

Tooling Technology

for Doosan BMT Machines

- + Live Tools
- + Static Holders

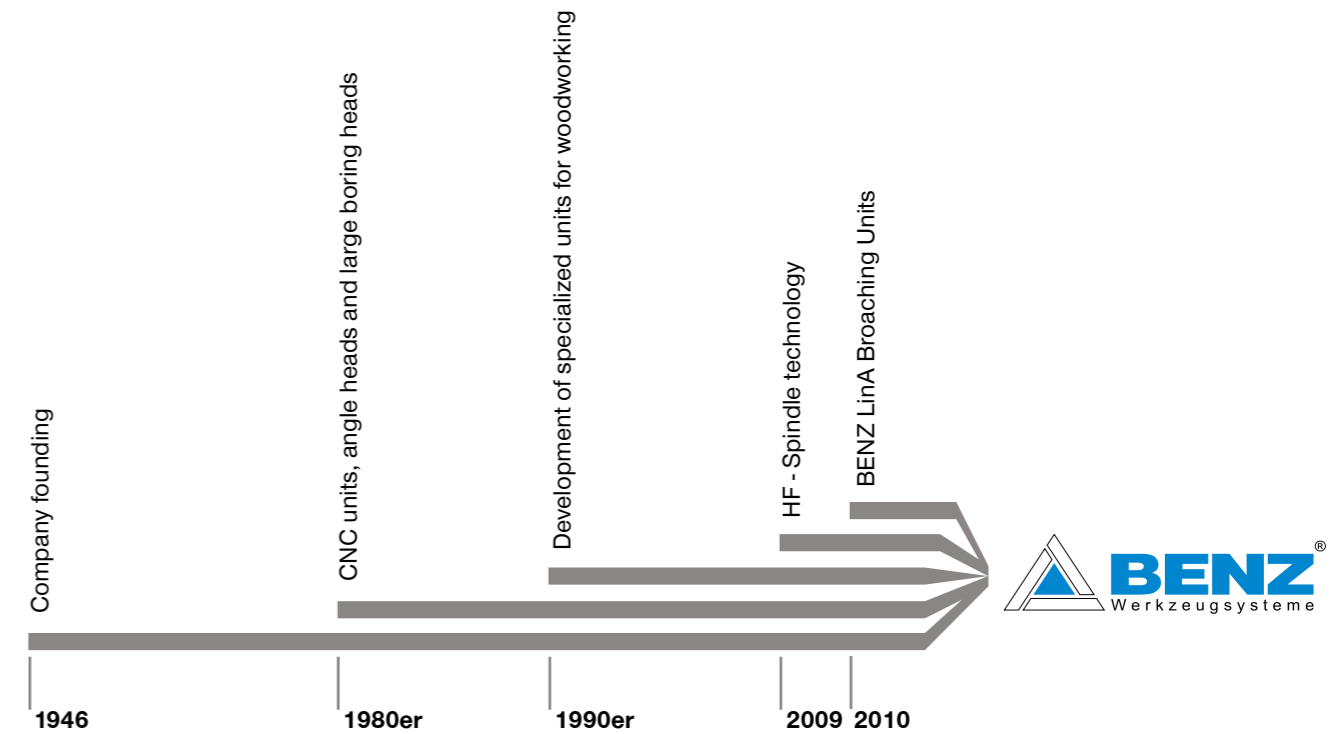
METAL MACHINING



BENZ GMBH WERKZEUGSYSTEME

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 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

— METAL
— WOOD/COMPOSITE MATERIALS

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

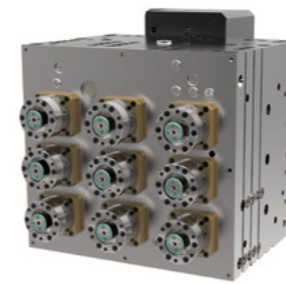
- + Angle heads 90°
- + Swivel heads
- + Multi-spindle heads
- + Multi-axis heads
- + Sanding units
- + Floating head units

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 multiple-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 TECHNOLOGY FOR DOOSAN MACHINES

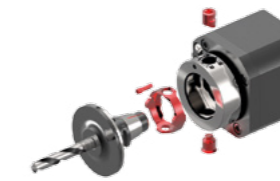
LIVE TOOLS STATIC HOLDERS

BMT SHANK TOOLS IN OVERVIEW



MODULAR DESIGN OVERVIEW OF VARIANTS

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TOOL INTERFACES

2 Page 10



EXPLANATION OF SYMBOLS AND ABBREVIATIONS

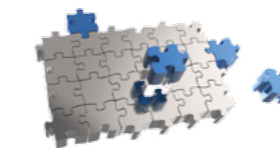
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DOOSAN OVERVIEW OF MACHINES

► UNIT NAVIGATOR

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SPECIAL SOLUTIONS

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ACCESSORIES

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SERVICE

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PLEASE CHECK:



INQUIRY FORM

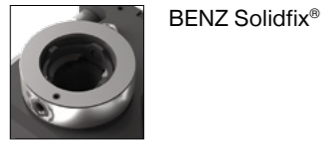
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MODULAR DESIGN

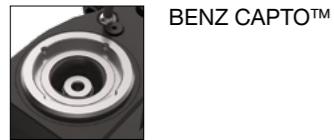
OVERVIEW OF VARIANTS

1

OUTPUT SPINDLES AND CLAMPING SYSTEMS



BENZ Solidfix®



BENZ CAPTO™



Collet Chuck System ER DIN 6499



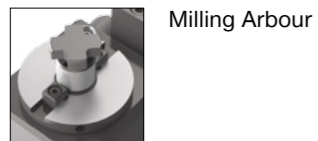
Collet Chuck System Ortlieb DIN 6388



KM™



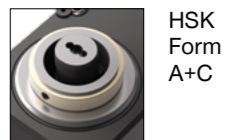
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Milling Arbour



Weldon + Whistle Notch



HSK Form A+C

Standard tool interfaces in the catalog

Other tool interfaces upon request

UNIT TYPES – LIVE TOOLS



AXIAL



AXIAL, OFFSET



ADJUSTABLE



RADIAL



RADIAL, RECESSED



DOUBLE-SPINDLE



BENZ LINA BROACHING UNITS

Some units also available with different gear ratios

Overview of variants / Modular Design

Overview of variants / Modular Design

TOOL INTERFACES IN COMPARISON

INTERFACES IN THE STANDARD PRODUCT LINE

► BENZ SOLIDFIX®



User-friendly, stable and extremely precise

Thanks to the combination of a zero-play cone-centering unit with an extremely large and flat contact surface in conjunction with high clamping forces, BENZ Solidfix® provides a maximum of tilt resistance and stability, which also meets the requirements for milling. The high torque transfer and the high potential speeds also characterize the performance capability. This is supported by a special clamping mechanism, which operates centrally, without lateral forces, and works together with the high-precision and compact components to achieve top values for concentricity, bending stiffness and repeatability. The structural design makes the system optimally suited for IC tools.

► Technical Data			
Size	T* [Nm]	Size Clamping wrench	Recommended BMT combination
S1	25	Size=3	-
S2	50	Size=4	-
S3	100	Size=5	45/55
S4	200	Size=6	65
S5	400	Size=6	75/85

* Transferable torque of the interface



► **BENZ Solidfix®** –
live in action

+++	++	+++	+++

► BENZ CAPTO™



Increase efficiency and processing quality

The BENZ CAPTO™ modular quick-change system guarantees an extremely compact design through the well-conceived integration of the clamping set into the spindle. Special clamping kinematics provide for clamping forces that are significantly above the specifications in ISO/DIS 26623-2. BENZ CAPTO™ can be used for turning on a lathe, milling and drilling with a coolant pressure of up to 100 bar. The system is particularly suited also for heavy-duty cutting.

► Technical Data			
Size	T* [Nm]	Size Clamping wrench	Recommended BMT combination
C3	320	Size=6	45/55
C4	580	Size=8	65
C5	1000	Size=10	75
C6	2000	Size=12	85

* Transferable torque of the polygon



► **BENZ CAPTO™** –
live in action

+++	+	+++	+++

► COLLET CHUCK SYSTEM



The proven device that does it all

















The collet chuck system is a market standard and stands for high precision paired with a compact design. Thanks to the broad product range of sizes ER 8 to ER 50 and their clamping ranges, a high degree of flexibility is achieved with a reduced inventory. A typical application example of the system is the processing of workpieces in extremely small machine room environments.








► Technical Data			
Size	T [Nm]	Clamping range Ø [mm]	Recommended BMT combination
ER 20	n/s	1-13	-
ER 25		2-16	45/55
ER 32		3-20	65
ER 40		4-26	75/85

+	++	+	+

EXPLANATION OF SYMBOLS AND ABBREVIATIONS

► OVERVIEW OF SYMBOLS AND ABBREVIATIONS

► Live Tools – Specifications	
Symbol	
Type of machining	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  Drilling The unit is suitable for boring machining </div> <div style="text-align: center;">  Milling The unit is suitable for milling machining </div> <div style="text-align: center;">  Threading The unit is suitable for thread machining </div> <div style="text-align: center;">  Broaching and slotting The unit is suitable for machining by broaching and slotting </div> </div>
Number of output spindle	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  1 The unit has one tool holder </div> <div style="text-align: center;">  2 The unit has two tool holders </div> </div>
Axis angle	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  0° Unit for machining tasks at a 0° angle </div> <div style="text-align: center;">  90° Unit for machining tasks at a 90° angle </div> <div style="text-align: center;">  ± 0 Unit for machining tasks at an adjustable angle. 0° ± max. α° adjustable angle. </div> </div>
Drive for spindle Direction of rotation	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  clockwise / clockwise synchronized rotation </div> <div style="text-align: center;">  clockwise / counterclockwise counter-rotation </div> <div style="text-align: center;">  clockwise / clockwise / counterclockwise synchronized and counter-rotation (multi-spindle units) </div> </div>
Coolant feed for cutting blade	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  Extern (EC) The tool is cooled using an external feed line (spray nozzle) </div> <div style="text-align: center;">  Combination (EC+IC) The tool is cooled by a combination of both internal and external systems </div> </div>
Turret	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  Star turret </div> <div style="text-align: center;">  Holder symmetric </div> </div>

► Other specifications	
Symbol	
System advantages	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  Set-up time </div> <div style="text-align: center;">  Investment </div> <div style="text-align: center;">  Easy to handle </div> </div>
Information	<div style="text-align: center;">  Safe to handle </div>
	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  Info </div> <div style="text-align: center;">  Video </div> <div style="text-align: center;">  Service </div> </div>

► Abbreviations	
M_{max}	Maximum torque
i	Gear ratio
n_{max}	Maximum speed
p_{max}	Maximum pressure (bar)
EK	External cooling
IK	Internal cooling
p.	Page
✓	Possible
-	Not possible
SW	Width across flats
mm	Millimeter

Special custom solutions
 Products shown in dashed lines represent solutions adapted for a specific customer

DOOSAN

OVERVIEW OF MACHINES – UNIT NAVIGATOR

FIND YOUR TOOLS BASED ON MACHINE TYPES



BMT 45

- LYNX (LSYA, LSYC)
+ 220
- LYNX (M, LM)
+ 220
- LYNX (MA, LMA, MC, LMC)
+ 220
- LYNX (YA, YC, LYA, LYC)
+ 220
- LYNX (LMSA, LMSC)
+ 1600
+ 2100
- PUMA MX (ST)
+ 1600

BMT 55

- LYNX (M)
+ 300
- PUMA (M, LM, S)
+ 230
+ 240
+ 280
- PUMA (M, S, Y)
+ 1500
+ 2000
+ 2500
- PUMA (Y, LY, SY, LSY)
+ 2100
- PUMA (M, Y, MS, SY)
+ 2100
+ 2600
+ 3100
- PUMA MX (T, ST)
+ 2100
- PUMA TT (MS, SY)
+ 1500
+ 1800
- PUMA VTT (M, S, Y)
+ 2000
+ 2500
- PUMA H (M)
+ 250T
- PUMA TL (M,LM)
+ 2000
+ 2500
- PUMA GT (M, MB)
+ 2100
+ 2600
- PUMA QL (M)
+ 200H
- TW (M)
+ 2600

BMT 65

- PUMA (M, LM, MS, LMS)
+ 2100
+ 2600
- PUMA (Y, LY, SY, LSY)
+ 2100
+ 2600
- PUMA (M, MS, MB, MC)
+ 300
- PUMA (M, LM, LY, XLM, XLY, ULM, ULY)
+ 3100
- PUMA MX (T, ST)
+ 2000
+ 2500
- PUMA MX (T, ST)
+ 2600
- PUMA TT (MS, SY)
+ 2500
+ 2000
- PUMA V (M)
+ 400
- PUMA VT (M, M-2SP)
+ 450
- PUMA VTT / TL (M, S, Y)
+ 2000
+ 2500

BMT 75

- PUMA (MA, LMA, MB, LMB, MC, LMC, XLMA, XLMB, XLMC)
+ 400
- PUMA (M, LM, XLM)
+ 480
- PUMA (M)
+ 500
- PUMA (M, LM)
+ 4100
- PUMA (M, LM)
+ 5100
- PUMA V (M)
+ 550
- PUMA VT (M, M-2SP)
+ 750






BMT 85

- PUMA (M, LM, XLM, XLY)
+ 600
+ 700
+ 800
- PUMA VT (M, M-2SP)
+ 900
+ 1100

LIVE TOOLS - BMT 45

DOOSAN MACHINES




LIVE TOOLS

	AXIAL	18		RADIAL	19
	RADIAL, RECESSED	20		DOUBLE-SPINDLE	21
	ADJUSTABLE	22			

STATIC HOLDERS

	STANDARD	24		BENZ CAPTO™	25
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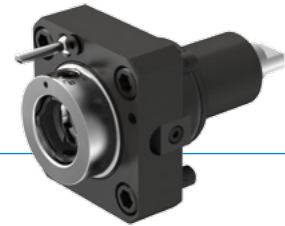
ACCESSORIES

	BENZ SOLIDFIX® ADAPTER	74		BENZ CAPTO™ ADAPTER	84
	COLLET CHUCKS	88			

LIVE TOOL - BMT 45 AXIAL

LIVE TOOL - BMT 45 RADIAL

TECHNICAL DATA



OUTPUT SPINDLES

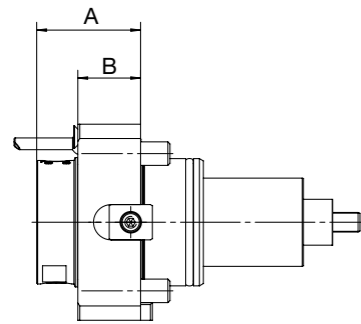


BENZ Solidfix®
Collet Chuck System ER DIN 6499
BENZ CAPTO™

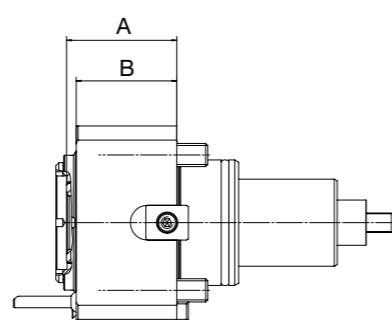
i Other output spindles available upon request

i Accessories page 72

BENZ Solidfix®



BENZ CAPTO™



TECHNICAL DATA



LENGTH

65 85

OUTPUT SPINDLES

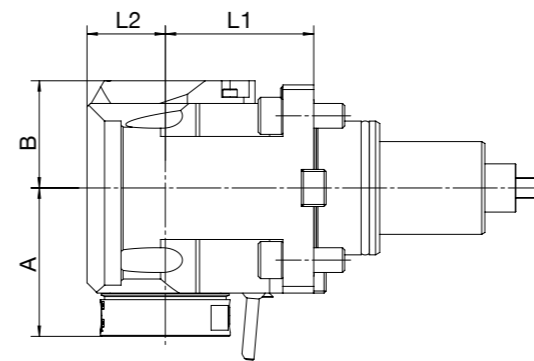


BENZ Solidfix®
Collet Chuck System ER DIN 6499
BENZ CAPTO™

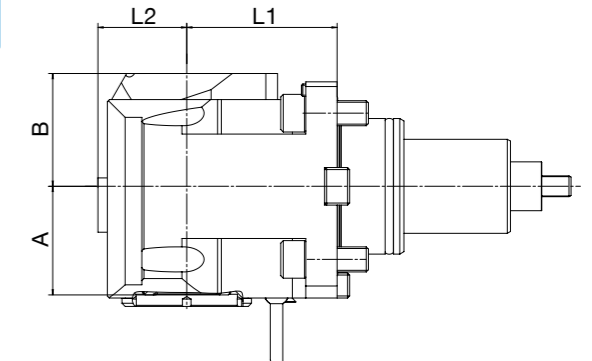
i Other output spindles available upon request

i Accessories page 72

BENZ Solidfix®



BENZ CAPTO™



Technical Data									
Output Spindles	Size	i	EC	IC*	n_{1max} / n_{2max} [min ⁻¹]	M_{1max} / M_{2max} [Nm]	A_{max} [mm]	B [mm]	Order No.
BENZ Solidfix®	S3	1:1	✓	-	8.000 / 8.000	30 / 30	43	25	113DA05600S3
	S3	1:1	✓	✓	8.000 / 8.000	30 / 30	43	25	113EA05600S3
Collet Chuck	ER20	1:1	✓	-	8.000 / 8.000	30 / 30	36,5	25	113DA05600E4A
	ER20	1:1	✓	✓	8.000 / 8.000	30 / 30	41,5	25	113EA05600E4A
BENZ CAPTO™	C3	1:1	✓	-	8.000 / 8.000	30 / 30	48	50	113DA05600L3BD
	C3	1:1	✓	✓	8.000 / 8.000	30 / 30	48	39,5	113EA05600L3BD

*Internal Cooling $p_{max} = 50$ bar

Technical Data											
Output Spindles	Size	i	EC	IC*	n_{1max} / n_{2max} [min ⁻¹]	M_{1max} / M_{2max} [Nm]	A_{max} [mm]	B [mm]	L1 [mm]	L2 [mm]	Order No.
BENZ Solidfix®	S3	1:1	✓	-	8.000 / 8.000	30 / 30	56	40	65	28	113FAX05639S3D-65
	S3	1:1	✓	✓	8.000 / 8.000	30 / 30	56	58	65	28	113GAX05639S3D-65
	S3	1:1	✓	-	8.000 / 8.000	30 / 30	56	40	85	28	113FAX05639S3D-85
	S3	1:1	✓	✓	8.000 / 8.000	30 / 30	56	58	85	28	113GAX05639S3D-85
Collet Chuck	ER20	1:1	✓	-	8.000 / 8.000	30 / 30	51	40	65	28	113FAX05639E4AD-65
	ER20	1:1	✓	✓	8.000 / 8.000	30 / 30	56	58	65	28	113GAX05639E4AD-65
	ER20	1:1	✓	-	8.000 / 8.000	30 / 30	51	40	85	28	113FAX05639E4AD-85
	ER20	1:1	✓	✓	8.000 / 8.000	30 / 30	56	58	85	28	113GAX05639E4AD-85
BENZ CAPTO™	C3	1:1	✓	-	8.000 / 8.000	30 / 30	42	44	65	38,5	113FAX05639L3BD-65
	C3	1:1	✓	✓	8.000 / 8.000	30 / 30	42	67,5	65	38,5	113GAX05639L3BD-65
	C3	1:1	✓	-	8.000 / 8.000	30 / 30	42	44	85	38,5	113FAX05639L3BD-85
	C3	1:1	✓	✓	8.000 / 8.000	30 / 30	42	67,5	85	38,5	113GAX05639L3BD-85

*Internal Cooling $p_{max} = 100$ bar

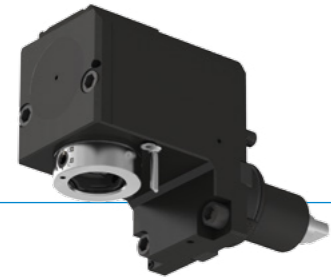
LIVE TOOL - BMT 45

RADIAL, RECESSED

LIVE TOOL - BMT 45

DOUBLE-SPINDLE

TECHNICAL DATA



LENGTH

65 85

OUTPUT SPINDLES



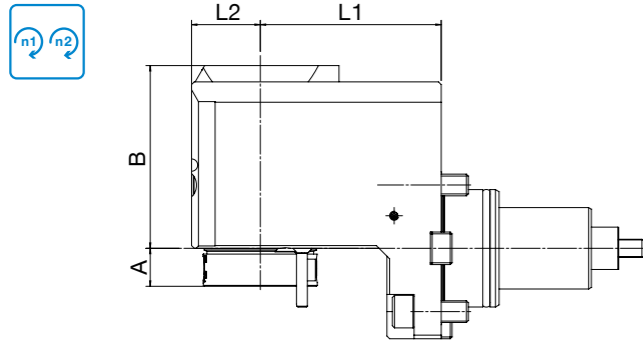
BENZ Solidfix®
Collet Chuck System ER DIN 6499
BENZ CAPTO™

i Other output spindles available upon request

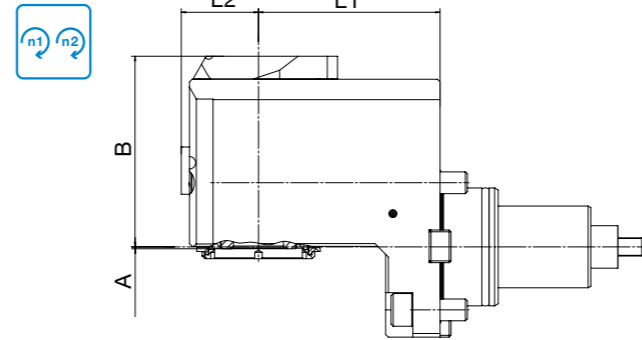
i Accessories page 72



BENZ Solidfix®



BENZ CAPTO™



Technical Data

Output Spindles	Size	i	EC	IC*	n_{1max} / n_{2max} [min ⁻¹]	M_{1max} / M_{2max} [Nm]	A_{max} [mm]	B [mm]	L1 [mm]	L2 [mm]	Order No.
BENZ Solidfix®	S3	1:1	✓	-	8.000 / 8.000	30 / 30	21	75	65	28	113FBX05639S3D-65
	S3	1:1	✓	-	8.000 / 8.000	30 / 30	21	75	85	28	113FBX05639S3D-85
	S3	1:1	✓	✓	8.000 / 8.000	30 / 30	21	93	65	28	113GBX05639S3D-65
	S3	1:1	✓	✓	8.000 / 8.000	30 / 30	21	93	85	28	113GBX05639S3D-85
Collet Chuck	ER20	1:1	✓	-	8.000 / 8.000	30 / 30	16	75	65	28	113FBX05639E4AD-65
	ER20	1:1	✓	-	8.000 / 8.000	30 / 30	16	75	85	28	113FBX05639E4AD-85
	ER20	1:1	✓	✓	8.000 / 8.000	30 / 30	21	93	65	28	113GBX05639E4AD-65
	ER20	1:1	✓	✓	8.000 / 8.000	30 / 30	21	93	85	28	113GBX05639E4AD-85
BENZ CAPTO™	C3	1:1	✓	-	8.000 / 8.000	30 / 30	7	79	65	38,5	113FBX05639L3BD-65
	C3	1:1	✓	-	8.000 / 8.000	30 / 30	7	79	85	38,5	113FBX05639L3BD-85
	C3	1:1	✓	✓	8.000 / 8.000	30 / 30	7	102,5	65	38,5	113GBX05639L3BD-65
	C3	1:1	✓	✓	8.000 / 8.000	30 / 30	7	102,5	85	38,5	113GBX05639L3BD-85

*Internal Cooling $p_{max} = 100$ bar

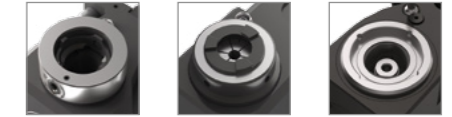
TECHNICAL DATA



LENGTH

65 85

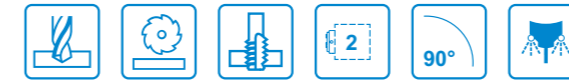
OUTPUT SPINDLES



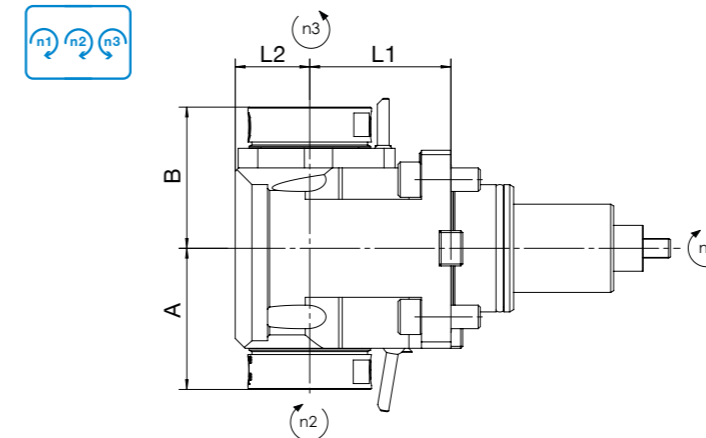
BENZ Solidfix®
Collet Chuck System ER DIN 6499
BENZ CAPTO™

i Other output spindles available upon request

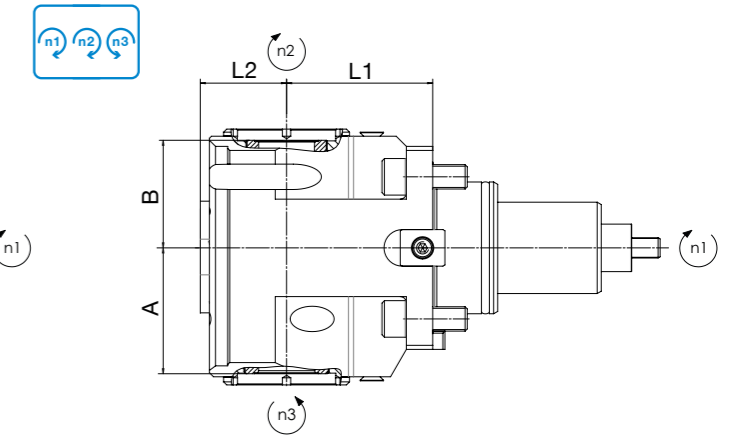
i Accessories page 72



BENZ Solidfix®



BENZ CAPTO™



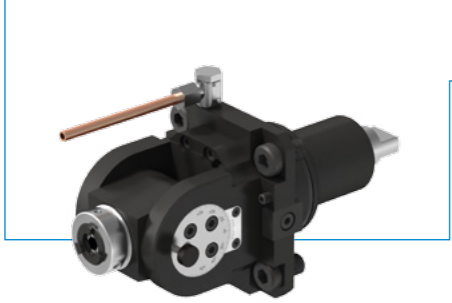
Technical Data

Output Spindles	Size	i	EC	IC	n_{1max} / n_{2max} [min ⁻¹]	M_{1max} / M_{2max} [Nm]	A_{max} [mm]	B [mm]	L1 [mm]	L2 [mm]	Order No.
BENZ Solidfix®	S3	1:1	✓	-	8.000 / 8.000	30 / 30	56	56	65	28	113FAX05639S32-65
	S3	1:1	✓	-	8.000 / 8.000	30 / 30	56	56	85	28	113FAX05639S32-85
Collet Chuck	ER25	1:1	✓	-	8.000 / 8.000	30 / 30	51	51	65	28	113FAX05639E5A2-65
	ER25	1:1	✓	-	8.000 / 8.000	30 / 30	51	51	85	28	113FAX05639E5A2-85
BENZ CAPTO™	C3	1:1	✓	-	8.000 / 8.000	30 / 30	52	45	65	38,5	113FAX05639L3BD2-65
	C3	1:1	✓	-	8.000 / 8.000	30 / 30	52	45	85	38,5	113FAX05639L3BD2-85

LIVE TOOL - BMT 45

ADJUSTABLE

► TECHNICAL DATA



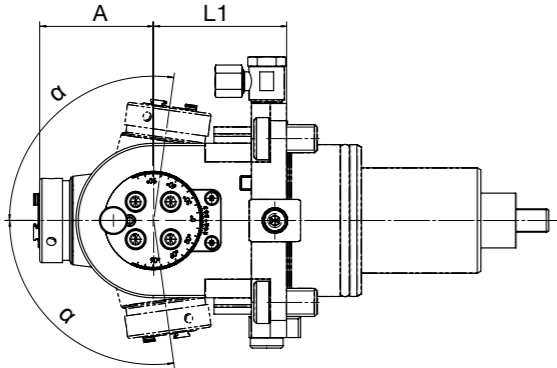
► OUTPUT SPINDLES



Collet Chuck
System ER
DIN 6499

- Other output spindles available upon request
- Accessories page 72

Collet Chuck



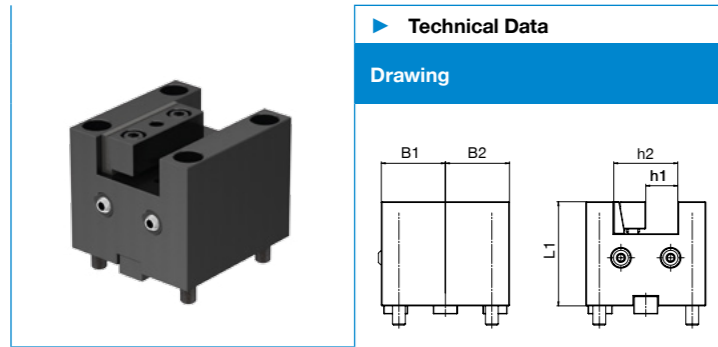
► Technical Data

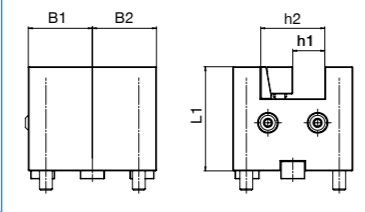
Output Spindles	Size	i	EC	IC*	n_{1max} / n_{2max} [min ⁻¹]	M_{1max} / M_{2max} [Nm]	A_{max} [mm]	L1 [mm]	α [°]	Order No.
Collet Chuck	ER16	1:0,879	✓	-	8.000 / 7.000	10 / 12	51,1	57	± 98	113FDX05639E3A
	ER16	1:0,879	✓	✓	8.000 / 7.000	10 / 12	56	57	± 98	113GDX05639E3A
	ER16	1:2	✓	-	4.000 / 8.000	16 / 8	50,6	46	± 105	113FK05638E3

*Internal Cooling $p_{max} = 50$ bar

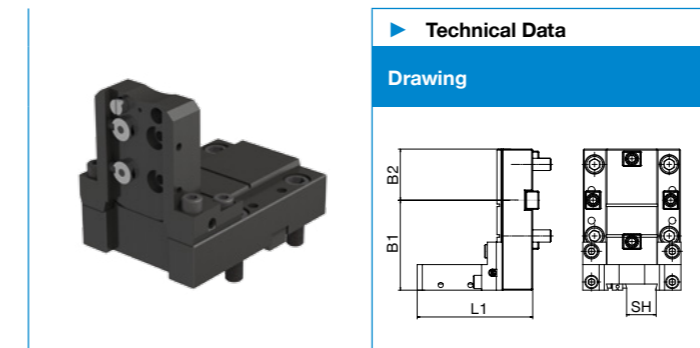
STATIC HOLDER - BMT 45

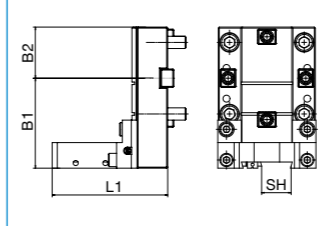
Face and I.D. Turning Tool - Single



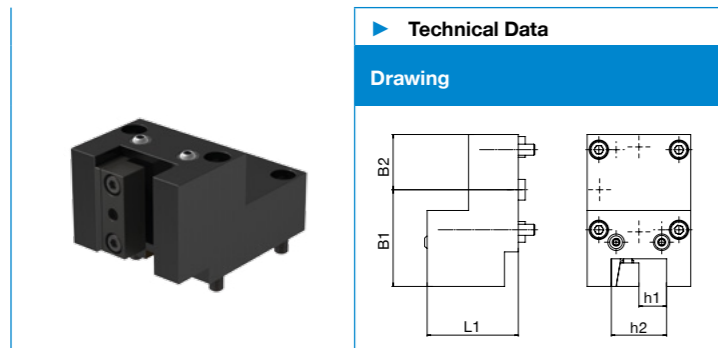
Technical Data						
Drawing	h1 [mm]	h2 [mm]	L [mm]	B1 [mm]	B2 [mm]	Order No.
	20	40	65	40	40	113A056559001

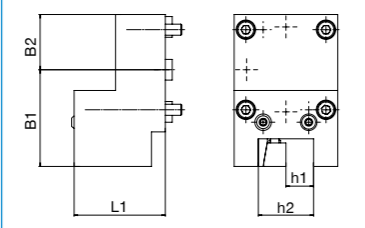
Cut-Off Holder



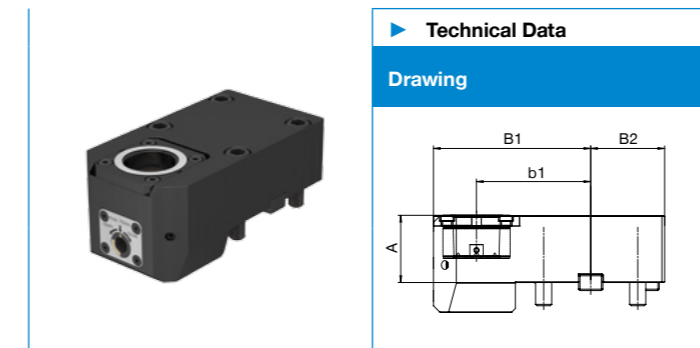
Technical Data					
Drawing	SH [mm]	L1 [mm]	B1 [mm]	B2 [mm]	Order No.
	26	78	75	40	113A056583001

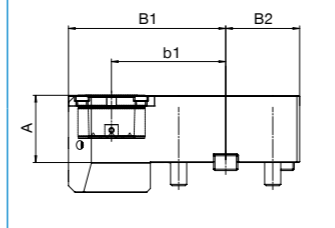
O.D. Turning Tool - Single



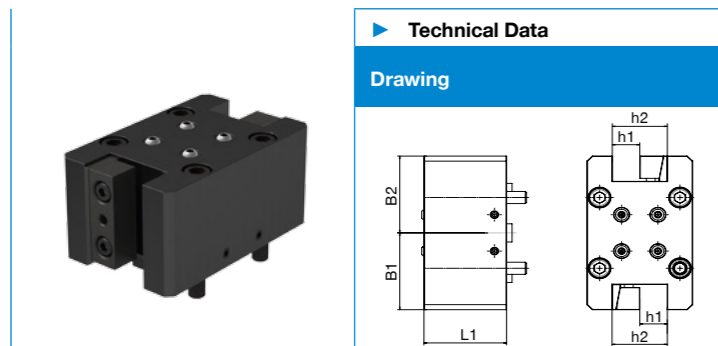
Technical Data						
Drawing	h1 [mm]	h2 [mm]	L1 [mm]	B1 [mm]	B2 [mm]	Order No.
	20	40	66	70	40	113A056560001

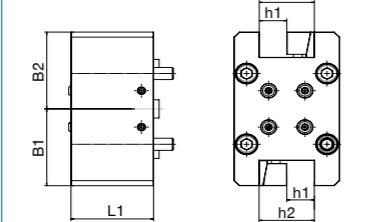
Axial Holder - Single | BENZ CAPTO™



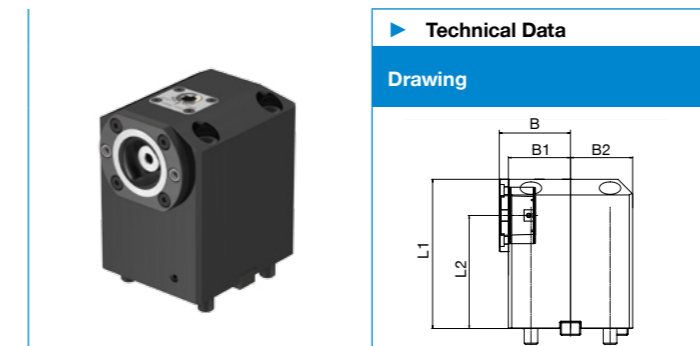
Technical Data						
Drawing	Size	A [mm]	b1 [mm]	B1 [mm]	B2 [mm]	Order No.
	C4	50	58	82	40	113AV056L4BDU-50
	C4	50	58	82	40	113AV056L4BDN-50

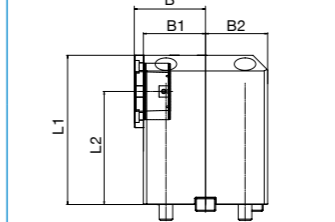
O.D. Turning Tool - Double



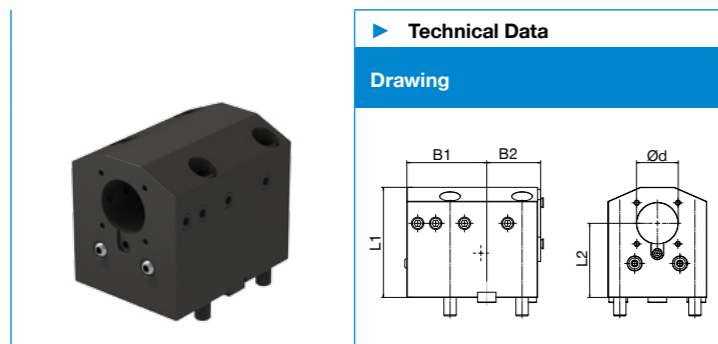
Technical Data						
Drawing	h1 [mm]	h2 [mm]	L1 [mm]	B1 [mm]	B2 [mm]	Order No.
	20	40	60	62	62	113A056567001

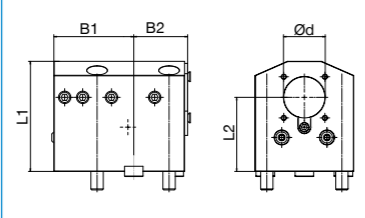
Radial Holder - Single | BENZ CAPTO™



Technical Data							
Drawing	Size	L1 [mm]	L2 [mm]	B [mm]	B1 [mm]	B2 [mm]	Order No.
	C4	89	65	62	58	40	113AP056L4BDU-65
	C4	89	65	62	58	40	113AP056L4BDN-65

Boring Bar Holder




Technical Data						
Drawing	Ød [mm]	L1 [mm]	L2 [mm]	B1 [mm]	B2 [mm]	Order No.
	32	95	65	40	43	113A056578001

LIVE TOOLS

	AXIAL	28		AXIAL, OFFSET	29
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	DOUBLE-SPINDLE	33		ADJUSTABLE	34
	BROACHING UNIT	35			

STATIC HOLDERS

	STANDARD	36		BENZ CAPTO™	37
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ACCESSORIES

	BENZ SOLIDFIX® ADAPTER	74		BENZ CAPTO™ ADAPTER	84
	COLLET CHUCKS	88		CLAMPING BRACKET BROACHING UNIT	96

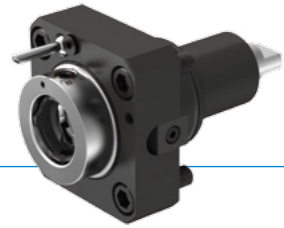
LIVE TOOL - BMT 55

AXIAL

LIVE TOOL - BMT 55

AXIAL, OFFSET

TECHNICAL DATA



OUTPUT SPINDLES

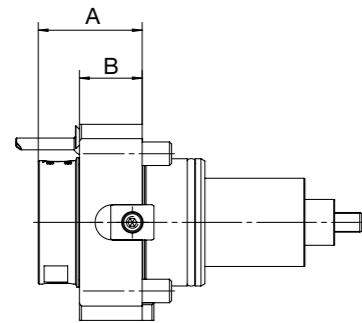


BENZ Solidfix®
Collet Chuck System ER DIN 6499
BENZ CAPTO™

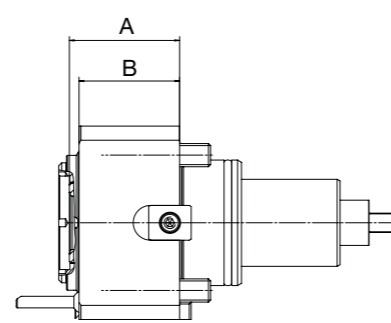
i Other output spindles available upon request

i Accessories page 72

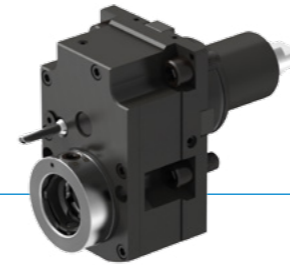
BENZ Solidfix®



BENZ CAPTO™



TECHNICAL DATA



OUTPUT SPINDLES

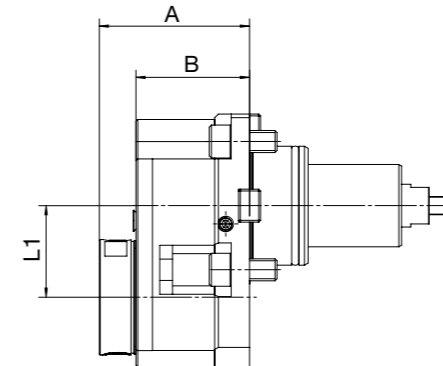


BENZ Solidfix®
Collet Chuck System ER DIN 6499
BENZ CAPTO™

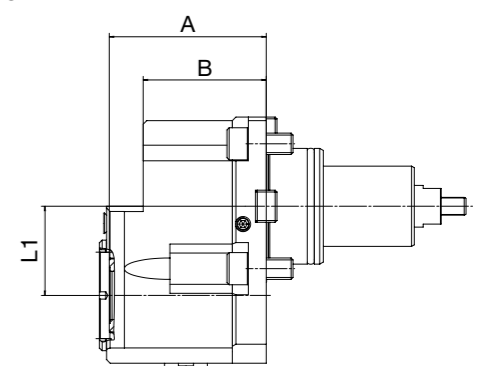
i Other output spindles available upon request

i Accessories page 72

BENZ Solidfix®



BENZ CAPTO™



Technical Data									
Output Spindles	Size	i	EC	IC*	n_{1max} / n_{2max} [min ⁻¹]	M_{1max} / M_{2max} [Nm]	A_{max} [mm]	B [mm]	Order No.
BENZ Solidfix®	S3	1:1	✓	-	6.000 / 6.000	50 / 50	49	30	114DA11400S3
	S3	1:1	✓	✓	6.000 / 6.000	50 / 50	49	30	114EA11400S3
	S4	1:1	✓	-	6.000 / 6.000	50 / 50	51	30	114DA11400S4
	S4	1:1	✓	✓	6.000 / 6.000	50 / 50	51	30	114EA11400S4
Collet Chuck	ER25	1:1	✓	-	6.000 / 6.000	50 / 50	42,9	30	114DA11400E5A
	ER25	1:1	✓	✓	6.000 / 6.000	50 / 50	47,9	30	114EA11400E5A
	ER32	1:1	✓	-	6.000 / 6.000	50 / 50	55,1	30	114DA11400E6A
	ER32	1:1	✓	✓	6.000 / 6.000	50 / 50	60,2	30	114EA11400E6A
BENZ CAPTO™	C3	1:1	✓	-	6.000 / 6.000	50 / 50	49	40,5	114DA11400L3BD
	C3	1:1	✓	✓	6.000 / 6.000	50 / 50	49	40,5	114EA11400L3BD
	C4	1:1	✓	-	6.000 / 6.000	70 / 70	57	58,5	114DA11400L4BD
	C4	1:1	✓	✓	6.000 / 6.000	70 / 70	57	58,5	114EA11400L4BD

*Internal Cooling $p_{max} = 50$ bar

Technical Data										
Output Spindles	Size	i	EC	IC*	n_{1max} / n_{2max} [min ⁻¹]	M_{1max} / M_{2max} [Nm]	A_{max} [mm]	B [mm]	L1 [mm]	Order No.
BENZ Solidfix®	S3	1:1	✓	-	6.000 / 6.000	30 / 30	70	53	42	114DM11494S3D
	S3	1:1	✓	✓	6.000 / 6.000	30 / 30	77	60	42	114EM11494S3D
	S3	1:2	✓	-	6.000 / 12.000	30 / 15	70	53	42	114DI11494S3D
	S3	1:2	✓	✓	6.000 / 12.000	30 / 15	77	60	42	114EI11494S3D
	Collet Chuck	ER25	1:1	✓	-	6.000 / 6.000	30 / 30	71,9	53	42
ER25		1:1	✓	✓	6.000 / 6.000	30 / 30	83,9	60	42	114EM11494E5AD
ER25		1:2	✓	-	6.000 / 12.000	30 / 15	71,9	53	42	114DI11494E5AD
ER25		1:2	✓	✓	6.000 / 12.000	30 / 15	83,9	60	42	114EI11494E5AD
BENZ CAPTO™		C3	1:1	✓	-	6.000 / 6.000	30 / 30	75	55	42
	C3	1:1	✓	✓	6.000 / 6.000	30 / 30	82	62	42	114EM11494L3BD
	C3	1:2	✓	-	6.000 / 12.000	30 / 15	75	55	42	114DI11494L3BD
	C3	1:2	✓	✓	6.000 / 12.000	30 / 15	82	62	42	114EI11494L3BD

*Internal Cooling $p_{max} = 100$ bar

LIVE TOOL - BMT 55

RADIAL

TECHNICAL DATA



LENGTH

60 70 85

OUTPUT SPINDLES

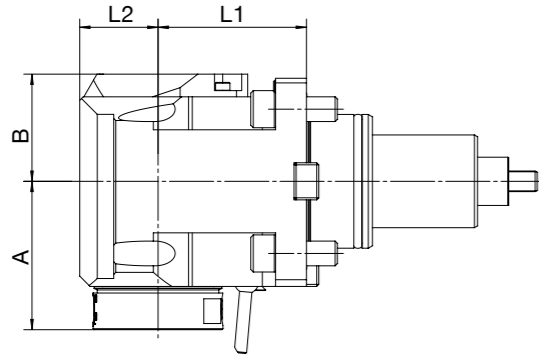


Other output spindles available upon request

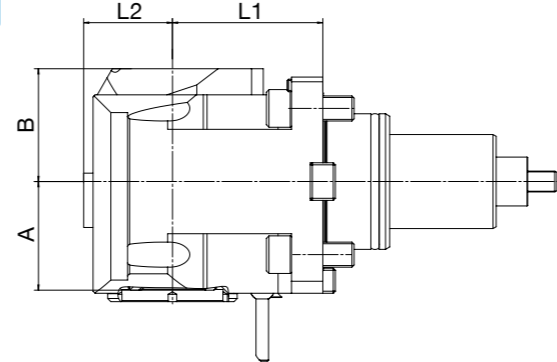
Accessories page 72



BENZ Solidfix®



BENZ CAPTO™



Technical Data

Output Spindles	Size	i	EC	IC*	n_{1max} / n_{2max} [min ⁻¹]	M_{1max} / M_{2max} [Nm]	A_{max} [mm]	B [mm]	L1 [mm]	L2 [mm]	Order No.
BENZ Solidfix®	S3	1:1	✓	-	8.000 / 8.000	30 / 30	56	40	60	28	114FAX11439S3D-60
	S3	1:1	✓	-	8.000 / 8.000	30 / 30	56	40	70	28	114FAX11439S3D-70
	S3	1:1	✓	-	8.000 / 8.000	30 / 30	56	40	85	28	114FAX11439S3D-85
	S3	1:1	✓	✓	8.000 / 8.000	30 / 30	56	58	60	28	114GAX11439S3D-60
	S3	1:1	✓	✓	8.000 / 8.000	30 / 30	56	58	70	28	114GAX11439S3D-70
	S3	1:1	✓	✓	8.000 / 8.000	30 / 30	56	58	85	28	114GAX11439S3D-85
	S4	1:1	✓	-	6.000 / 6.000	70 / 70	72	52	60	38	114FAX11449S4D-60
	S4	1:1	✓	-	6.000 / 6.000	70 / 70	72	52	70	38	114FAX11449S4D-70
	S4	1:1	✓	-	6.000 / 6.000	70 / 70	72	52	85	38	114FAX11449S4D-85
	S4	1:1	✓	✓	6.000 / 6.000	70 / 70	72	60	60	38	114GAX11449S4D-60
	S4	1:1	✓	✓	6.000 / 6.000	70 / 70	72	60	70	38	114GAX11449S4D-70
	S4	1:1	✓	✓	6.000 / 6.000	70 / 70	72	60	85	38	114GAX11449S4D-85

*Internal Cooling $p_{max} = 100$ bar

Technical Data

Output Spindles	Size	i	EC	IC*	n_{1max} / n_{2max} [min ⁻¹]	M_{1max} / M_{2max} [Nm]	A_{max} [mm]	B [mm]	L1 [mm]	L2 [mm]	Order No.	
BENZ Solidfix®	S2	1:2	✓	-	6.000 / 12.000	20 / 10	64	44	60	28	114FWX11439S2D-60	
	S2	1:2	✓	-	6.000 / 12.000	20 / 10	64	44	70	28	114FWX11439S2D-70	
	S2	1:2	✓	-	6.000 / 12.000	20 / 10	64	44	85	28	114FWX11439S2D-85	
	S2	1:2	✓	✓	6.000 / 12.000	20 / 10	64	58	60	28	114GWX11439S2D-60	
	S2	1:2	✓	✓	6.000 / 12.000	20 / 10	64	58	70	28	114GWX11439S2D-70	
	S2	1:2	✓	✓	6.000 / 12.000	20 / 10	64	58	85	28	114GWX11439S2D-85	
Collet Chuck	ER25	1:1	✓	-	8.000 / 8.000	30 / 30	56,9	40	60	28	114FAX11439E5AD-60	
	ER25	1:1	✓	-	8.000 / 8.000	30 / 30	56,9	40	70	28	114FAX11439E5AD-70	
	ER25	1:1	✓	-	8.000 / 8.000	30 / 30	56,9	40	85	28	114FAX11439E5AD-85	
	ER25	1:1	✓	✓	8.000 / 8.000	30 / 30	61,9	58	60	28	114GAX11439E5AD-60	
	ER25	1:1	✓	✓	8.000 / 8.000	30 / 30	61,9	58	70	28	114GAX11439E5AD-70	
	ER25	1:1	✓	✓	8.000 / 8.000	30 / 30	61,9	58	85	28	114GAX11439E5AD-85	
	ER32	1:1	✓	-	6.000 / 6.000	70 / 70	69,1	52	60	38	114FAX11449E6AD-60	
	ER32	1:1	✓	-	6.000 / 6.000	70 / 70	69,1	52	70	38	114FAX11449E6AD-70	
	ER32	1:1	✓	-	6.000 / 6.000	70 / 70	69,1	52	85	38	114FAX11449E6AD-85	
	ER32	1:1	✓	✓	6.000 / 6.000	70 / 70	74,2	60	60	38	114GAX11449E6AD-60	
	ER32	1:1	✓	✓	6.000 / 6.000	70 / 70	74,2	60	70	38	114GAX11449E6AD-70	
	ER32	1:1	✓	✓	6.000 / 6.000	70 / 70	74,2	60	85	38	114GAX11449E6AD-85	
	ER20	1:2	✓	-	6.000 / 12.000	20 / 10	68	44	60	28	114FWX11439E4AD-60	
	ER20	1:2	✓	-	6.000 / 12.000	20 / 10	68	44	70	28	114FWX11439E4AD-70	
	ER20	1:2	✓	-	6.000 / 12.000	20 / 10	68	44	85	28	114FWX11439E4AD-85	
	ER20	1:2	✓	✓	6.000 / 12.000	20 / 10	73	58	60	28	114GWX11439E4AD-60	
	ER20	1:2	✓	✓	6.000 / 12.000	20 / 10	73	58	70	28	114GWX11439E4AD-70	
	ER20	1:2	✓	✓	6.000 / 12.000	20 / 10	73	58	85	28	114GWX11439E4AD-85	
	BENZ CAPTO™	C3	1:1	✓	-	8.000 / 8.000	30 / 30	42	44	60	38,5	114FAX11439L3BD-60
		C3	1:1	✓	-	8.000 / 8.000	30 / 30	42	44	70	38,5	114FAX11439L3BD-70
C3		1:1	✓	-	8.000 / 8.000	30 / 30	42	44	85	38,5	114FAX11439L3BD-85	
C3		1:1	✓	✓	8.000 / 8.000	30 / 30	42	67,5	60	38,5	114GAX11439L3BD-60	
C3		1:1	✓	✓	8.000 / 8.000	30 / 30	42	67,5	70	38,5	114GAX11439L3BD-70	
C3		1:1	✓	✓	8.000 / 8.000	30 / 30	42	67,5	85	38,5	114GAX11439L3BD-85	
C4		1:1	✓	-	6.000 / 6.000	70 / 70	52	54	60	42,5	114FAX11449L4BD-60	
C4		1:1	✓	-	6.000 / 6.000	70 / 70	52	54	70	42,5	114FAX11449L4BD-70	
C4		1:1	✓	-	6.000 / 6.000	70 / 70	52	54	85	42,5	114FAX11449L4BD-85	
C4		1:1	✓	✓	6.000 / 6.000	70 / 70	52	60,5	60	42,5	114GAX11449L4BD-60	
C4		1:1	✓	✓	6.000 / 6.000	70 / 70	52	60,5	70	42,5	114GAX11449L4BD-70	
C4		1:1	✓	✓	6.000 / 6.000	70 / 70	52	60,5	85	42,5	114GAX11449L4BD-85	

*Internal Cooling $p_{max} = 100$ bar

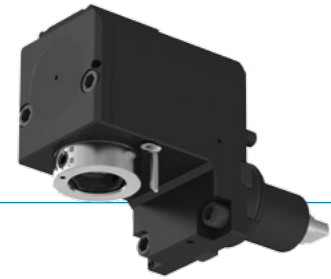
LIVE TOOL - BMT 55

RADIAL, RECESSED

LIVE TOOL - BMT 55

DOUBLE-SPINDLE

TECHNICAL DATA



LENGTH

70 85

OUTPUT SPINDLES



BENZ Solidfix®
Collet Chuck System ER
DIN 6499
BENZ CAPTO™



i Other output spindles available upon request

i Accessories page 72

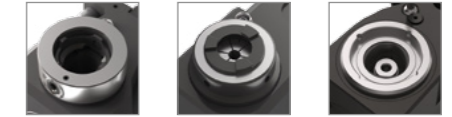
TECHNICAL DATA



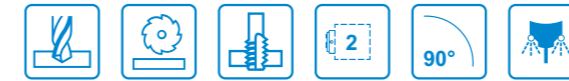
LENGTH

60 70 85

OUTPUT SPINDLES



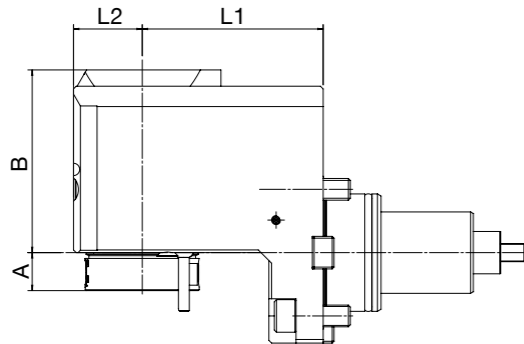
BENZ Solidfix®
Collet Chuck System ER
DIN 6499
BENZ CAPTO™



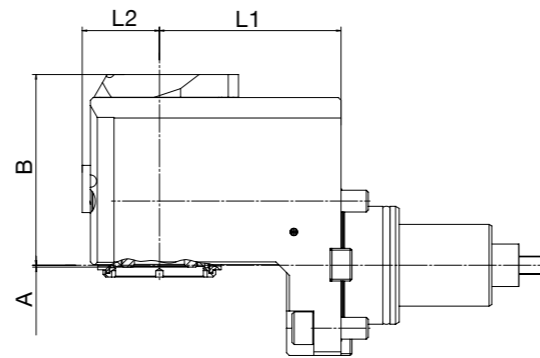
i Other output spindles available upon request

i Accessories page 72

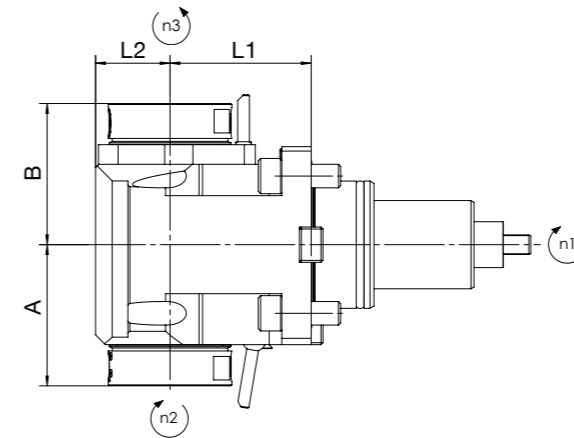
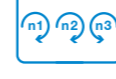
BENZ Solidfix®



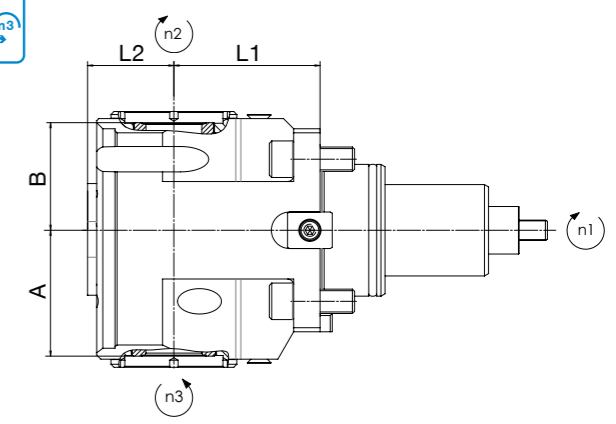
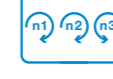
BENZ CAPTO™



BENZ Solidfix®



BENZ CAPTO™



Technical Data

Output Spindles	Size	i	EC	IC*	n_{1max} / n_{2max} [min ⁻¹]	M_{1max} / M_{2max} [Nm]	A_{max} [mm]	B [mm]	L1 [mm]	L2 [mm]	Order No.
BENZ Solidfix®	S3	1:1	✓	-	8.000 / 8.000	30 / 30	21	75	70	28	114FBX11439S3D-70
	S3	1:1	✓	✓	8.000 / 8.000	30 / 30	21	93	70	28	114GBX11439S3D-70
	S3	1:1	✓	-	8.000 / 8.000	30 / 30	21	75	85	28	114FBX11439S3D-85
	S3	1:1	✓	✓	8.000 / 8.000	30 / 30	21	93	85	28	114GBX11439S3D-85
Collet Chuck	ER25	1:1	✓	-	8.000 / 8.000	30 / 30	21,9	75	70	28	114FBX11439E5AD-70
	ER25	1:1	✓	✓	8.000 / 8.000	30 / 30	26,9	93	70	28	114GBX11439E5AD-70
	ER25	1:1	✓	-	8.000 / 8.000	30 / 30	21,9	75	85	28	114FBX11439E5AD-85
	ER25	1:1	✓	✓	8.000 / 8.000	30 / 30	26,9	93	85	28	114GBX11439E5AD-85
BENZ CAPTO™	C3	1:1	✓	-	8.000 / 8.000	30 / 30	7	79	70	38,5	114FBX11439L3BD-70
	C3	1:1	✓	✓	8.000 / 8.000	30 / 30	7	102,5	70	38,5	114GBX11439L3BD-70
	C3	1:1	✓	-	8.000 / 8.000	30 / 30	7	79	85	38,5	114FBX11439L3BD-85
	C3	1:1	✓	✓	8.000 / 8.000	30 / 30	7	102,5	85	38,5	114GBX11439L3BD-85

*Internal Cooling $p_{max} = 100$ bar

Technical Data

Output Spindles	Size	i	EC	IC	n_{1max} / n_{2max} [min ⁻¹]	M_{1max} / M_{2max} [Nm]	A_{max} [mm]	B [mm]	L1 [mm]	L2 [mm]	Order No.
BENZ Solidfix®	S3	1:1	✓	-	8.000 / 8.000	30 / 30	56	56	60	28	114FAX11439S32-60
	S3	1:1	✓	-	8.000 / 8.000	30 / 30	56	56	70	28	114FAX11439S32-70
	S3	1:1	✓	-	8.000 / 8.000	30 / 30	56	56	85	28	114FAX11439S32-85
	S4	1:1	✓	-	6.000 / 6.000	70 / 70	72	72	60	38	114FAX11449S42-60
	S4	1:1	✓	-	6.000 / 6.000	70 / 70	72	72	70	38	114FAX11449S42-70
	S4	1:1	✓	-	6.000 / 6.000	70 / 70	72	72	85	38	114FAX11449S42-85
Collet Chuck	ER25	1:1	✓	-	8.000 / 8.000	30 / 30	56,9	56,9	60	28	114FAX11439E5A2-60
	ER25	1:1	✓	-	8.000 / 8.000	30 / 30	56,9	56,9	70	28	114FAX11439E5A2-70
	ER25	1:1	✓	-	8.000 / 8.000	30 / 30	56,9	56,9	85	28	114FAX11439E5A2-85
	ER32	1:1	✓	-	6.000 / 6.000	70 / 70	69,1	69,1	60	38	114FAX11449E6A2-60
	ER32	1:1	✓	-	6.000 / 6.000	70 / 70	69,1	69,1	70	38	114FAX11449E6A2-70
	ER32	1:1	✓	-	6.000 / 6.000	70 / 70	69,1	69,1	85	38	114FAX11449E6A2-85
BENZ CAPTO™	C3	1:1	✓	-	8.000 / 8.000	30 / 30	52	45	60	38,5	114FAX11439L3BD2-60
	C3	1:1	✓	-	8.000 / 8.000	30 / 30	52	45	70	38,5	114FAX11439L3BD2-70
	C3	1:1	✓	-	8.000 / 8.000	30 / 30	52	45	85	38,5	114FAX11439L3BD2-85
	C4	1:1	✓	-	6.000 / 6.000	70 / 70	62	53	60	42,5	114FAX11449L4BD2-60
	C4	1:1	✓	-	6.000 / 6.000	70 / 70	62	53	70	42,5	114FAX11449L4BD2-70
	C4	1:1	✓	-	6.000 / 6.000	70 / 70	62	53	85	42,5	114FAX11449L4BD2-85

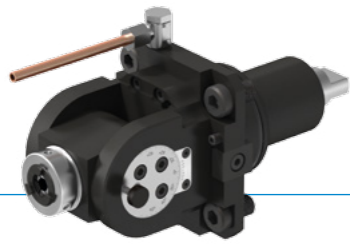
LIVE TOOL - BMT 55

ADJUSTABLE

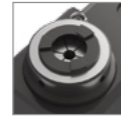
LIVE TOOL - BMT 55

BROACHING UNIT BENZ LINA

TECHNICAL DATA



OUTPUT SPINDLES



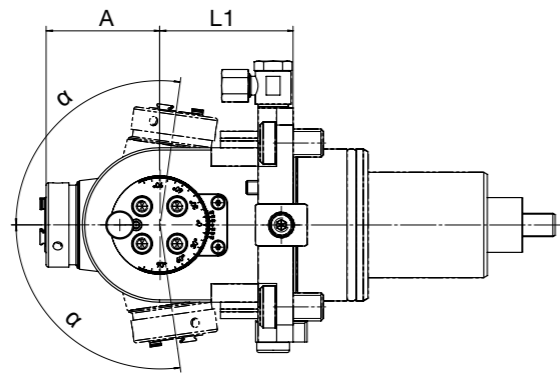
Collet Chuck
System ER
DIN 6499

i Other output spindles available upon request

i Accessories page 72



Collet Chuck

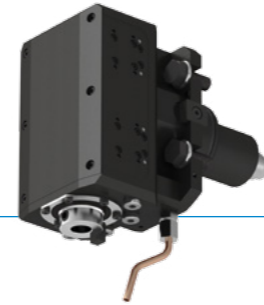


Technical Data

Output Spindles	Size	i	EC	IC*	n_{1max} / n_{2max} [min ⁻¹]	M_{1max} / M_{2max} [Nm]	A_{max} [mm]	L1 [mm]	α [°]	Order No.
Collet Chuck	ER16	1:0,879	✓	-	8.000 / 7.000	10 / 12	51,1	57	± 98	114FDX11439E3A
	ER16	1:0,879	✓	✓	8.000 / 7.000	10 / 12	56	57	± 98	114GDX11439E3A
	ER16	1:2	✓	-	4.000 / 8.000	16 / 8	50,6	46	± 105	114FK11438E3

*Internal Cooling $p_{max} = 50$ bar

TECHNICAL DATA



LENGTH (FSS/FS)

85

LENGTH (FSL)

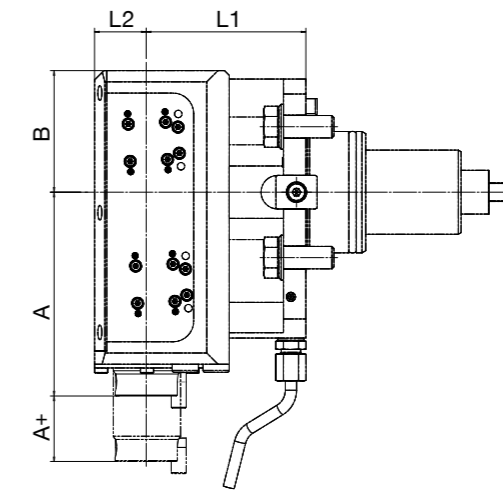
90

OUTPUT SPINDLES



similar to
Whistle Notch
16 mm

i Accessories page 72



Performance Data

Type	n_{max} [min ⁻¹]	$M1_{max}$ [Nm]	f_{max} [mm]	Groove width _{max} [mm]
FSS	1.200	20	0,15	8-10
FS	1.000	20	0,15	8-10
FSL	750	50	0,15	8-10

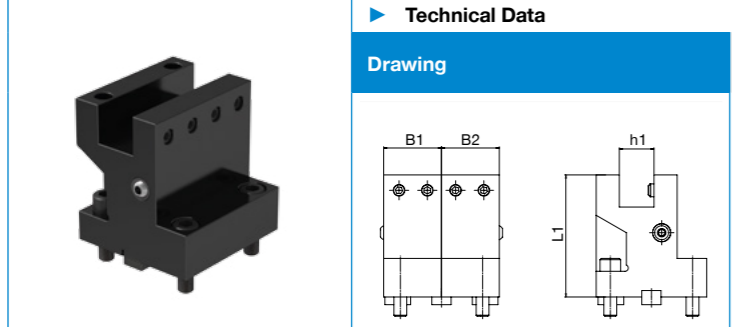
Technical Data

Type	Size	i	EC	IC	*Stroke	A [mm]	A+ [mm]	B [mm]	L1 [mm]	L2 [mm]	Order No.
FSS	16	1:1	✓	-	17	109	19	65	85	28	114FSS11449F8D-85
FS	16	1:1	✓	-	32	109	35	65	85	28	114FS11449F8D-85
FSL	16	1:1	✓	-	51	135	53	85	90	32	114FSL11449F8D-90

*Usable working stroke

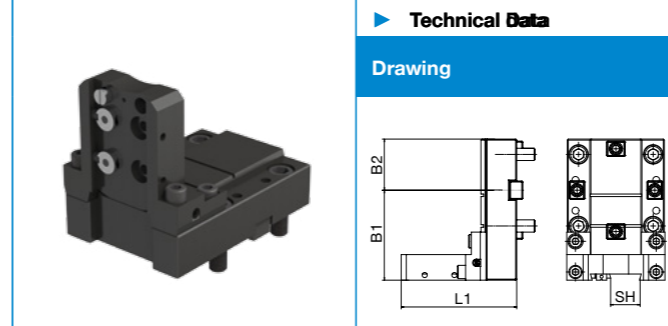
STATIC HOLDER - BMT 55

Face and ID Turning Tool - Single



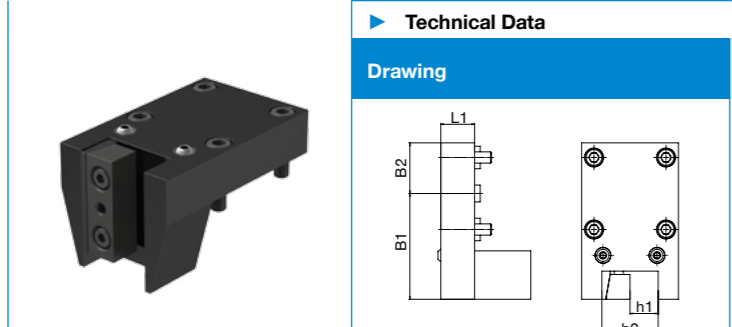
Technical Data						
Drawing	h1 [mm]	h2 [mm]	L1 [mm]	B1 [mm]	B2 [mm]	Order No.
	25	-	95	45	45	114A114559002

Cut-Off Holder



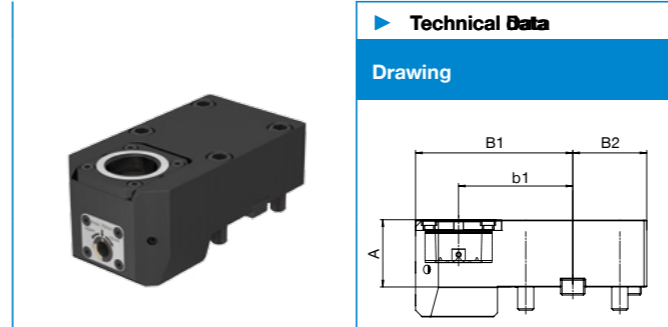
Technical Data					
Drawing	SH [mm]	L1 [mm]	B1 [mm]	B2 [mm]	Order No.
	32	93	79	45	114A114583001

O.D. Turning Tool - Single



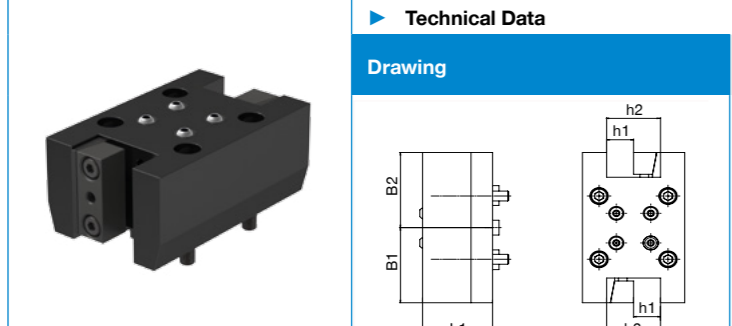
Technical Data						
Drawing	h1 [mm]	h2 [mm]	L1 [mm]	B1 [mm]	B2 [mm]	Order No.
	25	50	30/80	94	45	114A114560002

Axial Holder - Single | BENZ CAPTO™



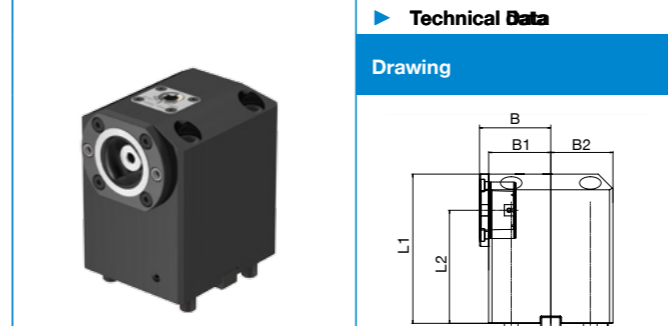
Technical Data						
Drawing	Size	A [mm]	b1 [mm]	B1 [mm]	B2 [mm]	Order No.
	C4	70	38	62	44	114AV114L4BDU-70
	C4	70	38	62	44	114AV114L4BDN-70

O.D. Turning Tool - Double



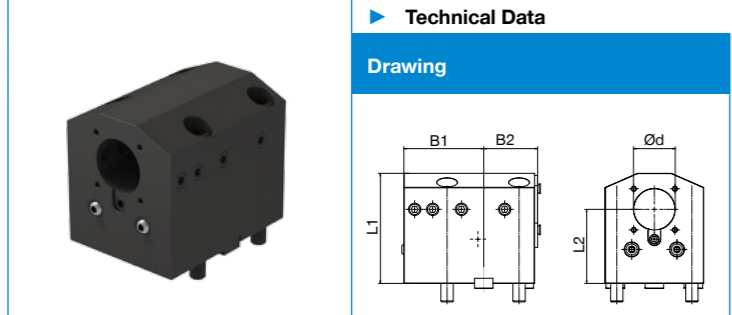
Technical Data						
Drawing	h1 [mm]	h2 [mm]	L1 [mm]	B1 [mm]	B2 [mm]	Order No.
	25	50	65	76	76	114A114567002

Radial Holder - Single | BENZ CAPTO™



Technical Data							
Drawing	Size	L1 [mm]	L2 [mm]	B [mm]	B1 [mm]	B2 [mm]	Order No.
	C4	94	70	76	70	44	114AP114L4BDU-70
	C4	94	70	76	70	44	114AP114L4BDN-70

Boring Bar Holder



Technical Data						
Drawing	Ød [mm]	L1 [mm]	L2 [mm]	B1 [mm]	B2 [mm]	Order No.
	40	100	70	58	51	114A114578002

LIVE TOOLS

	AXIAL	40		AXIAL, OFFSET	41
	RADIAL	42		RADIAL, RECESSED	44
	DOUBLE-SPINDLE	45		ADJUSTABLE	46
	BROACHING UNIT	47			

STATIC HOLDERS

	STANDARD	48		BENZ CAPTO™	49
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ACCESSORIES

	BENZ SOLIDFIX® ADAPTER	74		BENZ CAPTO™ ADAPTER	84
	COLLET CHUCKS	88		CLAMPING BRACKET BROACHING UNIT	96

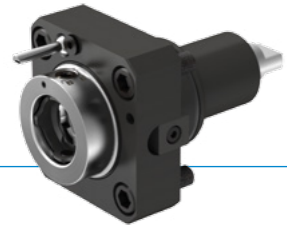
LIVE TOOL - BMT 65

AXIAL


LIVE TOOL - BMT 65

AXIAL, OFFSET


TECHNICAL DATA




OUTPUT SPINDLES



BENZ Solidfix®



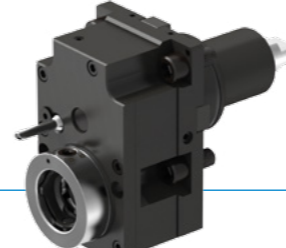
Collet Chuck System ER
DIN 6499




BENZ CAPTO™

i Other output spindles available upon request
i Accessories page 72


TECHNICAL DATA




OUTPUT SPINDLES



BENZ Solidfix®



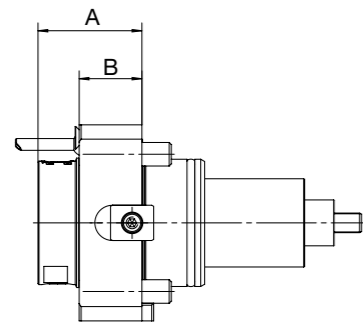
Collet Chuck System ER
DIN 6499



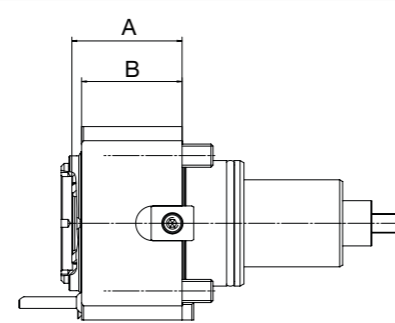
BENZ CAPTO™

i Other output spindles available upon request
i Accessories page 72

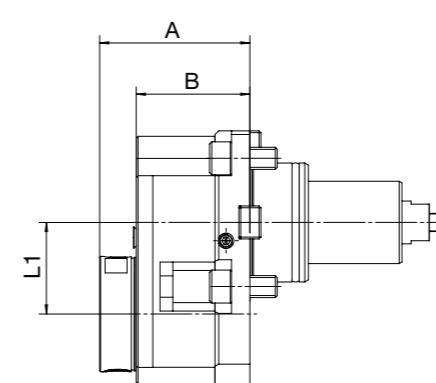
BENZ Solidfix®



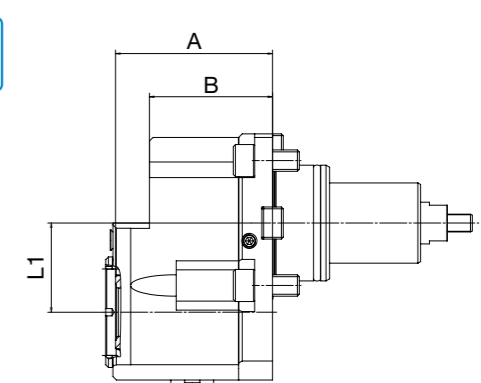
BENZ CAPTO™



BENZ Solidfix®



BENZ CAPTO™



Technical Data									
Output Spindle	Size	i	EC	IC*	n_{1max} / n_{2max} [min ⁻¹]	M_{1max} / M_{2max} [Nm]	A_{max} [mm]	B [mm]	Order No.
BENZ Solidfix®	S4	1:1	✓	-	6.000 / 6.000	70 / 70	53	32	114DA12700S4
	S4	1:1	✓	✓	6.000 / 6.000	70 / 70	53	32	114EA12700S4
Collet Chuck	ER32	1:1	✓	-	6.000 / 6.000	70 / 70	45,1	32	114DA12700E6A
	ER32	1:1	✓	✓	6.000 / 6.000	70 / 70	50,2	32	114EA12700E6A
BENZ CAPTO™	C4	1:1	✓	-	6.000 / 6.000	70 / 70	57	52	114DA12700L4BD
	C4	1:1	✓	✓	6.000 / 6.000	70 / 70	57	52	114EA12700L4BD

*Internal Cooling $p_{max} = 50$ bar

Technical Data										
Output Spindle	Size	i	EC	IC*	n_{1max} / n_{2max} [min ⁻¹]	M_{1max} / M_{2max} [Nm]	A_{max} [mm]	B [mm]	L1 [mm]	Order No.
BENZ Solidfix®	S4	1:1	✓	-	6.000 / 6.000	50 / 50	82	62	50	114DM12781S4D
	S4	1:1	✓	✓	6.000 / 6.000	50 / 50	97	77	50	114EM12781S4D
	S3	1:2	✓	-	4.500 / 9.000	50 / 25	81	62	50	114DI12781S3D
	S3	1:2	✓	✓	4.500 / 9.000	50 / 25	96	77	50	114EI12781S3D
Collet Chuck	ER32	1:1	✓	-	6.000 / 6.000	50 / 50	82,1	62	50	114DM12781E6AD
	ER32	1:1	✓	✓	6.000 / 6.000	50 / 50	102,2	77	50	114EM12781E6AD
	ER25	1:2	✓	-	4.500 / 9.000	50 / 25	75,9	62	50	114DI12781E5AD
	ER25	1:2	✓	✓	4.500 / 9.000	50 / 25	95,9	77	50	114EI12781E5AD
BENZ CAPTO™	C4	1:1	✓	-	6.000 / 6.000	50 / 50	88	69	50	114DM12781L4BD
	C4	1:1	✓	✓	6.000 / 6.000	50 / 50	103	84	50	114EM12781L4BD
	C3	1:2	✓	-	4.500 / 9.000	50 / 25	81,5	69	50	114DI12781L3BD
	C3	1:2	✓	✓	4.500 / 9.000	50 / 25	96,5	84	50	114EI12781L3BD

*Internal Cooling $p_{max} = 100$ bar

LIVE TOOL - BMT 65

RADIAL

TECHNICAL DATA



LENGTH

72 85 100

OUTPUT SPINDLES



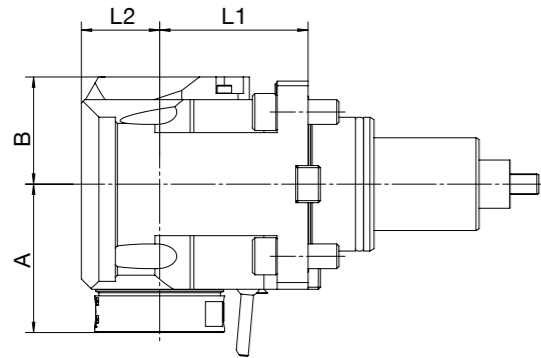
BENZ Solidfix®
Collet Chuck System ER DIN 6499
BENZ CAPTO™

i Other output spindles available upon request

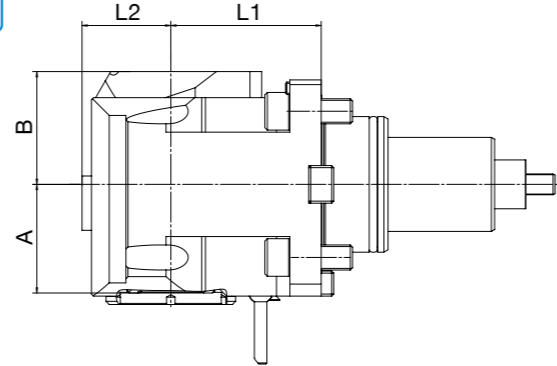
i Accessories page 72



BENZ Solidfix®



BENZ CAPTO™



Technical Data

Output Spindle	Size	i	EC	IC*	n_{1max} / n_{2max} [min ⁻¹]	M_{1max} / M_{2max} [Nm]	A_{max} [mm]	B [mm]	L1 [mm]	L2 [mm]	Order No.
Collet Chuck	ER32	1:1	✓	-	6.000 / 6.000	70 / 70	69,1	52	72	38	114FAX12749E6AD-72
	ER32	1:1	✓	-	6.000 / 6.000	70 / 70	69,1	52	85	38	114FAX12749E6AD-85
	ER32	1:1	✓	-	6.000 / 6.000	70 / 70	69,1	52	100	38	114FAX12749E6AD-100
	ER32	1:1	✓	✓	6.000 / 6.000	70 / 70	74,2	60	72	38	114GAX12749E6AD-72
	ER32	1:1	✓	✓	6.000 / 6.000	70 / 70	74,2	60	85	38	114GAX12749E6AD-85
	ER32	1:1	✓	✓	6.000 / 6.000	70 / 70	74,2	60	100	38	114GAX12749E6AD-100
	ER25	1:2	✓	-	5.000 / 10.000	40 / 20	78,9	52	72	38	114FWX12749E5AD-72
	ER25	1:2	✓	-	5.000 / 10.000	40 / 20	78,9	52	85	38	114FWX12749E5AD-85
	ER25	1:2	✓	-	5.000 / 10.000	40 / 20	78,9	52	100	38	114FWX12749E5AD-100
	ER25	1:2	✓	✓	5.000 / 10.000	40 / 20	83,9	60	72	38	114GWX12749E5AD-72
	ER25	1:2	✓	✓	5.000 / 10.000	40 / 20	83,9	60	85	38	114GWX12749E5AD-85
	ER25	1:2	✓	✓	5.000 / 10.000	40 / 20	83,9	60	100	38	114GWX12749E5AD-100
BENZ CAPTO™	C4	1:1	✓	-	6.000 / 6.000	70 / 70	52	54	72	42,5	114FAX12749L4BD-72
	C4	1:1	✓	-	6.000 / 6.000	70 / 70	52	54	85	42,5	114FAX12749L4BD-85
	C4	1:1	✓	-	6.000 / 6.000	70 / 70	52	54	100	42,5	114FAX12749L4BD-100
	C4	1:1	✓	✓	6.000 / 6.000	70 / 70	52	60,5	72	42,5	114GAX12749L4BD-72
	C4	1:1	✓	✓	6.000 / 6.000	70 / 70	52	60,5	85	42,5	114GAX12749L4BD-85
	C4	1:1	✓	✓	6.000 / 6.000	70 / 70	52	60,5	100	42,5	114GAX12749L4BD-100

*Internal Cooling $p_{max} = 100$ bar

Technical Data

Output Spindle	Size	i	EC	IC*	n_{1max} / n_{2max} [min ⁻¹]	M_{1max} / M_{2max} [Nm]	A_{max} [mm]	B [mm]	L1 [mm]	L2 [mm]	Order No.
BENZ Solidfix®	S4	1:1	✓	-	6.000 / 6.000	70 / 70	72	52	72	38	114FAX12749S4D-72
	S4	1:1	✓	-	6.000 / 6.000	70 / 70	72	52	85	38	114FAX12749S4D-85
	S4	1:1	✓	-	6.000 / 6.000	70 / 70	72	52	100	38	114FAX12749S4D-100
	S4	1:1	✓	✓	6.000 / 6.000	70 / 70	72	60	72	38	114GAX12749S4D-72
	S4	1:1	✓	✓	6.000 / 6.000	70 / 70	72	60	85	38	114GAX12749S4D-85
	S4	1:1	✓	✓	6.000 / 6.000	70 / 70	72	60	100	38	114GAX12749S4D-100
	S3	1:2	✓	-	5.000 / 10.000	40 / 20	79	52	72	38	114FWX12749S3D-72
	S3	1:2	✓	-	5.000 / 10.000	40 / 20	79	52	85	38	114FWX12749S3D-85
	S3	1:2	✓	-	5.000 / 10.000	40 / 20	79	52	100	38	114FWX12749S3D-100
	S3	1:2	✓	✓	5.000 / 10.000	40 / 20	79	60	72	38	114GWX12749S3D-72
	S3	1:2	✓	✓	5.000 / 10.000	40 / 20	79	60	85	38	114GWX12749S3D-85
	S3	1:2	✓	✓	5.000 / 10.000	40 / 20	79	60	100	38	114GWX12749S3D-100

*Internal Cooling $p_{max} = 100$ bar

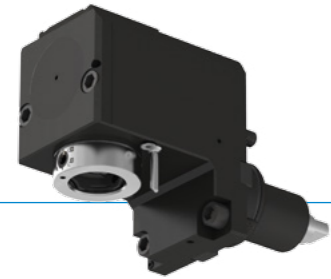
LIVE TOOL - BMT 65

RADIAL, RECESSED

LIVE TOOL - BMT 65

DOUBLE-SPINDLE

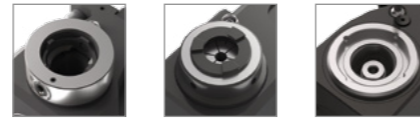
TECHNICAL DATA



LENGTH

72 85 100

OUTPUT SPINDLES



BENZ Solidfix®
Collet Chuck System ER DIN 6499
BENZ CAPTO™



i Other output spindles available upon request

i Accessories page 72

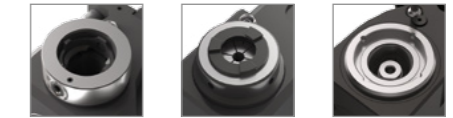
TECHNICAL DATA



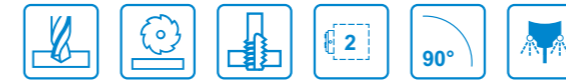
LENGTH

72 85 100

OUTPUT SPINDLES



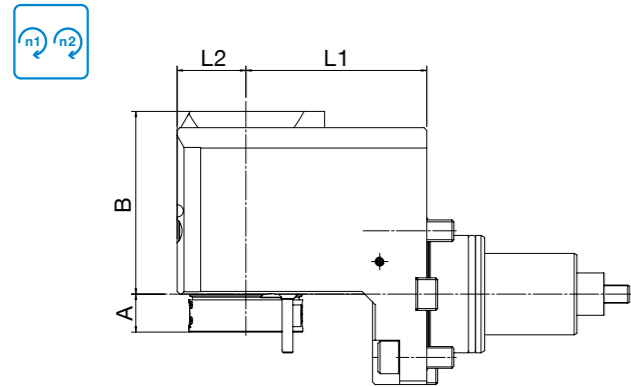
BENZ Solidfix®
Collet Chuck System ER DIN 6499
BENZ CAPTO™



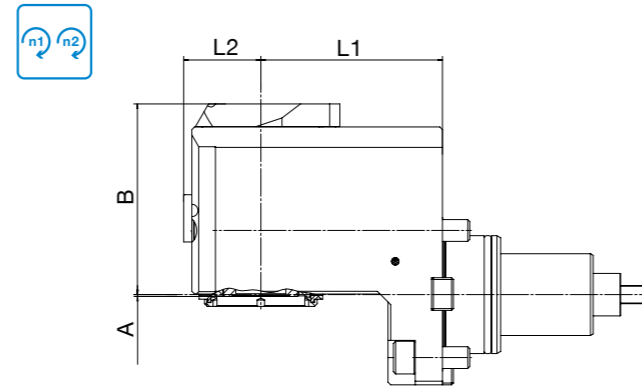
i Other output spindles available upon request

i Accessories page 72

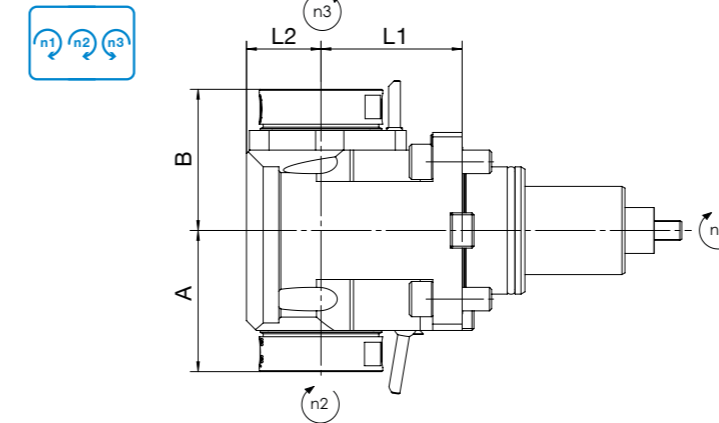
BENZ Solidfix®



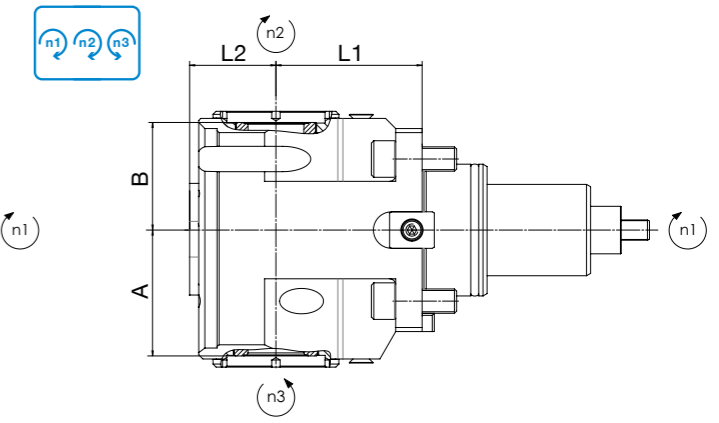
BENZ CAPTO™



BENZ Solidfix®



BENZ CAPTO™



Technical Data

Output Spindle	Size	i	EC	IC*	n_{1max} / n_{2max} [min ⁻¹]	M_{1max} / M_{2max} [Nm]	A_{max} [mm]	B [mm]	L1 [mm]	L2 [mm]	Order No.
BENZ Solidfix®	S4	1:1	✓	-	6.000 / 6.000	70 / 70	21	101	72	38	114FBX12749S4D-72
	S4	1:1	✓	-	6.000 / 6.000	70 / 70	21	101	85	38	114FBX12749S4D-85
	S4	1:1	✓	-	6.000 / 6.000	70 / 70	21	101	100	38	114FBX12749S4D-100
	S4	1:1	✓	✓	6.000 / 6.000	70 / 70	21	111	72	38	114GBX12749S4D-72
	S4	1:1	✓	✓	6.000 / 6.000	70 / 70	21	111	85	38	114GBX12749S4D-85
	S4	1:1	✓	✓	6.000 / 6.000	70 / 70	21	111	100	38	114GBX12749S4D-100
Collet Chuck	ER32	1:1	✓	-	6.000 / 6.000	70 / 70	18,1	101	72	38	114FBX12749E6AD-72
	ER32	1:1	✓	-	6.000 / 6.000	70 / 70	18,1	101	85	38	114FBX12749E6AD-85
	ER32	1:1	✓	-	6.000 / 6.000	70 / 70	18,1	101	100	38	114FBX12749E6AD-100
	ER32	1:1	✓	✓	6.000 / 6.000	70 / 70	23,2	111	72	38	114GBX12749E6AD-72
	ER32	1:1	✓	✓	6.000 / 6.000	70 / 70	23,2	111	85	38	114GBX12749E6AD-85
	ER32	1:1	✓	✓	6.000 / 6.000	70 / 70	23,2	111	100	38	114GBX12749E6AD-100
BENZ CAPTO™	C4	1:1	✓	-	6.000 / 6.000	70 / 70	1	105	72	42,5	114FBX12749L4BD-72
	C4	1:1	✓	-	6.000 / 6.000	70 / 70	1	105	85	42,5	114FBX12749L4BD-85
	C4	1:1	✓	-	6.000 / 6.000	70 / 70	1	105	100	42,5	114FBX12749L4BD-100
	C4	1:1	✓	✓	6.000 / 6.000	70 / 70	1	111,5	72	42,5	114GBX12749L4BD-72
	C4	1:1	✓	✓	6.000 / 6.000	70 / 70	1	111,5	85	42,5	114GBX12749L4BD-85
	C4	1:1	✓	✓	6.000 / 6.000	70 / 70	1	111,5	100	42,5	114GBX12749L4BD-100

*Internal Cooling $p_{max} = 100$ bar

Technical Data

Output Spindle	Size	i	EC	IC	n_{1max} / n_{2max} [min ⁻¹]	M_{1max} / M_{2max} [Nm]	A_{max} [mm]	B [mm]	L1 [mm]	L2 [mm]	Order No.
BENZ Solidfix®	S4	1:1	✓	-	6.000 / 6.000	70 / 70	72	72	72	38	114FAX12749S42-72
	S4	1:1	✓	-	6.000 / 6.000	70 / 70	72	72	85	38	114FAX12749S42-85
	S4	1:1	✓	-	6.000 / 6.000	70 / 70	72	72	100	38	114FAX12749S42-100
	S4	1:1	✓	-	6.000 / 6.000	70 / 70	72	72	100	38	114FAX12749S42-100
Collet Chuck	ER32	1:1	✓	-	6.000 / 6.000	70 / 70	69,1	69,1	72	38	114FAX12749E6A2-72
	ER32	1:1	✓	-	6.000 / 6.000	70 / 70	69,1	69,1	85	38	114FAX12749E6A2-85
	ER32	1:1	✓	-	6.000 / 6.000	70 / 70	69,1	69,1	100	38	114FAX12749E6A2-100
BENZ CAPTO™	C4	1:1	✓	-	6.000 / 6.000	70 / 70	62	53	72	42,5	114FAX12749L4BD2-72
	C4	1:1	✓	-	6.000 / 6.000	70 / 70	62	53	85	42,5	114FAX12749L4BD2-85
	C4	1:1	✓	-	6.000 / 6.000	70 / 70	62	53	100	42,5	114FAX12749L4BD2-100

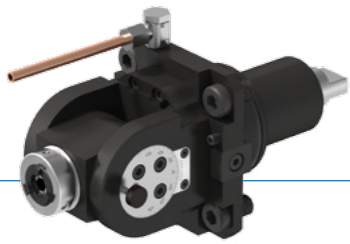
LIVE TOOL - BMT 65

ADJUSTABLE

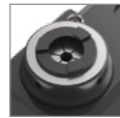
LIVE TOOL - BMT 65

BROACHING UNIT BENZ LINA

TECHNICAL DATA



OUTPUT SPINDLE

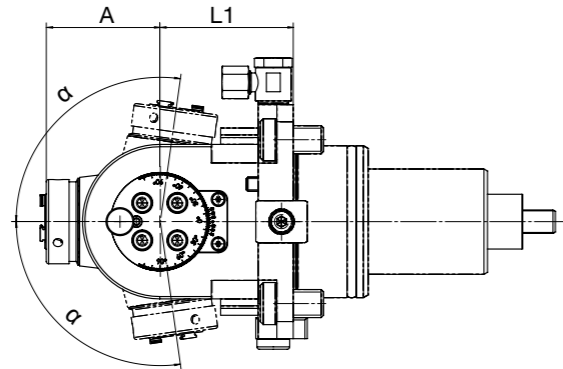


Collet Chuck System ER DIN 6499

i Other output spindles available upon request

i Accessories page 72

Collet Chuck

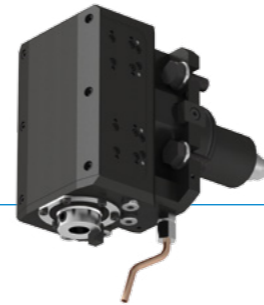


Technical Data

Output Spindle	Size	i	EC	IC	n_{1max} / n_{2max} [min ⁻¹]	M_{1max} / M_{2max} [Nm]	A_{max} [mm]	L1 [mm]	α [°]	Order No.
Collet Chuck	ER16	1:0,879	✓	-	8.000 / 7.000	10 / 12	51,1	57	± 98	114FDX12739E3A
	ER16	1:0,879	✓	✓	8.000 / 7.000	10 / 12	56	57	± 98	114GDX12739E3A
	ER16	1:2	✓	-	4.000 / 8.000	16 / 8	50,6	46	± 105	114FK12738E3

*Internal Cooling $p_{max} = 50$ bar

TECHNICAL DATA



LENGTH (FSS/FS)

72 85 100

LENGTH (FSL)

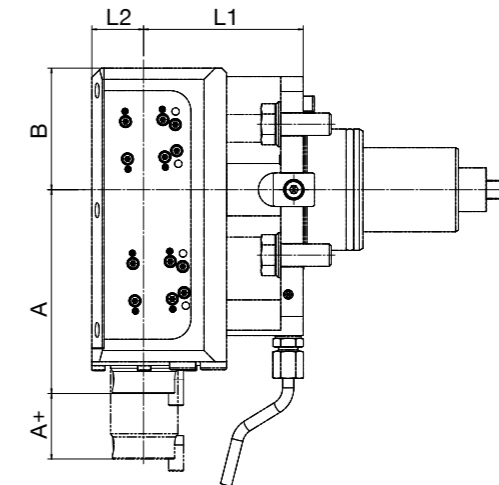
77 90 105

OUTPUT SPINDLE



similar to Whistle Notch 16 mm

i Accessories page 72



Performance Data

Type	n_{max} [min ⁻¹]	M_{1max} [Nm]	f_{max} [mm]	Groove width _{max} [mm]
FSS	1.200	20	0,15	8-10
FS	1.000	20	0,15	8-10
FSL	750	50	0,15	8-10


Technical Data

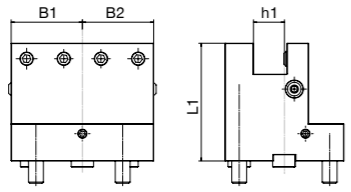
Type	Size	i	EC	IC	*Stroke	A [mm]	A+ [mm]	B [mm]	L2 [mm]	L1 [mm]	L [mm]	Order No.
FSS	16	1:1	✓	-	17	109	19	65	28	72	100	114FSS12749F8D-72
	16	1:1	✓	-	17	109	19	65	28	85	113	114FSS12749F8D-85
	16	1:1	✓	-	17	109	19	65	28	100	128	114FSS12749F8D-100
FS	16	1:1	✓	-	32	109	35	65	28	72	100	114FS12749F8D-72
	16	1:1	✓	-	32	109	35	65	28	85	113	114FS12749F8D-85
	16	1:1	✓	-	32	109	35	65	28	100	128	114FS12749F8D-100
FSL	16	1:1	✓	-	51	135	53	85	32	77	109	114FSL12749F8D-77
	16	1:1	✓	-	51	135	53	85	32	90	122	114FSL12749F8D-90
	16	1:1	✓	-	51	135	53	85	32	105	137	114FSL12749F8D-105

*Usable working stroke


STATIC HOLDER - BMT 65

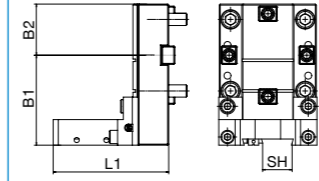
Face and ID Turning Tool - Single



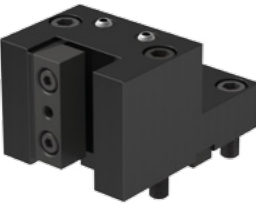
Technical Data						
Drawing	h1 [mm]	h2 [mm]	L1 [mm]	B1 [mm]	B2 [mm]	Order no.
	25	-	95	57,5	57,5	114A127559001

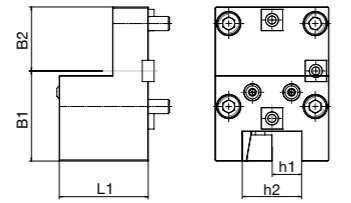
Cut-Off Holder




Technical Data					
Drawing	SH [mm]	L1 [mm]	B1 [mm]	B2 [mm]	Order No.
	32	113	88	50	114A127583001

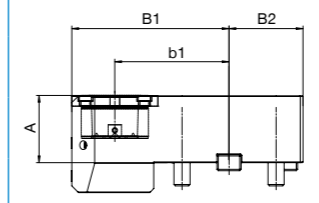
O.D. Turning Tool - Single




Technical Data						
Drawing	h1 [mm]	h2 [mm]	L1 [mm]	B1 [mm]	B2 [mm]	Order No.
	25	50	75	76	54	114A127560001

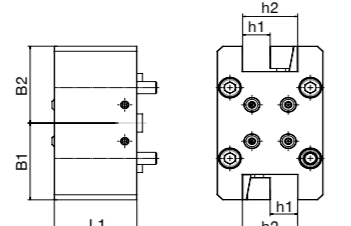
Axial Holder - Single | BENZ CAPTO™



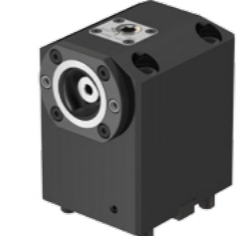
Technical Data						
Drawing	Size	A [mm]	b1 [mm]	B1 [mm]	B2 [mm]	Order No.
	C4	60	71	95	47	114AV127L4BDU-60
	C4	60	71	95	47	114AV127L4BDN-60
	C5	50	88	120	47	114AV127L5BDU-50
	C5	50	88	120	47	114AV127L5BDN-50

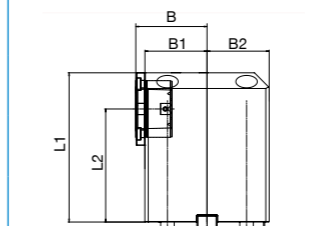
O.D. Turning Tool - Double




Technical Data						
Drawing	h1 [mm]	h2 [mm]	L1 [mm]	B1 [mm]	B2 [mm]	Order No.
	25	50	75	76	76	114A127567001

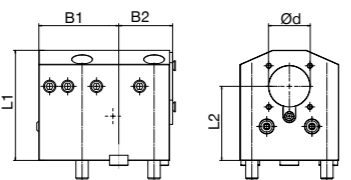
Radial Holder - Single | BENZ CAPTO™







Technical Data							
Drawing	Size	L1 [mm]	L2 [mm]	B [mm]	B1 [mm]	B2 [mm]	Order No.
	C4	124	100	70	53	47	114AP127L4BDU-100
	C4	124	100	70	53	47	114AP127L4BDN-100
	C5	132	100	70	53	47	114AP127L5BDU-100
	C5	132	100	70	53	47	114AP127L5BDN-100

Boring Bar Holder



Technical Data						
Drawing	Ød [mm]	L1 [mm]	L2 [mm]	B1 [mm]	B2 [mm]	Order No.
	40	107	72	68	62	114A127578001

LIVE TOOLS

	AXIAL	52		RADIAL	54
	ADJUSTABLE	56		BROACHING UNIT	57

STATIC HOLDERS

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ACCESSORIES

	BENZ SOLIDFIX® ADAPTER	74		BENZ CAPTO™ ADAPTER	84
	COLLET CHUCKS	88		CLAMPING BRACKET BROACHING UNIT	96

LIVE TOOL - BMT 75

AXIAL

TECHNICAL DATA



OUTPUT SPINDLES

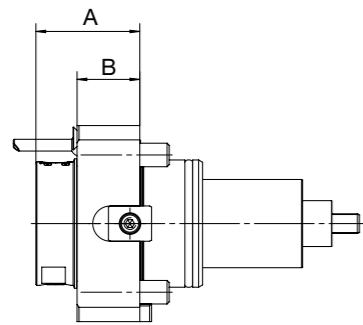


BENZ Solidfix® Collet Chuck System ER DIN 6499 BENZ CAPTO™

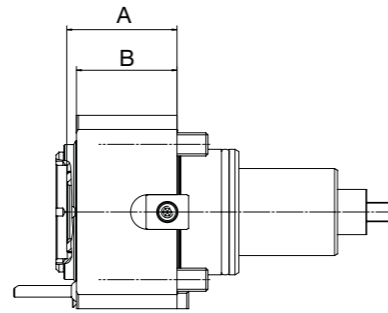
i Other output spindles available upon request

i Accessories page 72

BENZ Solidfix®

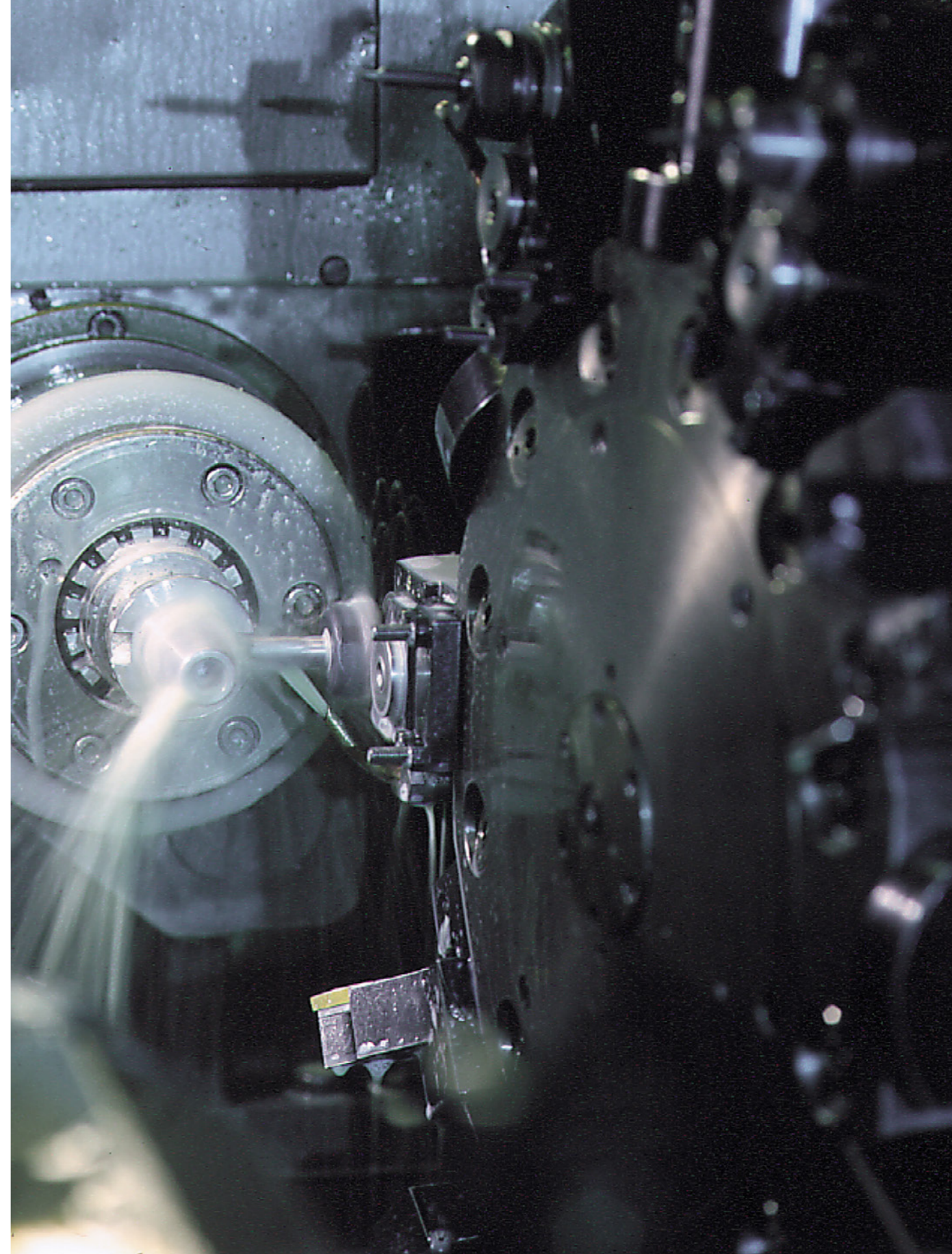


BENZ CAPTO™



Technical Data									
Output Spindle	Size	i	EC	IC*	n_{1max} / n_{2max} [min ⁻¹]	M_{1max} / M_{2max} [Nm]	A_{max} [mm]	B [mm]	Order No.
BENZ Solidfix®	S5	1:1	✓	-	4.500 / 4.500	100 / 100	77	41,5	115DA03300S5
	S5	1:1	✓	✓	4.500 / 4.500	100 / 100	77	41,5	115EA03300S5
Collet Chuck	ER40	1:1	✓	-	4.500 / 4.500	100 / 100	68	41,5	115DA03300E7A
	ER40	1:1	✓	✓	4.500 / 4.500	100 / 100	72,9	41,5	115EA03300E7A
BENZ CAPTO™	C5	1:1	✓	-	4.500 / 4.500	100 / 100	69	58	115DA03300L5BR
	C5	1:1	✓	✓	4.500 / 4.500	100 / 100	69	58	115EA03300L5BR

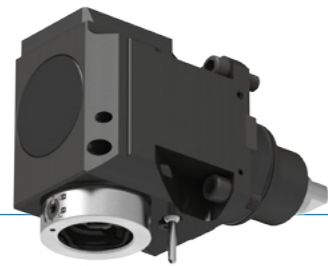
*Internal Cooling $p_{max} = 50$ bar



LIVE TOOL - BMT 75

RADIAL

TECHNICAL DATA



LENGTH

60

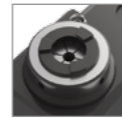
90



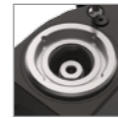
OUTPUT SPINDLES



BENZ Solidfix®



Collet Chuck System ER DIN 6499

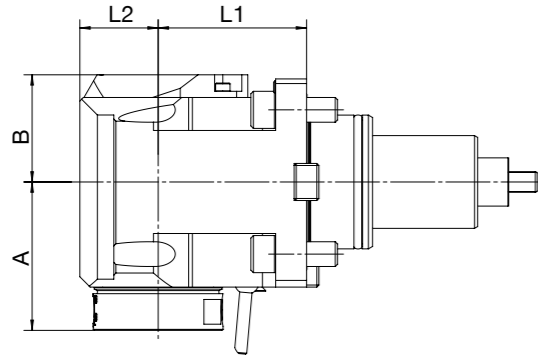


BENZ CAPTO™

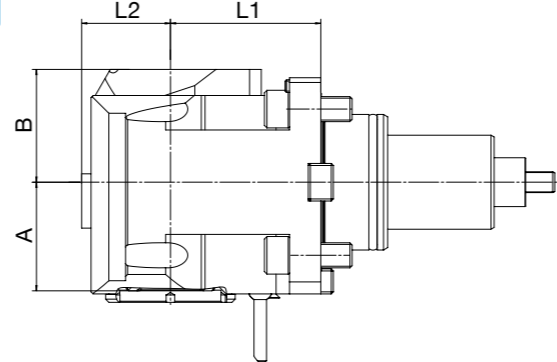
i Other output spindles available upon request

i Accessories page 72

BENZ Solidfix®



BENZ CAPTO™



Technical Data

Output Spindle	Size	i	EC	IC*	n_{1max} / n_{2max} [min ⁻¹]	M_{1max} / M_{2max} [Nm]	A_{max} [mm]	B [mm]	L1 [mm]	L2 [mm]	Order No.
Collet Chuck	ER40	1:1	✓	-	4.500 / 4.500	150 / 150	81,5	62	60	41	115FAX03359E7AD-60
	ER40	1:1	✓	-	4.500 / 4.500	150 / 150	81,5	62	90	41	115FAX03359E7AD-90
	ER40	1:1	✓	✓	4.500 / 4.500	150 / 150	86,4	68	60	41	115GAX03359E7AD-60
	ER40	1:1	✓	✓	4.500 / 4.500	150 / 150	86,4	68	90	41	115GAX03359E7AD-90
	ER40	2:1	✓	-	4.500 / 2.250	90 / 180	93	68,5	60	41	115FHH03359E7AD-60
	ER40	2:1	✓	-	4.500 / 2.250	90 / 180	93	68,5	90	41	115FHH03359E7AD-90
	ER40	2:1	✓	✓	4.500 / 2.250	90 / 180	97,9	75	60	41	115GHH03359E7AD-60
	ER40	2:1	✓	✓	4.500 / 2.250	90 / 180	97,9	75	90	41	115GHH03359E7AD-90
BENZ CAPTO™	C5	1:1	✓	-	4.500 / 4.500	150 / 150	60	61	60	50	115FAX03359L5BD-60
	C5	1:1	✓	-	4.500 / 4.500	150 / 150	60	61	90	50	115FAX03359L5BD-90
	C5	1:1	✓	✓	4.500 / 4.500	150 / 150	60	67,5	60	50	115GAX03359L5BD-60
	C5	1:1	✓	✓	4.500 / 4.500	150 / 150	60	67,5	90	50	115GAX03359L5BD-90

*Internal Cooling $p_{max} = 100$ bar

Technical Data

Output Spindle	Size	i	EC	IC*	n_{1max} / n_{2max} [min ⁻¹]	M_{1max} / M_{2max} [Nm]	A_{max} [mm]	B [mm]	L1 [mm]	L2 [mm]	Order No.
BENZ Solidfix®	S5	1:1	✓	-	4.500 / 4.500	150 / 150	86	62	60	41	115FAX03359S5D-60
	S5	1:1	✓	-	4.500 / 4.500	150 / 150	86	62	90	41	115FAX03359S5D-90
	S5	1:1	✓	✓	4.500 / 4.500	150 / 150	86	68	60	41	115GAX03359S5D-60
	S5	1:1	✓	✓	4.500 / 4.500	150 / 150	86	68	90	41	115GAX03359S5D-90
	S5	2:1	✓	-	4.500 / 2.250	90 / 180	92	68,5	60	41	115FHH03359S5D-60
	S5	2:1	✓	-	4.500 / 2.250	90 / 180	92	68,5	90	41	115FHH03359S5D-90
	S5	2:1	✓	✓	4.500 / 2.250	90 / 180	92	75	60	41	115GHH03359S5D-60
	S5	2:1	✓	✓	4.500 / 2.250	90 / 180	92	75	90	41	115GHH03359S5D-90

*Internal Cooling $p_{max} = 100$ bar

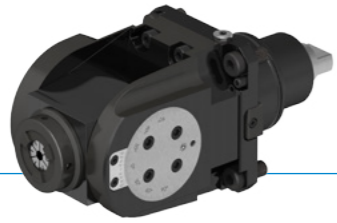
LIVE TOOL - BMT 75

ADJUSTABLE

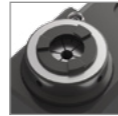
LIVE TOOL - BMT 75

BROACHING UNIT BENZ LINA

TECHNICAL DATA



OUTPUT SPINDLE

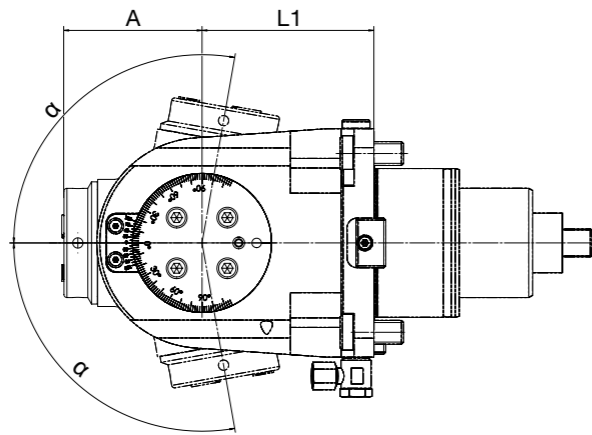


Collet Chuck
System ER
DIN 6499

i Other output spindles available upon request

i Accessories page 72

Collet Chuck

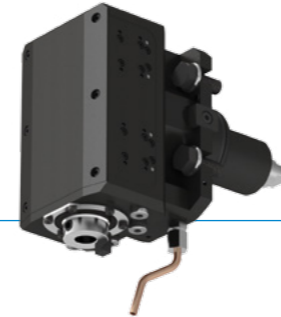


Technical Data

Output Spindle	Size	i	EC	IC*	n_{1max}/n_{2max} [min ⁻¹]	M_{1max}/M_{2max} [Nm]	A_{max} [mm]	L1 [mm]	α [°]	Order No.
Collet Chuck	ER32	1:0,816	✓	-	4.500 / 3.700	57 / 70	70,6	86,5	100	115FDX03359E6A
	ER32	1:0,816	✓	✓	4.500 / 3.700	57 / 70	75,7	86,5	100	115GDX03359E6A

*Internal Cooling $p_{max} = 100$ bar

TECHNICAL DATA



LENGTH (FSS/FS)

90

LENGTH (FSL)

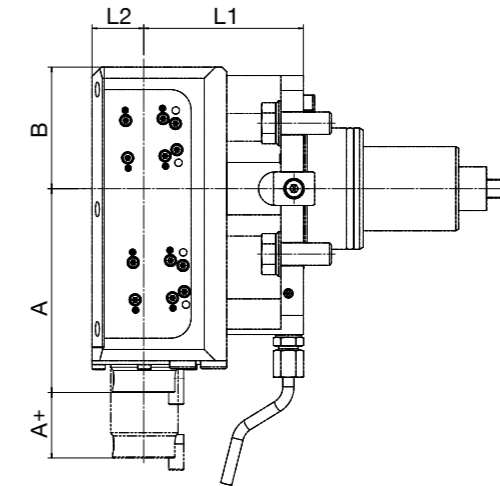
95

OUTPUT SPINDLE



similar to
Whistle Notch
16 mm

i Accessories page 72



Performance Data

Type	n_{max} [min ⁻¹]	$M1_{max}$ [Nm]	f_{max} [mm]	Groove width _{max} [mm]
FSS	1.200	20	0,15	8-10
FS	1.000	20	0,15	8-10
FSL	750	50	0,15	8-10

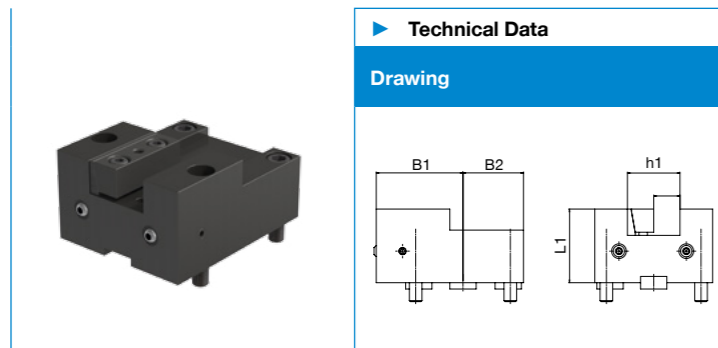
Technical Data

Type	Size	i	EC	IC	*Stroke	A [mm]	A+ [mm]	B [mm]	L1 [mm]	L2 [mm]	Order No.
FSS	16	1:1	✓	-	17	109	19	65	90	28	115FSS03349F8D-90
FS	16	1:1	✓	-	32	109	35	65	90	28	115FS03349F8D-90
FSL	16	1:1	✓	-	51	135	53	85	95	32	115FSL03349F8D-95

*Usable working stroke

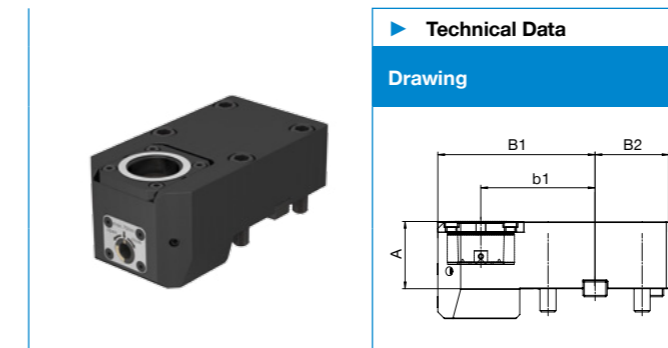
STATIC HOLDER - BMT 75

Face and ID Turning Tool - Single



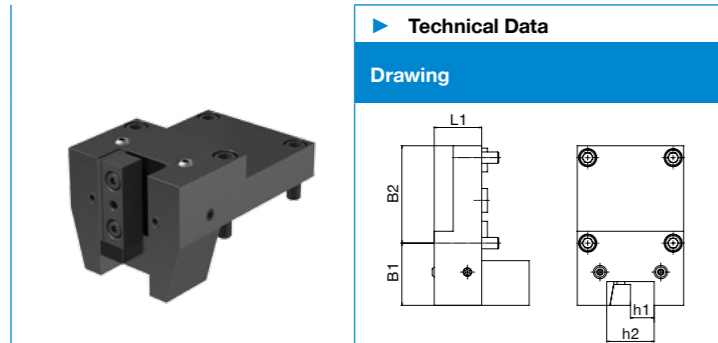
Technical Data						
Drawing	h1 [mm]	h2 [mm]	L1 [mm]	B1 [mm]	B2 [mm]	Order No.
	25	50	70	82,5	57,5	115A033559001

Axial Holder - Single | BENZ CAPTO™



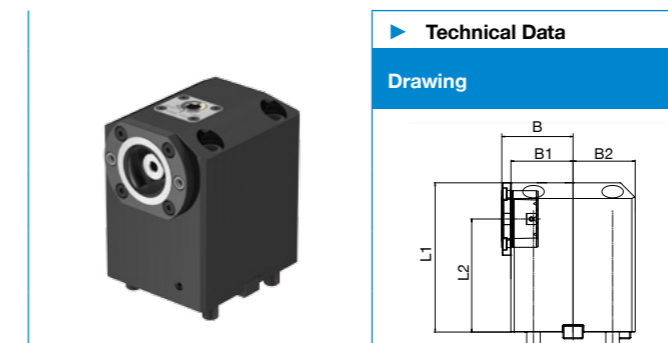
Technical Data						
Drawing	Size	A [mm]	b1 [mm]	B1 [mm]	B2 [mm]	Order No.
	C5	40	92,5	124,5	57,5	115AV033L5BRU-40
	C5	40	92,5	124,5	57,5	115AV033L5BRN-40

O.D. Turning Tool - Single



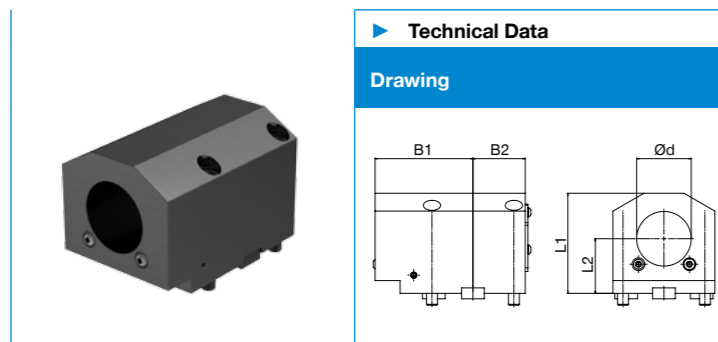
Technical Data						
Drawing	h1 [mm]	h2 [mm]	L1 [mm]	B1 [mm]	B2 [mm]	Order No.
	25	50	50/100	110,5	57,5	115A033560001

Radial Holder - Single | BENZ CAPTO™



Technical Data							
Drawing	Size	L1 [mm]	L2 [mm]	B [mm]	B1 [mm]	B2 [mm]	Order No.
	C5	92	60	92,5	84,5	57,5	115AP033L5BRU-60
	C5	92	60	92,5	84,5	57,5	115AP033L5BRN-60
	C6	102	60	92,5	83,5	57,5	115AP033L6BRU-60
	C6	102	60	92,5	83,5	57,5	115AP033L6BRN-60

Boring Bar Holder







Technical Data						
Drawing	Ød [mm]	L1 [mm]	L2 [mm]	B1 [mm]	B2 [mm]	Order No.
	60	110	60	107,5	60,5	115A033578001

LIVE TOOLS - BMT 85

DOOSAN MACHINES





LIVE TOOLS

	AXIAL	62		RADIAL	64
	ADJUSTABLE	66		BROACHING UNIT	67

STATIC HOLDERS

	STANDARD	68		BENZ CAPTO™	69
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ACCESSORIES

	ADAPTER BENZ SOLIDFIX®	74		ADAPTER BENZ CAPTO™	84
	COLLET CHUCKS	88		CLAMPING BRACKET BROACHING UNIT	96

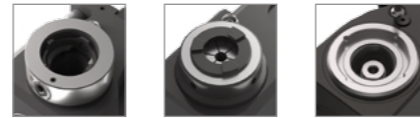
LIVE TOOL - BMT 85

AXIAL

TECHNICAL DATA



OUTPUT SPINDLES

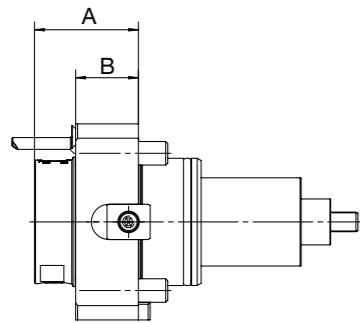


BENZ Solidfix® Collet Chuck System ER BENZ CAPTO™
DIN 6499

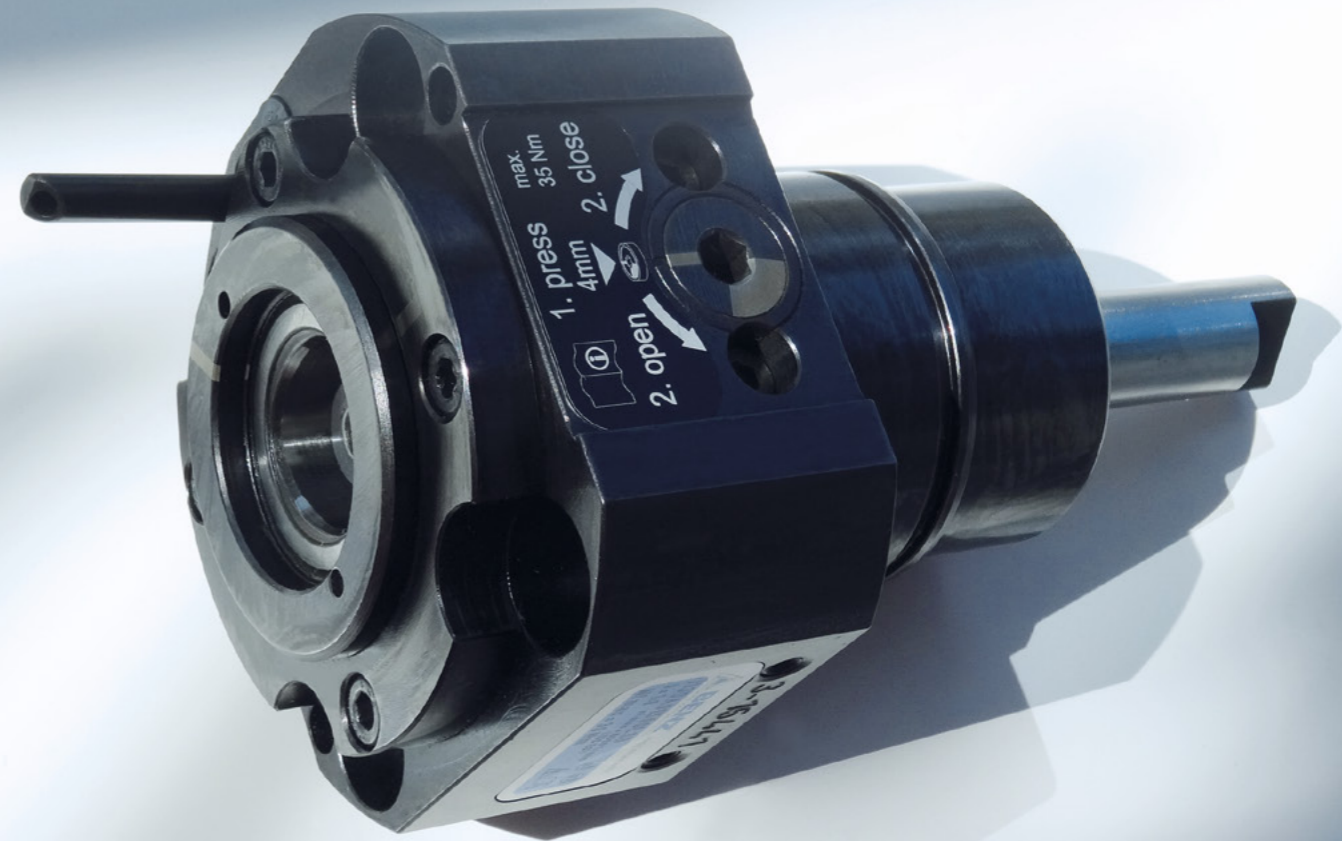
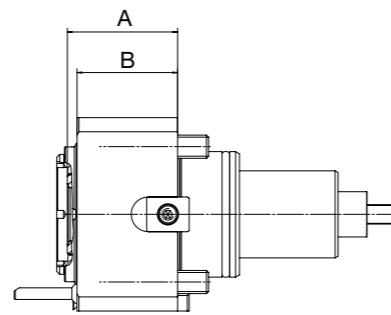
i Other output spindles available upon request

i Accessories page 72

BENZ Solidfix®



BENZ CAPTO™



Technical Data

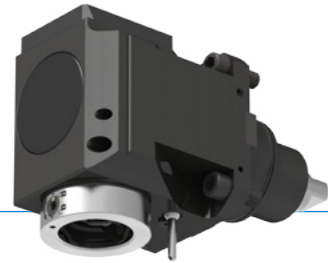
Output Spindle	Size	i	EC	IC*	n_{1max} / n_{2max} [min ⁻¹]	M_{1max} / M_{2max} [Nm]	A _{max} [mm]	B [mm]	Order No.
BENZ Solidfix®	S5	1:1	✓	-	4.500 / 4.500	150 / 150	82	46,5	116DA01800S5
	S5	1:1	✓	✓	4.500 / 4.500	150 / 150	82	46,5	116EA01800S5
Collet Chuck	ER40	1:1	✓	-	4.500 / 4.500	150 / 150	71,5	46,5	116DA01800E7A
	ER40	1:1	✓	✓	4.500 / 4.500	150 / 150	76,4	46,5	116EA01800E7A
	ER50	1:1	✓	-	4.500 / 4.500	150 / 150	92,5	46,5	116DA01800E8A**
	ER50	1:1	✓	✓	4.500 / 4.500	150 / 150	101,5	46,5	116EA01800E8A**
BENZ CAPTO™	C5	1:1	✓	-	4.500 / 4.500	150 / 150	69	58	116DA01800L5BR
	C5	1:1	✓	✓	4.500 / 4.500	150 / 150	69	58	116EA01800L5BR
	C6	1:1	✓	-	4.500 / 4.500	150 / 150	86	75	116DA01800L6BR
	C6	1:1	✓	✓	4.500 / 4.500	150 / 150	86	75	116EA01800L6BR

*Internal Cooling p_{max} = 50 bar

**Clamping Nut Zollmann

LIVE TOOL - BMT 85 RADIAL

TECHNICAL DATA



LENGTH

85 110



OUTPUT SPINDLES



BENZ Solidfix®
Collet Chuck System ER DIN 6499
BENZ CAPTO™

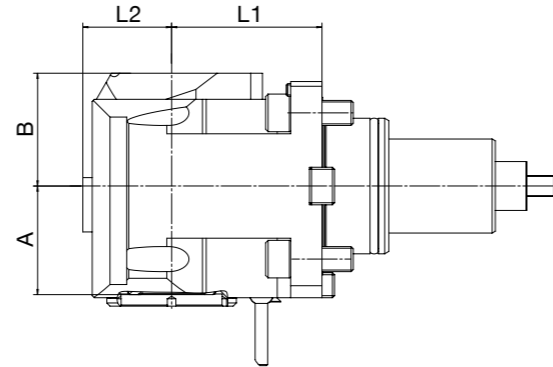
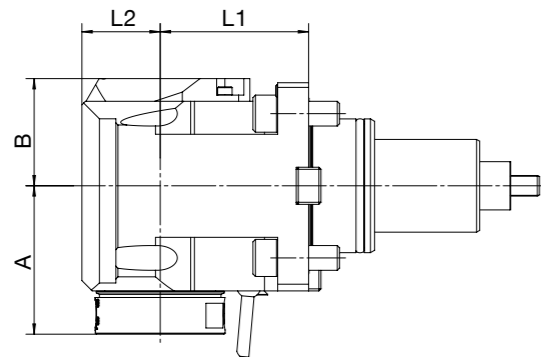
i Other output spindles available upon request

i Accessories page 72

BENZ Solidfix®



BENZ CAPTO™



Technical Data

Output Spindle	Size	i	EC	IC*	n_{1max} / n_{2max} [min ⁻¹]	M_{1max} / M_{2max} [Nm]	A_{max} [mm]	B [mm]	L1 [mm]	L2 [mm]	Order No.
Collet Chuck	ER40	1:1	✓	-	4.500 / 4.500	150 / 150	81,5	62	85	41	116FAX01859E7AD-85
	ER40	1:1	✓	-	4.500 / 4.500	150 / 150	81,5	62	110	41	116FAX01859E7AD-110
	ER40	1:1	✓	✓	4.500 / 4.500	150 / 150	86,4	68	85	41	116GAX01859E7AD-85
	ER40	1:1	✓	✓	4.500 / 4.500	150 / 150	86,4	68	110	41	116GAX01859E7AD-110
	ER50	1:1	✓	-	3.000 / 3.000	210 / 210	121,5	81	85	56	116FAX01869E8AD-85**
	ER50	1:1	✓	-	3.000 / 3.000	210 / 210	121,5	81	110	56	116FAX01869E8AD-110**
	ER50	1:1	✓	✓	3.000 / 3.000	210 / 210	130,5	88	85	56	116GAX01869E8AD-85**
	ER50	1:1	✓	✓	3.000 / 3.000	210 / 210	130,5	88	110	56	116GAX01869E8AD-110**
BENZ CAPTO™	C5	1:1	✓	-	4.500 / 4.500	150 / 150	60	61	85	50	116FAX01859L5BD-85
	C5	1:1	✓	-	4.500 / 4.500	150 / 150	60	61	110	50	116FAX01859L5BD-110
	C5	1:1	✓	✓	4.500 / 4.500	150 / 150	60	67,5	85	50	116GAX01859L5BD-85
	C5	1:1	✓	✓	4.500 / 4.500	150 / 150	60	67,5	110	50	116GAX01859L5BD-110
	C6	1:1	✓	-	3.000 / 3.000	210 / 210	81	81	85	58	116FAX01869L6BD-85
	C6	1:1	✓	-	3.000 / 3.000	210 / 210	81	81	110	58	116FAX01869L6BD-110
	C6	1:1	✓	✓	3.000 / 3.000	210 / 210	81	88	85	58	116GAX01869L6BD-85
	C6	1:1	✓	✓	3.000 / 3.000	210 / 210	81	88	110	58	116GAX01869L6BD-110

*Internal Cooling $p_{max} = 100$ bar

**Clamping Nut Zollmann

Technical Data

Output Spindle	Size	i	EC	IC*	n_{1max} / n_{2max} [min ⁻¹]	M_{1max} / M_{2max} [Nm]	A_{max} [mm]	B [mm]	L1 [mm]	L2 [mm]	Order No.
BENZ Solidfix®	S5	1:1	✓	-	4.500 / 4.500	150 / 150	86	62	85	41	116FAX01859S5D-85
	S5	1:1	✓	-	4.500 / 4.500	150 / 150	86	62	110	41	116FAX01859S5D-110
	S5	1:1	✓	✓	4.500 / 4.500	150 / 150	86	68	85	41	116GAX01859S5D-85
	S5	1:1	✓	✓	4.500 / 4.500	150 / 150	86	68	110	41	116GAX01859S5D-110
	S5	1:1	✓	-	3.000 / 3.000	210 / 210	106	81	85	56	116FAX01869S5D-85
	S5	1:1	✓	-	3.000 / 3.000	210 / 210	106	81	110	56	116FAX01869S5D-110
	S5	1:1	✓	✓	3.000 / 3.000	210 / 210	106	88	85	56	116GAX01869S5D-85
	S5	1:1	✓	✓	3.000 / 3.000	210 / 210	106	88	110	56	116GAX01869S5D-110

*Internal Cooling $p_{max} = 100$ bar

LIVE TOOL - BMT 85

ADJUSTABLE

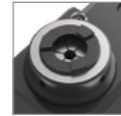
LIVE TOOL - BMT 85

BROACHING UNIT BENZ LINA

TECHNICAL DATA



OUTPUT SPINDLES



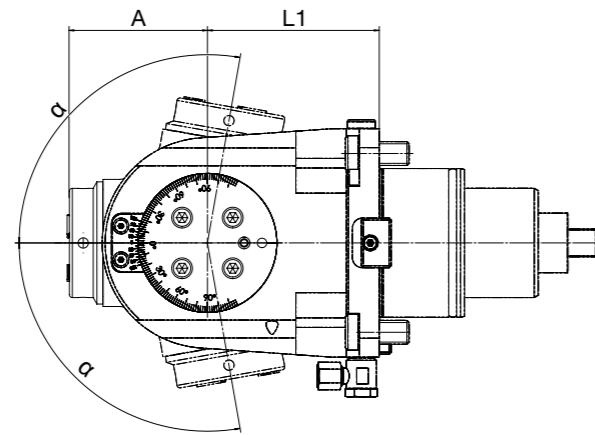
Collet Chuck
System ER
DIN 6499

i Other output spindles available upon request

i Accessories page 72



Collet Chuck

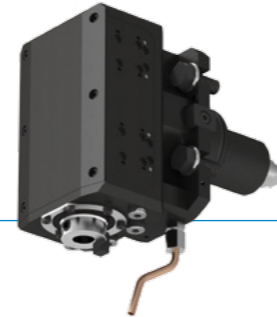


Technical Data

Output Spindle	Size	i	EC	IC*	n_{1max}/n_{2max} [min ⁻¹]	M_{1max}/M_{2max} [Nm]	A_{max} [mm]	L1 [mm]	α [°]	Order No.
Collet Chuck	ER32	1:0,816	✓	-	4.500 / 3.700	57 / 70	70,6	86,5	100	116FDX01859E6A
	ER32	1:0,816	✓	✓	4.500 / 3.700	57 / 70	75,7	86,5	100	116GDX01859E6A

*Internal Cooling $p_{max} = 50$ bar

TECHNICAL DATA



LENGTH (FSS/FS)

85 110

LENGTH (FSL)

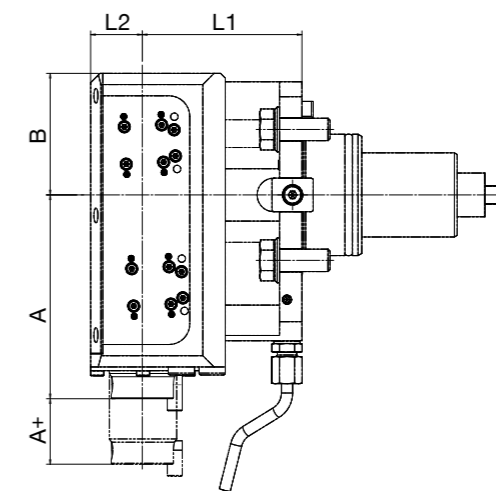
90 115

OUTPUT SPINDLES



similar to
Whistle Notch
16 mm

i Accessories page 72



Performance Data

Type	n_{max} [min ⁻¹]	M_{1max} [Nm]	f_{max} [mm]	Groove width _{max} [mm]
FSS	1.200	20	0,15	8-10
FS	1.000	20	0,15	8-10
FSL	750	50	0,15	8-10

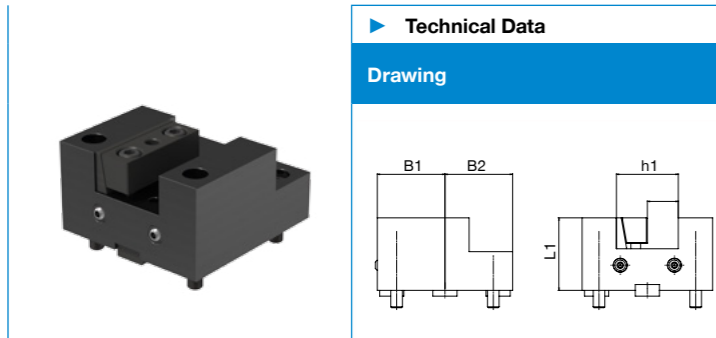
Technical Data

Type	Size	i	EC	IC	*Stroke	A [mm]	A+ [mm]	B [mm]	L1 [mm]	L2 [mm]	Order No.
FSS	16	1:1	✓	-	17	109	19	65	85	28	116FSS01849F8D-85
	16	1:1	✓	-	17	109	19	65	110	28	116FSS01849F8D-110
FS	16	1:1	✓	-	32	109	35	65	85	28	116FS01849F8D-85
	16	1:1	✓	-	32	109	35	65	110	28	116FS01849F8D-110
FSL	16	1:1	✓	-	51	135	53	85	90	32	116FSL01849F8D-90
	16	1:1	✓	-	51	135	53	85	115	32	116FSL01849F8D-115

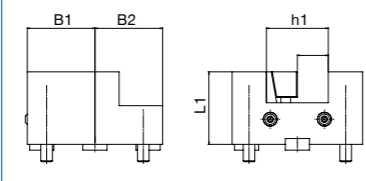
*Usable working stroke

STATIC HOLDER - BMT 85

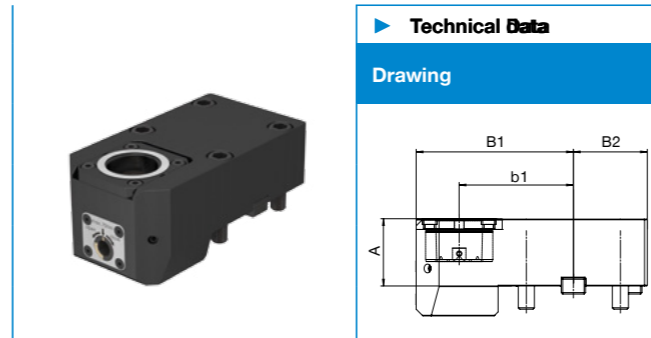
Face and ID Turning Tool - Single



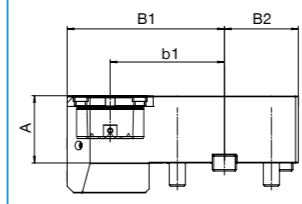
Technical Data

Drawing	h1 [mm]	h2 [mm]	L1 [mm]	B1 [mm]	B2 [mm]	Order No.
	32	64	75	70	70	116A018559001

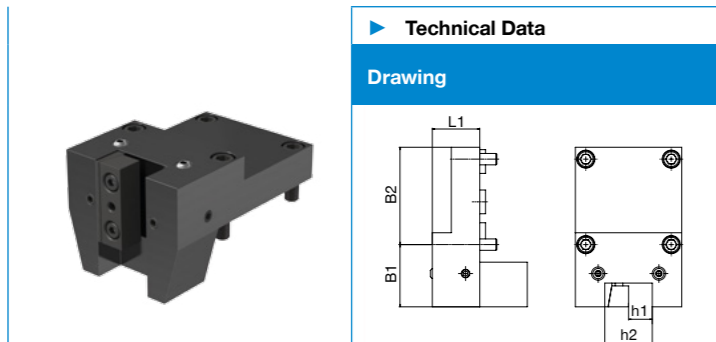
Axial Holder - Single | BENZ CAPTO™



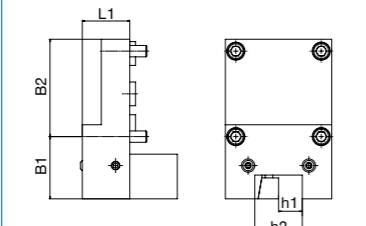
Technical Data

Drawing	Size	A [mm]	b1 [mm]	B1 [mm]	B2 [mm]	Order no.
	C6	35	113	155	70	116AV018L6BRU-35
	C6	35	113	155	70	116AV018L6BRN-35

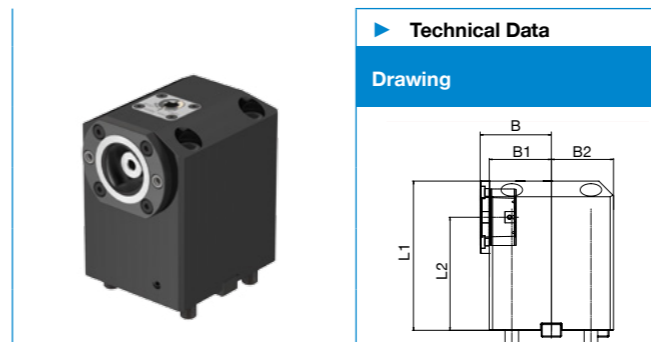
O.D. Turning Tool - Single



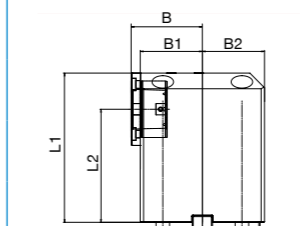
Technical Data

Drawing	h1 [mm]	h2 [mm]	L1 [mm]	B1 [mm]	B2 [mm]	Order No.
	32	64	50	120	70	116A018560001

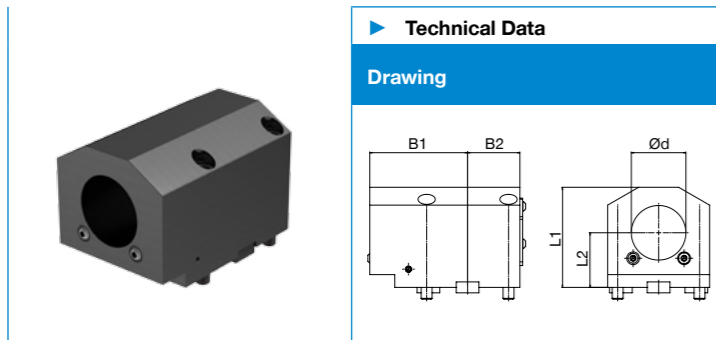
Radial Holder - Single | BENZ CAPTO™



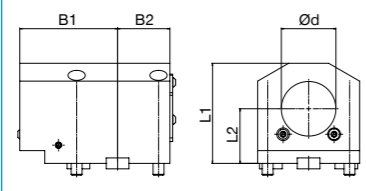
Technical Data

Drawing	Size	L1 [mm]	L2 [mm]	B [mm]	B1 [mm]	B2 [mm]	Order No.
	C6	127	85	125	113	70	116AP018L6BRU-85
	C6	127	85	125	113	70	116AP018L6BRN-85
	C8	135	85	125	113	70	116AP018L8BRU-85
	C8	135	85	125	113	70	116AP018L8BRN-85

Boring Bar Holder

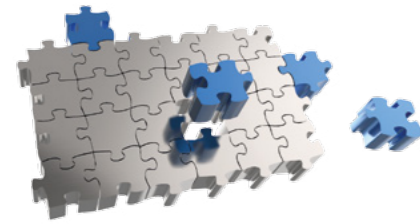


Technical Data

Drawing	Ø D [mm]	L1 [mm]	L2 [mm]	B1 [mm]	B2 [mm]	Order No.
	80	142	85	125	73	116A018578001

CUSTOMIZED SOLUTIONS MADE TO ORDER

Need a live tool that doesn't correspond to any standard parameters? No problem! We develop and produce your live tool exactly according to your specifications, made to order. Small adaptations of standard products and highly complex new developments are our forte and thanks to our modular toolkit our work is prompt, affordable and with the quality you have come to expect from BENZ. Extreme conditions, all over the world our tried-and-tested components and systems give you limitless possibilities.



From the customer requirement to the customized solution

Based on your requirements, we define the best possible solution and work out a corresponding concept together with you.



Completed Special Units

(machine connections shown as examples)



Internal Drill Head
ER 11, EC,
 $i = 1:1.806$
for machining
narrow internal contours



Angled Milling Head
ER 32, IC,
 $i = 1:1$
adapted angle for drilling at
a slant



Angled Milling Head
ER 20, IC,
 $i = 1:2.704$
adapted angle for drilling at
a slant



**Angled Multi-Spindle Head
(2 spindles)**
BENZ Solidfix® S3
Axle spacing 75 mm, 40°, EC,
 $i = 1:1$
1st spindle for drilling pilot
holes; 2nd spindle for deep-
hole drilling



**Axial Multi-Spindle Head
(6 spindles)**
Whistle Notch 6
95 mm pitch circle, IC,
 $i = 1:2$
for drilling
through-holes (5.5 mm)



**Radial Multi-Spindle Head
(4 spindles)**
ER11M
67.5 mm pitch circle, EC,
 $i = 1:1$
for follow-up machining:
4 x M5 thread



**Radial Double
Multi-Spindle Head
(4 spindles)**
BENZ Solidfix® S4
Axle spacing 75 mm, EC,
 $i = 1:1$
for using 4 different tools



Side Milling Head
Side milling cutter, EC,
 $i = 3:1$
for milling of grooves and
cam shapes (with 2 milling
cutters simultaneously).

ADAPTERS + ACCESSORIES

OVERVIEW

BENZ SOLIDFIX®




	COLLET CHUCK 8° Type ER	76		WELDON for parallel shanks DIN1835B	77
	WHISTLE-NOTCH for parallel shanks DIN1835E	77		MILLING MACHINE ARBOR for parallel shanks DIN1835E	78
	COLLET CHUCK with TER-shrinking collet	78		SHRINK FIT CHUCK	80
	SCREW-IN CUTTER Basic holder	80		HYDRO CLAMPING CHUCK for parallel shanks DIN1835E	80
	SQUARE SHOULDER MILL Plunge milling cutter	81		TEST MANDREL	81
	MASTER SHANKS VDI DIN 69880 / HSK Form A ISO 12164 SK DIN 69871 AD	81		MOUNTING BLOCK for parallel shanks DIN1835B	82
	REDUCING SLEEVE VDI DIN 69880	83		BLANK	83
	CLOSING PLUG	83		TAPER CLEANER BENZ Solidfix®	83

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


BENZ CAPTO™

	COLLET CHUCK 8° Type ER	86		WELDON for parallel shanks DIN1835B	86
	MILLING MACHINE ARBOR	87		BLANK	87
	CLOSING PLUG	87		TAPER CLEANER BENZ CAPTO™	87

COLLET CHUCK

	CLAMPING NUT	89		COLLET CHUCK	90
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MISCELLANEOUS

	WRENCH	93		INSERT, BASE HOLDER	95
	KEY BLOCK DIN2097 DIN 2097	95		STARTER KIT Clamping brackets + Plates	96

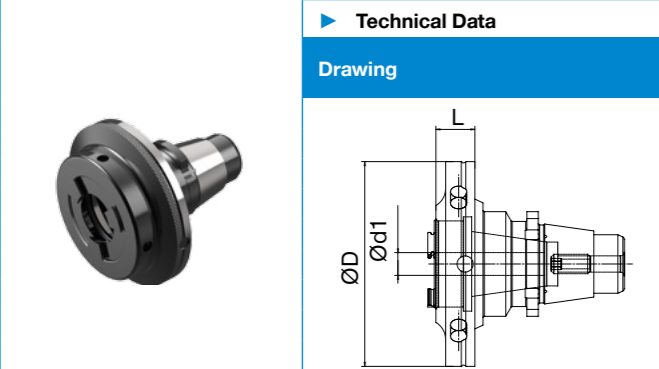
BENZ SOLIDFIX®

ADAPTER + ACCESSORIES



BENZ SOLIDFIX® ADAPTER + ACCESSORIES

Collet Chuck 8° Type ER | inside clamping nut



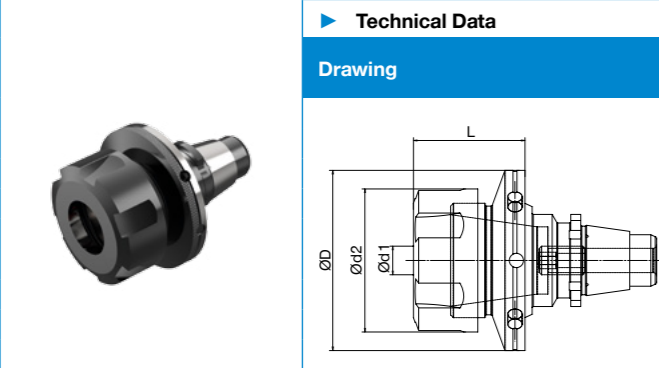
Technical Data

Size	Type	D	d1	L	Order No.
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
S5	ER32	75	2-20	22	695.130E6A22

Note - Collet not included in scope of supply

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Collet Chuck 8° Type ER | external clamping nut



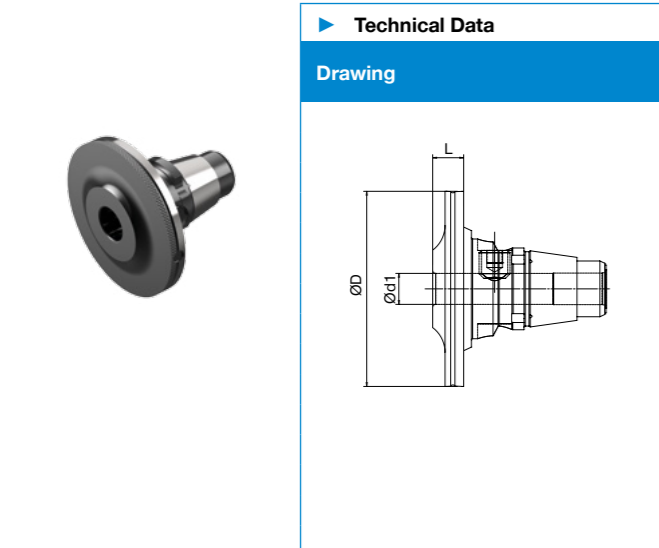
Technical Data

Size	Type	D	d1	d2	L	Order No.
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	694.130E232
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

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Weldon for parallel shanks DIN 1835 B | short design

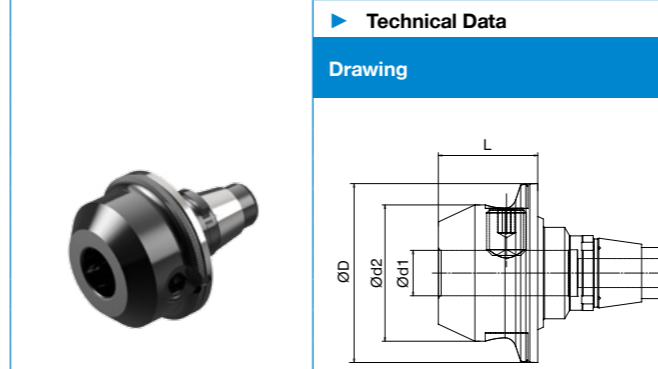


Technical Data

Size	D	d1	L	Order No.
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

minimum construction length

Weldon for parallel shanks DIN 1835 B | standard design

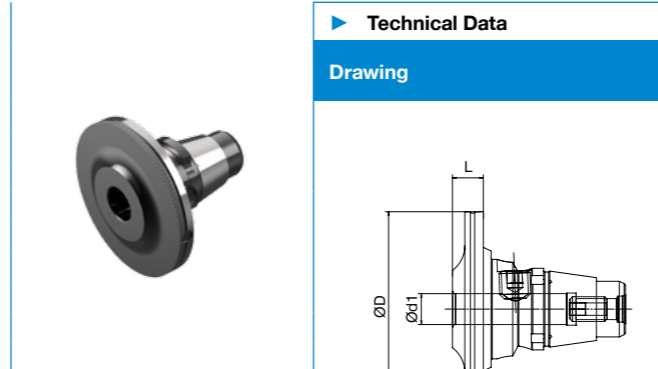


Technical Data

Size	D	d1	d2	L	Order No.
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

minimum construction length

Whistle Notch for parallel shanks DIN 1835 E | short design

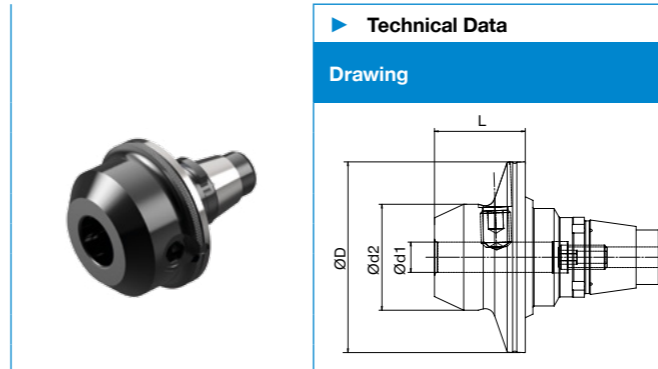


Technical Data

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

minimum construction length

Whistle Notch for parallel shanks DIN 1835 E | standard design




Technical Data

Size	D	d1	d2	L	Order No.
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

minimum construction length

BENZ SOLIDFIX® ADAPTER + ACCESSORIES

Milling Machine Arbor | standard design




Technical Data

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

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Ultra-Precision Collet Chuck | for TER - collet




Technical Data

Size	Type	D	d1	L	Order No.
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

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Collet Chuck | with TER-shrinking collet




Technical Data

Size	Type	D	d1	L	Order No.
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
- ▶ MQL-capable adapter on request

i Accessories page 88

TER-Shrinking Collet



Technical Data

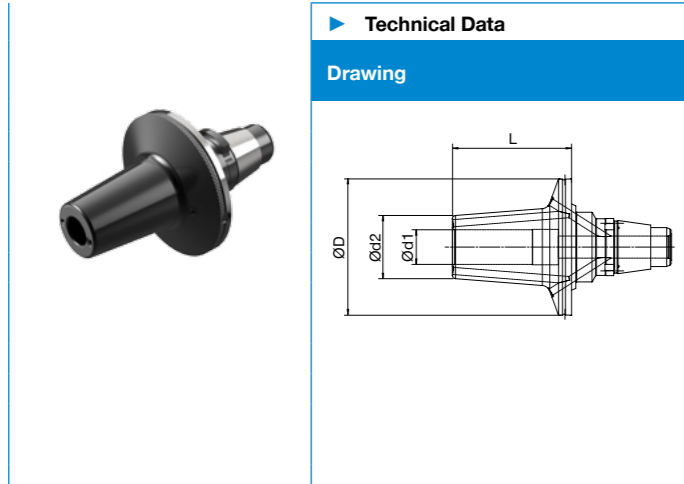
Size	Type	d1	Order No.
S2	TER 16	3	B134-426E-0300DS
S2	TER 16	4	B134-426E-0400DS
S2	TER 16	6	B134-426E-0600DS
S2	TER 16	8	B134-426E-0800DS
S3	TER 20	6	B134-428E-0600DS
S3	TER 20	8	B134-428E-0800DS
S3	TER 20	10	B134-428E-1000DS
S4	TER 25	6	B134-430E-0600DS
S4	TER 25	8	B134-430E-0800DS
S4	TER 25	10	B134-430E-1000DS
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

BENZ SOLIDFIX®

ADAPTER + ACCESSORIES

Shrink Fit Chuck

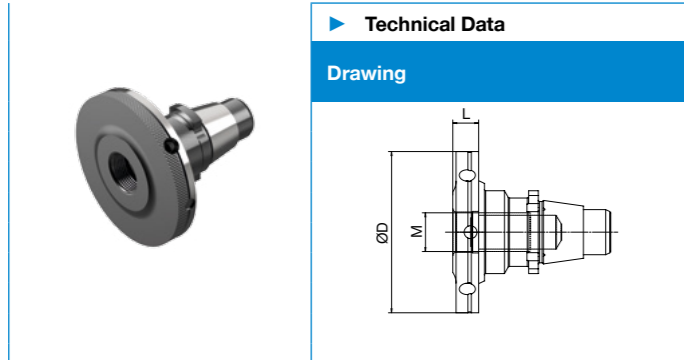


Technical Data

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 central or via holes on the collar (without coolant hole on request)
- ▶ MQL-capable adapter on request

Base Holder for threaded arbor (screw-on Type) | short Design

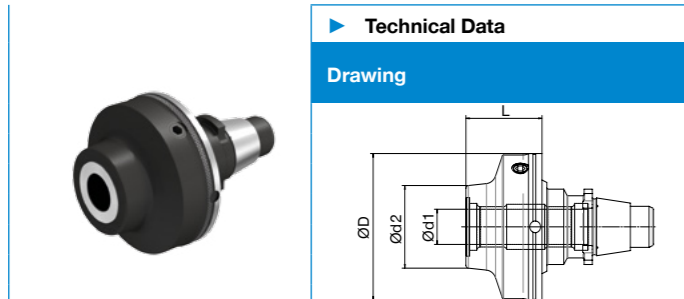


Technical Data

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

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

Hydro Clamping Chuck

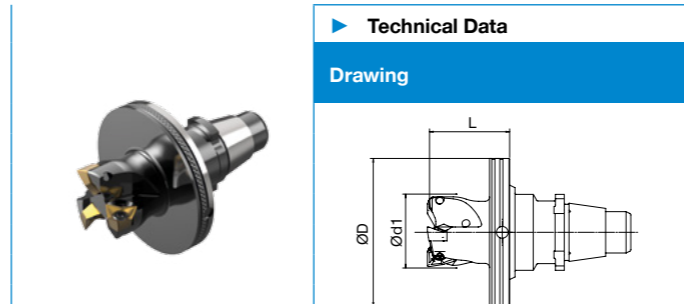


Technical Data

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

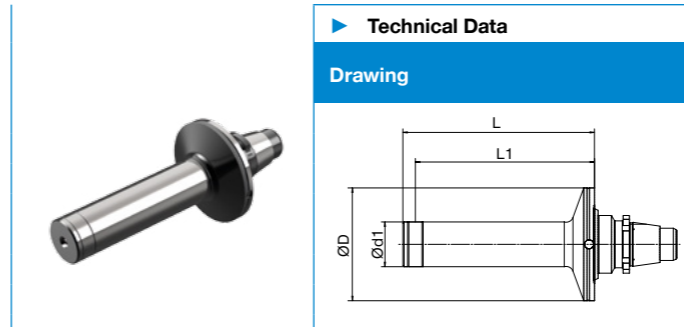


Technical Data

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

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

Test Mandrel

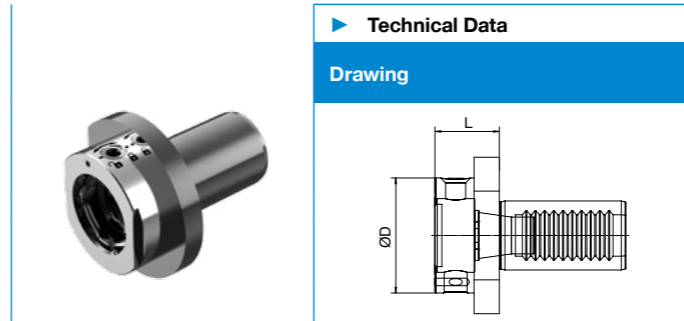


Technical Data

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

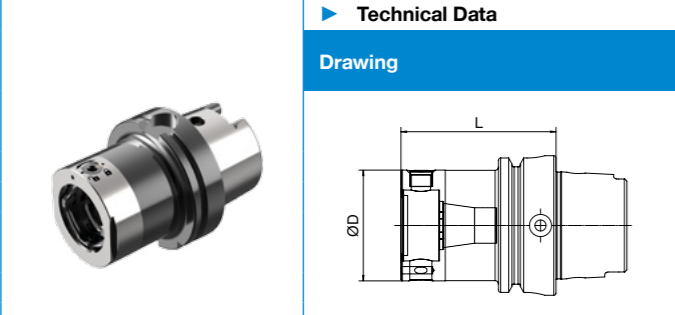


Technical Data

Size	D	VDI	L	Order No.
S2	40	VDI 25	25	325.251S2025VE
S2	40	VDI 30	25	113.251S2025VE
S3	50	VDI 40	28	113.251S3028VE
S3	50	VDI 40	28	114.251S3028VE
S4	63	VDI 40	30	114.251S4030VE
S5	75	VDI 50	32	115.251S5032VE

BENZ SOLIDFIX® ADAPTER + ACCESSORIES

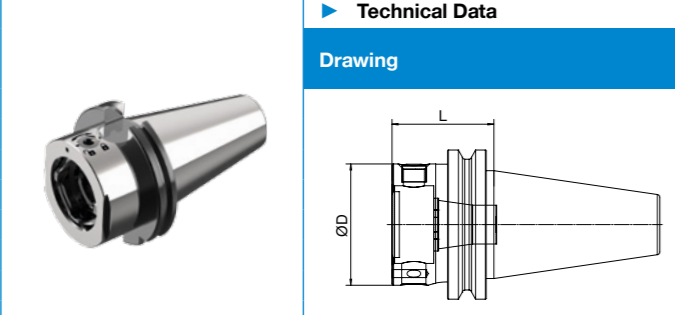
Master Shank | HSK



Technical Data					
Drawing	Size	D	HSK-A	L	Order No.
	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)

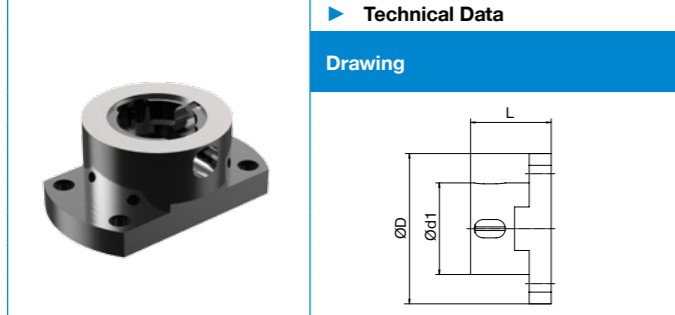
Master Shank | SK



Technical Data					
Drawing	Size	D	SK	L	Order No.
	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)

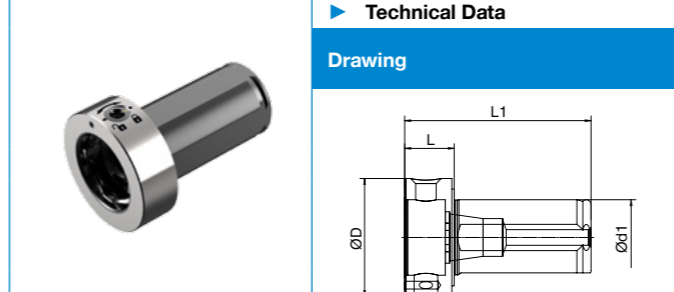
Mounting Block



Technical Data					
Drawing	Size	D	d1	L	Order No.
	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

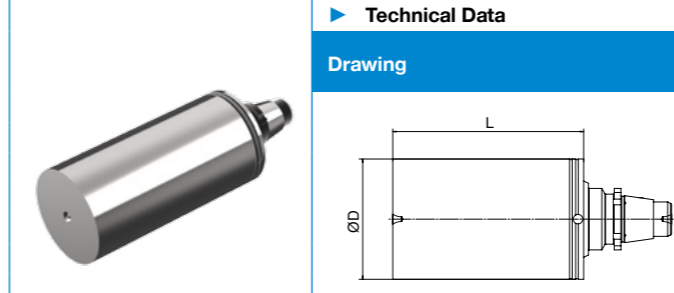
Reducing Sleeve



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

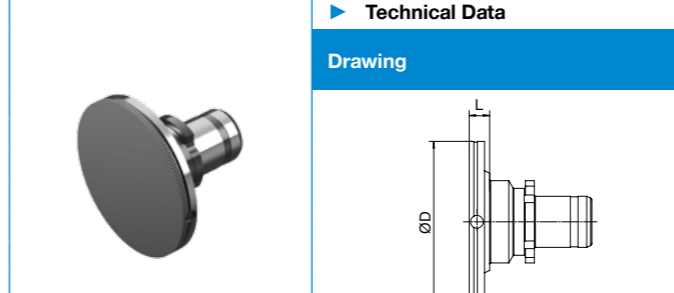
▶ used for boring bars or combination holders

Blank



Technical Data				
Drawing	Size	D	L	Order No.
	S2	40	80	692.1024080
	S3	50	100	693.10250100
	S4	63	125	694.10263125
	S5	75	160	695.10275160

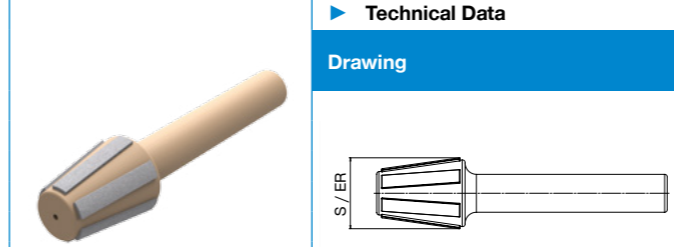
Closing Plug



Technical Data				
Drawing	Size	D	L	Order No.
	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.
	S2	16	B069-ER16
	S3	20	B069-ER20
	S4	25	B069-ER25
	S5	32	B069-ER32

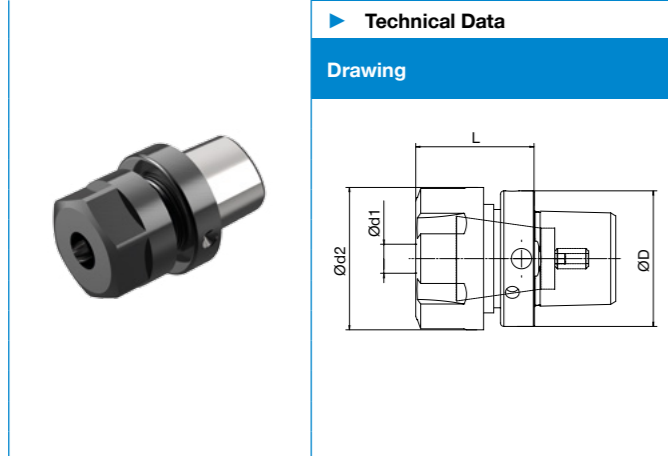
BENZ CAPTO™

ADAPTER + ACCESSORIES



BENZ CAPTO™ ADAPTER + ACCESSORIES

Collet Chuck 8° Type ER | external clamping nut



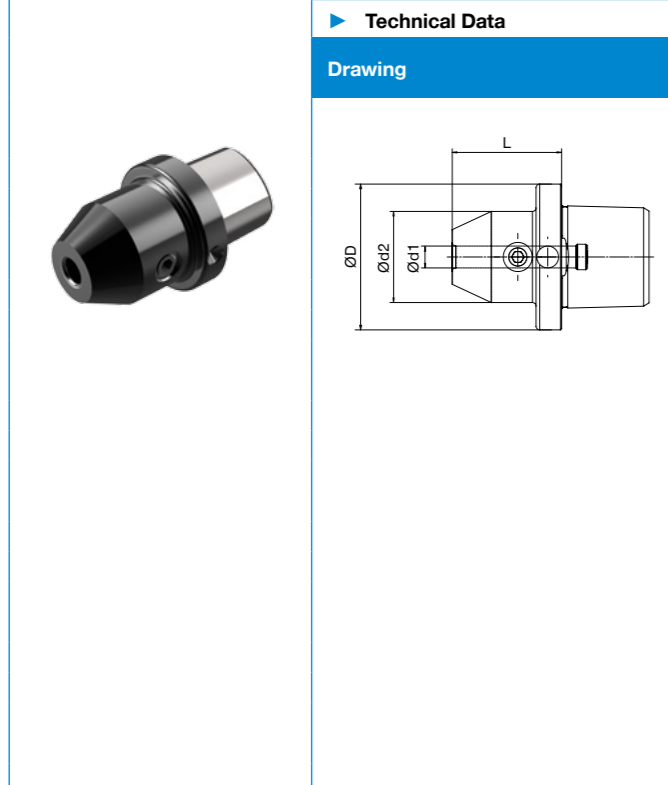
Technical Data

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

▶ without gripper groove

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Weldon for parallel shanks DIN 1835 B | standard design

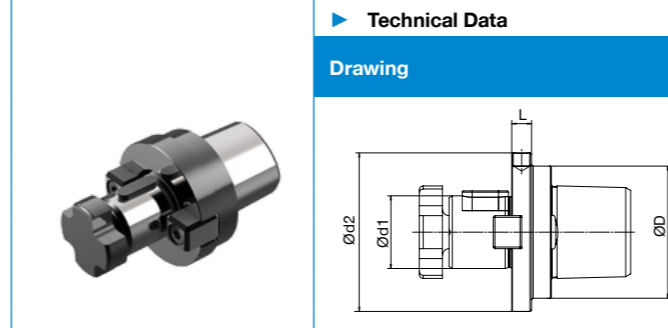


Technical Data

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

▶ without gripper groove

Milling Machine Arbor | standard design



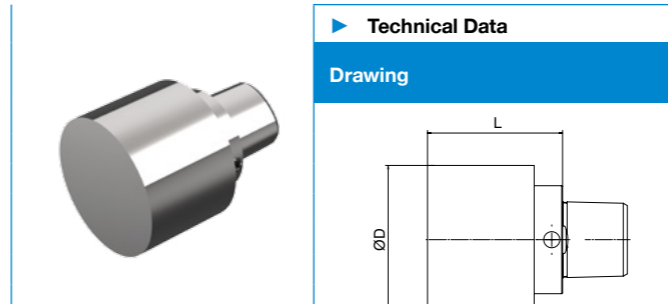
Technical Data

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

▶ without gripper groove

[i](#) Accessories page 94

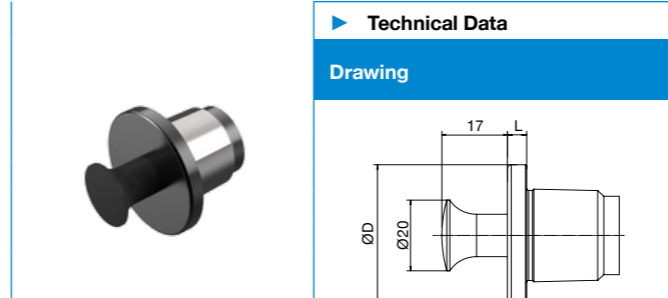
Blank



Technical Data

Size	D	L	Order No.
C3	47	50	550.1024750
C4	57	63	551.1025763
C5	72	67	552.1027267

Closing Plug

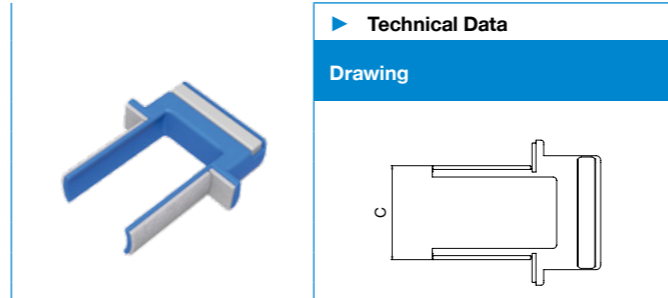


Technical Data

Size	D	L	Order No.
C3	32	5	550.581S
C4	40	5	551.581S
C5	50	6	552.581S

▶ made of steel

Taper Cleaner | BENZ CAPTO™




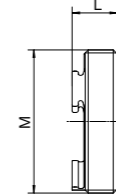
Technical Data

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


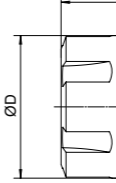
COLLET CHUCK ACCESSORIES




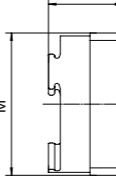
Clamping Nut | inside

▶ 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


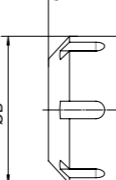
Clamping Nut | Form D+E, extern

▶ 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 25	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 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 for tools with internal coolant | System Regofix external

▶ Technical Data				
Drawing	Size	D	L	Order No.
 	ER 11			auf Anfrage
	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


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

▶ Seal area can be inserted up to 0,5 mm smaller as nominal range d

Collet Chuck | Regofix Form B



Technical Data


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

Collet Chuck for tap | Regofix with internal square section




Technical Data

Size	d	width across flats (AF)	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

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

ORDERING EXAMPLE

HOW TO ORDER CORRECTLY

▶ Get the right order no. according to this scheme:

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

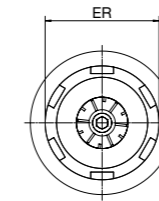


Clamping Wrench | external clamping nut



Technical Data

Drawing



Size

ER 11M
ER 16M
ER 20M
ER 20
ER 25
ER 32
ER 40

Order No.

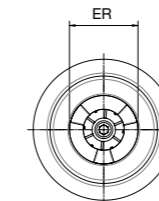
B136-M1
B136-M3
B136-M3
B136-E4
B136-E5
B136-E6
B136-E7

Clamping Wrench | inside clamping nut



Technical Data

Drawing



Size

ER 11
ER 16
ER 20
ER 25
ER 32
ER 40

Order No.

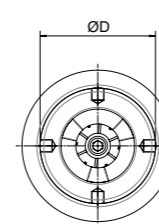
B136-E1AX
B136-E3AX
B136-E4AX
B136-E5AX
B136-E6AX
B136-E7AX

Hook Wrench



Technical Data

Drawing



ØD (Spindel)


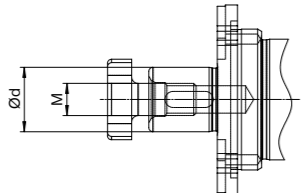
12-14
16-18
20-22
25-28
30-32
34-36
40-42
45-50
52-55
58-62
68-75
80-90
95-100

Order No.

D01810B012014
D01810B016018
D01810B020022
D01810B025028
D01810B030032
D01810B034036
D01810B040042
D01810B045050
D01810B052055
D01810B058062
D01810B068075
D01810B080090
D01810B095100


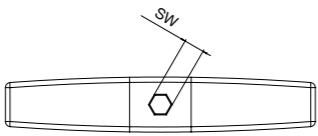
WRENCHES ACCESSORIES

Wrench DIN 6368 | for Shell arbor wrenches

▶ Technical Data			
Drawing	Milling arbour-Ø d	M	Order No.
	16	8	D06368-080
	22	10	D06368-100
	27	12	D06368-120
	32	16	D06368-160


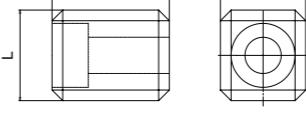
INBUS T-Wrench | for BENZ Solidfix® und BENZ CAPTO™ Actuation

▶ Technical Data				
Drawing	Size BENZ Solidfix®	Size BENZ CAPTO™	SW	Order No.
	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


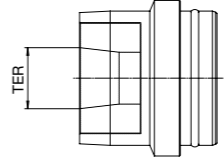
MISCELLANEOUS ACCESSORIES

Key Block DIN 2097 | for milling machine arbors

▶ Technical Data					
Drawing	for Milling arbour Ø	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	Insert TER 16	B136-426E-DSE
S3	Insert TER 20	B136-428E-DSE
S4	Insert TER 25	B136-430E-DSE
S5	Insert TER 32	B136-470E-DSE
S2 - S5	Base holder with length adjustment	B136-4XXE-DSG

▶ Base holder and respective insert are needed

Additional accessories

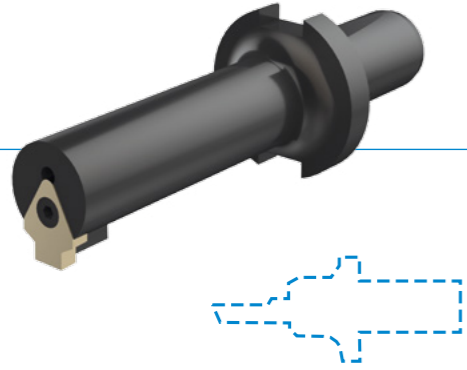
- ▶ Diebold-shrinking devices with stored parameters for shrinking of the TER-collet chucks
- ▶ fluid cooler FKS 03
- ▶ adapter rings

▶ Additional accessories on request

Please contact our sales team

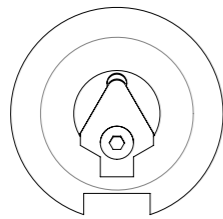
BROACHING UNITS ACCESSORIES

▶ CLAMPING HOLDER



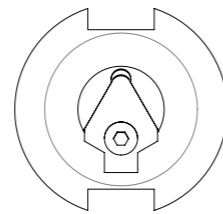
- ▶ **For internal and external machining**
Variant 1: One clamping holder for internal machining and one for external machining
Variant 2: One clamping holder for both internal and external machining; also capable of being rotated by 180° using the second groove
- ▶ **Clamping holder to match the broaching unit**
You can find the right solution at your preferred cuttinginsert manufacturer. We would be happy to pass on corresponding contact information.

Clamping holder with single groove



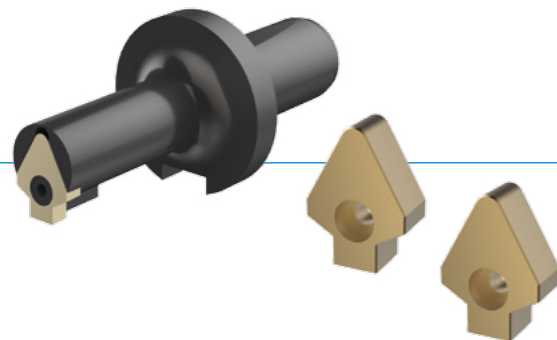
Variant 1

Clamping holder with double groove



Variant 2

▶ STARTER KIT

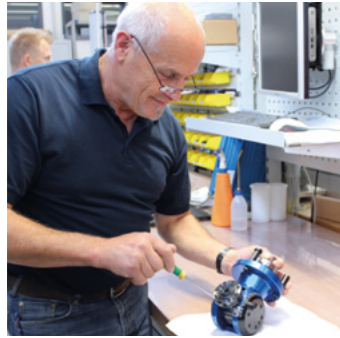


- ▶ **Complete package**
For your broaching unit, we offer the right clamping holder including a second plate at an attractive set price
- ▶ **Quickly getting up to speed in shaping technology**
A starter kit together with your broaching unit let you immediately get started with your machining



LIVE TOOLS SERVICE

▶ SERVICES: CUSTOMIZED, VALUE-RETAINING, COST-EFFECTIVE



▶ Service repair

Fast and professional analysis of damage
Findings and repair recommendations within 5 working days
on request: general maintenance or refurbishing



▶ ExpressService

Exceptionally fast and efficient turnaround
Repair at a fixed price
48-hour ExpressService available for select units



▶ Individual crash package

Keep machine downtime and lost profits to a minimum
Highly recommended for customer-specific solutions
Includes regular wear and tear as well as special parts



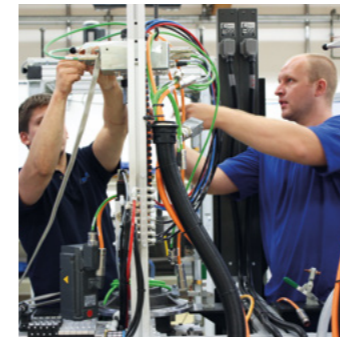
▶ Preventive maintenance

Prevention: Reduce unplanned downtime, increase unit operating times and unit life cycle
Maintain proper product performance / general maintenance or refurbishing
Replacement of wear parts during your planned downtime



▶ Spare part management

Immediate availability / delivery of original precision spare parts
Comprehensive inventory of spare parts / High availability
Spare parts express shipment as needed



▶ Global service

Service technicians visit you on site



▶ Service Hotline

Skilled service representatives answer your questions and provide additional support in the event of a problem
Contact information: www.benz-tools.de

INQUIRY FORM LIVE TOOLS

Return to
F +49 7832 704-8001
www.benz-tools.com



BMT

Customer number	<input type="text"/>	Telephone number	<input type="text"/>
Company	<input type="text"/>	Fax number	<input type="text"/>
Contact Mr. <input type="checkbox"/> Ms. <input type="checkbox"/>	<input type="text"/>	E-mail	<input type="text"/>
BENZ Dealer (if known)	<input type="text"/>	Date	<input type="text"/>

Machine information/Tool data

Machine manufacturer	Doosan	Serial number	<input type="text"/>
Machine model	<input type="text"/>		
Tool locations Number, e.g. 8, 12, 16, etc.	<input type="text"/>	Tool shank Size	<input type="text"/>
Turret manufacturer	<input type="text"/>		
Turret type	<input checked="" type="checkbox"/> Star turret		

Design

Reference article No.

Design	Axial	Axial offset	Radial	Radial recessed	Double Spindle	Adjustable	Broaching Unit	Other
Effective length	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Quantity	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Spindle form / Type	BENZ Solidfix®	BENZ CAPTO™	Collet Cuck	Weldon	Whistle Notch	Milling Arbour	KM™	Other
Size	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Coolant supply yes no EC IC Gear ratio
n1: n2

Machining

Application
Please specify the
tool Ø

Drilling Milling (fine) Milling (rough) Threading

Material

Speed rpm

Torque Nm

On-time / Idle time / min

Comments
e.g. requests for accessories, special processing details

Drawing of workpiece included

3-D model included

TAKE ADVANTAGE OF OUR COMPREHENSIVE SERVICE!



- ▶ CUSTOMER SERVICE AND TECHNICAL CONSULTATION
- ▶ REQUEST A CATALOG DIRECTLY ON THE INTERNET
- ▶ CAD DATA, 3-D MODEL, OPERATING INSTRUCTIONS

ACCESSORIES FOR MODULAR SYSTEMS

BENZ Solidfix® Adapter	<input type="checkbox"/>	collet chuck 8° ER type	▶	<input type="text"/>	qty	<input type="text"/>	Order No.
	<input type="checkbox"/>	Weldon for parallel shanks DIN 1835 B	▶	<input type="text"/>	qty	<input type="text"/>	
	<input type="checkbox"/>	Whistle Notch for parallel shanks DIN1835 E	▶	<input type="text"/>	qty	<input type="text"/>	
	<input type="checkbox"/>	Milling machine arbour	▶	<input type="text"/>	qty	<input type="text"/>	
	<input type="checkbox"/>	Collet chuck with TER-shrinking collet	▶	<input type="text"/>	qty	<input type="text"/>	
	<input type="checkbox"/>	Shrink chuck	▶	<input type="text"/>	qty	<input type="text"/>	
	<input type="checkbox"/>	Screw-in cutter basic holder	▶	<input type="text"/>	qty	<input type="text"/>	
	<input type="checkbox"/>	Hydraulic expansion chuck for parallel shanks DIN 1835 E	▶	<input type="text"/>	qty	<input type="text"/>	
	<input type="checkbox"/>	DA square shoulder mill / plunge milling cutter	▶	<input type="text"/>	qty	<input type="text"/>	
	<input type="checkbox"/>	Test mandrel	▶	<input type="text"/>	qty	<input type="text"/>	
	<input type="checkbox"/>	Master shank	▶	<input type="text"/>	qty	<input type="text"/>	
	<input type="checkbox"/>	Mounting block	▶	<input type="text"/>	qty	<input type="text"/>	
	<input type="checkbox"/>	Blank	▶	<input type="text"/>	qty	<input type="text"/>	
	<input type="checkbox"/>	Closing plug	▶	<input type="text"/>	qty	<input type="text"/>	

BENZ CAPTO™ Adapter	<input type="checkbox"/>	collet chuck 8° ER type	▶	<input type="text"/>	qty	<input type="text"/>	Order No.
	<input type="checkbox"/>	Weldon for parallel shanks DIN 1835 B	▶	<input type="text"/>	qty	<input type="text"/>	
	<input type="checkbox"/>	Milling machine arbour	▶	<input type="text"/>	qty	<input type="text"/>	
	<input type="checkbox"/>	Blank	▶	<input type="text"/>	qty	<input type="text"/>	
	<input type="checkbox"/>	Closing plug	▶	<input type="text"/>	qty	<input type="text"/>	

LinA Broaching Unit Starter KIT	<input type="checkbox"/>	Clamping bracket incl. 2 cutting plates	▶	<input type="text"/>	qty	<input type="text"/>	
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i You can find individual clamping brackets for the shaper from your preferred cutting insert manufacturer. We would be happy to pass on corresponding contact information.

ACCESSORIES FOR COLLET CHUCKS

Collet chuck	<input type="checkbox"/>	Regofix Form B	▶	<input type="text"/>	qty	<input type="text"/>	Order No.
	<input type="checkbox"/>	Regofix with square holder	▶	<input type="text"/>	qty	<input type="text"/>	
	<input type="checkbox"/>	Regofix with square holder incl. length compensation	▶	<input type="text"/>	qty	<input type="text"/>	
Clamping nut	<input type="checkbox"/>	Form D+E	▶	<input type="text"/>	qty	<input type="text"/>	
	<input type="checkbox"/>	For internally cooled tools / external Regofix system	▶	<input type="text"/>	qty	<input type="text"/>	
	<input type="checkbox"/>	Internal	▶	<input type="text"/>	qty	<input type="text"/>	
	<input type="checkbox"/>	For internally cooled tools / internal Regofix system	▶	<input type="text"/>	qty	<input type="text"/>	
Sealing washer	<input type="text"/>	qty					
Wrenches	<input type="checkbox"/>	Clamping wrench: external clamping nut	▶	<input type="text"/>	qty	<input type="text"/>	
	<input type="checkbox"/>	Clamping wrench: internal clamping nut	▶	<input type="text"/>	qty	<input type="text"/>	
	<input type="checkbox"/>	Hook wrench	▶	<input type="text"/>	qty	<input type="text"/>	

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GENERAL

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USAGE NOTE

INDIVIDUAL

DECLARATION OF INCORPORATION IN TERMS OF THE EC DIRECTIVE 2006/42/EC ON MACHINERY (ANNEX II 1 B)

We hereby declare that our products meet the basic requirements of the Machinery Directive 2006/42/EC as an incomplete machine to the extent that this is possible as part of delivery.

We also declare that the specific technical documents were produced in accordance with Annex VII Part B of this Directive. We undertake to provide the market supervisory bodies with versions of the incomplete machine's special documents via our documentation department should they have reason to request them.

The incomplete machine also satisfies the stipulations of EC Directive 2004/108/EC on electromagnetic compatibility. The protective goals of EC Directive 2006/95/EC regarding electronic equipment have been met.

The incomplete machine may only be commissioned if it has been ascertained, if applicable, that the machine or system in which the incomplete machine is to be installed satisfies the requirements of Directive 2006/42/EC on Machinery and an EC declaration of conformity has been drawn up in accordance with Annex II.

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- ▶ **TEAMS OF EXPERTS WITH INDUSTRY EXPERIENCE**
- ▶ **INTERNATIONALLY NETWORKED THROUGH WORLD-WIDE LOCATIONS AND PARTNERS**
- ▶ **THE HIGHEST QUALITY FOR ALL PRODUCTS AND SERVICES**
- ▶ **PRECISE, CUSTOMER-SPECIFIC SOLUTIONS**
- ▶ **CONSTANT DEVELOPMENT OF OUR INDUSTRY EXPERTISE**

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BENZ GMBH WERKZEUGSYSTEME

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CONTACT

BENZ GmbH Werkzeugsysteme
Im Mühlegrün 12
D-77716 Haslach
T +49 7832 704-0
F +49 7832 704-8001
info@benz-tools.com
www.benz-tools.com

