

Tooling Technology Machine Tooling Technology

BENZ Modular Quick Change Systems
+ BENZ Solidfix®
+ BENZ CAPTO™

METAL MACHINING

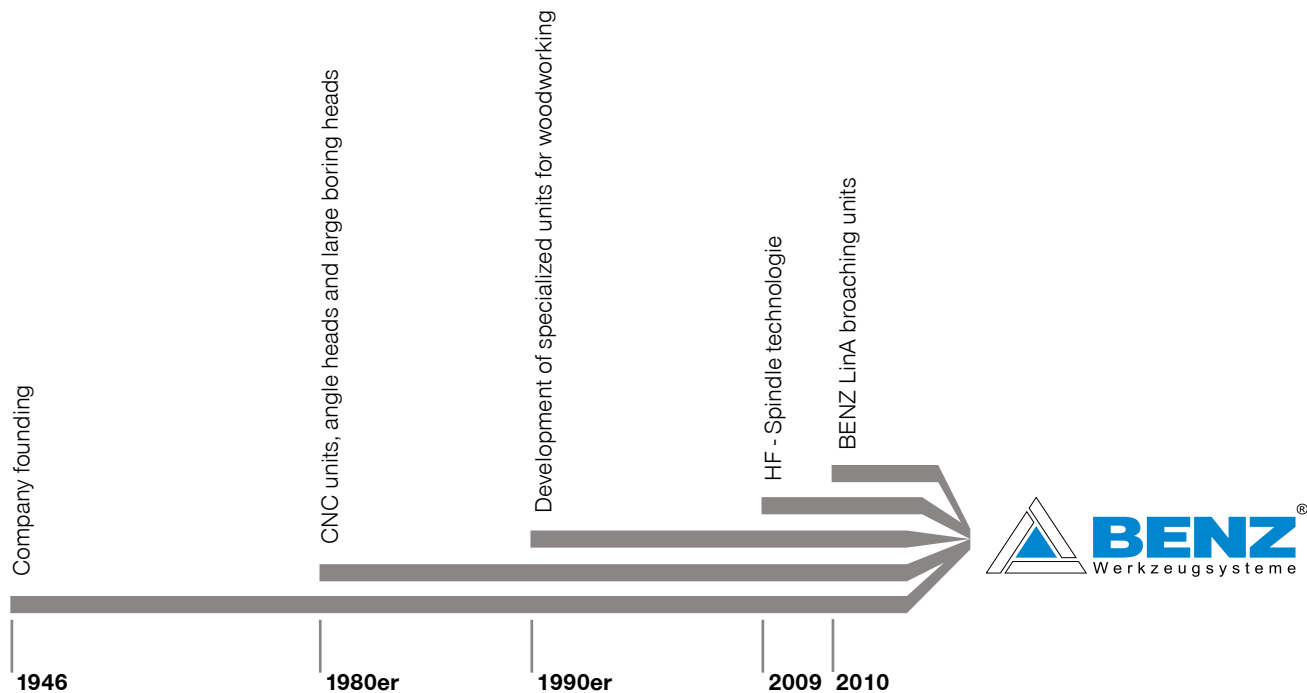


AT BENZ GMBH WERKZEUGSYSTEME, OUR MAXIM, INNOVATION, PRECISION, PASSION, IS FAR MORE THAN JUST A MARKETING FORMULA. RATHER, IT DESCRIBES THE CORE GOALS OF OUR BUSINESS WHILE ALSO OUTLINING THE REASONS WHY WE HAVE BEEN ABLE TO COMPETE IN THE MARKET SUCCESSFULLY WITH TOOL SYSTEMS FOR WOODWORKING, METAL MACHINING AND COMPOSITE MATERIAL PROCESSING FOR MORE THAN 30 YEARS.

INNOVATIONS ARE IMPORTANT TO US. BUT WE ALSO RECOGNIZE THAT THEY CAN BE SUCCESSFUL ONLY IF THEY PRECISELY MEET THE NEEDS OF OUR CUSTOMERS. THIS IS WHY WE HAVE MAINTAINED A STRICT FOCUS ON OUR CUSTOMERS FOR MANY YEARS. WE ENSURE THAT OUR DEVELOPMENTS AND INNOVATIONS SIMPLIFY YOUR PRODUCTION PROCESSES AND LOWER YOUR MANUFACTURING COSTS - AND ULTIMATELY IMPROVE YOUR COMPETITIVENESS AS A RESULT.



BENZ GMBH WERKZEUGSYSTEME



**BENZ PRECISION PRODUCTS PROVIDE REFINED SOLUTIONS, INNOVATIVE TECHNOLOGY AND THE HIGHEST LEVEL OF QUALITY. WHAT IS THE SECRET TO THIS SUCCESS?
OUR EMPLOYEES AND THEIR INVALUABLE EXPERTISE MAKE THE DIFFERENCE.**

Innovation. With an eye on what is currently within the bounds of feasibility, we strive to always make use of innovative technologies. And we keep in close contact with our customers to ensure we already know today what our customers will need tomorrow.

Technical progress is ingrained into our very identity, which means you can always find smart, detailed solutions in our product range.

Precision. We ensure our products have the highest level of precision and reliability. This is vital in our industry. Our customers also rely on absolute precision during production—and need to be able to put all their trust in us. But production is not the only area where we strive for precision. We also seek minimal tolerances and maximum accuracy in other areas as well—from development to sales to delivery.

Passion. BENZ precision products are composed of a vast array of different individual parts. They are the result of great care that starts in the design phase and even includes the selection of raw materials. Primarily, however, they are the expression of our employee's experience and passion to do good work. We are tool specialists through and through and we are willing to move mountains to reach the perfect solution and to ensure the satisfaction of our customers.

PRODUCT GROUPS

TOOLING AND MACHINE TOOLING TECHNOLOGY

TOOLING TECHNOLOGY



LIVE TOOLS/ TOOL HOLDERS

- + Radial heads 90°
- + Radial heads ≠ 90°
- + Axial heads
- + Swivel heads
- + Multi-spindle heads
- + Broaching units
- + Rotating tool holders
- + Static tool holders

Components. Our comprehensive tool concepts for turning centers and milling centers are ideal for nearly every application. Providing a technological advantage is our goal.

Specific to the customer. Our modular approach enables customized configurations.

Systems. We develop special customer-specific tools for OEM and end customers on request.

EXCHANGEABLE UNITS

- + Angle heads 90°
- + Angle heads ≠ 90°
- + Swivel heads
- + Multi-spindle heads
- + Broaching units
- + High-speed spindles

Knowledge and experience. Our knowledge of the metalworking industry and decades of development partnership make us ideal for new tasks anywhere in the world.

Components. We deliver a vast array of standard components from stock and develop innovative, customized systems for OEM and end customers.

Variety. Whether in machining centers in the automotive, aerospace or wind energy industries, units from Benz can be used anywhere. Numerous customers choose us as their systems and innovation partner.

EXCHANGEABLE UNITS

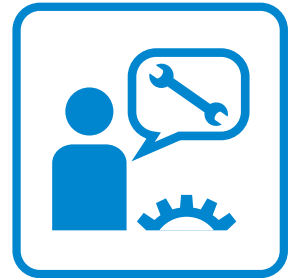
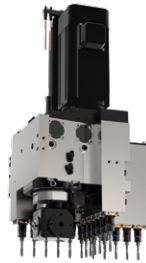
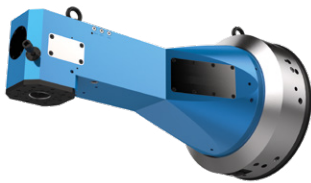
- + Angle heads 90°
- + Swivel heads
- + Multi-spindle heads
- + Multi-axis heads
- + Sanding units
- + Floating head units

For any application. Cost-effectively process and machine wood, composites and aluminium: We provide series production angle heads for drilling, milling, sawing and grinding in addition to other units for special applications.

From basic to high-end. Benz units are available in a variety of performance classes, making them ideal for everything from light machining to high-performance continuous operation.

Systems. We have the solution for your special applications: Customized Benz units for machining centers. Put us to the test!

MACHINE TOOLING TECHNOLOGY



MULTI-SPINDLE HEADS AND LARGE DRILL HEADS

- + Large angle heads
- + Large drill heads
- + XXL multi-spindle heads

Development partner. We accompany you from brainstorming to inspection of the final machine, always to your expectations. Our assortment ranges from compact heads to XXL units.

Systems. Benz stands for high-end solutions in the fields of machine tooling technology, specialty solutions, custom assemblies and mechanical modules. We manufacture and configure multi-spindle and large-angle heads as well as large drill heads.

Components. Attachment units complete our range.

SYSTEM TECHNOLOGY

- + Multiple-spindle drill heads
- + Motor spindles
- + Motors
- + 5-axis technology
- + C-axes
- + Swivel axes
- + Rotary distributors
- + Z-axes

Components. Our range includes standard products in an assortment of shapes and sizes.

The perfect addition. Our system additions provide you with even more efficiency. Perfect your existing solutions with Benz products!

Systems. We develop the technology of tomorrow. Your individual requirements for the efficiency of your machine tools and the suitability of the tools in use provide our benchmark for new, innovative solutions.

SERVICE

- + Repair service
- + ExpressService
- + Customized crash package
- + Preventive maintenance
- + Spare part management
- + Global service
- + Service hotline

Do not lose a second. Speed is the order of the day when unexpected breakdowns occur. Our service center ensures immediate assistance around the world. We ensure your machine has as little downtime as possible.

Service quality. We guarantee top service quality reflecting our expertise as a manufacturer.

Foresight. We go one step further: Preventive maintenance, customized crash packages and our spare part management service ensure you have the best setup to face any emergency. We look to the future to keep you at your peak.

TOOLING AND MACHINE TOOLING TECHNOLOGY

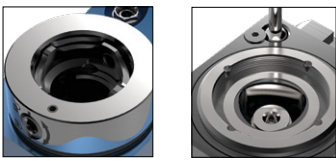
EXCHANGEABLE UNITS

LIVE TOOLS

MULTI-SPINDLE HEADS AND LARGE DRILL HEADS

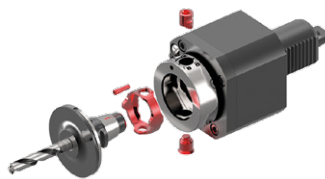
SYSTEM TECHNOLOGY

BENZ MODULAR QUICK CHANGE SYSTEMS IN OVERVIEW



BENZ MODULAR QUICK CHANGE SYSTEMS BENZ SOLIDFIX® BENZ CAPTO™

1 Page 8



BENZ SOLIDFIX® SYSTEM DESIGN

2 Page 10



BENZ CAPTO™ SYSTEM DESIGN

3 Page 14



ADAPTER+ACCESSORIES NAVIGATOR

4 Page 18



BENZ SOLIDFIX® TOOL ADAPTER

5 Page 22



BENZ CAPTO™ TOOL ADAPTER

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ACCESSORIES COLLET CHUCK

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ACCESSORIES WRENCHES + MISCELLANEOUS

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BENZ MODULAR QUICK CHANGE SYSTEMS

BENZ SOLIDFIX® AND BENZ CAPTO™

1

BENZ Modular Quick Change Systems

► CHALLENGE: REDUCTION OF SET-UP TIME AND PROCESS OPTIMIZATION

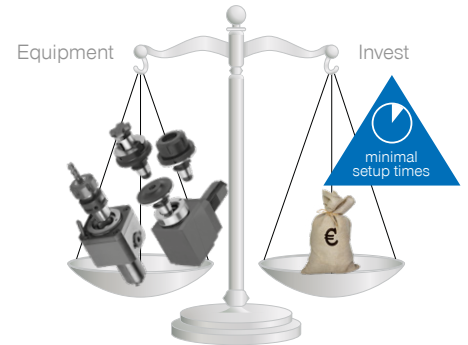
An investment worth making

Beside higher rpms and higher accuracy the reduction of set up and machine down times is the main focus in the manufacturing industry. An important success factor is the integration of a modular tool interface.

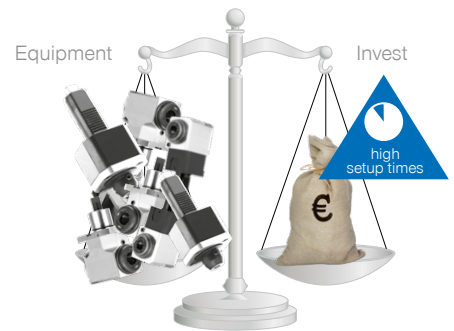
The basic principle and the biggest advantage of modular tooling systems is that tools can be pre-set, set up and be ready for use on the machine by the operator, all while he is already in the process of machining other parts. The pre-set adapters then can be changed in a flash in the machine.

You as the customer increase the valuable production time of your machine while at the same time saving costs: Due to the modular design only the adapters are being changed - the base tool holder stays in the machine. This reduces the necessity of buying additional tools to a minimum.

With BENZ Solidfix® and BENZ CAPTO™ you have tow of the most advanced and sophisticated modular quick change sytems available to you.



Equipment-Investment comparison modular tool systems with non modular



► ABOUT THE PRODUCTS

FIELD OF APPLICATIONS

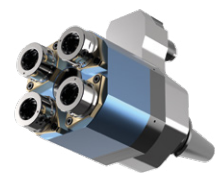
BENZ Solidfix® and BENZ CAPTO™

Are you looking for a quick change system that can be used in all areas of your production? The modular Quick Change Systems made by BENZ can be used in Live Tools as well as right angle heads, even Multi-spindle heads. BENZ Solidfix® and BENZ CAPTO™ are not only suited for large batch manufacturing but are especially cost effective when machines have to be re-tooled frequently due to manufacture of small lots or specialty parts. You save time and money.

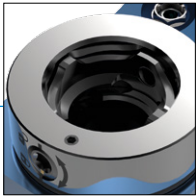
Can be used on all common

- lathes
- turning-/milling centers
- machining centers
- transfer lines

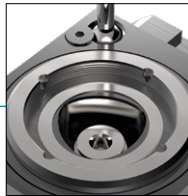
APPLICATION



▶ SYSTEM BENEFITS



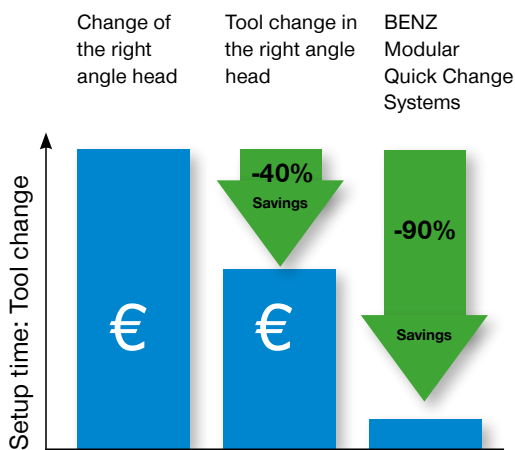
BENZ Solidfix®
tool holding fixture



BENZ CAPTO™
tool holding fixture



- ▶ **modular design**
via basic tool and exchange unit with various tool holders
- ▶ **minimize setup- and nonproductive time**
via change of the pre-set tool within seconds
- ▶ **much lower investment**
as the basic tool stays on the machine and only the adapters are changed in total fewer basic tools are needed
- ▶ **simple handling**
by one-hand operation, without special tools
- ▶ **operator safety**
tool cannot fall out

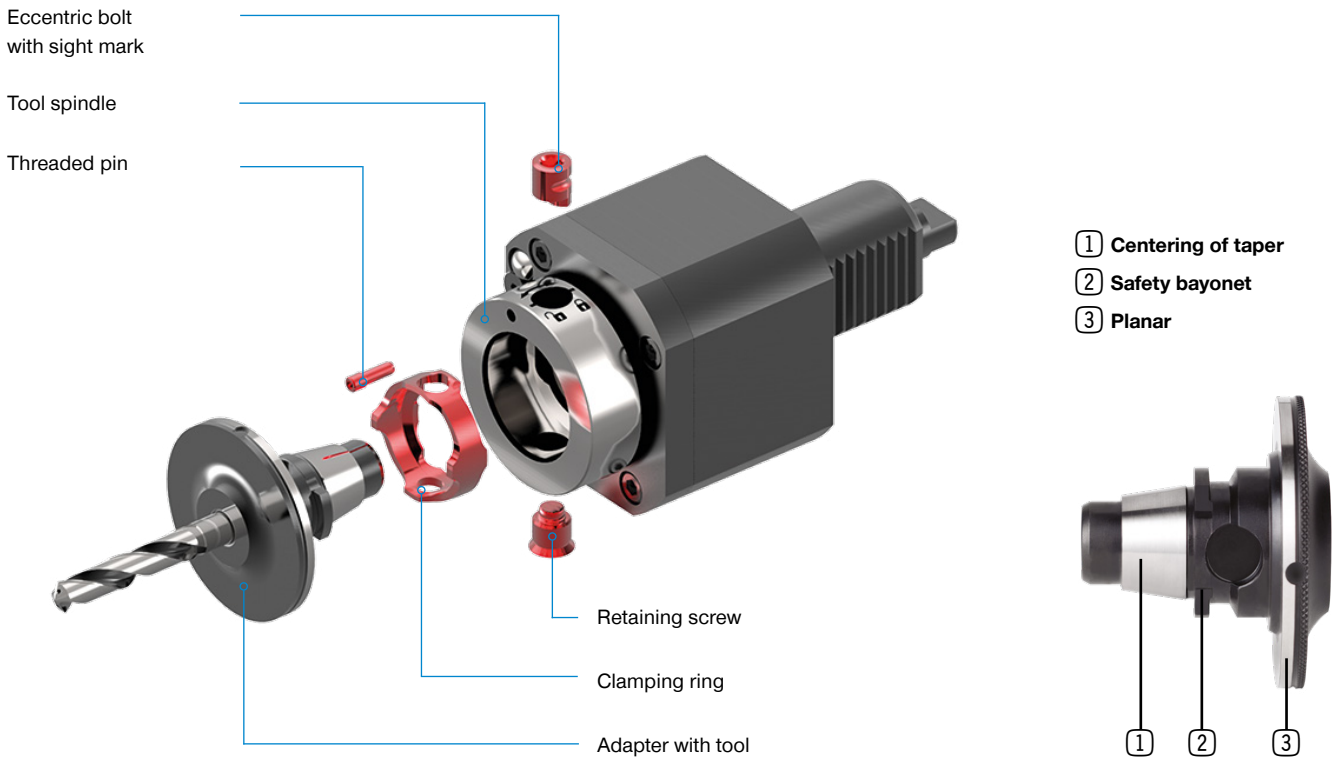


- ▶ **Reduce setup time = Save costs**
Long machine standstill times arise for a tool change where the complete unit is taken out of the machine. By changing the cutting tool directly on the unit, setup times can already be reduced by 40%. The optimum can be achieved with modular quick-change systems. Here the cutting tool is measured outside of the machine in the presetting device. Replacing the adapter therefore only requires a few seconds. You save 90% of your original setup costs! You also reduce your reject rate as the first part is already a good part.

MODULAR QUICK CHANGE SYSTEM

BENZ SOLIDFIX®

► SYSTEM DESIGN



► ABOUT BENZ SOLIDFIX®

FIELD OF APPLICATIONS

User friendly, stable and very precise

By combining taper concentricity with no backlash with an extremely large planar surface, combined with high torque, BENZ Solidfix® offers a maximum in stability and rigidity, which is even capable of withstanding the demands of milling. The high torque transmission and the highest possible rpms also stress the effectiveness. This is supported by a special clamping mechanism which works centrally, without lateral forces, which in combination with the compact, highly precise components used achieves optimal values for concentricity, rigidity and accuracy in repeatability. Because of its compact design the system is ideal for tools with internal cooling.

SYSTEM OVERVIEW

► Technical data

| Size | T* [Nm] | Wrench size | Recommended VDI combination** |
|------|------------|----------------|----------------------------------|
| S1 | 25 | SW 3 | VDI 20 |
| S2 | 50 | SW 4 | VDI 25 |
| S3 | 100 | SW 5 | VDI 30 |
| S4 | 200 | SW 6 | VDI 40 |
| S5 | 400 | SW 6 | VDI 50 |

*transmittable torque of interface

** clamping system also for comparable BMT/CDI tools

▶ PRODUCT BENEFITS



All aces in one hand

Performance

- ▶ compact design
- ▶ large planar contact surface
- ▶ high rigidity (milling capable)
- ▶ high transmission of torque
- ▶ high speed (balancing-neutral design)

Precision

- ▶ high concentricity: <math>< 5 \mu\text{m}</math> auf 30 mm
- ▶ high repeatability
- ▶ central, cross-force-free transmission of forces
- ▶ play-free centering of taper

Handling

- ▶ quick change, change in <math>< 20</math> seconds
- ▶ one-hand operation
- ▶ simple handling without the need of special tools
- ▶ resistance controlled clamping (180°) - no need to observe torque
- ▶ ejection feature

Safety

- ▶ securing device via safety bayonet
- ▶ self-locking clamp function
- ▶ avoidance of operating errors
- ▶ fulfills machinery directive 2006/42/EG



Video



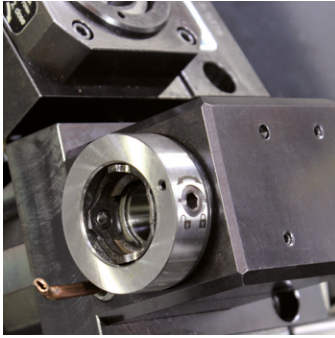
▶ BENZ Solidfix® - in use

Scan the adjacent QR code with a smartphone and see a demonstration of BENZ Solidfix® in action. Alternatively, you can visit our YouTube channel to view the video: www.youtube.com/BENZWerkzeugsysteme

MODULAR QUICK CHANGE SYSTEM

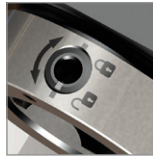
BENZ SOLIDFIX®

▶ TOOL CHANGE



▶ Step 1: Familiarize yourself with the system

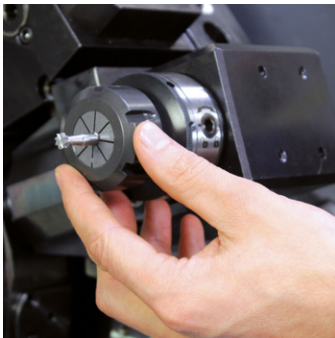
In order to change an adapter in the angle head/live tool the operation unit needs to be in a loose position.



Loose position:
Marking is sitting on open lock



Clamped position:
Marking is sitting on closed lock



▶ Step 2: Inserting the adapter

Insert the adapter into the tool spindle. The adapter cannot fall out due to a special safety mechanism which holds the tool in place, even if not clamped yet. This prevents injuries during set up of the tools in the machine.



▶ Step 3: Resistance controlled clamping

The modular quick change system BENZ Solidfix® can be operated with just one hand without any special tools - a standard hex key is sufficient. By simply turning the clamping screw 180 degrees (up to its end position) the tool adapter (meaning the tool) is clamped.



▶ Step 4: Loosening and changing the adapter

After loosening the locking mechanism with a hex key and turning the tool adapter 90 degrees (a bayonet style safety mechanism prevents the tool from falling out after opening the lock) the adapter can be removed. A specialized eject feature ensures that the adapter does not get stuck in the spindle. The tool change can be done in less than 20 seconds.

▶ APPLICATION EXAMPLE

MACHINING CENTER



Tool change for an angle head with BENZ Solidfix®.

▶ APPLICATION EXAMPLE

CNC LATHE TURRET

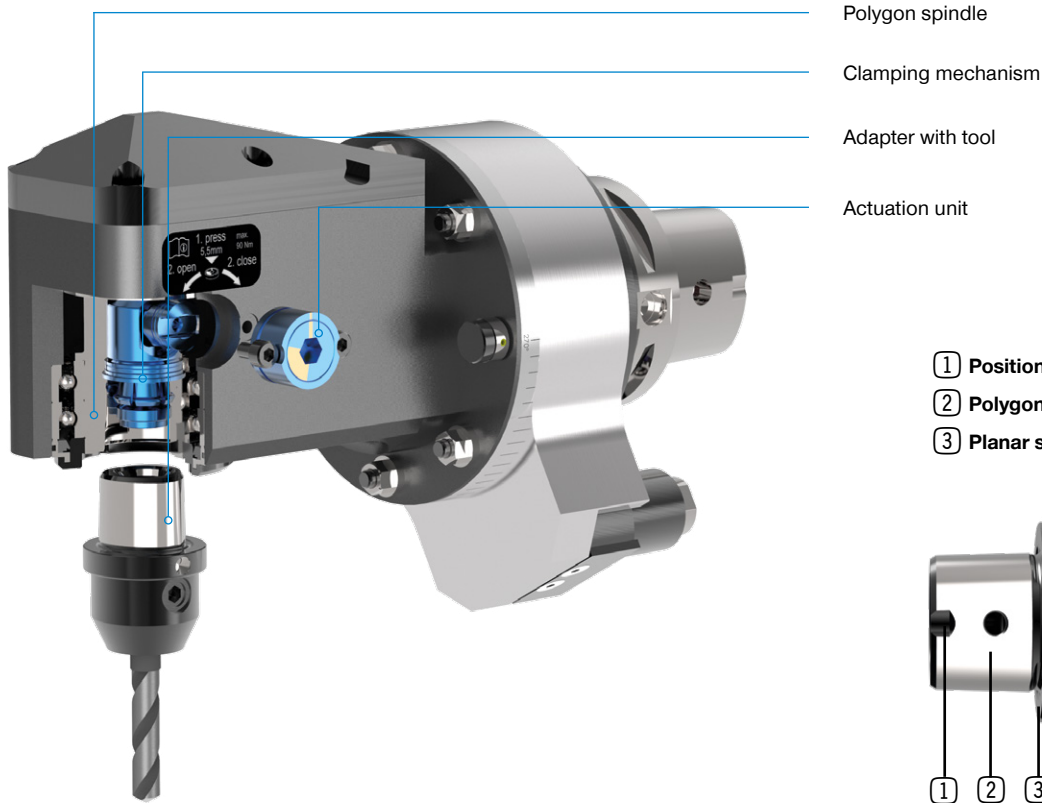


Tool Change for a driven tool with BENZ Solidfix® on the CNC turret. Above: Right Angle tool with BENZ CAPTO™ interface

MODULAR QUICK CHANGE SYSTEM

BENZ CAPTO™

► SYSTEM DESIGN



► ABOUT BENZ CAPTO™

FIELD OF APPLICATIONS

Increase of efficiency and machining quality

The modular quick change system BENZ CAPTO™ guarantees an extremely compact design by being integrated into the spindle. Special clamping kinetics for clamping forces are noticeably below the required range of ISO/DIS 26623-2. BENZ CAPTO™ can be used for milling, drilling and turning, with up to 100 bar coolant pressure. The system is especially suited for heavy duty milling and machining.

SYSTEM OVERVIEW

► Technical data

| Size | T [Nm] | Wrench size | Recommended VDI combination** |
|-----------|-----------|----------------|----------------------------------|
| C3 | 320 | SW 6 | VDI 30 |
| C4 | 580 | SW 8 | VDI 40 |
| C5 | 1000 | SW 10 | VDI 50 |
| C6 | 2000 | SW 12 | VDI 60 |

* transmittable torque of the polygon

** clamping system also for comparable BMT/CDI tools

▶ PRODUCT BENEFITS



All aces in one hand

Performance

- ▶ compact design/short implementation
- ▶ special clamping kinetics for clamping forces are noticeably below the required range of ISO/DIS 26623-2
- ▶ pressure of coolant up to 100 bar
- ▶ ideal for heavy milling

Precision

- ▶ stability and rigidity with high flexibility at the same time
- ▶ compact shape guarantees high cutting speeds and surface quality

Handling

- ▶ fast tool change with additional locking mechanism (ratcheted)
- ▶ optically visible clamping position 100°
- ▶ starting torque: 50 Nm (C4)

Safety

- ▶ from 75 degrees onwards the clamping process is already so secure that the tool can be used in production
- ▶ visual markings > correct clamping of the tool is easily seen
- ▶ additional safety function > prevents uncontrolled falling out of the tool holder



Video



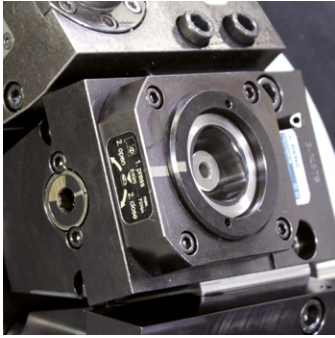
▶ BENZ CAPTO™ - in use

Scan the adjacent QR code with a smartphone and see a demonstration of BENZ CAPTO™ in action. Alternatively, you can visit our YouTube channel to view the video: www.youtube.com/BENZWerkzeugsysteme

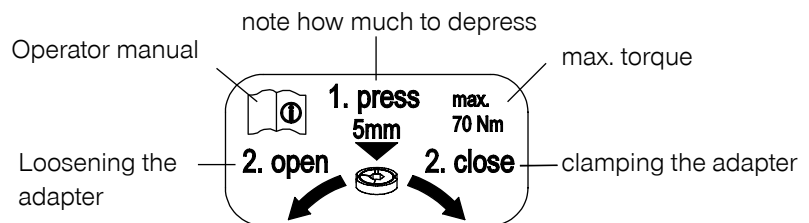
MODULAR QUICK CHANGE SYSTEM

BENZ CAPTO™

▶ TOOL CHANGE

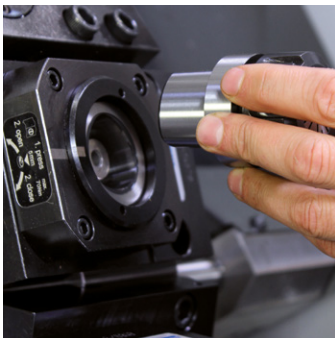


▶ Step 1: Familiarize yourself with the symbols



▶ Step 2: Cleaning of tool holder with compressed air

Clean the tool insert. Please note: Only clean around the edges of the Polygon. Never blow air centrally into the clamping mechanism!



▶ Step 3: Inserting the adapter

Inserting the adapter into the tool holder (in release position). The adapter is held in the base by a locking mechanism.



The locking mechanism holds the tool in the base

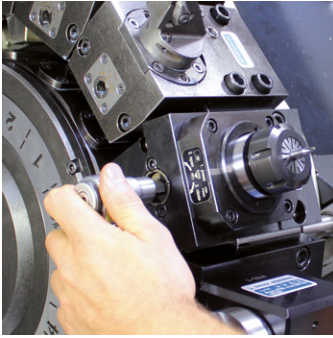


▶ Step 4: Loosening and changing the adapter

Align the marks on the adapter and the tool insert. The adapter is held in the base by a locking mechanism.

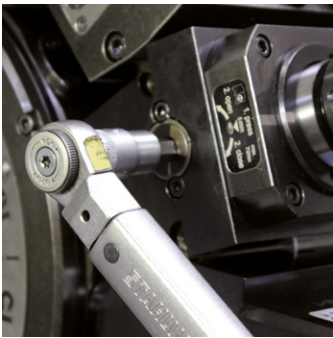
Note: this step is only necessary for Live Tools. Static BENZ CAPTO™ tools have a fixed polygon position.

▶ TOOL CHANGE



▶ Step 5: Clamping of the adapter

To do this press the mechanism and at the same time rotate by approx. 100 degree clockwise in the “close” direction. Optimal clamping force is achieved when applying the recommended torque. The tool is already clamped securely as soon as a 75 degree angle is achieved.



▶ Step 6: Loosening the adapter

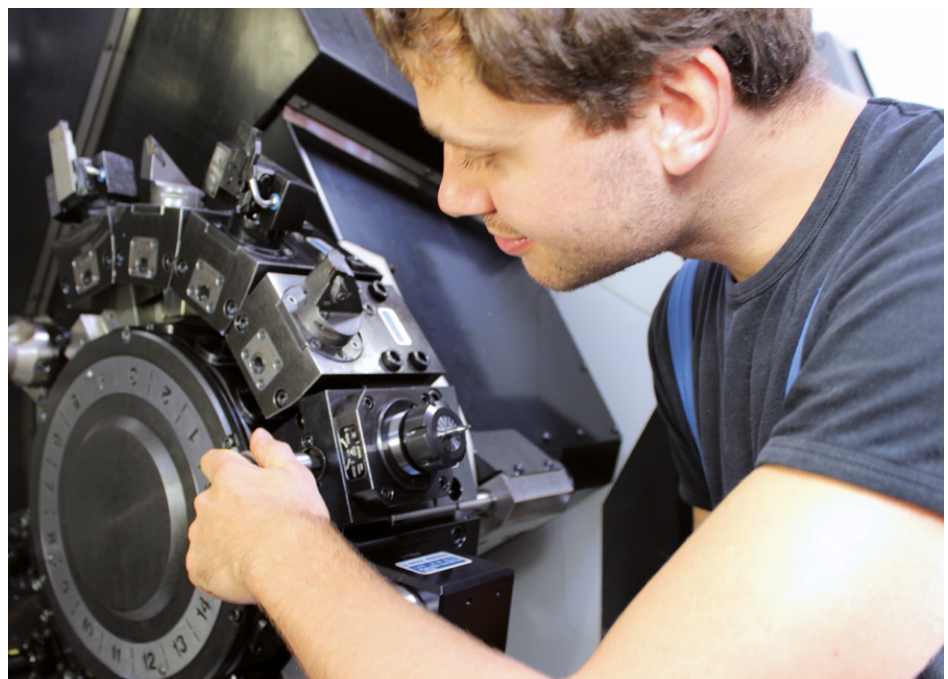
After machining you can loosen the adapter by pressing the mechanism and at the same time rotating counterclockwise in the “open” direction. The adapter will be held in the tool after loosening until you take it out.

Note for clamping and un-clamping: for static Benz CAPTO™ tools it is sufficient to simply rotate, no pressure needs to be applied.

▶ SAMPLE APPLICATION

QUICK CHANGE

Tool Change for a driven tool with Modular Quick Change System BENZ CAPTO™.



ADAPTER + ACCESSORIES

NAVIGATOR

BENZ SOLIDFIX®



COLLET CHUCK

8° Type ER

22



WELDON

for parallel shanks DIN 1835B

22



WHISTLE-NOTCH

for parallel shanks DIN 1835E

23



MILLING ARBOR

24



COLLET CHUCK

with TER-shrinking collet

24



SHRINK FIT CHUCK

26



SCREW-IN MILL CUTTER

Basic holder

26



HYDRO CLAMPING CHUCK

26



SQUARE SHOULDER / PLUNGE MILL CUTTER

27



TEST MANDREL

27



MASTER SHANKS

VDI DIN 69880 /
HSK Form A ISO 12164
SK DIN 69871 AD

27



MOUNTING BLOCK

28



REDUCING SLEEVE

29



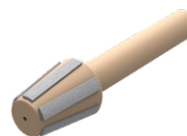
BLANK

29



CLOSING PLUG

29



TAPER CLEANER

BENZ Solidfix® / Collet chuck

29

► Further adapters (such e.g. Softsynchro, BENZ Solidfix® static, MQL-capable adapter) upon request.
Please contact our Customer Support Team.

BENZ CAPTO™



COLLET CHUCK
8° Type ER

32



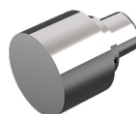
WELDON
for parallel shanks DIN 1835B

32



MILLING ARBOR

33



BLANK

33



CLOSING PLUG

33



TAPER CLEANER
BENZ CAPTO™

33

COLLET CHUCK



CLAMPING NUT

35



SEAL RING

36



COLLET CHUCK

36

MISCELLANEOUS



WRENCH

39



KEY BLOCK

41



INSERT, BASE HOLDER

41

BENZ SOLIDFIX®

TOOL ADAPTERS



BENZ SOLIDFIX®

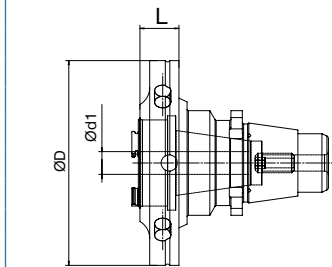
TOOL ADAPTERS

Collet Chuck 8° Type ER | internal clamping nut



▶ Technical Data

Drawing



| Size | Type | D | d1 | L | Order No. |
|------|------|----|------|----|---------------------|
| S1 | ER11 | 32 | 1-7 | 9 | 691.130E1A09 |
| S2 | ER16 | 40 | 1-10 | 13 | 692.130E3A13 |
| S3 | ER16 | 50 | 1-10 | 10 | 693.130E3A10 |
| S3 | ER20 | 50 | 2-13 | 14 | 693.130E4A14 |
| S4 | ER16 | 63 | 1-10 | 11 | 694.130E3A11 |
| S4 | ER20 | 63 | 2-13 | 12 | 694.130E4A12 |
| S4 | ER25 | 63 | 2-16 | 20 | 694.130E5A20 |
| S5 | ER32 | 75 | 2-20 | 22 | 695.130E6A22 |

▶ Note - Collet not included in scope of supply

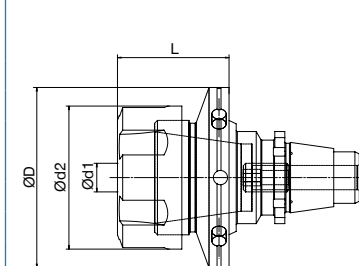
Accessories Page 34

Collet Chuck 8° Type ER | external clamping nut



▶ Technical Data

Drawing



| Size | Type | D | d1 | d2 | L | Order No. |
|------|-------|----|------|----|----|--------------------|
| S1 | ER11M | 32 | 1-7 | 16 | 20 | 691.130M120 |
| S1 | ER16M | 32 | 1-10 | 22 | 30 | 691.130M230 |
| S2 | ER16M | 40 | 1-10 | 22 | 30 | 692.130M230 |
| S2 | ER20 | 40 | 2-13 | 34 | 31 | 692.130E431 |
| S3 | ER16M | 50 | 1-10 | 22 | 32 | 693.130M232 |
| S3 | ER20 | 50 | 2-13 | 34 | 30 | 693.130E430 |
| S3 | ER25 | 50 | 2-16 | 42 | 34 | 693.130E534 |
| S4 | ER16M | 63 | 1-10 | 22 | 30 | 694.130M232 |
| S4 | ER32 | 63 | 2-20 | 50 | 39 | 694.130E639 |
| S5 | ER32 | 75 | 2-20 | 50 | 40 | 695.130E640 |
| S5 | ER40 | 75 | 3-26 | 63 | 46 | 695.130E746 |

▶ Note - Collet not included in scope of supply

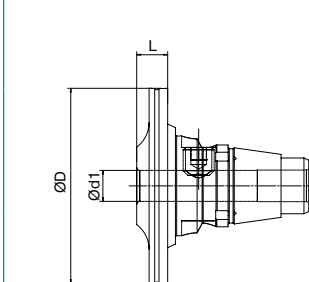
Accessories Page 34

Weldon For Parallel Shanks DIN 1835 B | short design



▶ Technical Data


Drawing



| Size | D | d1 | L | Order No. |
|------|----|----|----|--------------------|
| S1 | 32 | 3 | 4 | 691.1400304 |
| S1 | 32 | 4 | 5 | 691.1400405 |
| S2 | 40 | 4 | 5 | 692.1400405 |
| S2 | 40 | 6 | 7 | 692.1400607 |
| S3 | 50 | 6 | 6 | 693.1400606 |
| S3 | 50 | 8 | 8 | 693.1400808 |
| S4 | 63 | 6 | 7 | 694.1400607 |
| S4 | 63 | 8 | 8 | 694.1400808 |
| S4 | 63 | 10 | 10 | 694.1401010 |
| S4 | 63 | 12 | 12 | 694.1401212 |
| S5 | 75 | 6 | 10 | 695.1400610 |
| S5 | 75 | 8 | 10 | 695.1400810 |
| S5 | 75 | 10 | 10 | 695.1401010 |
| S5 | 75 | 12 | 10 | 695.1401210 |
| S5 | 75 | 14 | 12 | 695.1401412 |
| S5 | 75 | 16 | 12 | 695.1401612 |

▶ shortest possible design (length = L)

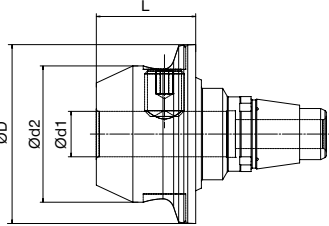
Weldon For Parallel Shanks DIN 1835 B | standard design



▶ **Technical Data**


| Size | D | d1 | d2 | L | Order No. |
|------|----|----|----|----|--------------------|
| S1 | 32 | 6 | 25 | 24 | 691.1400624 |
| S2 | 40 | 8 | 28 | 25 | 692.1400825 |
| S3 | 50 | 10 | 35 | 28 | 693.1401028 |
| S3 | 50 | 12 | 42 | 32 | 693.1401232 |
| S3 | 50 | 16 | 48 | 35 | 693.1401635 |
| S4 | 63 | 14 | 48 | 32 | 694.1401432 |
| S4 | 63 | 16 | 48 | 35 | 694.1401635 |
| S4 | 63 | 18 | 50 | 35 | 694.1401835 |
| S4 | 63 | 20 | 52 | 38 | 694.1402038 |
| S5 | 75 | 18 | 50 | 36 | 695.1401836 |
| S5 | 75 | 20 | 52 | 38 | 695.1402038 |
| S5 | 75 | 25 | 65 | 40 | 695.1402540 |

Drawing



▶ shortest possible design (length = L)

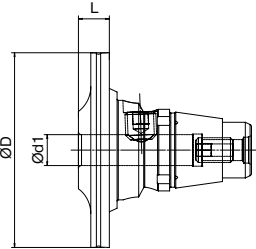
Whistle Notch For Parallel Shanks DIN 1835 E | short design



▶ **Technical Data**


| Size | D | d1 | L | Order No. |
|------|----|----|----|--------------------|
| S2 | 40 | 6 | 9 | 692.1410609 |
| S3 | 50 | 6 | 6 | 693.1410606 |
| S3 | 50 | 8 | 8 | 693.1410808 |
| S4 | 63 | 6 | 7 | 694.1410607 |
| S4 | 63 | 8 | 8 | 694.1410808 |
| S4 | 63 | 10 | 10 | 694.1411010 |
| S4 | 63 | 12 | 12 | 694.1411212 |
| S5 | 75 | 6 | 10 | 695.1410610 |
| S5 | 75 | 8 | 10 | 695.1410810 |
| S5 | 75 | 10 | 10 | 695.1411010 |
| S5 | 75 | 12 | 10 | 695.1411210 |
| S5 | 75 | 14 | 12 | 695.1411412 |
| S5 | 75 | 16 | 12 | 695.1411612 |

Drawing



▶ shortest possible design (length = L)

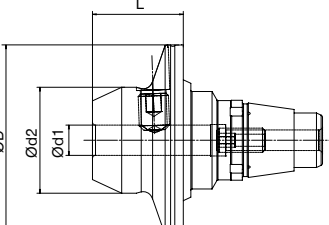
Whistle Notch For Parallel Shanks DIN 1835 E | standard design



▶ **Technical Data**

| Size | D | d1 | d2 | L | Order No. |
|------|----|----|----|----|--------------------|
| S1 | 32 | 6 | 25 | 24 | 691.1410624 |
| S2 | 40 | 8 | 28 | 25 | 692.1410825 |
| S3 | 50 | 10 | 35 | 28 | 693.1411028 |
| S3 | 50 | 12 | 42 | 32 | 693.1411232 |
| S3 | 50 | 16 | 48 | 35 | 693.1411635 |
| S4 | 63 | 14 | 48 | 32 | 694.1411432 |
| S4 | 63 | 16 | 48 | 35 | 694.1411635 |
| S4 | 63 | 18 | 50 | 35 | 694.1411835 |
| S4 | 63 | 20 | 52 | 38 | 694.1412038 |
| S5 | 75 | 18 | 50 | 36 | 695.1411836 |
| S5 | 75 | 20 | 52 | 38 | 695.1412038 |
| S5 | 75 | 25 | 65 | 40 | 695.1412540 |

Drawing



▶ shortest possible design (length = L)

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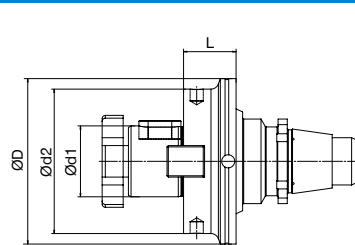
TOOL ADAPTERS

Milling Arbor



▶ Technical Data

Drawing



| Size | D | d1 | d2 | L | Order No. |
|------|----|----|----|----|--------------------|
| S2 | 40 | 16 | 34 | 11 | 692.2311611 |
| S3 | 50 | 16 | 34 | 12 | 693.2311612 |
| S3 | 50 | 22 | 48 | 14 | 693.2312214 |
| S4 | 63 | 16 | 34 | 14 | 694.2311614 |
| S4 | 63 | 22 | 48 | 14 | 694.2312214 |
| S4 | 63 | 27 | 55 | 14 | 694.2312714 |
| S5 | 75 | 22 | 48 | 12 | 695.2312212 |
| S5 | 75 | 27 | 55 | 14 | 695.2312714 |
| S5 | 75 | 32 | 62 | 15 | 695.2313215 |

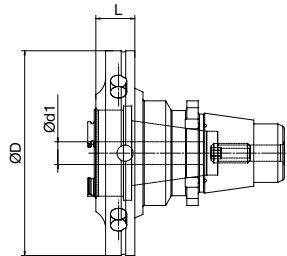
Accessories Page 40

Collet Chuck | with TER-shrinking collet



▶ Technical Data

Drawing



| Size | Type | D | d1 | L | Order No. |
|------|--------|----|----|-----|--------------------|
| S1 | TER 16 | 32 | 3 | 30* | 691.1560330 |
| S1 | TER 16 | 32 | 4 | 30* | 691.1560430 |
| S1 | TER 16 | 32 | 6 | 30* | 691.1560630 |
| S2 | TER 16 | 40 | 3 | 13 | 692.1560313 |
| S2 | TER 16 | 40 | 4 | 13 | 692.1560413 |
| S2 | TER 16 | 40 | 6 | 13 | 692.1560613 |
| S2 | TER 16 | 40 | 8 | 13 | 692.1560813 |
| S3 | TER 20 | 50 | 6 | 14 | 693.1560614 |
| S3 | TER 20 | 50 | 8 | 14 | 693.1560814 |
| S3 | TER 20 | 50 | 10 | 14 | 693.1561014 |
| S4 | TER 25 | 63 | 6 | 20 | 694.1560620 |
| S4 | TER 25 | 63 | 8 | 20 | 694.1560820 |
| S4 | TER 25 | 63 | 10 | 20 | 694.1561020 |
| S4 | TER 25 | 63 | 12 | 20 | 694.1561220 |
| S5 | TER 32 | 75 | 6 | 22 | 695.1560622 |
| S5 | TER 32 | 75 | 8 | 22 | 695.1560822 |
| S5 | TER 32 | 75 | 10 | 22 | 695.1561022 |
| S5 | TER 32 | 75 | 12 | 22 | 695.1561222 |
| S5 | TER 32 | 75 | 16 | 22 | 695.1561622 |

- ▶ Partner **diebold**
Goldring-Werkzeuge
Spindeltechnologie
- ▶ Scope of supply: Ultra-precision collet with TER-collet chuck
- ▶ MQL-capable adapter on request
- * Size S1: Utilization of a collet chuck with external mini nut

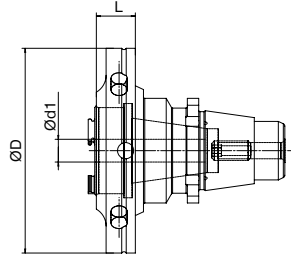
Accessories Page 34

Ultra-Precision Collet | for TER-collet chuck



▶ Technical Data

Drawing



| Size | Type | D | d1 | L | Order No. |
|------|--------|----|------|----|-----------------------|
| S1 | ER 16M | 32 | 1-10 | 30 | 691.130M230UP |
| S2 | ER 16 | 40 | 1-10 | 13 | 692.130E3A13UP |
| S3 | ER 20 | 50 | 2-13 | 14 | 693.130E4A14UP |
| S4 | ER 25 | 63 | 2-16 | 20 | 694.130E5A20UP |
| S5 | ER 32 | 75 | 2-20 | 22 | 695.130E6A22UP |

- ▶ UP-collet chucks: differ versus standard collet chucks by being extremely precise for high speed machining

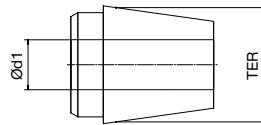
 Accessories Page 34

TER-Shrinking Collet



▶ Technical Data

Drawing



| Size | Type | d1 | Order No. |
|-------|--------|----|-------------------------|
| S1/S2 | TER 16 | 3 | B134-426E-0300DS |
| S1/S2 | TER 16 | 4 | B134-426E-0400DS |
| S1/S2 | TER 16 | 6 | B134-426E-0600DS |
| S2 | TER 16 | 8 | B134-426E-0800DS |
| S3 | TER 20 | 6 | B134-428E-0600DS |
| S3 | TER 20 | 8 | B134-428E-0800DS |
| S3 | TER 20 | 10 | B134-428E-1000DS |
| S4 | TER 25 | 6 | B134-430E-0600DS |
| S4 | TER 25 | 8 | B134-430E-0800DS |
| S4 | TER 25 | 10 | B134-430E-1000DS |
| S4 | TER 25 | 12 | B134-430E-1200DS |
| S5 | TER 32 | 6 | B134-470E-0600DS |
| S5 | TER 32 | 8 | B134-470E-0800DS |
| S5 | TER 32 | 10 | B134-470E-1000DS |
| S5 | TER 32 | 12 | B134-470E-1200DS |
| S5 | TER 32 | 16 | B134-470E-1600DS |

- ▶ alternative collet chuck sizes

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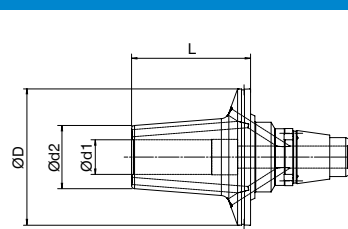
TOOL ADAPTERS

Shrink Fit Chuck



▶ Technical Data

Drawing



| Size | D | d1 | d2 | L | Order No. |
|------|----|----|----|----|---------------|
| S3 | 50 | 6 | 21 | 45 | 693.1520645KB |
| S3 | 50 | 8 | 21 | 45 | 693.1520845KB |
| S3 | 50 | 10 | 24 | 50 | 693.1521050KB |
| S3 | 50 | 12 | 24 | 55 | 693.1521255KB |
| S4 | 63 | 6 | 21 | 50 | 694.1520650KB |
| S4 | 63 | 8 | 21 | 50 | 694.1520850KB |
| S4 | 63 | 10 | 24 | 50 | 694.1521050KB |
| S4 | 63 | 12 | 24 | 55 | 694.1521255KB |
| S4 | 63 | 14 | 29 | 55 | 694.1521455KB |
| S4 | 63 | 16 | 29 | 55 | 694.1521655KB |
| S4 | 63 | 20 | 33 | 60 | 694.1522060KB |
| S5 | 75 | 20 | 33 | 65 | 695.1522065KB |
| S5 | 75 | 25 | 44 | 70 | 695.1522570KB |

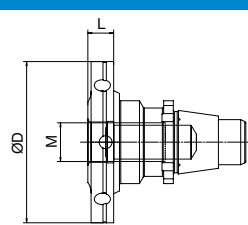
- ▶ one piece shrink fit chuck
- ▶ coolant centrally or via hole in the sleeve (without coolant holes on request)
- ▶ MQL shrink fit chuck on request

Screw-In Mill Cutter | short design



▶ Technical Data

Drawing



| Size | D | M | L | Order No. |
|------|----|-----|----|-------------|
| S3 | 50 | M10 | 8 | 693.2861008 |
| S3 | 50 | M12 | 8 | 693.2861208 |
| S4 | 63 | M12 | 9 | 694.2861209 |
| S4 | 63 | M16 | 9 | 694.2861609 |
| S5 | 75 | M12 | 10 | 695.2861210 |
| S5 | 75 | M16 | 10 | 695.2861610 |

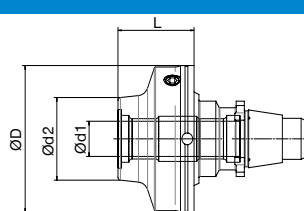
- ▶ Basic holder fits all standard threaded arbors (e.g. Seco, Kennametal...)

Hydro Clamping Chuck



▶ Technical Data

Drawing



| Size | D | d1 | d2 | L | Order No. |
|------|----|----|----|----|-------------|
| S3 | 50 | 12 | 28 | 28 | 693.1581228 |
| S4 | 63 | 12 | 28 | 28 | 694.1581228 |
| S5 | 75 | 20 | 38 | 30 | 695.1582030 |

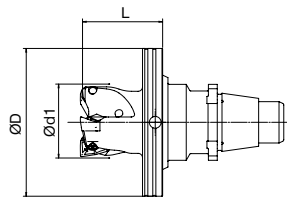
- ▶ Version two-part with Hydrostar-insert on request

Square Shoulder / Plunge Mill Cutter




▶ Technical Data

Drawing



| Size | D | d1 | L | Order No. |
|------|----|----|----|------------------------|
| S3 | 50 | 25 | 28 | 693.6502528S001 |
| S4 | 63 | 32 | 33 | 694.6503233S001 |

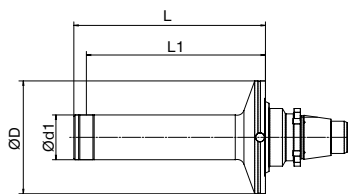
- ▶ Cooperation with 
- ▶ indexable inserts not included in scope of supply / Can be supplied by Paul Horn GmbH (Type DA32)

Test Mandrel



▶ Technical Data

Drawing



| Size | D | d1 | L | *L1 | Order No. |
|------|----|----|-----|-----|---------------------|
| S1 | 32 | 12 | 55 | 50 | 691.2471255 |
| S2 | 40 | 16 | 68 | 63 | 692.2471668 |
| S3 | 50 | 20 | 87 | 80 | 693.2472087 |
| S4 | 63 | 25 | 107 | 100 | 694.24725107 |
| S5 | 75 | 32 | 134 | 125 | 695.24732134 |

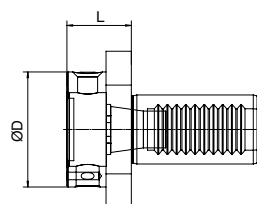
- ▶ Scope of supply: case with test certificate
- *Measuring point

Master Shank | VDI



▶ Technical Data

Drawing



| Size | D | VDI | L | IC | Order No. |
|------|----|-----|----|----|-----------------------|
| S1 | 32 | 20 | 22 | | 112.251S1022VE |
| S2 | 40 | 25 | 25 | | 325.251S2025VE |
| S2 | 40 | 30 | 25 | | 113.251S2025VE |
| S3 | 50 | 30 | 32 | | 113.251S3028VE |
| S3 | 50 | 30 | 32 | ✓ | 113.251S3032R |
| S3 | 50 | 40 | 28 | | 114.251S3028VE |
| S3 | 50 | 40 | 28 | | 114.251S4030VE |
| S4 | 63 | 40 | 32 | ✓ | 114.251S4032R |
| S5 | 75 | 50 | 32 | | 115.251S5032VE |
| S5 | 75 | 50 | 40 | ✓ | 115.251S5040R |

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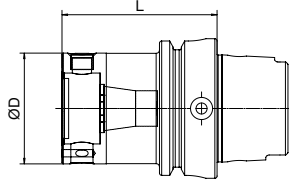
TOOL ADAPTERS

Master Shank | HSK



▶ Technical Data

Drawing



| Size | D | HSK-A | L | Order No. |
|------|----|-------|----|-----------------------|
| S1 | 32 | 63 | 55 | 711.251S1055VE |
| S2 | 40 | 63 | 62 | 711.251S2062VE |
| S3 | 50 | 63 | 70 | 711.251S3070VE |
| S4 | 63 | 63 | 75 | 711.251S4075VE |
| S4 | 63 | 63 | 80 | 713.251S4080VE |
| S5 | 75 | 100 | 80 | 711.251S5080VE |
| S5 | 75 | 100 | 90 | 713.251S5090VE |

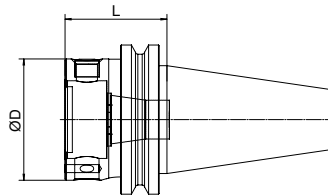
- ▶ Internal coolant ready (coolant supply transfer needed)

Master Shank | SK



▶ Technical Data

Drawing



| Size | D | SK | L | Order No. |
|------|----|----|----|-----------------------|
| S1 | 32 | 30 | 30 | 090.251S1030VE |
| S2 | 40 | 30 | 40 | 090.251S2040VE |
| S3 | 50 | 40 | 42 | 040.251S3042VE |
| S3 | 50 | 50 | 37 | 042.251S3037VE |
| S4 | 63 | 40 | 55 | 040.251S4055VE |
| S4 | 63 | 50 | 40 | 042.251S4040VE |
| S5 | 75 | 40 | 60 | 040.251S5060VE |
| S5 | 75 | 50 | 52 | 042.251S5052VE |

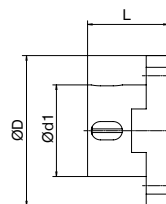
- ▶ Internal coolant ready (precision pull stud)

Mounting Block



▶ Technical Data

Drawing



| Size | D | d1 | L | Order No. |
|------|-----|----|----|------------------|
| S1 | 62 | 31 | 30 | B300-4-S1 |
| S2 | 67 | 40 | 38 | B300-4-S2 |
| S3 | 82 | 50 | 44 | B300-4-S3 |
| S4 | 96 | 65 | 50 | B300-4-S4 |
| S5 | 116 | 75 | 60 | B300-4-S5 |

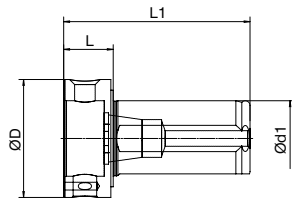
- ▶ Note - no integrated clamping mechanism

Reducing sleeve



▶ Technical Data

Drawing



| Size | D | d1 | L | L1 | Order No. |
|------|----|----|----|----|------------------|
| S2 | 40 | 25 | 17 | 65 | B570-25S2 |
| S3 | 50 | 32 | 21 | 79 | B570-32S3 |
| S4 | 63 | 40 | 22 | 94 | B570-40S4 |

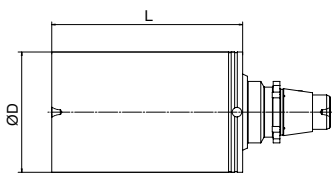
- ▶ Used for boring bars or combination holders

Blank



▶ Technical Data

Drawing



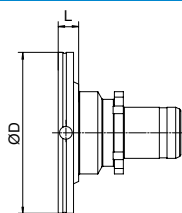
| Size | D | L | Order No. |
|------|----|-----|---------------------|
| S1 | 32 | 63 | 691.1023263 |
| S2 | 40 | 80 | 692.1024080 |
| S3 | 50 | 100 | 693.10250100 |
| S4 | 63 | 125 | 694.10263125 |
| S5 | 75 | 160 | 695.10275160 |

Closing Plug



▶ Technical Data

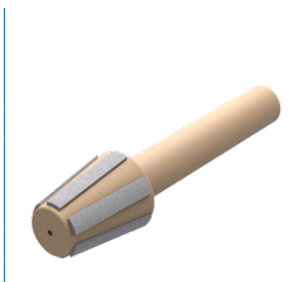
Drawing



| Size | D | L | Order No. |
|------|----|-----|-----------------|
| S1 | 32 | 3,5 | 691.581S |
| S2 | 40 | 4 | 692.581S |
| S3 | 50 | 5 | 693.581S |
| S4 | 63 | 6 | 694.581S |
| S5 | 75 | 8 | 695.581S |

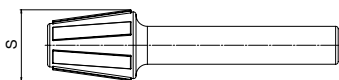
- ▶ made of steel

Taper Cleaner | BENZ Solidfix®/ Collet Chuck



▶ Technical Data

Drawing



| Size (S) | Size (ER) | Order No. |
|----------|-----------|------------------|
| S1 | ER 11 | B069-ER11 |
| S2 | ER 16 | B069-ER16 |
| S3 | ER 20 | B069-ER20 |
| S4 | ER 25 | B069-ER25 |
| S5 | ER 32 | B069-ER32 |

BENZ CAPTO™

TOOL ADAPTERS





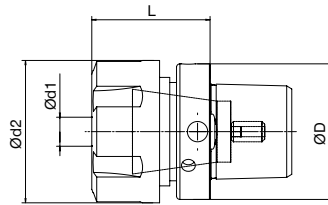
BENZ CAPTO™ TOOL ADAPTERS

Collet Chuck 8° Type ER | external clamping nut



▶ Technical Data

Drawing

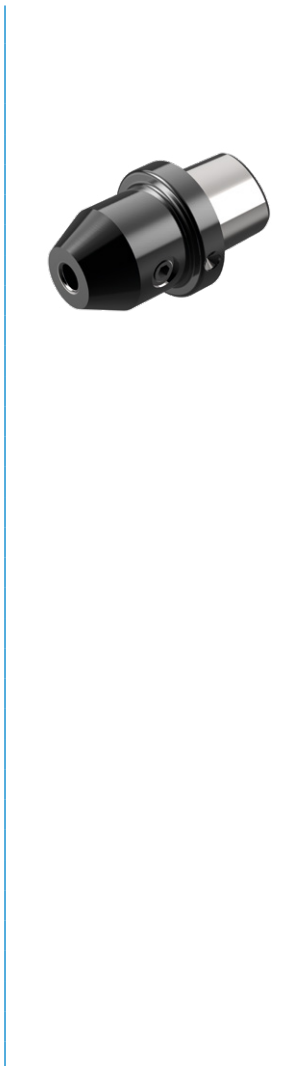


| Size | Type | D | d1 | d2 | L | Order No. |
|------|------|----|------|----|----|--------------------|
| C3 | ER11 | 32 | 1-7 | 19 | 22 | 550.130E122 |
| C3 | ER16 | 32 | 1-10 | 28 | 30 | 550.130E330 |
| C3 | ER20 | 32 | 2-13 | 34 | 35 | 550.130E435 |
| C3 | ER25 | 32 | 2-16 | 42 | 44 | 550.130E544 |
| C4 | ER16 | 40 | 1-10 | 28 | 27 | 551.130E327 |
| C4 | ER20 | 40 | 2-13 | 34 | 32 | 551.130E432 |
| C4 | ER25 | 40 | 2-16 | 42 | 35 | 551.130E535 |
| C4 | ER32 | 40 | 2-20 | 50 | 52 | 551.130E652 |
| C5 | ER16 | 50 | 1-10 | 28 | 29 | 552.130E329 |
| C5 | ER25 | 50 | 2-16 | 42 | 34 | 552.130E534 |
| C5 | ER32 | 50 | 2-20 | 50 | 41 | 552.130E641 |
| C5 | ER40 | 50 | 3-26 | 63 | 58 | 552.130E758 |
| C6 | ER32 | 63 | 2-20 | 50 | 40 | 553.130E640 |
| C6 | ER40 | 63 | 3-26 | 63 | 46 | 553.130E746 |

▶ without gripper groove

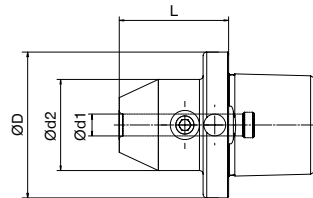
Accessories Page 34

Weldon For Parallel Shanks DIN 1835 B | standard design



▶ Technical Data

Drawing



| Size | D | d1 | d2 | L | Order No. |
|------|----|----|----|----|--------------------|
| C3 | 32 | 6 | 25 | 33 | 550.1400633 |
| C3 | 32 | 8 | 28 | 33 | 550.1400833 |
| C3 | 32 | 10 | 35 | 37 | 550.1401037 |
| C3 | 32 | 12 | 42 | 42 | 550.1401242 |
| C3 | 32 | 14 | 44 | 43 | 550.1401443 |
| C3 | 32 | 16 | 48 | 51 | 550.1401651 |
| C4 | 40 | 6 | 25 | 30 | 551.1400630 |
| C4 | 40 | 8 | 28 | 30 | 551.1400830 |
| C4 | 40 | 10 | 35 | 34 | 551.1401034 |
| C4 | 40 | 12 | 42 | 39 | 551.1401239 |
| C4 | 40 | 14 | 44 | 39 | 551.1401439 |
| C4 | 40 | 16 | 48 | 43 | 551.1401643 |
| C4 | 40 | 18 | 50 | 43 | 551.1401843 |
| C4 | 40 | 20 | 52 | 45 | 551.1402045 |
| C5 | 50 | 6 | 25 | 29 | 552.1400629 |
| C5 | 50 | 8 | 28 | 29 | 552.1400829 |
| C5 | 50 | 10 | 35 | 33 | 552.1401033 |
| C5 | 50 | 12 | 42 | 38 | 552.1401238 |
| C5 | 50 | 14 | 44 | 38 | 552.1401438 |
| C5 | 50 | 16 | 48 | 41 | 552.1401641 |
| C5 | 50 | 18 | 50 | 42 | 552.1401842 |
| C5 | 50 | 20 | 52 | 44 | 552.1402044 |
| C5 | 50 | 25 | 65 | 52 | 552.1402552 |
| C6 | 63 | 6 | 25 | 28 | 553.1400628 |
| C6 | 63 | 8 | 28 | 28 | 553.1400828 |
| C6 | 63 | 10 | 35 | 32 | 553.1401032 |
| C6 | 63 | 12 | 42 | 37 | 553.1401237 |
| C6 | 63 | 14 | 44 | 37 | 553.1401437 |
| C6 | 63 | 16 | 48 | 40 | 553.1401640 |
| C6 | 63 | 18 | 50 | 41 | 553.1401841 |
| C6 | 63 | 20 | 52 | 43 | 553.1402043 |
| C6 | 63 | 25 | 65 | 52 | 553.1402552 |

▶ without gripper groove

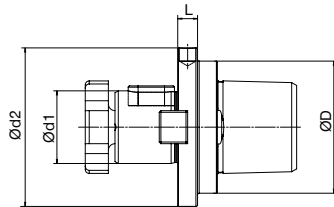
Milling Arbor



▶ without gripper groove

▶ Technical Data

Drawing



| Size | D | d1 | d2 | L | Order No. |
|------|----|----|----|----|--------------------|
| C3 | 32 | 16 | 34 | 13 | 550.2311613 |
| C3 | 32 | 22 | 48 | 17 | 550.2312217 |
| C4 | 40 | 22 | 48 | 16 | 551.2312216 |
| C4 | 40 | 27 | 51 | 19 | 551.2312719 |
| C5 | 50 | 27 | 55 | 11 | 552.2312711 |
| C5 | 50 | 32 | 62 | 22 | 552.2313222 |
| C6 | 63 | 27 | 63 | 11 | 553.2312711 |
| C6 | 63 | 32 | 63 | 16 | 553.2313216 |

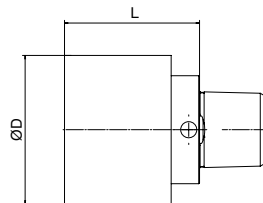
Accessories Page 40

Blank



▶ Technical Data

Drawing



| Size | D | L | Order No. |
|------|----|----|--------------------|
| C3 | 47 | 50 | 550.1024750 |
| C4 | 57 | 63 | 551.1025763 |
| C5 | 72 | 67 | 552.1027267 |
| C6 | 92 | 67 | 553.1029267 |

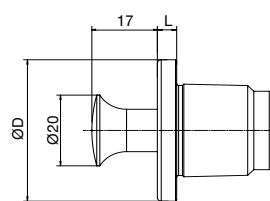
Closing Plug



▶ made of steel

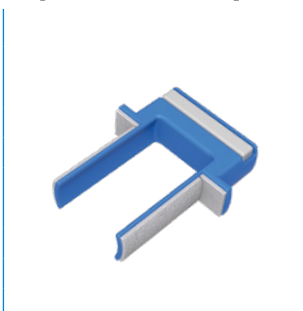
▶ Technical Data

Drawing



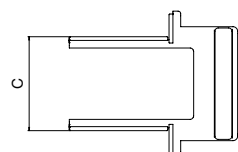
| Size | D | L | Order No. |
|------|----|---|-----------------|
| C3 | 32 | 5 | 550.581S |
| C4 | 40 | 5 | 551.581S |
| C5 | 50 | 6 | 552.581S |
| C6 | 63 | 7 | 553.581S |

Taper Cleaner | BENZ CAPTO™



▶ Technical Data

Drawing



| Size (C) | Order No. |
|----------|----------------|
| C3 | B069-C3 |
| C4 | B069-C4 |
| C5 | B069-C5 |
| C6 | B069-C6 |
| C8 | B069-C8 |

COLLET CHUCK ACCESSORIES

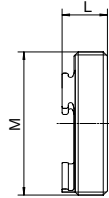


Clamping Nut | internal



▶ Technical Data

Drawing



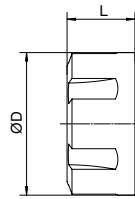
| Size | M | L | Order No. |
|-------|---------|------|------------------|
| ER 11 | M18x1 | 7,5 | B135-E1AX |
| ER 16 | M24x1 | 7,6 | B135-E3AX |
| ER 20 | M28x1,5 | 8,5 | B135-E4AX |
| ER 25 | M32x1,5 | 8,8 | B135-E5AX |
| ER 32 | M40x1,5 | 9,8 | B135-E6AX |
| ER 40 | M50x1,5 | 11,7 | B135-E7AX |

Clamping Nut | form D+E



▶ Technical Data

Drawing



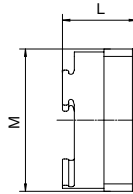
| Size | D | L | Order No. |
|--------|----|----|----------------|
| ER 11M | 19 | 11 | B135-M1 |
| ER 16M | 28 | 17 | B135-M3 |
| ER 20M | 34 | 19 | B135-M4 |
| ER 20 | 34 | 19 | B135-E4 |
| ER 25 | 42 | 20 | B135-E5 |
| ER 32 | 50 | 22 | B135-E6 |
| ER 40 | 63 | 25 | B135-E7 |

Clamping Nut For Tools With Internal Coolant | System Regofix internal



▶ Technical Data

Drawing



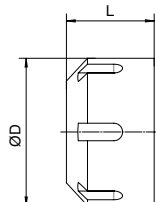
| Size | M | L | Order No. |
|-------|--------|------|-------------------|
| ER 16 | 18x1 | 12,5 | B135-E3AXC |
| ER 20 | 24x1 | 13,5 | B135-E4AXC |
| ER 25 | 28x1,5 | 13,8 | B135-E5AXC |
| ER 32 | 32x1,5 | 14,9 | B135-E6AXC |
| ER 40 | 40x1,5 | 16,6 | B135-E7AXC |

Clamping Nut For Tools With Internal Coolant | System Regofix external



▶ Technical Data

Drawing



| Size | D | L | Order No. |
|-------|----|------|-------------------|
| ER 11 | | | on request |
| ER 16 | 28 | 22,5 | B135-H3A |
| ER 20 | 34 | 24 | B135-H4A |
| ER 25 | 42 | 25 | B135-H5A |
| ER 32 | 50 | 27,5 | B135-H6A |
| ER 40 | 63 | 30,5 | B135-H7A |

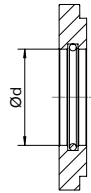
COLLET CHUCK ACCESSORIES

Seal Ring



Technical Data

Drawing



| Size | d | Pitch | Order No. |
|-------|------|-------|-------------------|
| ER 16 | 1-10 | 0,5 | B137-E3... |
| ER 20 | 1-13 | 0,5 | B137-E4... |
| ER 25 | 2-16 | 0,5 | B137-E5... |
| ER 32 | 2-20 | 0,5 | B137-E6... |
| ER 40 | 4-26 | 0,5 | B137-E7... |

Order No.

| | | | |
|-------|-----------------|--------------------------|--|
| ER 16 | B137-E3- | <input type="checkbox"/> | |
| d=6 | 0600 | | |

Example: [B137-E3-0600](#)

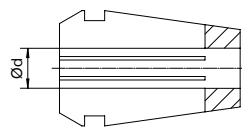
- ▶ Inserted seal can be up to 0,5 mm smaller than nominal range d

Collet Chuck | Regofix Form B



Technical Data

Drawing



| Size | d | Pitch | Order No. |
|-------|-------------------|-------|---------------------|
| ER 11 | 1-7 ¹ | 0,5 | B134-424E... |
| ER 16 | 1-10 ¹ | 0,5 | B134-426E... |
| ER 20 | 1-13 ² | 1 | B134-428E... |
| ER 25 | 1-16 ² | 1 | B134-430E... |
| ER 32 | 3-20 ² | 1 | B134-470E... |
| ER 40 | 4-26 ² | 1 | B134-472E... |

Order No.

| | | | |
|-------|-------------------|--------------------------|--|
| ER 16 | B134-426E- | <input type="checkbox"/> | |
| d=6 | 0600 | | |

Example: [B134-424E-0600](#)

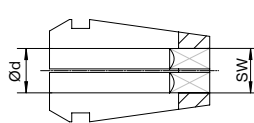
- ▶ ¹ Collet chuck clamping can be up to 0,5 mm smaller than nominal range d
- ▶ ² Collet chuck clamping can be up to 1 mm smaller than nominal range d

Collet Chuck For Tap | Regofix with internal square section



Technical Data

Drawing



| Size | d | width across flats | Order No. |
|-------|------|--------------------|-------------------|
| ER 16 | 4-10 | 3,15-7 | B134-E3... |
| ER 20 | 4-13 | 3,15-9 | B134-E4... |
| ER 25 | 4-16 | 3,15-16 | B134-E5... |
| ER 32 | 4-20 | 3,15-20 | B134-E6... |
| ER 40 | 6-22 | 6-22 | B134-E7... |

Order No.

| | | | |
|--------|-----------------|--------------------------|--------------------------|
| ER 16 | B134-E3- | <input type="checkbox"/> | <input type="checkbox"/> |
| d=6 | 0600 | | |
| SW=4,9 | | | 49 |

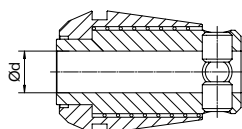
Example: [B134-E3-0600-49](#)

Collet Chuck For Tap | Regofix external square section with length compensation



Technical Data

Drawing



| Size | d | Order No. |
|-------|------|-------------------|
| ER 11 | 1-7 | B134-A2... |
| ER 16 | 1-10 | B134-A3... |
| ER 20 | 1-13 | B134-A4... |
| ER 25 | 1-16 | B134-A5... |
| ER 32 | 3-20 | B134-A6... |
| ER 40 | 4-26 | B134-A7... |

Order No.

| | | | |
|-------|-----------------|--------------------------|--|
| ER 16 | B134-A2- | <input type="checkbox"/> | |
| d=6 | 0600 | | |

Example: [B134-A2-0600](#)

► ORDER SAMPLE

HOW TO ORDER
CORRECTLY

- Get the right order no. according to this system:

| | | | |
|------------------|--------------|--------------------------|--------------------------|
| Order No. | B137- | <input type="checkbox"/> | <input type="checkbox"/> |
| ER 32 | E6 | | |
| ∅ 8-8,5 mm | | 0850 | |

WRENCHES

ACCESSORIES

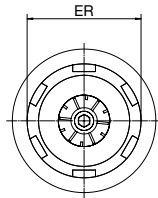


Collet Wrench | external clamping nut



▶ Technical Data

Drawing



Size

Order No.

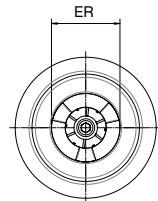
| | |
|--------|----------------|
| ER 11M | B136-M1 |
| ER 16M | B136-M3 |
| ER 20M | B136-M3 |
| ER 20 | B136-E4 |
| ER 25 | B136-E5 |
| ER 32 | B136-E6 |
| ER 40 | B136-E7 |

Collet Wrench | internal clamping nut



▶ Technical Data

Drawing



Size

Order No.

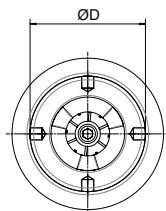
| | |
|-------|------------------|
| ER 11 | B136-E1AX |
| ER 16 | B136-E3AX |
| ER 20 | B136-E4AX |
| ER 25 | B136-E5AX |
| ER 32 | B136-E6AX |
| ER 40 | B136-E7AX |

Hook Wrench



▶ Technical Data

Drawing



Spindle-Ø D

Order No.

| | |
|--------|----------------------|
| 12-14 | D01810B012014 |
| 16-18 | D01810B016018 |
| 20-22 | D01810B020022 |
| 25-28 | D01810B025028 |
| 30-32 | D01810B030032 |
| 34-36 | D01810B034036 |
| 40-42 | D01810B040042 |
| 45-50 | D01810B045050 |
| 52-55 | D01810B052055 |
| 58-62 | D01810B058062 |
| 68-75 | D01810B068075 |
| 80-90 | D01810B080090 |
| 95-100 | D01810B095100 |

WRENCHES

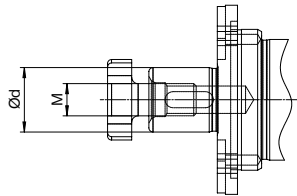
ACCESSORIES

Wrench DIN 6368 | for cutter retaining screws



▶ Technical Data

Drawing



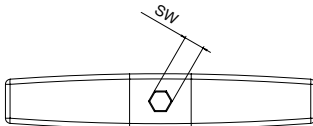
| Milling Arbor-Ø d | M | Order No. |
|----------------------|----|-------------------|
| 16 | 8 | D06368-080 |
| 22 | 10 | D06368-100 |
| 27 | 12 | D06368-120 |
| 32 | 16 | D06368-160 |

INBUS T-Wrench | for BENZ Solidfix® and BENZ CAPTO™ actuation



▶ Technical Data

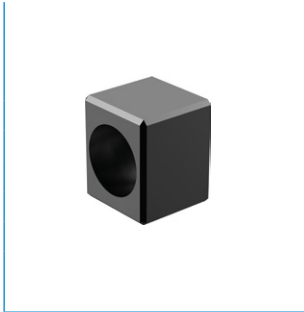
Drawing



| Size BENZ Solidfix® | Size BENZ CAPTO™ | SW | Order No. |
|------------------------|---------------------|----|--------------------------|
| S1 | | 3 | KL8317-45039-SW3 |
| S2 | | 4 | KL8317-44982-SW4 |
| S3 | | 5 | KL8317-45013-SW5 |
| S4 / S5 | C3 | 6 | KL8317-45039-SW6 |
| | C4 | 8 | KL8317-45039-SW8 |
| | C5 | 10 | KL8317-45039-SW10 |
| | C6 | 14 | KL8317-45039-SW14 |

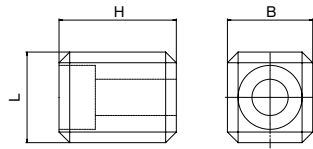
MISCELLANEOUS ACCESSORIES

Key Block DIN2097 | for milling arbor



▶ Technical Data

Drawing

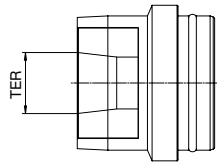


| d1 | L | B | H | Order No. |
|----|-----|----|-----|-----------------|
| 16 | 8,5 | 8 | 11 | B245-66 |
| 22 | 11 | 10 | 8,6 | B245-81 |
| 27 | 10 | 12 | 9,3 | B245-126 |
| 32 | 12 | 14 | 14 | B245-117 |

Insert, Base Holder



▶ Technical Data



| Size | Type | Order No. |
|---------|------------------------------------|----------------------|
| S2 | Einsatz TER 16 | B136-426E-DSE |
| S3 | Einsatz TER 20 | B136-428E-DSE |
| S4 | Einsatz TER 25 | B136-430E-DSE |
| S5 | Einsatz TER 32 | B136-470E-DSE |
| S2 - S5 | Base holder with length adjustment | B136-4XXE-DSG |

- ▶ Base holder and respective insert are needed

Additional accessories

- ▶ Diebold-shrinking devices with stored parameters for shrinking of the TER-collet chucks
- ▶ Fluid cooler FKS 03
- ▶ Adapter rings

▶ Additional accessories on request

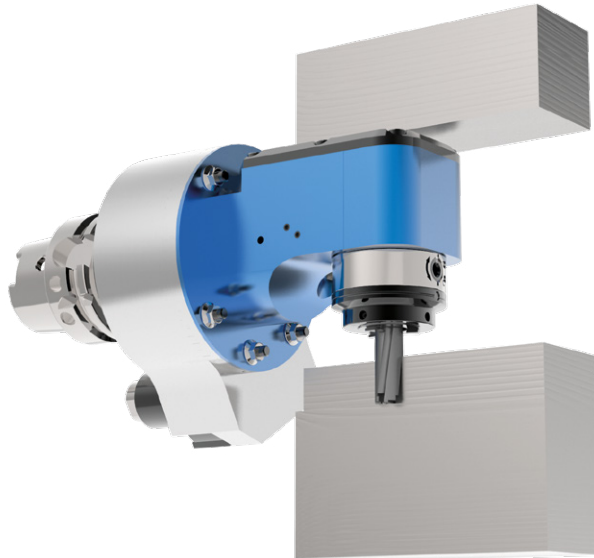
Please contact our Customer Support Team.

BENZ MODULAR QUICK CHANGE SYSTEMS

PRODUCT EXSAMPLES

▶ PRODUCT EXAMPLE

MACHINING
CENTER



BENZ right angle head
FORTE WWX 90° recessed,
with Modular Quick Change
System BENZ Solidfix® and
HSK-A63 machine
connection

▶ PRODUCT EXAMPLE

CNC LATHE
TURRET



Radial tool with Modular
Quick Change System
BENZ CAPTO™, with VDI
machine connection Sauter
Trifix Revolver and fixed
flange connection



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