# DMG MORI BMT 60

## Live Tools & Static Holders

Tooling & Machine Tooling Technology

Metal machining





AT BENZ GMBH WERKZEUGSYSTEME, OUR MAXIM, INNOVATION, PRECISION, PASSION, IS FAR MORE THAN JUST A MARKETING FORMULA. RATHER, IT DESCRIBES THE CORE GOALS OF OUR BUSINESS WHILE ALSO OUTLINING THE REASONS WHY WE HAVE BEEN ABLE TO COMPETE IN THE MARKET SUCCESSFULLY WITH TOOL SYSTEMS FOR WOOD-WORKING, METAL MACHINING AND COMPOSITE MATERIAL PROCESSING FOR MORE THAN 40 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 PRODUC-TION PROCESSES AND LOWER YOUR MANUFACTURING COSTS - AND ULTIMATELY IM-PROVE YOUR COMPETITIVENESS AS A RESULT.



# BENZ GMBH
# WERKZEUGSYSTEME

## FOR DMG MORI BMT MACHINES
## EXCERPT PRODUCT RANGE



More information about our BENZ products and accessories can be found at the download area of our website.
https://www.benztooling.com/en/services/downloads

# BMT 60

Live Tools | Static Holders



## LIVE TOOLS




AXIAL 6



RADIAL 7



RADIAL, DOUBLE 8



ADJUSTABLE 9

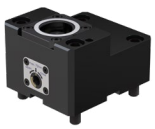


BROACHING UNIT 10
BENZ LinA 4.0


## STATIC HOLDERS




STANDARD 12



BENZ CAPTO™ 13

# LIVE TOOL – BMT 60
# AXIAL

## TECHNICAL DATA



### OUTPUT SPINDLES



BENZ Solidfix®



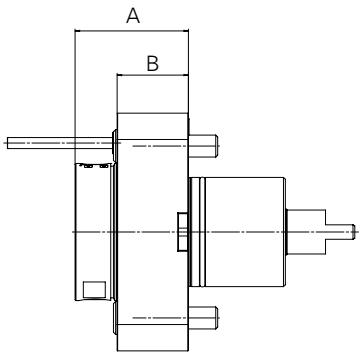
Collet chuck System ER DIN 6499



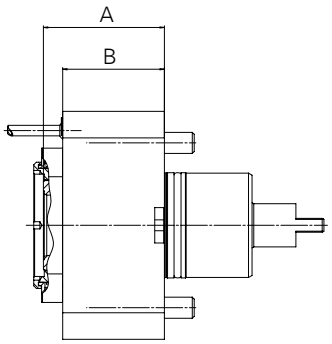
BENZ CAPTO™

Other output spindles available upon request

BENZ Solidfix® / Collet chuck




BENZ CAPTO™




| Output spindle | Size Spindle | i | EC | IC* | $n_{1\,max}$ / $n_{2\,max}$ [rpm] | $M_{1\,max}$ / $M_{2\,max}$ [Nm] | $A_{max}$ [mm] | B [mm] | Order No. |
|---|---|---|---|---|---|---|---|---|---|
| BENZ Solidfix® | S5 | 1:1 | ✓ | | 6000 / 6000 | 100 / 100 | 62 | 39 | 115DA03500S5 |
| | S5 | 1:1 | ✓ | ✓ | 6000 / 6000 | 100 / 100 | 62 | 39 | 115EA03500S5 |
| Collet chuck | ER40A | 1:1 | ✓ | | 6000 / 6000 | 100 / 100 | 80 | 55 | 115DA03551E7A |
| | ER40A | 1:1 | ✓ | ✓ | 4500 / 4500 | 100 / 100 | 84,9 | 55 | 115EA03551E7A |
| BENZ CAPTO™ | C5 | 1:1 | ✓ | | 6000 / 6000 | 100 / 100 | 74,5 | 58 | 115DA03500L5B |
| | C5 | 1:1 | ✓ | ✓ | 6000 / 6000 | 100 / 100 | 89,5 | 72,5 | 115EA03500L5B |

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

# LIVE TOOL – BMT 60
# RADIAL

## TECHNICAL DATA



### LENGTH L1

**90**

### OUTPUT SPINDLES



BENZ Solidfix®



Collet chuck System ER DIN 6499

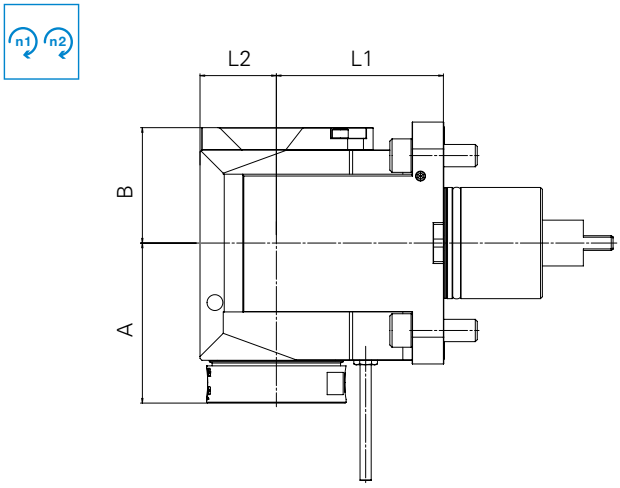


BENZ CAPTO™

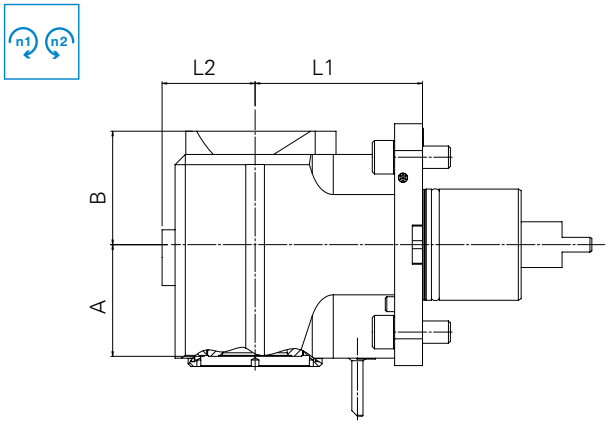
Other output spindles available upon request




BENZ Solidfix® / Collet chuck




BENZ CAPTO™




| Output spindle | Size Spindle | i | EC | IC* | $n_{1\,max}$ / $n_{2\,max}$ [rpm] | $M_{1\,max}$ / $M_{2\,max}$ [Nm] | $A_{max}$ [mm] | B [mm] | L1 [mm] | L2 [mm] | Order No. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BENZ Solidfix® | S5 | 1:1 | ✓ | - | 6000 / 6000 | 150 / 150 | 86 | 62 | 90 | 41 | 115FAX03559S5D |
| | S5 | 1:1 | ✓ | ✓ | 6000 / 6000 | 150 / 150 | 86 | 68 | 90 | 41 | 115GAX03559S5D |
| Collet Chuck | ER40A | 1:1 | ✓ | - | 6000 / 6000 | 150 / 150 | 81,5 | 62 | 90 | 41 | 115FAX03559E7AD |
| | ER40A | 1:1 | ✓ | ✓ | 6000 / 6000 | 150 / 150 | 86,4 | 68 | 90 | 41 | 115GAX03559E7AD |
| BENZ CAPTO™ | C5 | 1:1 | ✓ | - | 6000 / 6000 | 150 / 150 | 65,5 | 61 | 90 | 50 | 115FAX03559L5BD |
| | C5 | 1:1 | ✓ | ✓ | 6000 / 6000 | 150 / 150 | 65,5 | 67,5 | 90 | 50 | 115GAX03559L5BD |

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

# LIVE TOOL – BMT 60
# RADIAL, DOUBLE

## TECHNICAL DATA



### LENGTH L1

**90**

### OUTPUT SPINDLES



BENZ Solidfix®

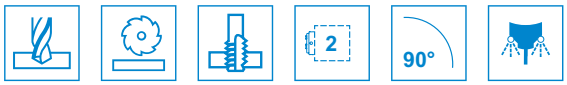


Collet chuck System ER DIN 6499

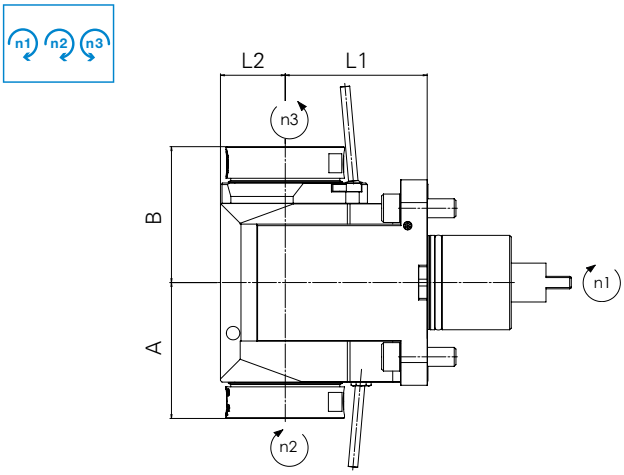


BENZ CAPTO™

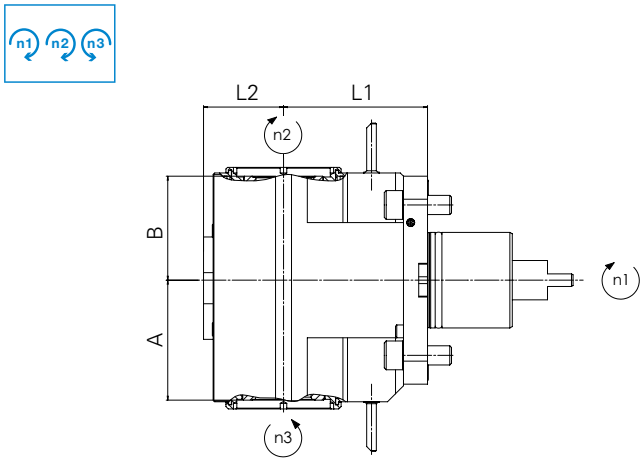
i Other output spindles available upon request




BENZ Solidfix® / Collet chuck




BENZ CAPTO™




| Output spindle | Techical data Size Spindle | i | EC | IC* | $n_{1\,max}$ / $n_{2\,max}$ [rpm] | $M_{1\,max}$ / $M_{2\,max}$ [Nm] | $A_{max}$ [mm] | B [mm] | L1 [mm] | L2 [mm] | Order No. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BENZ Solidfix® | S5 | 1:1 | ✓ | | 6000 / 6000 | 150 / 150 | 86 | 63 | 90 | 41 | 115FAX03559S52 |
| Collet Chuck | ER40A | 1:1 | ✓ | | 6000 / 6000 | 150 / 150 | 81,5 | 63 | 90 | 41 | 115FAX03559E7A2 |
| BENZ CAPTO™ | C5 | 1:1 | ✓ | | 6000 / 6000 | 150 / 150 | 80,5 | 70,5 | 90 | 50 | 115FAX03500L5BD2 |

*Innenkühlung $p_{max}$ = 100 bar

# LIVE TOOL – BMT 60
# ADJUSTABLE

## TECHNICAL DATA



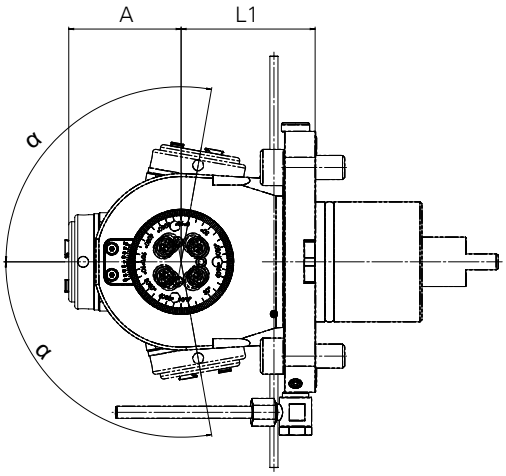
### OUTPUT SPINDLE



Collet chuck
System ER
DIN 6499

Other output spindles available upon request

Collet chuck




| Output spindle | Size Spindle | i | EC | IC* | $n_{1\,max}$ / $n_{2\,max}$ [rpm] | $M_{1\,max}$ / $M_{2\,max}$ [Nm] | $A_{max}$ [mm] | L1 [mm] | α [°] | Order No. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Technical data | | | | | |
| Collet Chuck | ER25A | 1:0,816 | ✓ | - | 6000 / 4900 | 32 / 39 | 57,9 | 67 | 100 | 115FDX03549E5A |
| | ER25A | 1:0,816 | ✓ | ✓ | 6000 / 4900 | 32 / 39 | 62,9 | 67 | 100 | 115GDX03549E5A |

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

# LIVE TOOL – BMT 60
# RADIAL, BROACHING UNIT - BENZ LINA 4.0

## TECHNICAL DATA



### LENGTH L1

**90**

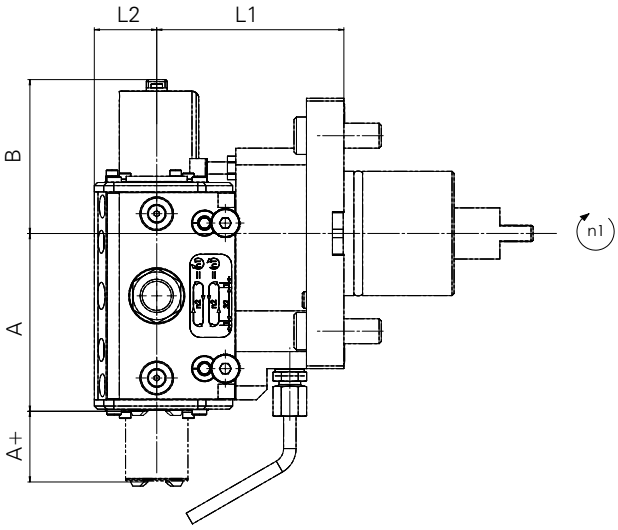
### OUTPUT SPINDLE



Prism-shaped
profile
Ø 30 mm

Industry 4.0 ready
Contact the BENZ Sales Team

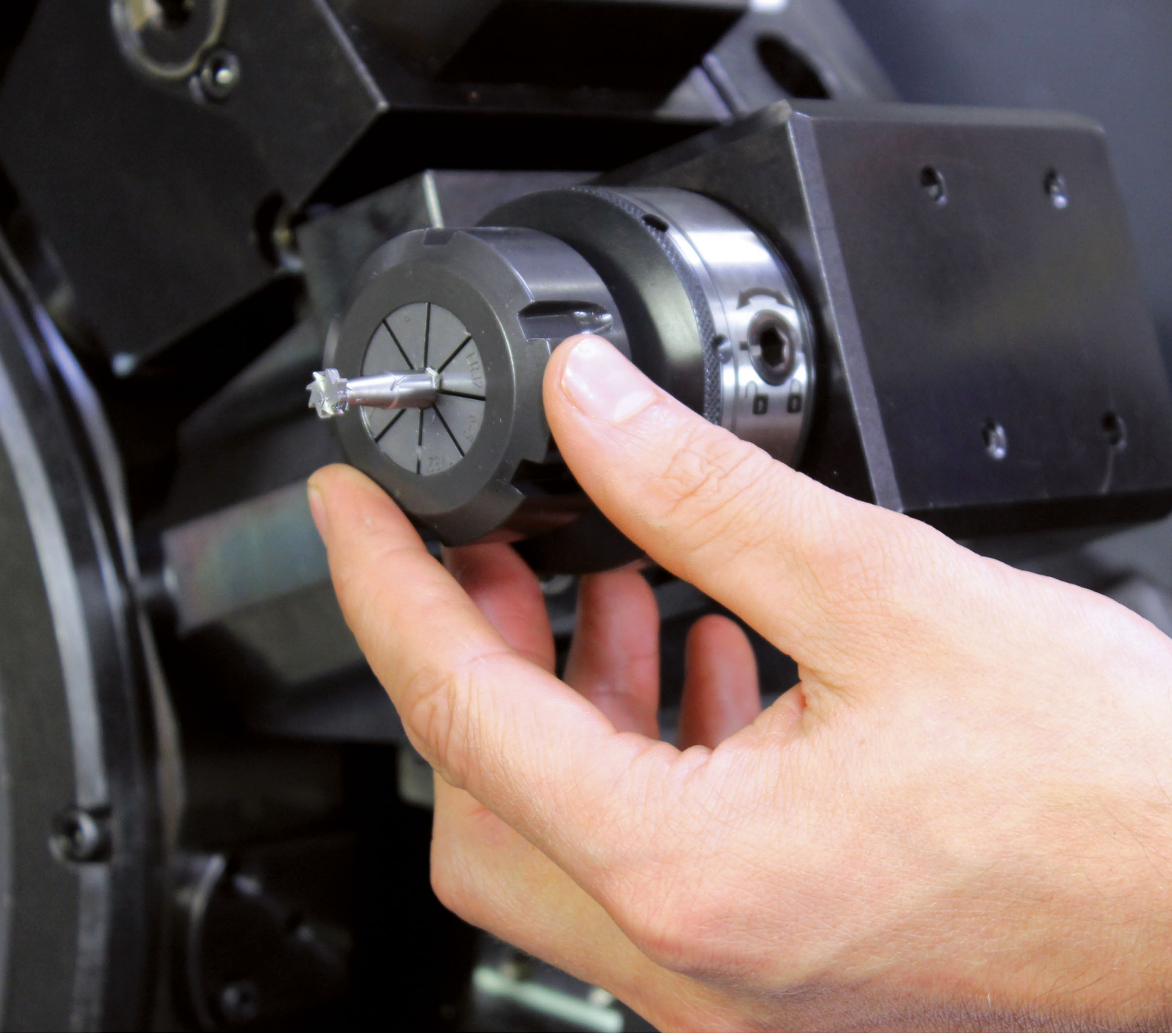



| | Performance data | | |
|---|---|---|---|
| Type | $n_{1\,max}$ / $*n_{2\,max}$ [rpm / min$^{-1}$] | $M_{1\,max}$ / $F_{c\,max}$ [Nm] | f [mm] | Groove width$_{max}$ [mm] |
| GS | 3000 / 1500 | 15 / 1700 | 0,02 - 0,10 | 12 |
| GSL | 2000 / 1000 | 23 / 1700 | 0,02 - 0,10 | 12 |

| | Technical Data | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | Size Plunger | i | EC | IC | **Stroke [mm] | A [mm] | A+ [mm] | B [mm] | L1 [mm] | L2 [mm] | Order No. |
| GS | 30 | 2:1 | ✓ | ✓ | 32 | 86,5 | 33 | 74 | 90 | 30 | 115GS03502B2D-90 |
| GSL | 30 | 2:1 | ✓ | ✓ | 51 | 115,5 | 53 | 87,5 | 90 | 30 | 115GSL03508B2D-90 |

*number of double stroke per minute
**usable working stroke



# ACCESSORIES

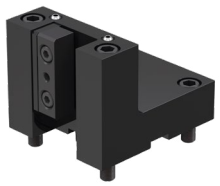
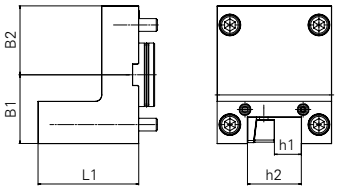
Practical additions for your interchangeable unit

BENZ Solidfix® is a modular quick change system that allows you to change tools in less than 20 seconds. The time-consuming process of removing the live tool from the machine is avoided, as only the adapter with cutting tool is changed. Replacing the change adapter saves you several live tools. **Your advantage:** One live tool instead of several – and therefore lower investment costs compared to exchanging the complete unit!

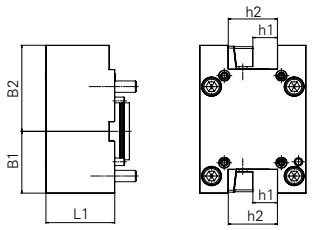
A large selection of adapters and matching accessories can be found in our catalogue BENZ Modular Quick Change Systems

# STATIC HOLDERS – BMT 60

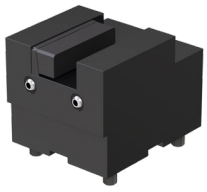
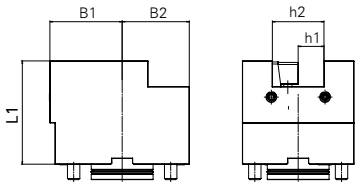
## O.D. TURNING TOOL | SINGLE

| Model | Drawing | Technical data h1 [mm] | h2 [mm] | L1 [mm] | B1 [mm] | B2 [mm] | EC | Order No. |
|---|---|---|---|---|---|---|---|---|
|  |   | 25 | 50 | 95 | 40 | 90 | ✓ | 115A035560003 |

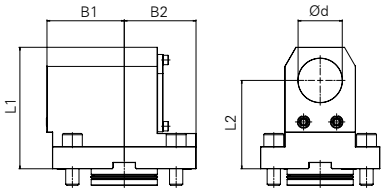
## O.D. TURNING TOOL | 2 TOOLS - MAIN & SUB SPINDLE

| Model | Drawing | Technical data h1 [mm] | h2 [mm] | L1 [mm] | B1 [mm] | B2 [mm] | EC | Order No. |
|---|---|---|---|---|---|---|---|---|
|  |   | 25 | 50 | 70 | 90,5 | 65 | ✓ | 115A035567001 |

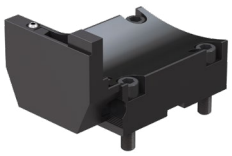
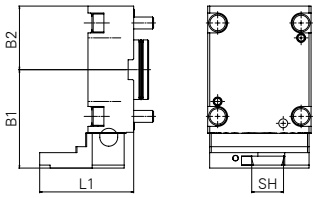
## FACE AND I.D. TURNING TOOL | SINGLE

| Model | Drawing | Technical data h1 [mm] | h2 [mm] | L1 [mm] | B1 [mm] | B2 [mm] | EC | Order No. |
|---|---|---|---|---|---|---|---|---|
|  |   | 25 | 50 | 100 | 70 | 65 | ✓ | 115A035559001 |

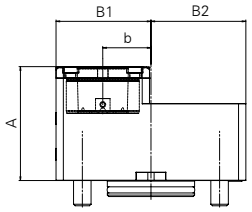
## BORING BAR HOLDER | SINGLE

| Model | Drawing | Technical data Ød [mm] | L1 [mm] | L2 [mm] | B1 [mm] | B2 [mm] | EC | IC | Order No. |
|---|---|---|---|---|---|---|---|---|---|
|  |   | 40 | 110 | 80 | 70 | 65 | ✓ | ✓ | 115A035578001 |

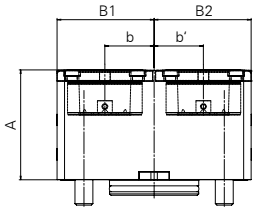
## CUT-OFF HOLDER

| Model | Drawing | Technical data SH [mm] | L1 [mm] | B1 [mm] | B2 [mm] | EC | Order No. |
|---|---|---|---|---|---|---|---|
|  |   | 32 | 94,6 | 99 | 65 | ✓ | 115A035583001 |

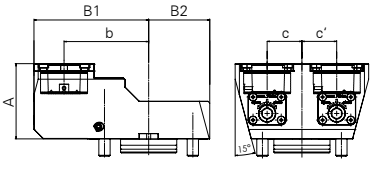
## AXIAL HOLDER | SINGLE - BENZ CAPTO™

| Model | Drawing | Technical data Size Adapter | A [mm] | b [mm] | B1 [mm] | B2 [mm] | IC | Order No. |
|---|---|---|---|---|---|---|---|---|
|  |   | C5 | 78 | 33 | 65 | 65 | ✓ | 115AV035L5BDU-78 |

## AXIAL HALTER | 2 TOOLS - BENZ CAPTO™ - MAIN & SUB SPINDLE

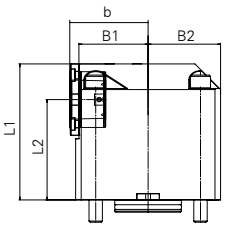
| Model | Drawing | Technical data Size Adapter | A [mm] | b / b' [mm] | B1 [mm] | B2 [mm] | IC | Order No. |
|---|---|---|---|---|---|---|---|---|
|  |   | C5 | 78 | 33 | 65 | 65 | ✓ | 115AV035L5BD2U-78 |

## AXIAL HALTER | 2 TOOLS - BENZ CAPTO™Y

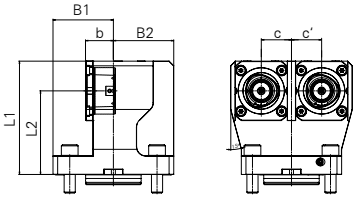
| Model | Drawing | Technical data Size Adapter | A [mm] | b [mm] | B1 [mm] | B2 [mm] | c / c' [mm] | IC | Order No. |
|---|---|---|---|---|---|---|---|---|---|
|  |   | C5 | 80 | 90 | 122 | 65 | 37 | ✓ | 115AV035L5BS0676 |

# STATIC HOLDERS – BMT 60

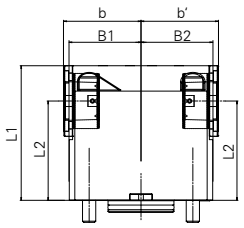
## RADIAL HOLDER | SINGLE - BENZ CAPTO™

| Model | Drawing | Technical data Size Adapter | L1 [mm] | L2 [mm] | b [mm] | B1 [mm] | B2 [mm] | IC | Order No. |
|---|---|---|---|---|---|---|---|---|---|
|  |  | C5 | 122 | 90 | 70 | 65 | 65 | ✓ | 115AP035L5BDU-90 |

## RADIAL HOLDER | 2 TOOLS - BENZ CAPTO™Y

| Model | Drawing | Technical data Size Adapter | L1 [mm] | L2 [mm] | b [mm] | B1 [mm] | B2 [mm] | c / c‘ [mm] | IC | Order No. |
|---|---|---|---|---|---|---|---|---|---|---|
|  |  | C5 | 122 | 90 | 30 | 65 | 65 | 32,5 | ✓ | 115AR035L5BS0750 |

## RADIAL HOLDER | 2 TOOLS - BENZ CAPTO™ - MAIN & SUB SPINDLE

| Model | Drawing | Technical data Size Adapter | L1 [mm] | L2 [mm] | b / b‘ [mm] | B1 [mm] | B2 [mm] | IC | Order No. |
|---|---|---|---|---|---|---|---|---|---|
|  |  | C5 | 122 | 90 | 70 | 65 | 65 | ✓ | 115AR035L5B2U-90 |



# BENZ PRODUCT WORLD
# TOOLING & MACHINE TOOLING TECHNOLOGY

## TOOLING TECHNOLOGY



METAL

### 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.



METAL

### 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.



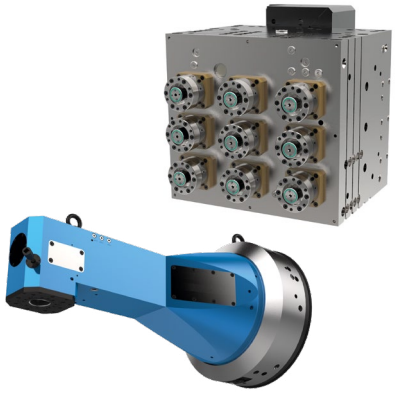
WOOD / COMPOSITE AND ALUMINIUM

### 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

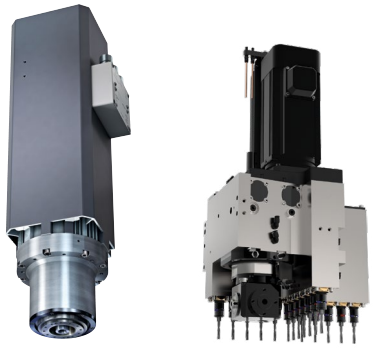


METAL

## 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.



METAL / WOOD / COMPOSITE AND ALUMINIUM

## 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



METAL / WOOD / COMPOSITE AND ALUMINIUM

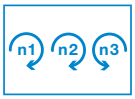
## SERVICE

- Repair service
- Rapid Repair Kit
- 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 Rapid Repair Kits 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.

# PICTOGRAMS & ABBREVIATIONS OVERVIEW

## UNIT SPECIFICATIONS

| | | | | |
|---|---|---|---|---|
| **Type of machining** |  **Drilling** The unit is suitable for boring machining |  **Milling** The unit is suitable for milling machining |  **Threading** The unit is suitable for thread machining |  **Broaching and slotting** The unit is suitable for machining by broaching and slotting |
| **Number of output spindles (tool holding fixtures)** |  **1** The unit has one output spindle |  **2** The unit has two output spindles | | |
| **Axis angle** |  **0°** Unit for machining tasks at a 0° angle |  **90°** Unit for machining tasks at a 90° angle |  **± 0** Unit for machining tasks at an adjustable angle 0° ±max. α° | |
| **Drive for spindle Direction of rotation** |  **clockwise / clockwise** synchronized rotation |  **clockwise / counterclock-wise** counter-rotation |  **clockwise / clockwise / counterclock-wise** synchronized and counterrotation | |
| **Coolant feed for cutting blade** |  **Extern (EC)** The tool is cooled using anexternal feed line (spray nozzle) |  **Combination (EC+IC)** The tool is coo-led by a combination of both internal and external systems | | |

## ABBREVIATIONS

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

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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 2014/30/EU on electromagnetic compatibility. The protective goals of EC Directive 2014/35/EU 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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The contents and data are valid at the time of printing. Edition 01/2024

1946 - 2026

C-341802-EN-0124

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