545	■			
	L-piece for MBS 090 1212 T02	8 × 8	MSP A0808 T02	■	
		10 × 10	MSP A1010 T02	■	
	Flat-head socket cap screw	M3 × 6 DIN7991	MSP M306	■	
		M3 × 8 DIN7991	MSP M308	■	
	Clamping screw for MBS 090 1212 T02	M6 × 10 DIN913	MSP 60100 IB3	■	
	Elastic washer	M4/4.3/10/0.6	MSP US-4	■	
		M5/5.3/9.2/0.45	MSP US-5	■	
	Cylindrical pin without spacer	Ø6 <sub>h6</sub> × 12 DIN6325	MSP ZS612	■	
	Cylindrical pin for spacer MBZ ST 02-10	Ø6 <sub>h6</sub> × 25 DIN6325	MSP ZS625	■	
	Cylindrical pin for spacer MBZ ST 02-20	Ø6 <sub>h6</sub> × 35 DIN6325	MSP ZS635	■	
	Cylindrical pin for spacer MBZ ST 02-30	Ø6 <sub>h6</sub> × 45 DIN6325	MSP ZS645	■	

TORX screwdriver  664

multidec®-MODULINE is a modular tooling system with an ideal range of options designed to meet the requirements of different machines available on the market.

Grooves along the length of its base ensure excellent rigidity and precise positioning. Longitudinal positioning is ensured by a fixed (...f) or adjustable (...a) peg held in place under pressure by a sprung bearing.

A specific MODULINE tool holder plate can replace the original plate. This way, gains in reliability and tool changeover speed are very high.



#### Special features and advantages:

- More tool holders per available space bring a significant productivity gain
- Easy and quick tool replacement, with presetting on fixed or adjustable length
- Stable and reliable tool location system with longitudinal serrations and large square shanks
- Versatile tooling system, easy to use, possible combination with standard tools and coolant supply devices
- Wide range of holders for multidec®-ISO, -TOP and -CUT inserts
- Applitec-compatible



Technical information

9

HOLDERS

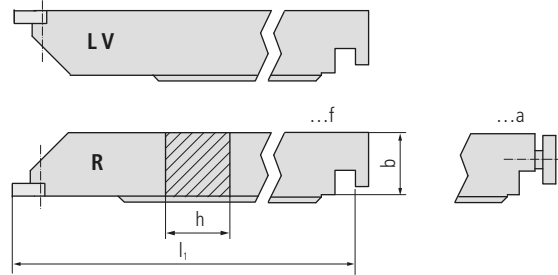
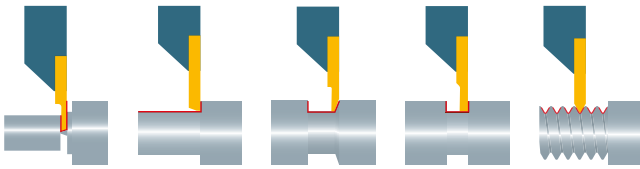


534

REPLACEMENT AND SPARE PARTS



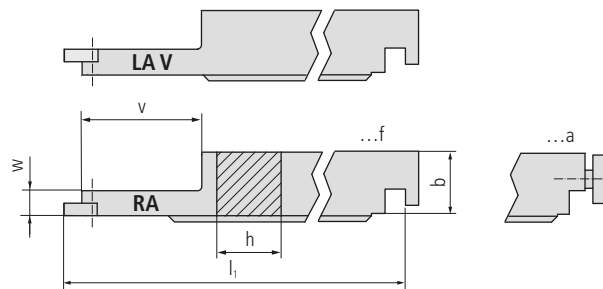
541



V: offset

UML... 1600...

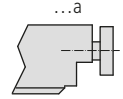
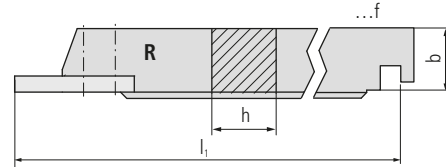
Order designation				Dimensions					Inserts	
L		R		h	b	l <sub>1</sub>			□47...	
UML12a CUT 1600 LV	■	UML12a CUT 1600 R	■	12	15	110				16..
UML12f CUT 1600 LV	■	UML12f CUT 1600 R	■	12	15	110				16..
UML16a CUT 1600 LV	■	UML16a CUT 1600 R	■	16	16	118				16..
UML16f CUT 1600 LV	■	UML16f CUT 1600 R	■	16	16	118				16..
UML20a CUT 1600 LV	■	UML20a CUT 1600 R	■	20	20	85				16..
UML20f CUT 1600 LV	■	UML20f CUT 1600 R	■	20	20	85				16..



V: offset

UML... 1600... A

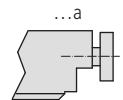
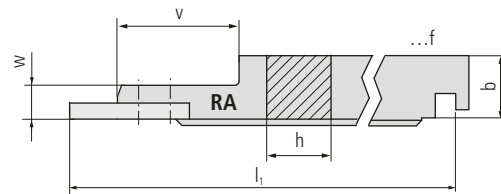
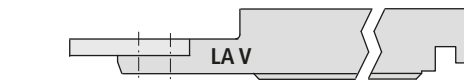
Order designation				Dimensions					Inserts	
L		R		h	b	l <sub>1</sub>	v	w		□47...
UML12a CUT 1600 LAV	■	UML12a CUT 1600 RA	■	12	15	110	34	6		16..
UML12f CUT 1600 LAV	■	UML12f CUT 1600 RA	■	12	15	110	34	6		16..
UML16a CUT 1600 LAV	■	UML16a CUT 1600 RA	■	16	16	118	34	6		16..
UML16f CUT 1600 LAV	■	UML16f CUT 1600 RA	■	16	16	118	34	6		16..
UML20a CUT 1600 LAV	■	UML20a CUT 1600 RA	■	20	20	85	32	6		16..
UML20f CUT 1600 LAV	■	UML20f CUT 1600 RA	■	20	20	85	32	6		16..



V: offset

UML... 3000...

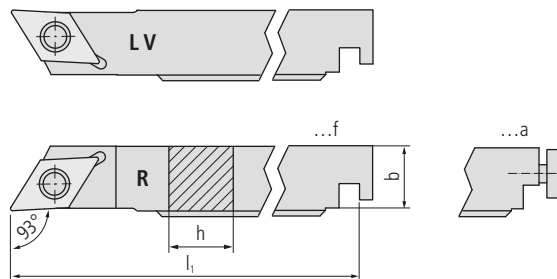
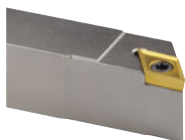
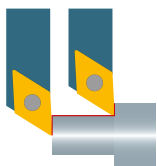
Order designation				Dimensions						Inserts
L		R		h	b	l <sub>1</sub>				□ 107...
UML12a CUT 3000 LV	■	UML12a CUT 3000 R	■	12	15	110				30..
UML12f CUT 3000 LV	■	UML12f CUT 3000 R	■	12	15	110				30..
UML16a CUT 3000 LV	■	UML16a CUT 3000 R	■	16	16	118				30..
UML16f CUT 3000 LV	■	UML16f CUT 3000 R	■	16	16	118				30..
UML20a CUT 3000 LV	■	UML20a CUT 3000 R	■	20	20	85				30..
UML20f CUT 3000 LV	■	UML20f CUT 3000 R	■	20	20	85				30..



V: offset

UML... 3000... A

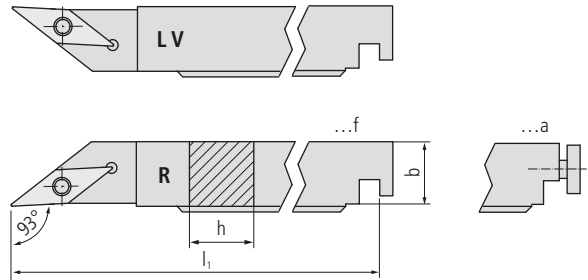
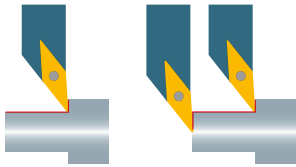
Order designation				Dimensions						Inserts
L		R		h	b	l <sub>1</sub>	v	w		□ 107...
UML12a CUT 3000 LAV	■	UML12a CUT 3000 RA	■	12	15	110	28	8		30..
UML12f CUT 3000 LAV	■	UML12f CUT 3000 RA	■	12	15	110	28	8		30..
UML16a CUT 3000 LAV	■	UML16a CUT 3000 RA	■	16	16	118	28	8		30..
UML16f CUT 3000 LAV	■	UML16f CUT 3000 RA	■	16	16	118	28	8		30..
UML20a CUT 3000 LAV	■	UML20a CUT 3000 RA	■	20	20	85	32	8		30..
UML20f CUT 3000 LAV	■	UML20f CUT 3000 RA	■	20	20	85	32	8		30..



V: offset

UML... SDJC... (93°)

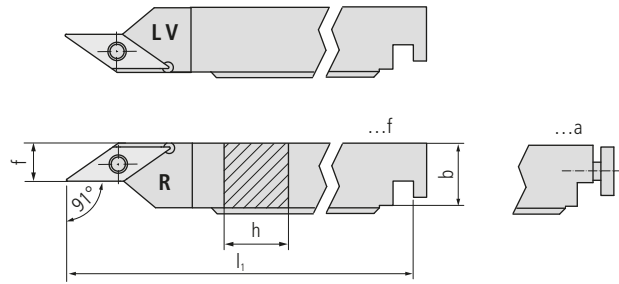
Order designation				Dimensions							Inserts		
L	R			h	b	l <sub>1</sub>						□ 205...	
		UML12a SDJCR 07	■	12	15	110							DC..0702..
		UML12f SDJCR 07	■	12	15	110							DC..0702..
UML12a SDJCL 11 V	■	UML12a SDJCR 11	■	12	15	110							DC..11T3..
		UML12f SDJCR 11	■	12	15	110							DC..11T3..
		UML16a SDJCR 07	■	16	16	118							DC..0702..
		UML16f SDJCR 07	■	16	16	118							DC..0702..
UML16a SDJCL 11 V	■	UML16a SDJCR 11	■	16	16	118							DC..11T3..
		UML16f SDJCR 11	■	16	16	118							DC..11T3..
		UML20a SDJCR 11	■	20	20	85							DC..11T3..
		UML20f SDJCR 11	■	20	20	85							DC..11T3..



V: offset

UML... SVJC... (93°)

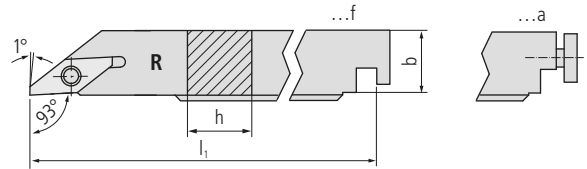
Order designation				Dimensions						Inserts
L		R		h	b	l <sub>1</sub>				□ 259...
UML12a SVJCL 11 V	■	UML12a SVJCR 11	■	12	15	110				VC..1103..
		UML12f SVJCR 11	■	12	15	110				VC..1103..
UML16a SVJCL 11 V	■	UML16a SVJCR 11	■	16	16	118				VC..1103..
		UML16f SVJCR 11	■	16	16	118				VC..1103..
		UML20a SVJCR 11	■	20	20	85				VC..1103..
		UML20f SVJCR 11	■	20	20	85				VC..1103..



V: offset

UML... SVXC... (91°)

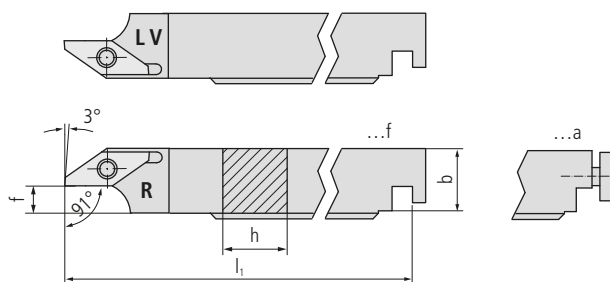
Order designation				Dimensions						Inserts
L		R		h	b	l <sub>1</sub>	f			□ 259...
UML12a SVXCL 11 V	■	UML12a SVXCR 11	■	12	15	110	5.4			VC..1103..
UML12f SVXCL 11 V	■	UML12f SVXCR 11	■	12	15	110	5.4			VC..1103..
UML16a SVXCL 11 V	■	UML16a SVXCR 11	■	16	16	118	8.9			VC..1103..
UML16f SVXCL 11 V	■	UML16f SVXCR 11	■	16	16	118	8.9			VC..1103..
UML20a SVXCL 11 V	■	UML20a SVXCR 11	■	20	20	85	10.4			VC..1103..
UML20f SVXCL 11 V	■	UML20f SVXCR 11	■	20	20	85	10.4			VC..1103..



V: offset

UML... SVJP... (93°)

Order designation				Dimensions						Inserts	
L		R		h	b	l <sub>1</sub>					□ 299...
UML12a SVJPL 10 V	■	UML12a SVJPR 10	■	12	15	110					VP..1003..
UML12f SVJPL 10 V	■	UML12f SVJPR 10	■	12	15	110					VP..1003..
UML16a SVJPL 10 V	■	UML16a SVJPR 10	■	16	16	118					VP..1003..
UML16f SVJPL 10 V	■	UML16f SVJPR 10	■	16	16	118					VP..1003..
UML20a SVJPL 10 V	■	UML20a SVJPR 10	■	20	20	85					VP..1003..
UML20f SVJPL 10 V	■	UML20f SVJPR 10	■	20	20	85					VP..1003..




UML... SVXP... (91°)

V: offset

Order designation				Dimensions						Inserts
L		R		h	b	l <sub>1</sub>	f			□ 299...
UML12a SVXPL 10 V	■	UML12a SVXPR 10	■	12	15	110	5			VP..1003..
UML12f SVXPL 10 V	■	UML12f SVXPR 10	■	12	15	110	5			VP..1003..
UML16a SVXPL 10 V	■	UML16a SVXPR 10	■	16	16	118	9			VP..1003..
UML16f SVXPL 10 V	■	UML16f SVXPR 10	■	16	16	118	9			VP..1003..
UML20a SVXPL 10 V	■	UML20a SVXPR 10	■	20	20	85	13			VP..1003..
UML20f SVXPL 10 V	■	UML20f SVXPR 10	■	20	20	85	13			VP..1003..



Illustration	Description	Dimensions	Order designation	Holder
	TORX screw	M2.5 × 6 T08	MSP 25060 T08	■ UML... 1600... UML... SV.P... 10 UML... SV... 11
		M3 × 7.3 T08	MSP 30073 T08	■ UML... 3000...A
		M3 × 9 T08	MSP 30090 T08	■ UML... 3000...
		M3.5 × 11 T15	MSP 35110 T15	■ UML... SD...11

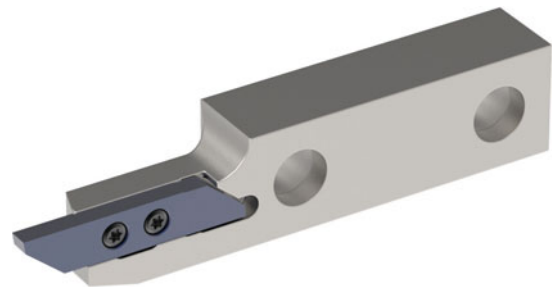
TORX screwdriver  664

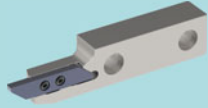

multidec®-TECKO is a modular tooling change system from automatic-lathes with the advantage to increase the number of insert-holders in the machine. The system consists of base plates adapted on the current machines and insert-holders, which can be fixed fast and with high precision, due to the two "Quicklock"-screws.

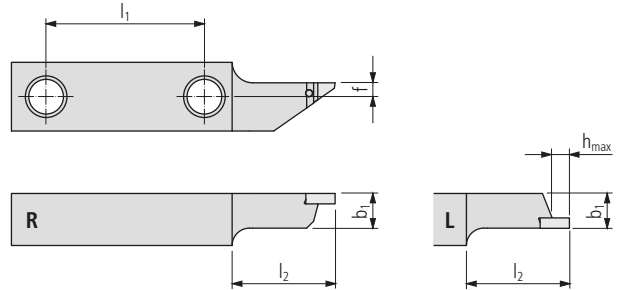
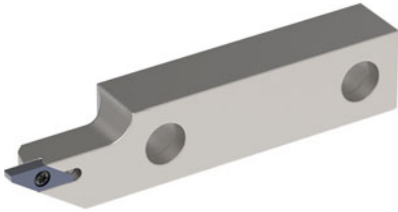
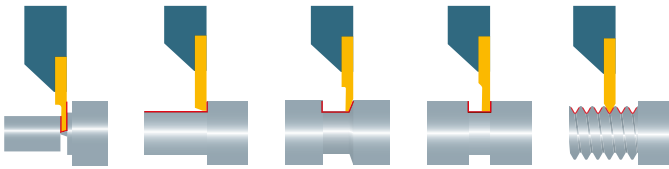
UTILIS propose adapted toolholders for inserts multidec®-CUT and multidec®-TOP.

**Advantages:**

- Quick and accurate change of toolholders
- Nickel plated toolholders made from heat treated steel
- Utilisation of high quality multidec® inserts

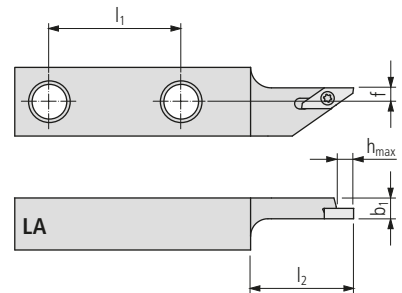


Technical information		9
HOLDERS		544
REPLACEMENT AND SPARE PARTS		547



TECKO .. CUT 1600 .

Order designation				Size	Dimensions								Inserts	
L		R		TECKO	$l_1$	$h_{max}$	$b_1$	$l_2$	$f$					□47...
TECKO 38 CUT 1600 L	■	TECKO 38 CUT 1600 R	■	38	38	5	10	30	4					16...
TECKO 50 CUT 1600 L	■	TECKO 50 CUT 1600 R	■	50	50	5	10	30	4					16...

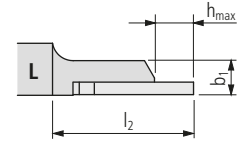
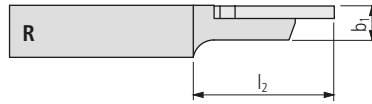
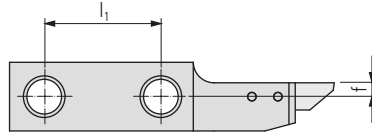
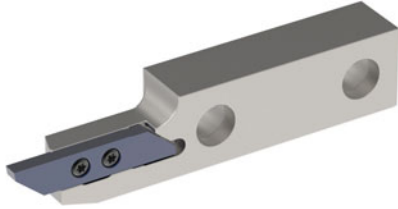


TECKO .. CUT 1600 .A

Order designation				Size	Dimensions								Inserts	
L		R		TECKO	$l_1$	$h_{max}$	$b_1$	$l_2$	$f$					□47...
TECKO 38 CUT 1600 LA	■			38	38	5	6	30	4					16...
TECKO 50 CUT 1600 LA	■			50	50	5	6	30	4					16...

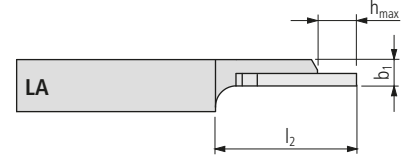
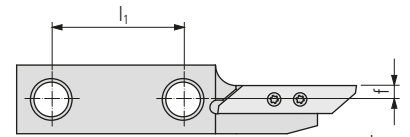
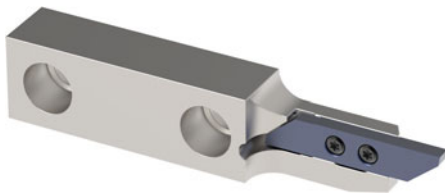
544

UTILIS **multidec**® swiss type tools



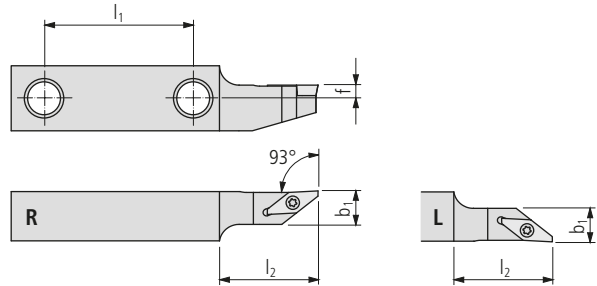
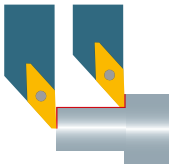
TECKO .. CUT 3000 .

Order designation				Size	Dimensions						Inserts	
L		R		TECKO	l <sub>1</sub>	h <sub>max</sub>	b <sub>1</sub>	l <sub>2</sub>	f			□ 107...
TECKO 38 CUT 3000 L	■	TECKO 38 CUT 3000 R	■	38	38	10	10	30	4			30...



TECKO .. CUT 3000 .A

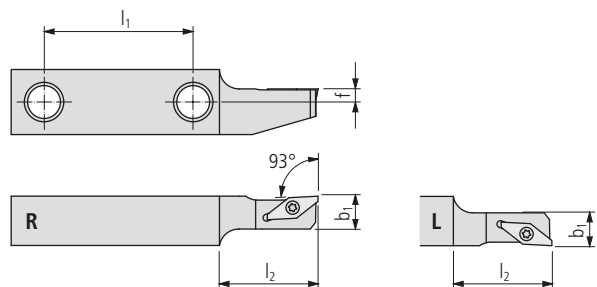
Order designation				Size	Dimensions						Inserts	
L		R		TECKO	l <sub>1</sub>	h <sub>max</sub>	b <sub>1</sub>	l <sub>2</sub>	f			□ 107...
TECKO 38 CUT 3000 LA	■			38	38	10	7.8	30	4			30...



TECKO .. SVJP... (93°)

Order designation				Size	Dimensions							Inserts	
L		R		TECKO	l <sub>1</sub>	b <sub>1</sub>	l <sub>2</sub>	f					□ 299...
TECKO 38 SVJPL 10	■	TECKO 38 SVJPR 10	■	38	38	10	30	4					VP...10...
TECKO 50 SVJPL 10	■	TECKO 50 SVJPR 10	■	50	50	10	30	4					VP...10...

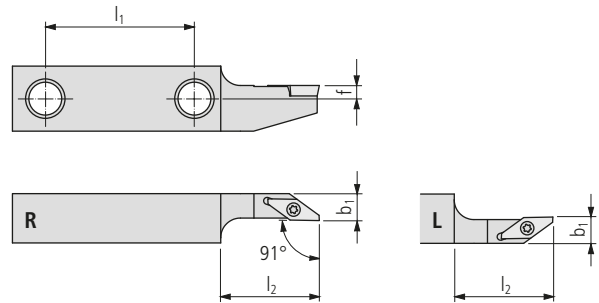
546



TECKO .. SVJP... V (93°)

Order designation				Size	Dimensions							Inserts	
L		R		TECKO	l <sub>1</sub>	b <sub>1</sub>	l <sub>2</sub>	f					□ 299...
TECKO 38 SVJPL 10V	■	TECKO 38 SVJPR 10V	■	38	38	10	30	4					VP...10...
TECKO 50 SVJPL 10V	■	TECKO 50 SVJPR 10V	■	50	50	10	30	4					VP...10...





TECKO .. SVXP... (91°)

Order designation				Size	Dimensions							Inserts*	
L		R		TECKO	l <sub>1</sub>	b <sub>1</sub>	l <sub>2</sub>	f					□ 299...
TECKO 38 SVXPL 10	■	TECKO 38 SVXPR 10	■	38	38	8	30	4					VP...10...
TECKO 50 SVXPL 10	■	TECKO 50 SVXPR 10	■	50	50	8	30	4					VP...10...

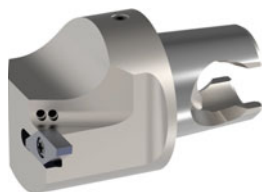
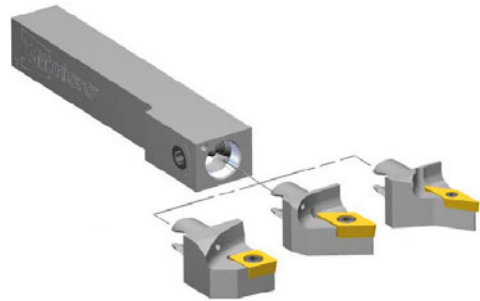
\* Attention  
 Right hand holder needs left hand insert!

Replacement and spare parts

Illustration	Description	Dimensions	Order designation	Holder
	TORX screw	M2.5 × 8 T08	MSP 25060 T08	■ TECKO.. CUT 1600, TECKO.. SV.P.1003..
		M3 × 9 T08	MSP 30090 T08	■ TECKO.. CUT 3000.

TORX screwdriver □ 664

multidec®-KM™ is a precise and robust quick-change system for automatic lathes with an interface to ISO standard 26622.  
 For the KM Micro, KM Mini and TS systems UTILIS offers suitable holders for multidec®-CUT, multidec®-TOP inserts and for multidec®-BORE MICRO cutting edges.



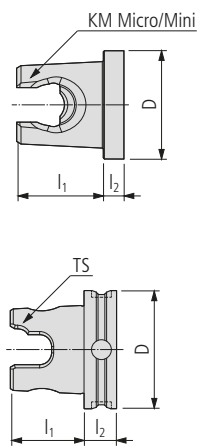
TS



KM is a Trademark of Kennametal Inc.




**Advantages:**

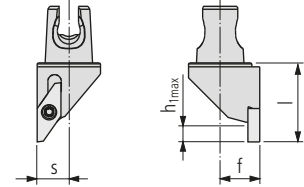
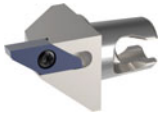
- Fast and simple installation of KM basic tool holders into the existing tool positions
- Quick tool changes
- Heat-treated steel tool holders with internal cooling
- High-quality multidec® cutting edges



Size	System			Dimensions		
		Kennametal Widia	Ceratizit	D	l <sub>1</sub>	l <sub>2</sub>
12	KM Micro	KM12		12	13	–
16		KM16		16	14.3	–
20	KM Mini	KM20		20	18	–
25		KM25		25	20	–
32	TS	KM32	UT32	32	20	8
40		KM40	UT40	40	25	11

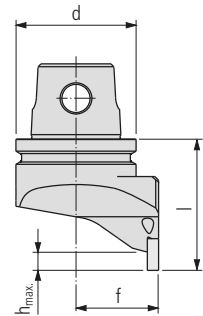
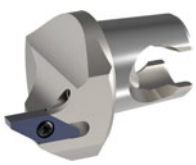


Technical information		9
HOLDERS (OD turning)		550
HOLDERS (ID turning)		557
Replacement and spare parts		559



KM 12/16/20 CUT 1600 .

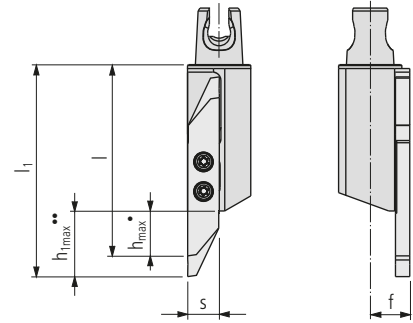
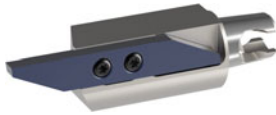
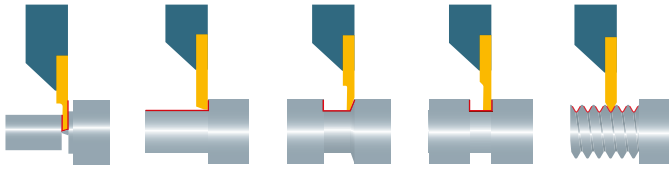
Order designation				Dimensions							Inserts	
L		R		KM	f	l			s	h <sub>max</sub>		□47...
KM 12 CUT 1600 L	■	KM 12 CUT 1600 R	■	12	8	20			6	5		16...
KM 16 CUT 1600 L	■	KM 16 CUT 1600 R	■	16	10	20			8	5		16...
KM 20 CUT 1600 L	■	KM 20 CUT 1600 R	■	20	12	25			9.5	5		16...



KM 25 CUT 1600 ...

KM 32/40 CUT 1600 ...

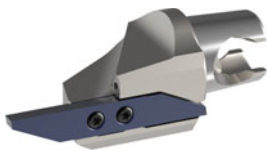
Order designation				Dimensions							Inserts	
L		R		KM	d	f	l			h <sub>max</sub>		□47...
KM 25 CUT 1600 L IC	■	KM 25 CUT 1600 R IC	■	25	25	17	25			5		16...
KM 32 CUT 1600 L IC	■	KM 32 CUT 1600 R IC	■	32	32	22	35			5		16...
KM 40 CUT 1600 L IC	■	KM 40 CUT 1600 R IC	■	40	40	27	40			5		16...



KM 12/16 CUT 3000 ...

Order designation				Dimensions								Inserts
L	■	R	■	KM	f	l	l <sub>1</sub>	s	h <sub>max</sub>	h <sub>1max</sub>	□ 107...	
												KM 12 CUT 3000 L
KM 16 CUT 3000 L	■	KM 16 CUT 3000 R	■	16	10	48	54	8	10	16	30...	

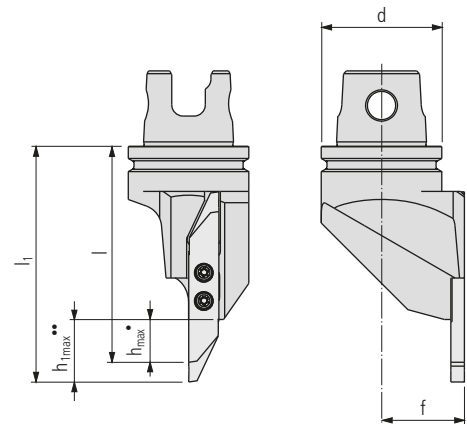
• Short insert; •• Long insert



KM 20/25 CUT 3000 ...

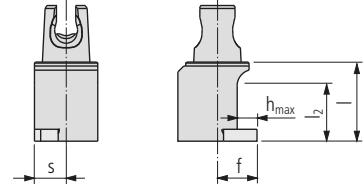
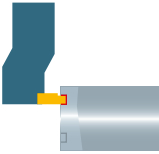


KM 32/40 CUT 3000 ...



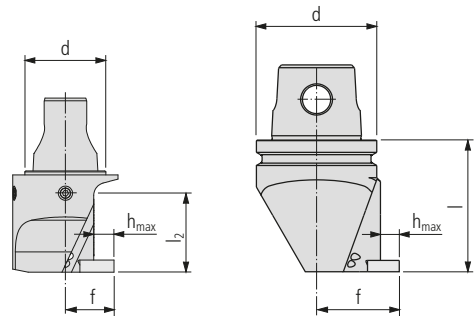
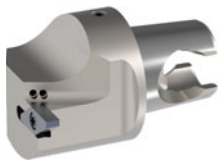
Order designation				Dimensions								Inserts
L	■	R	■	KM	d	f	l	l <sub>1</sub>	h <sub>max</sub>	h <sub>1max</sub>	□ 107...	
												KM 20 CUT 3000 L IC
KM 25 CUT 3000 L IC	■	KM 25 CUT 3000 R IC	■	25	25	17	46	52	10	16	30...	
KM 32 CUT 3000 L IC	■	KM 32 CUT 3000 R IC	■	32	32	22	57	63	10	16	30...	
KM 40 CUT 3000 L IC	■	KM 40 CUT 3000 R IC	■	40	40	27	57	63	10	16	30...	

• Short insert; •• Long insert



KM 12/16 CUT 1600-90 ...

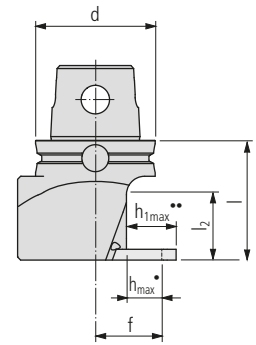
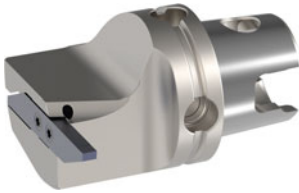
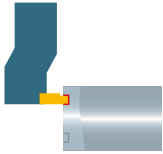
Order designation				Dimensions							Inserts
L	■	R	■	KM	f	l	l <sub>2</sub>	s	h <sub>max</sub>		□47...
											KM 12 CUT 1600-90 L
KM 16 CUT 1600-90 L	■	KM 16 CUT 1600-90 R	■	16	10	20	14	8	5		16...



KM 20/25 CUT 1600-90 ...

KM 32/40 CUT 1600-90 ...

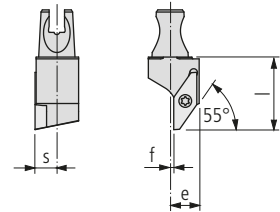
Order designation				Dimensions							Inserts
L	■	R	■	KM	d	f	l	l <sub>2</sub>	h <sub>max</sub>		□47...
											KM 20 CUT 1600-90 L IC
KM 25 CUT 1600-90 L IC	■	KM 25 CUT 1600-90 R IC	■	25	25	17	25	19	5		16...
KM 32 CUT 1600-90 L IC	■	KM 32 CUT 1600-90 R IC	■	32	32	22	35	–	5		16...
KM 40 CUT 1600-90 L IC	■	KM 40 CUT 1600-90 R IC	■	40	40	27	40	–	5		16...



KM 32/40 CUT 3000-90 ...

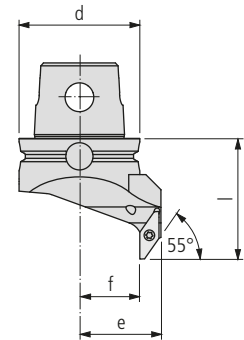
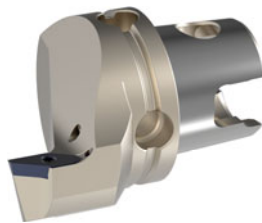
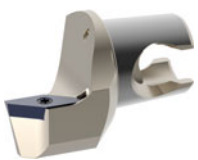
Order designation				Dimensions								Inserts	
L	■	R	■	KM	d	f	l	l <sub>2</sub>			h <sub>max</sub>	h <sub>1max</sub>	□ 107...
				KM 32 CUT 3000-90 L IC	■	KM 32 CUT 3000-90 R IC	■	32	32	22	35	19	
KM 40 CUT 3000-90 L IC	■	KM 40 CUT 3000-90 R IC	■	40	40	27	40	22			10	16	30...

• Short insert; •• Long insert



KM 12/16/20 SVXP... (55°)

Order designation				Dimensions								Inserts*	
L		R		KM	f	l	e			s			□ 299...
KM 12 SVXPL 10	■	KM 12 SVXPR 10	■	12	1	20	8			6			VP..1003..
KM 16 SVXPL 10	■	KM 16 SVXPR 10	■	16	3	20	10			8			VP..1003..
KM 20 SVXPL 10	■	KM 20 SVXPR 10	■	20	5.5	25	10.5			9.5			VP..1003..

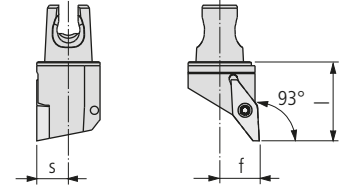
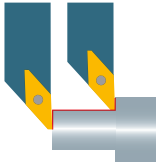


KM 25 SVXP... (55°)

KM 32/40 SVXP... (55°)

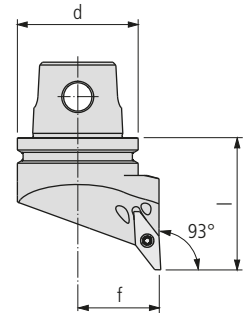
Order designation				Dimensions								Inserts*	
L		R		KM	d	f	l	e					□ 299...
KM 25 SVXPL 10 IC	■	KM 25 SVXPR 10 IC	■	25	25	10	25	17					VP..1003..
KM 32 SVXPL 10 IC	■	KM 32 SVXPR 10 IC	■	32	32	15	35	22					VP..1003..
KM 40 SVXPL 10 IC	■	KM 40 SVXPR 10 IC	■	40	40	20	40	27					VP..1003..

\* Attention  
 Right hand holder needs left hand insert!



KM 12/16 SVJP... (93°)

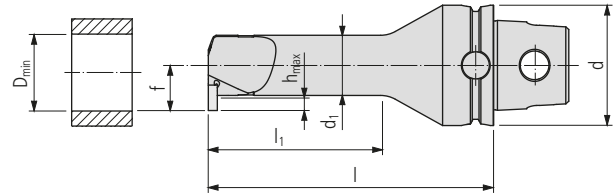
Order designation				Dimensions								Inserts
L		R		KM		f	l			s		□ 299...
KM 12 SVJPL 10	■	KM 12 SVJPR 10	■	12		8	20			6		VP..1003..
KM 16 SVJPL 10	■	KM 16 SVJPR 10	■	16		10	20			8		VP..1003..



KM 20/25 SVJP... (93°)

KM 32/40 SVJP... (93°)

Order designation				Dimensions								Inserts
L		R		KM	d	f	l					□ 299...
KM 20 SVJPL 10 IC	■	KM 20 SVJPR 10 IC	■	20	20	12	25					VP..1003..
KM 25 SVJPL 10 IC	■	KM 25 SVJPR 10 IC	■	25	25	17	25					VP..1003..
KM 32 SVJPL 10 IC	■	KM 32 SVJPR 10 IC	■	32	32	22	35					VP..1003..
KM 40 SVJPL 10 IC	■	KM 40 SVJPR 10 IC	■	40	40	27	40					VP..1003..

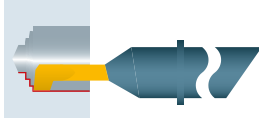


KM .. CUT 1600... RD

Order designation		Dimensions										Inserts*
L	R	KM	d	f	l	D <sub>min</sub>	l <sub>1</sub>		d <sub>1</sub>	h <sub>max</sub>	□47...	
KM 32 CUT 1600-12 RD L IC	■ KM 32 CUT 1600-12 RD R IC	■	32	32	11	75	17.5	36		12	3	16...
KM 32 CUT 1600-16 RD L IC	■ KM 32 CUT 1600-16 RD R IC	■	32	32	13	75	21	48		16	4	16...
KM 32 CUT 1600-20 RD L IC	■ KM 32 CUT 1600-20 RD R IC	■	32	32	15	75	25	60		20	4	16...
KM 40 CUT 1600-12 RD L IC	■ KM 40 CUT 1600-12 RD R IC	■	40	40	11	77	17.5	36		12	3	16...
KM 40 CUT 1600-16 RD L IC	■ KM 40 CUT 1600-16 RD R IC	■	40	40	13	77	21	48		16	4	16...
KM 40 CUT 1600-20 RD L IC	■ KM 40 CUT 1600-20 RD R IC	■	40	40	15	77	25	60		20	4	16...

\* Attention  
 Right hand holder needs left hand insert!

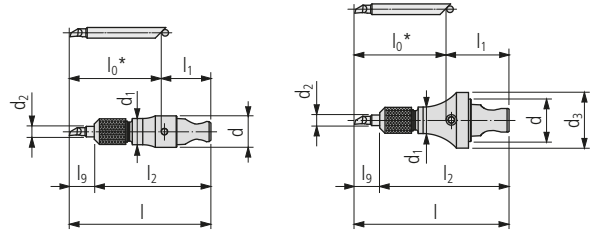




KM 12 SDA...

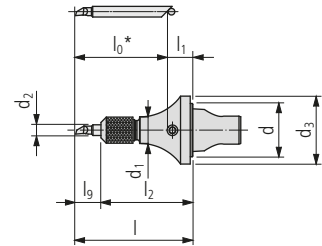
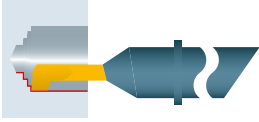


KM 16 SDA...



Order designation		Dimensions											Inserts □ 331...	
		KM	d	l	l <sub>9</sub>	l <sub>1</sub>	l <sub>2</sub>	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>				
<b>N</b>														
KM 12 SDA-4	■	12	12	l <sub>0</sub> +l <sub>1</sub>	l-l <sub>2</sub>	6	31.5	10	4	-				SD.4... / SX.4...
KM 12 SDA-6	■	12	12	l <sub>0</sub> +l <sub>1</sub>	l-l <sub>2</sub>	6	35.5	15	6	15				SD.6... / SX.6...
KM 12 SDA-8	■	12	12	l <sub>0</sub> +l <sub>1</sub>	l-l <sub>2</sub>	6	37.5	18	8	18				SD.8... / SX.8...
KM 16 SDA-4 IC	■	16	16	l <sub>0</sub> +l <sub>1</sub>	l-l <sub>2</sub>	9	34.5	10	4	21				SD.4... / SX.4...
KM 16 SDA-6 IC	■	16	16	l <sub>0</sub> +l <sub>1</sub>	l-l <sub>2</sub>	9	38.5	15	6	21				SD.6... / SX.6...
KM 16 SDA-8 IC	■	16	16	l <sub>0</sub> +l <sub>1</sub>	l-l <sub>2</sub>	9	40.5	18	8	21				SD.8... / SX.8...

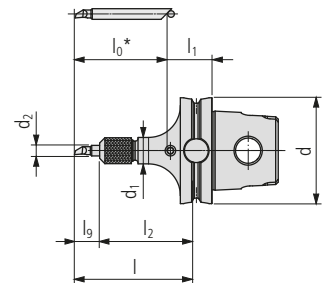
\* The length of the insert is variable



KM 20/25 SDA...

Order designation		Dimensions										Inserts □ 331...	
		KM	d	l	l <sub>9</sub>	l <sub>1</sub>	l <sub>2</sub>	d <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>			
	KM 20 SDA-4 IC	■	20	20	l <sub>0</sub> +l <sub>1</sub>	l- <sub>2</sub>	9	34.5	10	4	25.5		SD.4... / SX.4...
	KM 20 SDA-6 IC	■	20	20	l <sub>0</sub> +l <sub>1</sub>	l- <sub>2</sub>	9	38.5	15	6	25.5		SD.6... / SX.6...
	KM 20 SDA-8 IC	■	20	20	l <sub>0</sub> +l <sub>1</sub>	l- <sub>2</sub>	9	40.5	18	8	25.5		SD.8... / SX.8...
	KM 25 SDA-4 IC	■	25	25	l <sub>0</sub> +l <sub>1</sub>	l- <sub>2</sub>	9	34.5	10	4	30		SD.4... / SX.4...
	KM 25 SDA-8 IC	■	25	25	l <sub>0</sub> +l <sub>1</sub>	l- <sub>2</sub>	9	40.5	18	8	30		SD.8... / SX.8...





\* The length of the insert is variable



KM 32/40 SDA...

Order designation		Dimensions										Inserts □ 331...	
		KM	d	l	l <sub>9</sub>	l <sub>1</sub>	l <sub>2</sub>	d <sub>1</sub>	d <sub>2</sub>				
	KM 32 SDA-4 IC	■	32	32	l <sub>0</sub> +l <sub>1</sub>	l- <sub>2</sub>	15	40.5	10	4			SD.4... / SX.4...
	KM 32 SDA-6 IC	■	32	32	l <sub>0</sub> +l <sub>1</sub>	l- <sub>2</sub>	15	44.5	15	6			SD.6... / SX.6...
	KM 32 SDA-8 IC	■	32	32	l <sub>0</sub> +l <sub>1</sub>	l- <sub>2</sub>	15	46.5	18	8			SD.8... / SX.8...
	KM 40 SDA-4 IC	■	40	40	l <sub>0</sub> +l <sub>1</sub>	l- <sub>2</sub>	17	42.5	10	4			SD.4... / SX.4...
	KM 40 SDA-8 IC	■	40	40	l <sub>0</sub> +l <sub>1</sub>	l- <sub>2</sub>	17	48.5	18	8			SD.8... / SX.8...

\* The length of the insert is variable

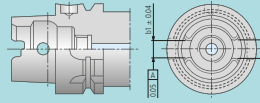




Illustration	Description	Dimensions	Order designation	Holder	Inserts
	TORX screw	M2.5 × 8 T08	MSP 25060 T08	■	KM.. CUT 1600, KM.. SV.P.10
		M3 × 9 T08	MSP 30090 T08	■	KM.. CUT 3000.
	Nut	M8 × 0.5	MSP SDA 4M	■	KM..SDA-4.
		M12 × 0.6	MSP SDA 6M	■	KM..SDA-6.
		M14 × 0.75	MSP SDA 8M	■	KM..SDA-8.
	Aligning device		SDA 4X	■	KM..SDA-4.
			SDA 6X	■	KM..SDA-6.
			SDA 8X	■	KM..SDA-8.
	Retaining ring		MSP SDA 4S	■	SD. 4... SX. 4...
			MSP SDA 6S	■	SD. 6... SX. 6...
			MSP SDA 8S	■	SD. 8... SX. 8...

TORX screwdriver  664

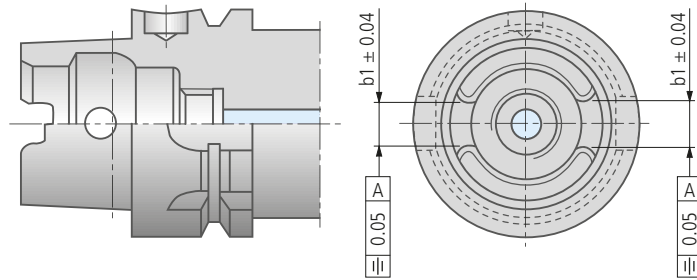
Use of the multidec®-HSK-system with ISO 12164/DIN 69893 standardized attachment has become increasingly widespread in recent years. This system makes the customer independent from specific tool system, which is a great advantage. Simplicity, precision and reliability; these are the criteria that customers place on modern tool systems. HSK tools largely satisfy these demands and help to maximize productivity. The program comprises a wide selection of tool holders for both OD and ID turning on lathes. The standard range has been developed in size 32 and form "C" for manual tool changing. Now we propose a new size 40 in form HSK-T for the automatic- and manual tool change. Other HSK shapes and sizes are available on request.

**Advantages:**

- Large program of toolholders in heat-treatable steel, with internal cooling, available from stock
- Holder with high rigidity and repeat accuracy
- High precision in positioning of cutting edge, cause of the axial positioning and the close tolerance of the holder keyway HSK-T standard ISO 12164
- Utilisation of high quality UTILIS multidec®-inserts

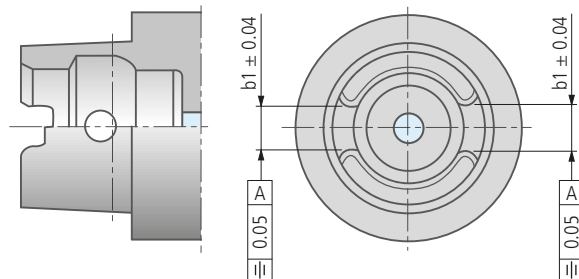
Technical information		9
HSK-versions		562
Holders (IOD turning)		564
Holders (ID turning)		568
Closing plug		570
Replacement and spare parts		571

HSK – Form A



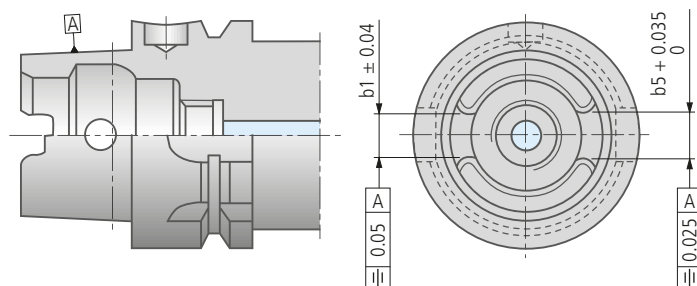
- Used on machining centers, milling machines, turning machines, special machines with automatic tool change
- Central, axial coolant supply through coolant tube
- Torque transmission via two key slots at end of taper
- Two slots on collar for tool magazine, location edge hole for data carrier in collar

HSK – Form C



- Preferably used for spindles on transfer lines and special machines without automatic tool change or for short bore spindles and tool extensions and reductions
- Central, axial coolant supply
- Torque transmission via two key slots at end of taper

HSK – Form T

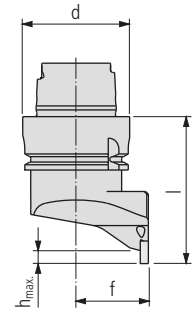


**Tighter tolerance for perfect change precision**

The "T" stands for "Turning". HSK-T combines the basic shape of the HSK taper in form A/C and differs by closer tolerances of the cam grooves on the cone of the tools.

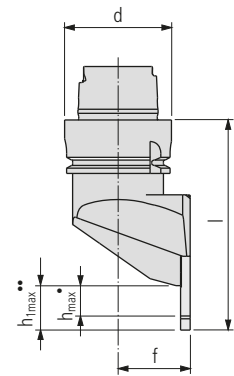
This important feature for turning assures accurate radial positioning (center height).





HSK... CUT 1600 .

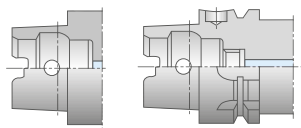
Order designation		Form / Size	Dimensions					Inserts
L	R	HSK	d	f	l		h <sub>max</sub>	□ 47...
HSK-C32 CUT 1600 L	■ HSK-C32 CUT 1600 R	■ C32	32	22	40		5	16...
HSK-T40 CUT 1600 L	■ HSK-T40 CUT 1600 R	■ A40 / C40	40	27	55		5	16...



HSK... CUT 3000 .

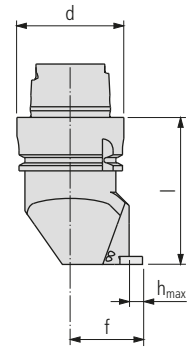
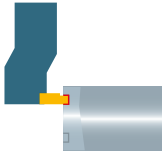
Order designation		Form / Size	Dimensions					Inserts	
L	R	HSK	d	f	l		h <sub>max</sub>	h <sub>1max</sub>	□ 107...
HSK-C32 CUT 3000 L	■ HSK-C32 CUT 3000 R	■ C32	32	22	50		10	16	30...
HSK-T40 CUT 3000 L	■ HSK-T40 CUT 3000 R	■ A40 / C40	40	27	73		10	16	30...

• Short insert; •• Long insert



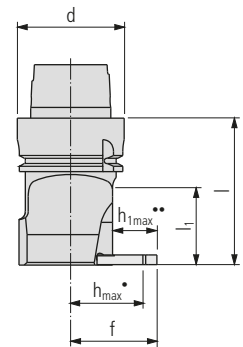
HSK-C... HSK-T (A/C)... Versions □ 562...





HSK... CUT 1600-90 .

Order designation				Form / Size	Dimensions					Inserts*	
L		R		HSK	d	f	l		h <sub>max</sub>		□ 47...
HSK-C32 CUT 1600-90 L	■	HSK-C32 CUT 1600-90 R	■	C32	32	22	40		5		16...
HSK-T40 CUT 1600-90 L	■	HSK-T40 CUT 1600-90 R	■	A40 / C40	40	27	55		5		16...

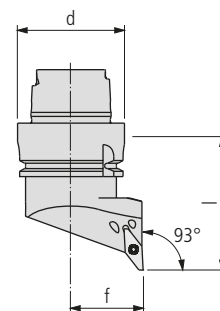
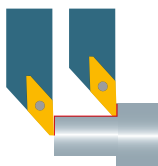


HSK... CUT 3000-90 .

Order designation				Form / Size	Dimensions						Inserts*
L		R		HSK	d	f	l	l <sub>1</sub>	h <sub>max</sub>	h <sub>1max</sub>	□ 107...
HSK-C32 CUT 3000-90 L	■	HSK-C32 CUT 3000-90 R	■	C32	32	22	40	24	10	–	30...
HSK-T40 CUT 3000-90 L	■	HSK-T40 CUT 3000-90 R	■	A40 / C40	40	27	55	30	10	16	30...

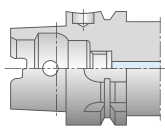
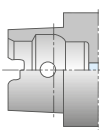
• Short insert; •• Long insert

\* Attention  
 Right hand holder needs left hand insert!

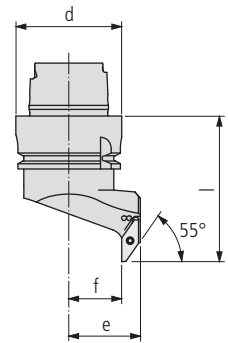
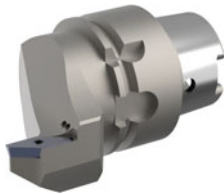


HSK... SVJP... (93°)

Order designation		Form/Size	Dimensions							Inserts
L	R	HSK	d	f	l					□ 299...
HSK-C32 SVJPL 10	■ HSK-C32 SVJPR 10	■ C32	32	22	40					VP...1003...
HSK-T40 SVJPL 10	■ HSK-T40 SVJPR 10	■ A40/C40	40	27	55					VP...1003...



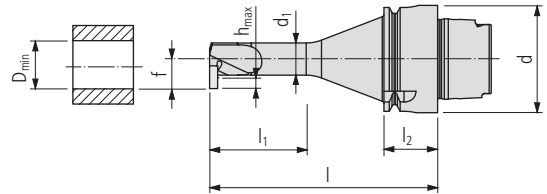
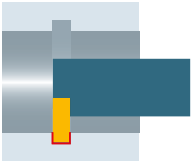
HSK-C...    HSK-T (A/C)...    Versions □ 562...



HSK... SVXP... (55°)

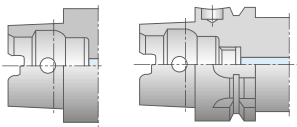
Order designation				Form / Size	Dimensions						Inserts*	
L		R		HSK	d	f	l	e				□ 299...
HSK-C32 SVXPL 10	■	HSK-C32 SVXPR 10	■	C32	32	15	40	22				VP...1003...
HSK-T40 SVXPL 10	■	HSK-T40 SVXPR 10	■	A40 / C40	40	20	55	27				VP...1003...

\* Attention  
 Right hand holder needs left hand insert!



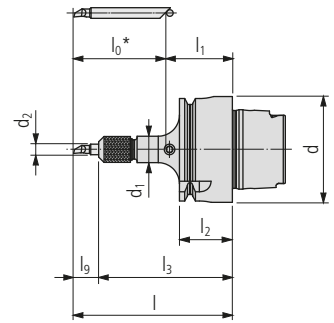
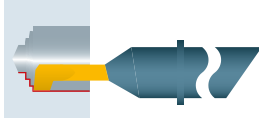
HSK... CUT 1600... RD

Order designation		Form / Size	Dimensions							Inserts*	
L	R	HSK	d	f	l	D <sub>min</sub>	l <sub>1</sub>	l <sub>2</sub>	d <sub>1</sub>	h <sub>max</sub>	□47...
HSK-C32 CUT 1600-12 RD L	■ HSK-C32 CUT 1600-12 RD R	■ C32	32	11	75	17.5	36	10	12	3	16...
HSK-C32 CUT 1600-16 RD L	■ HSK-C32 CUT 1600-16 RD R	■ C32	32	13	75	21	48	10	16	4	16...
HSK-C32 CUT 1600-20 RD L	■ HSK-C32 CUT 1600-20 RD R	■ C32	32	15	75	25	60	10	20	4	16...
HSK-T40 CUT 1600-12 RD L	■ HSK-T40 CUT 1600-12 RD R	■ A40 / C40	40	11	85	17.5	36	20	12	3	16...
HSK-T40 CUT 1600-16 RD L	■ HSK-T40 CUT 1600-16 RD R	■ A40 / C40	40	13	85	21	48	20	16	4	16...
HSK-T40 CUT 1600-20 RD L	■ HSK-T40 CUT 1600-20 RD R	■ A40 / C40	40	15	85	25	60	20	20	4	16...



HSK-C... HSK-T (A/C)... Versions □562...

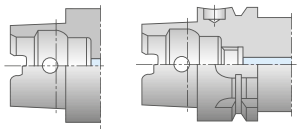
\* Attention  
 Right hand holder needs left hand insert!



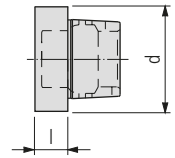
HSK... SDA...

Order designation	Form / Size	Dimensions								Inserts	
		HSK	d	l	l <sub>9</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	d <sub>1</sub>	d <sub>2</sub>	□ 331...
<b>N</b>											
HSK-C32 SDA-4	■ C32	32	l <sub>0</sub> +l <sub>1</sub>	l-l <sub>3</sub>	15	10	40.5	10	4	SD.4.../SX.4...	
HSK-C32 SDA-6	■ C32	32	l <sub>0</sub> +l <sub>1</sub>	l-l <sub>3</sub>	15	10	44.5	15	6	SD.6.../SX.6...	
HSK-C32 SDA-8	■ C32	32	l <sub>0</sub> +l <sub>1</sub>	l-l <sub>3</sub>	15	10	46.5	18	8	SD.8.../SX.8...	
HSK-T40 SDA-4	■ A40 / C40	40	l <sub>0</sub> +l <sub>1</sub>	l-l <sub>3</sub>	25	20	50.5	10	4	SD.4.../SX.4...	
HSK-T40 SDA-6	■ A40 / C40	40	l <sub>0</sub> +l <sub>1</sub>	l-l <sub>3</sub>	25	20	54.5	15	6	SD.6.../SX.6...	
HSK-T40 SDA-8	■ A40 / C40	40	l <sub>0</sub> +l <sub>1</sub>	l-l <sub>3</sub>	25	20	56.5	18	8	SD.8.../SX.8...	

\* The length of the insert is variable




HSK-C... HSK-T (A/C)... Versions □ 562...







HSK... VS

Order designation	Form / Size		Dimensions							
	HSK		d	l						
HSK-C32 VS	■	C32	32	10						
HSK-C40 VS	■	C40	40	15						

For holders (CUT/SC/SD/SV...) OD turning

Illustration	Description	Dimensions	Order designation		Holder
	TORX screw	M2.5 × 6 T08	MSP 25060 T08	■	HSK ... CUT 1600 ... HSK ... SV.P ...
		M3 × 9 T08	MSP 30090 T08	■	HSK ... CUT 3000 ...

For holders (CUT/SC/SD/SV...) ID turning

Illustration	Description	Dimensions	Order designation		Holder	Inserts
	TORX screw	M2.5 × 6 T08	MSP 25060 T08	■	HSK ... CUT 1600 ... RD	
	Nut	M8 × 0.5	MSP SDA 4M	■	HSK..SDA-4.	
		M12 × 0.6	MSP SDA 6M	■	HSK..SDA-6.	
		M14 × 0.75	MSP SDA 8M	■	HSK..SDA-8.	
	Aligning device		SDA 4X	■	HSK..SDA-4.	
			SDA 6X	■	HSK..SDA-6.	
			SDA 8X	■	HSK..SDA-8.	
	Retaining ring		MSP SDA 4S	■		SD. 4... SX. 4...
			MSP SDA 6S	■		SD. 6... SX. 6...
			MSP SDA 8S	■		SD. 8... SX. 8...

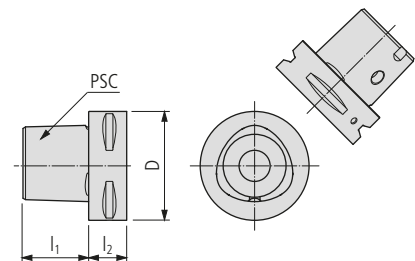
TORX screwdriver ☐ 664

multidec®-PSC is a flexible and modular quick change toolholder-system, with a polygon-connection compliant with ISO 26623-1 standard. High torque transmission is one basic advantage of the system. The program includes tool holders suitable for turning machines with multidec®-CUT, multidec®-TOP and multidec®-BORE MICRO inserts.






**Advantages:**

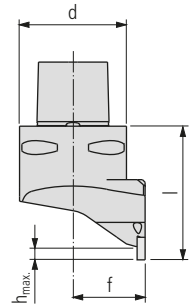
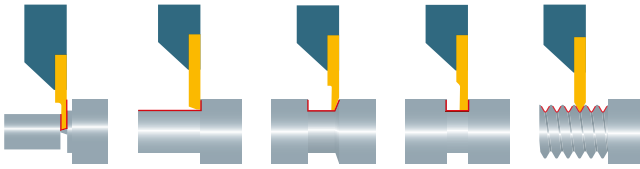
- Connection with high rigidity, repeat accuracy and self-centering
- Quick change of toolholders
- Toolholders with heat-treatable steel and internal cooling
- Utilisation of high quality multidec® inserts



Size		Dimensions		
PSC	Sandvik Coromant Capto <sup>®</sup>	D	l <sub>1</sub>	l <sub>2</sub>
32	C3	32	19	15
40	C4	40	24	20
50	C5	50	30	20
63	C6	63	38	22
80	C8	80	48	30
100	C10	100	60	32

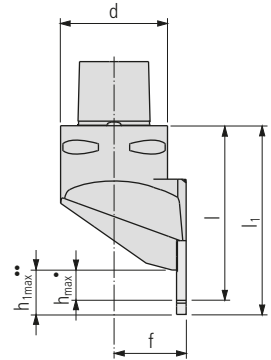


Technical information		9
Holders (OD turning)		574
Holders (ID turning)		578
Replacement and spare parts		580



PSC ... CUT 1600 .

Order designation				Size	Dimensions						Inserts
L		R		PSC	d	f	l			h <sub>max</sub>	□47...
PSC 32 CUT 1600 L	■	PSC 32 CUT 1600 R	■	32	32	22	40			5	16...
PSC 40 CUT 1600 L	■	PSC 40 CUT 1600 R	■	40	40	27	50			5	16...

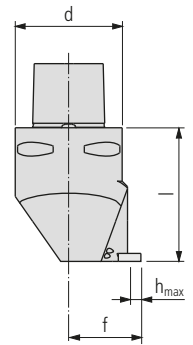
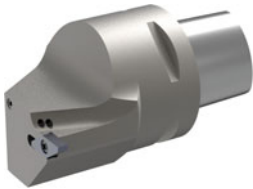
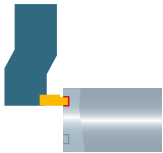


PSC ... CUT 3000 .

Order designation				Size	Dimensions						Inserts	
L		R		PSC	d	f	l	l <sub>1</sub>		h <sub>max</sub>	h <sub>1max</sub>	□107...
PSC 32 CUT 3000 L	■	PSC 32 CUT 3000 R	■	32	32	22	60	66		10	16	30...
PSC 40 CUT 3000 L	■	PSC 40 CUT 3000 R	■	40	40	27	65	71		10	16	30...

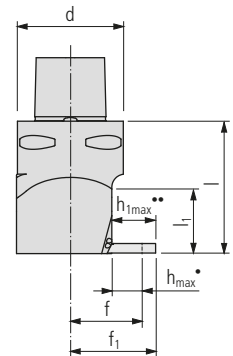
• Short insert; •• Long insert

574



PSC ... CUT 1600-90 .

Order designation				Size	Dimensions							Inserts*	
L		R		PSC	d	f	l				h <sub>max</sub>		□ 47...
PSC 32 CUT 1600-90 L	■	PSC 32 CUT 1600-90 R	■	32	32	22	40				5		16...
PSC 40 CUT 1600-90 L	■	PSC 40 CUT 1600-90 R	■	40	40	27	50				5		16...

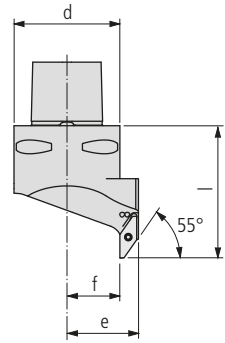


PSC ... CUT 3000-90 .

Order designation				Size	Dimensions								Inserts*
L		R		PSC	d	f	f <sub>1</sub>	l	l <sub>1</sub>		h <sub>max</sub>	h <sub>1max</sub>	□ 107...
PSC 32 CUT 3000-90 L	■	PSC 32 CUT 3000-90 R	■	32	32	22	27	40	19		10	16	30...
PSC 40 CUT 3000-90 L	■	PSC 40 CUT 3000-90 R	■	40	40	27	32	50	25		10	16	30...

• Short insert; •• Long insert

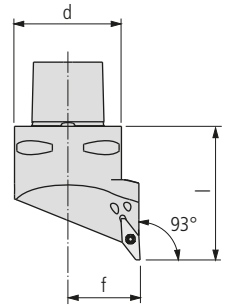
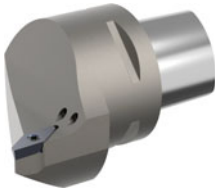
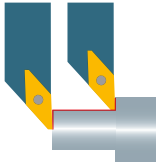
\* Attention  
 Right hand holder needs left hand insert!



PSC ... SVXP... (55°)

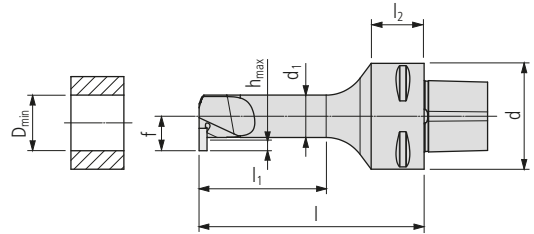
Order designation				Size	Dimensions								Inserts*	
L		R		PSC	d	f	l	e						□ 299...
PSC 32 SVXPL 10	■	PSC 32 SVXPR 10	■	32	32	15	40	22						VP...1003...
PSC 40 SVXPL 10	■	PSC 40 SVXPR 10	■	40	40	22	50	27						VP...1003...

\* Attention  
 Right hand holder needs left hand insert!



PSC ... SVJP... (93°)

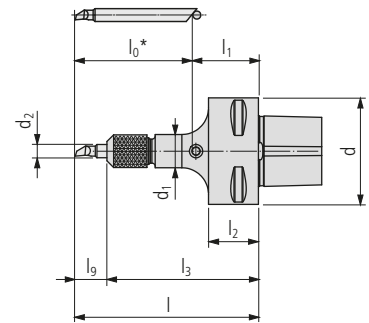
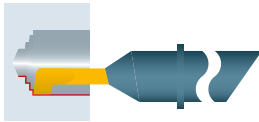
Order designation				Size	Dimensions								Inserts
L		R		PSC	d	f	l						□ 299...
PSC 32 SVJPL 10	■	PSC 32 SVJPR 10	■	32	32	22	40						VP...1003...
PSC 40 SVJPL 10	■	PSC 40 SVJPR 10	■	40	40	27	50						VP...1003...



PSC ... CUT 1600... RD

Order designation				Size	Dimensions									Inserts*
L		R		PSC	d	f	l	D <sub>min</sub>	l <sub>1</sub>	l <sub>2</sub>	d <sub>1</sub>	h <sub>max</sub>	47...	
PSC 32 CUT 1600-12 RD L	■	PSC 32 CUT 1600-12 RD R	■	32	32	11	80	17.5	36	15	12	3	16...	
PSC 32 CUT 1600-16 RD L	■	PSC 32 CUT 1600-16 RD R	■	32	32	13	80	21	48	15	16	4	16...	
PSC 32 CUT 1600-20 RD L	■	PSC 32 CUT 1600-20 RD R	■	32	32	15	80	25	60	15	20	4	16...	
PSC 40 CUT 1600-12 RD L	■	PSC 40 CUT 1600-12 RD R	■	40	40	11	85	17.5	36	20	12	3	16...	
PSC 40 CUT 1600-16 RD L	■	PSC 40 CUT 1600-16 RD R	■	40	40	13	85	21	48	20	16	4	16...	
PSC 40 CUT 1600-20 RD L	■	PSC 40 CUT 1600-20 RD R	■	40	40	15	85	25	60	20	20	4	16...	


**\* Attention**  
Right hand holder needs left hand insert!







PSC ... SDA...

Order designation	Size	Dimensions									Inserts □ 331...
		PSC	d	l	l <sub>9</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	d <sub>1</sub>	d <sub>2</sub>	
<b>N</b> PSC 32 SDA-4	■ 32	32	l <sub>0</sub> +l <sub>1</sub>	l-l <sub>3</sub>	20	15	45.5	10	4	SD.4.../SX.4...	
PSC 32 SDA-6	■ 32	32	l <sub>0</sub> +l <sub>1</sub>	l-l <sub>3</sub>	20	15	49.5	15	6	SD.6.../SX.6...	
PSC 32 SDA-8	■ 32	32	l <sub>0</sub> +l <sub>1</sub>	l-l <sub>3</sub>	20	15	51.5	18	8	SD.8.../SX.8...	
PSC 40 SDA-4	■ 40	40	l <sub>0</sub> +l <sub>1</sub>	l-l <sub>3</sub>	25	20	50.5	10	4	SD.4.../SX.4...	
PSC 40 SDA-6	■ 40	40	l <sub>0</sub> +l <sub>1</sub>	l-l <sub>3</sub>	25	20	54.5	15	6	SD.6.../SX.6...	
PSC 40 SDA-8	■ 40	40	l <sub>0</sub> +l <sub>1</sub>	l-l <sub>3</sub>	25	20	56.5	18	8	SD.8.../SX.8...	

For holders (CUT/TOP...) OD turning

Illustration	Description	Dimensions	Order designation	Holder
	TORX screw	M2.5 × 6 T08	MSP 25060 T08	■ PSC ... CUT 1600 ... PSC ... SV.P ...
		M3 × 9 T08	MSP 30090 T08	■ PSC ... CUT 3000 ...

For holders (CUT...) ID turning

Illustration	Description	Dimensions	Order designation	Holder	Inserts
	TORX screw	M2.5 × 6 T08	MSP 25060 T08	■	PSC ... CUT 1600 ... RD
	Nut	M8 × 0.5	MSP SDA 4M	■	PSC..SDA-4.
		M12 × 0.6	MSP SDA 6M	■	PSC..SDA-6.
		M14 × 0.75	MSP SDA 8M	■	PSC..SDA-8.
	Aligning device		SDA 4X	■	PSC..SDA-4.
			SDA 6X	■	PSC..SDA-6.
			SDA 8X	■	PSC..SDA-8.
	Retaining ring		MSP SDA 4S	■	SD. 4... SX. 4...
			MSP SDA 6S	■	SD. 6... SX. 6...
			MSP SDA 8S	■	SD. 8... SX. 8...

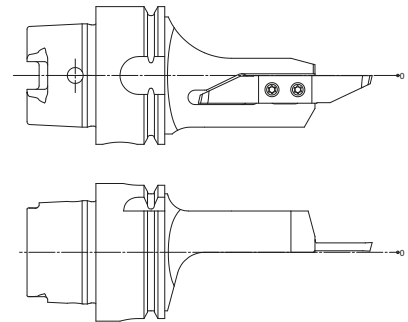
TORX screwdriver  664












Solid and compact tools are an enormous advantage for turning operations on multitask machines. Specially-designed tools must be used with the machine spindle during the turning process that can allow work to be done very close to the main or opposed spindle. Any errors in the height of the cutting edge and torsional forces should also be kept to a minimum.

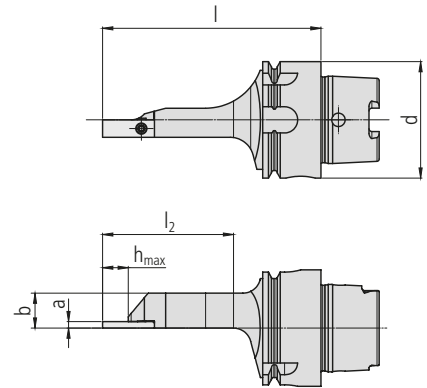
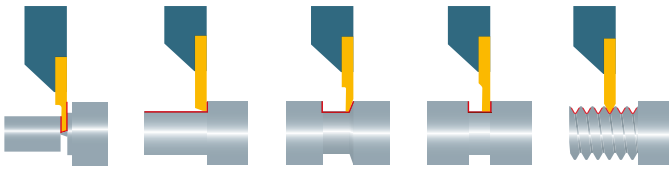
With the HSK-E40, HSK-T32, HSK-T40, HSK-A40 and PSC 40 (Capto C4) spindles, this sophisticated range of tools offers ideal solutions for modern turning and milling centers.



**Advantages:**

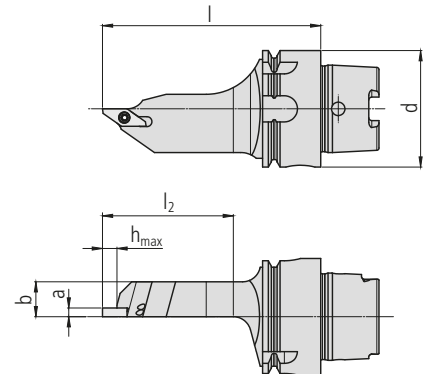
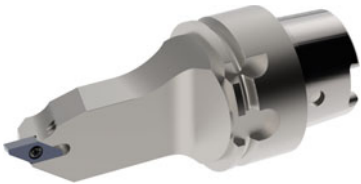
- Monoblock tools with interchangeable inserts
- Compact and solid design
- The insert is positioned on the center line (guaranteeing a very accurate cutting edge height and high repeatability while also reducing of the load on the spindle)
- All tools are equipped with integrated coolant supply
- The high quality UTILIS inserts from the multidec®-CUT, -ISO, -TOP and -BORE MICRO series can be used

Technical information		9
Holders HSK-T32/T40/A40 ... (OD turning)		584
Holders HSK-T32/T40/A40 ... (ID turning)		590
Holders PSC 40 ... (OD turning)		591
Holders PSC 40 ... (ID turning)		597
Holders HSK-E40 ... WM (OD turning for Willemin-Macodel machines)		598
Holders HSK-E40 ... WM (ID turning for Willemin-Macodel machines)		604
Replacement and spare parts		605



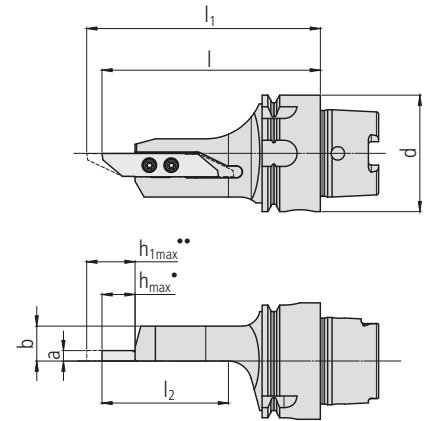
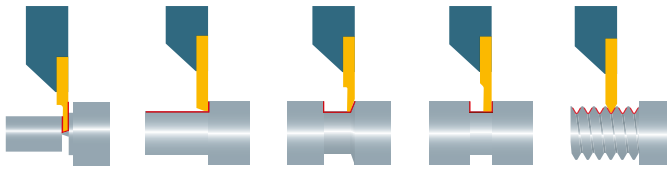
HSK-... MT CUT 500 .

Order designation				Form / Size	Dimensions						Inserts	
L	R	HSK		d	b	l	l <sub>2</sub>	a		h <sub>max</sub>	□43...	
		HSK-T32 MT CUT 500 L	■	HSK-T32 MT CUT 500 R	■	T32	32	12	65	35	2	8.5
HSK-T40 MT CUT 500 L	■	HSK-T40 MT CUT 500 R	■	T40	40	12	75	45	2	8.5	50.	
HSK-A40 MT CUT 500 L	■	HSK-A40 MT CUT 500 R	■	A40	40	12	75	45	2	8.5	50.	



HSK-... MT CUT 1600 .

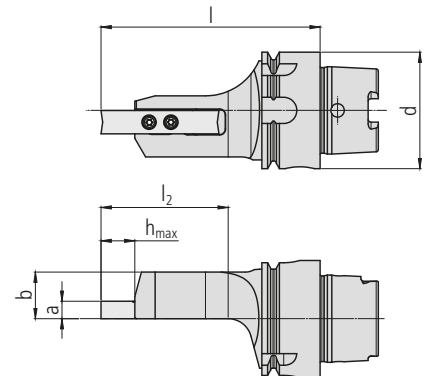
Order designation				Form / Size	Dimensions						Inserts	
L	R	HSK		d	b	l	l <sub>2</sub>	a		h <sub>max</sub>	□47...	
		HSK-T32 MT CUT 1600 L	■	HSK-T32 MT CUT 1600 R	■	T32	32	12	65	35	3	5
HSK-T40 MT CUT 1600 L	■	HSK-T40 MT CUT 1600 R	■	T40	40	12	75	45	3	5	16..	
HSK-A40 MT CUT 1600 L	■	HSK-A40 MT CUT 1600 R	■	A40	40	12	75	45	3	5	16..	



HSK-... MT CUT 3000 .

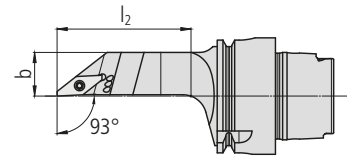
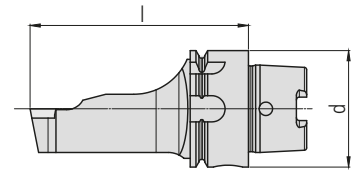
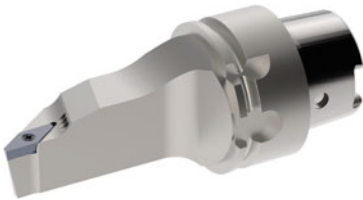
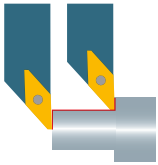
Order designation				Form / Size	Dimensions							Inserts	
L	R			HSK	d	b	l	l <sub>1</sub>	l <sub>2</sub>	a	h <sub>max</sub>	h <sub>1max</sub>	□ 107...
		HSK-T32 MT CUT 3000 L	■	HSK-T32 MT CUT 3000 R	■	T32	32	12	65	—	35	3.5	10
HSK-T40 MT CUT 3000 L	■	HSK-T40 MT CUT 3000 R	■	T40	40	12	75	80	45	3.5	10	16	30..
HSK-A40 MT CUT 3000 L	■	HSK-A40 MT CUT 3000 R	■	A40	40	12	75	80	45	3.5	10	16	30..

• Short insert; •• Long insert



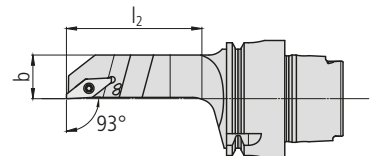
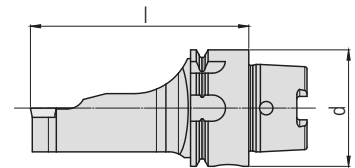
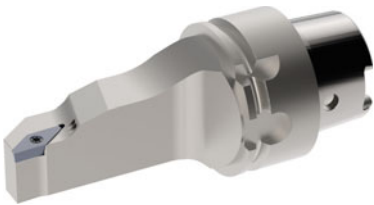
HSK-... MT CUT 3600 .

Order designation				Form / Size	Dimensions							Inserts
L	R			HSK	d	b	l	l <sub>2</sub>	a		h <sub>max</sub>	□ 155...
		HSK-T40 MT CUT 3600 L	■	HSK-T40 MT CUT 3600 R	■	T40	40	16	75	43	6	
HSK-A40 MT CUT 3600 L	■	HSK-A40 MT CUT 3600 R	■	A40	40	16	75	43	6		10	36..



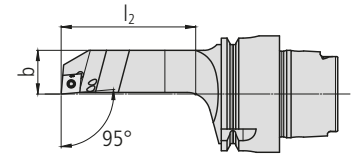
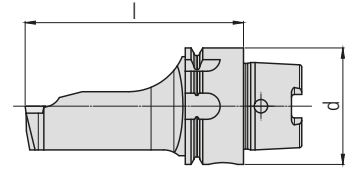
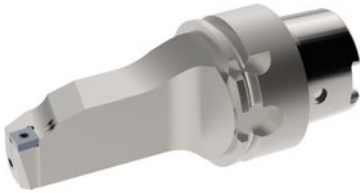
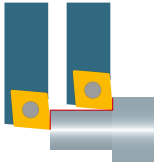
HSK-... MT SVJP... (93°)

Order designation				Form / Size	Dimensions				Inserts
L		R		HSK	d	b	l	l <sub>2</sub>	□ 299...
HSK-T32 MT SVJPL 10	■	HSK-T32 MT SVJPR 10	■	T32	32	12	65	36	VP.. 1003..
HSK-T40 MT SVJPL 10	■	HSK-T40 MT SVJPR 10	■	T40	40	15	75	46	VP.. 1003..
HSK-A40 MT SVJPL 10	■	HSK-A40 MT SVJPR 10	■	A40	40	15	75	46	VP.. 1003..



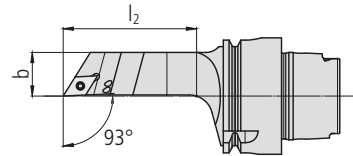
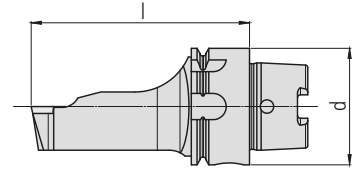
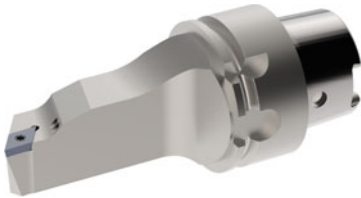
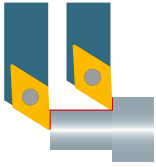
HSK-... MT SVJP... V (93°)

Order designation				Form / Size	Dimensions				Inserts
L		R		HSK	d	b	l	l <sub>2</sub>	□ 299...
HSK-T32 MT SVJPL 10 V	■	HSK-T32 MT SVJPR 10 V	■	T32	32	12	65	36	VP.. 1003..
HSK-T40 MT SVJPL 10 V	■	HSK-T40 MT SVJPR 10 V	■	T40	40	15	75	46	VP.. 1003..
HSK-A40 MT SVJPL 10 V	■	HSK-A40 MT SVJPR 10 V	■	A40	40	15	75	46	VP.. 1003..



HSK-... MT SCLC... (95°)

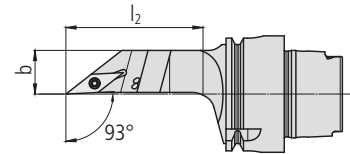
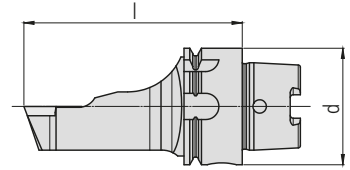
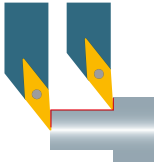
Order designation				Form / Size	Dimensions						Inserts	
L		R		HSK	d	b	l	l <sub>2</sub>				□ 177...
HSK-T32 MT SCLCL 06	■	HSK-T32 MT SCLCR 06	■	T32	32	15	65	35				CC..0602..
HSK-T32 MT SCLCL 09	■	HSK-T32 MT SCLCR 09	■	T32	32	15	65	35				CC..09T3..
HSK-T40 MT SCLCL 06	■	HSK-T40 MT SCLCR 06	■	T40	40	15	75	45				CC..0602..
HSK-T40 MT SCLCL 09	■	HSK-T40 MT SCLCR 09	■	T40	40	15	75	45				CC..09T3..
HSK-A40 MT SCLCL 06	■	HSK-A40 MT SCLCR 06	■	A40	40	15	75	45				CC..0602..
HSK-A40 MT SCLCL 09	■	HSK-A40 MT SCLCR 09	■	A40	40	15	75	45				CC..09T3..



HSK-... MT SDJC... (93°)

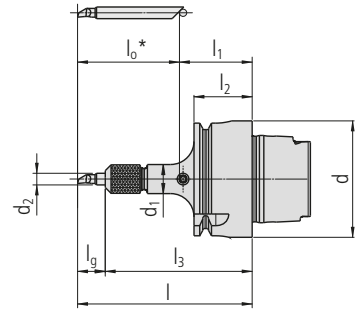
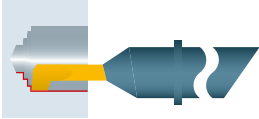
Order designation				Form / Size	Dimensions						Inserts	
L		R		HSK	d	b	l	l <sub>2</sub>				□ 205...
HSK-T32 MT SDJCL 07	■	HSK-T32 MT SDJCR 07	■	T32	32	12	65	36				DC.. 0702..
HSK-T32 MT SDJCL 11	■	HSK-T32 MT SDJCR 11	■	T32	32	12.5	65	37				DC.. 11T3..
HSK-T40 MT SDJCL 07	■	HSK-T40 MT SDJCR 07	■	T40	40	15	75	46				DC.. 0702..
HSK-T40 MT SDJCL 11	■	HSK-T40 MT SDJCR 11	■	T40	40	15	75	46				DC.. 11T3..
HSK-A40 MT SDJCL 07	■	HSK-A40 MT SDJCR 07	■	A40	40	15	75	46				DC.. 0702..
HSK-A40 MT SDJCL 11	■	HSK-A40 MT SDJCR 11	■	A40	40	15	75	46				DC.. 11T3..





HSK-... MT SVJC... (93°)

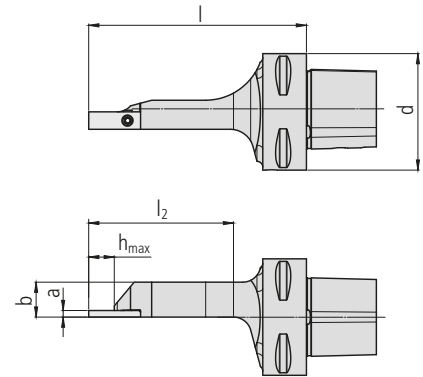
Order designation				Form / Size	Dimensions						Inserts	
L		R		HSK	d	b	l	l <sub>2</sub>				□ 259...
HSK-T32 MT SVJCL 07	■	HSK-T32 MT SVJCR 07	■	T32	32	12	65	36				VC.. 0702..
HSK-T32 MT SVJCL 11	■	HSK-T32 MT SVJCR 11	■	T32	32	12	65	36				VC.. 1103..
HSK-T40 MT SVJCL 07	■	HSK-T40 MT SVJCR 07	■	T40	40	15	75	46				VC.. 0702..
HSK-T40 MT SVJCL 11	■	HSK-T40 MT SVJCR 11	■	T40	40	15	75	46				VC.. 1103..
HSK-T40 MT SVJCL 13	■	HSK-T40 MT SVJCR 13	■	T40	40	15	75	46				VC.. 1303..
HSK-A40 MT SVJCL 07	■	HSK-A40 MT SVJCR 07	■	A40	40	15	75	46				VC.. 0702..
HSK-A40 MT SVJCL 11	■	HSK-A40 MT SVJCR 11	■	A40	40	15	75	46				VC.. 1103..
HSK-A40 MT SVJCL 13	■	HSK-A40 MT SVJCR 13	■	A40	40	15	75	46				VC.. 1303..



HSK-... SDA.

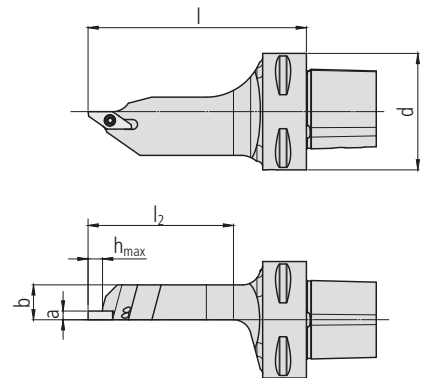
Order designation		Form / Size	Dimensions								Inserts □ 331...	
			HSK	d	l	lg	l1	l2	l3	d1		d2
<div style="border: 1px solid black; padding: 2px; display: inline-block;"> <b>N</b>  <span style="background-color: yellow; width: 10px; height: 10px; display: inline-block; vertical-align: middle;"></span> </div>			T32	32	l <sub>0</sub> +1	l-3	25	20	50.5	10	4	SD.4... / SX.4..
	■		T32	32	l <sub>0</sub> +1	l-3	25	20	54.5	15	6	SD.6... / SX.6..
	■		T32	32	l <sub>0</sub> +1	l-3	25	20	56.5	18	8	SD.8... / SX.8..
	■		T40	40	l <sub>0</sub> +1	l-3	25	20	50.5	10	4	SD.4... / SX.4..
	■		T40	40	l <sub>0</sub> +1	l-3	25	20	54.5	15	6	SD.6... / SX.6..
	■		T40	40	l <sub>0</sub> +1	l-3	25	20	56.5	18	8	SD.8... / SX.8..
	■		A40	40	l <sub>0</sub> +1	l-3	25	20	50.5	10	4	SD.4... / SX.4..
	■		A40	40	l <sub>0</sub> +1	l-3	25	20	54.5	15	6	SD.6... / SX.6..
■		A40	40	l <sub>0</sub> +1	l-3	25	20	56.5	18	8	SD.8... / SX.8..	

\* The length of the insert is variable



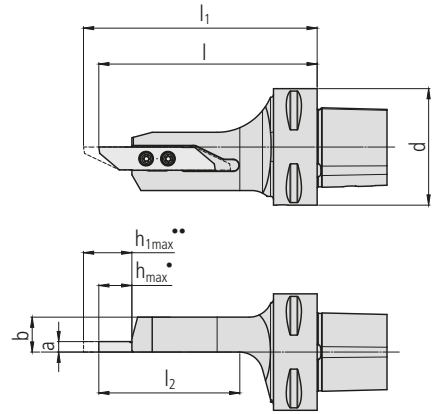
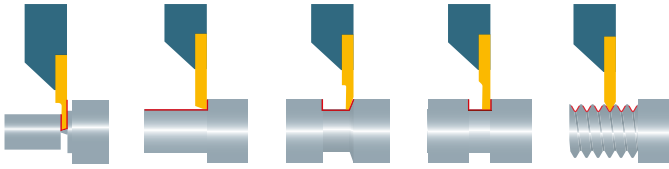
PSC 40 MT CUT 500 .

Order designation				Form / Size	Dimensions						Inserts	
L		R		PSC	d	b	l	l <sub>2</sub>	a		h <sub>max</sub>	□ 43...
PSC 40 MT CUT 500 L	■	PSC 40 MT CUT 500 R	■	40	40	12	75	50	2		8.5	50.



PSC 40 MT CUT 1600 .

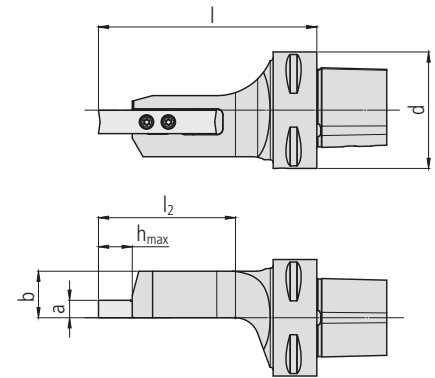
Order designation				Form / Size	Dimensions						Inserts	
L		R		PSC	d	b	l	l <sub>2</sub>	a		h <sub>max</sub>	□ 47...
PSC 40 MT CUT 1600 L	■	PSC 40 MT CUT 1600 R	■	40	40	12	75	50	3		5	16..



PSC 40 MT CUT 3000 .

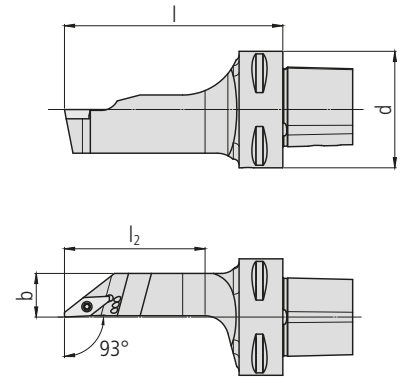
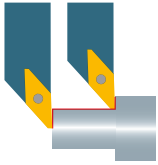
Order designation		Form / Size	Dimensions							Inserts	
L	R	PSC	d	b	l	l <sub>1</sub>	l <sub>2</sub>	a	h <sub>max</sub>	h <sub>1max</sub>	□ 107...
PSC 40 MT CUT 3000 L	■ PSC 40 MT CUT 3000 R	40	40	12	75	80	48	3.5	10	16	30..

• Short insert; •• Long insert



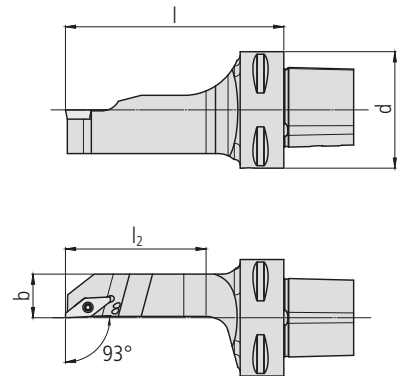
PSC 40 MT CUT 3600 .

Order designation		Form / Size	Dimensions							Inserts
L	R	PSC	d	b	l	l <sub>2</sub>	a		h <sub>max</sub>	□ 155...
PSC 40 MT CUT 3600 L	■ PSC 40 MT CUT 3600 R	40	40	16	75	47	6		10	36..



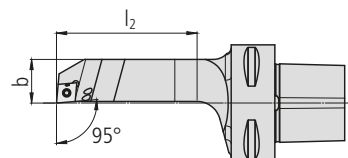
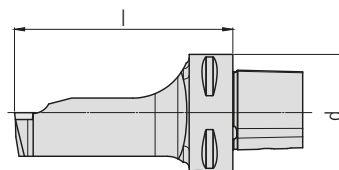
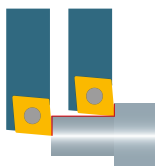
PSC 40 MT SVJP... (93°)

Order designation				Form / Size	Dimensions				Inserts
L		R		PSC	d	b	l	l <sub>2</sub>	□ 299...
PSC 40 MT SVJPL 10	■	PSC 40 MT SVJPR 10	■	40	40	15	75	48	VP.. 1003..



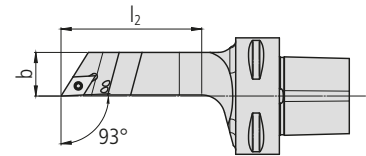
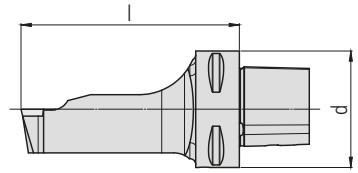
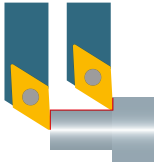
PSC 40 MT SVJP... V (93°)

Order designation				Form / Size	Dimensions				Inserts
L		R		PSC	d	b	l	l <sub>2</sub>	□ 299...
PSC 40 MT SVJPL 10 V	■	PSC 40 MT SVJPR 10 V	■	40	40	15	75	48	VP.. 1003..



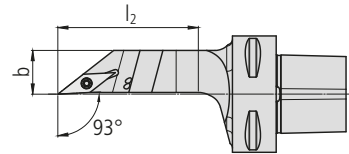
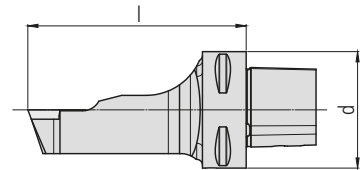
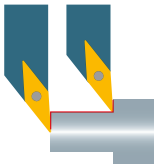
PSC 40 MT SCLC... (95°)

Order designation				Form / Size	Dimensions						Inserts	
L		R		PSC	d	b	l	l <sub>2</sub>				177...
PSC 40 MT SCLCL 06	■	PSC 40 MT SCLCR 06	■	40	40	15	75	48				CC.. 0602..
PSC 40 MT SCLCL 09	■	PSC 40 MT SCLCR 09	■	40	40	15	75	48				CC.. 09T3..



PSC 40 MT SDJC... (93°)

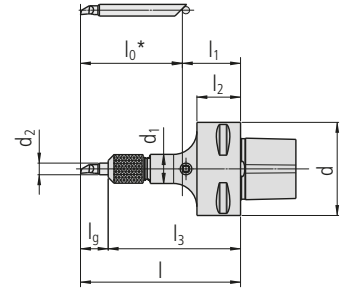
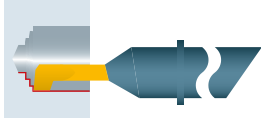
Order designation				Form / Size	Dimensions						Inserts	
L		R		PSC	d	b	l	l <sub>2</sub>				□ 205...
PSC 40 MT SDJCL 07	■	PSC 40 MT SDJCR 07	■	40	40	15	75	48				DC.. 0702..
PSC 40 MT SDJCL 11	■	PSC 40 MT SDJCR 11	■	40	40	15	75	48				DC.. 11T3..



PSC 40 MT SVJCL... (93°)

Order designation				Form / Size	Dimensions						Inserts	
L		R		PSC	d	b	l	l <sub>2</sub>				□ 259...
PSC 40 MT SVJCL 07	■	PSC 40 MT SVJCR 07	■	40	40	15	75	50				VC.. 0702..
PSC 40 MT SVJCL 11	■	PSC 40 MT SVJCR 11	■	40	40	15	75	50				VC.. 1103..
PSC 40 MT SVJCL 13	■	PSC 40 MT SVJCR 13	■	40	40	15	75	50				VC.. 1303..

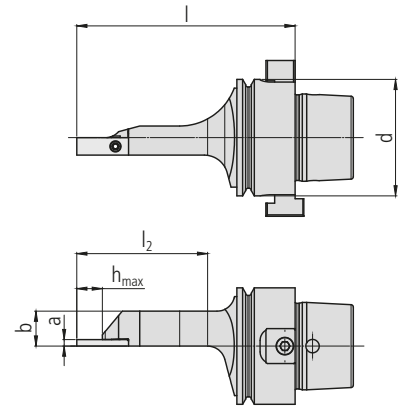
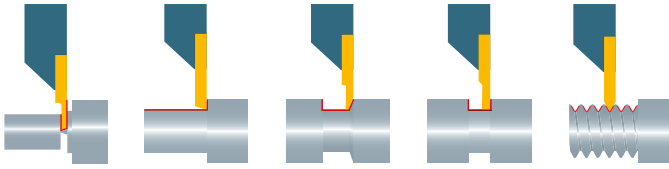




PSC 40 SDA .

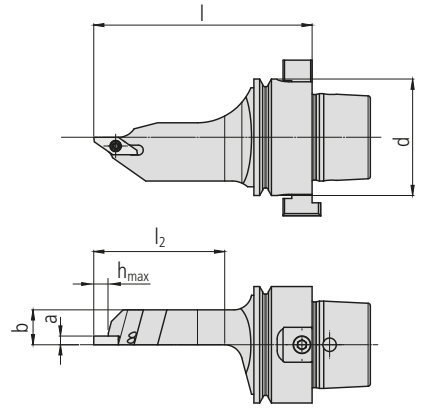
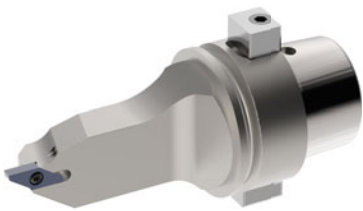
Order designation		Form / Size	Dimensions								Inserts □ 331...	
			PSC	d	l	l <sub>9</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub>	d <sub>1</sub>		d <sub>2</sub>
<div style="border: 1px solid black; padding: 2px; display: inline-block;"> <b>N</b>  <span style="background-color: yellow; width: 10px; height: 10px; display: inline-block; margin-top: 2px;"></span> </div>												
	PSC 40 SDA-4	■	40	40	l <sub>0</sub> +l <sub>1</sub>	l-l <sub>3</sub>	25	20	50.5	10	4	SD.4... / SX.4..
	PSC 40 SDA-6	■	40	40	l <sub>0</sub> +l <sub>1</sub>	l-l <sub>3</sub>	25	20	54.5	15	6	SD.6... / SX.6..
	PSC 40 SDA-8	■	40	40	l <sub>0</sub> +l <sub>1</sub>	l-l <sub>3</sub>	25	20	56.5	18	8	SD.8... / SX.8..

\* The length of the insert is variable



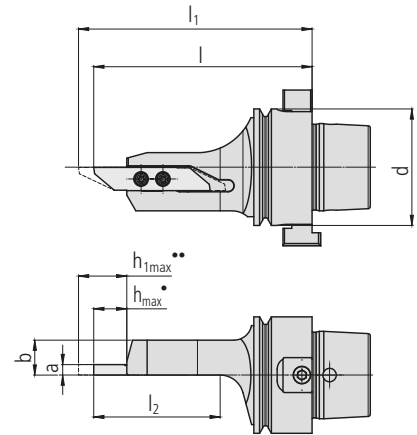
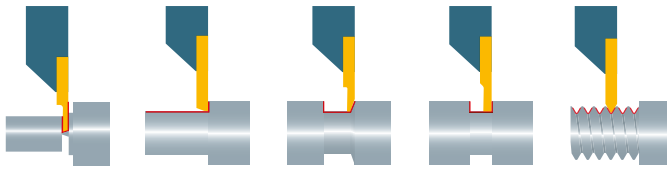
HSK-E40 MT CUT 500 ... WM

Order designation		Form / Size	Dimensions						Inserts
L	R	HSK	d	b	l	l <sub>2</sub>	a	h <sub>max</sub>	43...
HSK-E40 MT CUT 500 L WM	HSK-E40 MT CUT 500 R WM	E40	40	12	75	45	2	8.5	50.



HSK-E40 MT CUT 1600 ... WM

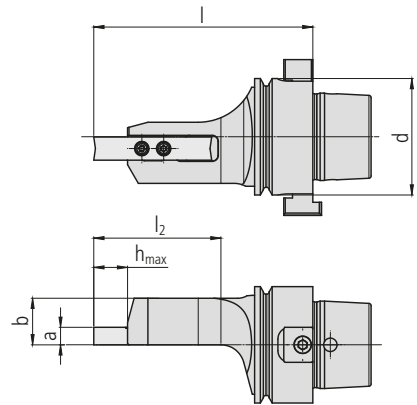
Order designation		Form / Size	Dimensions						Inserts
L	R	HSK	d	b	l	l <sub>2</sub>	a	h <sub>max</sub>	47...
HSK-E40 MT CUT 1600 L WM	HSK-E40 MT CUT 1600 R WM	E40	40	12	75	45	3	5	16..



HSK-E40 MT CUT 3000 ... WM

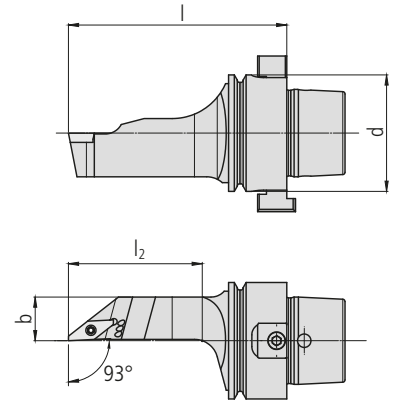
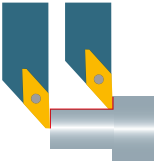
Order designation		Form / Size	Dimensions								Inserts
L	R	HSK	d	b	l	l <sub>1</sub>	l <sub>2</sub>	a	h <sub>max</sub>	h <sub>1max</sub>	□ 107...
HSK-E40 MT CUT 3000 L WM	HSK-E40 MT CUT 3000 R WM	E40	40	12	75	80	43	3.5	10	16	30..

• Short insert; •• Long insert



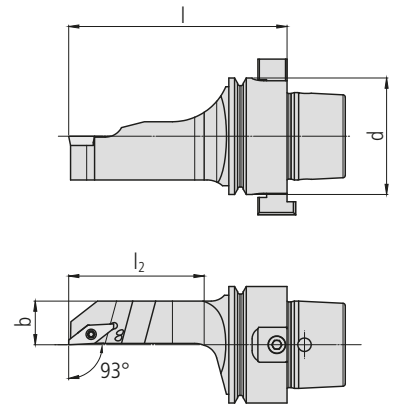
HSK-E40 MT CUT 3600 ... WM

Order designation		Form / Size	Dimensions								Inserts
L	R	HSK	d	b	l	l <sub>2</sub>	a		h <sub>max</sub>	□ 155...	
HSK-E40 MT CUT 3600 L WM	HSK-E40 MT CUT 3600 R WM	E40	40	16	75	44	6		10	36..	



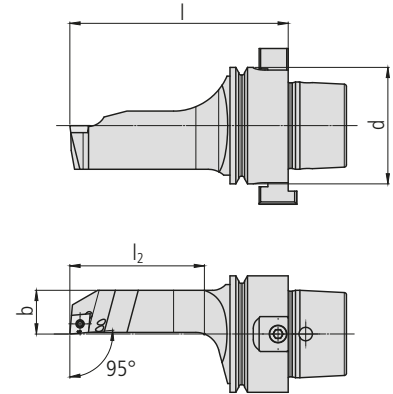
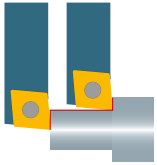
HSK-E40 MT SVJP... WM (93°)

Order designation		Form / Size	Dimensions				Inserts
<b>L</b>	<b>R</b>	HSK	d	b	l	l <sub>2</sub>	□ 299...
HSK-E40 MT SVJPL 10 WM	HSK-E40 MT SVJPR 10 WM	E40	40	15	75	46	VP.. 1003..



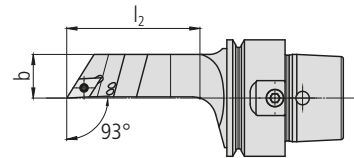
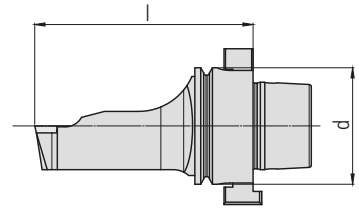
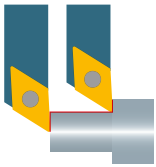
HSK-E40 MT SVJP... V WM (93°)

Order designation		Form / Size	Dimensions				Inserts
<b>L</b>	<b>R</b>	HSK	d	b	l	l <sub>2</sub>	□ 299...
HSK-E40 MT SVJPL 10 V WM	HSK-E40 MT SVJPR 10 V WM	E40	40	15	75	46	VP.. 1003..



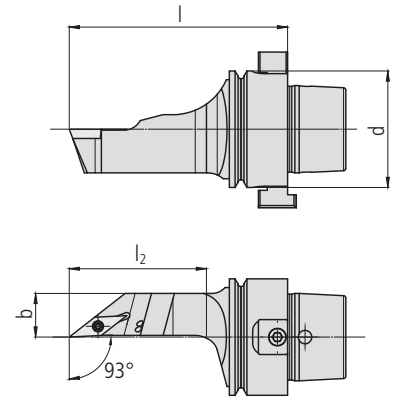
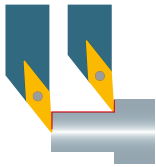
HSK-E40 MT SCLC... WM (95°)

Order designation				Form / Size	Dimensions						Inserts	
L		R		HSK	d	b	l	l <sub>2</sub>				□ 177...
HSK-E40 MT SCLCL 06 WM	■	HSK-E40 MT SCLCR 06 WM	■	E40	40	15	75	47				CC.. 0602..
HSK-E40 MT SCLCL 09 WM	■	HSK-E40 MT SCLCR 09 WM	■	E40	40	15	75	47				CC.. 09T3..



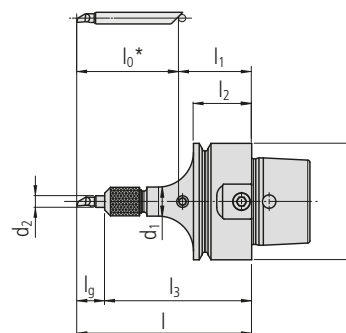
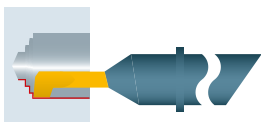
HSK-E40 MT SDJC... WM (93°)

Order designation				Form/Size	Dimensions						Inserts	
L		R		HSK	d	b	l	l <sub>2</sub>				□ 205...
HSK-E40 MT SDJCL 07 WM	■	HSK-E40 MT SDJCR 07 WM	■	E40	40	15	75	46				DC.. 0702..
HSK-E40 MT SDJCL 11 WM	■	HSK-E40 MT SDJCR 11 WM	■	E40	40	15	75	46				DC.. 11T3..



HSK-E40 MT SVJCL... WM (93°)

Order designation				Form / Size	Dimensions						Inserts	
L		R		HSK	d	b	l	l <sub>2</sub>				□ 259...
HSK-E40 MT SVJCL 07 WM	■	HSK-E40 MT SVJCR 07 WM	■	E40	40	15	75	45				VC.. 0702..
HSK-E40 MT SVJCL 11 WM	■	HSK-E40 MT SVJCR 11 WM	■	E40	40	15	75	45				VC.. 1103..
HSK-E40 MT SVJCL 13 WM	■	HSK-E40 MT SVJCR 13 WM	■	E40	40	15	75	45				VC.. 1303..




HSK-E40 MT SDA . WM

Order designation		Form/Size	Dimensions								Inserts	
			d	l	lg	l1	l2	l3	d1	d2		□ 331...
<div style="border: 1px solid black; padding: 2px; display: inline-block;"> <b>N</b>  </div>		HSK										
	HSK-E40 MT SDA-4 WM	■	E40	40	l <sub>0</sub> +l <sub>1</sub>	l-l <sub>3</sub>	25	20	50.5	10	4	SD.4... / SX.4..
	HSK-E40 MT SDA-6 WM	■	E40	40	l <sub>0</sub> +l <sub>1</sub>	l-l <sub>3</sub>	25	20	54.5	15	6	SD.6... / SX.6..
	HSK-E40 MT SDA-8 WM	■	E40	40	l <sub>0</sub> +l <sub>1</sub>	l-l <sub>3</sub>	25	20	56.5	18	8	SD.8... / SX.8..




\* The length of the insert is variable



For holders (CUT/SV/SC/SD) OD turning

Illustration	Description	Dimensions	Order designation	Holder
	TORX screw	M2 × 5.5 T06	MSP 20055 T06 <span style="color: red;">■</span>	... SV.. 07
		M2.5 × 6 T08	MSP 25060 T08 <span style="color: black;">■</span>	... CUT 500 ... CUT 1600 ... SC.. 06 ... SD.. 07 ... SV.P. 10 ... SV.. 11
		M3 × 9 T08	MSP 30090 T08 <span style="color: black;">■</span>	... CUT 3000 ... SV.. 13
		M3 × 11 TP09	MSP 30110 TP09 <span style="color: black;">■</span>	... CUT 3600
		M3.5 × 11 T15	MSP 35110 T15 <span style="color: black;">■</span>	... SC.. 09 ... SD.. 11

For holders (SDA) ID turning

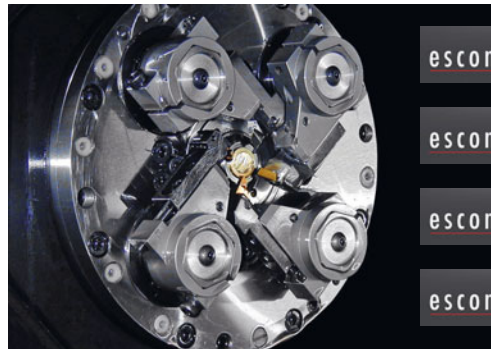
Illustration	Description	Dimensions	Order designation	Holder	Inserts
	Nut	M8 × 0.5	MSP SDA 4M <span style="color: black;">■</span>	... SDA-4.	
		M12 × 0.6	MSP SDA 6M <span style="color: black;">■</span>	... SDA-6.	
		M14 × 0.75	MSP SDA 8M <span style="color: black;">■</span>	... SDA-8.	
	Aligning device		SDA 4X <span style="color: black;">■</span>	... SDA-4.	
			SDA 6X <span style="color: black;">■</span>	... SDA-6.	
			SDA 8X <span style="color: black;">■</span>	... SDA-8.	
	Retaining ring		MSP SDA 4S <span style="color: black;">■</span>		SD. 4... SX. 4...
			MSP SDA 6S <span style="color: black;">■</span>		SD. 6... SX. 6...
			MSP SDA 8S <span style="color: black;">■</span>		SD. 8... SX. 8...

TORX screwdriver  664

ESCOMATIC machines are known as versatile and flexible automatic turning centers for the low cost manufacture of complex work pieces in small and large batch sizes. Material is fed from the coil with a straightening unit or from a bar loader. UTILIS has developed a range of insert holders for various machine types.

**Advantages:**

- elaborate program of toolholders, available from stock
- nickelized toolholders with heat-treatable steel
- utilisation of high quality multidec® inserts
- quick change of inserts in the machine or presetting outside of the machine
- significant reduction of machine downtimes



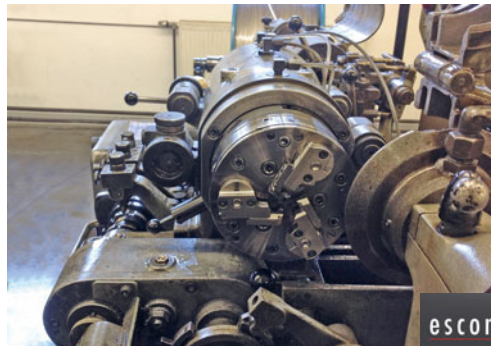
escomatic **EC 08**

escomatic **EC 12**

escomatic **NM 64X**

escomatic **NM 6 Flexi**

For the rotating tool heads of machine types ECO8, EC12, Newmach NM 64X and NM 6 Flexi, the program includes tool holders which are suitable for multidec®-CUT, multidec®-TOP and ISO standard inserts.



escomatic **D6**

For the machine type D6, we recommend a new exchange kit. This new holder and insert system will replace the old system with monobloc tools.






escomatic **D2/D4/D5**

ESCO offers a modification of the existing chuck on the D2, D4 and D5 machine types, where the basic holders for the cranks can be replaced with insert holders. Following this modification, holders for UTILIS inserts can then be attached.

Important: In order to guarantee perfect functionality, modifications may only be made by ESCO. UTILIS only supplies the holders and the corresponding inserts.

The following machine types can be modified:

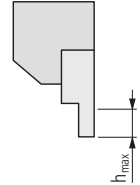
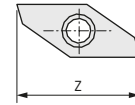
D2, D2 Flex Speed, D5 Flex Speed, D2-CNC, D2-CNC-UP, D4, D5, D5-CNC, D5-Twin and D5-Ultra

Technical information		9
Support		608
Holders		609
Replacement and spare parts		613



## ESCO D6...

Order designation	Machine type	Holder
ESCO D6-9-38-B	■ D6	609...

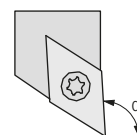
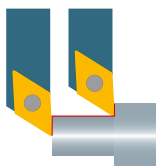


ESCO ... CUT 1600 .

Order designation	Execution			Machine type	Dimensions			Inserts □ 47...
	L	N	R		z	h <sub>max</sub>		
ESCO 503-0679 CUT 1600 R			■	EC 08	15–16	5		16...
ESCO 503-0403 CUT 1600 R*			■	EC 08	13–14	4		16...
ESCO 403-0875 CUT 1600 R*			■	EC 12	13–14	4		16...
ESCO 303-1711 CUT 1600 R			■	NM 64 X	15–16	5		16...
ESCO 303-2126 CUT 1600 R			■	NM 64 X	14–15	5		16...
ESCO 303-2125 CUT 1600 R			■	NM 64 X	14.5–15.5	4.5		16...
ESCO 303-1657 CUT 1600 R*			■	NM 64 X	13–14	4		16...
ESCO D6-12-5451 CUT 1600 R			■	D6	15	5		16...
ESCO D6-12-5452 CUT 1600 L	■			D6	15	5		16...
ESCO D2-R-6353 CUT 1600 R*			■	D2, D4, D5	14	4		16...
ESCO D2-R-6353-1 CUT 1600 R			■	D2, D4, D5	15	5		16...

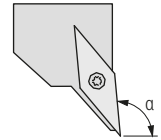
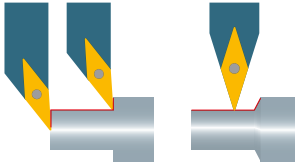
\* Attention

The total length (z) of the CUT 16... cutting edges is 15 mm. If this length falls below any significant extent, the travel distance of the holder may no longer be sufficient to reach the centre. In this case, a switch to another holder for shorter indexable inserts must take place.



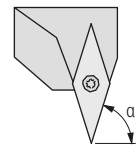
ESCO ... DC ...

Order designation	Execution			Machine type	Dimensions			Inserts □ 205...
	L	N	R		α			
ESCO 503-0333 DC 0702 R			■	EC 08	92°			DC..0702..
ESCO 503-0629 DC 0702 L	■			EC 08	92°			DC..0702..
ESCO 403-0653 DC 0702 R			■	EC 12	92°			DC..0702..
ESCO 303-1760 DC 0702 R			■	NM 64X	92°			DC..0702..
ESCO D6-12-5458 DC 0702 R			■	D6	92°			DC..0702..
ESCO D6-12-5457 DC 0702 L	■			D6	92°			DC..0702..



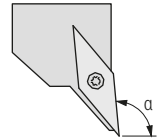
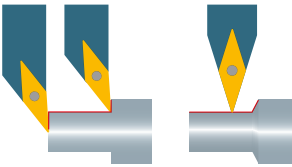
ESCO ... VC ...

Order designation	Execution			Machine type	Dimensions			Inserts □ 259...
	L	N	R		α			
ESCO 503-0262 VC 0702 R			■	EC 08	92°			VC..0702.. (R<0.1)
ESCO 503-0483 VC 0702 R			■	EC 08	92°			VC..0702.. (R≥0.1)
ESCO 503-0583 VC 0702 L	■			EC 08	92°			VC..0702.. (R≥0.1)
ESCO 503-0404 VC 1103 R			■	EC 08	92°			VC..1103..
ESCO 303-2127 VC 0702 L	■			NM 64 X	92°			VC..0702.. (R<0.03)
ESCO 303-1637 VC 0702 R			■	NM 64 X	92°			VC..0702.. (R<0.03)
ESCO 303-1640 VC 0702 R			■	NM 64 X	92°			VC..0702.. (R≥0.03)
ESCO D6-12-5455 VC 1103 R			■	D6	92°			VC..1103..
ESCO D6-12-5454 VC 1103 L	■			D6	92°			VC..1103..



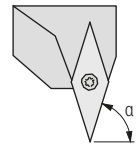
ESCO ... VC ... N

Order designation	Execution			Machine type	Dimensions			Inserts □ 259...
	L	N	R		α			
ESCO 503-0482 VC 0702 N		■		EC 08	72.5°			VC..0702..
ESCO 303-1642 VC 0702 N		■		NM 64 X	72.5°			VC..0702..



ESCO ... VB ...

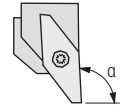
Order designation	Execution			Machine type	Dimensions			Inserts
	L	N	R		α			
ESCO 403-0674 VB 1103 R			■	EC 12	92°			VB..1103
ESCO 403-0696 VB 1103 L	■			EC 12	92°			VB..1103



ESCO ... VB ... N

Order designation	Execution			Machine type	Dimensions			Inserts
	L	N	R		α			
ESCO 403-0679 VB 1103 N		■		EC 12	72.5°			VB..1103





ESCO ... VP ...

Order designation	Execution			Machine type	Dimensions			Inserts □ 299...
	L	N	R		α			
ESCO 503-0335 VP 1003 R			■	EC 08	92°			VP..1003..
ESCO 403-0293 VP 1003 R			■	EC 12	90°			VP..1003..
ESCO 403-0594 VP 1003 R			■	EC 12	92°			VP..1003..
ESCO 403-0652 VP 1003 L	■			EC 12	92°			VP..1003..
ESCO D6-12-5456 VP 1003 R			■	D6	92°			VP..1003..
ESCO D6-12-5453 VP 1003 L	■			D6	92°			VP..1003..

Replacement and spare parts

Illustration	Description	Dimensions	Order designation	Holder
	TORX screw	M2 × 5.5 T06	MSP 20055 T06 ■	ESCO... VC 0702 .
		M2.5 × 6 T08	MSP 25060 T08 ■	ESCO... CUT 1600 . ESCO... VP 1003 . ESCO... VB 1103 . ESCO... VC 1103 . ESCO... DC 0702 .
	Special allen head screw	M4 × 12	ESCO D6-4-409 IB3 ■	ESCO D6-9-38-B
	Socket head screw	M4 × 10	MSP 40100 IB3 ■	ESCO D6-12...
		M4 × 12	MSP 40120 IB3 ■	
	Set screw	M3 × 25	MSP 30250 IB1.5 ■	ESCO D6-9-38-B
	Allen key	SW 1.5	MSP IB1.5 ■	MSP 30... IB1.5
		SW 3	MSP IB3 ■	MSP 40... IB3

Cut-off operation near the spindle or the sub-spindle is frequently difficult with standard-tool holders. The cutting edge is too far away or the tool holder collides with the spindle. Adapted special tool holders are the solution in this case.

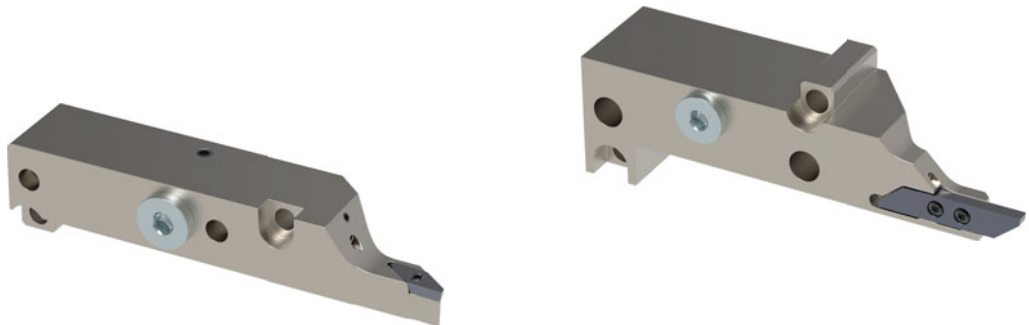
This program proposes to use multidec®-CUT and -TOP inserts, adapted tool holders and modules for machines of DECO 7, DECO 10, EvoDECO 10, DECO 13, EvoDECO 16, DECO 20, DECO 26 and EvoDECO 32.



## TORNOS

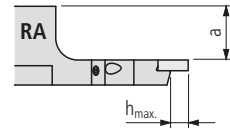
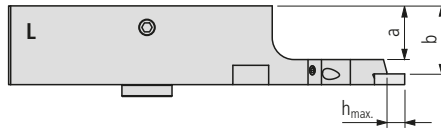
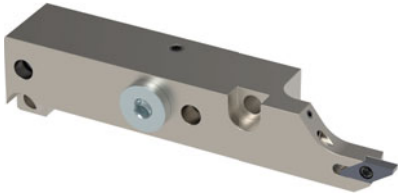
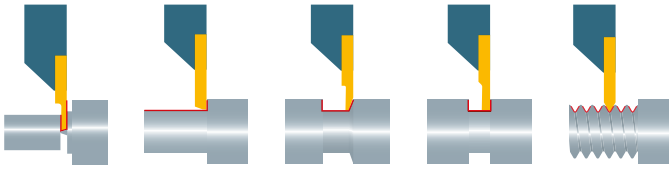


### Advantages:

- Adapted tool-holders with internal cooling, nickel plated and made from heat treated steel, available from stock
- Increased stability by direct attachment of tool holders on the machine base plate
- Cutting edge near the spindle/sub-spindle
- Cut-off of small parts without problems
- Utilisation of high quality multidec®-CUT inserts

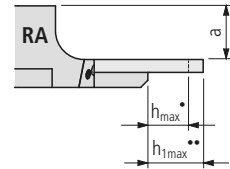
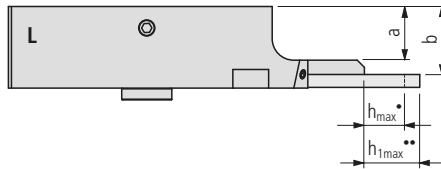
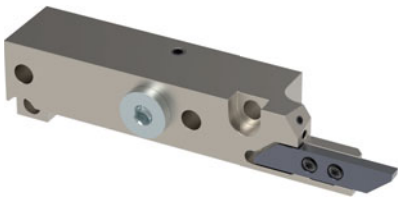


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Holders		616
Replacement and spare parts		622



DECO... 7/10 CUT 1600 ...

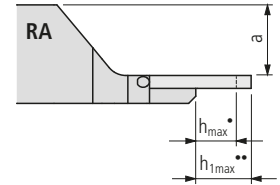
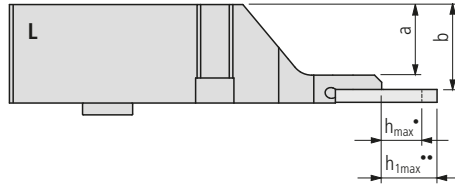
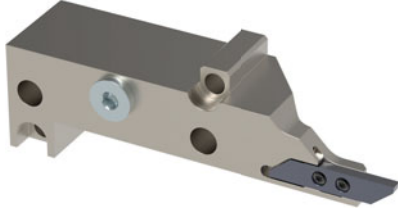
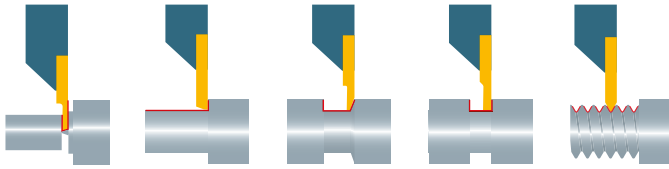
Order designation				Dimensions			Machine type	Inserts
L		R		a	b	h <sub>max</sub>		□ 47...
DECO/EVO 7/10 CUT 1600 LIC	■	DECO/EVO 7/10 CUT 1600 RA IC	■	15	19	5	DECO 7/10, EvoDECO 10	16...



DECO... 7/10 CUT 3000 ...

Order designation				Dimensions				Machine type	Inserts
L		R		a	b	h <sub>max</sub>	h <sub>1max</sub>		□ 107...
DECO/EVO 7/10 CUT 3000 LIC	■	DECO/EVO 7/10 CUT 3000 RA IC	■	15	19	10	—	DECO 7/10, EvoDECO 10	30 ...

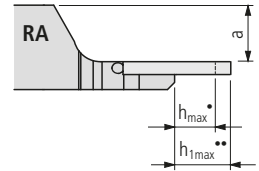
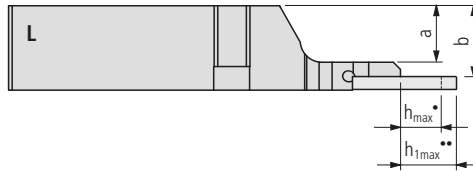
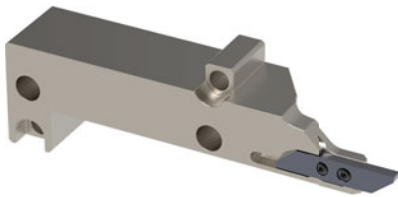
• Short insert; •• Long insert



DECO... 13/16 CUT 3000 ...

Order designation		Dimensions				Machine type	Inserts
L	R	a	b	h <sub>max</sub>	h <sub>1max</sub>		□ 107...
DECO/EVO 13/16 CUT 3000 L IC	DECO/EVO 13/16 CUT 3000 RA IC	25	29	10	–	DECO 13, EvoDECO 16	30...

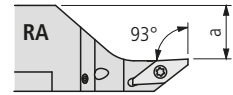
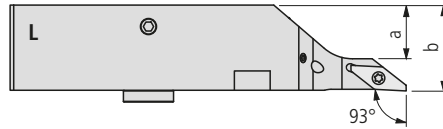
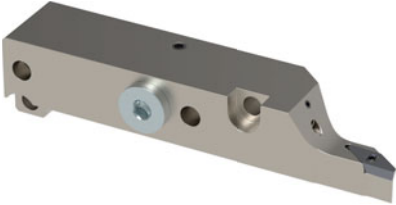
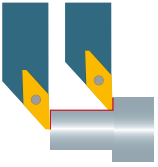
• Short insert; •• Long insert



DECO... 20/26/32 CUT 3000 ...

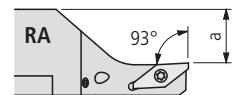
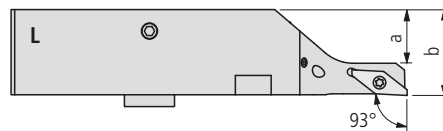
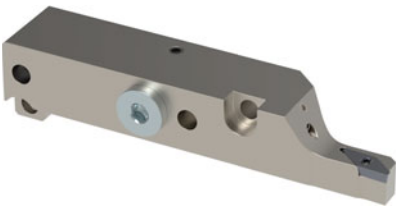
Order designation		Dimensions				Machine type	Inserts
L	R	a	b	h <sub>max</sub>	h <sub>1max</sub>		□ 107...
DECO/EVO 20/26/32 CUT 3000 L IC	DECO/EVO 20/26/32 CUT 3000 RA IC	20	24	10	16	DECO 20/26, Evo DECO 32	30...

• Short insert; •• Long insert



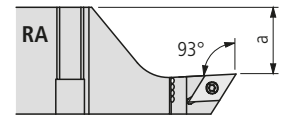
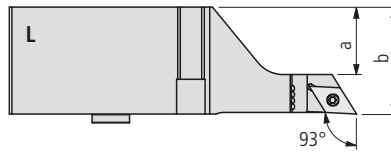
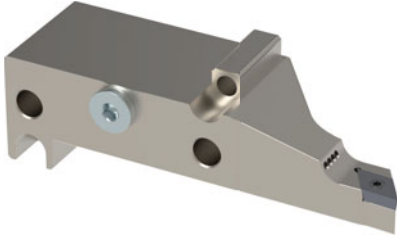
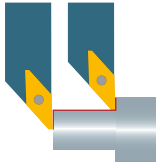
DECO... 7/10 SVJP ... (93°)

Order designation		Dimensions		Machine type	Inserts
<b>L</b>	<b>R</b>	a	b		□ 299...
DECO/EVO 7/10 SVJP L IC	DECO/EVO 7/10 SVJP RA IC	15	24	DECO 7/10, EvoDECO 10	VP 1003..



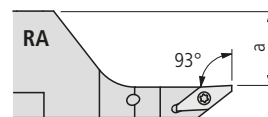
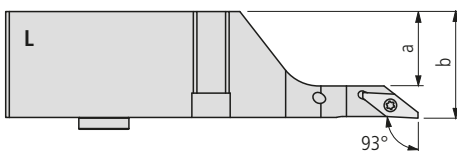
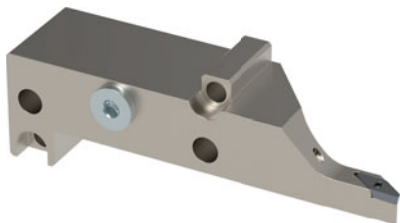
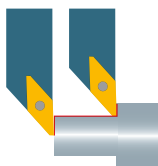
DECO... 7/10 SVJP ... V (93°)

Order designation		Dimensions		Machine type	Inserts
<b>L</b>	<b>R</b>	a	b		□ 299...
DECO/EVO 7/10 SVJP LV IC	DECO/EVO 7/10 SVJP RAV IC	15	24	DECO 7/10, EvoDECO 10	VP 1003..



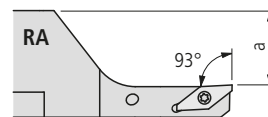
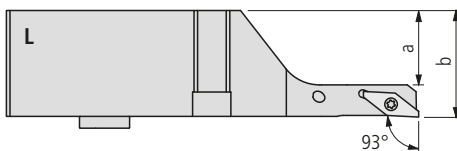
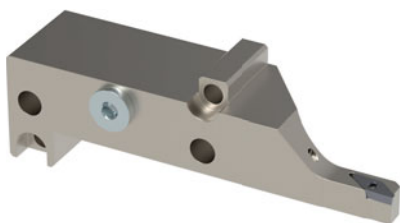
DECO... 13/16 SDJC ... (93°)

Order designation		Dimensions		Machine type	Inserts
L	R	a	b		□ 205...
DECO/EVO 13/16 SDJC L IC	DECO/EVO 13/16 SDJC RA IC	25	40	DECO 13, EvoDECO 16	DC.. 11T3..



DECO... 13/16 SVJP ... (93°)

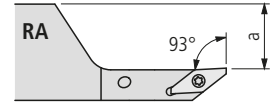
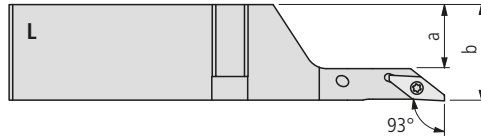
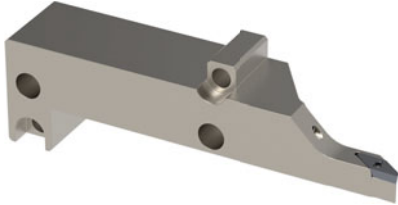
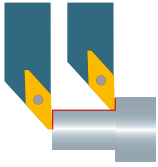
Order designation		Dimensions		Machine type	Inserts
L	R	a	b		□ 299...
DECO/EVO 13/16 SVJP L IC	DECO/EVO 13/16 SVJP RA IC	25	34	DECO 13, EvoDECO 16	VP 1003..



DECO... 13/16 SVJP ... V (93°)

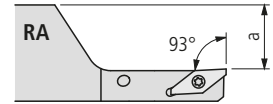
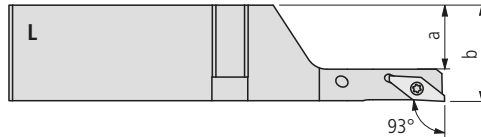
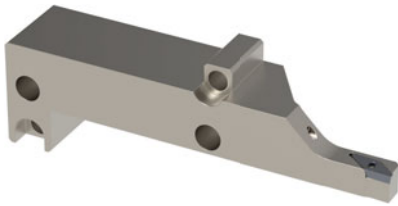
Order designation		Dimensions		Machine type	Inserts
L	R	a	b		□ 299...
DECO/EVO 13/16 SVJP LV IC	DECO/EVO 13/16 SVJP RA V IC	25	34	DECO 13, EvoDECO 16	VP 1003..






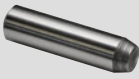
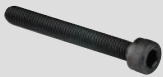


DECO... 20/26/32 SVJP ... (93°)

Order designation		Dimensions		Machine type	Inserts
L	R	a	b		□ 299...
DECO/EVO 20/26/32 SVJP L IC	DECO/EVO 20/26/32 SVJP RA IC	20	29	DECO 20/26, EvoDECO 32	VP 1003..



DECO... 20/26/32 SVJP ... V (93°)

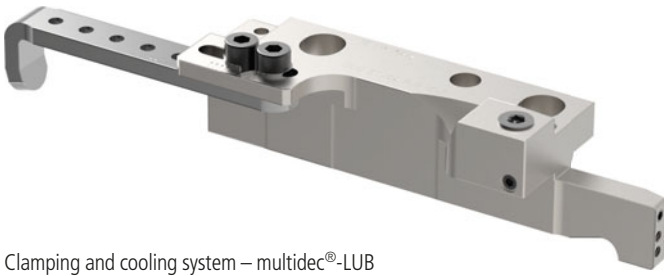
Order designation		Dimensions		Machine type	Inserts
L	R	a	b		□ 299...
DECO/EVO 20/26/32 SVJP LV IC	DECO/EVO 20/26/32 SVJP RA V IC	20	29	DECO 20/26, EvoDECO 32	VP 1003..

Illustration	Description	Dimensions	Order designation	Holder
	TORX screw	M2.5 × 6 T08	MSP 25060 T08	■ DECO/EVO... CUT 1600.. DECO/EVO...SVJP..
		M3 × 9 T08	MSP 30090 T08	■ DECO/EVO... CUT 3000..
	Cylindrical pin	ø5 h6 × 24	MSP ZS524	■ DECO/EVO 7/10...
		ø5 h6 × 24	MSP ZS524 special	■ DECO/EVO 7/10...
	Socket head screw	M5 × 30 IB4	MSP 50300 IB4	■ DECO/EVO 7/10...
		M6 × 40 IB5	MSP 60400 IB5	■ DECO/EVO 13/16...
		M6 × 35 IB5	MSP 60350 IB5	■ DECO/EVO 20/26/32...
	Allen key	SW 4	MSP IB4	■ MSP 50... IB4
		SW 5	MSP IB5	■ MSP 60... IB5
	Screw plug	G1/8" IB5	MSP VSR G1/8 IB5	■ DECO/EVO 7/10... DECO/EVO 13/16...

TORX screwdriver  664



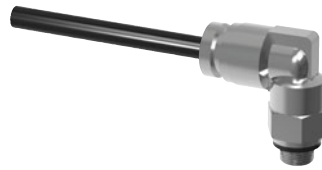
Accessories are well-suited products to be used in combination with cutting tools in different machining applications. They aren't related to a specific tool system.



Clamping and cooling system – multidec®-LUB



Coolant connections



Monoblock ER tool holder – multidec®-TAPER-IN



Screwdriver



Collets



Reduction sleeves

Technical information

9

Clamping and cooling system

Overview – multidec®-LUB



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Coolant connections

Overview of high pressure and low pressure



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Monoblock ER tool holder

Overview – multidec®-TAPER-IN



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Screwdriver

Overview



664

Collets



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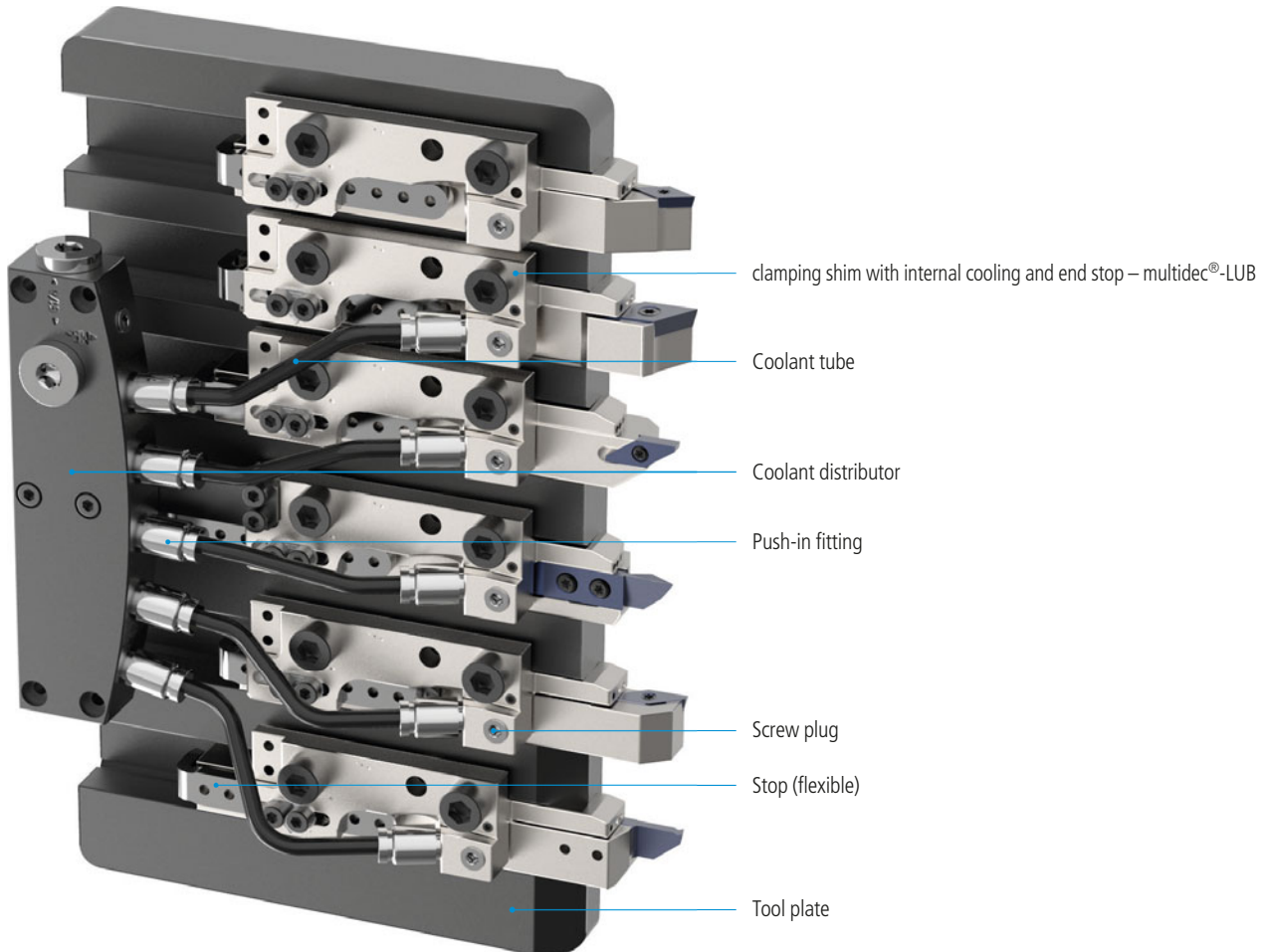
Reduction sleeves



671

The multidec®-LUB clamping shim directs the coolant precisely onto the tool insert, even at low pressure. The flexible stop allows for the tool holder to be replaced safely and quickly. The supply of coolant under high and low pressure is made through a distributor block or directly in the multidec®-LUB clamping shim.

Coolant distributors with two to eight outlets, hoses in a range of different versions and lengths, plus diverse fittings and quick couplings are available as accessories for complete high-pressure and low-pressure solutions.



#### Benefits:

- Simple installation through replacement of the original clamping shim with the multidec®-LUB clamping shim
- The service life of the insert is increased as the removal of chips and heat is improved thanks to the precise positioning of the cooling on the cutting edge
- Increased process reliability
- Use of the clamping shim at pressures of 30 to 200 bar or 435 to 2900 psi
- Quick and safe replacement of the insert thanks to integrated stop
- Tool holders without internal cooling (IC) can continue to be used
- The clamping shim can be used under high and low pressure
- For right-hand and left-hand tool holders
- the clamping shim has two connecting options for the coolant supply
- Different coolant distributors, hoses and push-in fittings for high and low pressure
- Torque screwdriver for precise clamping of the tools

Technical information 9

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Clamping shims 628

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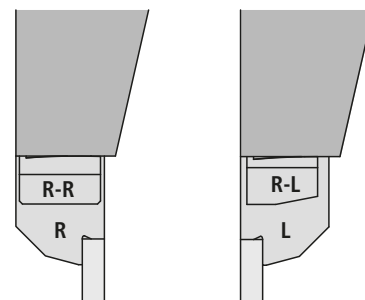
Replacement and spare parts 630

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Order guideline 631

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**MLU... IC CITIZEN**

R-R: Clamping shim for right-hand holders "R"; R-L: Clamping shim for left-hand holders "L"

Type of machine	Tool plate	Holder	Positions	Order designation			
R07	QTF4308	8×8	T11–T12	MLU CI-12 R-R IC-F	■	MLU CI-12 R-L IC-F	■
L12	GTF7020	8×8	T1–T6	MLU CI-10 R-R IC-F	■	MLU CI-10 R-L IC-F	■
L12	GTF7010L	3/8" (9.525)	T1–T6	MLU CI-07 R-R IC-F	■	MLU CI-07 R-L IC-F	■
C16, K12, K16, M16	GTF6010, BTF1010, GTF5110, GTF5210	10×10	T1–T6	MLU CI-02 R-R IC-F	■	MLU CI-02 R-L IC-F	■
K12, L12	GTF7010	10×10	T1–T6	MLU CI-09 R-R IC-F	■	MLU CI-09 R-L IC-F	■
L16	GTF3110	10×10	T1–T4	MLU CI-14 R-R IC-F	■	MLU CI-14 R-L IC-F	■
A20, K12, K16, L20, M16	BTF1012, GTF3812	12×12	T1–T6	MLU CI-01 R-R IC-F	■	MLU CI-01 R-L IC-F	■
A20, L20	GTF3612, BTF2212, BTF2412	12×12	T2–T5	MLU CI-01 R-R IC-F	■	MLU CI-01 R-L IC-F	■
A20, M20	BTF2413, GTF2513	12×12	T1–T6	MLU CI-05 R-R IC-F	■	MLU CI-05 R-L IC-F	■
A20, L20	BTF2213, BTF2413, GTF3113	1/2" (12.7)	T2–T6	MLU CI-03 R-R IC-F	■	MLU CI-03 R-L IC-F	■
M32	GTF5216, GTF5816	16×16, 3/8" (15.875)	T1–T5	MLU CI-08 R-R IC-F	■	MLU CI-08 R-L IC-F	■
L25, L32	GTF4016, GTF4516	16×16, 3/8" (15.875)	T11–T15	MLU CI-08 R-R IC-F	■	MLU CI-08 R-L IC-F	■
L20	BTF2413, GTF3612	16×16, 3/8" (15.875)	T1 (Cut Off)	MLU CI-08 R-R IC-F	■	MLU CI-08 R-L IC-F	■

**MLU... IC STAR**

Type of machine	Tool plate	Holder	Positions	Order designation			
SR-10J	691-01	8×8	T1–T6	MLU ST-01 R-R IC-F	■	MLU ST-01 R-L IC-F	■
SR-16R, SR-20R, RII	541-01	12×12	T1–T6	MLU ST-07 R-R IC-F	■	MLU ST-07 R-L IC-F	■
SR-20J, RIII, RIV, SB-16	0E0-62, 680-62, 0W0-62, 481-02	12×12	T2–T6	MLU ST-07 R-R IC-F	■	MLU ST-07 R-L IC-F	■
SW-20, ECAS-12/20	571-03	12×12	T1–T4	MLU ST-07 R-R IC-F	■	MLU ST-07 R-L IC-F	■
SW-20, ECAS-12/20	571-01	12×12	T11–T12	MLU ST-07 R-R IC-F	■	MLU ST-07 R-L IC-F	■
SR-20J, RIII, SB-16	0E0-62, 680-62, 481-02	12×12	T1 (Cut Off)	MLU ST-08 R-R IC-F	■	MLU ST-08 R-L IC-F	■
SR-20RIV	0W0-62	12×12	T1 (Cut Off)	MLU ST-09 R-R IC-F	■	MLU ST-09 R-L IC-F	■
SV-12, 20	421-01, 421-91	12×12, 1/2" (12.7)	T3–T5	MLU ST-10 R-R IC-F	■	MLU ST-10 R-L IC-F	■
SV-12, 20	421-01, 421-91	12×12, 1/2" (12.7)	T1 (Cut Off), T2	MLU ST-11 R-R IC-F	■	MLU ST-11 R-L IC-F	■
SR-32J	670-62	16×16, 3/8" (15.875)	T2–T6	MLU ST-03 R-R IC-F	■	MLU ST-03 R-L IC-F	■
SR-32J	670-62	16×16, 3/8" (15.875)	T1 (Cut Off)	MLU ST-02 R-R IC-F	■	MLU ST-02 R-L IC-F	■
SV-32	421-04	16×16	T2–T4	MLU ST-13 R-R IC-F	■	MLU ST-13 R-L IC-F	■
SV-32	421-04	16×16	T1 (Cut Off)	MLU ST-12 R-R IC-F	■	MLU ST-12 R-L IC-F	■

**MLU... IC TSUGAMI**

Type of machine	Tool plate	Holder	Positions	Order designation			
BH, BO, BS, S		12×12	T1–T8, T18–T24	MLU TS-02 R-R IC-F	■	MLU TS-02 R-L IC-F	■
H207, SS207, SS207-5AX		12×12	T4–T8, T18–T21	MLU TS-01 R-R IC-F	■	MLU TS-01 R-L IC-F	■
BH20		12×12	T1 (Cut Off)	MLU TS-04 R-R IC-F	■	MLU TS-04 R-L IC-F	■
HS237		16×16	T1–T5	MLU TS-06 R-R IC-F	■	MLU TS-06 R-L IC-F	■

Continued on next page



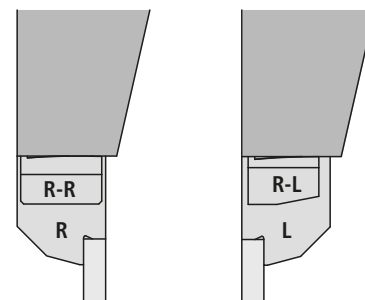
The latest information about multidec®-LUB

■ New

Legend □ 6



Continuation

**MLU... IC TORNOS****R-R:** Clamping shim for right-hand holders "R"; **R-L:** Clamping shim for left-hand holders "L"

Type of machine	Tool plate	Holder	Positions	Order designation			
GT13, DT13	390224, 390223	12 × 12	T1–T5	MLU TO-06 R-R IC-F	■	MLU TO-06 R-L IC-F	■
GT13, DT13	390224	12 × 12	T1 (Cut Off)	MLU TO-07 R-R IC-F	■	MLU TO-07 R-L IC-F	■
CT20/5	2000118	12 × 12	T1–T6	MLU TO-05 R-R IC-F	■	MLU TO-05 R-L IC-F	■
SWISS GT26	386209	16 × 16	T1–T5	MLU TO-04 R-R IC-F	■	MLU TO-04 R-L IC-F	■
SWISS GT26	386210	16 × 16	T2–T4	MLU TO-03 R-R IC-F	■	MLU TO-03 R-L IC-F	■
SWISS GT26	386210	16 × 16	T1, T2 (Cut Off)	MLU TO-02 R-R IC-F	■	MLU TO-02 R-L IC-F	■

**MLU... IC HANWHA**

Type of machine	Tool plate	Holder	Positions	Order designation			
XD12 J, SL16 S		12 × 12	T1–T6	MLU HA-01 R-R IC-F	■	MLU HA-01 R-L IC-F	■
XD20 H, XD20 J, SL200		12 × 12	T1–T6	MLU HA-02 R-R IC-F	■	MLU HA-02 R-L IC-F	■

**MLU... IC DMG**

Type of machine	Tool plate	Holder	Positions	Order designation			
Sprint 20		12 × 12	T1–T5	MLU GM-01 R-R IC-F	■	MLU GM-01 R-L IC-F	■
Sprint 32/42 linear classic	Mainside	16 × 16	T1–T5	MLU GM-02 R-R IC-F	■	MLU GM-02 R-L IC-F	■
Sprint 32/42 linear classic	Backside	12 × 12	T1–T3	MLU GM-03 R-R IC-F	■	MLU GM-03 R-L IC-F	■

**Scope of delivery:** Clamping shim with stop

Coolant connectors □ 632

Torque screwdriver □ 664

**Attention**



Tighten the multidec®-LUB clamping shim using the torque screwdriver according to the marking on the shim.



The latest information about multidec®-LUB

■ New

Legend □ 6

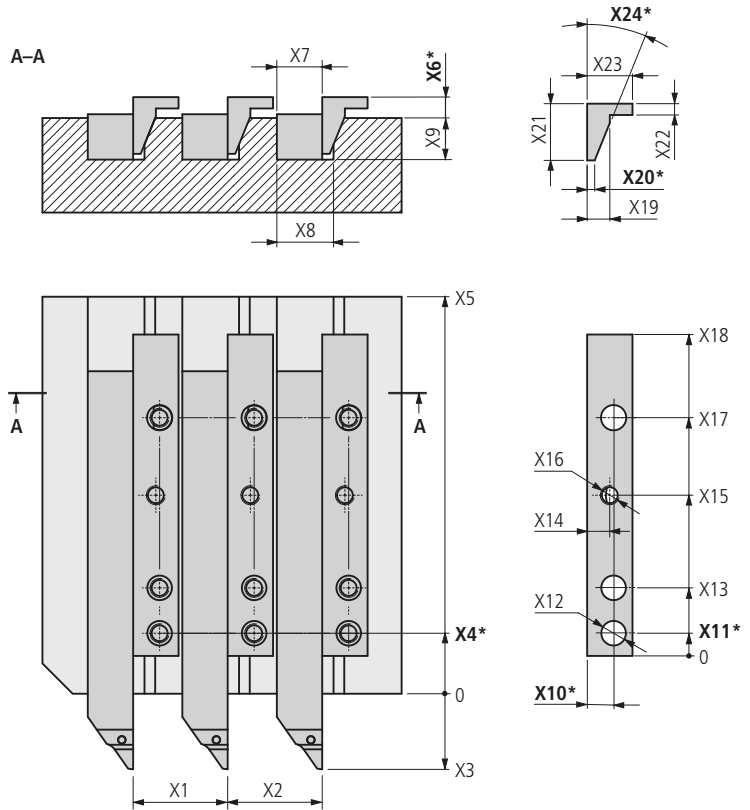
Illustration	Description	Dimensions	Order designation	
	Pointer		<a href="#">MLU 68-01</a>	■
	Allen head screw	M3 × 6 DIN912	<a href="#">MSP30060 IB2.5</a>	■
	Washer	M3/3.2/7/0.5	<a href="#">MSP US-3</a>	■
	Screw plug	M5 × 4	<a href="#">MSP VSR M5</a>	■
	Stop	L 42	<a href="#">MLU 42 AN-A</a>	■
		L 50	<a href="#">MLU 50 AN-A</a>	■
		L 60	<a href="#">MLU 60 AN-A</a>	■
	Stop	L 54	<a href="#">MLU 54 AN-I</a>	■



In order to determine the correct multidec®-LUB clamping shim, we require the exact dimensions of the tool plate and clamping shim. Therefore, please send these to us as a sample for measurement or use the form to send us the required information.

**IMPORTANT:**

The positions in the tool plate are not always identical. Therefore, measure the position where you want to use the multidec®-LUB clamping shim exactly.



Machine data	
Manufacturer	
Type	
Year of manufacture	
Serial number	
Plate number	
Shaft cross-section	

Dimensions	(mm)
X1	
X2	
X3	
X4*	
X5	
X6*	
X7	
X8	

Dimensions	(mm)
X9	
X10*	
X11*	
X12	
X13	
X14	
X15	
X16	

Dimensions	(mm)
X17	
X18	
X19	
X20*	
X21	
X22	
X23	
X24*	

\* Important dimension: Enter exact measurement!

Company \_\_\_\_\_

Responsible person \_\_\_\_\_

Road \_\_\_\_\_

Postal code, City \_\_\_\_\_

Phone \_\_\_\_\_

Fax \_\_\_\_\_

E-mail \_\_\_\_\_



■ Utilis AG, Precision Tools

Kreuzlingerstrasse 22, CH-8555 Müllheim, Switzerland  
 Phone +41 52 762 62 62, Fax +41 52 762 62 00  
 info@utilis.com, www.utilis.com

The newly developed high-pressure solution from UTILIS (up to a maximum of 200 bar or 2900 psi) ensures optimal delivery of coolant to the insert.

The highly compact and robust design and the stainless steel finish are the main features of this product.

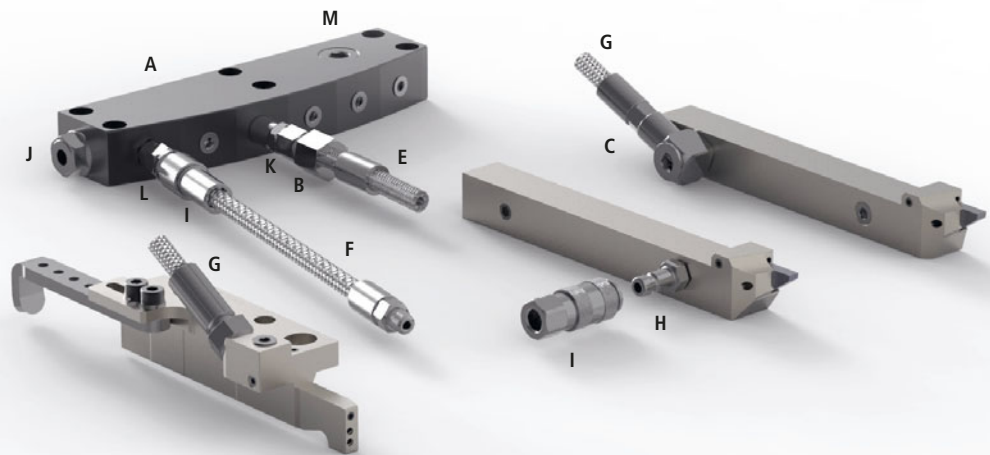
The product range includes several straight and pivoting unions with connection diameters of 4 mm and several quick connections. The use thereof dispenses with the laborious task of unscrewing the high-pressure tubes. This increases efficiency by minimising machine downtime.

The high-pressure hoses are available in a wide variety of lengths with different connections.

Reduction unions, extensions, screw connections, spare parts and coolant distributors round off the product range.

**Benefits:**

- flexible enough to be used with all multidec® product lines with internal cooling
- can be used within a temperature range of -60 to +250 °C or -76 to +482 °F
- can be used up to a maximum operating pressure of 200 bar or 2900 psi



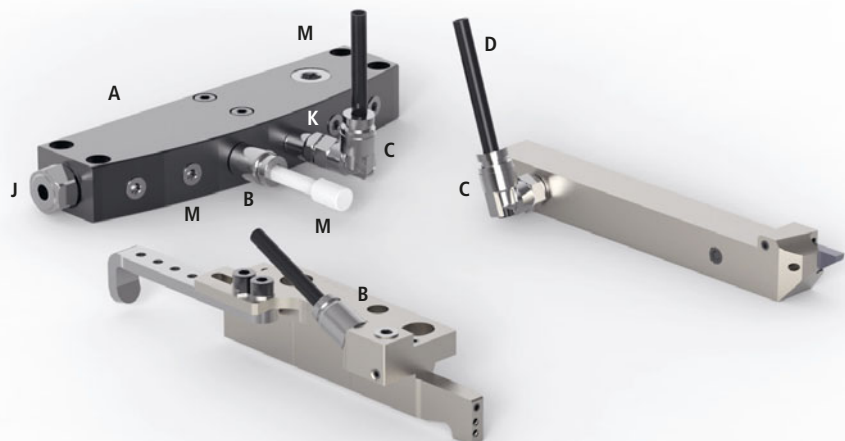
The range associated with the low-pressure solution for operating pressures up to a maximum of 30 bar or 435 psi includes a straight union and a swivel-type union with a connecting diameter of 4 mm when a polyurethane tube is being used.

As with our high-pressure solution, we offer reduction unions, extensions, closing plugs, and sealing rings. The polyurethane tube with an external diameter of 4 mm is 1000 mm long. This allows you to cut it to the length you need on a case-by-case basis.


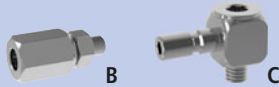

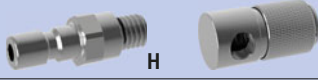
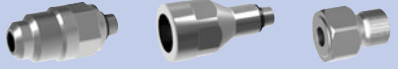


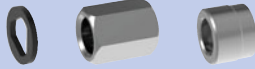

A well-balanced range of compact coolant distributors made of light metal completes the offer.

**Benefits:**


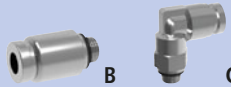
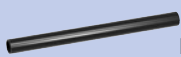
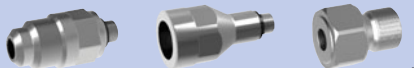




- flexible enough to be used with all multidec® product lines with internal cooling
- can be used within a temperature range from -40 to +100 °C or -40 to +212 °F
- can be used up to a maximum operating pressure of 30 bar or 435 psi (test pressure of 30 bar or 435 psi)
- corrosion-resistant and compact design

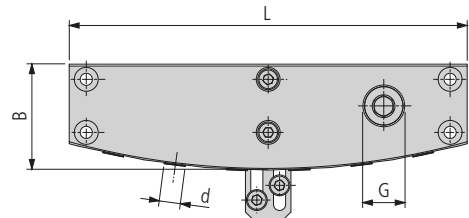


Coolant connections – high pressure

Coolant distributors		A	634
Unions		B C	635
Tubes		E/F/G	636
Quick change connectors		H I	639
Reduction unions		J	641
Extensions/Screw connections		K L	642
Screw and closing plugs		M	644
Replacement parts			645
Assembly examples / Installation instructions			646

Coolant connections – low pressure

Coolant distributors		A	648
Unions		B C	649
Coolant tubes		D	650
Reduction unions		J	651
Extensions		K	652
Screw and closing plugs		M	653
Replacement parts			654
Installation instructions			655

**MLU KV ... S (Small)**

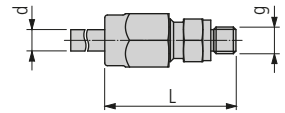
Order designation		Dimensions						Connections		Item
		G	B	d	L			Inputs	Outputs	
								G	d	
MLU KV 2-2 S	■	G1/8	24	M5	23			2	2	A
MLU KV 4-3 S	■	G1/8	24	M5	45			3	4	
MLU KV 6-3 S	■	G1/8	24	M5	65			3	6	
MLU KV 8-3 S	■	G1/8	24	M5	85			3	8	

**MLU KV ... L (Large)**

Order designation		Dimensions						Connections		Item
		G	B	d	L			Inputs	Outputs	
								G	d	
MLU KV 2-2 L	■	G1/8	25	M5	35			2	2	A
MLU KV 4-3 L	■	G1/8	25	M5	68			3	4	
MLU KV 6-3 L	■	G1/8	28	M5	105			3	6	
MLU KV 8-3 L	■	G1/8	25	M5	138			3	8	

Replacement parts □ 645

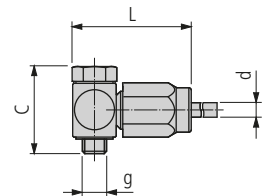
maximum 200 bar/2900 psi



MSP UGVR ...

Order designation		Dimensions						Version	Item
		g	d	L					
MSP UGVR M5-4	■	M5	4	27				straight	B
MSP UGVR G1/8-4	■	G1/8	4	32					
MSP UGVR PT1/8	■	PT1/8	4	32					

No sealing ring required



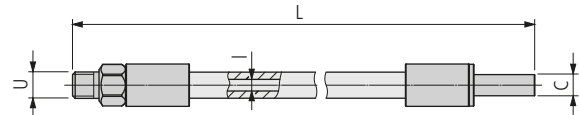
MSP USVR ...

Order designation		Dimensions						Version	Item
		g	d	L	C				
MSP USVR M5-4	■	M5	4	28	21			pivoting	C
MSP USVR G1/8-4	■	G1/8	4	37	30				
MSP USVR M5-M5	■	M5	M5	19	16				

No sealing ring required

Replacement parts □ 645

maximum 200 bar/2900 psi



**MSP UHPT ... M5-4**

Order designation		Dimensions				Version	Item	
		L	C	U	I			
MSP UHPT 100 M5-4	■		100	4	M5	3	Connecting piece/ thread	E
MSP UHPT 150 M5-4	■		150	4	M5	3		
MSP UHPT 200 M5-4	■		200	4	M5	3		
MSP UHPT 250 M5-4	■		250	4	M5	3		
MSP UHPT 300 M5-4	■		300	4	M5	3		
MSP UHPT 400 M5-4	■		400	4	M5	3		
MSP UHPT 500 M5-4	■		500	4	M5	3		

No sealing ring required

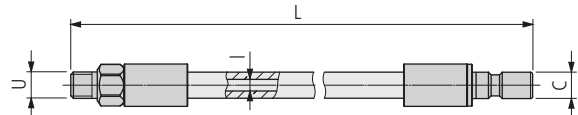
**MSP UHPTB ... M5-4**

Order designation		Dimensions				Version	Item	
		L	C	U	I			
MSP UHPTB 100 M5-4	■		100	4	M5	3.7	Connecting piece/ thread	E
MSP UHPTB 150 M5-4	■		150	4	M5	3.7		
MSP UHPTB 200 M5-4	■		200	4	M5	3.7		
MSP UHPTB 250 M5-4	■		250	4	M5	3.7		
MSP UHPTB 300 M5-4	■		300	4	M5	3.7		
MSP UHPTB 400 M5-4	■		400	4	M5	3.7		
MSP UHPTB 500 M5-4	■		500	4	M5	3.7		

No sealing ring required



maximum 200 bar/2900 psi



**MSP UHPT ... M5**

Order designation		Dimensions				L	C	U	I	Version	Item
MSP UHPT 100 NM-M5	■				100	NM	M5	3	Connector/thread	F	
MSP UHPT 150 NM-M5	■				150	NM	M5	3			
MSP UHPT 200 NM-M5	■				200	NM	M5	3			
MSP UHPT 250 NM-M5	■				250	NM	M5	3			
MSP UHPT 300 NM-M5	■				300	NM	M5	3			
MSP UHPT 400 NM-M5	■				400	NM	M5	3			
MSP UHPT 500 NM-M5	■				500	NM	M5	3			

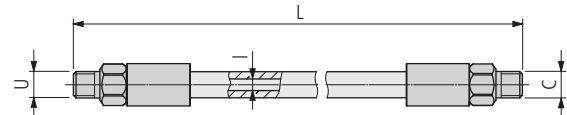
No sealing ring required

**MSP UHPTB ... M5**

Order designation		Dimensions				L	C	U	I	Version	Item
MSP UHPTB 100 NM-M5	■				100	NM	M5	3.7	Connector/thread	F	
MSP UHPTB 150 NM-M5	■				150	NM	M5	3.7			
MSP UHPTB 200 NM-M5	■				200	NM	M5	3.7			
MSP UHPTB 250 NM-M5	■				250	NM	M5	3.7			
MSP UHPTB 300 NM-M5	■				300	NM	M5	3.7			
MSP UHPTB 400 NM-M5	■				400	NM	M5	3.7			
MSP UHPTB 500 NM-M5	■				500	NM	M5	3.7			

No sealing ring required

maximum 200 bar/2900 psi



**MSP UHPT ... M5-M5**

Order designation		Dimensions				Version	Item
		L	C	U	I		
MSP UHPT 100 M5-M5	■						
MSP UHPT 150 M5-M5	■						
MSP UHPT 200 M5-M5	■						
MSP UHPT 250 M5-M5	■						
MSP UHPT 300 M5-M5	■						
MSP UHPT 400 M5-M5	■						
MSP UHPT 500 M5-M5	■						

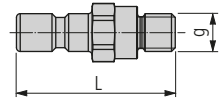
No sealing ring required

**MSP UHPTB ... M5-M5**

Order designation		Dimensions				Version	Item
		L	C	U	I		
MSP UHPTB 100 M5-M5	■						
MSP UHPTB 150 M5-M5	■						
MSP UHPTB 200 M5-M5	■						
MSP UHPTB 250 M5-M5	■						
MSP UHPTB 300 M5-M5	■						
MSP UHPTB 400 M5-M5	■						
MSP UHPTB 500 M5-M5	■						

No sealing ring required

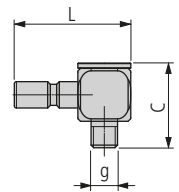
maximum 200 bar/2900 psi



**MSP UNM ... (Plug)**

Order designation	Dimensions						Version	Item
	g		L					
MSP UNM M5	M5		21				Plug	H

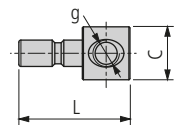
No sealing ring required



**MSP USNM ...**

Order designation	Dimensions						Version	Item
	g		L	C				
MSP USNM M5	M5		22	16			Connector pivoting by 90°	H

No sealing ring required



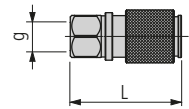
**MSP UANM ...**

Order designation	Dimensions						Version	Item
	g		L	C				
MSP UANM M5	M5		21	10			Connector 90°	H

No sealing ring required

Replacement parts □ 645

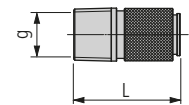
maximum 200 bar/2900 psi



**MSP UCF M5 (Plug)**

Order designation	Dimensions						Version	Item
	g		L					
MSP UCF M5	■	M5		21			Coupling	I

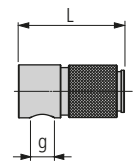
No sealing ring required



**MSP UCF PT...**

Order designation	Dimensions						Version	Item
	g		L					
MSP UCF PT1/8	■	PT1/8		20			Coupling	I

No sealing ring required



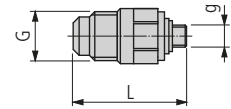
**MSP UACF ...**

Order designation	Dimensions						Version	Item
	g		L					
MSP UACF M5	■	M5		20			Coupling 90°	I

No sealing ring required

Replacement parts □ 645

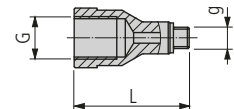
maximum 200 bar/2900 psi



MSP RVR ...

Order designation		Dimensions						Version	Item
		G	g			L			
MSP RVR M5-7/16-20 UNF	■	7/16-20 UNF	M5			29		–	J

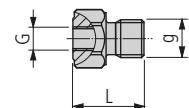
Including sealing ring



MSP RVR ...

Order designation		Dimensions						Version	Item
		G	g			L			
MSP RVR 100 M5-M6	■	M6	M5			15		–	J
MSP RVR 185 M5-M8x1	■	M8x1	M5			23			
MSP RVR 225 M5-M10x1	■	M10x1	M5			27			
MSP RVR 225 M5-G1/8"	■	G1/8"	M5			27			

Including sealing ring

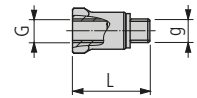


MSP RVR ...

Order designation		Dimensions						Version	Item
		G	g			L			
MSP RVR 100 M6-M5	■	M5	M6			18		–	J
MSP RVR 70 M8x1-M5	■	M5	M8x1			15			
MSP RVR 70 M10x1-M5	■	M5	M10x1			15			
MSP RVR 70 G1/8"-M5	■	M5	G1/8"			15			

No sealing ring required

maximum 200 bar/2900 psi



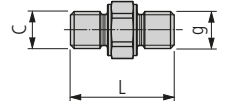
MSP VL ...

Order designation	Dimensions							Version	Item
	G	g			L				
MSP VL 100 M5-M5	■	M5	M5		10			-	K
MSP VL 200 M5-M5	■	M5	M5		20				
MSP VL 400 M5-M5	■	M5	M5		40				

Including sealing ring

Replacement parts 645

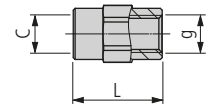
maximum 200 bar/2900 psi



**MSP EVRA ...**

Order designation	Dimensions					Version	Item
	g		L	C			
MSP EVRA M5-M5	M5		12	M5		–	L

No sealing ring required

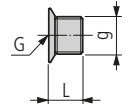


**MSP EVRI ...**

Order designation	Dimensions					Version	Item
	g		L	C			
MSP EVRI M5-M5	M5		14	M5		–	L

No sealing ring required

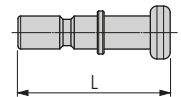
maximum 200 bar/2900 psi



MSP VSR ...

Order designation		Dimensions						Version	Item
		g	G			L			
MSP VSR G1/8" IB5	■	G1/8"	IB5			11			M
MSP VSR M5 IB2.5	■	M5	IB2.5			4		–	
MSP VSR M8x1 IB4	■	M8x1	IB4			5.5			

Including sealing ring




MSP LMN

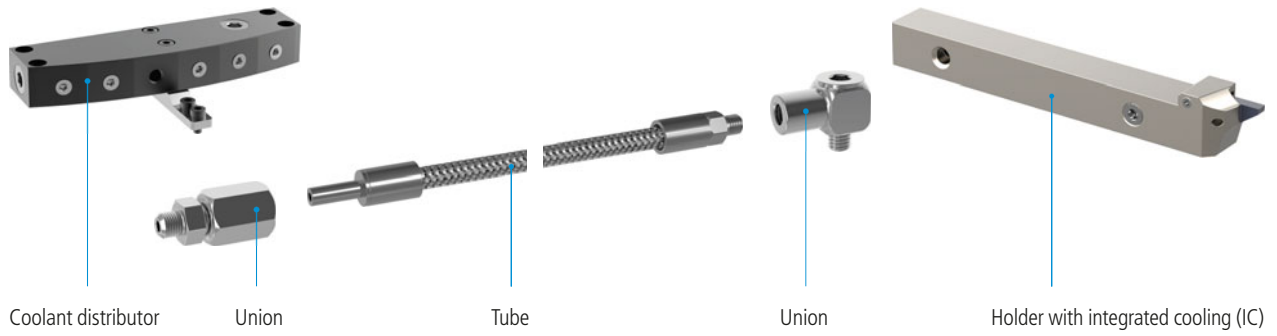
Order designation		Dimensions						Version	Item
						L			
MSP LMN	■					23		–	M

No sealing ring required

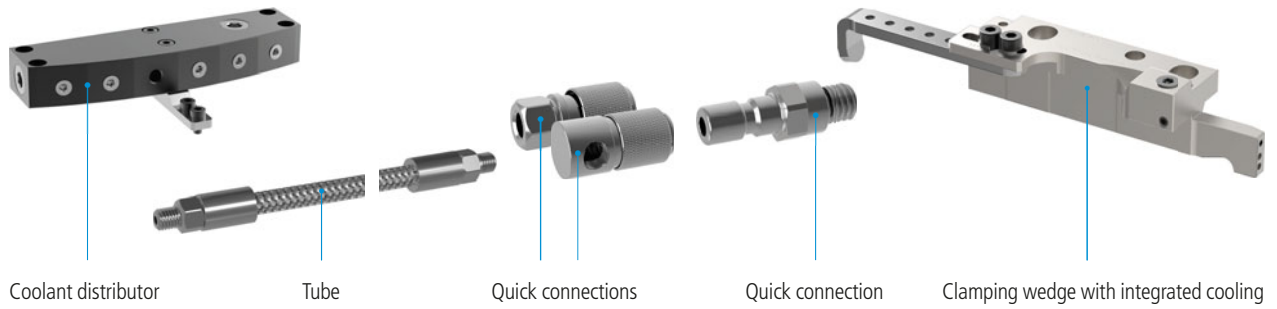


Illustration	Description	Dimensions	Order designation		Item
	Sealing ring	5	MSP USK-M5	■	J, K
	Nut for clamping ring	4	MSP UCN4	■	B, C
	Clamping ring for tube connection	4	MSP UCR4	■	B, C

Example with unions

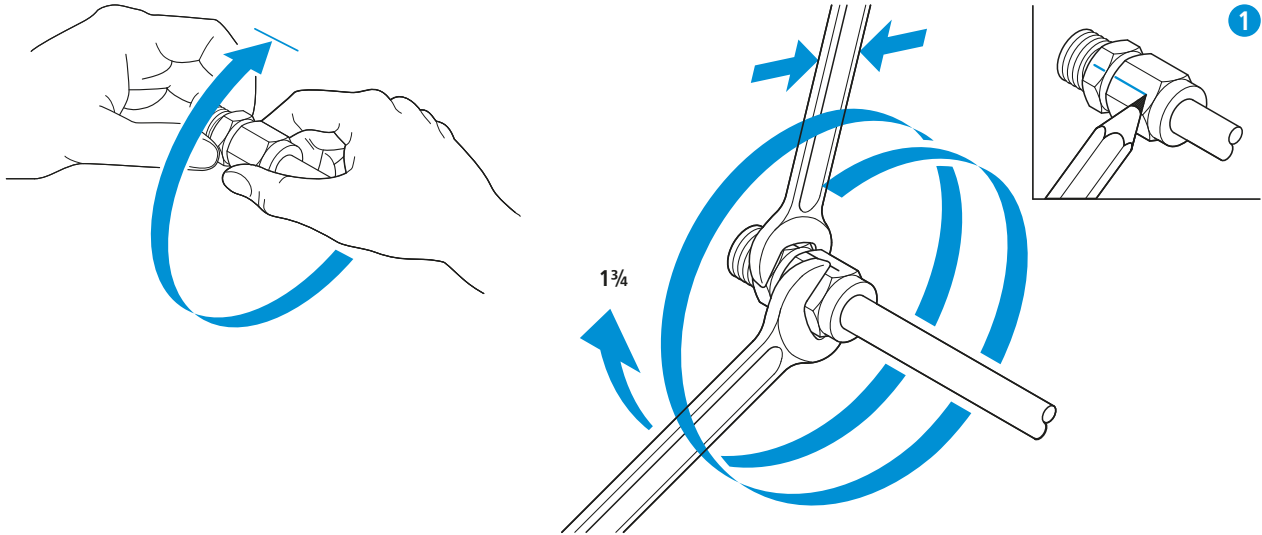


Example with quick connections



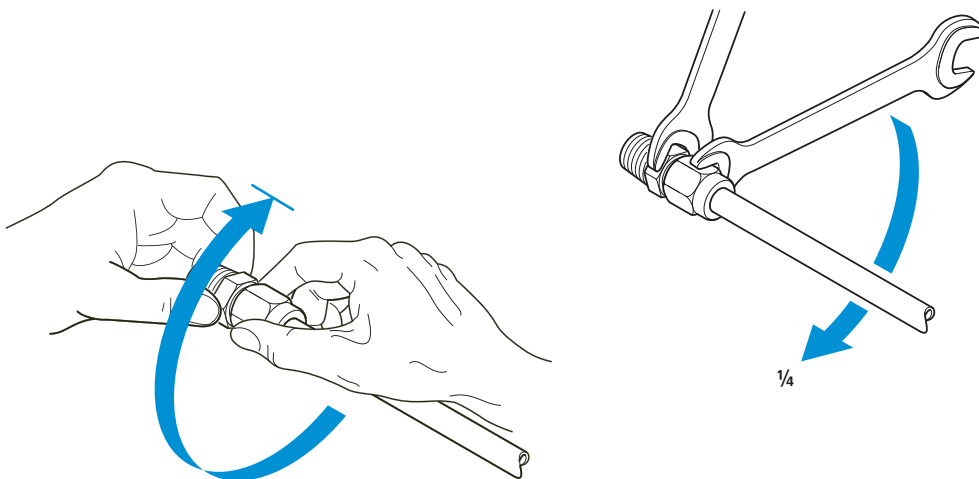
**Initial assembly**

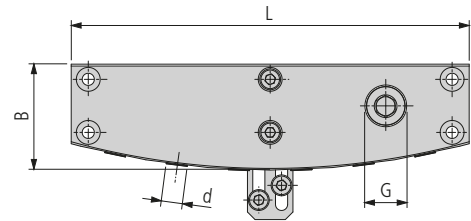
1. Screw on the union nut by hand until finger-tight. At the same time, push the tube against the fitting.
2. Tighten down the union nut through **1¾ rotations** using an open-end wrench.
  - ① Making a mark will assist in correct rotation. Hold the adaptor with a second wrench to prevent it turning.

**Repeat assembly**

When refitting the same tube union, screw the union nut back on by hand until finger-tight and tighten down the union nut with an open-end wrench with **¼ of a rotation** for the final fit.

**In the event of repeat fitting, parts must be lubricated.**



**MLU KV ... S (Small)**

Order designation		Dimensions						Connections		Item
		G	B	d	L			Inputs	Outputs	
								G	d	
MLU KV 2-2 S	■	G1/8	24	M5	23			2	2	A
MLU KV 4-3 S	■	G1/8	24	M5	45			3	4	
MLU KV 6-3 S	■	G1/8	24	M5	65			3	6	
MLU KV 8-3 S	■	G1/8	25	M5	85			3	8	

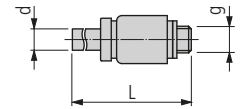
**MLU KV ... L (Large)**

Order designation		Dimensions						Connections		Item
		G	B	d	L			Inputs	Outputs	
								G	d	
MLU KV 2-2 L	■	G1/8	25	M5	35			2	2	A
MLU KV 4-3 L	■	G1/8	25	M5	68			3	4	
MLU KV 6-3 L	■	G1/8	28	M5	105			3	6	
MLU KV 8-3 L	■	G1/8	25	M5	138			3	8	

Replacement parts □ 654

maximum 30 bar/435 psi

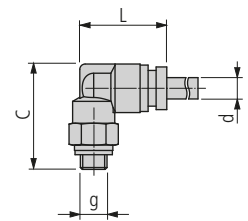
Plug connectors



MSP STVR ...

Order designation	Dimensions						Version	Item
	g	d	L					
MSP STVR M5-4	M5	4	17				straight	B

Including sealing ring



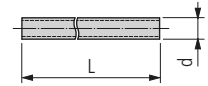
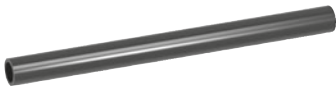
MSP EWR ...

Order designation	Dimensions						Version	Item
	g	d	L	C				
MSP EWR M5-4	M5	4	18	21			pivoting by 90°	C

Including sealing ring

Replacement parts □ 654

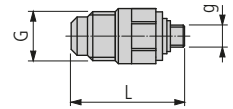
maximum 30 bar/435 psi



MSP KSK...

Order designation	Dimensions						Version	Item
				d	L			
MSP KSK-4	■			4	1000		–	D

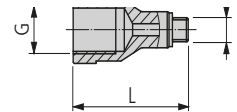
maximum 30 bar/435 psi



MSP RVR ...

Order designation		Dimensions						Version	Item
		G	g			L			
MSP RVR M5-7/16-20 UNF	■	7/16-20 UNF	M5			29		–	J

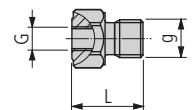
Including sealing ring



MSP RVR ...

Order designation		Dimensions						Version	Item
		G	g			L			
MSP RVR 100 M5-M6	■	M6	M5			15		–	J
MSP RVR 185 M5-M8x1	■	M8x1	M5			23			
MSP RVR 225 M5-M10x1	■	M10x1	M5			27			
MSP RVR 225 M5-G1/8"	■	G1/8"	M5			27			

Including sealing ring

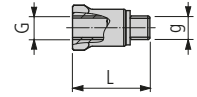


MSP RVR ...

Order designation		Dimensions						Version	Item
		G	g			L			
MSP RVR 100 M6-M5	■	M5	M6			18		–	J
MSP RVR 70 M8x1-M5	■	M5	M8x1			15			
MSP RVR 70 M10x1-M5	■	M5	M10x1			15			
MSP RVR 70 G1/8"-M5	■	M5	G1/8"			15			

No sealing ring required

maximum 30 bar/435 psi



MSP VL ...

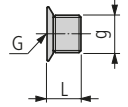
Order designation	Dimensions							Version	Item
	G	g			L				
MSP VL 100 M5-M5	■	M5	M5		10			-	K
MSP VL 200 M5-M5	■	M5	M5		20				
MSP VL 400 M5-M5	■	M5	M5		40				

Including sealing ring

Replacement parts 654



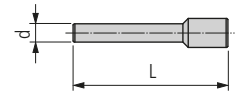
maximum 30 bar/435 psi



**MSP VSR ...**


Order designation		Dimensions						Version	Item
		g	G			L			
MSP VSR G1/8" IB5	■	G1/8"	IB5			11			M
MSP VSR M5 IB2.5	■	M5	IB2.5			4		-	
MSP VSR M8x1 IB4	■	M8x1	IB4			5.5			

Including sealing ring



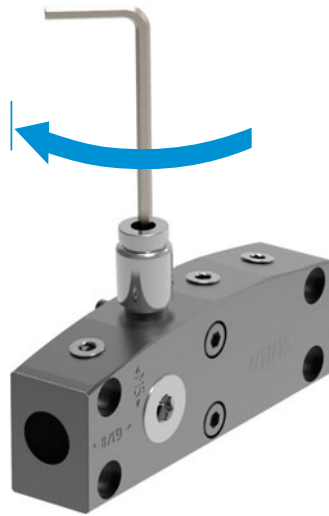
**MSP VSK...**

Order designation		Dimensions						Version	Item
				d	L				
MSP VSK-4	■			4	32			-	M

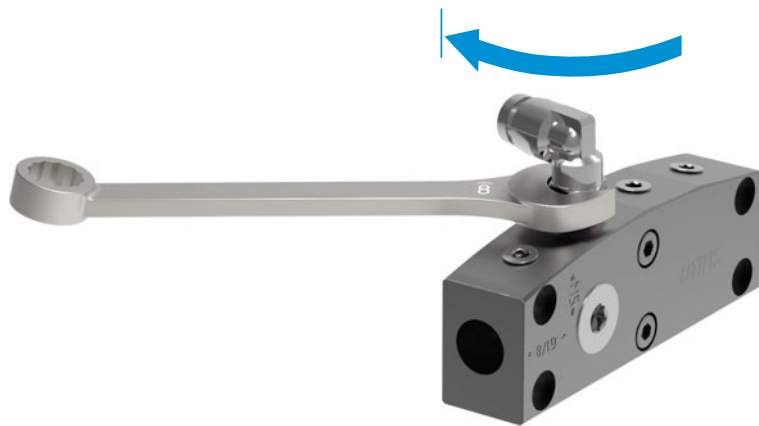
Illustration	Description	Dimension	Order designation		Item
	Sealing ring	5	MSP USK-M5	■	B, C, J, K

**Installation of the straight plug connector**

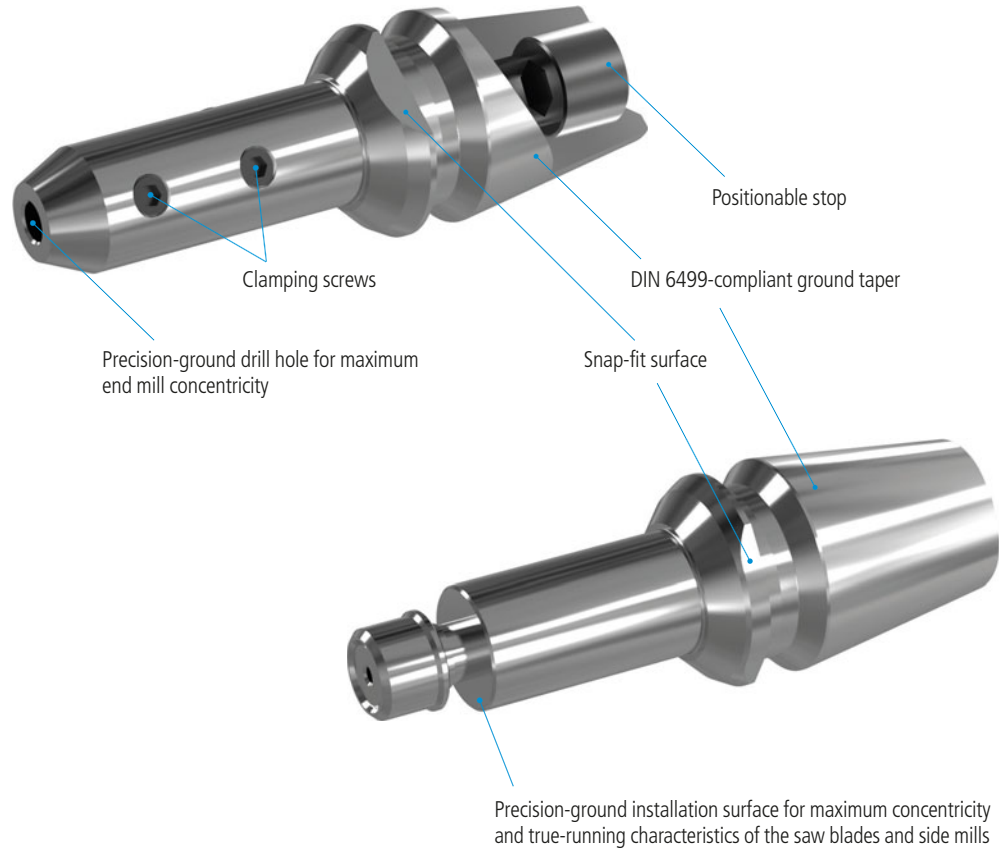
1. Screw on the straight plug connector by hand until finger-tight.
2. With the Allen key, thoroughly tighten the straight plug connector (as shown) through the opening for the connection using the force of your fingers only.

**Installation of the swivel-type plug connector**

1. Screw on the swivel plug connector by hand until finger-tight.
2. With an open-end wrench, thoroughly tighten the swivel-type plug connector (as shown) using a normal amount of force.



multidec®-TAPER-IN is a tool holder serie that has been specially developed to be used on Swiss type turning machines. These tool holders have a monoblock design in order to achieve the highest possible stability. The multidec®-TAPER-IN tool holders can be used in any driven or stationary spindle compliant with the DIN 6499 standard.



**Benefits:**

- Ideally suited to Swiss-type turning machines (profile turning)
- Direct fit in the collet chuck with ER cone
- No special clamping nuts are needed
- Monoblock design for reduced added tolerance
- High stability
- Ground surfaces
- Holder for ER sizes 8, 11, 16, 20 and 25
- Concentric accuracy of 0.005 mm
- Stop screw adjustable on both sides for tool positioning

Technical information

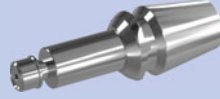
9

Monoblock ER tool holder (for end mills)



658

Monoblock ER tool holder (for saw blades and side mills)



660

Replacement and spare parts



662

For end mills



Fig. 1

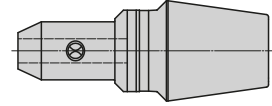
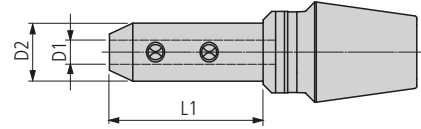


Fig. 2



MTIM ER ...

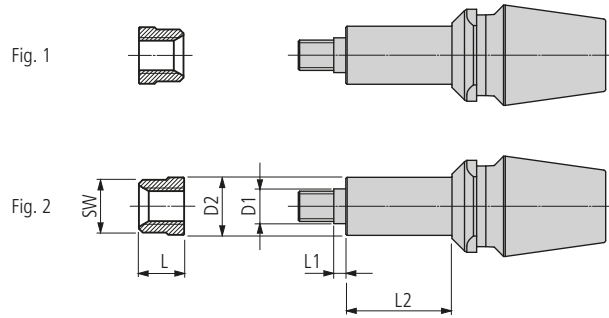
Order designation		Dimensions					Fig.
		ER	D1	L1	D2		
MTIM ER8-1.00-10	■	8	1	10	6.4		1
MTIM ER8-1.00-15	■	8	1	15	6.4		1
MTIM ER8-1.50-10	■	8	1.5	10	6.4		1
MTIM ER8-1.50-15	■	8	1.5	15	6.4		1
MTIM ER8-1.59-10	■	8	1.59	10	6.4		1
MTIM ER8-1.59-15	■	8	1.59	15	6.4		1
MTIM ER8-2.00-10	■	8	2	10	6.4		1
MTIM ER8-2.00-15	■	8	2	15	6.4		1
MTIM ER8-3.00-10	■	8	3	10	7		1
MTIM ER8-3.00-15	■	8	3	15	7		1
MTIM ER8-3.18-10	■	8	3.18	10	7		1
MTIM ER8-3.18-15	■	8	3.18	15	7		1
MTIM ER11-1.59-10	■	11	1.59	10	6.4		1
MTIM ER11-2.00-10	■	11	2	10	6.4		1
MTIM ER11-3.00-10	■	11	3	10	8		1
MTIM ER11-3.00-15	■	11	3	15	8		1
MTIM ER11-3.00-20	■	11	3	20	8		2
MTIM ER11-3.18-10	■	11	3.18	10	8		1
MTIM ER11-3.18-15	■	11	3.18	15	8		1
MTIM ER11-3.18-20	■	11	3.18	20	8		2
MTIM ER11-4.00-15	■	11	4	15	8		1
MTIM ER11-4.00-20	■	11	4	20	8		2
MTIM ER16-1.00-16	■	16	1	16	6.4		1
MTIM ER16-1.50-16	■	16	1.5	16	6.4		1
MTIM ER16-1.59-16	■	16	1.59	16	6.4		1
MTIM ER16-2.00-16	■	16	2	16	6.4		1
MTIM ER16-1.00-16	■	16	1	16	6.4		1
MTIM ER16-1.50-16	■	16	1.5	16	6.4		1
MTIM ER16-1.59-16	■	16	1.59	16	6.4		1
MTIM ER16-2.00-16	■	16	2	16	6.4		1
MTIM ER16-3.00-16	■	16	3	16	9.5		1
MTIM ER16-3.00-25	■	16	3	25	9.5		2
MTIM ER16-3.18-16	■	16	3.18	16	9.5		1
MTIM ER16-3.18-25	■	16	3.18	25	9.5		2
MTIM ER16-4.00-16	■	16	4	16	9.5		1
MTIM ER16-4.00-25	■	16	4	25	9.5		2
MTIM ER16-4.76-16	■	16	4.76	16	9.5		1
MTIM ER16-4.76-25	■	16	4.76	25	9.5		2
MTIM ER16-5.00-16	■	16	5	16	9.5		1
MTIM ER16-5.00-25	■	16	5	25	9.5		2
MTIM ER20-3.00-25	■	20	3	25	9.5		2
MTIM ER20-3.18-16	■	20	3.18	16	9.5		1
MTIM ER20-3.18-25	■	20	3.18	25	9.5		2
MTIM ER20-4.00-14	■	20	4	14	9.5		1
MTIM ER20-4.00-16	■	20	4	16	9.5		1

Continuation

MTIM ER ...

Order designation		Dimensions						Fig.
		ER	D1	L1	D2			
MTIM ER20-4.00-25	■	20	4	25	9.5			2
MTIM-ER20-4.76-14	■	20	4.76	14	11.4			1
MTIM ER20-4.76-25	■	20	4.76	25	11.4			2
MTIM ER20-5.00-14	■	20	5	14	11.4			1
MTIM ER20-5.00-25	■	20	5	25	11.4			2
MTIM ER20-6.00-14	■	20	6	14	12.5			1
MTIM ER20-6.00-25	■	20	6	25	12.5			2
MTIM ER20-6.35-14	■	20	6.35	14	12.5			1
MTIM ER20-6.35-25	■	20	6.35	25	12.5			2
MTIM ER25-3.00-25	■	25	3	25	10			2
MTIM ER25-3.18-25	■	25	3.18	25	10			2
MTIM ER25-4.00-25	■	25	4	25	10			2
MTIM ER25-4.76-25	■	25	4.76	25	12.5			2
MTIM ER25-5.00-25	■	25	5	25	12.5			2
MTIM ER25-6.00-25	■	25	6	25	12.5			2
MTIM ER25-6.35-25	■	25	6.35	25	12.5			2
MTIM ER25-7.00-25	■	25	7	25	16			2
MTIM ER25-7.94-25	■	25	7.94	25	16			2
MTIM ER25-8.00-25	■	25	8	25	16			2

For saw blades and side mills



MTIS ER ...

Order designation		Dimensions							Saw blade thickness	
		ER	D1	D2	L1	L2	L	SW	Fig. 1	Fig. 2
MTIS ER11-3.00-10	■	11	3	6.35	1.27	10	5	5	1.2-3	0.13-2
MTIS ER11-3.00-14	■	11	3	6.35	1.27	14	5	5	1.2-3	0.13-2
MTIS ER11-3.00-19	■	11	3	6.35	1.27	19	5	5	1.2-3	0.13-2
MTIS ER11-3.00-25	■	11	3	6.35	1.27	25	5	5	1.2-3	0.13-2
MTIS ER11-3.18-10	■	11	3.18	6.35	1.27	10	5	5	1.2-3	0.13-2
MTIS ER11-3.18-14	■	11	3.18	6.35	1.27	14	5	5	1.2-3	0.13-2
MTIS ER11-3.18-19	■	11	3.18	6.35	1.27	19	5	5	1.2-3	0.13-2
MTIS ER11-3.18-25	■	11	3.18	6.35	1.27	25	5	5	1.2-3	0.13-2
MTIS ER11-4.76-10	■	11	4.76	8	1.27	10	5	7	1.2-3	0.13-2
MTIS ER11-4.76-14	■	11	4.76	8	1.27	14	5	7	1.2-3	0.13-2
MTIS ER11-4.76-19	■	11	4.76	8	1.27	19	5	7	1.2-3	0.13-2
MTIS ER11-4.76-25	■	11	4.76	8	1.27	25	5	7	1.2-3	0.13-2
MTIS ER11-5.00-10	■	11	5	8	1.27	10	5	7	1.2-3	0.13-2
MTIS ER11-5.00-14	■	11	5	8	1.27	14	5	7	1.2-3	0.13-2
MTIS ER11-5.00-19	■	11	5	8	1.27	19	5	7	1.2-3	0.13-2
MTIS ER11-5.00-25	■	11	5	8	1.27	25	5	7	1.2-3	0.13-2
MTIS ER11-6.00-10	■	11	6	8	1.27	10	6.35	7	1.2-3	0.13-2
MTIS ER11-6.00-14	■	11	6	8	1.27	14	6.35	7	1.2-3	0.13-2
MTIS ER11-6.00-19	■	11	6	8	1.27	19	6.35	7	1.2-3	0.13-2
MTIS ER11-6.00-25	■	11	6	8	1.27	25	6.35	7	1.2-3	0.13-2
MTIS ER16-3.00-18	■	16	3	6.35	1.27	18	6.35	5	1.2-3	0.13-2.5
MTIS ER16-3.00-24	■	16	3	6.35	1.27	24	6.35	5	1.2-3	0.13-2.5
MTIS ER16-3.18-18	■	16	3.18	6.35	1.27	18	6.35	5	1.2-3	0.13-2.5
MTIS ER16-3.18-24	■	16	3.18	6.35	1.27	24	6.35	5	1.2-4	0.13-2.5
MTIS ER16-4.76-18	■	16	4.76	9.53	1.27	18	6.35	8	1.2-4	0.13-2.5
MTIS ER16-4.76-24	■	16	4.76	9.53	1.27	24	6.35	8	1.2-4	0.13-2.5
MTIS ER16-5.00-18	■	16	5	9.53	1.27	18	6.35	8	1.2-4	0.13-2.5
MTIS ER16-5.00-24	■	16	5	9.53	1.27	24	6.35	8	1.2-4	0.13-2.5
MTIS ER16-6.00-18	■	16	6	9.53	1.27	18	6.35	8	1.2-4	0.13-2
MTIS ER16-6.00-24	■	16	6	9.53	1.27	24	6.35	8	1.2-4	0.13-2
MTIS ER16-6.35-18	■	16	6.35	9.53	1.27	18	6.35	8	1.2-4	0.13-2.5
MTIS ER16-6.35-24	■	16	6.35	9.53	1.27	24	6.35	8	1.2-4	0.13-2.5
MTIS ER16-7.94-18	■	16	7.94	10	1.27	18	6.35	9	1.2-4	0.13-2.5
MTIS ER16-7.94-24	■	16	7.94	10	1.27	24	6.35	9	1.2-4	0.13-2.5
MTIS ER16-8.00-18	■	16	8	10	1.27	18	6.35	9	1.2-4	0.13-2.5
MTIS ER16-8.00-24	■	16	8	10	1.27	24	6.35	9	1.2-4	0.13-2.5
MTIS ER20-3.00-18	■	20	3	6.35	1.27	18	6.35	5	1.2-3	0.13-3
MTIS ER20-3.00-30	■	20	3	6.35	1.27	30	6.35	5	1.2-3	0.13-3
MTIS ER20-3.18-18	■	20	3.18	6.35	1.27	18	6.35	5	1.2-3	0.13-3
MTIS ER20-3.18-30	■	20	3.18	6.35	1.27	30	6.35	5	1.2-3	0.13-3
MTIS ER20-4.76-18	■	20	4.76	9.53	1.27	18	6.35	8	1.2-4	0.13-3
MTIS ER20-4.76-30	■	20	4.76	9.53	1.27	30	6.35	8	1.2-4	0.13-3
MTIS ER20-5.00-18	■	20	5	9.53	1.27	18	6.35	8	1.2-4	0.13-3
MTIS ER20-5.00-30	■	20	5	9.53	1.27	30	6.35	8	1.2-4	0.13-3
MTIS ER20-6.00-18	■	20	6	9.53	1.27	18	6.35	8	1.2-4	0.13-3




Continuation

MTIS ER ...

Order designation		Dimensions							Saw blade thickness	
		ER	D1	D2	L1	L2	L	SW	Fig. 1	Fig. 2
MTIS ER20-6.00-30	■	20	6	9.53	1.27	30	6.35	8	1.2-4	0.13-3
MTIS ER20-6.35-18	■	20	6.35	9.53	1.27	18	6.35	8	1.2-4	0.13-3
MTIS ER20-6.35-30	■	20	6.35	9.53	1.27	30	6.35	8	1.2-4	0.13-3
MTIS ER20-7.94-18	■	20	7.94	10	1.27	18	6.35	9	1.2-4	0.13-3
MTIS ER20-7.94-30	■	20	7.94	10	1.27	30	6.35	9	1.2-4	0.13-3
MTIS ER20-8.00-18	■	20	8	10	1.27	18	6.35	9	1.2-4	0.13-3
MTIS ER20-8.00-30	■	20	8	10	1.27	30	6.35	9	1.2-4	0.13-3
MTIS ER20-9.52-18	■	20	9.52	12.5	1.27	18	7	11	1.2-4	0.13-3
MTIS ER20-9.52-30	■	20	9.52	12.5	1.27	30	7	11	1.2-4	0.13-3
MTIS ER20-10.0-18	■	20	10	12.5	1.27	18	7	11	1.2-6	0.13-4
MTIS ER20-10.0-30	■	20	10	12.5	1.27	30	7	11	1.2-6	0.13-4

Including clamping nuts


## For tool clamp

Illustration	Description	Dimensions	Order designation		Tool holder
	Clamping screw	M2 × 2	MSP 20020 IB0.9	■	MTIM ER8...
		M3 × 3	MSP 30030 IB1.5	■	MTIM ER11... / MTIM ER16... / MTIM ER20-3.00–5.00 / MTIM ER25-3.00–5.00
		M4 × 4	MSP 40040 IB2	■	MTIM ER20-6.00–6.35 / MTIM ER 25-6.00–8.00
	Allen key	SW 0.9	MSP IB0.9	■	MTIM ER8...


## For positionable stop

Illustration	Description	Dimensions	Order designation		Tool holder
	Headless screw with hexagon socket (double-sided)	M4 × 4	MSP 40040 IB2	■	MTIM ER8...
		M6 × 5	MSP 60050 AN IB3-2.5	■	MTIM ER11...
		M8 × 6	MSP 80060 AN IB4-2.5	■	MTIM ER16... / MTIM ER20...
		M10 × 21	MSP 100210 AN IB5-2.5	■	MTIM ER25...

## For side mill holder

Illustration	Description	Dimensions	Order designation		Tool holder
	Clamping nut	M3 × 0.5	MSP TI 03.00 ER11	■	MTIS ER11-3.00... / MTIS ER11-3.18...
		M3 × 0.5	MSP TI 03.00 ER16-ER20	■	MTIS ER16-3.00... / MTIS ER16-3.18... / MTIS ER20-3.00... / MTIS ER20-3.18...
		10-32 UNF	MSP TI 04.76 ER16-ER20	■	MTIS ER16-4.76... / MTIS ER20-4.76...
		10-32 UNF	MSP TI 05.00 ER11	■	MTIS ER11-4.76... / MTIS ER11-5.00...
		M5 × 0.8	MSP TI 05.00 ER16-ER20	■	MTIS ER16-5.00... / MTIS ER20-5.00...
		M6 × 1	MSP TI 06.00 ER11	■	MTIS ER11-6.00...
		M6 × 1	MSP TI 06.00 ER16-ER20	■	MTIS ER16-6.00... / MTIS ER20-6.00...
		1/4-32 UNF	MSP TI 06.35 ER16-ER20	■	MTIS ER16-6.35... / MTIS ER20-6.35...
		5/16-32 UNF	MSP TI 08.00 ER16-ER20	■	MTIS ER16-7.94... / MTIS ER16-8.00... / MTIS ER20-7.94... / MTIS ER20-8.00...
3/8-32 UNF	MSP TI 10.00 ER20	■	MTIS ER20-9.52... / MTIS ER20-10.00...		





## For spindle-connection

Illustration	Description	Dimensions	Order designation		Tool holder
	Clamping nut	M10 × 0.75	Hi-Q/ERM 8	■	ER8
		M13 × 0.75	Hi-Q/ERM 11	■	ER11
		M19 × 1	Hi-Q/ERM 16	■	ER16
		M24 × 1	Hi-Q/ERM 20	■	ER20
		M30 × 1	Hi-Q/ERM 25	■	ER25



Maximum possible hardness combined with high toughness are essential for any high quality tool. Use of a special alloy gives our blades exceptional toughness and elasticity even at a hardness of 58 to 60 HRC. The special surface structure of the handle gives a firm grip even with wet and oily hands. Safe working and a long tool life are guaranteed with this screwdriver.



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MSP TX...

Order designation		Dimensions				Screw
		TORX	TORX PLUS	Allen head	Torque (Nm)	
MSP TX05	■	T05				M... T 05
MSP TX06	■	T06				M... T 06
MSP TX07	■	T07				M... T 07
MSP TX08	■	T08				M... T 08
MSP TX09	■	T09				M... T 09
MSP TX10	■	T10				M... T 10
MSP TX15	■	T15				M... T 15
MSP TX20	■	T20				M... T 20
MSP TXP06	■		TP06			M... TP 06
MSP TXP07	■		TP07			M... TP 07
MSP TXP08	■		TP08			M... TP 08
MSP TXP09	■		TP09			M... TP 09
MSP TXP10	■		TP10			M... TP 10
MSP TXP15	■		TP15			M... TP 15
MSP TXP20	■		TP20			M... TP 20



**MSP TX... D\***

Order designation		Dimensions				Screw
		TORX	TORX PLUS	Allen head	Torque (Nm)	
MSP TX06 D	■	T06			0.6	M... T 06
MSP TX07 D	■	T07			0.9	M... T 07
MSP TX08 D	■	T08			1.2	M... T 08
MSP TX09 D	■	T09			1.4	M... T 09
MSP TX10 D	■	T10			2	M... T 10
MSP TX15 D	■	T15			3	M... T 15
MSP TX20 D	■	T20			3	M... T 20
MSP TXP06 D	■		TP06		0.6	M... TP 06
MSP TXP07 D	■		TP07		0.9	M... TP 07
MSP TXP08 D	■		TP08		1.2	M... TP 08
MSP TXP09 D	■		TP09		1.4	M... TP 09
MSP TXP10 D	■		TP10		2	M... TP 10
MSP TXP15 D	■		TP15		3	M... TP 15
MSP TXP20 D	■		TP20		3	M... TP 20

\* Preset with replaceable blade (TORX and TORX PLUS can be used with the same handle)

Replaceable blades □ 669



## MSP GHEX ... D\*

Order designation		Dimensions				Screw
		TORX	TORX PLUS	Allen head	Torque (Nm)	
MSP GHEX 2.9 D	■			M4	2.9	M4
MSP GHEX 6.0 D	■			M5	6	M5
MSP GHEX 10.0 D	■			M6	10	M6

\* Preset with replaceable blade

Replaceable blades  669





**MSP KTX... D (TORX torque)**

Order designation		Dimensions				Screw
		TORX	TORX PLUS	Allen head		
MSP KTX06 D	■	T06				M... T 06
MSP KTX07 D	■	T07				M... T 07
MSP KTX08 D	■	T08				M... T 08
MSP KTX09 D	■	T09				M... T 09
MSP KTX10 D	■	T10				M... T 10
MSP KTX15 D	■	T15				M... T 15
MSP KTX20 D	■	T20				M... T 20
MSP KTXP06 D	■		TP06			M... TP 06
MSP KTXP07 D	■		TP07			M... TP 07
MSP KTXP08 D	■		TP08			M... TP 08
MSP KTXP09 D	■		TP09			M... TP 09
MSP KTXP10 D	■		TP10			M... TP 10
MSP KTXP15 D	■		TP15			M... TP 15
MSP KTXP20 D	■		TP20			M... TP 20



**MSP KHEX ... D (Allen torque)**

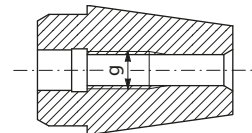
Order designation		Dimensions				Screw
		TORX	TORX PLUS	Allen head		
MSP KHEX IB3 D	■			IB3		M4
MSP KHEX IB4 D	■			IB4		M5
MSP KHEX IB5 D	■			IB5		M6

These collets are made in-house by UTILIS and can be supplied from stock. They are manufactured for universal use with all screw-fitted milling cutters which have the same interface-specific application. To be used as ER adapters they offer several advantages, even by comparison with full carbide shank milling cutters.



**Special features and advantages:**

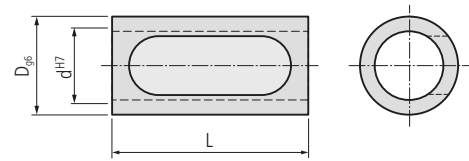
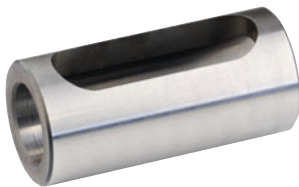
- Short and stable tool clamping
- Suitable for use on both, Swiss type lathes and regular short turning lathes
- Fewer vibrations than carbide endmill (less wear/tool breakage)
- Lower tool costs
- Higher cutting parameters than carbide endmill
- Also suitable for low power machines
- Concentricity <0.005 mm



ER.. EF ..

Order designation		Dimensions					Collet type
		g					
ER16 EF M6	■	M6					ER16
ER16 EF M8	■	M8					ER16
ER20 EF M6	■	M6					ER20
ER20 EF M8	■	M8					ER20
ER20 EF M10	■	M10					ER20
ER25 EF M6	■	M6					ER25
ER25 EF M8	■	M8					ER25
ER25 EF M10	■	M10					ER25
ER32 EF M6	■	M6					ER32
ER32 EF M8	■	M8					ER32
ER32 EF M10	■	M10					ER32

The reduction sleeve gives the possibility fixing small tools in to the machine tool fixtures with bigger diameters. This small investment is an extremely flexible and economic solution giving an independent solution for different tool fixing situations.



MRH ...

Order designation		Dimensions																			
		D <sub>g6</sub>	d <sub>H7</sub>	L																	
MRH 15875 1230	■	15.875	12	30																	
MRH 1600 1230	■	16	12	30																	
MRH 1905 0840	■	19.05	8	40																	
MRH 1905 1240	■	19.05	12	40																	
MRH 1905 1640	■	19.05	16	40																	
MRH 2000 1040	■	20	10	40																	
MRH 2000 1240	■	20	12	40																	
MRH 2000 1640	■	20	16	40																	
MRH 2200 1240	■	22	12	40																	
MRH 2200 1640	■	22	16	40																	
MRH 2500 1240	■	25	12	40																	
MRH 2500 1640	■	25	16	40																	
MRH 2500 2040	■	25	20	40																	
MRH 2540 1240	■	25.4	12	40																	
MRH 2540 1640	■	25.4	16	40																	
MRH 2540 2040	■	25.4	20	40																	
MRH 3300 2040	■	33	20	40																	
MRH 3300 2240	■	33	22	40																	
MRH 3300 2540	■	33	25	40																	

Concentricity < 0.01 mm

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