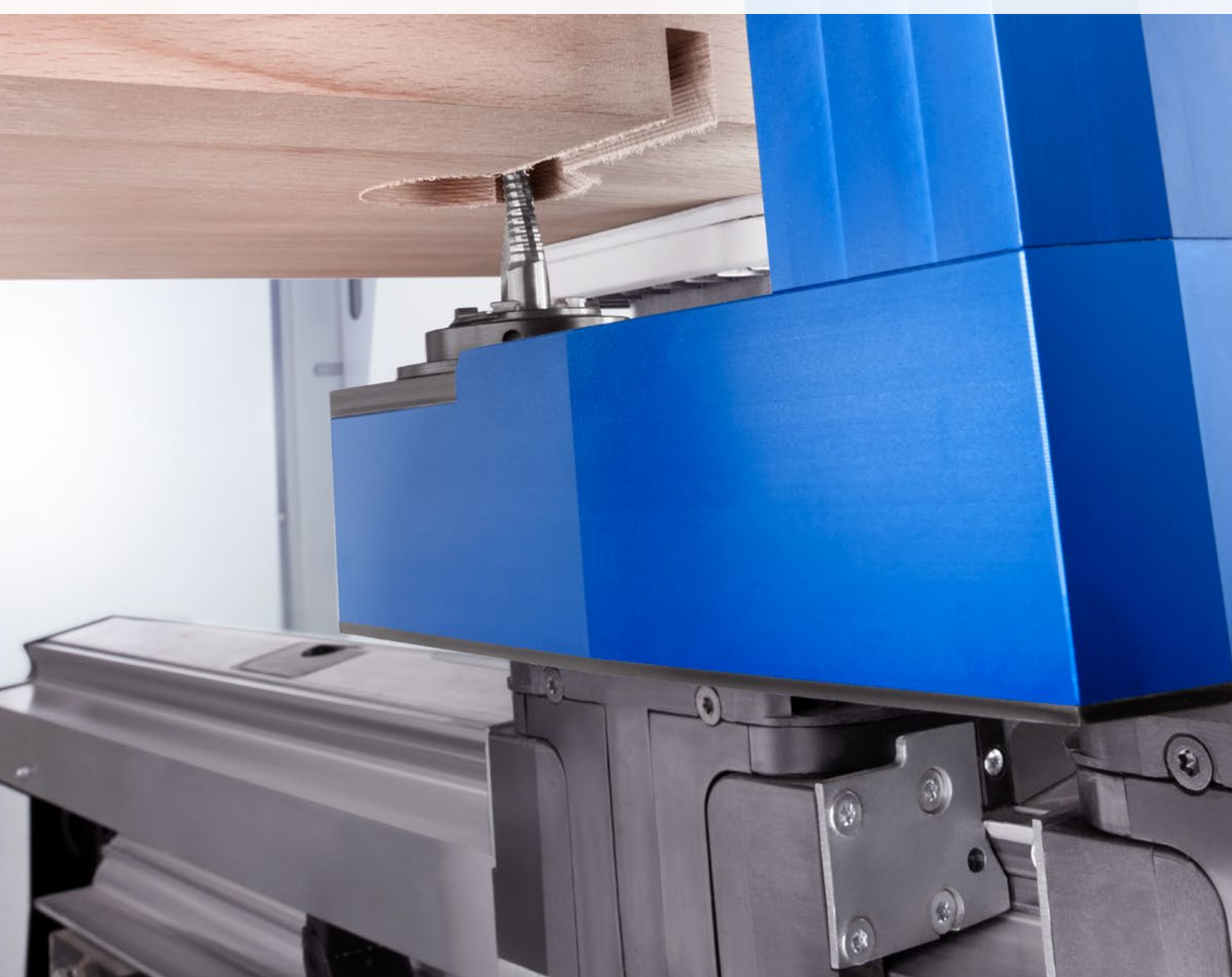


# EXCHANGEABLE UNITS

Tooling technology





























Wood/Composites/  
Aluminium machining



# PRODUCT COMPASS











## UNITS-OVERVIEW BY APPLICATIONS

CLASSIC LINE with grease lubrication

	MONO	MONO R	DUO	QUATTRO	FLEX D	FORTE	ANGULO	SUBIO	MULTI H3	MULTI H3+	MULTI V3 CABINEO	MULTI V	FLOATING HS	FLOATING HB	FLOATING V C	FLOATING V	COLLEVO+	SIMOLO	ZUCCO	SECO	
	 P. 28	 P. 30	 P. 34	 P. 36	 P. 38	 P. 42	 P. 44	 P. 46	 P. 48	 P. 50	 P. 52	 P. 54	 P. 58	 P. 58	 P. 62	 P. 64	 P. 66	 P. 68	 P. 70	 P. 72	
DRILLING 	●	●	●	●	●	●	●	●	●	●	●	●	○	●	●	●	○	○	○	○	○
MILLING 	●	●	●	●	●	●	●	●	○	●	●	●	●	●	●	●	○	○	○	○	○
SAWING 	●	●	●	●	●	○	●	○	○	○	○	○	●	○	○	○	○	○	○	○	○
PLANING 	○	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
BRUSHING 	●	●	●	●	●	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
SANDING 	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	●	●	●	○
CUTTING 	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	●
CHISELING 	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

● suitable    ● suitable with conditions    ○ not suitable

PREMIUM LINE with oil bath lubrication

RENITO H  P. 74	RENITO V  P. 76	CAVO H  P. 78	CAVO V  P. 80	CATENO F  P. 82	SOFFIARO  P. 84	TRUCCOLO  P. 86	MONO R  P. 32	FLEX D  P. 40	MOULDER  P. 56
○	○	○	○	○	●	○	●	●	○
○	○	○	○	○	●	●	●	●	●
○	○	○	○	○	○	○	●	●	●
○	○	○	○	○	○	○	◐	○	●
○	○	○	○	○	○	◐	◐	◐	●
○	○	○	○	○	○	○	○	○	○
○	○	○	○	○	○	○	○	○	○
●	●	●	●	●	○	○	○	○	○

INDIVIDUAL SOLUTIONS P. 94  
UNITS FOR 5-AXIS MACHINING P. 96

# BENZ GMBH

## WERKZEUGSYSTEME

At BENZ 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.

**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.



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14	<a href="#">SAWING</a>	22	<a href="#">CUTTING</a>
16	<a href="#">PLANING</a>	24	<a href="#">CHISELLING</a>

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## ACCESSORIES & SERVICE

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# SYSTEM DESIGN

## MODULAR DESIGN

PERFECTLY ADAPTED TO EACH OTHER

Individual machine elements are like a puzzle. They have to fit together exactly to produce the desired complete picture. If you are using exchangeable units on your machining centre this means the machine connection of a unit must be exactly

coordinated to the C-axis and motor spindle. That is the only way the unit will be stably anchored in the machine and protected against twisting during machining.



### MACHINE CONNECTIONS

The cone and the torque arm with locking pin and support pin are precisely matched to your machine



For an overview of the machine connections, see page 100

### ATTACHMENT HEADS

The design and length are matched with the respective machining application



For an overview of the overall lengths, see page 101

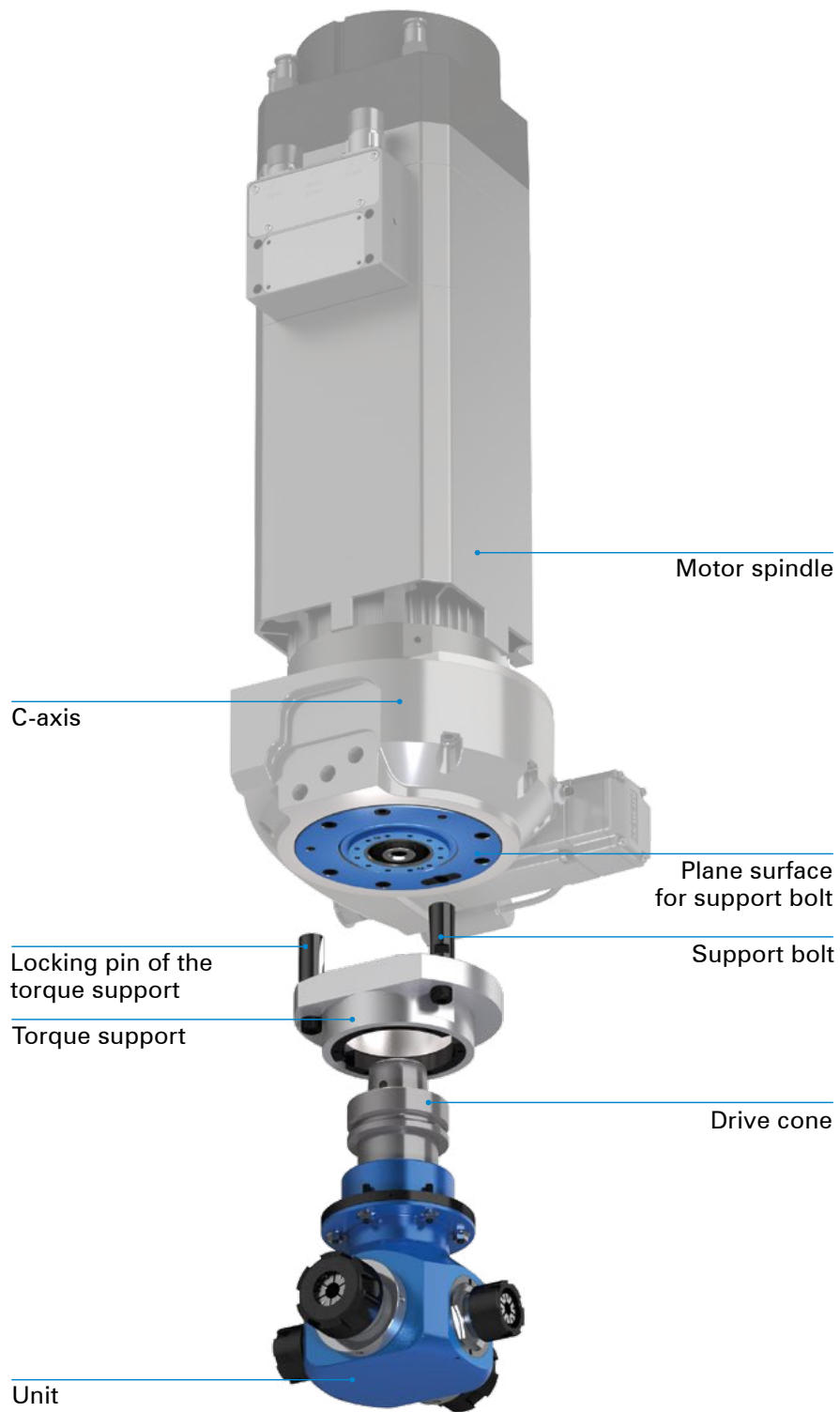
### OUTPUT SPINDLES

Different cutting tools require a large number of different holding options



For an overview of the tool holders, see page 102

**i** Individual customer requirements, e.g. machine connections, output spindles, etc. not listed here, can be implemented on request. Please contact us!

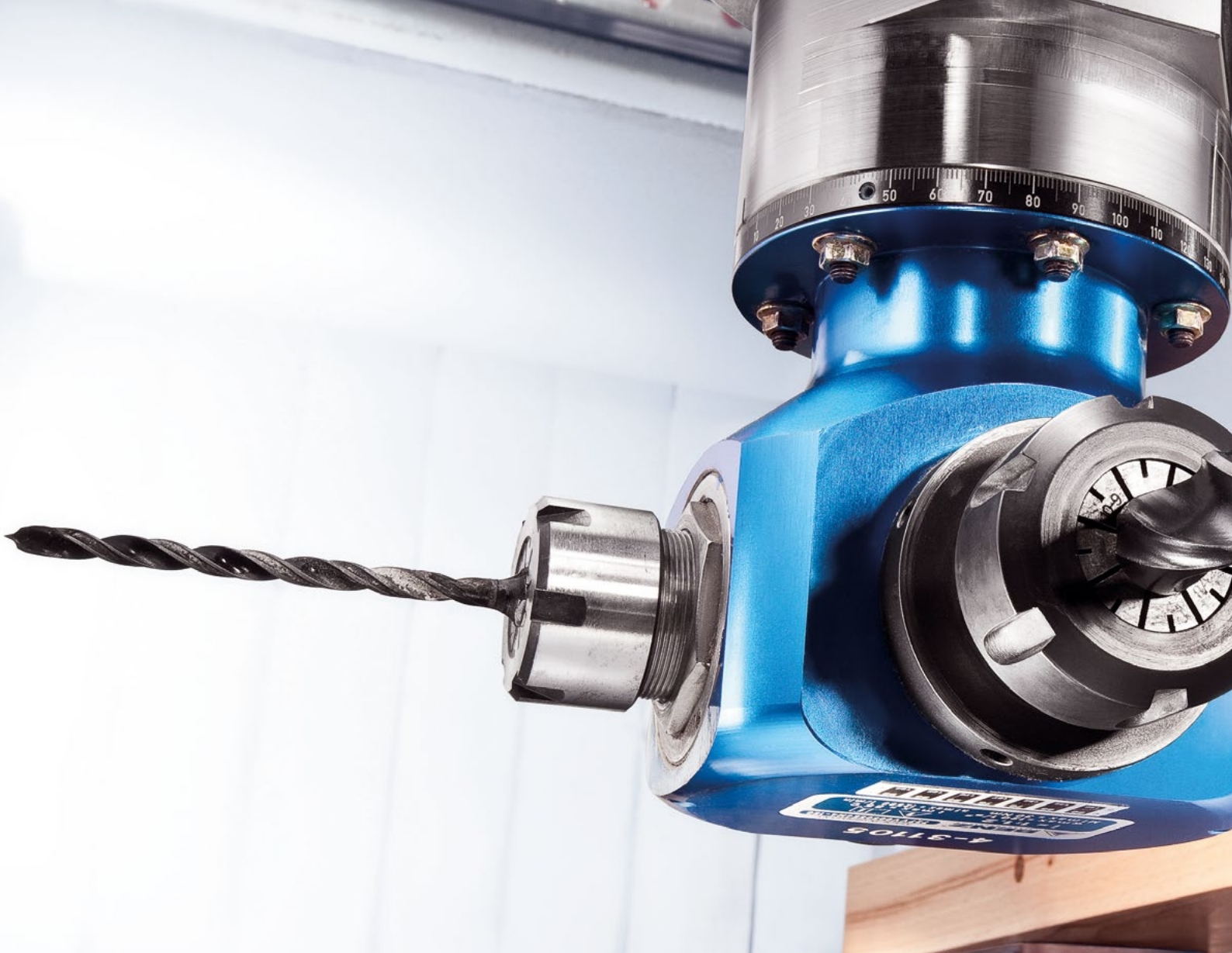




# FUNCTIONS

BENZ units can be used for various types of machining.





## DRILLING – A COMBINATION OF DIAMETER AND DRILLING PATTERNS

From the simple dowel drill hole to rows of holes in acoustic boards: There is a wide variety of drilling operations. A different drilling tool is necessary depending on the material hardness and the diameter to be produced. Drilling tools can be used in BENZ standard units such as the DUO double sided angle

head or the QUATTRO four sided angle head. Multi-spindle heads help you save enormous amounts of time. This is because they produce complex drilling patterns in a single machining step.



Dowel drill holes in miter



Drill rows in acoustic boards



# MILLING – OPTIMUM LIFTING

Milling processes are one of the main applications on your CNC machine. A workpiece with a defined shape is produced at the end from various raw materials such as wood, compound material or lightweight metal. The interplay between the milling

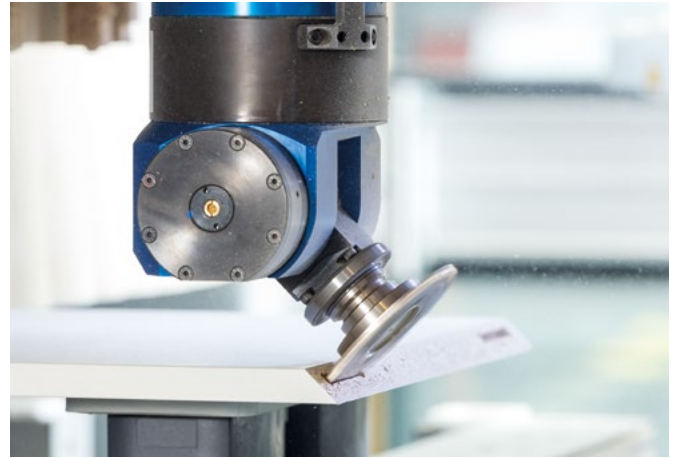
tool, machine and unit ensures the desired processing result. BENZ provides units so that the power from the machine can be transferred to the milling tool.



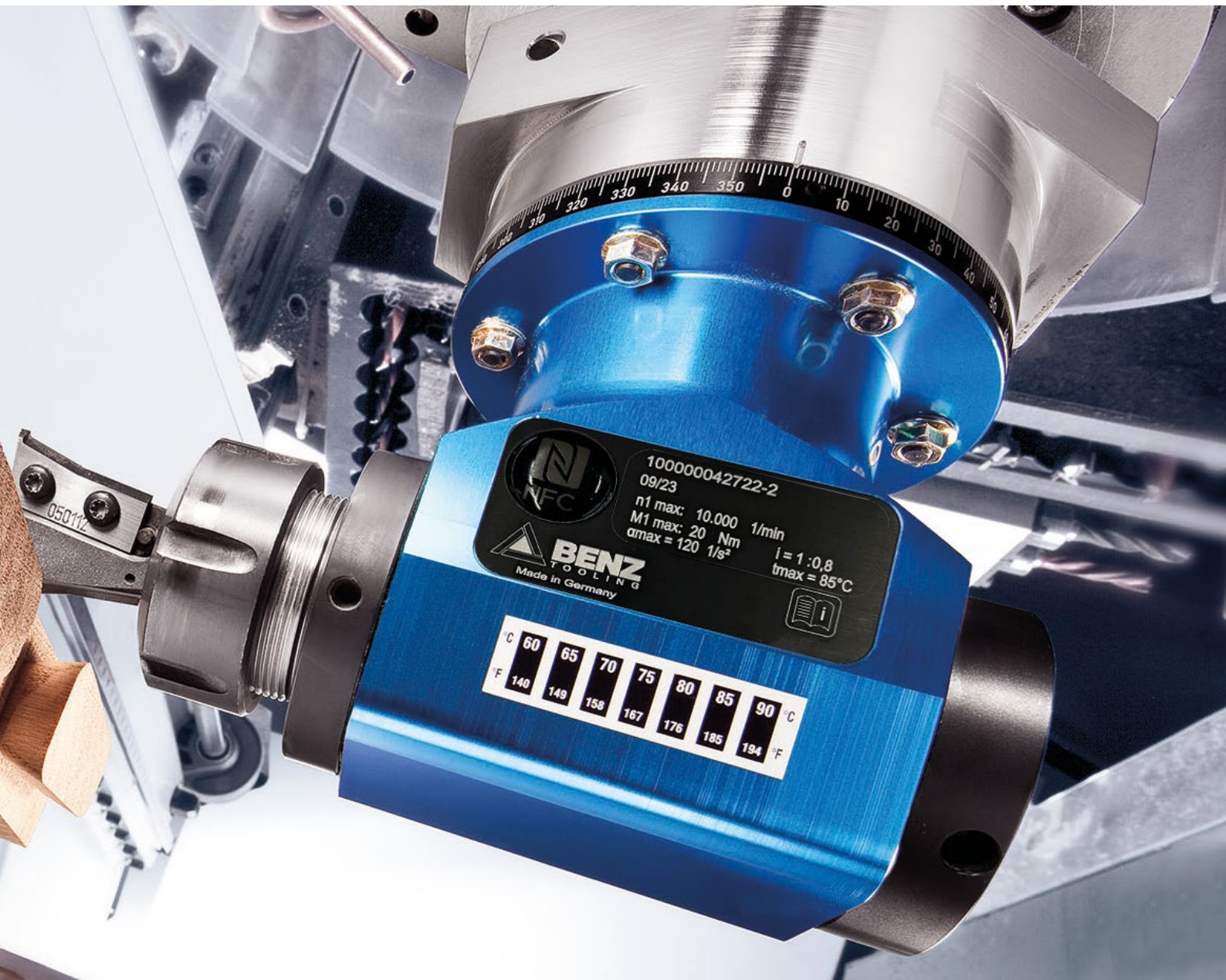




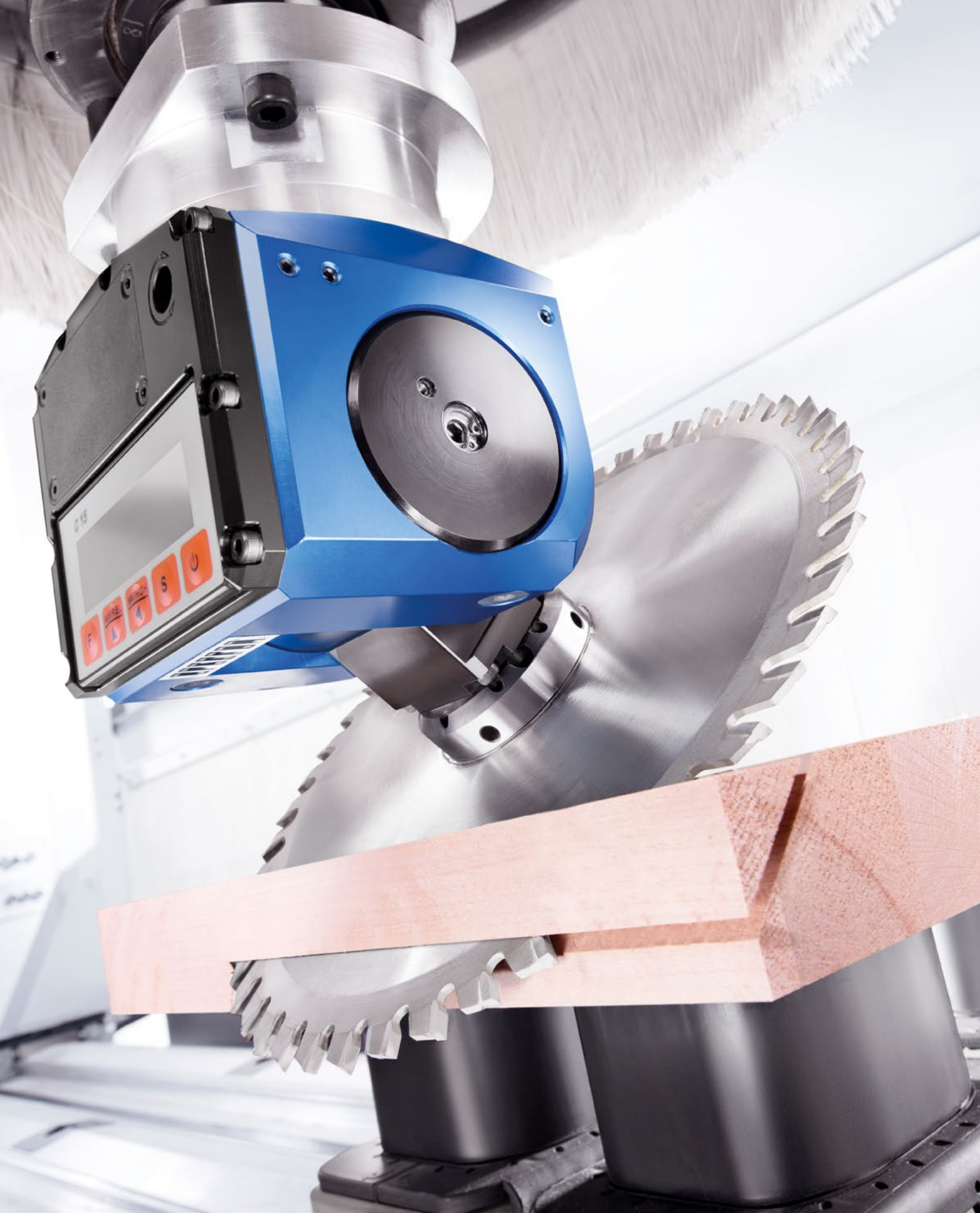
Milling lock cases and faceplates



Using fully automatic and precise slot milling with Flex5+C







Miter sawing



# SAWING – PRECISION IN VARIETY

Precise lengthwise, cross or miter cuts, sections, grooves and slots or fast, powerful separation – BENZ offers the suitable solution for each challenge when sawing.

You can use differently sized saw blades, which are always precisely matched to your application at different angles on different units.



Formatting plates



## PLANING – LETTING THE CHIPS FALL

It is annoying when you have to reclamp individual workpieces. Why not just produce workpieces entirely in a single set-up? Products can be planed in one clamping process using a moulder head on your CNC machine and can be finished using additional units. Moulder heads are suitable for proces-

sing products made of solid wood, sheet products such as MDF, plastic or similar materials. Not even large cutting volumes can push the unit to its limits.





# BRUSHING – SURFACES WITH STRUCTURE

You can visualize the piece of furniture's surface in your mind during the design phase: The solid wood bed with gripping structure or the floor boards in an antique design.

You can create diverse effects and refurbishing outcomes using different brushes and the suitable CNC unit, from the roughest to the finest structure: Individual feel, produced by machine.



Solid wood bed with a brushed surface



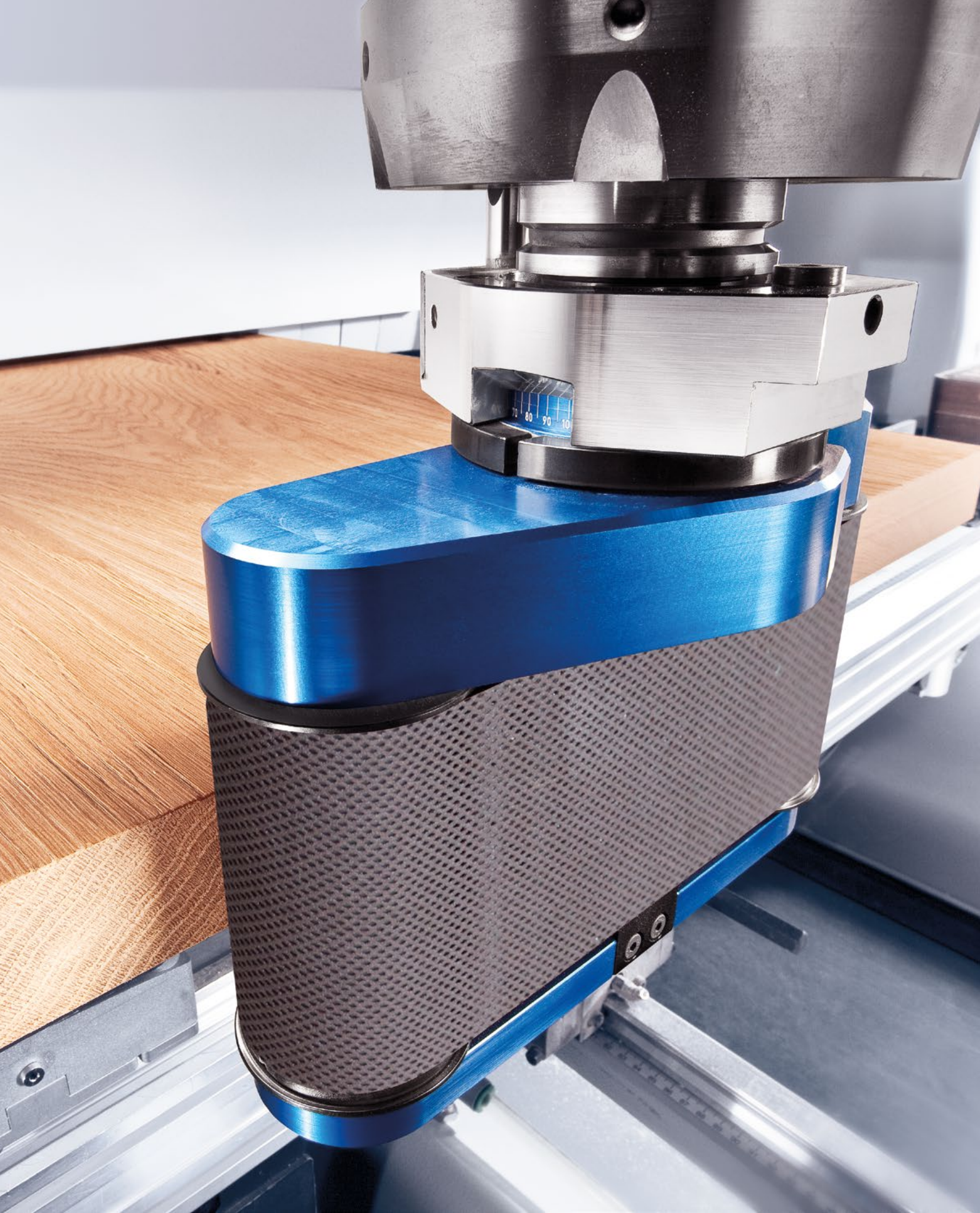
Structured workpiece surface





Moulder head with structure brush





Sanding of front surfaces

# SANDING – THE PERFECT SANDING PATTERN FOR A CUSTOMIZED FEELING

It's a situation you know. You run your hand over a piece of furniture and appreciate its shape under your fingertips. One surface feels rough, another feels fine and smooth. There's only one thing that can deliver this distinctive feeling: the perfect sanding pattern. BENZ sanding units make sure that your workpiece gets the exactly right surface, for every shape and surface.

Your benefit from machine CNC sanding: no more need for time-consuming clamping for further processing or manual rework. Your production process is streamlined and your production costs are reduced as a result.



Chamfer sanding on a step



# CUTTING – MANY DIFFERENT MATERIALS, ONE UNIT

Where wood previously dominated, today you see materials like leather or textiles moving into the production process. Leather-covered seating, foamed-lined instrument cases or lampshades made of pieced-together veneer parts – the list of application examples is long. Despite this new mix

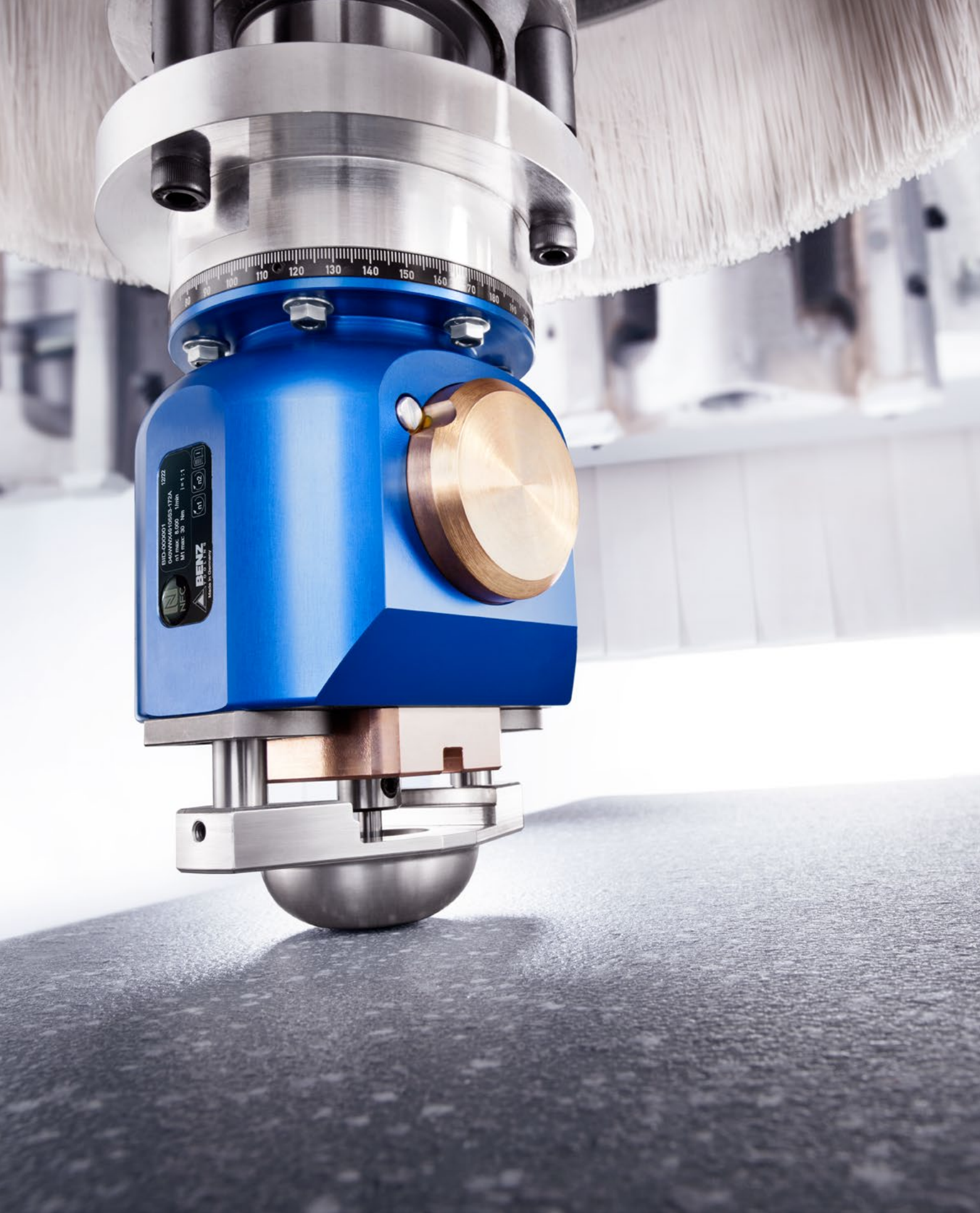
of materials, nothing changes for you in production. Thanks to the BENZ SECO cutting unit, you do not need any special machines. Rather, you are able to cut these materials easily on your CNC machine – and without any splintering.



Cutting carpet



Lampshade - put together out of cutted veneer elements



Cutting PVC



## CHISELING – SQUARE. PRACTICAL. PRECISE.

Typical applications for chiseling processes are stake holes on steps for mounting a handrail or inserting fiche hinges in window processing.

Whether hard or soft wood, CNC chiseling units help you achieve precise, square cutouts.





Horizontal insertion of slots for fiche hinges



Stake holes for steps



Vertical insertion of slots for fiche hinges

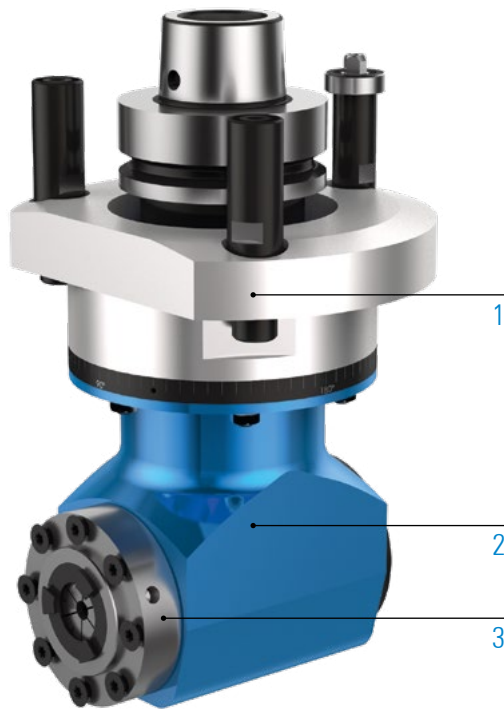


# EXCHANGE- ABLE UNITS

The right unit for every machine and  
application.






# SINGLE SIDED ANGLE HEAD – CLASSIC LINE MONO



## TECHNICAL DATA

Lubrication	Grease
Max. drive speed $n_2$	15,000 rpm
Transmission ratio ( $n_1 : n_2$ )	1:1.2
Max. drive torque $M_2$	25 Nm
Weight	about 5 kg

## STANDARD DESIGN

- 1  Machine connection  
HSK - F63
- 2  Head length
- 3  Output spindle  
Centring Ø40/ collet chuck ER25A

 Accessories from p. 94

## MACHINING



Drilling



Milling



Sawing

## SPECIFICATIONS



Number of  
output spindles



Axis angle



C-angle



Grease lubrication

## VIDEO



Angle head - live in the application  
Scan QR code or go to:

[www.youtube.com/BENZtooling](http://www.youtube.com/BENZtooling)

## TECHNICAL DRAWING





## ADDITIONAL OPTIONS: MODULAR DESIGN

1



### MACHINE CONNECTION



HSK - F63  
BIESSE



SK 30  
BIESSE



HSK - F63  
Busellato



HSK - F63  
Felder



HSK - F63  
HOMAG / WEEKE /  
WEINMANN



HSK - F63  
IMA



HSK - F63  
Masterwood



HSK - F63  
SCM



HSK - F63  
SCM



HSK - F63  
Weinig

**i** For further information see p. 100

2



### HEAD LENGTH



**i** For further information see p. 101

3



### OUTPUT SPINDLE



Collet chuck  
ER25M



Collet chuck  
ER32



Centring Ø40/  
Collet chuck  
ER25A



Centring Ø30/  
Weldon Ø10



Arbor Ø30,  
tool length  
1,5-6 mm



Arbor Ø30,  
tool length  
1,5-16 mm



Arbor Ø30,  
tool length  
1,5-33 mm



Arbor Ø30,  
tool length  
1,5-52 mm



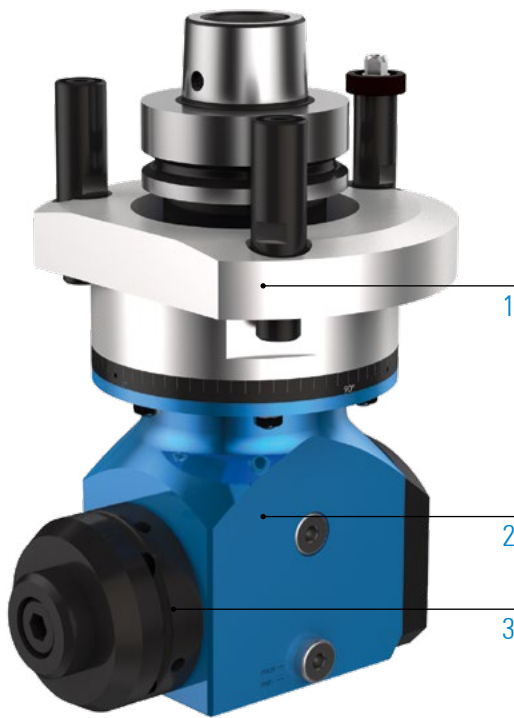
Arbor Ø30,  
tool length  
1,5-63 mm



BENZ  
Solidfix® S3

**i** For further information see p. 102




# SINGLE SIDED ANGLE HEAD – CLASSIC LINE MONO R AT REDUCED SPEED



## TECHNICAL DATA

Lubrication	Grease
Max. drive speed $n_2$	8,000rpm
Transmission ratio ( $n_1: n_2$ )	1:0.8
Max. drive torque $M_2$	25 Nm
Weight	about 5.5 kg

## STANDARD DESIGN

- 1  Machine Connection  
HSK - F63
- 2  Head length
- 3  Output spindle  
Arbor  $\varnothing 30$ , tool length 1,5–6 mm

 Accessories from p. 94

## MACHINING



Drilling



Milling



Sawing

## SPECIFICATIONS



Number of  
output spindles



Axis angle



C-angle



Grease lubrication

## VIDEO



Angle head - live in the application  
Scan QR code or go to:

[www.youtube.com/BENZtooling](http://www.youtube.com/BENZtooling)

## TECHNICAL DRAWING







## ADDITIONAL OPTIONS: MODULAR DESIGN

1



### MACHINE CONNECTION



HSK - F63  
BIESSE



SK 30  
BIESSE



HSK - F63  
Busellato



HSK - F63  
Felder



HSK - F63  
HOMAG / WEEKE /  
WEINMANN



HSK - F63  
IMA



HSK - F63  
Masterwood



HSK - F63  
SCM



HSK - F63  
SCM



HSK - F63  
Weing

**i** For further information see p. 100

2



### HEAD LENGTH



**i** For further information see p. 101

3



### OUTPUT SPINDLE



Collet chuck  
ER25M



Collet chuck  
ER32



Centring Ø30/  
Weldon Ø10



Centring Ø40



Arbor Ø30,  
tool length  
1,5-6 mm



Arbor Ø30,  
tool length  
1,5-16 mm



Arbor Ø30,  
tool length  
1,5-33 mm



Arbor Ø30,  
tool length  
1,5-52 mm



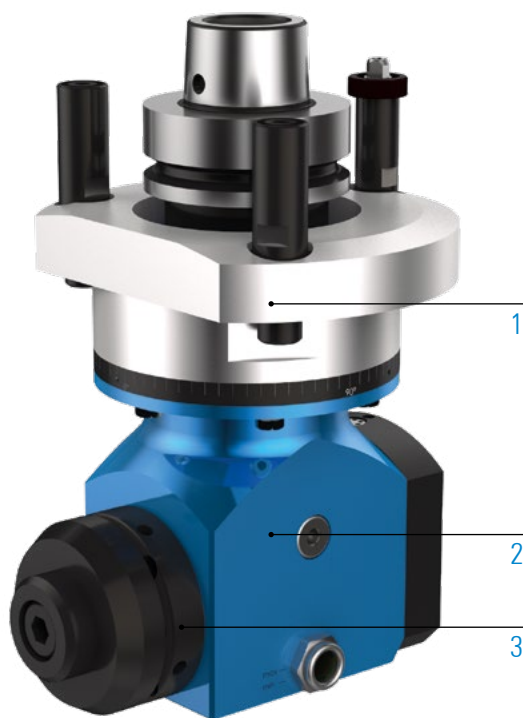
Arbor Ø30,  
tool length  
1,5-63 mm



BENZ  
Solidfix® S3

**i** For further information see p. 102

# SINGLE SIDED ANGLE HEAD – PREMIUM LINE MONO R AT REDUCED SPEED



## TECHNICAL DATA

Lubrication	Oil bath
Max. drive speed $n_2$	8,000 rpm
Transmission ratio ( $n_1 : n_2$ )	1:0.8
Max. drive torque $M_2$	25 Nm
Weight	about 5.5 kg

## STANDARD DESIGN

- 1  Machine Connection  
HSK - F63
- 2  Head length
- 3  Output spindle  
Arbor  $\varnothing 30$ , tool length 1,5–6 mm

 Accessories from p. 94

## MACHINING



Drilling

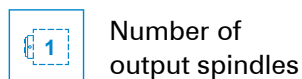


Milling



Sawing

## SPECIFICATIONS



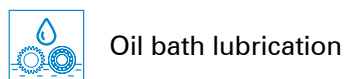
Number of  
output spindles



Axis angle



C-angle



Oil bath lubrication

## VIDEO



Angle head - live in the application  
Scan QR code or go to:

[www.youtube.com/BENZtooling](http://www.youtube.com/BENZtooling)

## TECHNICAL DRAWING





## ADDITIONAL OPTIONS: MODULAR DESIGN

1



### MACHINE CONNECTION



HSK - F63  
BIESSE



SK 30  
BIESSE



HSK - F63  
Busellato



HSK - F63  
Felder



HSK - F63  
HOMAG / WEEKE /  
WEINMANN



HSK - F63  
IMA



HSK - F63  
Masterwood



HSK - F63  
SCM



HSK - F63  
SCM



HSK - F63  
Weinig

**i** For further information see p. 100

2



### HEAD LENGTH



**i** For further information see p. 101

3



### OUTPUT SPINDLE



Collet chuck  
ER25M



Collet chuck  
ER32



Centring Ø30/  
Weldon Ø10



Centring Ø40



Arbor Ø30,  
tool length  
1,5-6 mm



Arbor Ø30,  
tool length  
1,5-16 mm



Arbor Ø30,  
tool length  
1,5-33 mm



Arbor Ø30,  
tool length  
1,5-52 mm



Arbor Ø30,  
tool length  
1,5-63 mm

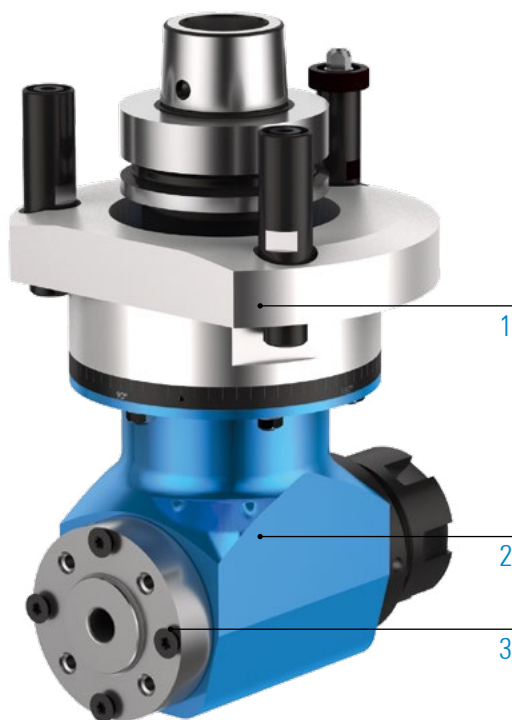


BENZ  
Solidfix® S3

**i** For further information see p. 102







# DOUBLE SIDED ANGLE HEAD – CLASSIC LINE DUO



## TECHNICAL DATA

Lubrication	Grease
Max. drive speed $n_2$	15,000 rpm
Transmission ratio ( $n_1 : n_2$ )	1:1.2
Max. drive torque $M_2$	25 Nm
Weight	about 5 kg

## STANDARD DESIGN

- 1  Machine Connection  
HSK - F63
- 2  Head length
- 3  Output spindle  
Collet chuck ER32  
+  
 Centring Ø30/Weldon Ø10

 Accessories from p. 94

## MACHINING



Drilling

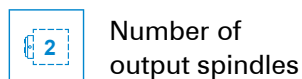


Milling



Sawing

## SPECIFICATIONS



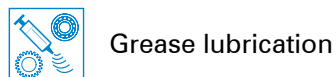
Number of  
output spindles



Axis angle



C-angle



Grease lubrication

## VIDEO



Angle head - live in the application  
Scan QR code or go to:

[www.youtube.com/BENZtooling](http://www.youtube.com/BENZtooling)

## TECHNICAL DRAWING





## ADDITIONAL OPTIONS: MODULAR DESIGN

1

### MACHINE CONNECTION



HSK - F63  
BIESSE



SK 30  
BIESSE



HSK - F63  
Busellato



HSK - F63  
Felder



HSK - F63  
HOMAG / WEEKE /  
WEINMANN



HSK - F63  
IMA



HSK - F63  
Masterwood



HSK - F63  
SCM



HSK - F63  
SCM



HSK - F63  
Weinig

**i** For further information see p. 100

2

### HEAD LENGTH



**i** For further information see p. 101

3

### OUTPUT SPINDLE



Collet chuck  
ER25M



Collet chck  
ER32



Centring Ø40/  
Collet chuck  
ER25A



Centring Ø30/  
Weldon Ø10



Arbor Ø30,  
tool length  
1,5-6 mm



Arbor Ø30,  
tool length  
1,5-16 mm



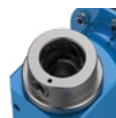
Arbor Ø30,  
tool length  
1,5-33 mm



Arbor Ø30,  
tool length  
1,5-52 mm



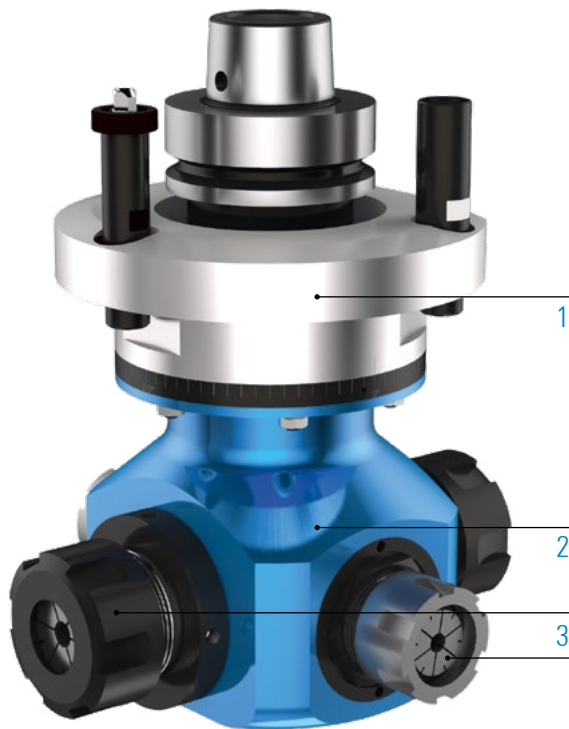
Arbor Ø30,  
tool length  
1,5-63 mm



BENZ  
Solidfix® S3

**i** For further information see p. 102





# FOUR SIDED ANGLE HEAD – CLASSIC LINE QUATTRO



## TECHNICAL DATA

Lubrication	Grease
Max. drive speed $n_2$	15,000 rpm
Transmission ratio ( $n_1 : n_2$ )	1:1.2
Max. drive torque $M_2$ milling spindle	25 Nm
Max. drive torque $M_2$ drilling spindle	10 Nm
Weight	about 6 kg

## STANDARD DESIGN

- 1  Machine Connection  
HSK - F63
- 2  Head length
- 3  Output spindle  
Collet chuck ER32  
+  
 Collet chuck ER25M

 Accessories from p. 94

## MACHINING



Drilling

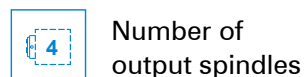


Milling



Sawing

## SPECIFICATIONS



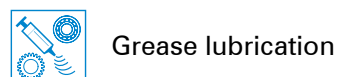
Number of  
output spindles



Axis angle



C-angle



Grease lubrication

## VIDEO



Angle head - live in the application  
Scan QR code or go to:

[www.youtube.com/BENZtooling](http://www.youtube.com/BENZtooling)

## TECHNICAL DRAWING







## ADDITIONAL OPTIONS: MODULAR DESIGN

1

### MACHINE CONNECTION



HSK - F63  
BIESSE



SK 30  
BIESSE



HSK - F63  
Busellato



HSK - F63  
Felder



HSK - F63  
HOMAG / WEEKE /  
WEINMANN



HSK - F63  
IMA



HSK - F63  
Masterwood



HSK - F63  
SCM



HSK - F63  
SCM



HSK - F63  
Weinig

**i** For further information see p. 100

2

### HEAD LENGTH



**M**

**i** For further information see p. 101

3

### OUTPUT SPINDLE



Collet chuck  
ER25M



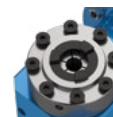
Collet chuck  
ER25M



Collet chuck  
ER32



Collet chuck  
ER25M



Centring Ø40/  
Collet chuck  
ER25A



Collet chuck  
ER25M



BENZ  
Solidfix® S3



Collet chuck  
ER25M

**i** For further information see p. 102

# ADJUSTABLE ANGLE HEAD – CLASSIC LINE

## FLEX D (MANUALLY ADJUSTABLE)





### TECHNICAL DATA


Lubrication	Grease
Max. drive speed $n_2$	15,000 rpm
Transmission ratio ( $n_1 : n_2$ )	1:1
Max. drive torque $M_2$	25 Nm
Weight	about 8 kg

- with digital angle display
- with manual angle adjustment

### STANDARD DESIGN

- 

Machine Connection  
HSK - F63
- 

Head length
- 

Output spindle  
Centring Ø30/Collet chuck ER25M

 Accessories from p. 94

### MACHINING



Drilling



Milling



Sawing

### SPECIFICATIONS



Number of  
output spindles



Axis angle



C-angle



Grease lubrication

### VIDEO



Angle head - live in the application  
Scan QR code or go to:

[www.youtube.com/BENZtooling](http://www.youtube.com/BENZtooling)

### TECHNICAL DRAWING





## ADDITIONAL OPTIONS: MODULAR DESIGN

1

### MACHINE CONNECTION



HSK - F63  
BIESSE



SK 30  
BIESSE



HSK - F63  
Busellato



HSK - F63  
Felder



HSK - F63  
HOMAG / WEEKE /  
WEINMANN



HSK - F63  
IMA



HSK - F63  
Masterwood



HSK - F63  
SCM



HSK - F63  
SCM



HSK - F63  
Weinig

**i** For further information see p. 100

2

### HEAD LENGTH



**i** For further information see p. 101

3

### OUTPUT SPINDLE



Collet chuck  
ER25M



Collet chuck  
ER32



Centring Ø30/  
Collet chuck  
ER25M



Centring Ø30/  
Weldon Ø10



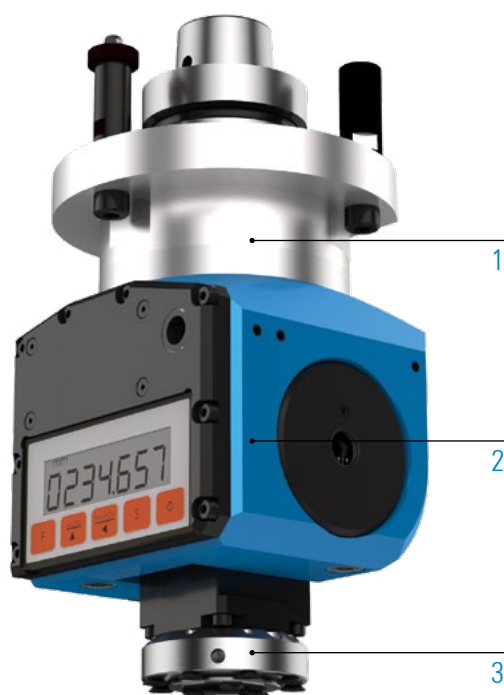
Centring Ø40  
Weldon Ø10 / Ø16

**i** For further information see p. 102



# ADJUSTABLE ANGLE HEAD – PREMIUM LINE

## FLEX D (MANUALLY ADJUSTABLE)





### TECHNICAL DATA


Lubrication	Oil bath
Max. drive speed $n_2$	15,000 rpm
Transmission ratio ( $n_1: n_2$ )	1:0.94
Max. drive torque $M_2$	26.5 Nm
Weight	about 9 kg

- with digital angle display
- with manual angle adjustment

### STANDARD DESIGN

- 

Machine Connection  
HSK - F63
- 

Head length
- 

Output spindle  
Centring Ø40/Collet chuck ER25A

 Accessories from p. 94

### MACHINING



Drilling



Milling



Sawing

### SPECIFICATIONS



Number of  
output spindles



Axis angle



C-angle



Oil bath lubrication

### VIDEO



Angle head - live in the application  
Scan QR code or go to:

[www.youtube.com/BENZtooling](http://www.youtube.com/BENZtooling)

### TECHNICAL DRAWING





## ADDITIONAL OPTIONS: MODULAR DESIGN

1

### MACHINE CONNECTION



HSK - F63  
BIESSE



SK 30  
BIESSE



HSK - F63  
Busellato



HSK - F63  
Felder



HSK - F63  
HOMAG / WEEKE /  
WEINMANN



HSK - F63  
IMA



HSK - F63  
Masterwood



HSK - F63  
SCM



HSK - F63  
SCM



HSK - F63  
Weinig

**i** For further information see p. 100

2

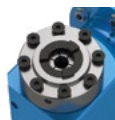
### HEAD LENGTH



**i** For further information see p. 101

3

### OUTPUT SPINDLE



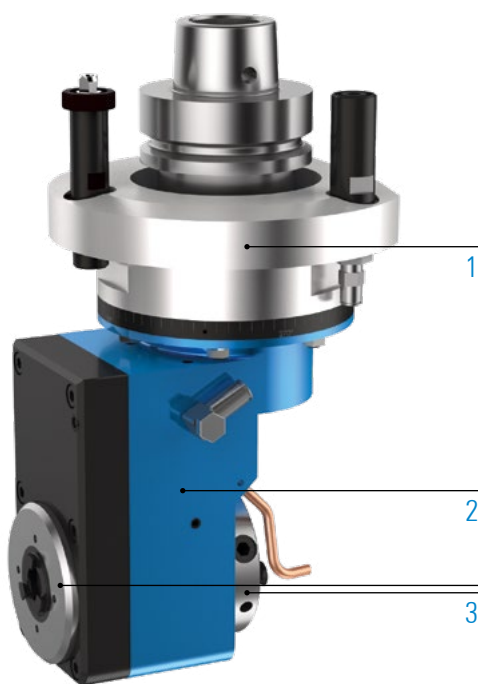
Centring Ø40/  
Collet chuck  
ER25A



Centring Ø30/  
Weldon Ø10

**i** For further information see p. 102





# LOCK RECESS TRIMMING UNIT – CLASSIC LINE FORTE



## TECHNICAL DATA

Lubrication	Grease
Max. drive speed $n_2$	15,000 rpm
Transmission ratio ( $n_1 : n_2$ )	1:1.2
Max. drive torque $M_2$	25 Nm
Weight	about 5.5 kg

## STANDARD DESIGN

- 1  Machine Connection  
HSK - F63
- 2  Head length
- 3  Output spindle  
Centring Ø30/Whistle Notch Ø16/Ø20  
+  
 Collet chuck ER16A

 Accessories from p. 94

## MACHINING



Drilling



Milling

Sawing

## SPECIFICATIONS



Number of  
output spindles



Axis angle



C-angle



Grease lubrication

## VIDEO



Angle head - live in the application  
Scan QR code or go to:

[www.youtube.com/BENZtooling](http://www.youtube.com/BENZtooling)

## TECHNICAL DRAWING







## ADDITIONAL OPTIONS: MODULAR DESIGN

1

### MACHINE CONNECTION



**i** For further information see p. 100

2

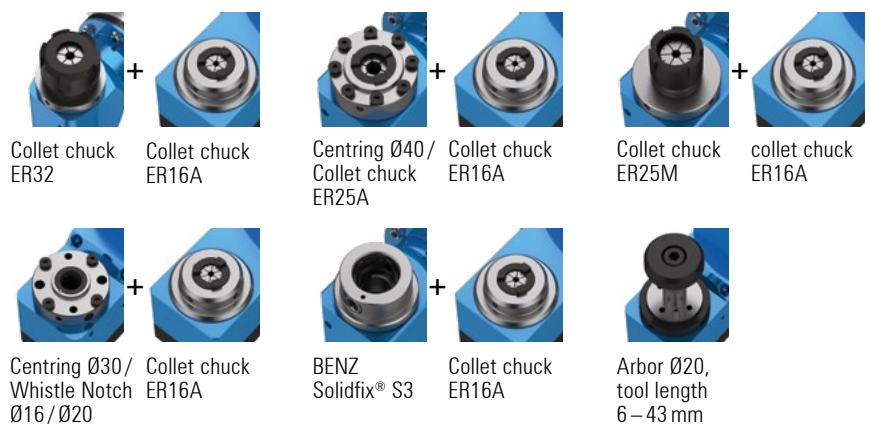
### HEAD LENGTH



**i** For further information see p. 101

3

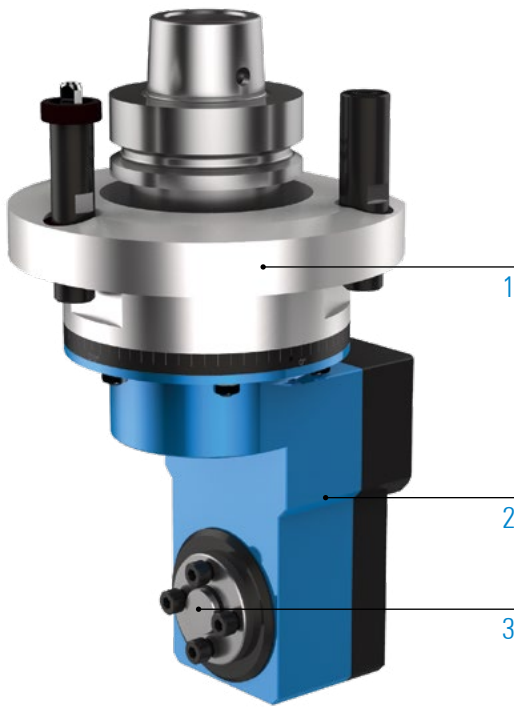
### OUTPUT SPINDLE



**i** For further information see p. 102

# CORNER NOTCHING UNIT – CLASSIC LINE




## ANGULO



### TECHNICAL DATA

Lubrication	Grease
Max. drive speed $n_2$	10,000 rpm
Transmission ratio ( $n_1 : n_2$ )	1:1.3
Max. drive torque $M_2$	20 Nm
Weight	about 4.5 kg

### STANDARD DESIGN

- 1  Machine Connection  
HSK - F63
- 2  Head length
- 3  Output spindle  
Centring Ø16

 Accessories from p. 94

### MACHINING



Drilling



Milling

### SPECIFICATIONS



Number of  
output spindles



Axis angle



C-angle



Grease lubrication

### VIDEO



Angle head - live in the application  
Scan QR code or go to:

[www.youtube.com/BENZtooling](http://www.youtube.com/BENZtooling)

### TECHNICAL DRAWING





## ADDITIONAL OPTIONS: MODULAR DESIGN

1

### MACHINE CONNECTION



HSK - F63  
BIESSE



SK 30  
BIESSE



HSK - F63  
Busellato



HSK - F63  
Felder



HSK - F63  
HOMAG / WEEKE /  
WEINMANN



HSK - F63  
IMA



HSK - F63  
Masterwood



HSK - F63  
SCM



HSK - F63  
SCM



HSK - F63  
Weinig

**i** For further information see p. 100

2

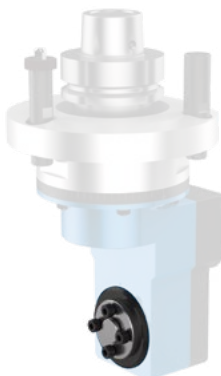
### HEAD LENGTH



**i** For further information see p. 101

3

### OUTPUT SPINDLE



Collet chuck  
ER16A



Collet chuck  
ER25M

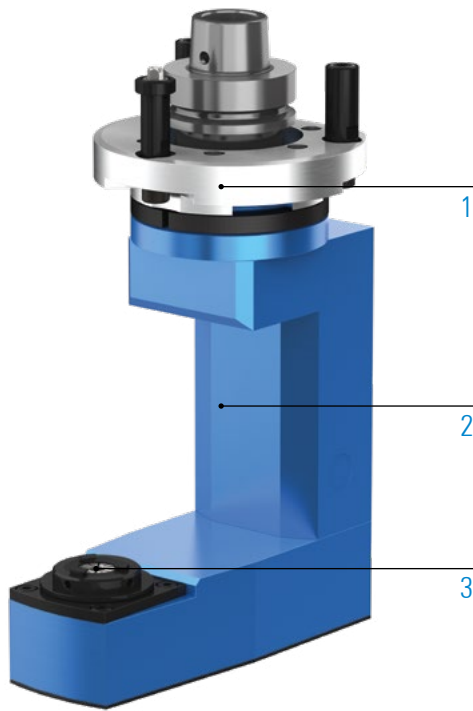


Centring Ø16

**i** For further information see p. 102






# UNDERSURFACE UNIT – CLASSIC LINE SUBIO



## TECHNICAL DATA

Lubrication	Grease
Max. drive speed $n_2$	10,000 rpm
Transmission ratio ( $n_1 : n_2$ )	1:1
Max. drive torque $M_2$	8 Nm
Weight	about 7 kg

## STANDARD DESIGN

- 1  Machine Connection  
HSK - F63
- 2  Head size
- 3  Output spindle  
Collet chuck  
ER25A

 Accessories from p. 94

## MACHINING



Drilling



Milling

## SPECIFICATIONS



Number of  
output spindles



Axis angle



C-angle



Grease lubrication

## TECHNICAL DRAWING





## ADDITIONAL OPTIONS: MODULAR DESIGN

1

### MACHINE CONNECTION



HSK - F63  
BIESSE



SK 30  
BIESSE



HSK - F63  
Busellato



HSK - F63  
Felder



HSK - F63  
HOMAG / WEEKE /  
WEINMANN



HSK - F63  
IMA



HSK - F63  
Masterwood




HSK - F63  
SCM



HSK - F63  
SCM




HSK - F63  
Weinig

 For further information see p. 100

2

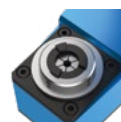
### HEAD SIZE



 For further information see p. 101


3

### OUTPUT SPINDLE



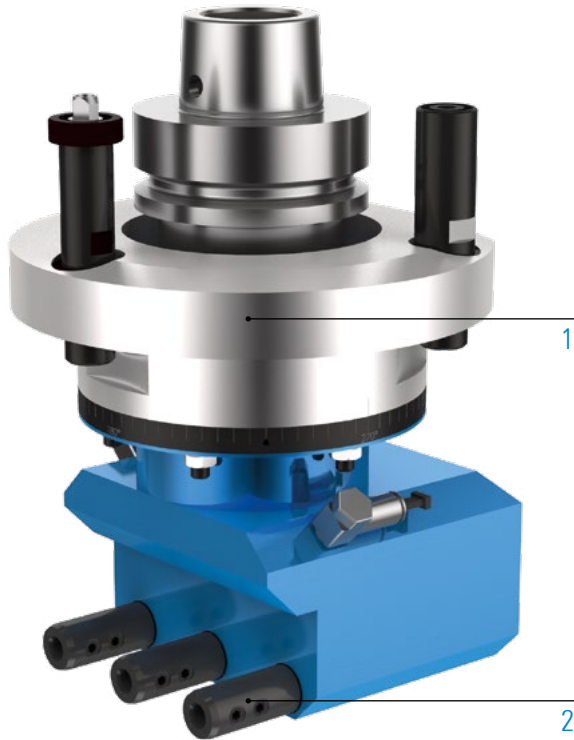
Collet chuck  
ER25A

Weldon Ø12

 For further information see p. 102

# MULTI-SPINDLE HEAD – CLASSIC LINE

## MULTI H3



### TECHNICAL DATA

Lubrication	Grease
Max. drive speed $n_2$	12,000 rpm
Transmission ratio ( $n_1 : n_2$ )	1:4
Max. drive torque $M_2$	2 Nm
Weight	about 4 kg

– Design suitable for nesting applications

### STANDARD DESIGN

- 

Machine Connection  
HSK - F63
- 

Spindle distance
- 

Output spindle  
Whistle Notch Ø6

 Accessories from p. 94

### MACHINING



Drilling

### SPECIFICATIONS



Number of  
output spindles



Axis angle



C-angle



Grease lubrication

### VIDEO



Multi-spindle head - live in the  
application  
Scan QR code or go to:  
[www.youtube.com/BENZtooling](http://www.youtube.com/BENZtooling)

### TECHNICAL DRAWING





## ADDITIONAL OPTIONS: MODULAR DESIGN

1



### MACHINE CONNECTION



HSK - F63  
BIESSE



SK 30  
BIESSE



HSK - F63  
Busellato



HSK - F63  
Felder



HSK - F63  
HOMAG / WEEKE /  
WEINMANN



HSK - F63  
IMA



HSK - F63  
Masterwood



HSK - F63  
SCM



HSK - F63  
SCM



HSK - F63  
Weinig

**i** For further information see p. 100

2



### SPINDLE DISTANCE

20

32

**i** Additional spindle distances/ numbers of spindles/ drilling patterns on request

### OUTPUT SPINDLE



Whistle Notch  
Ø6

**i** For further information see p. 102



# MULTI-SPINDLE HEAD – CLASSIC LINE

## MULTI H3+



### TECHNICAL DATA

Lubrication	Grease
Max. drive speed $n_2$	10,000 rpm
Transmission ratio ( $n_1 : n_2$ )	1:1.37
Max. drive torque $M_2$	5 Nm
Weight	about 4 kg

### STANDARD DESIGN

- 1  Machine Connection  
HSK - F63
- 2  Spindle distance  
**25**
-  Output spindle  
Weldon Ø10

 Accessories from p. 94

### MACHINING

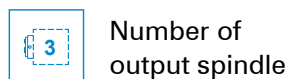


Drilling



Milling

### SPECIFICATIONS



Number of output spindle



Axis angle



C-angle



Grease lubrication

### VIDEO



Multi-spindle head - live in the application  
Scan QR code or go to:  
[www.youtube.com/BENZtooling](http://www.youtube.com/BENZtooling)

### TECHNICAL DRAWING





## ADDITIONAL OPTIONS: MODULAR DESIGN

1



### MACHINE CONNECTION



HSK - F63  
BIESSE



SK 30  
BIESSE



HSK - F63  
Busellato



HSK - F63  
Felder



HSK - F63  
HOMAG / WEEKE /  
WEINMANN



HSK - F63  
IMA



HSK - F63  
Masterwood



HSK - F63  
SCM



HSK - F63  
SCM



HSK - F63  
Weinig

**i** For further information see p. 100

2



### SPINDLE DISTANCE

20

22

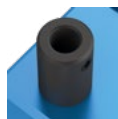
22,5

25

32

**i** Additional spindle distances/ numbers of spindles/ drilling patterns on request

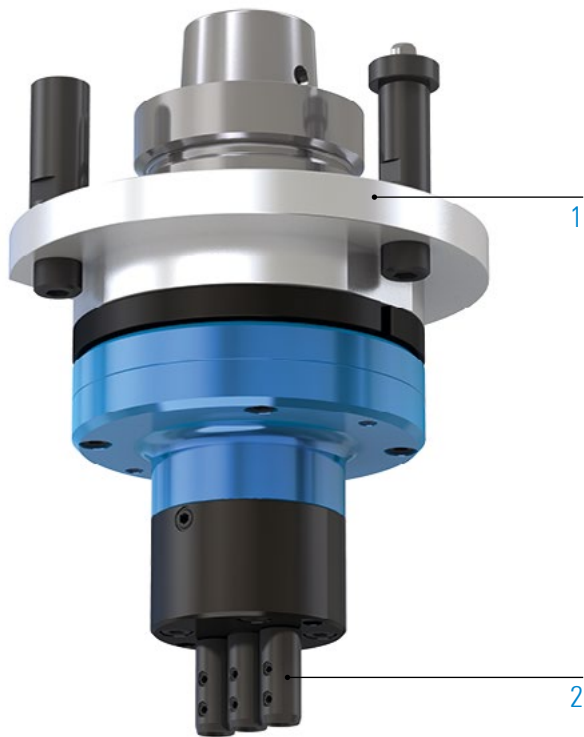
### OUTPUT SPINDLE



Weldon Ø10

**i** For further information see p. 102


# MULTI-SPINDLE HEAD MULTI V3 CABINEO



## TECHNICAL DATA

Lubrication	Grease
Max. drive speed $n_2$	10,000 rpm
Transmission ratio ( $n_1 : n_2$ )	1:1
Max. drive torque $M_2$	3 Nm
Weight	about 4 kg

## STANDARD DESIGN

- 1  Machine Connection  
HSK - F63
- 2  Number of spindles
-  Spindle distance
-  Output spindle  
Weldon Ø6

 Accessories from p. 94

## MACHINING



Drilling

## SPECIFICATIONS



Number of output spindles



Axis angle



C-angle



Grease lubrication

## VIDEO



Multi-spindle head - live in the application

Scan QR code or go to:

[www.youtube.com/BENZtooling](http://www.youtube.com/BENZtooling)

## TECHNICAL DRAWING





## ADDITIONAL OPTIONS: MODULAR DESIGN

1

### MACHINE CONNECTION



HSK - F63  
BIESSE



SK 30  
BIESSE



HSK - F63  
Busellato



HSK - F63  
Felder



HSK - F63  
HOMAG / WEEKE /  
WEINMANN



HSK - F63  
IMA



HSK - F63  
Masterwood



HSK - F63  
SCM



HSK - F63  
SCM



HSK - F63  
Weinig



For further information see p. 100

2

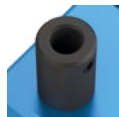
### NUMBER OF SPINDLES

3

### SPINDLE DISTANCE

11,2

### OUTPUT SPINDLE



Weldon Ø6



For further information see p. 102

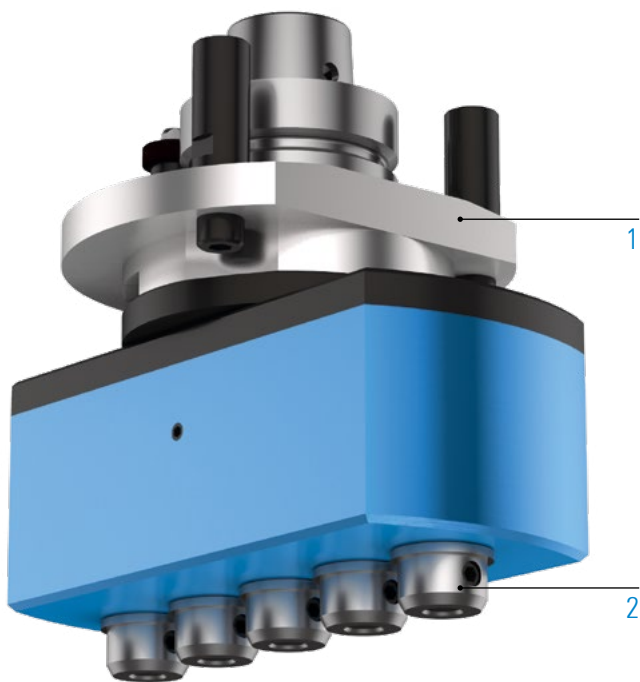


# MULTI-SPINDLE HEAD – CLASSIC LINE



## MULTI V5

### TECHNICAL DATA

Lubrication	Grease
Max. drive speed $n_2$	12,000 rpm
Transmission ratio ( $n_1 : n_2$ )	1:1
Max. drive torque $M_2$	5 Nm
Weight	about 5.5 kg



### STANDARD DESIGN

- 1  Machine Connection  
HSK - F63
- 2  Number of spindles
-  Spindle distance
-  Output spindle  
Weldon Ø10

 Accessories from p. 94

### MACHINING

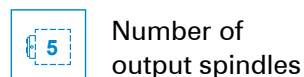


Drilling



Milling

### SPECIFICATIONS



Number of output spindles



Axis angle



C-angle



Grease lubrication

### VIDEO



Multi-spindle head - live in the application  
Scan QR code or go to:  
[www.youtube.com/BENZtooling](http://www.youtube.com/BENZtooling)

### TECHNICAL DRAWING





## ADDITIONAL OPTIONS: MODULAR DESIGN

1



### MACHINE CONNECTION



**i** For further information see p. 100

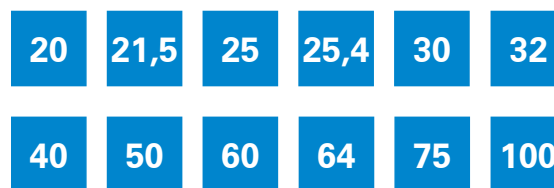
2



### NUMBER OF SPINDLES

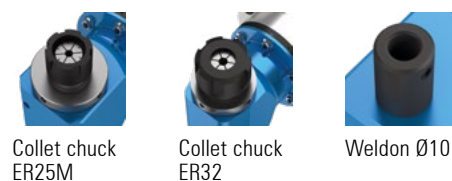


### SPINDLE DISTANCE



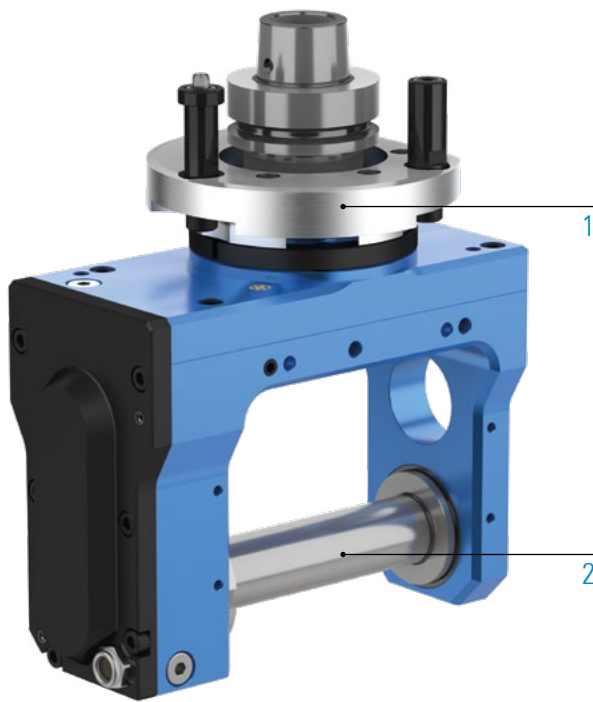
**i** Additional spindle distances/ numbers of spindles/ drilling patterns on request

### OUTPUT SPINDLE



**i** For further information see p. 102


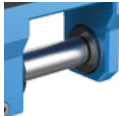
# MOULDER HEAD – PREMIUM LINE MOULDER



## TECHNICAL DATA

Lubrication	Oil bath
Max. drive speed $n_2$	10,000 rpm
Transmission ratio ( $n_1 : n_2$ )	1:0.9
Max. drive torque $M_2$	25 Nm
Weight	about 7.5 kg
Max. tool diameter	Ø125

## STANDARD DESIGN

- 1  Machine connection  
HSK - F63
- 2  Output spindle  
Arbor Ø30, tool length 100 mm

 Accessories from p. 94

## MACHINING



Milling



Sawing



Planing



Brushing

## SPECIFICATIONS



Number of  
output spindles



Axis angle



C-angle



Oil bath lubrication

## VIDEO



Unit - live in the application  
Scan QR code or go to:  
[www.youtube.com/BENZtooling](http://www.youtube.com/BENZtooling)

## TECHNICAL DRAWING

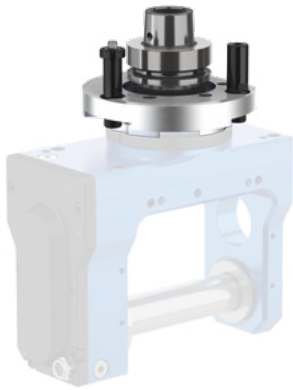




## ADDITIONAL OPTIONS: MODULAR DESIGN

1

### MACHINE CONNECTION



HSK - F63  
BIESSE



SK 30  
BIESSE



HSK - F63  
Busellato



HSK - F63  
Felder



HSK - F63  
HOMAG / WEEKE /  
WEINMANN



HSK - F63  
IMA



HSK - F63  
Masterwood



HSK - F63  
SCM



HSK - F63  
SCM

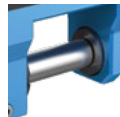
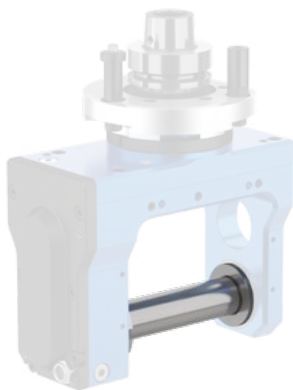


HSK - F63  
Weinig

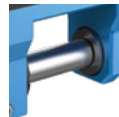
 For further information see p. 100

2

### OUTPUT SPINDLE



Arbor Ø30,  
tool length  
100 mm



Arbor Ø30,  
tool length  
120 mm

 Additional arbor diameters and tool lengths on request



# FLOATING TRIMMING UNIT – CLASSIC LINE



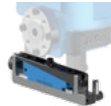
## FLOATING HS

### TECHNICAL DATA

Lubrication	Grease
Max. drive speed $n_2$	15,000 rpm
Transmission ratio ( $n_1 : n_2$ )	1:1.2
Max. drive torque $M_2$	25 Nm
Weight	ca. 8,5 kg



### STANDARD DESIGN

- 1  Machine connection  
HSK - F63
- 2  Output spindle  
Centring Ø30/Weldon Ø10
- 3  Material tracing element  
Steel

 Accessories from p. 94

### MACHINING



Milling



Sawing

### SPECIFICATIONS



Number of  
output spindles



Axis angle



C-angle



Grease lubrication

### TECHNICAL DRAWING





## ADDITIONAL OPTIONS: MODULAR DESIGN

1

### MACHINE CONNECTION



HSK - F63  
BIESSE



SK 30  
BIESSE



HSK - F63  
Busellato



HSK - F63  
Felder



HSK - F63  
HOMAG / WEEKE /  
WEINMANN



HSK - F63  
IMA



HSK - F63  
Masterwood




HSK - F63  
SCM



HSK - F63  
SCM



HSK - F63  
Weinig

 For further information see p. 100

2

### OUTPUT SPINDLE



Centring Ø40/  
collet chuck  
ER25A



Centring Ø30/  
Weldon Ø10

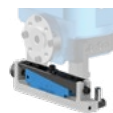


Arbor Ø30,  
tool length  
1.5 - 6 mm

 For further information see p. 102

3

### MATERIAL TRACING ELEMENT



Plastic



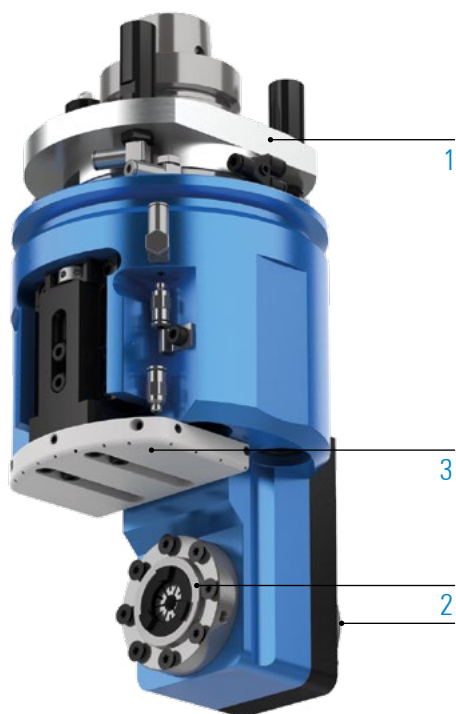
Steel

# FLOATING TRIMMING UNIT – CLASSIC LINE





## FLOATING HB

### TECHNICAL DATA

Lubrication	Grease
Max. drive speed $n_2$	15,000 rpm
Transmission ratio ( $n_1 : n_2$ )	1:1.2
Max. drive torque $M_2$	25 Nm
Weight	ca. 8,5 kg



### STANDARD DESIGN

- 1  Machine connection  
HSK - F63
  - 2  Output spindle  
Centring Ø30/Weldon Ø10
  - 3  Collet chuck ER16A
-  Material tracing element  
Steel

 Accessories from p. 94

### MACHINING

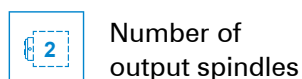


Drilling



Milling

### SPECIFICATIONS



Number of output spindles



Axis angle



C-angle



Grease lubrication

### TECHNICAL DRAWING





## ADDITIONAL OPTIONS: MODULAR DESIGN

1

### MACHINE CONNECTION



HSK - F63  
BIESSE



SK 30  
BIESSE



HSK - F63  
Busellato



HSK - F63  
Felder



HSK - F63  
HOMAG / WEEKE /  
WEINMANN



HSK - F63  
IMA



HSK - F63  
Masterwood



HSK - F63  
SCM



HSK - F63  
SCM



HSK - F63  
Weinig

**i** For further information see p. 100

2

### OUTPUT SPINDLE



Collet chuck  
ER32



Collet chuck  
ER16A



Centring Ø40/  
Collet chuck  
ER25A



Collet chuck  
ER16A



Collet chuck  
ER25M



collet chuck  
ER16A



Centring Ø30/  
Whistle Notch  
Ø16/Ø20



Collet chuck  
ER16A



BENZ  
Solidfix® S3



Collet chuck  
ER16A

**i** For further information see p. 102

3

### MATERIAL TRACING ELEMENT



Plastic

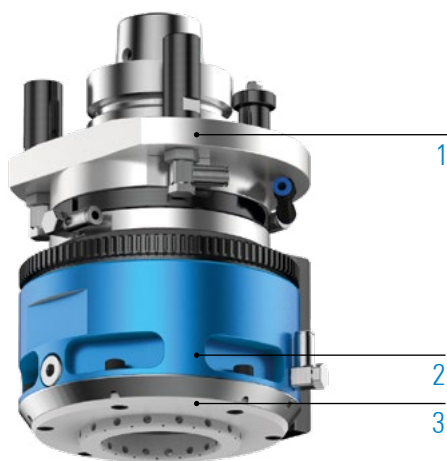


Steel



# FLOATING TRIMMING UNIT – CLASSIC LINE

## FLOATING VC



### TECHNICAL DATA

Lubrication	Grease
Max. drive speed $n_2$	24,000 rpm
Transmission ratio ( $n_1: n_2$ )	1:1
Max. drive torque $M_2$	8 Nm
Weight	about 4.5 kg

### STANDARD DESIGN

- 1  Machine connection  
HSK - F63
- 2  Output spindle  
Weldon Ø10/Ø16
- 3  **50** Internal diameter of floating ring

 Accessories from p. 94

### MACHINING

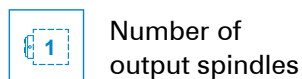


Drilling



Milling

### SPECIFICATIONS



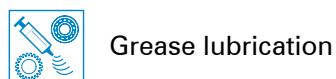
Number of output spindles



Axis angle



C-angle



Grease lubrication

### VIDEO



Unit - live in the application  
Scan QR code or go to:

[www.youtube.com/BENZtooling](http://www.youtube.com/BENZtooling)

### TECHNICAL DRAWING





## ADDITIONAL OPTIONS: MODULAR DESIGN

1

### MACHINE CONNECTION



HSK - F63  
BIESSE



SK 30  
BIESSE



HSK - F63  
Busellato



HSK - F63  
Felder



HSK - F63  
HOMAG / WEEKE /  
WEINMANN



HSK - F63  
IMA



HSK - F63  
Masterwood



HSK - F63  
SCM



HSK - F63  
SCM



HSK - F63  
Weinig

**i** For further information see p. 100

2

### OUTPUT SPINDLE



Weldon  
Ø 10/Ø 16

**i** For further information see p. 102

3

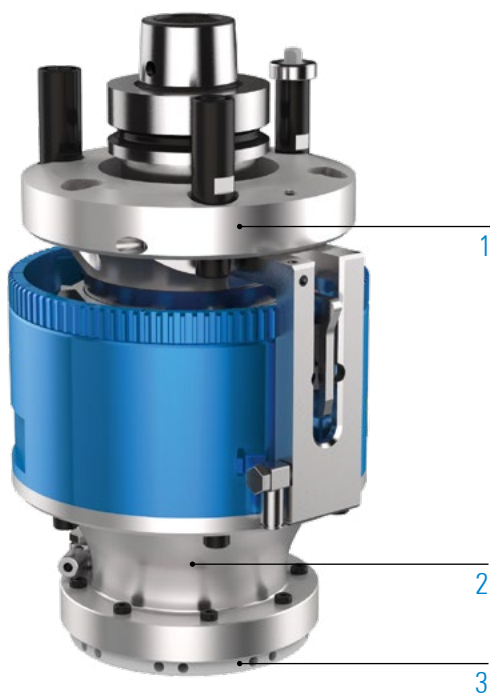
### INTERNAL DIAMETER OF FLOATING RING



**50**

**i** Additional internal diameters of floating ring on request

# FLOATING TRIMMING UNIT – CLASSIC LINE FLOATING V



## TECHNICAL DATA

Lubrication	Grease
Max. drive speed $n_2$	18,000 rpm
Transmission ratio ( $n_1: n_2$ )	1:1
Max. drive torque $M_2$	10 Nm
Weight	about 6 kg

## STANDARD DESIGN

- 1  Machine connection  
HSK - F63
- 2  Output spindle  
BENZ Solidfix® S3
- 3  Internal diameter of floating  
ring

 Accessories from p. 94

## MACHINING



Drilling



Milling

## SPECIFICATIONS



Number of  
output spindles



Axis angle



Grease lubrication

## VIDEO



Unit - live in the application  
Scan QR code or go to:

[www.youtube.com/BENZtooling](http://www.youtube.com/BENZtooling)

## TECHNICAL DRAWING





## ADDITIONAL OPTIONS: MODULAR DESIGN

1



### MACHINE CONNECTION



HSK - F63  
BIESSE



SK 30  
BIESSE



HSK - F63  
Busellato



HSK - F63  
Felder



HSK - F63  
HOMAG / WEEKE /  
WEINMANN



HSK - F63  
IMA



HSK - F63  
Masterwood



HSK - F63  
SCM



HSK - F63  
SCM



HSK - F63  
Weinig

 For further information see p. 100

2



### OUTPUT SPINDLE



BENZ  
Solidfix® S3

 For further information see p. 102

3



### INTERNAL DIAMETER OF FLOATING RING

70

94

105

122

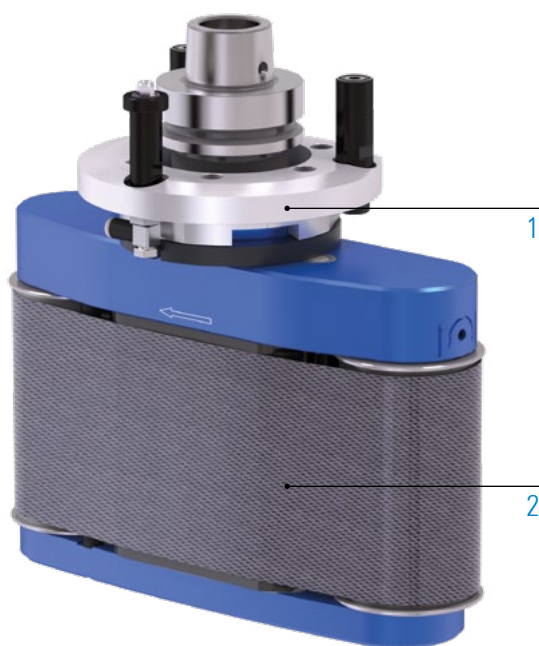
135

 Additional internal diameters of floating ring on request



# BELT SANDING UNIT – CLASSIC LINE

## COLLEVO+



### TECHNICAL DATA

Lubrication	Grease
Max. drive speed $n_2$	2,700rpm
Transmission ratio ( $n_1: n_2$ )	1:0.9
Weight	about 9 kg

### STANDARD DESIGN

- 1  Machine Connection  
HSK - F63
- 2  Sanding belt  
Width 100 mm, length 560 mm

 Accessories on request

### MACHINING



Sanding

### SPECIFICATIONS



Number of  
output spindles



Axis angle



C-angle



Grease lubrication

### VIDEO



Unit - live in the application  
Scan QR code or go to:  
[www.youtube.com/BENZtooling](http://www.youtube.com/BENZtooling)

### TECHNICAL DRAWING





## ADDITIONAL OPTIONS: MODULAR DESIGN

1



### MACHINE CONNECTION



HSK - F63  
BIESSE



SK 30  
BIESSE



HSK - F63  
Busellato



HSK - F63  
Felder



HSK - F63  
HOMAG / WEEKE /  
WEINMANN



HSK - F63  
IMA



HSK - F63  
Masterwood



HSK - F63  
SCM



HSK - F63  
SCM



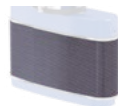
HSK - F63  
Weinig

 For further information see p. 100

2



### SANDING BELT



Width 100 mm,  
length 560 mm

# ORBITAL SANDING UNIT – CLASSIC LINE




## SIMOLO



### TECHNICAL DATA

Lubrication	Grease
Max. drive speed $n_2$	4,000 min <sup>-1</sup>
Transmission ratio ( $n_1 : n_2$ )	1:1
Weight	about 3 kg

### STANDARD DESIGN

- 1  Machine Connection  
HSK - F63
- 2  ME Hardness level of sanding disc
-  125 Diameter of sanding disc

 Accessories on request

### MACHINING



Sanding

### SPECIFICATIONS



Number of  
output spindles



Axis angle



Grease lubrication

### VIDEO



Unit - live in the application  
Scan QR code or go to:

[www.youtube.com/BENZtooling](http://www.youtube.com/BENZtooling)

### TECHNICAL DRAWING





## ADDITIONAL OPTIONS: MODULAR DESIGN

1



### MACHINE CONNECTION



HSK - F63



HSK - E63



SK 30

 For further information see p. 100

2



### HARDNESS LEVEL OF SANDING DISC

SO

ME


HA

### DIAMETER OF SANDING DISC

50

125

150

 Additional diameters of sanding disc on request

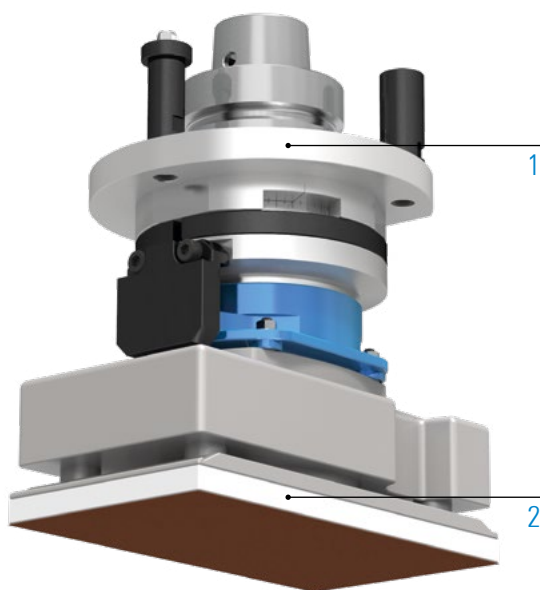
 For further information see p. 102

# VIBRATING SANDING UNIT – CLASSIC LINE



## ZUCCO

### TECHNICAL DATA

Lubrication	Grease
Max. drive speed $n_2$	3,000 rpm
Transmission ratio ( $n_1 : n_2$ )	1:1
Weight	about 3 kg



### STANDARD DESIGN

- 1  Machine connection  
HSK - F63
- 2  Sanding plate  
Width 93 mm, Length 175 mm

 Accessories on request

### MACHINING



Sanding

### SPECIFICATIONS



Number of  
output spindles



Axis angle



C-angle



Grease lubrication

### ORDER DIRECTLY



Inquiry form:  
[www.benztooling.com/en/products](http://www.benztooling.com/en/products)

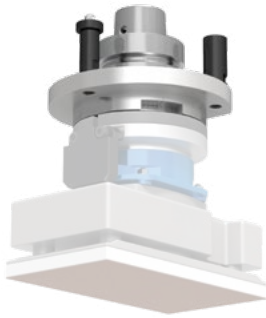




## ADDITIONAL OPTIONS: MODULAR DESIGN

1

### MACHINE CONNECTION



HSK - F63  
BIESSE



SK 30  
BIESSE



HSK - F63  
Busellato



HSK - F63  
Felder



HSK - F63  
HOMAG / WEEKE /  
WEINMANN



HSK - F63  
IMA



HSK - F63  
Masterwood



HSK - F63  
SCM



HSK - F63  
SCM



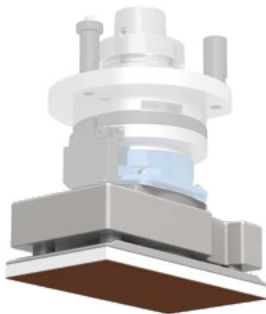
HSK - F63  
Weinig



For further information see p. 100

2

### SANDING PLATE



Width 93 mm,  
Length 175 mm

# CUTTING UNIT – CLASSIC LINE SECO

## TECHNICAL DATA



Lubrication	Grease
Max. drive speed $n_2$	6,000rpm
Transmission ratio ( $n_1 : n_2$ )	1:1.2
Stroke	5 mm
Weight	about 6.5 kg

## STANDARD DESIGN

- 1  Machine Connection  
HSK - F63
- 2  Output spindle  
Weldon Ø6

 Accessories from p. 94

## MACHINING



Cutting

## SPECIFICATIONS



Number of output spindles



Axis angle



C-angle



Grease lubrication

## VIDEO



Unit - live in the application  
Scan QR code or go to:  
[www.youtube.com/BENZtooling](http://www.youtube.com/BENZtooling)

## TECHNICAL DRAWING





## ADDITIONAL OPTIONS: MODULAR DESIGN

1

### MACHINE CONNECTION



HSK - F63  
BIESSE



SK 30  
BIESSE



HSK - F63  
Busellato



HSK - F63  
Felder



HSK - F63  
HOMAG / WEEKE /  
WEINMANN



HSK - F63  
IMA



HSK - F63  
Masterwood



HSK - F63  
SCM



HSK - F63  
SCM



HSK - F63  
Weinig



For further information see p. 100

2

### OUTPUT SPINDLE



Weldon Ø6

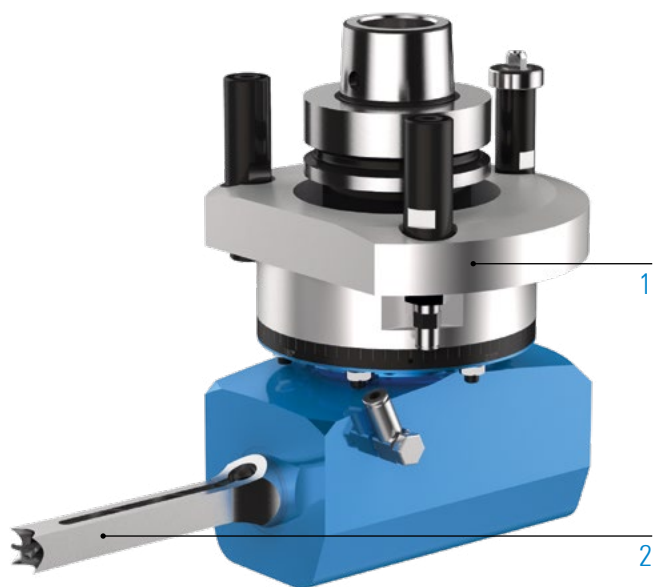


For further information see p. 102

# CHISEL MORTISING UNIT – CLASSIC LINE RENITO H

## TECHNICAL DATA

Lubrication	Grease
Max. drive speed $n_2$	1,000rpm
Transmission ratio ( $n_1: n_2$ )	1:0.73
Max. drive torque $M_2$	22 Nm
Weight	about 4.5 kg



## STANDARD DESIGN

- 1  Machine Connection  
HSK - F63
- 2  Chisel cross section  
**10**

 Accessories on request

## MACHINING



Chiselling

## SPECIFICATIONS



Number of output spindles



Axis angle



C-angle



Grease lubrication

## VIDEO



Unit - live in the application  
Scan QR code or go to:

[www.youtube.com/BENZtooling](http://www.youtube.com/BENZtooling)

## TECHNICAL DRAWING





## ADDITIONAL OPTIONS: MODULAR DESIGN

1

### MACHINE CONNECTION



HSK - F63  
BIESSE



SK 30  
BIESSE



HSK - F63  
Busellato



HSK - F63  
Felder



HSK - F63  
HOMAG / WEEKE /  
WEINMANN



HSK - F63  
IMA



HSK - F63  
Masterwood



HSK - F63  
SCM



HSK - F63  
SCM

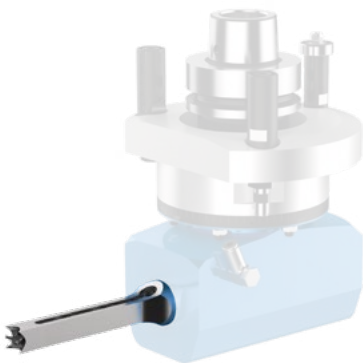


HSK - F63  
Weing

**i** For further information see p. 100

2

### CHISEL CROSS SECTION



3,6

4,2

6

8

9

10

11

12

12,7

14

15

16

**i** Additional chisel cross sections on request



# CHISEL MORTISING UNIT – CLASSIC LINE RENITO V



## TECHNICAL DATA

Lubrication	Grease
Max. drive speed $n_2$	1,000rpm
Transmission ratio ( $n_1: n_2$ )	1:1
Max. drive torque $M_2$	22 Nm
Weight	about 3.5 kg

## STANDARD DESIGN

- 1  Machine Connection  
HSK - F63
- 2  Chisel cross section  
**10**

 Accessories on request

## MACHINING



Chiselling

## SPECIFICATIONS



Number of  
output spindles



Axis angle



C-angle



Grease lubrication

## VIDEO



Unit - live in the application  
Scan QR code or go to:

[www.youtube.com/BENZtooling](http://www.youtube.com/BENZtooling)

## TECHNICAL DRAWING





## ADDITIONAL OPTIONS: MODULAR DESIGN

1

### MACHINE CONNECTION



HSK - F63  
BIESSE



SK 30  
BIESSE



HSK - F63  
Busellato



HSK - F63  
Felder



HSK - F63  
HOMAG / WEEKE /  
WEINMANN



HSK - F63  
IMA



HSK - F63  
Masterwood



HSK - F63  
SCM



HSK - F63  
SCM



HSK - F63  
Weinig



For further information see p. 100

2

### CHISEL CROSS SECTION



3,6

4,2

6

8

9

10

11

12

12,7

14

15

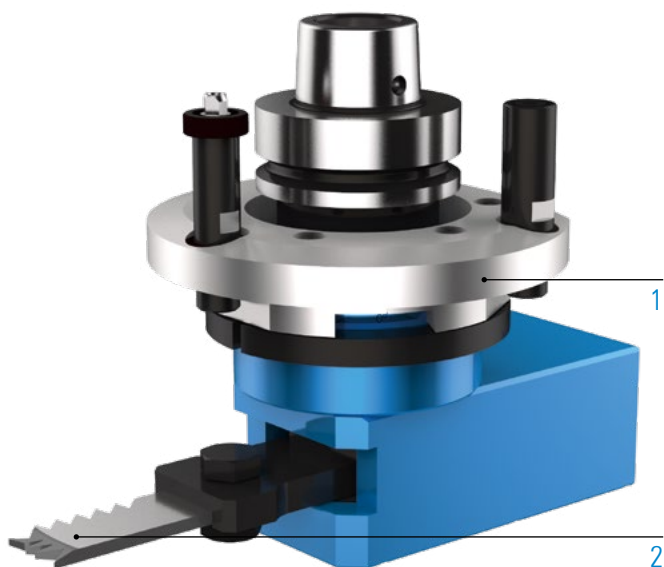
16



Additional chisel cross sections on request

# HINGE MORTISING UNIT – CLASSIC LINE


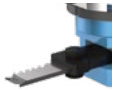
## CAVO H



### TECHNICAL DATA

Lubrication	Grease
Max. drive speed $n_2$	4,000rpm
Transmission ratio ( $n_1: n_2$ )	1:1
Weight	about 4.5kg

### STANDARD DESIGN

- 1  Machine Connection  
HSK - F63
- 2  Output spindle  
Groove width 24

 Accessories on request

### MACHINING



Chiselling

### SPECIFICATIONS



Number of output spindles



Axis angle



C-angle



Grease lubrication

### VIDEO



Unit - live in the application  
Scan QR code or go to:

[www.youtube.com/BENZtooling](http://www.youtube.com/BENZtooling)

### TECHNICAL DRAWING

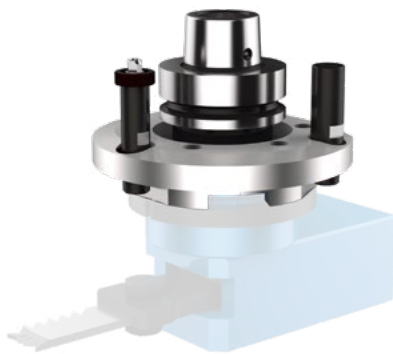




## ADDITIONAL OPTIONS: MODULAR DESIGN

1

### MACHINE CONNECTION



HSK - F63  
BIESSE



SK 30  
BIESSE



HSK - F63  
Busellato



HSK - F63  
Felder



HSK - F63  
HOMAG / WEEKE /  
WEINMANN



HSK - F63  
IMA



HSK - F63  
Masterwood



HSK - F63  
SCM



HSK - F63  
SCM



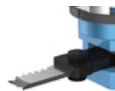
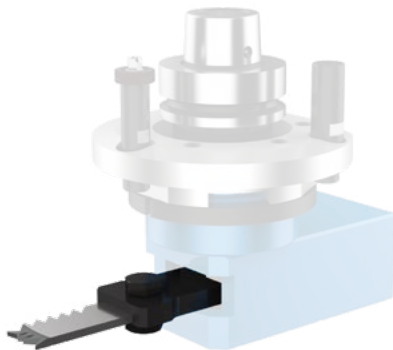
HSK - F63  
Weinig



For further information see p. 100

2

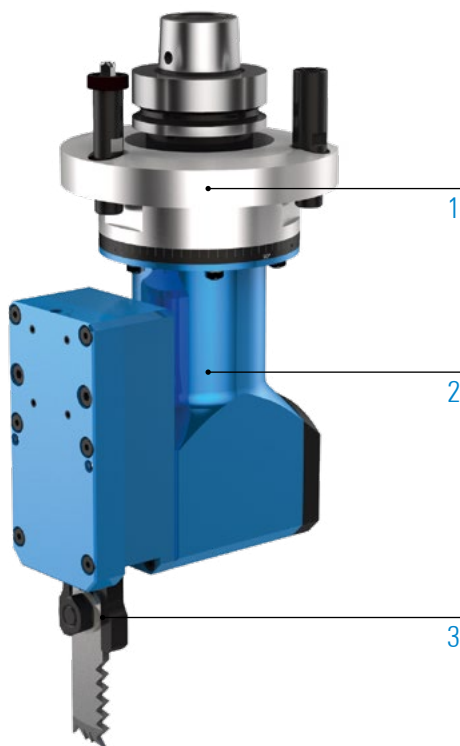
### OUTPUT SPINDLE



Groove width 24

# HINGE MORTISING UNIT – CLASSIC LINE

## CAVO V



### TECHNICAL DATA

Lubrication	Grease
Max. drive speed $n_2$	4,000rpm
Transmission ratio ( $n_1: n_2$ )	1:0.8
Weight	about 8 kg

### STANDARD DESIGN

- 1  Machine Connection  
HSK - F63
- 2  Head length
- 3  Output spindle  
Groove width 24

 Accessories on request

### MACHINING



Chiselling

### SPECIFICATIONS



Number of output spindles



Axis angle



C-angle



Grease lubrication

### VIDEO



Unit - live in the application  
Scan QR code or go to:

[www.youtube.com/BENZtooling](http://www.youtube.com/BENZtooling)

### TECHNICAL DRAWING







## ADDITIONAL OPTIONS: MODULAR DESIGN

1

### MACHINE CONNECTION



HSK - F63  
BIESSE



SK 30  
BIESSE



HSK - F63  
Busellato



HSK - F63  
Felder



HSK - F63  
HOMAG / WEEKE /  
WEINMANN



HSK - F63  
IMA



HSK - F63  
Masterwood




HSK - F63  
SCM



HSK - F63  
SCM



HSK - F63  
Weinig

 For further information see p. 100

2

### HEAD LENGTH



 For further information see p. 101

3

### OUTPUT SPINDLE



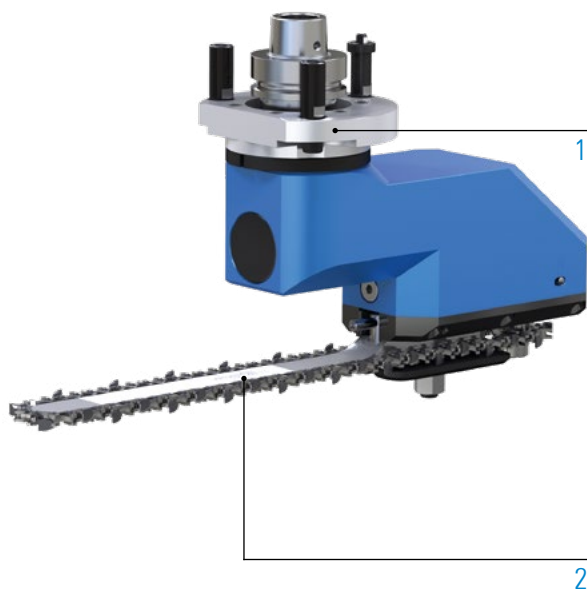
Groove width 24

# MORTISING CHAIN UNIT – CLASSIC LINE



## CATENO F

### TECHNICAL DATA

Lubrication	Grease
Max. drive speed $n_2$	5,000rpm
Transmission ratio ( $n_1: n_2$ )	1:1
Max. drive torque $M_2$	20 Nm
Weight	about 10,5 kg



### STANDARD DESIGN

- 1  Machine Connection  
HSK - F63
- 2  Mortising chain set  
Slot depth 300 mm  
Slot length 50 mm  
slot width 6 mm - 21 mm

 Accessories on request

### MACHINING



Milling

### SPECIFICATIONS



Number of  
output spindles



Axis angle



C-angle



Grease lubrication

### VIDEO



Mortising chain unit - live in the application  
Scan QR code or go to:

[www.youtube.com/BENZtooling](http://www.youtube.com/BENZtooling)

### TECHNICAL DRAWING

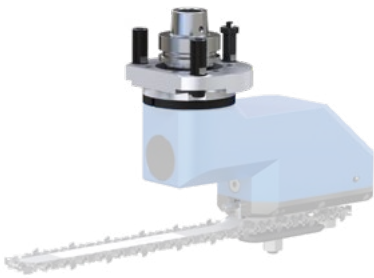




## ADDITIONAL OPTIONS: MODULAR DESIGN

1

### MACHINE CONNECTION



HSK - F63  
BIESSE



SK 30  
BIESSE



HSK - F63  
Busellato



HSK - F63  
Felder



HSK - F63  
HOMAG / WEEKE /  
WEINMANN



HSK - F63  
IMA



HSK - F63  
Masterwood



HSK - F63  
SCM



HSK - F63  
SCM

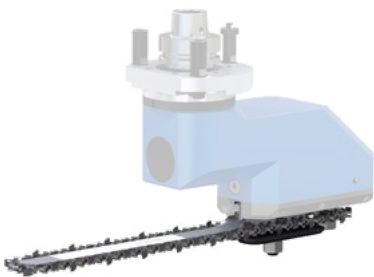


HSK - F63  
Weinig

 For further information see p. 100

2

### MORTISING CHAIN SET

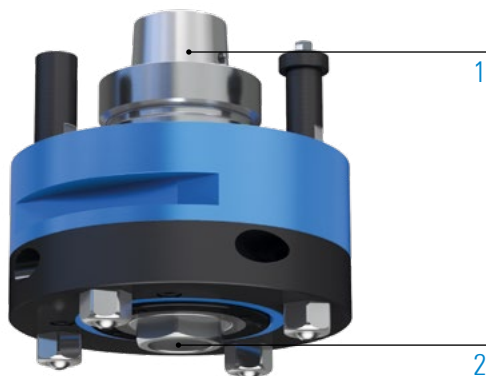


**mafelli**  
creating excellence

Slot width  
6mm - 21 mm

# BLOW NOZZLE UNIT – CLASSIC LINE



## SOFFIARO



### TECHNICAL DATA

Lubrication	Grease
Max. drive speed $n_2$	24,000 rpm
Transmission ratio ( $n_1 : n_2$ )	1:1
Max. drive torque $M_2$	25 Nm
Weight	about 5 kg

### STANDARD DESIGN

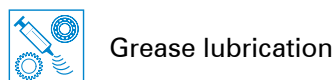
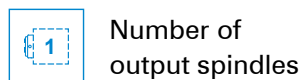
- 1  Machine Connection  
HSK - F63
- 2  Output spindle  
ER 32A collet chuck  
optional with hydraulic expansion chuck

**i** ER32 hydraulic expansion chuck:  
Collet chuck with hydraulic expansion chuck  
for maximum concentricity

### MACHINING



### SPECIFICATIONS



### TECHNICAL DRAWING





## ADDITIONAL OPTIONS: MODULAR DESIGN

1

### MACHINE CONNECTION



HSK - F63  
Felder



HSK - F63  
IMA



HSK - F63  
SCM



HSK - F63  
Weinig



HSK - F63  
HOMAG / WEEKE /  
WEINMANN

2

### OUTPUT SPINDLE



Collet chuck  
ER32A

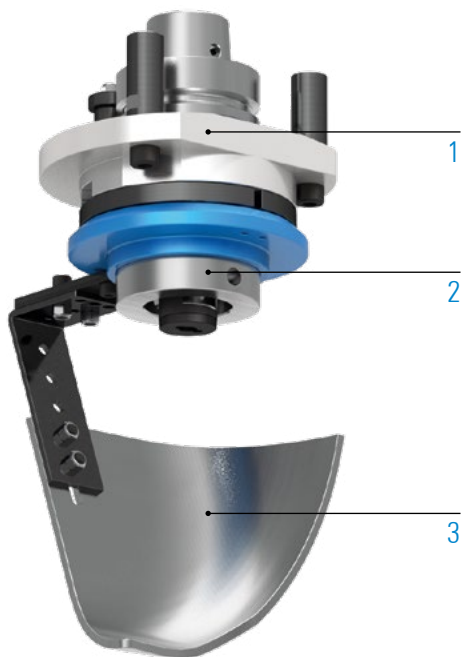
**i** optional: ER32- hydraulic expansion chuck for cutting tools with shank  $\varnothing$ :

Adapter	Shank $\varnothing$ mm							
Size	6	8	10	12	14	16	18	20



# TOOL HOLDER – CLASSIC LINE

## TRUCOLO




### TECHNICAL DATA

Lubrication  
 Max. drive speed  $n_2$   
 Transmission ratio ( $n_1 : n_2$ )  
 Weight

Grease  
 15,000 rpm  
 1:1  
 about 4 kg

### STANDARD DESIGN

- 1  Machine connection  
HSK - F63
- 2  Output spindle  
HSK - F63
- 3  Chip baffle

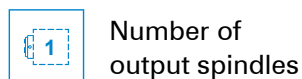
 Accessories from p. 94

### MACHINING



Milling

### SPECIFICATIONS



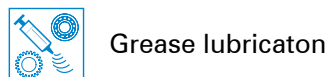
Number of output spindles



Axis angle



C-angle



Grease lubrication

### TECHNICAL DRAWING





## ADDITIONAL OPTIONS: MODULAR DESIGN

1

### MACHINE CONNECTION



HSK - F63  
BIESSE



SK 30  
BIESSE



HSK - F63  
Busellato



HSK - F63  
Felder



HSK - F63  
HOMAG / WEEKE /  
WEINMANN



HSK - F63  
IMA



HSK - F63  
Masterwood



HSK - F63  
SCM



HSK - F63  
SCM



HSK - F63  
Weinig

**i** For further information see p. 100

2

### OUTPUT SPINDLE



Collet chuck  
C25



Arbor Ø 30 /  
tool length  
15 - 105 mm



HSK - F63

**i** For further information see p. 102

3

### CHIP BAFFLE



# INDIVIDUAL SOLUTIONS MADE TO MEASURE

Do you need an angle head that does not match any standard parameters? No problem! We develop and produce your angle head made to measure exactly according to your specifications. Small adaptations to standard products and highly complex new developments are our strength - prompt, affordable and with the usual BENZ quality thanks to our modular kits. Extreme conditions everywhere around the world: our components and systems are proven in practical applications and offer you limitless possibilities.

## **From customer requirement to individual solution**

Based on your requirements we define the best possible solution and work out an appropriate concept together with you.



## Special units implemented



### MULTI V21 multi-spindle drilling head

- Can be loaded via pick-up station
- for machining acoustic plates



### MULTI V144 multi-spindle drilling head with motor

- Permanently installed in the machine
- for machining acoustic plates



### Combination: Multi-spindle head / Undersurface unit

- For machining tops and bottoms of plates



### FLOATING H Tenso floating trimming unit for sawing

- For inserting vertical grooves for Tenso P14 connectors



### FLOATING HB floating trimming unit for horizontal drilling

- Vertically floating trimming unit with horizontal tool output; for drilling holes or grooves at a constant distance from the surface of the workpiece



### Saw chain unit

- Can be loaded via pick-up station
- for sawing door and window cutouts in prefabricated house constructions



# UNITS FOR 5 AXIS MACHINING EVEN MORE POWERFUL WITH UNIT TECHNOLOGY

The number of 5-axis machines is growing with each passing year. 5-axis machining is considered the elite division of machining, and for good reason. The complexity of machining requires a high level of competence in the technologies that are used.

The efficiency achieved in this manner can be boosted still further with BENZ units. BENZ aggregates – the extra push in productivity for your 5-axis machine!

## **5-axis technology**

5-axis technology is considered the elite division of machining. With supplementary units, 5-axis machines provide even more powerful and efficient machining.





**Advantages of units in 5-axis machining**

- Reduction in tool changing times by cycling the C-axis
- Reduction in machining time
- Complete machining of workpieces
- Additional functions such as floating machining



**QUATTRO**

**Four sided angle head**  
Reduction in tool changing times by cycling the C-axis



**MULTI V5**

**Multi-spindle head**  
Reduction in machining time



**FLOATING V**

**Floating unit**  
for additional functions such as floating machining



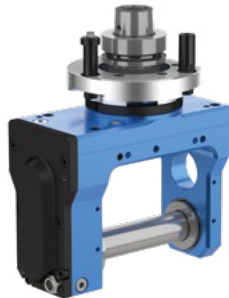
**ANGULO**

**Corner notching unit**  
Internal machining that is not possible due to the interference contour of a 5-axis head (e.g. notching inner corners for light cutouts on doors)



**DUO**

**Double sided angle head**  
Simple and fast insertion of connector systems (e.g. Clamex P from Lamello)



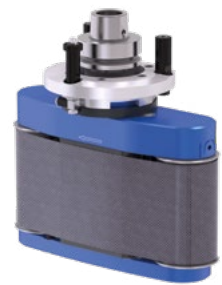
**MOULDER**

**Moulder head**  
Higher productivity by using the unit, such as when using the moulder head as a multi-blade saw



**SIMOLO**

**Orbital sanding unit**  
Sanding of surfaces and edges



**COLLEVO+**

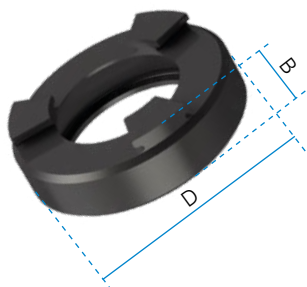
**Belt sanding unit**  
Sanding of front surfaces



# ACCESSORIES & SERVICE

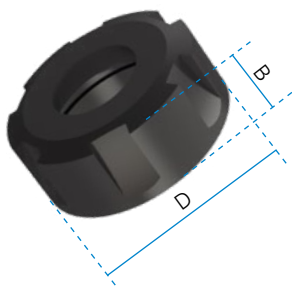
Practical additions for your exchangeable unit.

# EXCHANGEABLE UNITS ACCESSORIES



## CLAMPING NUT: INTERNALLY LOCATED PER DIN6499

Order No.	Technical data		
	ER	D	B
B135-E3AX	16	M24x1	7,6
B135-E5AX	25	M32x1,5	8,8



## CLAMPING NUT: EXTERNALLY LOCATED PER DIN6499

Order No.	Technical data		
	ER	D	B
B135-M4	25 Mini	35	20
B135-E6	32	50	22



## COLLET CHUCK: PER DIN6499, REGOFIX SYSTEM SHAPE B

Order No.	Technical data		
	ER	d	increasing by
on request	16	1-10*	0,5
on request	25	1-16**	1
on request	32	3-20**	1

\* Collet chuck can clamp up to 0.5 mm smaller than nominal dimension  
 \*\* Collet chuck can clamp up to 1 mm smaller than nominal dimension  
 Collet chuck not included in scope of delivery.

Order no. example ER16 / Inner diameter 6 mm

**B134-426E-0600**



## COLLET WRENCH: INTERNALLY LOCATED CLAMPING NUT

Order No.	Technical data
	ER
B136-E3AX	16
B136-E5AX	25



## COLLET WRENCH: EXTERNALLY LOCATED CLAMPING NUT

Order No.	Technical data
	<b>ER</b>
<b>B136-M4</b>	<b>25 Mini</b>
<b>B136-E6</b>	<b>32</b>



## HOOK WRENCH DIN1810A

Order No.	Technical data
	<b>Ø</b>
<b>D01810A052055</b>	<b>52–55</b>
<b>D01810A058062</b>	<b>58–62</b>



## HOOK WRENCH DIN1810B

Order No.	Technical data
	<b>Ø</b>
<b>D01810B040042</b>	<b>40–42</b>
<b>D01810B045050</b>	<b>45–50</b>
<b>D01810B052055</b>	<b>52–55</b>
<b>D01810B058062</b>	<b>58–62</b>



## HANDLE WRENCH

Order No.	Technical data
	<b>Torx</b>
<b>811.00.235</b>	<b>T20</b>
<b>L8317-45963</b>	<b>T30</b>



## SINGLE OPEN-END WRENCH



Order No.	Technical data
	<b>SW</b>
<b>KL8317-0005</b>	<b>32</b>
<b>KL8317-0006</b>	<b>36</b>
<b>KL8317-0004</b>	<b>41</b>
<b>KL8317-0003</b>	<b>46</b>





# BENZ SOLIDFIX® ADAPTER ACCESSORIES

## COLLET CHUCK HOLDER PER DIN6499




Order No.	Technical data		Fig.
	Size	Type	
693.130E534	S3	ER 25	1
B136-E5		ER 25	1
D01810B045050		ER 25	1




693.130E648	S3	ER 32	2
B136-E6		ER 32	2
D01810B045050		ER 32	2

## SAW BLADE HOLDER




Order No.	Technical data		Fig.
	Size	Type	
693.040SD38	S3	Arbor Ø30 (TK Ø42 - 2x Ø6) tool length 1.5 - 6 mm	1
D01810B058062		Arbor Ø30 (TK Ø42 - 2x Ø6) tool length 1.5 - 6 mm	1



693.040S0001	S3	Centring Ø30 (TK Ø45/Ø52 - 4x M5)	2
811.00.235		Centring Ø30 (TK Ø45/Ø52 - 4x M5)	2



693.04040S0414	S3	Centring Ø40 (TK Ø52 - 8x M5)	3
811.00.235		Centring Ø40 (TK Ø52 - 8x M5)	3



## WELDON HOLDER PER DIN1835B



Order No.	Technical data	
	Size	Type
<a href="#">693.1400606</a>	S3	Ø 6
<a href="#">693.1400808</a>	S3	Ø 8
<a href="#">693.1401028</a>	S3	Ø 10
<a href="#">693.1401232</a>	S3	Ø 12
<a href="#">693.1401432</a>	S3	Ø 14
<a href="#">693.1401635</a>	S3	Ø 16
<a href="#">693.1401842</a>	S3	Ø 18
<a href="#">693.1402046</a>	S3	Ø 20

## SEALING PLUGS



Order No.	Technical data	
	Size	
<a href="#">693.581S</a>	S3	

## BLANK



Order No.	Technical data	
	Ø	L
<a href="#">693.10250100</a>	50	100

## ASSEMBLY BLOCK



Order No.	Technical data	
	Size	
<a href="#">B300-4-S3</a>	S3	



Services: customized, value-retaining, cost-effective

# ANGLE HEADS

## BENZ SERVICES FOR YOUR BENEFIT

### **Express Service**

Quickly solved

- fast repair at a low fixed pricing
- short downtime of the unit
- high machine availability due to shorter standstill and in turn lower production costs
- we guarantee the return of your unit within 3 working days

### **Service evaluation and repair**

Expertly solved

- quick and professional analysis of damage
- findings and recommended repairs within 5 working days
- you decide based on the recommendation how to proceed
- on request: general overhaul

### **Preventive maintenance**

Precautionary solved

- preventively reduce unplanned downtimes
- increase the unit's lifetime
- maintenance of a perfect product condition
- can be done during a shutdown
- on request: general overhaul



On-site service anywhere in the world



Knowledgeable service employees answer your questions and help with problems

### **Spare parts management**

Solved by yourself (Certified partners only)

- spare part identification and recommendation
- quotation and order processing
- genuine precision parts
- high parts availability

### **Worldwide on-site service**

Globally solved

- professional assembly / product briefing
- troubleshooting
- repair on-site (if possible)
- regular maintenance

[Find your Service Partner](#)



- use of OEM approved gears, bearings and lubricants only
- fixed by highly skilled and trained service technicians

# MACHINE CONNECTION

## THE INTERFACE TO YOUR MACHINE

### Precise fit

There are many machine manufacturers with numerous types of machines for machining wood and composite materials. Each manufacturer generally builds on its own machine concept – and thus on different components. That has a significant

effect on exchangeable units. They must be exactly adapted to the respective machine type.

We help you. Just tell us your machine model – and we do the rest.

### The machine connection

The machine connection consists of the torque support and drive cone of the unit.

### Benz Standard – Machine connections



HSK - F63  
BIESSE



SK 30  
BIESSE



HSK - F63  
Busellato



HSK - F63  
Felder



HSK - F63  
HOMAG / WEEKE  
/ WEINMANN



HSK - F63  
IMA



HSK - F63  
Masterwood



HSK - F63  
SCM



HSK - F63  
SCM



HSK - F63  
Weinig

### Excerpt – additional machine connections



HSK -F63 nach  
DIN 69893  
z.B. HOMAG



HSK -E63 nach  
DIN 69893  
z.B. CMS



SK 30  
ähnlich  
DIN 69871A  
z.B. BIESSE



SK 40  
ähnlich  
DIN 69871A  
z.B. MAKI



SK 30 mit  
Verzahnung  
z.B.  
MORBIDELLI



BT 30 nach  
JIS B 6339  
z.B. KOMO



BT 35 nach  
JIS B 6339  
z.B. HEIAN



BT 40 nach  
JIS B 6339  
z.B. SHODA





# LENGTHS / DESIGNS

## THE OPTIMUM FOR EACH APPLICATION

### Perfect interaction

The interaction between the machine, the tools being used, and your workpiece determines the most appropriate additional aggregate for your specific application. We offer a wide range of construction forms, lengths, and adjustment options

for the attachment heads to meet the varying needs of your machine, tool and workpiece. Are you looking for aggregate units specifically for sawing, milling, grinding or simply a universal solution? The choice is yours!

### Head length / design

The BENZ angle heads are available in three different lengths. Not sure which length you need? We will be happy to advise you!

### Units – Length



#### SHORT

- For cramped working areas in the machine (little distance between the machining table and machine spindle)
- the changing weight of the tool changer is limited



#### MEDIUM

- The universal length: Covers the majority of machining tasks and tools



#### LONG

- For machining tasks with large tool diameters (saw blades, etc.)
- For machining tasks on high workpieces



### Scale ring on the torque support

The head can be rotated 360° around the drive. That allows you to align the unit in the tool changer, saving space.



# OUTPUT SPINDLE CLAMPING OPTIONS

## Firmly clamped in

Clamp a wide range of tools including drills, milling cutters or saw blades in one unit. We offer you a large assortment of standard output spindles to do just that. The BENZ Solidfix® modular tool interface offers you great flexibility.

## The output spindle

BENZ offers the right output spindle for every tool.





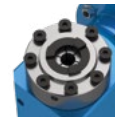
## Options output spindles



Collet chuck holder ER25 Mini per DIN6499 with externally located clamping nut



Collet chuck holder ER32 per DIN6499 with externally located clamping nut



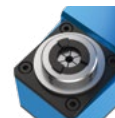
Centring Ø40 (TK Ø52 - 8x M5)/ collet chuck holder ER25A per DIN6499 with internally located clamping nut



Centring Ø30 (TK Ø42 - 2x Ø6)/ collet chuck holder ER25 Mini per DIN6499 with externally located clamping nut



Collet chuck holder ER16A per DIN6499 with internally located clamping nut



Collet chuck holder ER25A per DIN6499 with internally located clamping nut



Collet chuck C25 per DIN 6388 with externally located clamping nut



Zentrier-Ø 30 (TK Ø 45 / Ø48 / Ø52 - 4x M5) / Weldon holder Ø 10 nach DIN1835B



Centring Ø30 (TK Ø52 - 4x M5 / TK Ø48 - 2x Ø6 / Ø8) / Whistle notch holder Ø16 / Ø20 per DIN1835E



Centring Ø40 (TK Ø45/Ø52 - 8x M5)



Centring Ø40 (TK Ø52 - 8x M5) / Weldon holder Ø10 / Ø16 per DIN1835B



Centring Ø16 (TK Ø28 - 4x M6)



Arbor Ø30 (TK Ø42 - 2x Ø6), tool length 1.5 - 6 mm



Arbor Ø30 (TK Ø42 - 2x Ø6), tool length 1.5 - 16 mm



Arbor Ø30 (TK Ø42 - 2x Ø6), tool length 1.5 - 33 mm



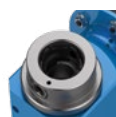
Arbor Ø30 (TK Ø42 - 2x Ø6), tool length 1.5 - 52 mm



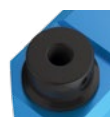
Arbor Ø30 (TK Ø42 - 2x Ø6), tool length 1.5 - 63 mm



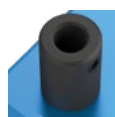
Arbor Ø20 (TK Ø32 - 4x M6 / 2x Ø6), tool length 6 - 43 mm



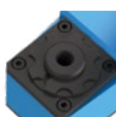
Modular quick-change system BENZ Solidfix® S3



Weldon holder Ø6 per DIN1835B



Weldon holder Ø10 per DIN1835B



Weldon holder Ø12 per DIN1835B



Weldon holder Ø10 / Ø16 per DIN1835B



Whistle notch holder Ø6 per DIN1835E



HSK - F63 per DIN 69063

 Additional designs on request

# BENZ SOLIDFIX®

## MODULAR QUICK CHANGE SYSTEM

### 1 unit – 1000 machining possibilities

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 angle head from the machine is avoided, as only the adapter with cutting tool is changed. Replacing the change adapter saves you several angle heads. Your advantage: One angle head

instead of several – and therefore lower investment costs compared to exchanging the complete unit!

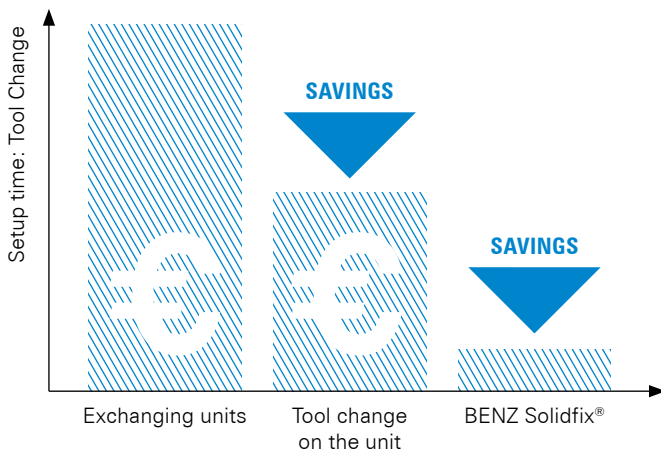
BENZ Solidfix® can be used for many different applications including drilling, milling and sawing.





# BENZ SOLIDFIX® – PERFORMANCE. PRECISION. HANDLING. SAFETY.

## Savings with BENZ Solidfix®



## System advantages

- **Modular design** based on angle head and change adapter with different types of output spindle
- **Minimises setup and non-productive time / increases productivity** by changing the preset tool within seconds
- **Low investment overhead** because the angle head remains on the machine and only an adapter needs to be changed, fewer angle heads are needed overall
- **Easy handling** One-hand operation without a special tool
- **Operating safety:** Cannot become detached accidentally

## Tool change



## In just a few steps

- **Make yourself familiar with the activation**  
To be able to change the adapter, the activation must first be open (small picture above)
- **Insert the adapter and turn it 90°**
- **Distance-controlled clamping to fix the adapter in place**  
Turn the clamping screw in as far as it will go (small picture below)

## BENZ Solidfix® – Tool change

Scan the QR code to the side with a smartphone and experience how easy it is to change tools with BENZ Solidfix®. You can also visit our YouTube channel to watch the video:  
[www.youtube.com/BENZWerkzeugsysteme](http://www.youtube.com/BENZWerkzeugsysteme)





# BENZ SOLIDFIX® SYSTEM DESIGN

## DRILL/MILLING HOLDERS



EXCHANGEABLE UNIT



TOOL HOLDER  
Presetting of tools is possible

### DRILL/MILLING HOLDERS



**Collet chuck holder with externally located clamping nut per DIN6499**  
Clamping range  
ER 25 Ø2-Ø16  
ER 32 Ø2-Ø20



**Weldon holder per DIN1835B**  
Clamping range  
Ø6 / Ø8 / Ø10 / Ø12 /  
Ø14 / Ø16 / Ø18 / Ø20

### TOOLS



Drill



End milling cutter



Drill



End milling cutter

# SAW BLADE HOLDERS

## TOOLS



Saw blade



Saw blade



Saw blade

## SAW BLADE HOLDERS



Arbor Ø30 (TK Ø42 - 2x Ø6)  
tool length 1.5 - 6 mm



Centring Ø30 (TK Ø45/Ø52 -  
4x M5)



Centring Ø40 (TK Ø52 - 8x  
M5)



EXCHANGEABLE UNIT



TOOL HOLDER  
Presetting of tools is possible

# BENZ PRODUCT WORLD

## TOOLING & MACHINE TOOLING TECHNOLOGY

### TOOLING TECHNOLOGY



METAL

#### TOOLS FOR TURNING CENTERS LIVE TOOLS / STATIC TOOLS

- Radial heads 90°
- Radial heads ≠ 90°
- Axial heads
- Swivel heads
- Multi-spindle heads
- Broaching units
- Static tools

**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

#### TOOLS FOR MACHINING CENTERS

- Angle heads 90°
- Angle heads ≠ 90°
- Swivel heads
- Multi-spindle heads
- Broaching units
- High-speed spindles
- Rotating tool holders

**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

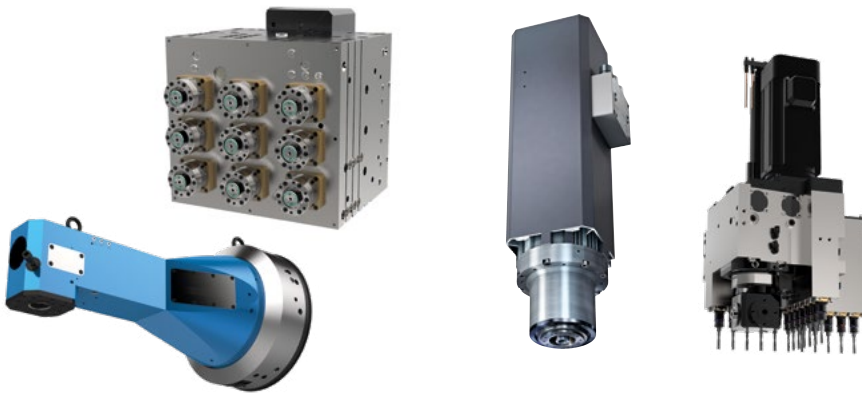
#### TOOLS FOR MACHINING CENTERS

- Angle heads 90°
- Swivel heads
- Multi-spindle heads
- Multi-axis heads
- Sanding units
- Floating head units
- Rotating tool holders

**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.

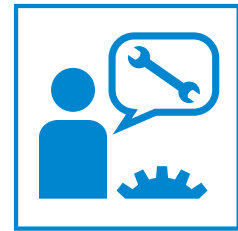
METAL / WOOD / COMPOSITE AND ALUMINIUM

### 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

- Service evaluation and repair
- Express Service (Wood)
- Rapid Repair Kit
- Preventive maintenance
- Spare part management
- Worldwide on-site service





















**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 Kit 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 AND ABBREVIATIONS OVERVIEW

## EXCHANGEABLE UNIT SPECIFICATION

<b>Profile slot position /angle</b>	 <p><b>Horizontal</b> Horizontal slot</p>	 <p><b>Vertical / workpiece edge</b> Vertical slot on the workpiece edge</p>	 <p><b>Vertical / workpiece centre</b> Vertical slot in workpiece centre (up to 15 mm in depth)</p>	 <p><b>Vertical / workpiece centre</b> Vertical slot in workpiece centre (up to 10 mm in depth)</p>
<b>Machining</b>	 <p><b>Drilling</b> Das Aggregat eignet sich für Bohrbearbeitungen</p>	 <p><b>Milling</b> The unit is suitable for milling operations</p>	 <p><b>Sawing</b> The unit is suitable for sawing operations</p>	 <p><b>Planing</b> The unit is suitable for planing operations</p>
<b>Number of output spindles (tool holding fixtures)</b>	 <p><b>1</b> The angle head has one output spindle</p>	 <p><b>2</b> The angle head has two output spindles</p>	 <p><b>3</b> The angle head has three output spindles</p>	 <p><b>4</b> The angle head has four output spindles</p>
<b>Axis angle</b>	 <p><b>0°</b> Angle head for machining tasks at 0° angle</p>	 <p><b>90°</b> Angle head for machining tasks at 90° angle</p>	 <p><b>180°</b> Angle head for machining tasks at 180° angle</p>	 <p><b>-5° bis +100°</b> Angle head for machining tasks at flexible angle. Any angle can be set.</p>
<b>C-angle</b>	 <p><b>4 x 90°</b> The exchangeable unit can be rotated 4 x 90°</p>	 <p><b>360°</b> The exchangeable unit can be rotated 360°</p>		
<b>Lubrication</b>	 <p><b>Grease lubrication</b> The wheelworks are lubricated with grease</p>	 <p><b>Oil bath lubrication</b> The wheelworks are lubricated with an oil bath</p>		





**Any angle**

Slot at any angle



**Profile slot depth**



**Brushing**

The unit is suitable for brushing operations



**Sanding**

The unit is suitable for grinding operations



**Cutting**

The unit is suitable for cutting operations



**Chiselling**

The unit is suitable for chiselling operations



**X**

The angle head has X output spindles (multi-spindle head)






**-15° bis +102°**

Angle head for machining tasks at flexible angle. Any angle can be set.

# PICTOGRAMS AND ABBREVIATIONS

## OVERVIEW

### GENERAL SPECIFICATIONS

 <b>Important Information</b> Caution! Important Note. Please read this carefully.
 <b>Service</b> Services, e.g. repair, preventative maintenance, etc.
 <b>Accessories</b> Accessories, e.g. adapter, keys, etc.

### ABBREVIATIONS

<b>B</b>	Width
<b>CAD</b>	Computer-aided design
<b>CNC</b>	Computerized Numerical Control
<b>∅</b>	Diameter
<b>d</b>	Internal diameter
<b>D</b>	External diameter
<b>°</b>	Degrees
<b>kg</b>	Kilograms
<b>min<sup>-1</sup></b>	Revolutions per minute
<b>mm</b>	Millimeters
<b>Nm</b>	Newton meters
<b>TK</b>	Semicircle
<b>e.g.</b>	for example

<b>S</b> Short	<b>M</b> Medium	<b>L</b> Long
<b>SO</b> Soft	<b>ME</b> Medium	<b>HA</b> Hard

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