

CENTRIC VISES VOL. 1





**YOU BUY THE MACHINE,
WE DO THE REST**

YOU BUY THE MACHINE, WE DO THE REST.

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State of the market

The persistent lack of skilled labor, immense cost pressure, and the desire for ever shorter delivery times require effective solutions. Despite the demand for flexibility in production, manufacturers cannot afford compromises in quality – the accuracy of the parts they produce is of utmost importance.

Markets are changing more rapidly, which is why the focus in industry is on automation and digitization of

processes. Otherwise, it would not be possible to respond quickly to short-term changes in production and to achieve efficient personnel planning.

And that is where we enter the picture. We show you new production philosophies, and how you can integrate additional automated processes such as measuring, cleaning and deburring.

Your benefits

- Complete solution based on your requirements, from a single source: Workholding technology, robot cell and software
- Handling weights from ten grams to eight tons are possible
- One point of contact for automation of milling, turning and grinding processes
- Unattended 24/7 or > 48 hour production
- Modular design for high cost efficiency
- Automated changing of fixtures, workpieces and tools even in one-off production
- Connection to any machine tool as well as peripheral equipment, such as lift systems, measuring machines, deburring stations, labeling systems, cleaning equipment, etc
- Master computer software available in all development stages, as well as connection to an ERP system
- Potential cost reductions of € 200,000 / per year or more



ABOUT US

Palette
6551-1453
1



ABOUT US

The merger of Vischer & Bolli Automation (VBA) with HAINBUCH GmbH enables us to offer the entire range of workholding technology, for both manual and automated processes. Overall concepts for milling, turning, grinding, assembly, etc. are developed by a single company. As a specialist and general contractor,

we offer solutions for the automation of entire manufacturing cells as well as custom solutions for stationary and rotary operations.

You have a single contact – for automation and workholding technology!

What we have to offer

- Decades of experience in automation even in one-off production
- Expertise in machining and tool clamping
- Workholding technology solutions for advanced applications
- Automation of machining centers with use of the zero-point clamping system vb DockLock® for milling, turning and grinding
- Complete solutions for construction of jigs, fixtures and stationary workholding technology
- Concepts for high-performance cutting with standard tools and custom tools
- Innovative clamping technology for cold pressing tools, also with automated clamping and unclamping





**VBA LEHMANN AXES
WITH CENTRIC CLAMPING
TECHNOLOGY**

pl LEHMANN®

4TH AND 5TH AXES WITH MODULAR EXPANSION CAPABILITIES

3-axis VBZ + rotary table



3-axis VBZ (TC) + rotary table



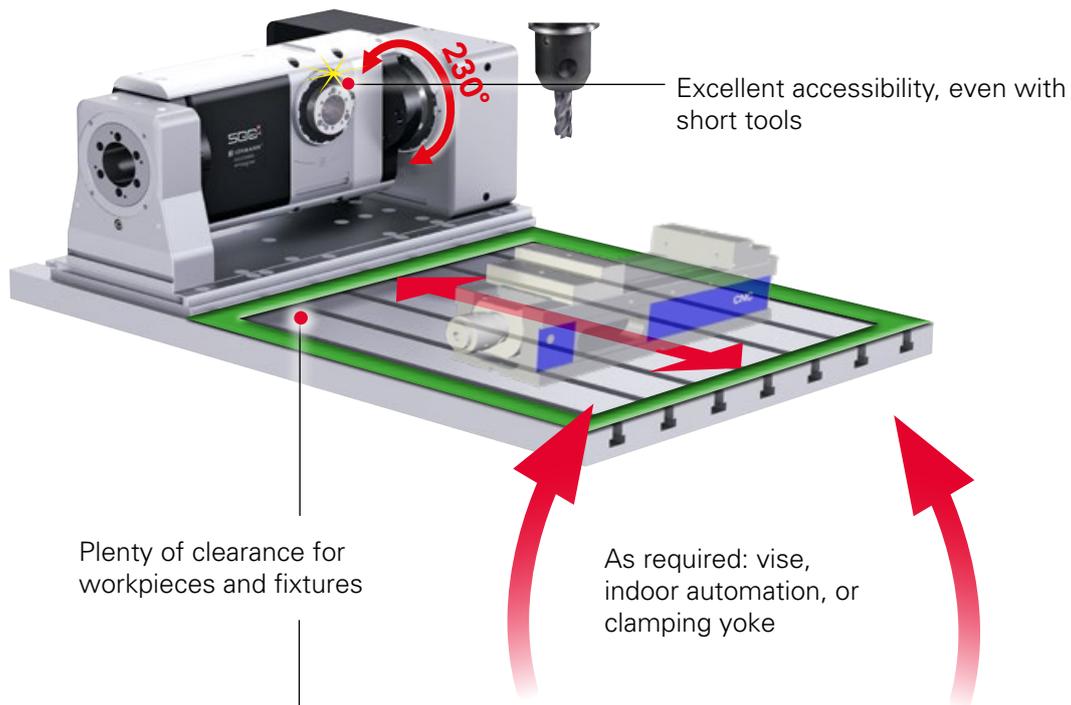
Advantages of 3+ versus horizontal

- Low initial investment
- Expandable & scalable
- Short return on investment

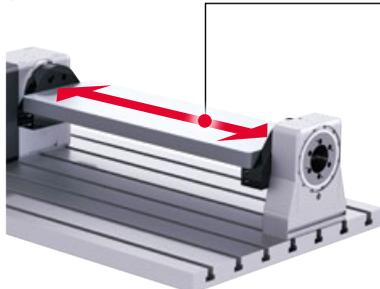
Advantages of 3+ versus 5AX

- Maximum universality & efficiency
- Shaft machining
- Complete machining incl. 6th side
- Clamping yoke & tower machining

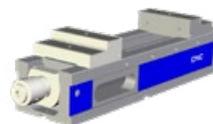
3+2



3+1



Vises of all types



Indoor automation
Intelligent automation for small parts or bars



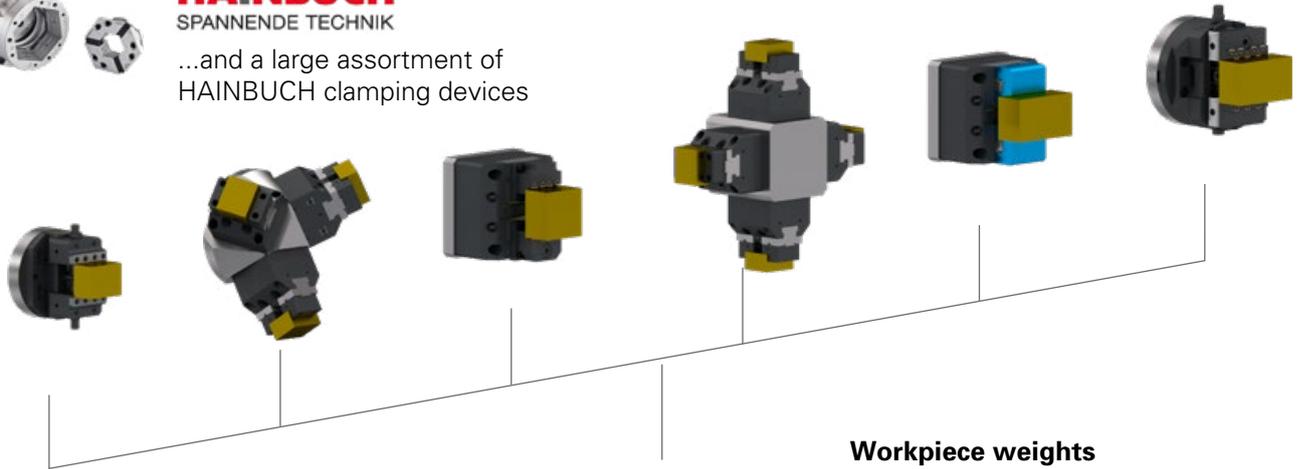
pl LEHMANN®

4TH AND 5TH AXES with modular system, single/multiple spindles



HAINBUCH
SPANNENDE TECHNIK

...and a large assortment of HAINBUCH clamping devices



4 sizes

Center height / clamping torque

- EA-507: 110 mm / 300 Nm
- EA-510: 150 mm / 800 Nm
- EA-520: 180 mm / 2'000 Nm
- EA-530: 220 mm / 5'000 Nm



Workpiece weights incl. fixture / max. RPM

- EA-507: 240 kg / 111 min-1
- EA-510: 400 kg / 80 min-1
- EA-520: 800 kg / 50 min-1
- EA-530: 1'600 kg / 40 min-1

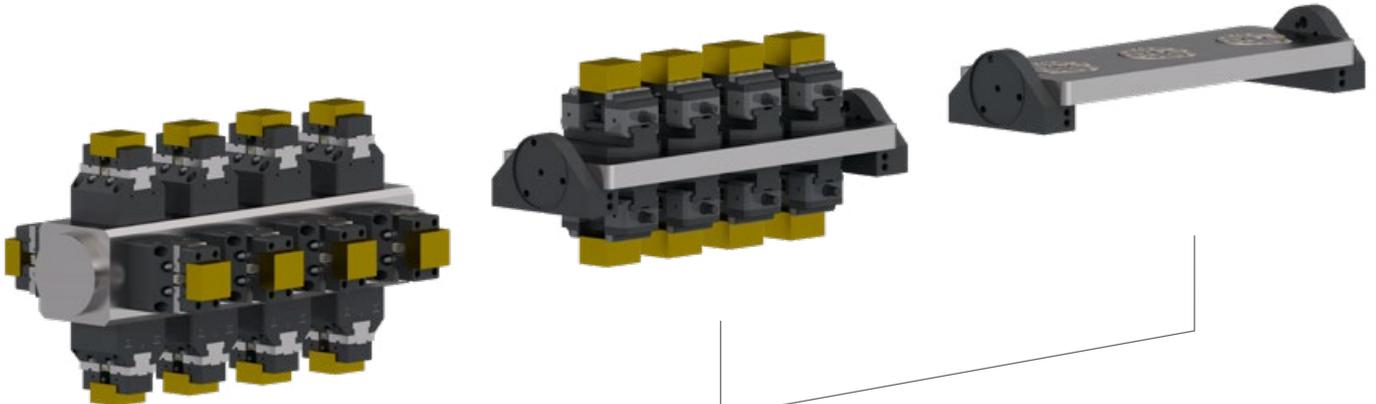


For simultaneous machining of up to 4 workpieces:
Modular rotary tables for efficient series production.



pl LEHMANN®

4TH AND 5TH AXES with modular clamping yoke system



Modular quick change-over system for multiple clamping

Zero-point clamping on the rotary table spindle increases productivity even more

Workpiece weights incl. fixture / max. RPM

- EA-507: 240 kg / 111 min⁻¹
- EA-510: 400 kg / 80 min⁻¹
- EA-520: 800 kg / 50 min⁻¹
- EA-530: 1'600 kg / 40 min⁻¹

4 sizes

Center height / clamping torque

- EA-507: 140 mm / 300 Nm
- EA-510: 180 mm / 800 Nm
- EA-520: 210 mm / 2'000 Nm
- EA-530: 218 mm / 5'000 Nm



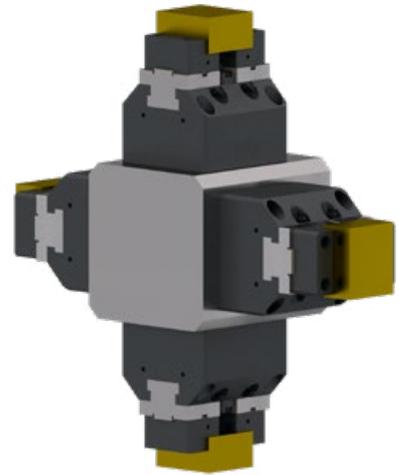
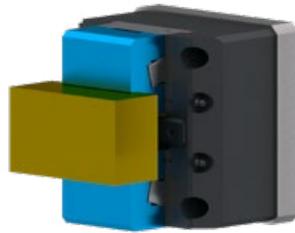
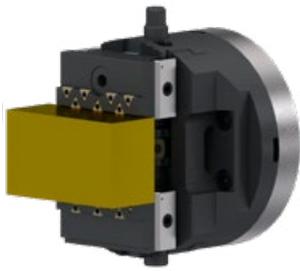
pl LEHMANN®

4TH AND 5TH AXES with modular system, single/multiple spindles

HAINBUCH
SPANNENDE TECHNIK



...and a large assortment of
HAINBUCH clamping devices



pl LEHMANN®

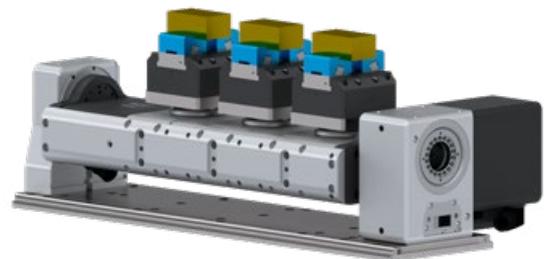
4TH AND 5TH AXES with modular system, single/multiple spindles

What applies to the 4th axis is also available for the swivel rotary tables from the modular system – standardized. Virtually all variants also fit on multi spindle swivel rotary tables – **for extended machine time, increased productivity, and lower costs in series production.**



3 sizes

- Tx-507510
- Tx-510520
- Tx-520530



Center heights

- 180 mm
- 210 mm
- 220 mm



T1-91x915 bis 5'400 min⁻¹ possible, here with TOPlus mini 40

Workpiece weights incl. fixture and max. workpiece Ø

- 53 kg / 280 mm
- 89 kg / 340 mm
- 133 kg / 450 mm



Max. RPM

4th / 5th axis

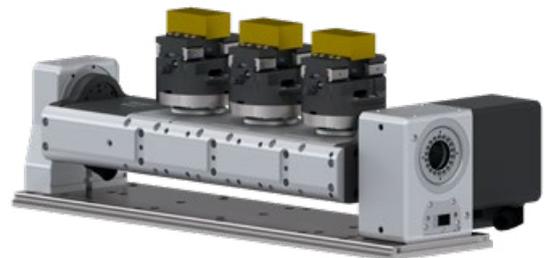
- 111 min⁻¹ / 60 min⁻¹
- 80 min⁻¹ / 40 min⁻¹
- 50 min⁻¹ / 30 min⁻¹



Clamping torques

4th / 5th

- 300 Nm / 1'100 Nm
- 800 Nm / 4'000 Nm
- 2'000 Nm / 7'000 Nm



748-76-03 e

748-76-01-MSL

vb^{SWISS}
centro 76

VBA Eco Line centric vise

55910157 001

vb^{SWISS} *centro 76*

SWISS  MADE

For 5-sided machining of blanks

Standard design with pendulum jaw or floating center jaw

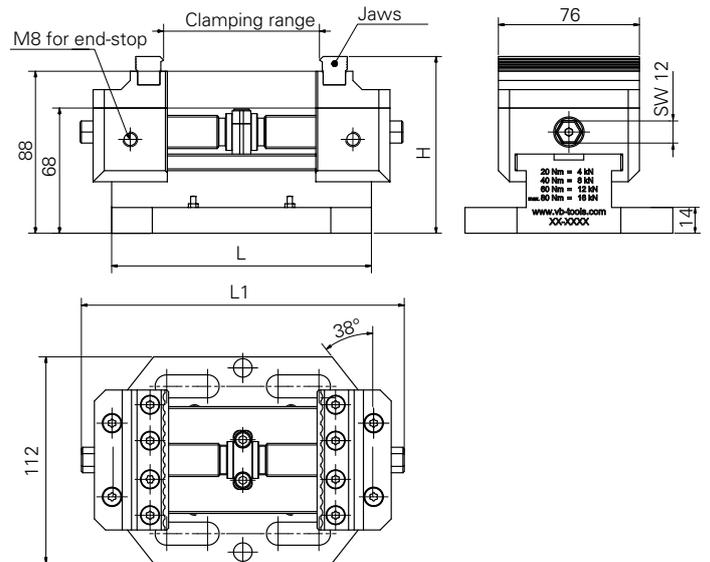
- Excellent accessibility
- High holding power
- Diverse mounting options are standard
- Pendulum jaw $\pm 2^\circ$ for blanks
- Jaw width 76 mm, clamping range up to 214 mm



vb swiss centro 76

STANDARD DESIGN

Model 748-76



Jaws

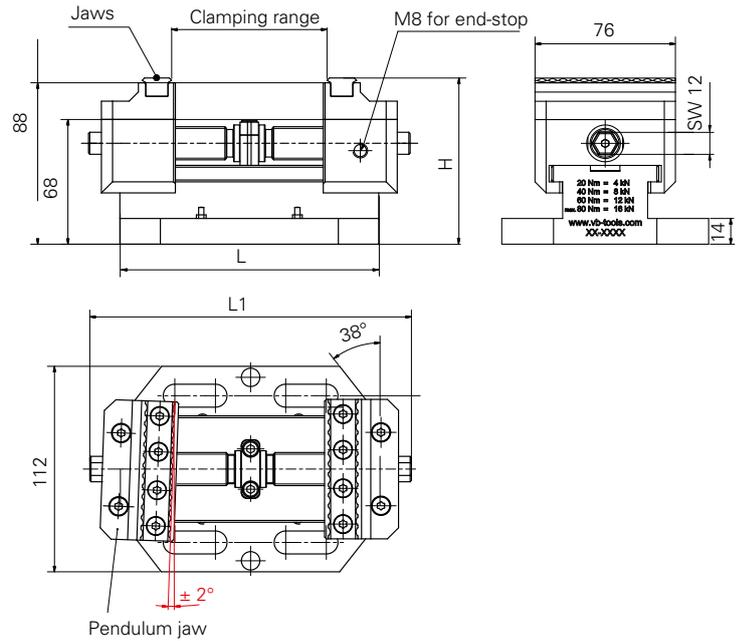
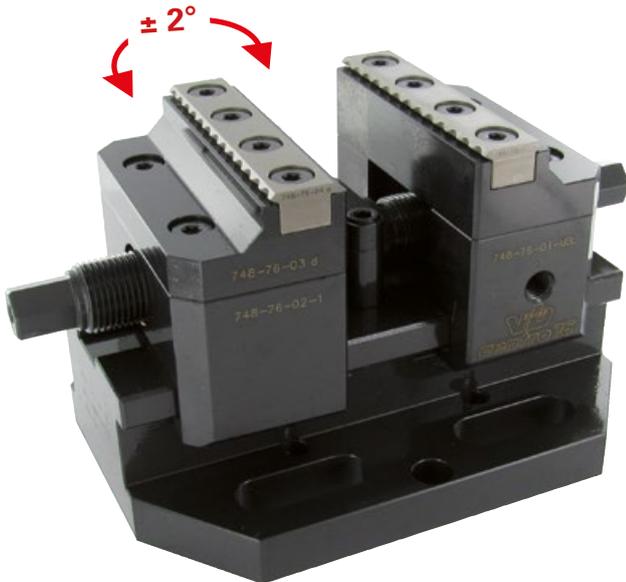
<p>-ST</p> <p>Grip jaw</p>	<p>-RG</p> <p>Serrated/grip jaw</p>	<p>-AL</p> <p>Grip jaw for aluminum</p>	<p>-L</p> <p>Form fit jaws compatible with embossing systems</p>
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Model	Jaw	H	Clamping range	L	L1
748-76-140	- ST	90.6	5 – 74 mm 44 – 120 mm	140	174
	- RG	96.0			
	- AL	92.4			
	- L	90.6			
748-76-240	- ST	90.6	5 – 174 mm 45 – 214 mm	240	274
	- RG	96.0			
	- AL	92.4			
	- L	90.6			

Ordering example: 1 pc. 748-76-140-ST

vb centro 76 WITH PENDULUM JAW

Model 748-76-P



Jaws

<p>-ST</p> <p>Grip jaw</p>	<p>-RG</p> <p>Serrated/grip jaw</p>	<p>-AL</p> <p>Grip jaw for aluminum</p>	<p>-L</p> <p>Form fit jaws compatible with embossing systems</p>
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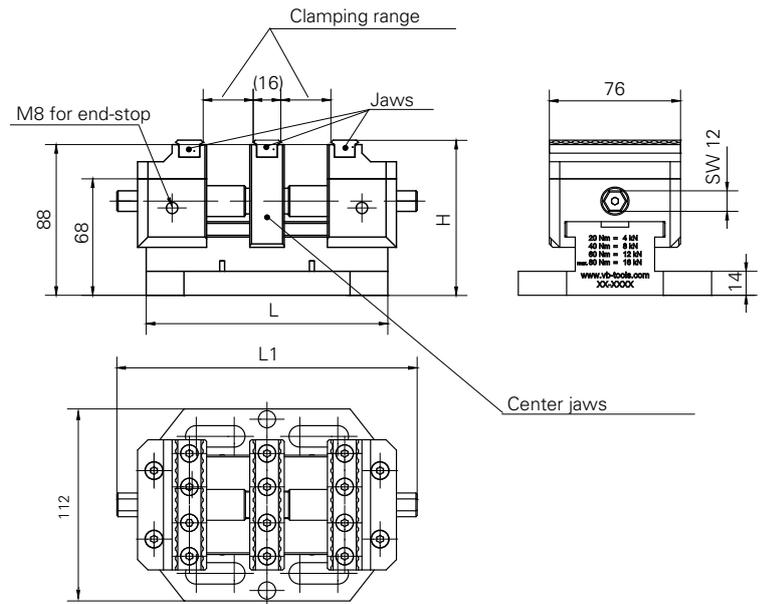
Model	Jaw	H	Clamping range	L	L1
748-76-140P	- ST	90.6	15 – 74 mm 60 – 120 mm	140	174
	- RG	96.0			
	- AL	92.4			
	- L	90.6			
748-76-240P	- ST	90.6	15 – 174 mm 60 – 214 mm	240	274
	- RG	96.0			
	- AL	92.4			
	- L	90.6			

Ordering example: 1 pc. 748-76-140P-ST

vb swiss centro 76

WITH CENTER SLIDE

Model 748-76-M



Jaws

<p>-ST</p> <p>Grip jaw</p>	<p>-AL</p> <p>Grip jaw for aluminum</p>	<p>-L</p> <p>Form fit jaws compatible with embossing systems</p>
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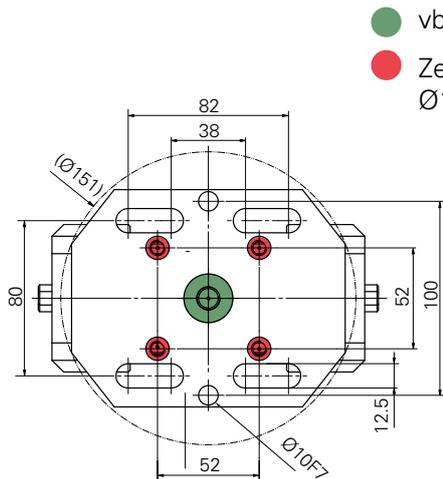
Model	Jaw	H	Clamping range	L	L1
748-76-140M	- ST	90.6	5 – 30 mm 25 – 50 mm	140	174
	- AL	92.4			
	- L	90.6			
748-76-240M	- ST	90.6	5 – 80 mm 25 – 100 mm	240	274
	- AL	92.4			
	- L	90.6			

Ordering example: 1 pc. 748-76-140M-ST

vb centro 76

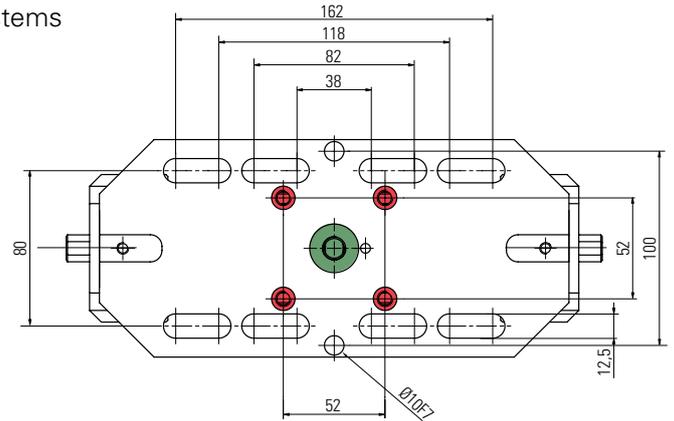
MOUNTING OPTIONS

Model 748-76-140.....



- vb DockLock® Ø25 / M12
- Zero-point clamping systems Ø12 / M8

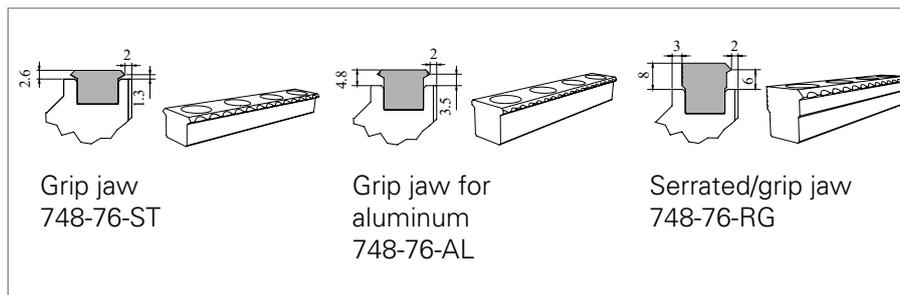
Model 748-76-240.....



vb centro 76

ACCESSORIES

Grip jaws

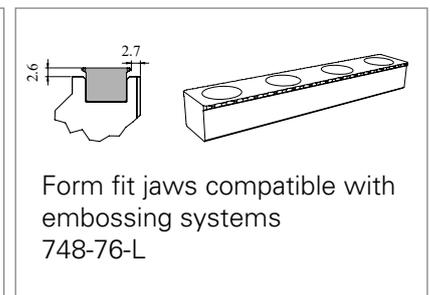


Grip jaw
748-76-ST

Grip jaw for
aluminum
748-76-AL

Serrated/grip jaw
748-76-RG

Form fit jaw



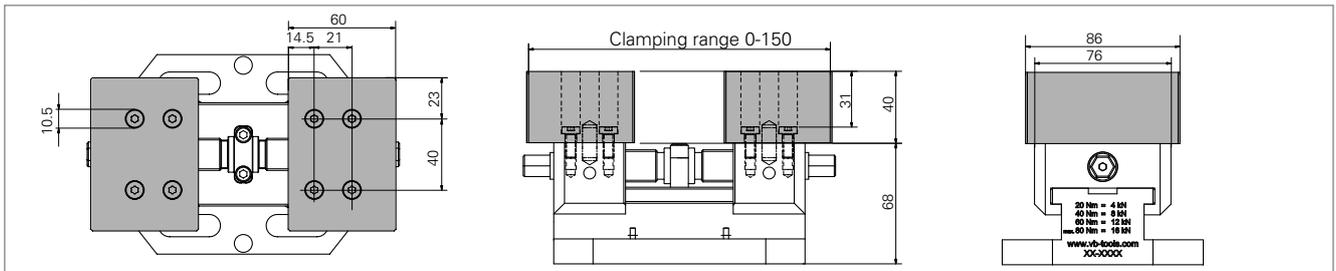
Form fit jaws compatible with
embossing systems
748-76-L

748-76-ST	Grip jaw (piece)
748-76-AL	Grip jaw for aluminum (piece), 4.8 mm clamping depth
748-76-RG	Serrated/grip jaw (piece)
748-76-L	Form fit jaw compatible with embossing systems (piece)
751994	Replacement screw

vb^{swiss} centro 76

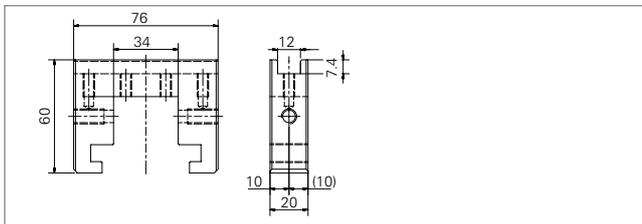
ACCESSORIES

Soft jaws



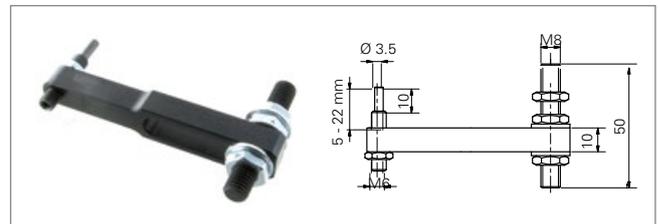
748-86-ST	Soft jaws (pair) of Ck45	86 x 60 x 40 mm
748-86-AL	Soft jaws (pair) of aluminum	86 x 60 x 40 mm

Center slide



748-76-11	Center slide
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End-stop



748-76-M8	Workpiece end-stop
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Torque wrench



748-NM	Torque wrench 20-100 Nm with lever reversible ratchet, 1/2" drive
748-SW12	Socket 1/2" (hexagon) for 12 mm wrench size

vb swiss centro 76

EXAMPLE IMAGES



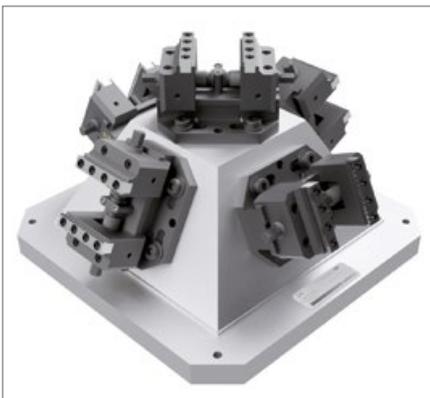
On vb DockLock® SV plate



3-unit pyramid



4-unit pyramid



5-unit pyramid



vb DockLock® single pallet



For mounting on Realpoint zero-point clamping system



Ripas (Lehmann rotary table)



Example with Lehmann rotary table



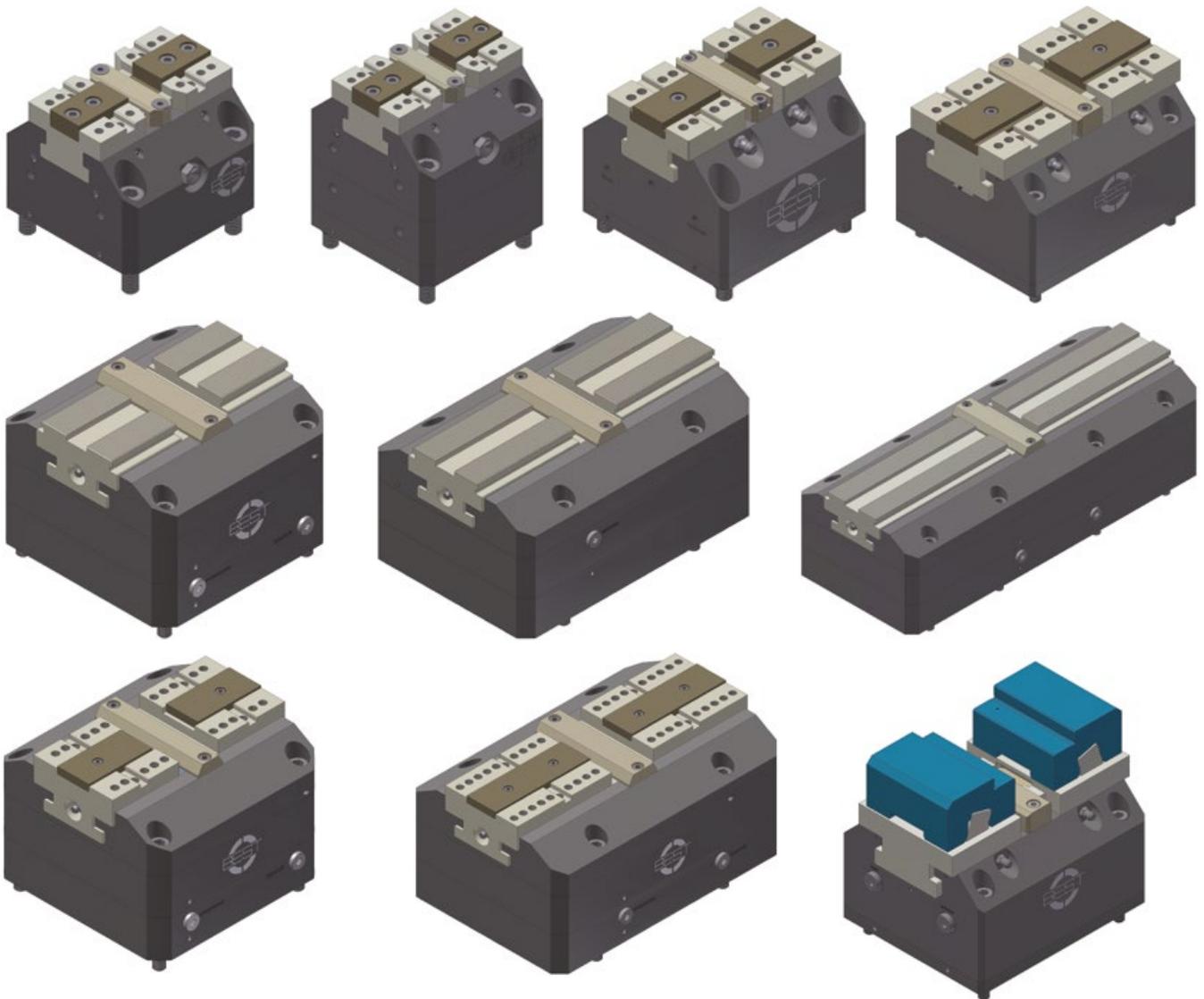
VBA Profi Line centric vise

CE www.vb-tools.com **vb**
Vischer & Bolli AG
Werkzeug- und Spanntechnik
im Schössacher 17
CH-8800 Dübendorf
766001 31 kg

CE www.vb-tools.com **vb**
Vischer & Bolli AG
Werkzeug- und Spanntechnik
im Schössacher 17
CH-8800 Dübendorf
766030 40 kg

CENTRIC VISES FOR AUTOMATION SOLUTIONS

PNEUMATIC CENTRIC VISES

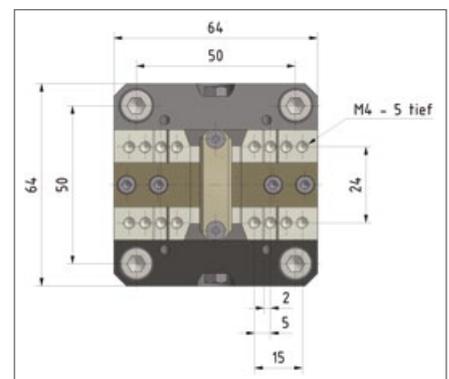
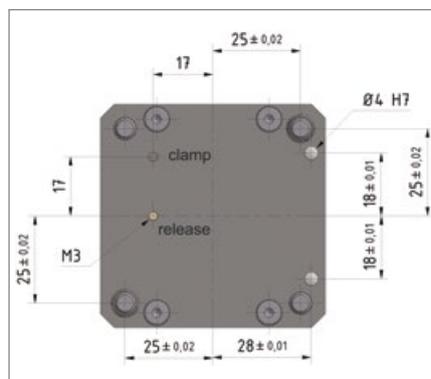
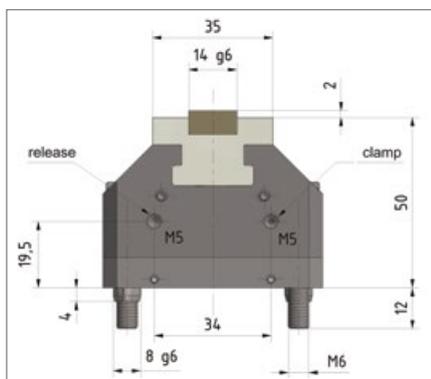
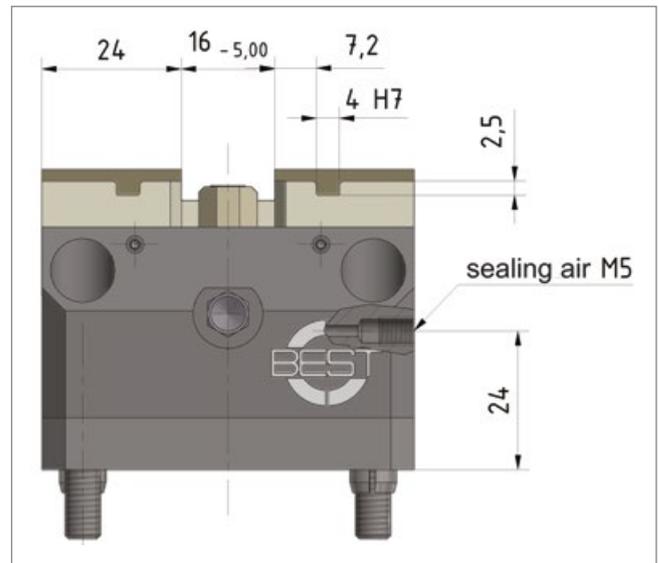
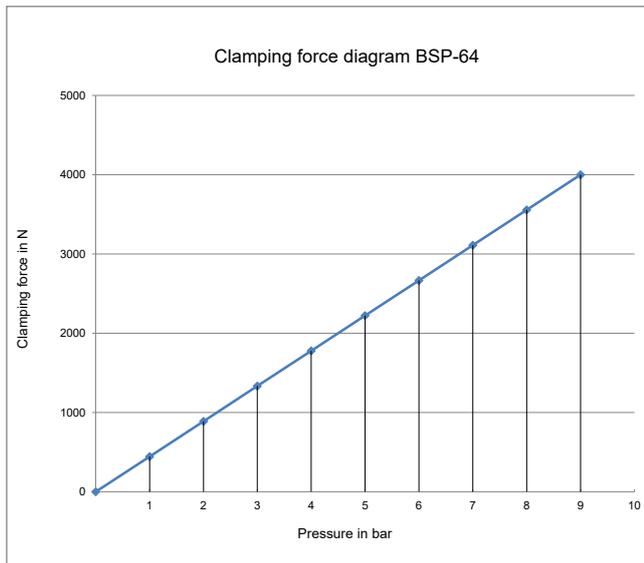


Advantages of pneumatic vises:

- Solid construction for very high rigidity
- Extremely high clamping forces (up to 45 kN)
- Body sizes from 64 mm to 420 mm (in the standard version, larger models are possible upon request)
- Repeatability of 0.005 mm (in combination with ground jaws)
- Centering accuracy of +/- 0.01 mm (in connection with ground jaws)
- Clamping widths up to 400 mm
- Hardened surfaces minimize wear
- Suitable for I.D. and O.D. clamping
- Customized solutions/adaptations upon request (Please provide us with the data for your individual requirements, after which you will receive a technical draft with an offer for the requested number of units.)

PNEUMATIC CENTRIC VISE

BSP-64



Technical data

Order number:	150-0064-001
Designation:	BSP-64
Dimensions (LxWxH):	64 x 64 x 50 mm
Weight:	1.2 kg
Clamping range	0 - 55 mm
Stroke each jaw:	2.5 mm
Max. actuating pressure:	9 bar
Min. actuating pressure:	1 bar
Clamping force max.:	4 kN at 9 bar
Air consumption (6 bar):	186 cm ³ per double stroke
Jaw connection:	Cross offset
Air connections:	On side and bottom

Compatible jaw blank:

Order number:	301-0034-001
Dimensions (WxLxH):	36 x 29 x 18 mm
Material:	16 MnCr5

Seal pack (for maintenance):

Order number:	100-350-064
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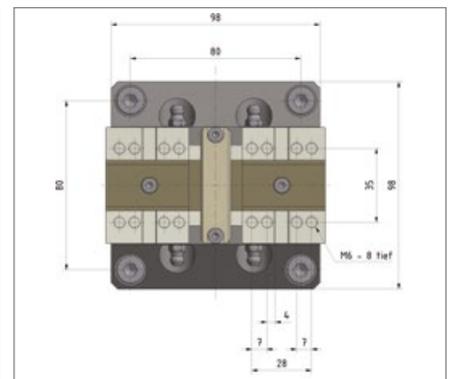
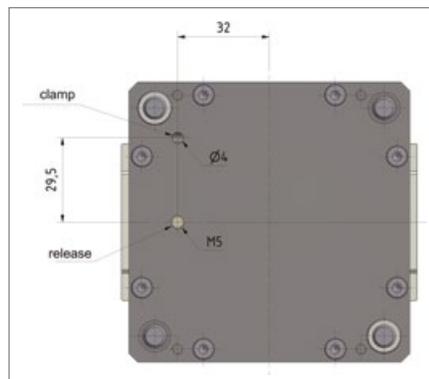
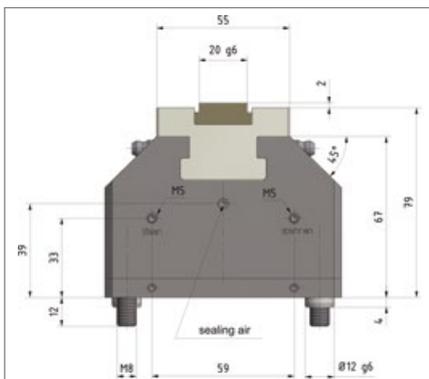
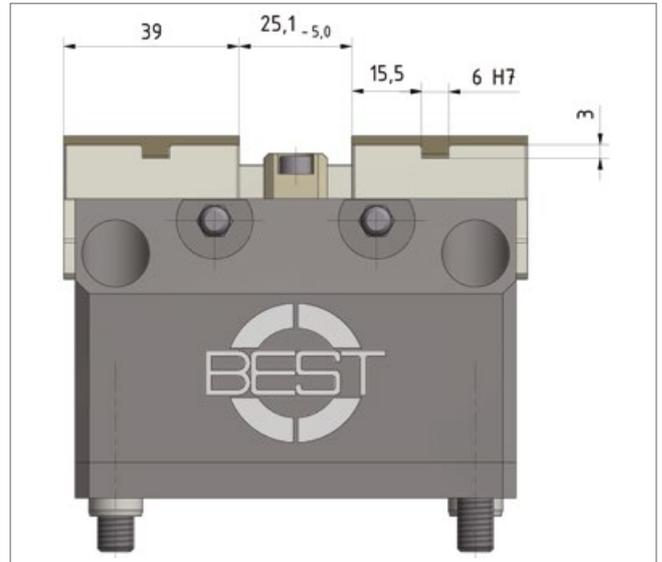
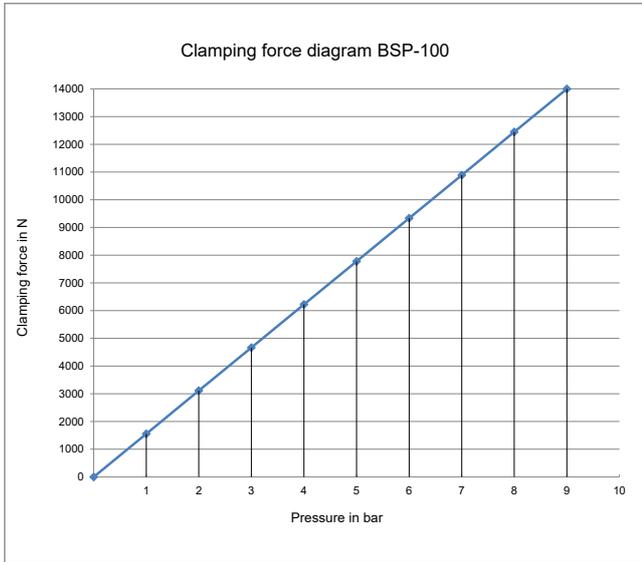
Optional additional functions:

- Compensating function
- Clamping path monitoring
- Central lubrication connection
- Fixed jaw
- Sealing air connection
- Contact control

See optional additional functions, page 55 – 57. Please indicate if you want one of the additional functions so that we can include it in the offer.

PNEUMATIC CENTRIC VISE

BSP-100



Technical data

Order number:	150-0100-005
Designation:	BSP-100
Dimensions (LxWxH):	98 x 98 x 79 mm
Weight:	4 kg
Clamping range	0 - 90 mm
Stroke each jaw:	2.5 mm
Max. actuating pressure:	9 bar
Min. actuating pressure:	1 bar
Clamping force max.:	14 kN at 9 bar
Air consumption (6 bar):	701 cm ³ per double stroke
Jaw connection:	Cross offset
Air connections:	On side and bottom

Compatible jaw blank:

Order number:	301-0060-002
Dimensions (WxLxH):	60 x 45 x 30 mm
Material:	16 MnCr5

Seal pack (for maintenance):

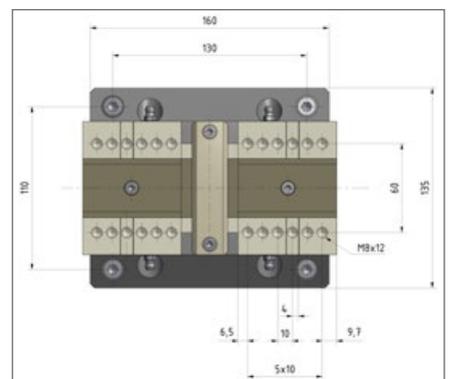
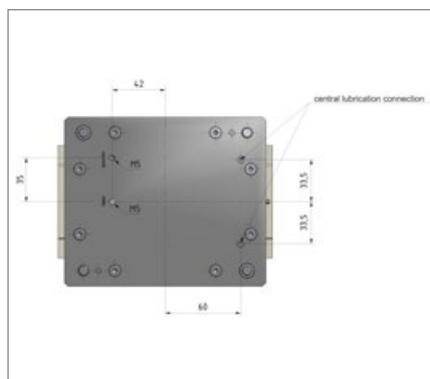
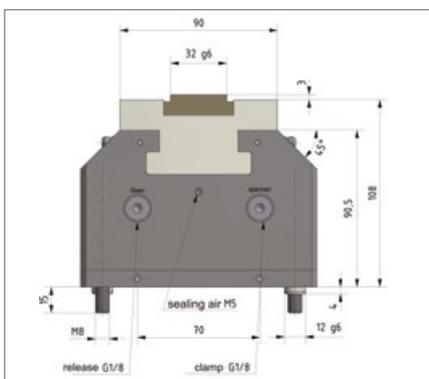
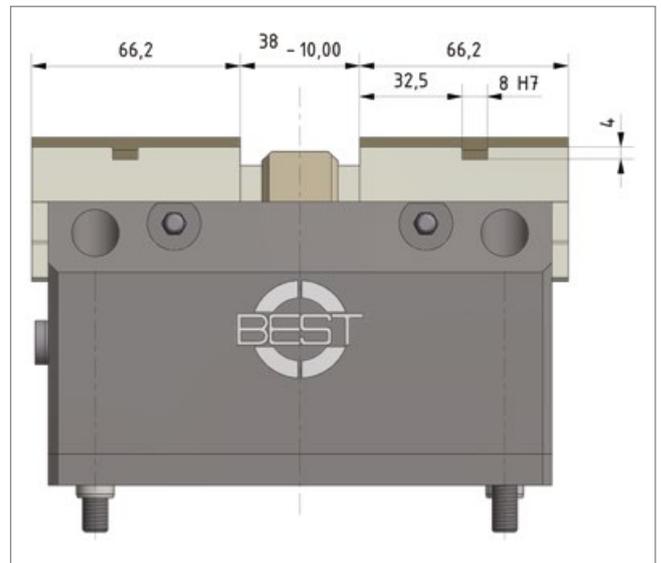
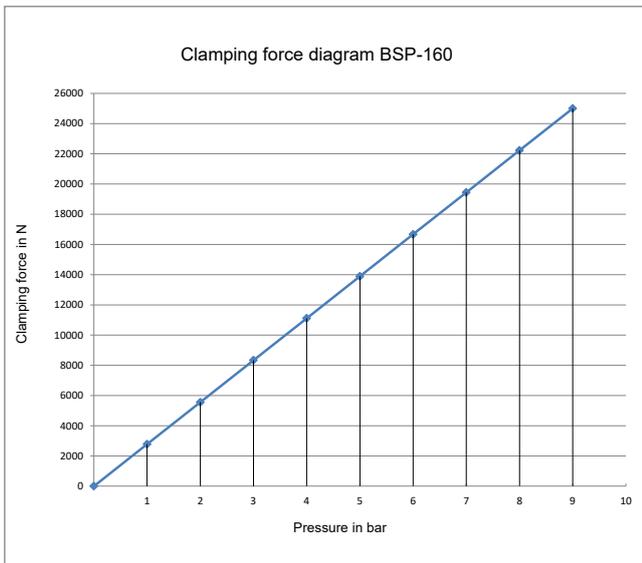
Order number:	100-350-100
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Optional additional functions:

- Compensating function
- Clamping path monitoring
- Central lubrication connection
- Fixed jaw
- Sealing air connection
- Contact control

PNEUMATIC CENTRIC VISE

BSP-160



Technical data

Order number:	150-0160-009
Designation:	BSP-160
Dimensions (LxWxH):	160 x 135 x 108 mm
Weight:	14 kg
Clamping range	0 - 150 mm
Stroke each jaw:	5 mm
Max. actuating pressure:	9 bar
Min. actuating pressure:	1 bar
Clamping force max.:	25 kN at 9 bar
Air consumption (6 bar):	2490 cm ³ per double stroke
Jaw connection:	Cross offset
Air connections:	On side and bottom

Compatible jaw blank:

Order number:	301-0094-008
Dimensions (WxLxH):	94 x 67 x 50 mm
Material:	16 MnCr5

Seal pack (for maintenance):

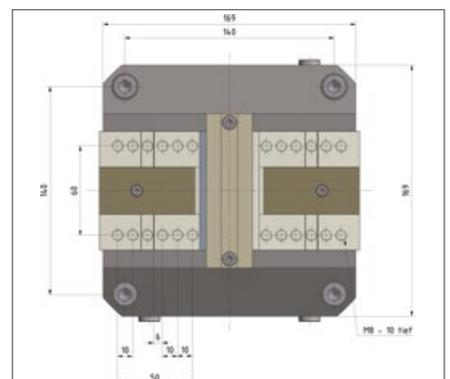
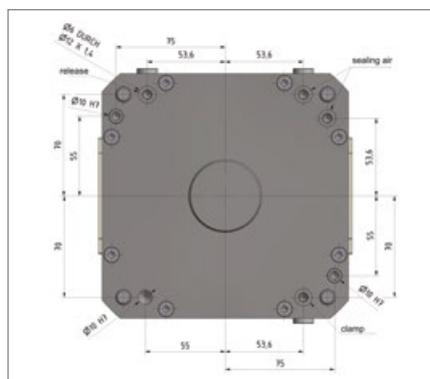
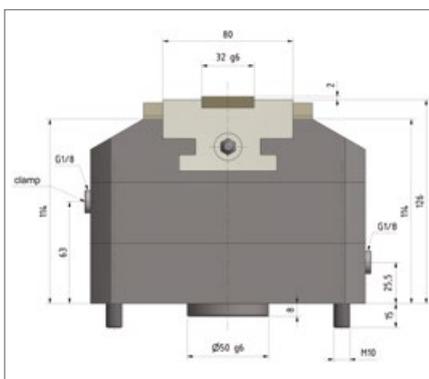
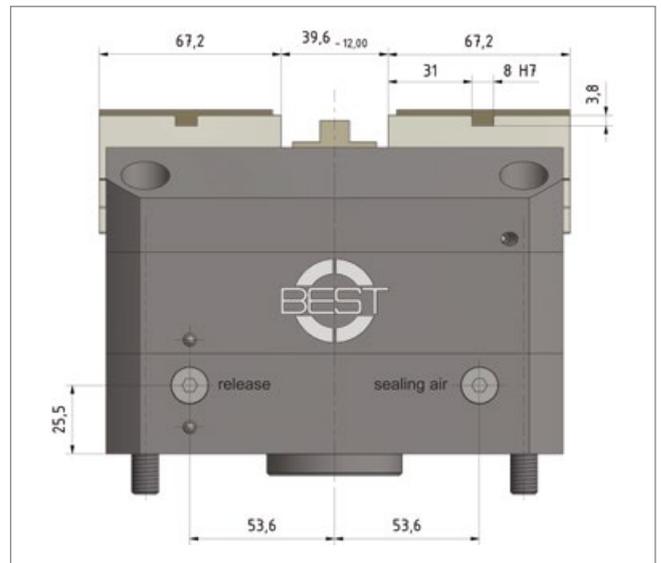
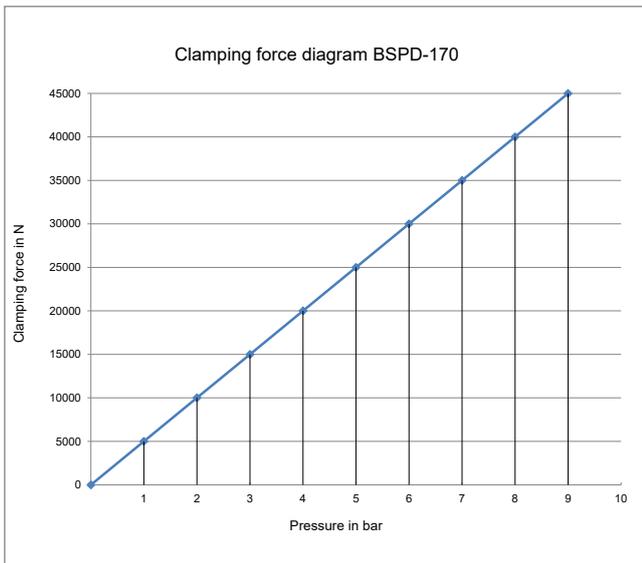
Order number:	100-350-160
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Optional additional functions:

- Compensating function
- Clamping path monitoring
- Central lubrication connection
- Fixed jaw
- Sealing air connection
- Contact control

See optional additional functions, page 55 – 57. Please indicate if you want one of the additional functions so that we can include it in the offer.

PNEUMATIC CENTRIC VISE BSPD-170-KV (WITH DOUBLE PISTON)



Technical data

Order number:	152-0170-003
Designation:	BSPD-170_KV
Dimensions (LxWxH):	169 x 169 x 126 mm
Weight:	22 kg
Clamping range	0 - 160 mm
Stroke each jaw:	6 mm
Max. actuating pressure:	9 bar
Min. actuating pressure:	1 bar
Clamping force max.:	45 kN at 9 bar
Air consumption (6 bar):	4557 cm ³ per double stroke
Jaw connection:	Cross offset
Air connections:	On side and bottom

Compatible jaw blank:

Order number:	301-0094-008
Dimensions (WxLxH):	94 x 67 x 50 mm
Material:	16 MnCr5

Seal pack (for maintenance):

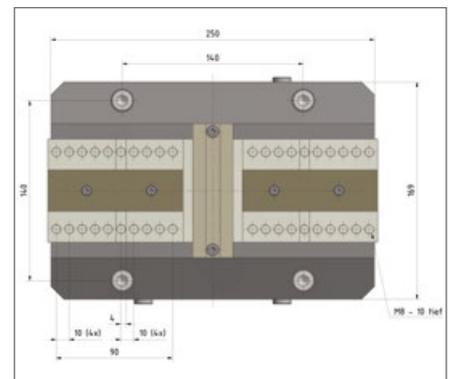
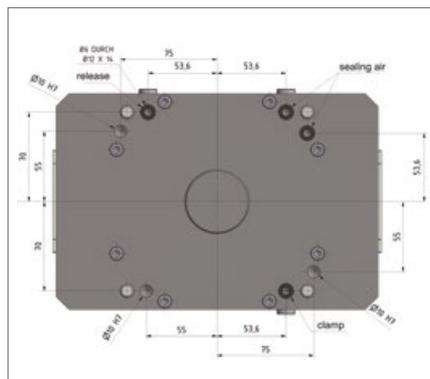
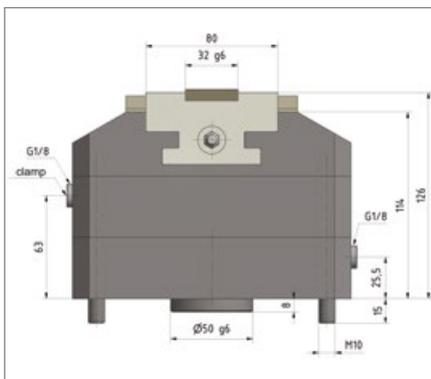
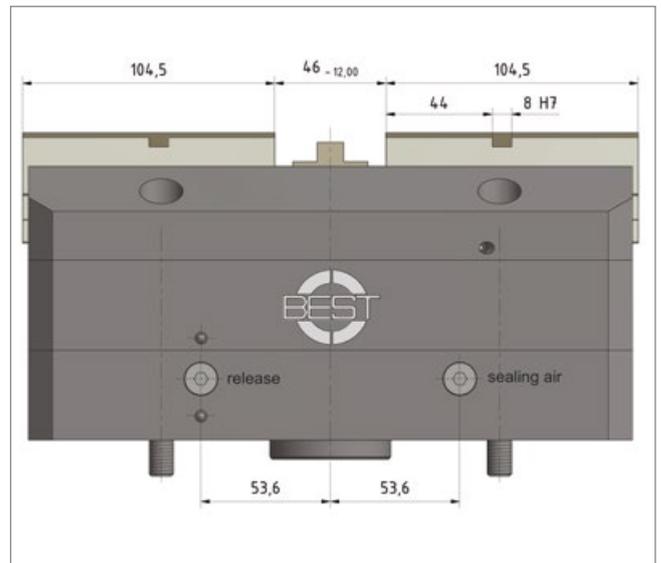
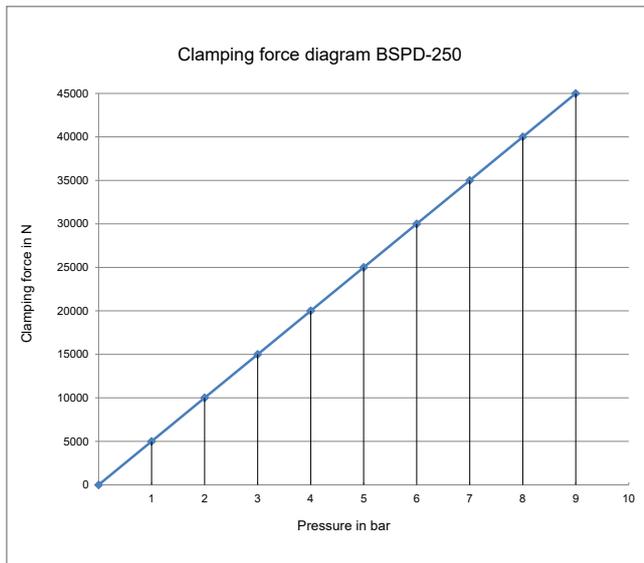
Order number:	100-352-170
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Optional additional functions:

- Clamping path monitoring
- Fixed jaw
- Sealing air connection
- Contact control

See optional additional functions, page 55 – 57. Please indicate if you want one of the additional functions so that we can include it in the offer.

PNEUMATIC CENTRIC VISE BSPD-250-KV (WITH DOUBLE PISTON)



Technical data

Order number:	152-0250-003
Designation:	BSPD-250-KV
Dimensions (LxWxH):	250 x 169 x 126 mm
Weight:	35 kg
Clamping range	0 - 240 mm
Stroke each jaw:	6 mm
Max. actuating pressure:	9 bar
Min. actuating pressure:	1 bar
Clamping force max.:	45 kN at 9 bar
Air consumption (6 bar):	4557 cm ³ per double stroke
Jaw connection:	Cross offset
Air connections:	On side and bottom

Compatible jaw blank:

Order number:	301-0150-006
Dimensions (WxLxH):	150 x 120 x 70 mm
Material:	16 MnCr5

Seal pack (for maintenance):

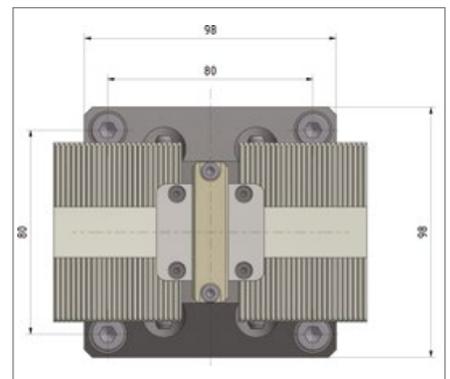
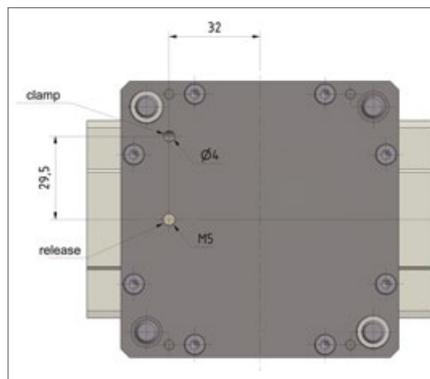
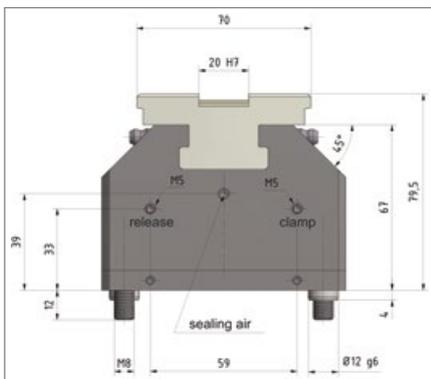
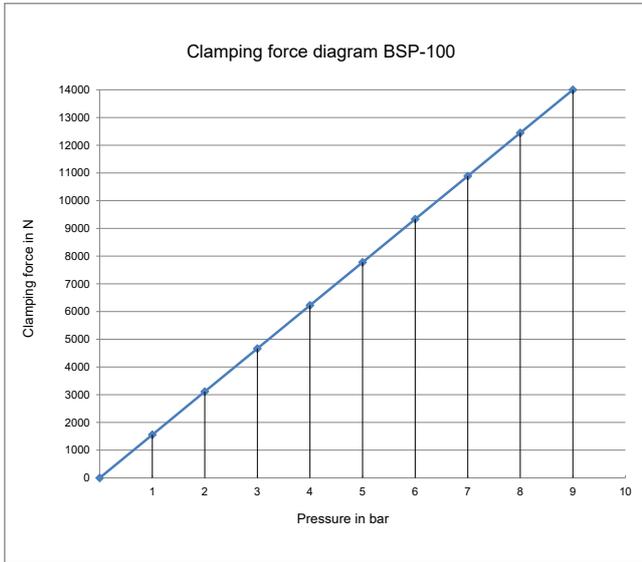
Order number:	100-352-170
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Optional additional functions:

- Clamping path monitoring
- Fixed jaw
- Sealing air connection
- Contact control

See optional additional functions, page 55 – 57. Please indicate if you want one of the additional functions so that we can include it in the offer.

PNEUMATIC CENTRIC VISE SPECIAL SIZE BSP-100-SWBA



Technical data

Order number:	150-0100-008
Designation:	BSP-100-SWBA
Dimensions (LxWxH):	98 x 98 x 79.5 mm
Weight:	4 kg
Clamping range	0 - 90 mm
Stroke each jaw:	2.5 mm
Max. actuating pressure:	9 bar
Min. actuating pressure:	1 bar
Clamping force max.:	14 kN at 9 bar
Air consumption (6 bar):	701 cm ³ per double stroke
Jaw connection:	Quick change-over
Air connections:	On side and bottom

Seal pack (for maintenance):

Order number:	100-350-100
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Optional additional functions:

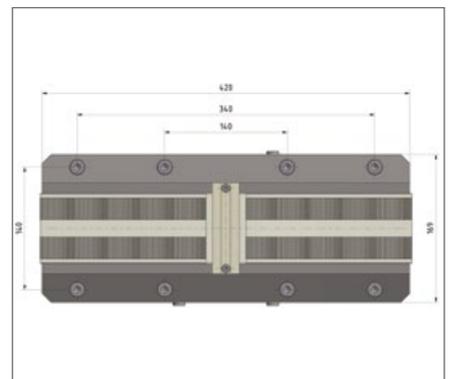
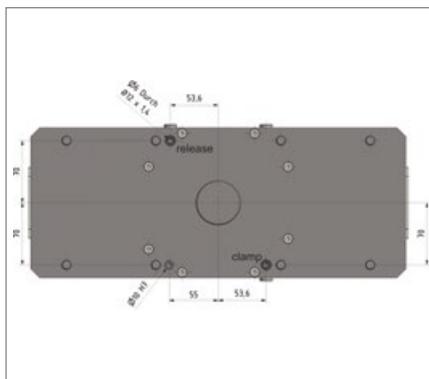
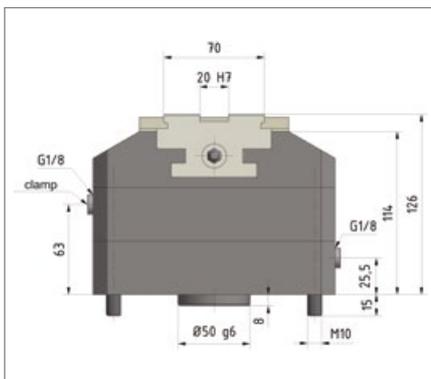
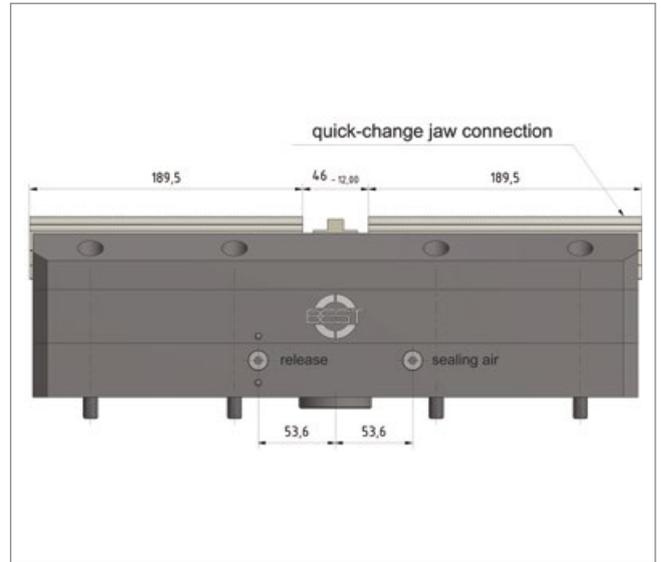
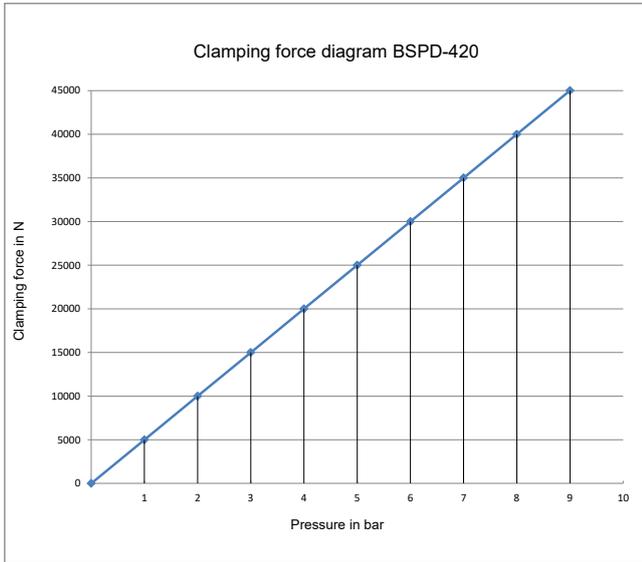
- Compensating function
- Clamping path monitoring
- Fixed jaw
- Sealing air connection
- Contact control
- Central lubrication connection

Compatible jaws

Pages 83 to 93

PNEUMATIC CENTRIC VISE

SPECIAL SIZE BSPD-420-SWBA (WITH DOUBLE PISTON)



Technical data

Order number:	152-0420-002
Designation:	BSPD-420-SWBA
Dimensions (LxWxH):	420 x 169 x 129 mm
Weight:	54 kg
Clamping range	20 - 410 mm
Stroke each jaw:	6 mm
Max. actuating pressure:	9 bar
Min. actuating pressure:	1 bar
Clamping force max.:	45 kN at 9 bar
Air consumption (6 bar):	4557 cm ³ per double stroke
Jaw connection:	Quick change-over
Air connections:	On side and bottom

Seal pack (for maintenance):

Order number:	100-352-170
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Optional additional functions:

- Clamping path monitoring
- Fixed jaw
- Sealing air connection
- Contact control

Compatible jaws

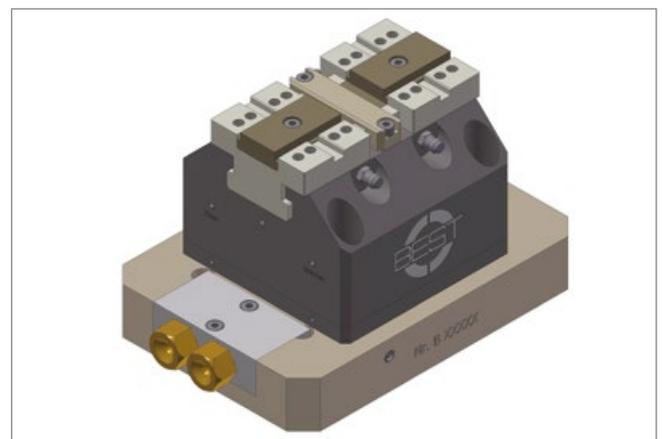
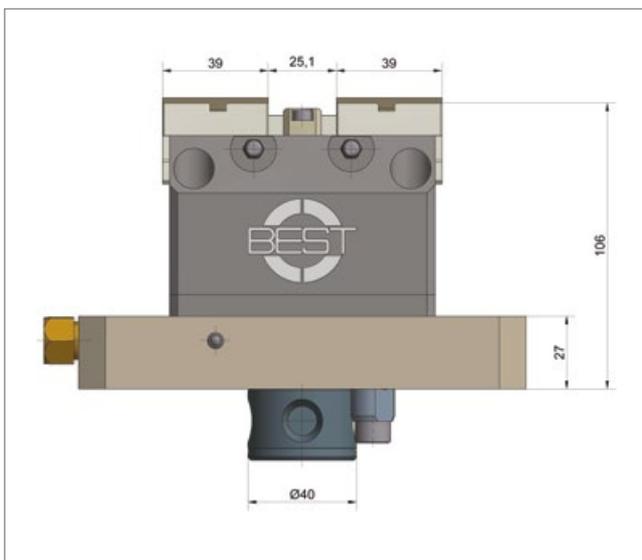
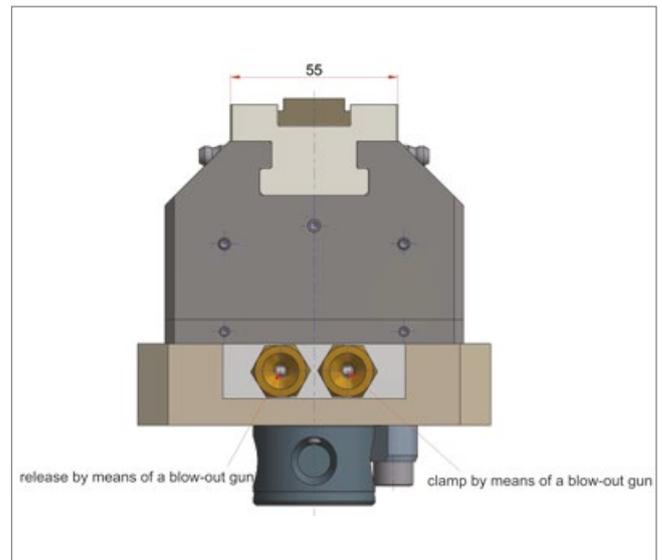
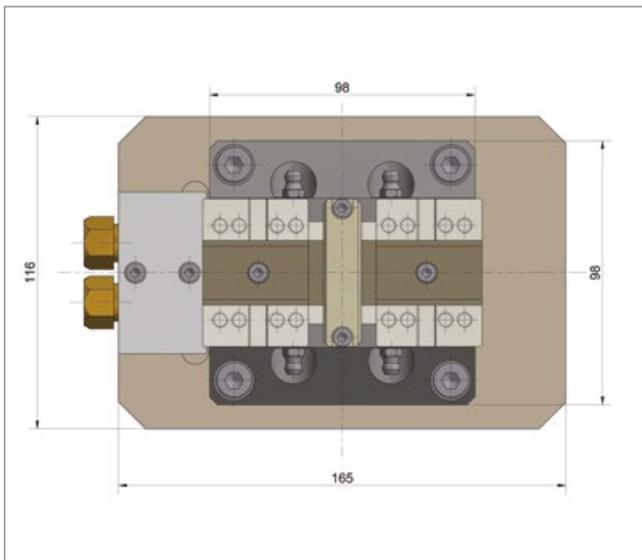
Pages 83 to 93

See optional additional functions, page 55 – 57. Please indicate if you want one of the additional functions so that we can include it in the offer.

PNEUMATIC CENTRIC VISE WITH PRESSURE MAINTENANCE

Operating principle:

- Pneumatic centric vise (in this example vise BSP-100, see page 23) on a pallet with pressure maintenance valve
- The workpiece can be set up externally
- Clamping and release by means of a blow-out gun
- The pallet can be mounted on a Realpoint base plate (see page 112 – 117) on the machine (eliminates need for alignment of the machine)
- **No compressed air is necessary during machining**
- Clamping pressure is held by pressure maintenance valve



Order number:

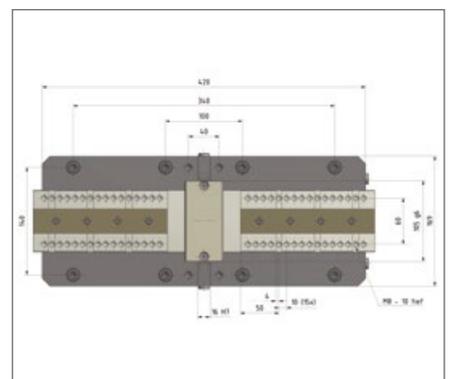
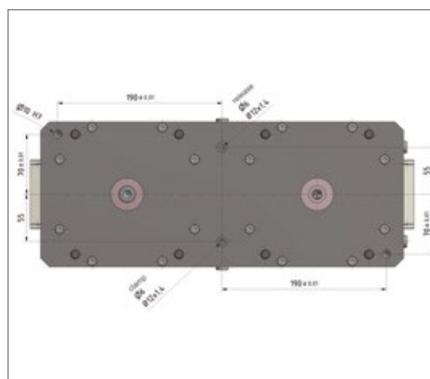
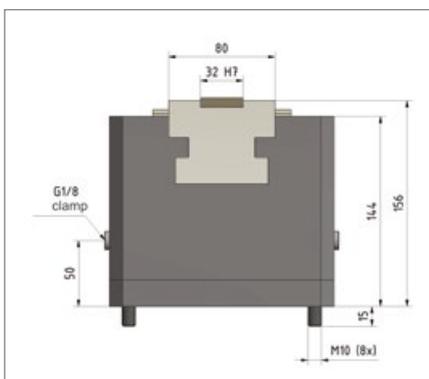
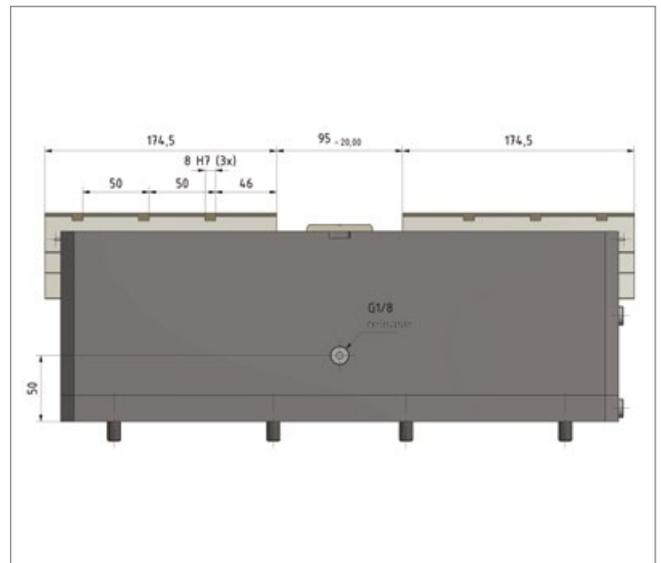
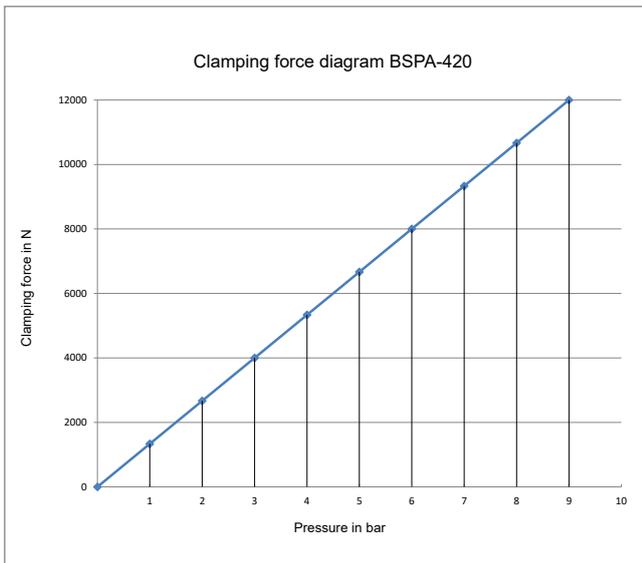
915-0100-001

Vise BSP-100 incl.
pallet with
pressure maintenance valve

This solution is also possible for other vise sizes. Please tell us your requirements, we will be glad to develop a solution for you.

PNEUMATIC COMPENSATING VISE

BSPA-420



Technical data

Order number:	153-0420-001
Designation:	BSPA-420
Dimensions (LxWxH):	420 x 169 x 129 mm
Weight:	65 kg
Clamping range	0 - 400 mm
Stroke each jaw:	20 mm
Clamping compensation	18 mm
Max. actuating pressure:	9 bar
Min. actuating pressure:	1 bar
Clamping force max.:	12 kN at 9 bar
Air consumption (6 bar):	14360 cm ³ per double stroke
Jaw connection:	Cross offset
Air connections:	On side and bottom

Seal pack (for maintenance):

Order number:	100-353-420
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Potential applications

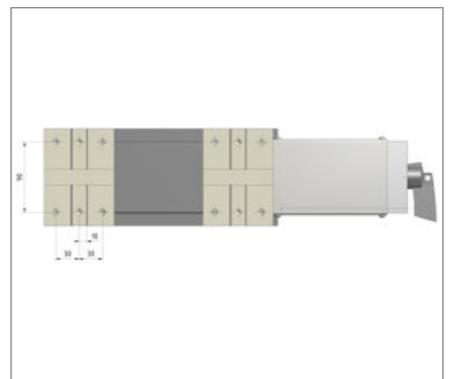
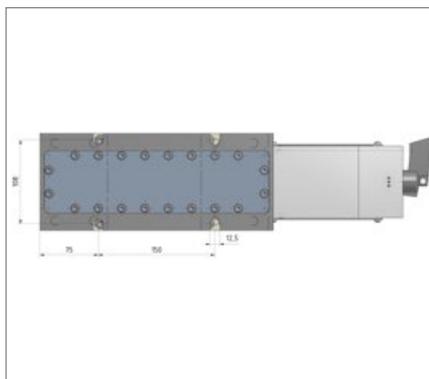
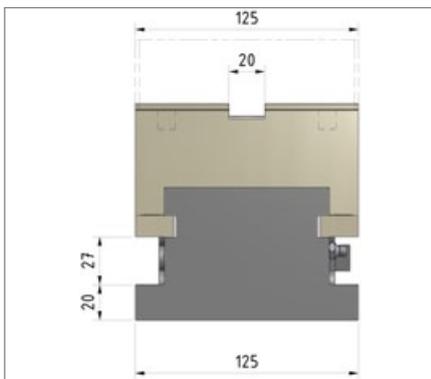
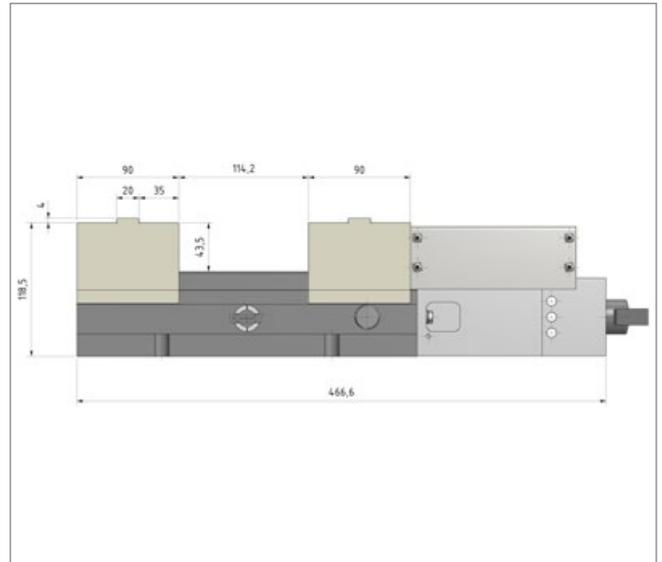
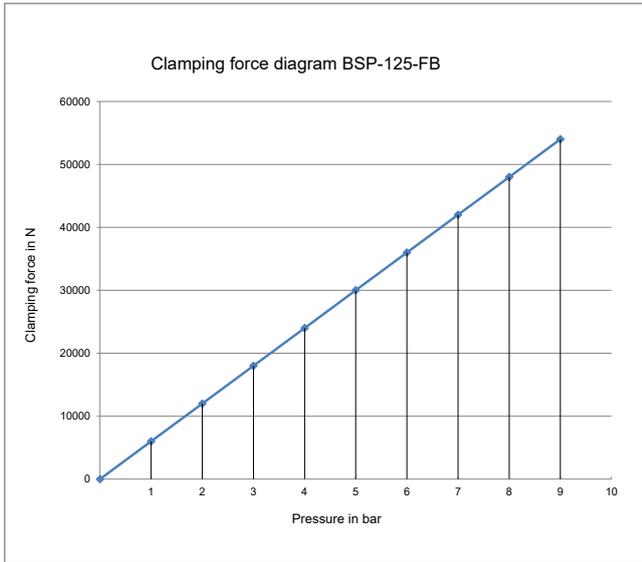
- The vise can be used either as a compensating vise or as a double vise.

Compatible jaws

We will be glad to prepare you an individual offer for workpiece specific jaws

PNEUMATIC VISE

BSP-125-FB



Technical data

Order number:	151-0125-001
Designation:	BSP-125-FB
Dimensions (LxWxH):	467 x 125 x 118.5 mm
Weight:	26 kg
Clamping range	0 - 222 mm
Jaw stroke:	3 mm
Adjustment range of the jaws:	114 mm
Max. actuating pressure:	9 bar
Min. actuating pressure:	1 bar
Clamping force max.:	54 kN at 9 bar
Air consumption (6 bar)	5200 cm ³ per double stroke
Jaw connection:	Cross offset
Air connections:	On side

Compatible jaw blank:

Order number:	301-0125-011
Dimensions (WxLxH):	125 x 87 x 50 mm
Material:	16 MnCr5



Compatible profile jaws:

Order number:	301-0125-012
Dimensions (WxLxH):	125 x 87 x 50 mm step with 52 x 20 (LxH)

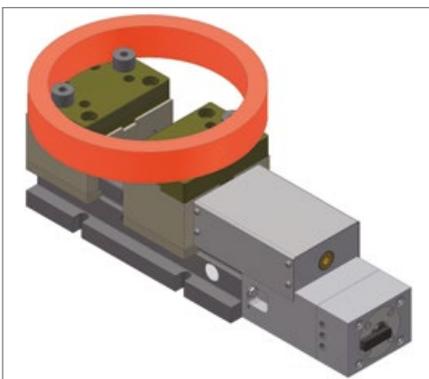
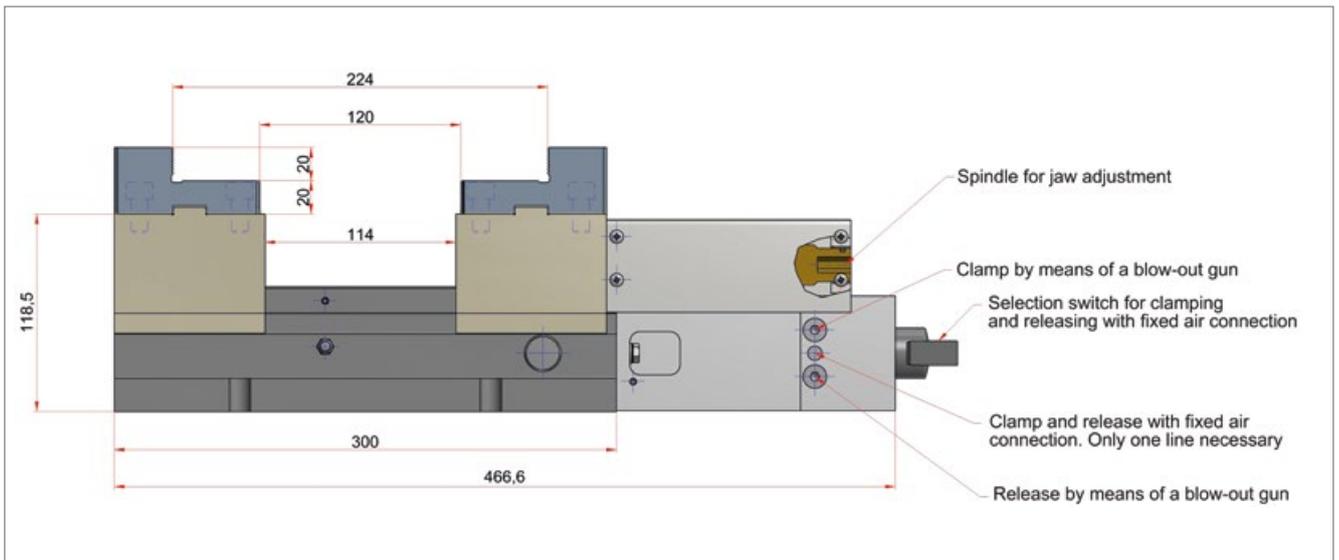


PNEUMATIC VISE

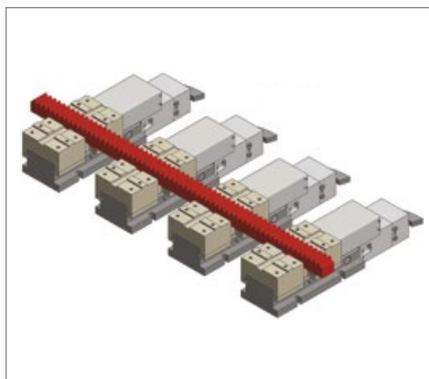
BSP-125-FB

Operating principle:

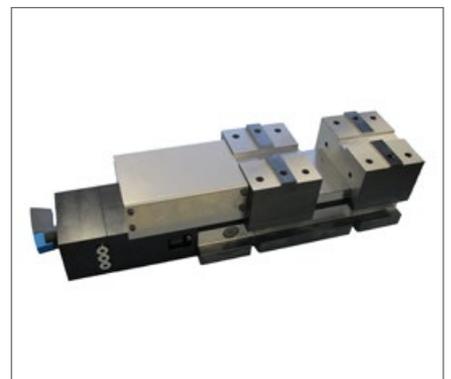
- Vise with a fixed jaw
- Moving jaw is roughly preset via a threaded spindle
- Compressed air is used to clamp via wedge slider and clamping lever
- Adjustment range via spindle is 114 mm. Jaw stroke via compressed air 3 mm
- **No compressed air is necessary during machining**
- Clamping pressure is held by self-locking mechanism



I.D. clamping



Parallel clamping

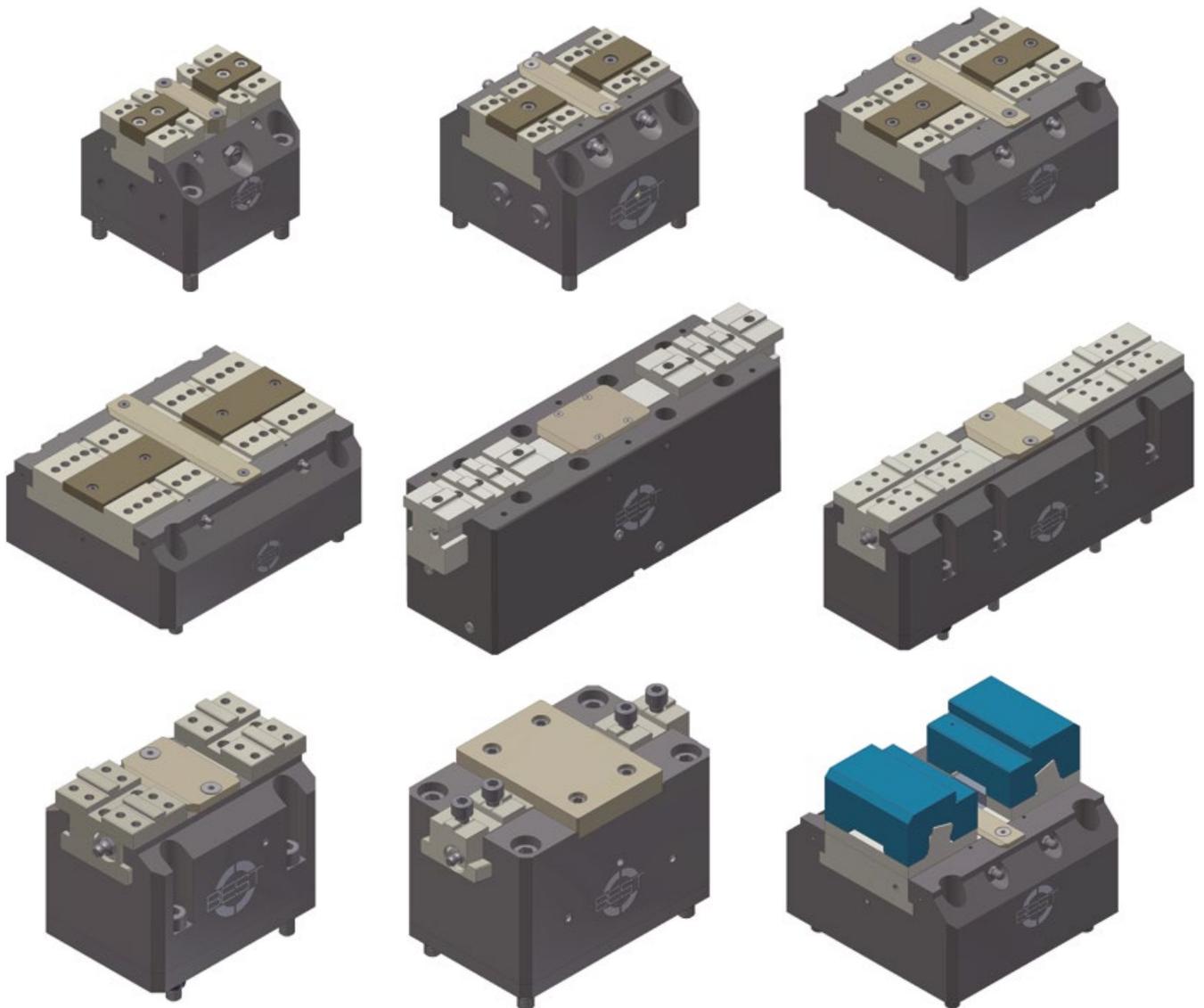


Potential applications

- I.D. clamping, O.D. clamping, parallel clamping, mounting aid at workplace

CENTRIC VISES FOR AUTOMATION SOLUTIONS

HYDRAULIC CENTRIC VISES

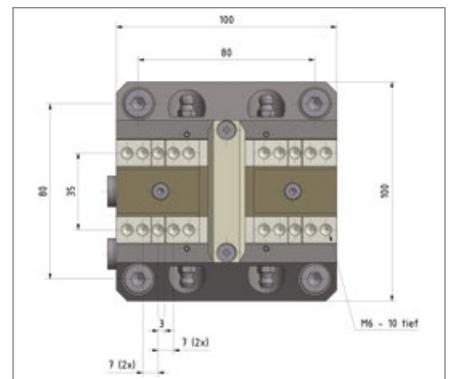
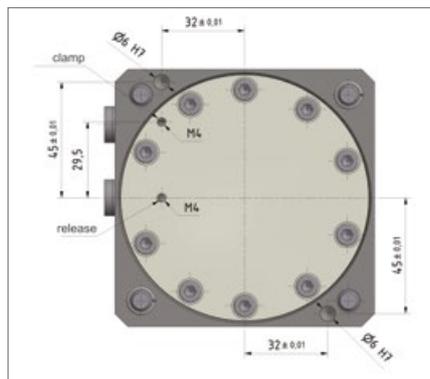
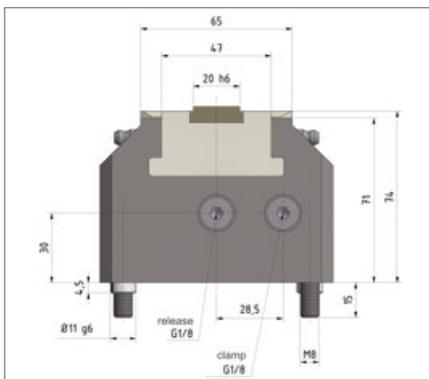
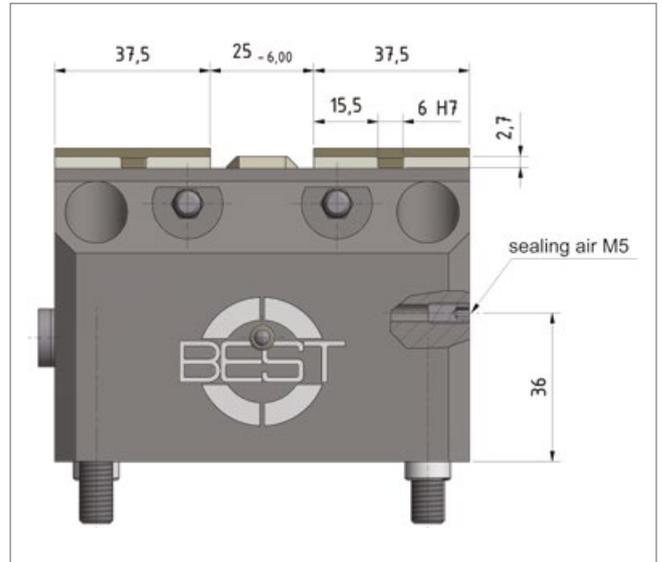
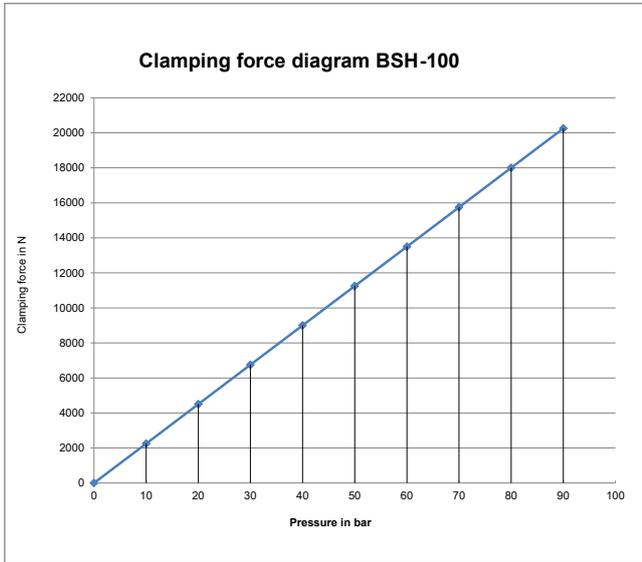


Advantages of hydraulic vises:

- Solid construction for very high rigidity
- Extremely high clamping forces (up to 70 kN)
- Body sizes from 64 mm to 500 mm
- Repeatability of 0.005 mm (in connection with ground jaws)
- Centering accuracy of +/- 0.01 mm (in connection with ground jaws)
- Clamping widths up to 500 mm
- Hardened surfaces minimize wear
- Suitable for I.D. and O.D. clamping
- Customized solutions/adaptations upon request (Please provide us with the data for your individual requirements, after which you will receive a technical draft with an offer for the requested number of units.)

HYDRAULIC CENTRIC VISE

BSH-100



Technical data

Order number:	100-0100-001
Designation:	BSH-100
Dimensions (LxWxH):	100 x 100 x 74 mm
Weight:	5 kg
Clamping range	0 - 90 mm
Stroke each jaw:	3 mm
Max. actuating pressure:	90 bar
Min. actuating pressure:	5 bar
Clamping force max.:	20.25 kN at 90 bar
Stroke volume	19 cm ³ per double stroke
Jaw connection:	Cross offset
Hydraulic connections:	On side and bottom

Compatible jaw blank:

Order number:	301-0060-002
Dimensions (WxLxH):	60 x 45 x 30 mm
Material:	16 MnCr5

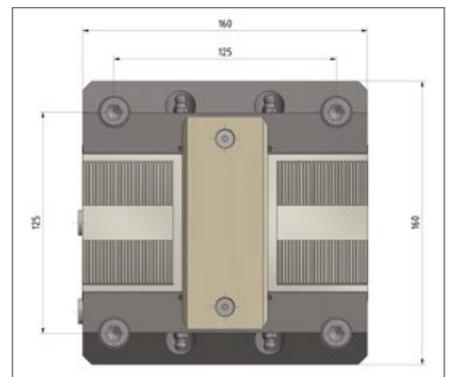
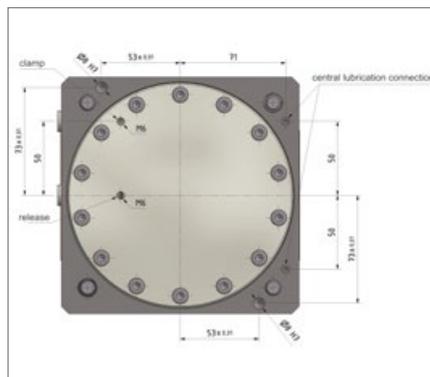
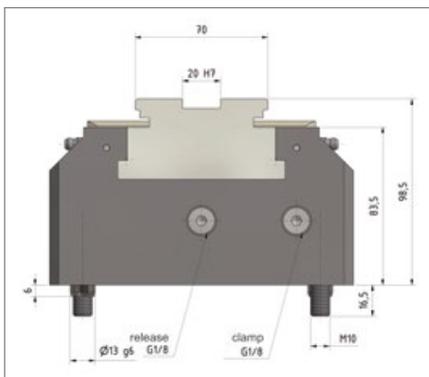
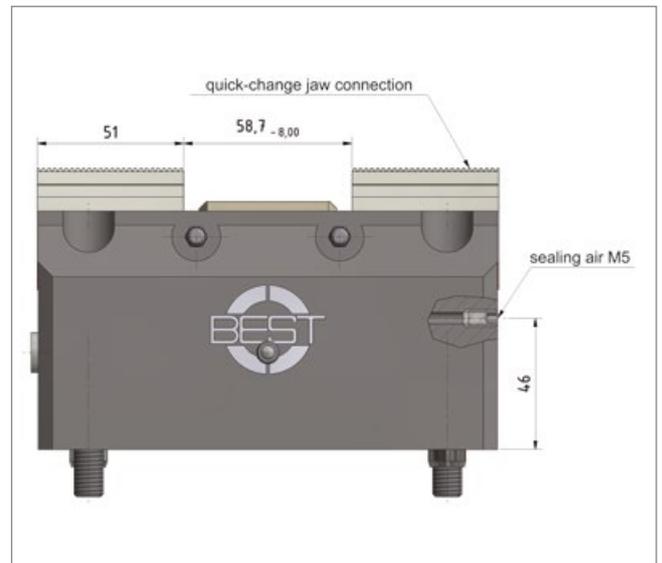
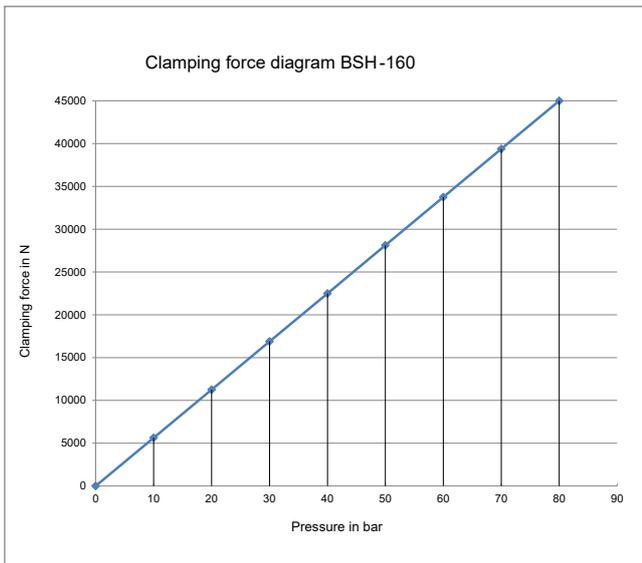
Seal pack (for maintenance):

Order number:	100-300-100
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Optional additional functions:

- Clamping path monitoring
- Central lubrication connection
- Fixed jaw
- Sealing air connection
- Contact control

HYDRAULIC CENTRIC VISE BSH-160-SWBH



Technical data

Order number:	100-0160-002
Designation:	BSH-160-SWBH
Dimensions (LxWxH):	160 x 160 x 98.5 mm
Weight:	15.2 kg
Clamping range	0 - 150 mm
Stroke each jaw:	4 mm
Max. actuating pressure:	80 bar
Min. actuating pressure:	5 bar
Clamping force max.:	45 kN at 80 bar
Stroke volume	65 cm ³ per double stroke
Jaw connection:	Quick change-over
Hydraulic connections:	On side and bottom

Compatible jaw blank:

Order number:	301-0094-008
Dimensions (WxLxH):	94 x 67 x 50 mm
Material:	16 MnCr5

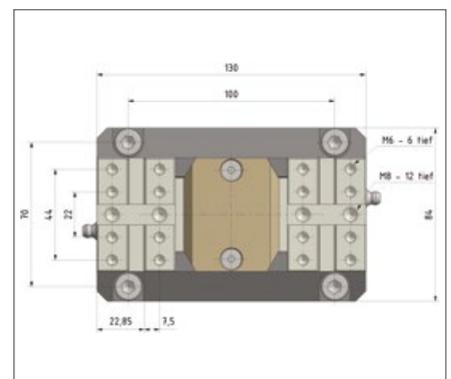
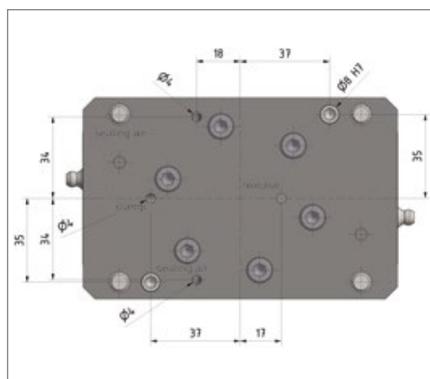
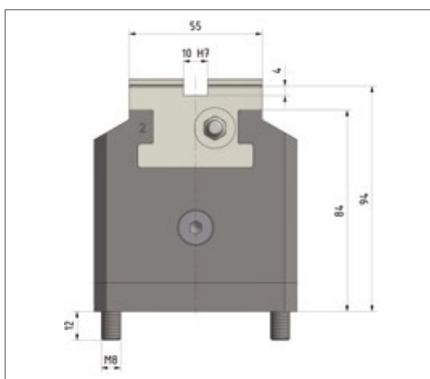
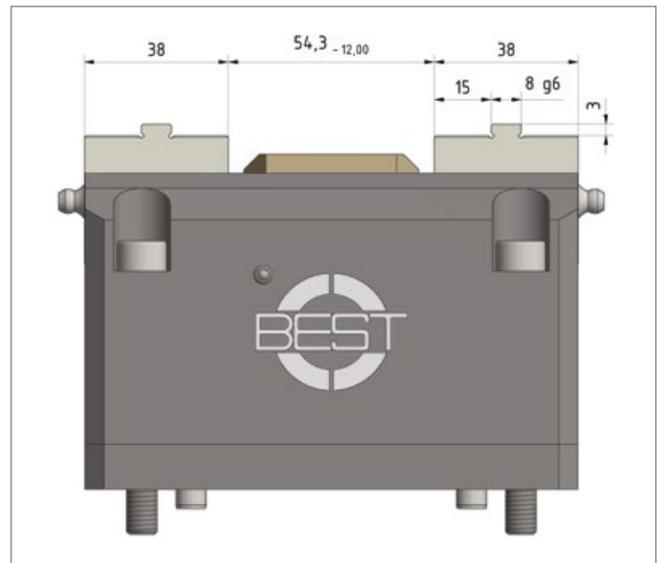
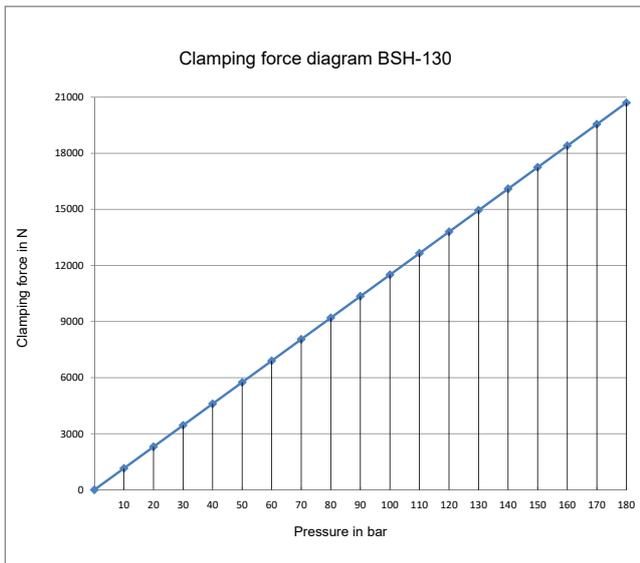
Seal pack (for maintenance):

Order number:	100-300-160
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Optional additional functions:

- Clamping path monitoring
- Central lubrication connection
- Fixed jaw
- Sealing air connection
- Contact control

HYDRAULIC CENTRIC VISE SPECIAL SIZE BSH-130



Technical data

Order number:	100-0130-006
Designation:	BSH-130
Dimensions (LxWxH):	130 x 84 x 94 mm
Weight:	7 kg
Clamping range	0 - 120 mm
Stroke each jaw:	6 mm
Max. actuating pressure:	180 bar
Min. actuating pressure:	5 bar
Clamping force max.:	20.7 kN at 180 bar
Stroke volume	40 cm ³ per double stroke
Jaw connection:	Cross offset
Hydraulic connections:	On bottom

Compatible jaw blank:

Order number:	301-0070-005
Dimensions (WxLxH):	70 x 50 x 50 mm
Material:	16 MnCr5

Seal pack (for maintenance):

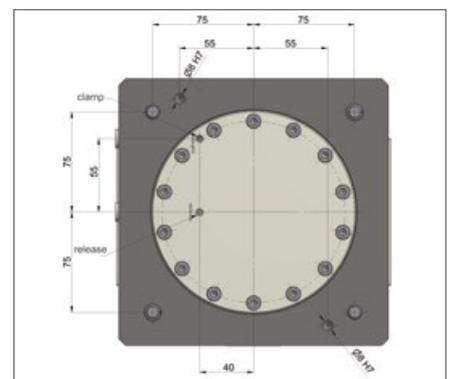
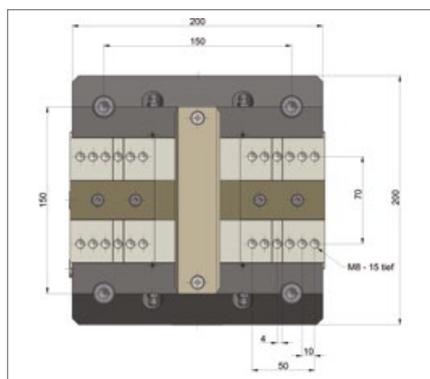
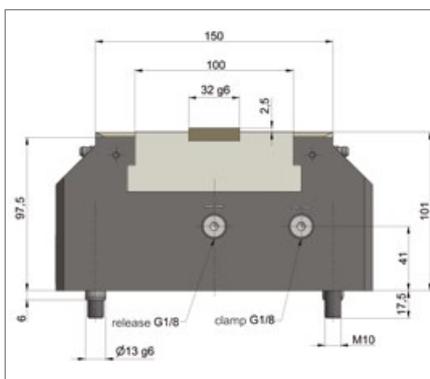
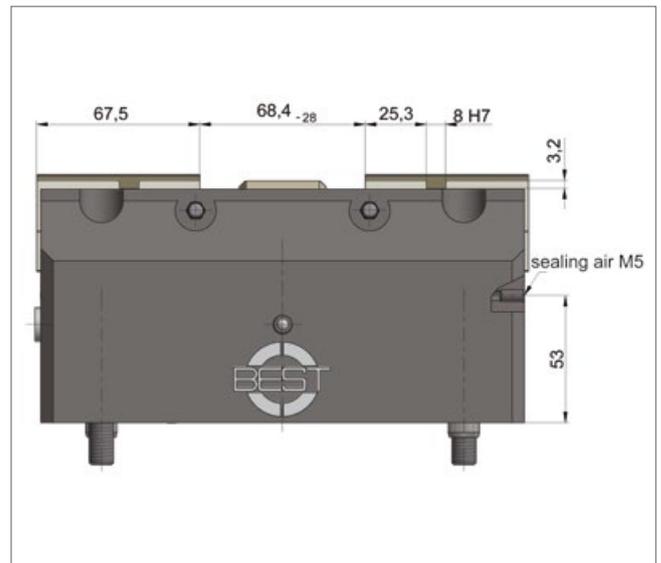
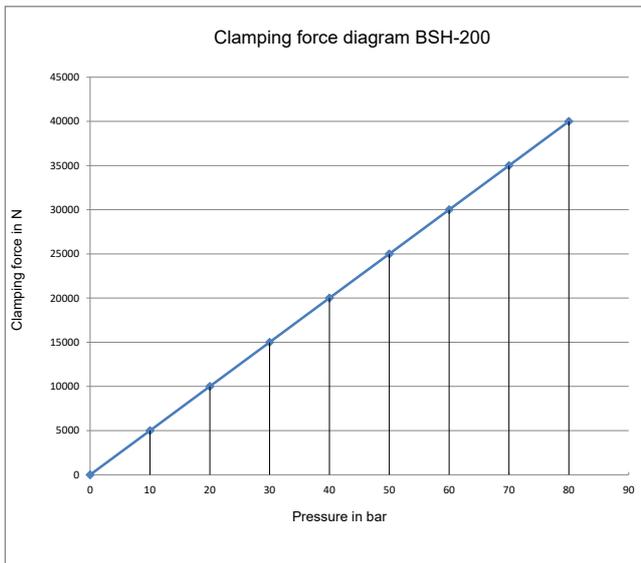
Order number:	100-300-130
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Optional additional functions:

- Clamping path monitoring
- Fixed jaw
- Sealing air connection
- Contact control

HYDRAULIC CENTRIC VISE

SPECIAL SIZE BSH-200-SH (WITH EXTRA LONG STROKE)



Technical data

Order number:	100-0200-001
Designation:	BSH-200
Dimensions (LxWxH):	200 x 200 x 101 mm
Weight:	27 kg
Clamping range	0 - 190 mm
Stroke each jaw:	14 mm
Max. actuating pressure:	80 bar
Min. actuating pressure:	5 bar
Clamping force max.:	40 kN at 80 bar
Stroke volume	189 cm ³ per double stroke
Jaw connection:	Cross offset
Hydraulic connections:	On side and bottom

Compatible jaw blank:

Order number:	301-0094-025
Dimensions (WxLxH):	94 x 67 x 50 mm
Material:	16 MnCr5

Seal pack (for maintenance):

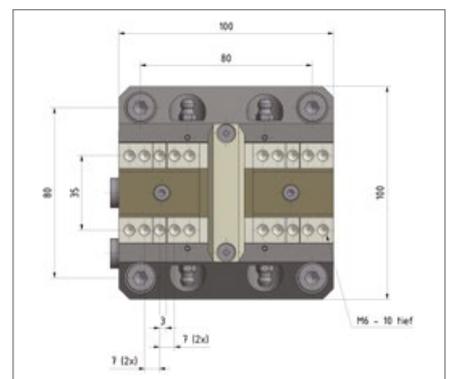
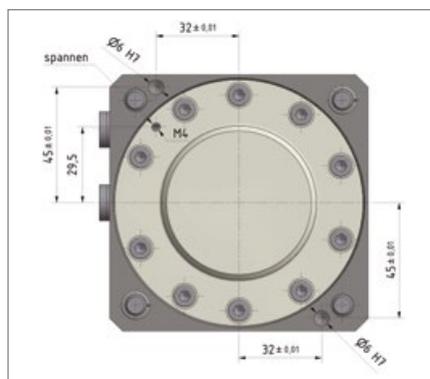
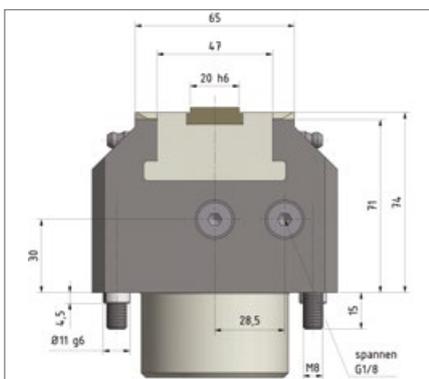
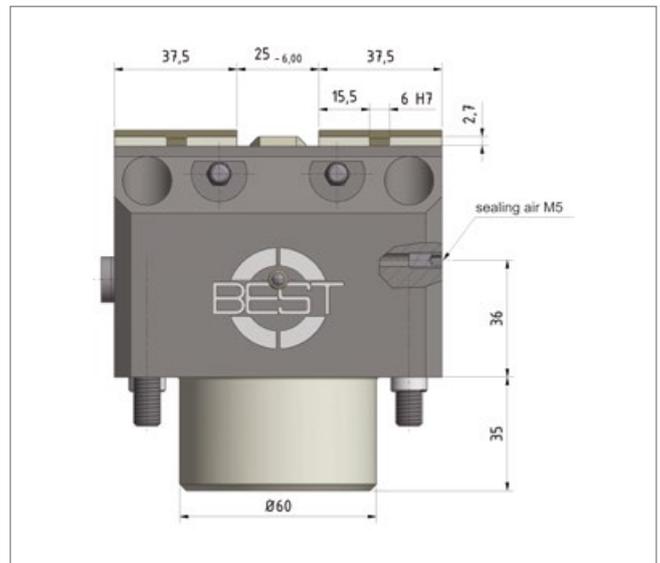
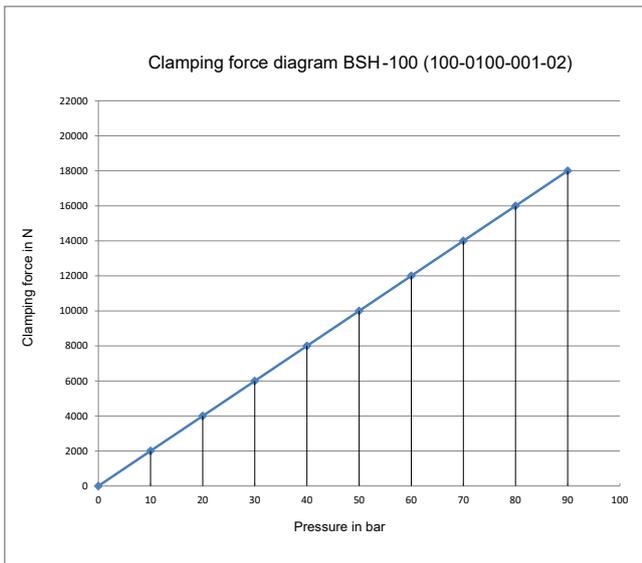
Order number:	100-300-200
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Optional additional functions:

- Clamping path monitoring
- Central lubrication connection
- Fixed jaw
- Sealing air connection
- Contact control

HYDRAULIC CENTRIC VISE

SPECIAL SIZE BSH-100-FR (VISE WITH SPRING RETURN)



Technical data

Order number:	100-0100-001-02
Designation:	BSH-100-FR
Dimensions (LxWxH):	100 x 100 x 109 mm
Weight:	5.5 kg
Clamping range	0 - 90 mm
Stroke each jaw:	3 mm
Max. actuating pressure:	90 bar
Min. actuating pressure:	5 bar
Clamping force max.:	18 kN at 90 bar
Stroke volume	9 cm ³
Jaw connection:	Cross offset
Hydraulic connections:	On side and bottom

Compatible jaw blank:

Order number:	301-0060-002
Dimensions (WxLxH):	60 x 45 x 30 mm
Material:	16 MnCr5

Seal pack (for maintenance):

Order number:	100-300-100
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Optional additional functions:

- Clamping path monitoring
- Central lubrication connection
- Sealing air connection
- Fixed jaw
- Contact control

See optional additional functions, page 55 – 57. Please indicate if you want one of the additional functions so that we can include it in the offer.

HYDRAULIC COMPENSATING VISE

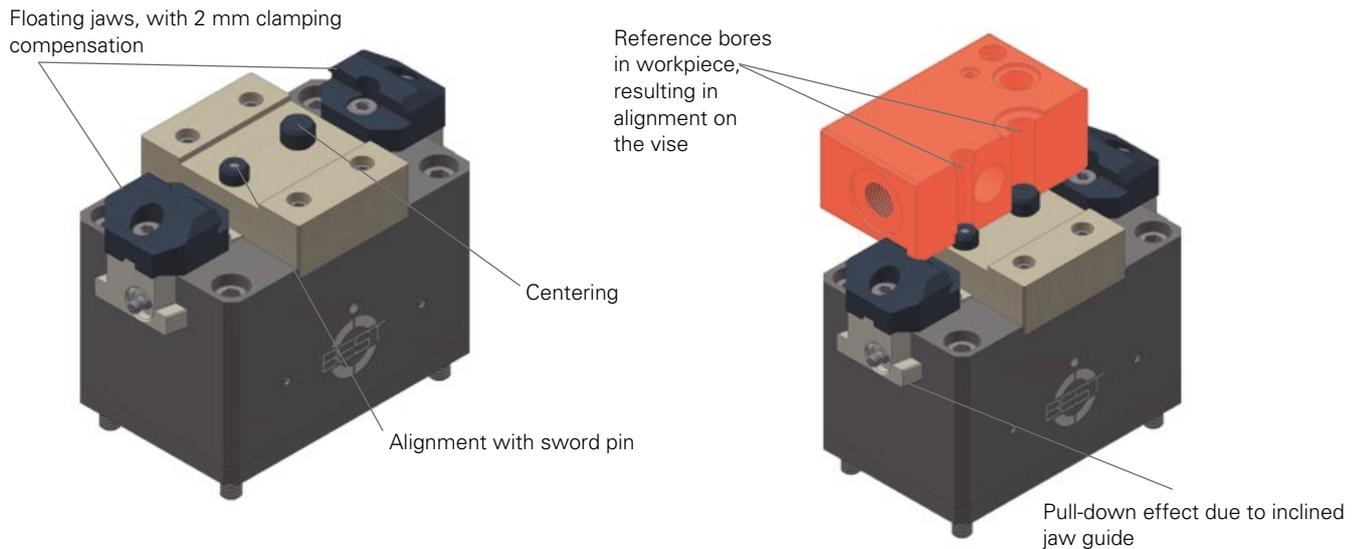
POTENTIAL APPLICATIONS AND FUNCTIONS

Possible applications of the hydraulic compensating vise:

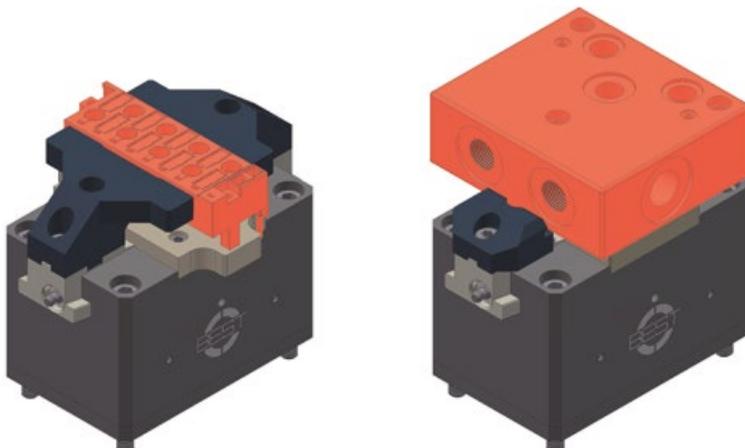
- Clamping of workpieces with dimensional deviation of up to 2 mm (e.g. cast parts)
- Second clamping, exact clamping to bores or surfaces that have already been machined

How the compensating clamping fixture works:

- Workpiece with reference bores or surfaces is placed on the workpiece fixture of the vise
- First, the first jaw floats against the workpiece (**max. setting force 30 N**), then the second jaw
- When both jaws are in contact, the pressure is built up (**clamping force 32 KN**)
 - ▶ This makes it possible to compensate for dimensional deviations in the workpieces.
- The inclined jaw guide causes a pull-down effect, which presses the workpiece onto the support plate



Examples of workpiece clamping set-ups, clamped with compensation:



Please send us your workpiece to be clamped (preferably in Step format), after which you will receive a technical draft with an offer for the requested number of units.

HYDRAULIC CENTRIC VISE

POTENTIAL APPLICATIONS AND FUNCTIONS

Optional additional functions for automated centric vises

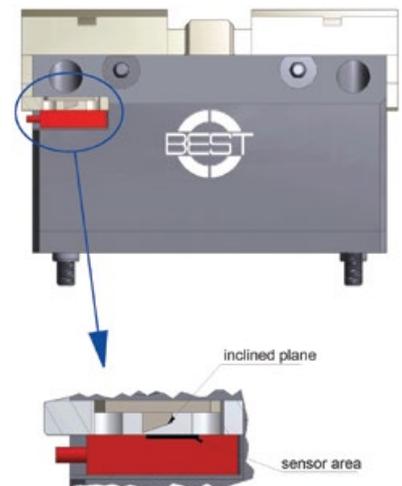
The pneumatic and hydraulic centric vises can be equipped with various additional functions. To find out which additional functions are possible for the individual vises, refer to the respective description of the vise in this catalog. When ordering vises, please let us know if you want one or more of the additional functions so that we can prepare the vises accordingly.

The additional functions are explained below.

Clamping path monitoring:

The clamping path monitoring of automated vises can be used to determine whether the workpiece has been inserted and clamped correctly:

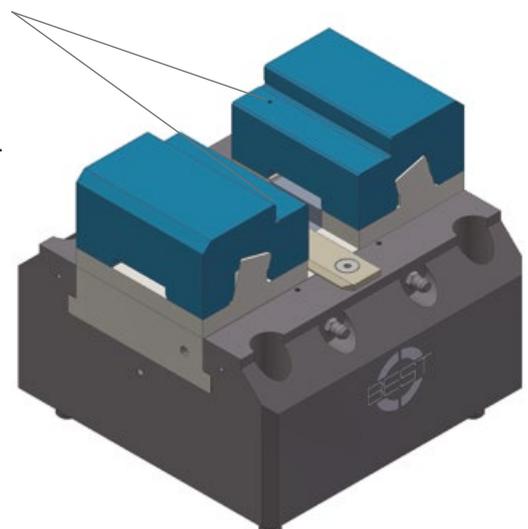
- Production does not start until the correct clamping path is reached and the media pressure is present
- Unlimited reference values for workpieces can be stored in the PLC (upper and lower tolerances of the clamping paths)
- Clamping paths from 2 to 10 mm per jaw can be monitored
- Repeatability is better than 0.05 mm under identical conditions
- Resolution/accuracy is dependent on the clamping path
- The solution helps comply with Machinery Directive 2006/42/EC, since two separate systems (clamping path and pressure) are available for a reliable process



Contact control:

- Whether a workpiece is in contact can be monitored pneumatically. The pneumatic line is connected to the top jaw.
- An air flow is directed through the support surface of the top jaw. The reading contains the flow resistance that occurs upon workpiece contact.
- If the workpiece is not in contact or rises, this produces a deviation in the flow resistance and a fault message is sent to the machine. The machine then either does not start up or the spindle is stopped.

Bores for monitoring contact control



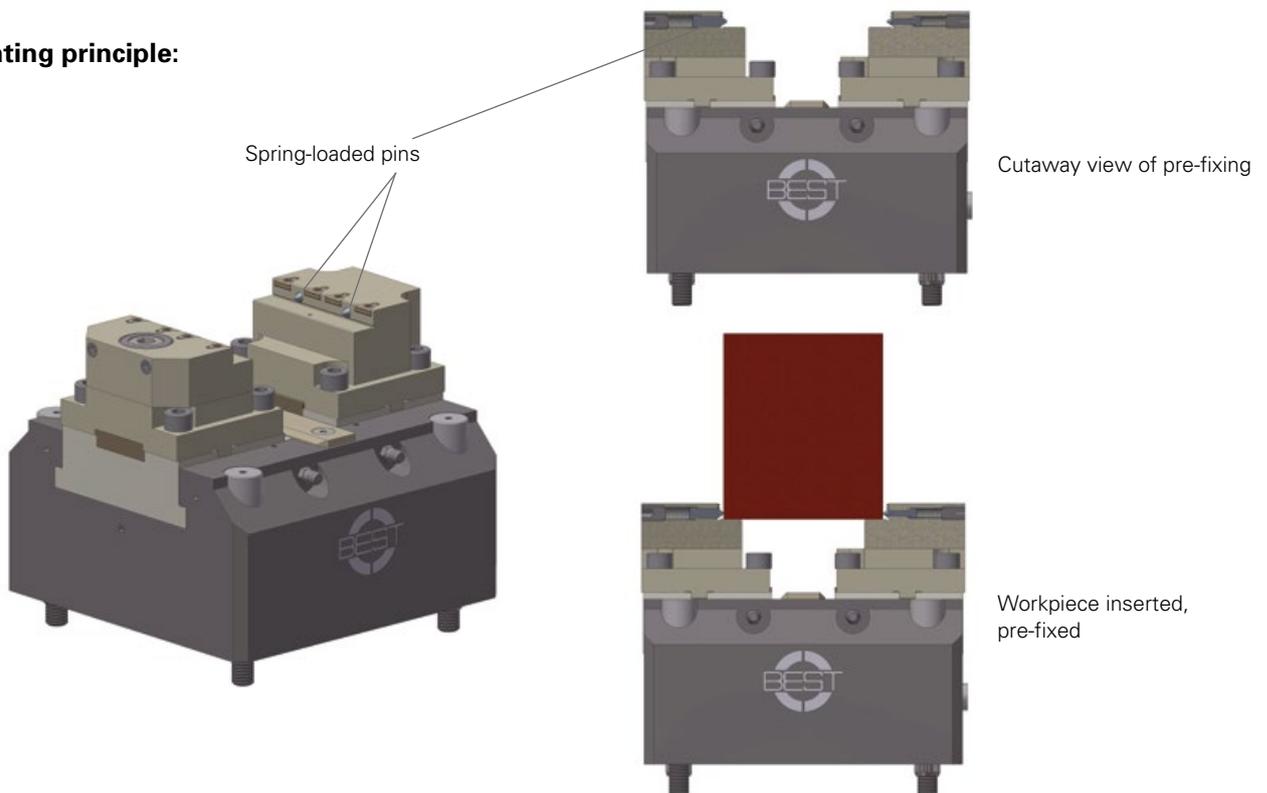
HYDRAULIC CENTRIC VISE

POTENTIAL APPLICATIONS AND FUNCTIONS

Pre-fixing of workpiece:

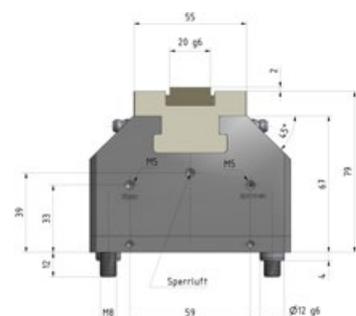
When connecting several vises via a pneumatic or hydraulic circuit, it is important that the workpieces are pre-fixed after they have been inserted by the robot. The workpieces are held in position by spring-loaded pins until the clamping pressure is built up. This prevents the workpieces from shifting.

Operating principle:



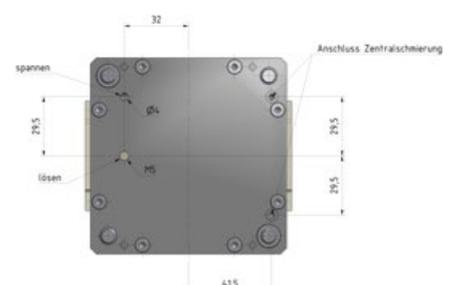
Sealing air connection:

Hydraulic and pneumatic vises can easily be equipped with an additional air purge function. In this case, pressure of 1 bar is generated in the vise, which prevents dirt from entering the interior of the vise.



Central lubrication connection:

By selecting the central lubrication connection option, you can reduce the maintenance required for the vises. You can automatically lubricate several vises at the same time. Regular lubrication and correct dosing reduce lubricant consumption and wear.



HYDRAULIC CENTRIC VISE POTENTIAL APPLICATIONS AND FUNCTIONS

Fixed jaw:

The pneumatic and hydraulic centric vises can also be converted to a fixed jaw clamping device if required.

Compensating function:

If you have an application where it is necessary for the jaws to adapt to the different tolerances of the workpieces, the vises can also be converted to a compensation function.

This can be useful for multiple clamping, for example, if the centric vises are only to be used for clamping support. In this case, the outer vises must have a centering function and define the position.

RFID:

Each vise (including the mechanical centric vise) can be equipped with an RFID chip. The chip can store data about the clamping device, such as the serial number, model or date of purchase.

Dimensional data about the clamping device can also be stored. This allows the machine to identify which clamping device is being used. For various machine types, it is then possible to compensate for any run-out.

User example of clamping path monitoring:



Shafts are clamped in a horizontal machining center on a clamping tower with 8 BSP-160 units. The vises were equipped with the additional function of monitoring the clamping path.

The complete control system is housed in the tower structure. The user can choose between automatic and manual operation.

HYDRAULIC CENTRIC VISE WITH CLICK JAW INTERFACE

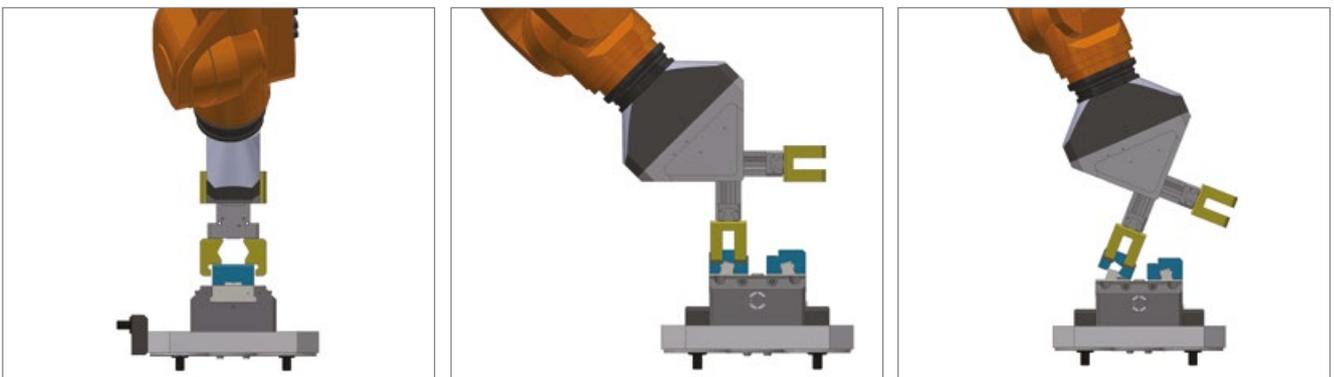
The click-jaw interface is ideal for automated jaw change-over, but also for quick manual change-over!



Operating principle:

- The jaws click onto the vise without the use of screws.
- The jaws are pre-fixed by a thrust part.
- When clamping the workpieces, the jaws are pressed into the inclination, so that they are held securely!

Example of a jaw change-over by the robot:



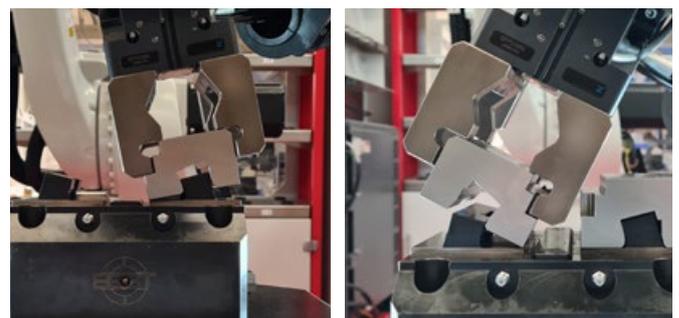
Optional functions with the click jaw interface:

- Contact control: For automated operation of the centric vise with a click jaw interface, we recommend use of the contact control function. The click jaw interface monitors whether the top jaw is present and whether the workpiece is present. The pneumatic connection is made on the outside of the master jaw. For more information on contact control, see p. 100.
- Pendulum jaw: To clamp workpieces with two non-parallel sides, the vise can be equipped with pendulum jaws. This is done by making one of the master jaws a floating jaw.

Please indicate if you want one of the additional functions so that we can include it in the offer.

The click jaw interface is available for all sizes, also for mechanical and pneumatic vise models!

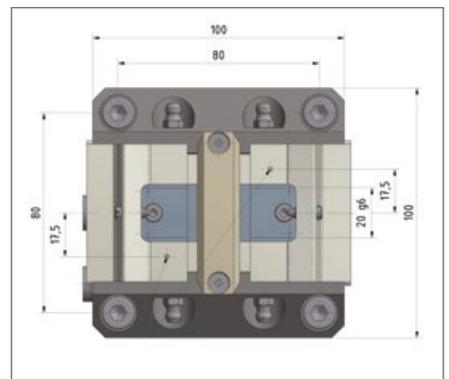
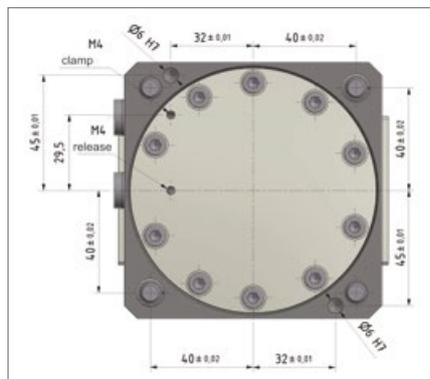
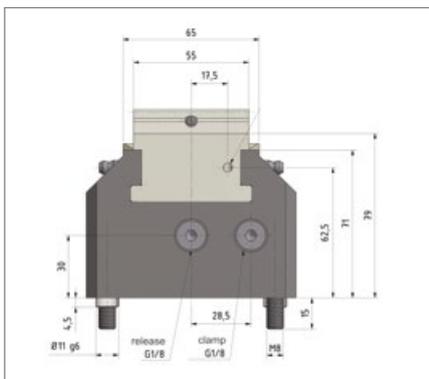
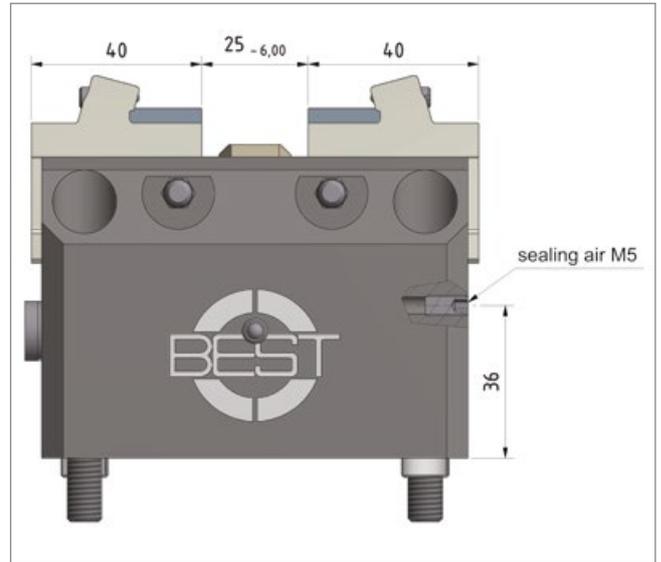
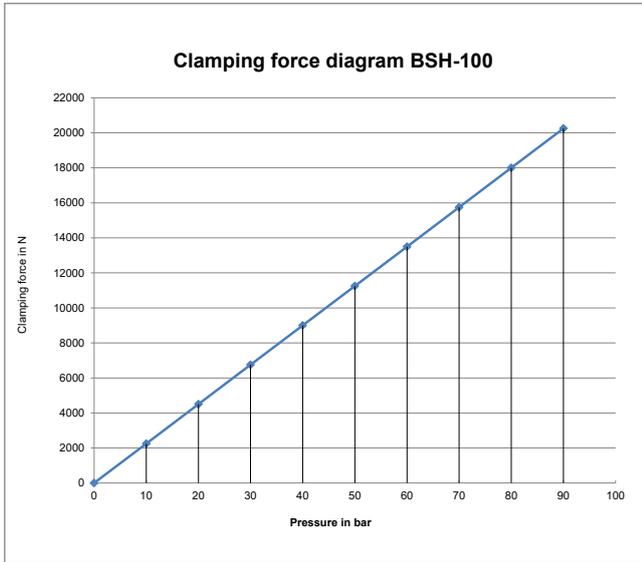
The following pages contain hydraulic centric vises with a click jaw interface. Please tell us your requirements, we will be glad to develop a solution for you.



BSH-160-KB with click jaw

HYDRAULIC CENTRIC VISE BSH-100-KB

WISE WITH CLICK JAW FOR AUTOMATED CHANGE-OVER



Technical data

Order number:	101-0100-003
Designation:	BSH-100-KB
Dimensions (LxWxH):	100 x 100 x 79 mm
Weight:	5 kg
Clamping range	0 - 75 mm
Stroke each jaw:	3 mm
Max. actuating pressure:	90 bar
Min. actuating pressure:	5 bar
Stroke volume	19 cm ³ per double stroke
Jaw connection:	Click jaw
Hydraulic connections:	On side and bottom

Compatible jaw blank:

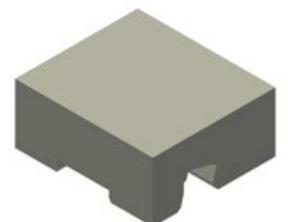
Order number:	302-0100-007
Dimensions (WxLxH):	55 x 49 x 24 mm
Material:	16 MnCr5

Seal pack (for maintenance):

Order number:	100-300-100
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Optional additional function

- Clamping path monitoring
- Central lubrication connectic
- Fixed jaw
- Sealing air connection
- Contact control



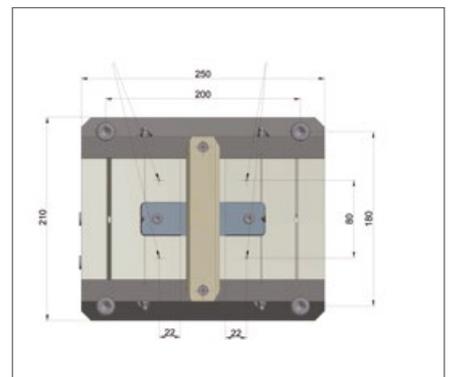
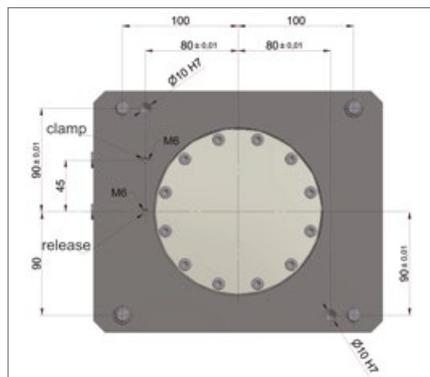
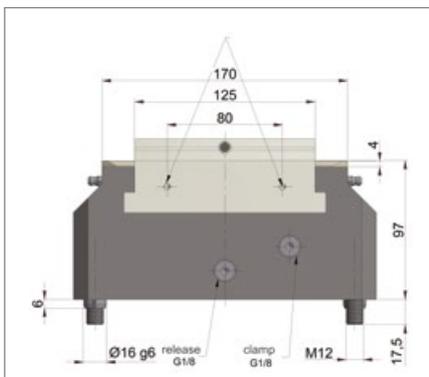
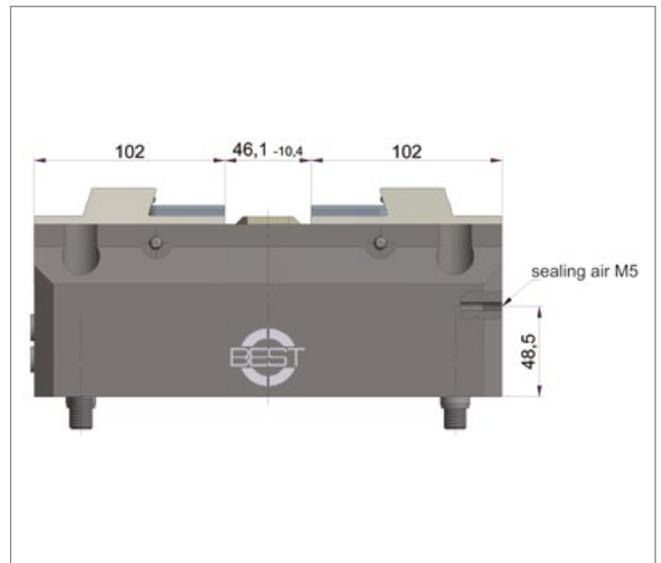
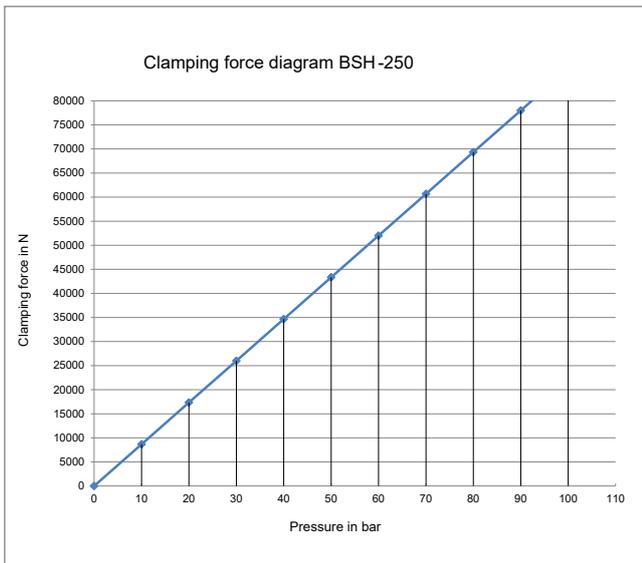
The click jaw interface is also available for other vise models.

Please tell us your requirements, we will be glad to develop a solution for you.

See optional additional functions, page 55 – 57. Please indicate if you want one of the additional functions so that we can include it in the offer.

HYDRAULIC CENTRIC VISE SPECIAL SIZE BSH-250-KB

WISE WITH CLICK JAW FOR AUTOMATED CHANGE-OVER



Technical data

Order number:	101-0250-001
Designation:	BSH-250-KB
Dimensions (LxWxH):	250 x 210 x 97 mm
Weight:	38 kg
Clamping range	0 - 190 mm
Stroke each jaw:	5.2 mm
Max. actuating pressure:	90 bar
Min. actuating pressure:	5 bar
Clamping force max.:	78 kN at 90 bar
Stroke volume	121 cm ³ per double stroke
Jaw connection:	Click jaw
Hydraulic connections:	On side and bottom

Compatible jaw blank:

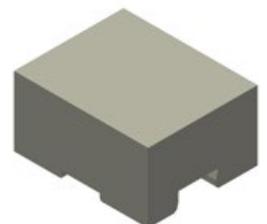
Order number:	302-0250-001
Dimensions (WxLxH):	125 x 102 x 65 mm
Material:	16 MnCr5

Seal pack (for maintenance):

Order number:	100-300-250
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Optional additional functions:

- Clamping path monitoring
- Central lubrication connection
- Fixed jaw
- Sealing air connection
- Contact control

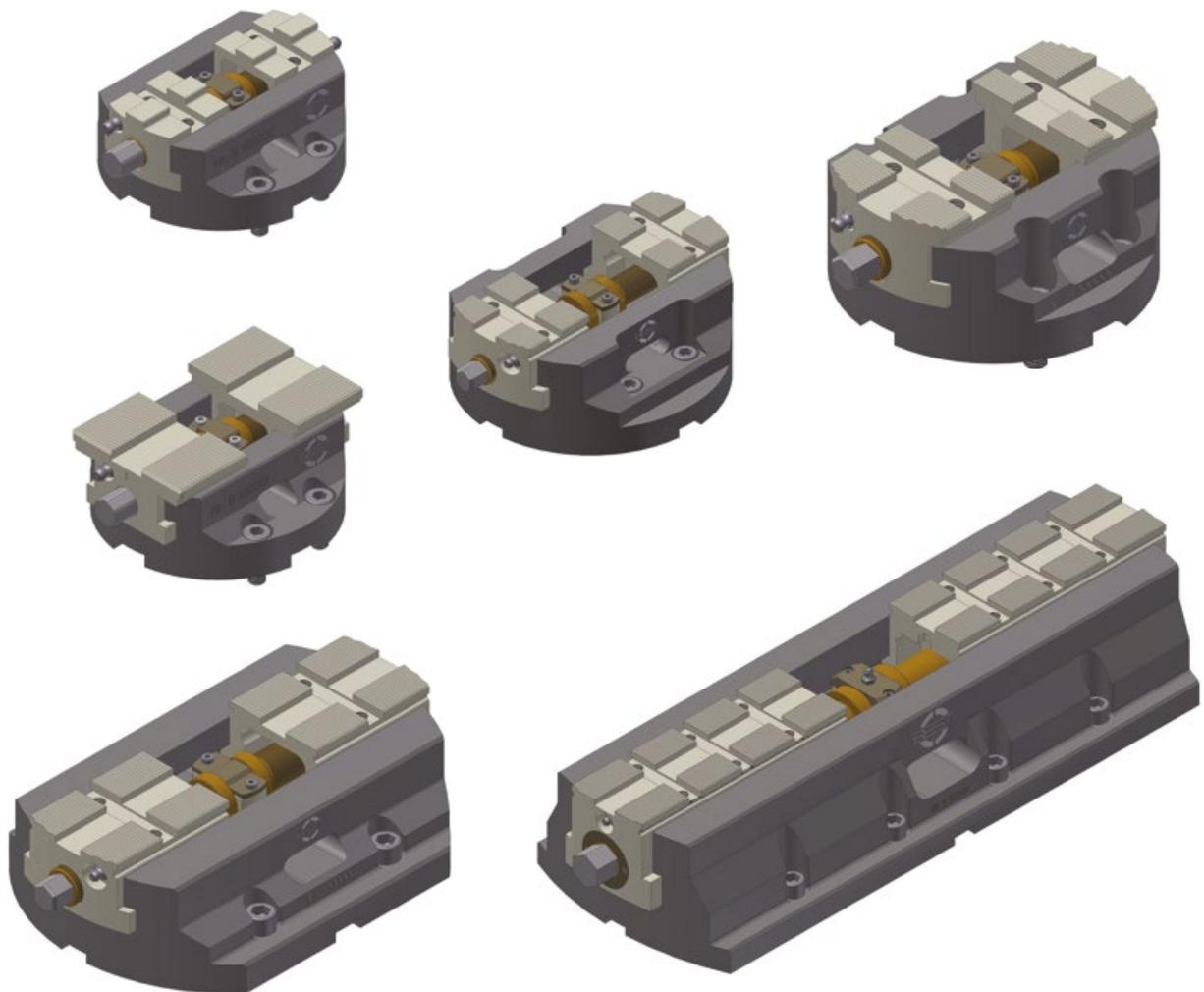


The click jaw interface is also available for other vise models.

Please tell us your requirements, we will be glad to develop a solution for you.

See optional additional functions, page 55 – 57. Please indicate if you want one of the additional functions so that we can include it in the offer.

MECHANICAL CENTRIC VISE

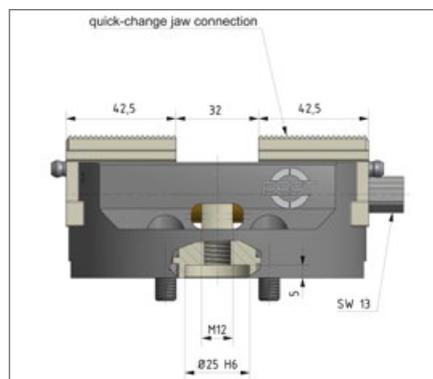
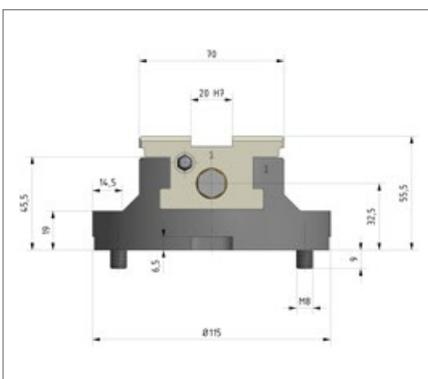
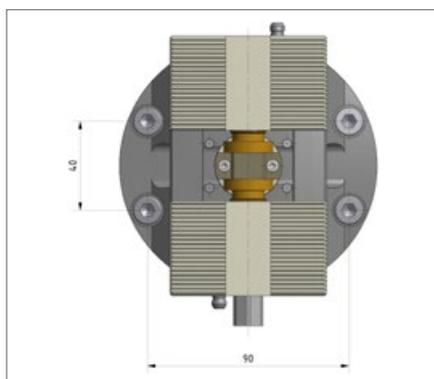
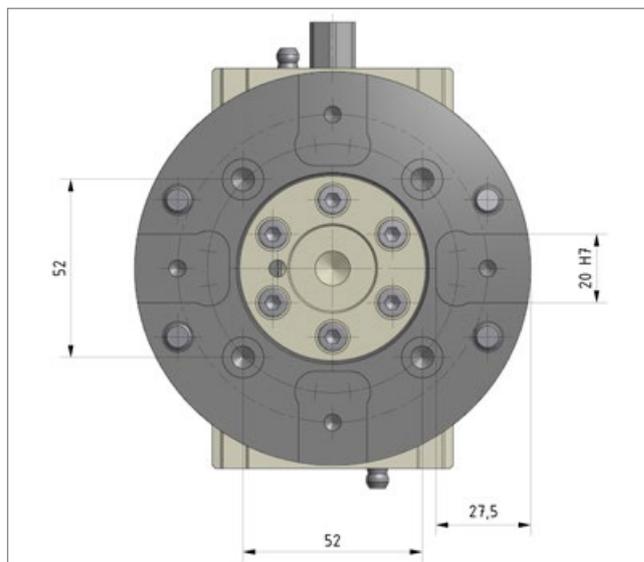
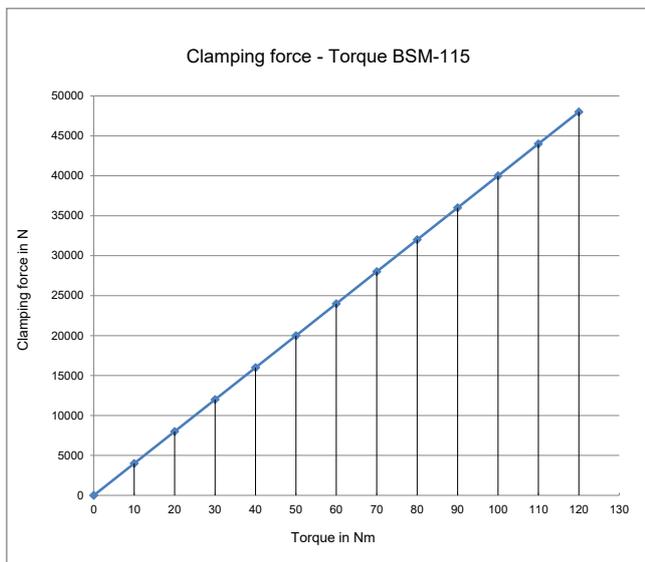


Advantages of the BSM centric vise:

- Low interference contours and an extremely flat design, for maximum flexibility on multi-axis machining centers
- Extremely high clamping forces (up to 100 kN)
- Up to 50 mm stroke / jaw
- Body sizes from 115 mm to 700 mm
- Repeatability of 0.005 mm (in connection with ground jaws)
- Centering accuracy of ± 0.01 mm (in connection with ground jaws)
- Clamping widths up to 700 mm
- Combined quick-change jaw connection and cross offset starting with model size BSM140
- Ground threaded spindle
- Hardened surfaces minimize wear
- Depending on the requirements, the BSM centric vise can be used conventionally for bolting to the machine table or as an RPC zero-point centric vise on the Realpoint system
- The centric vise BSM can be adapted to zero-point systems of other manufacturers

MECHANICAL CENTRIC VISE

BSM-115-SWBA



Technical data

Order number:	200-0115-012
Designation:	BSM-115-SWBA
Overall length:	Ø 115 mm
Overall height:	55.5 mm
Weight:	2.96 kg
Clamping range	0 - 100 mm
Stroke per jaw	15 mm
Max. torque:	120 Nm
Clamping force max.:	48 kN
Jaw connection:	Quick change-over

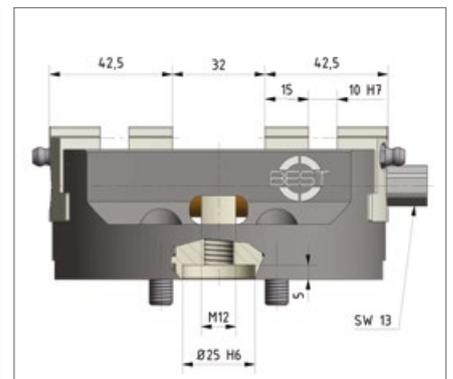
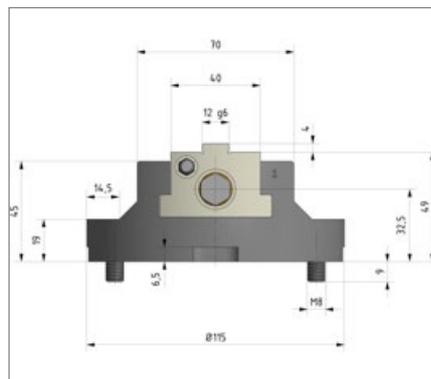
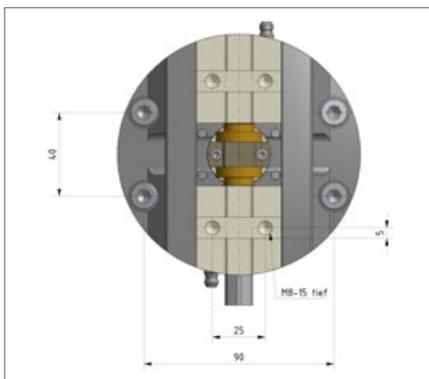
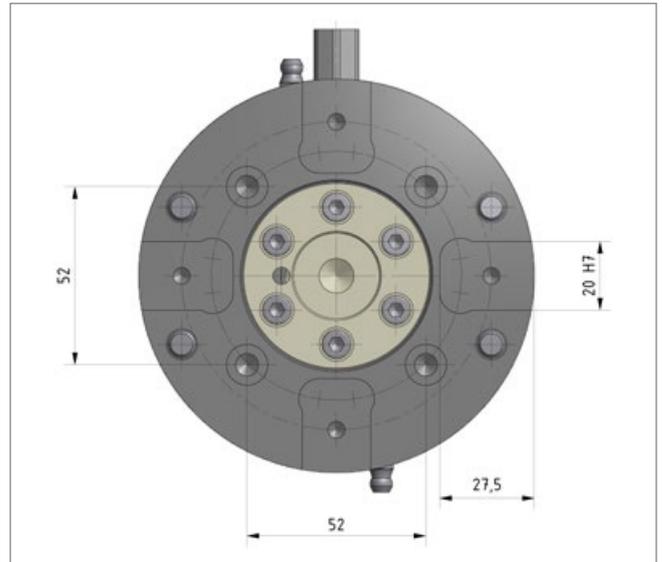
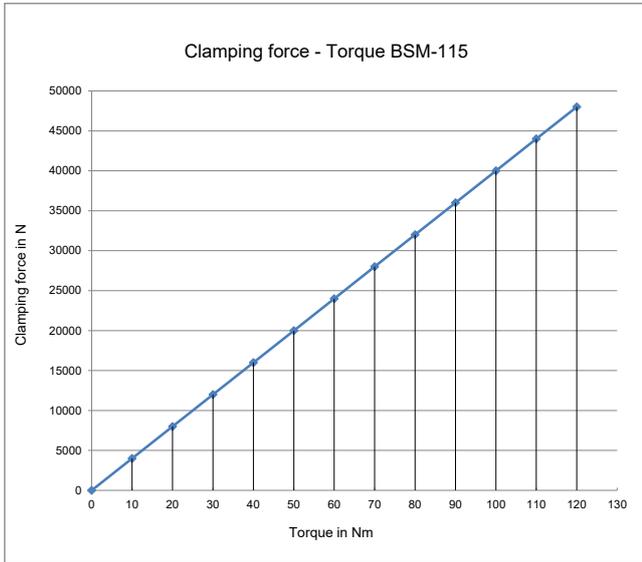
Installation options of the BSM-115-SWBA:

- The BSM-115-SWBA centric vise can be mounted on the machine table or a pallet from above with screws or clamps.
- By attaching a tightening bolt and two alignment bolts (see page 116) the BSM-115-SWBA can easily be converted to an RPC-115-SWBA zero-point centric vise (see page 113).

Compatible jaws for the centric vise can be found on pages 83 to 93.

MECHANICAL CENTRIC VISE

BSM-115-KV



Technical data

Order number:	200-0115-014
Designation:	BSM-115-KV
Overall length:	Ø 115 mm
Overall height:	49 mm
Weight:	2.96 kg
Clamping range	0 - 100 mm
Stroke per jaw	15 mm
Max. torque:	120 Nm
Clamping force max.:	48 kN
Jaw connection:	Cross offset

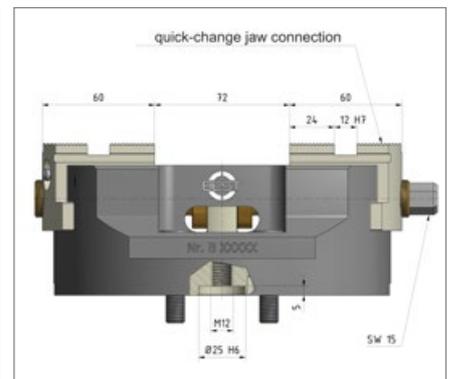
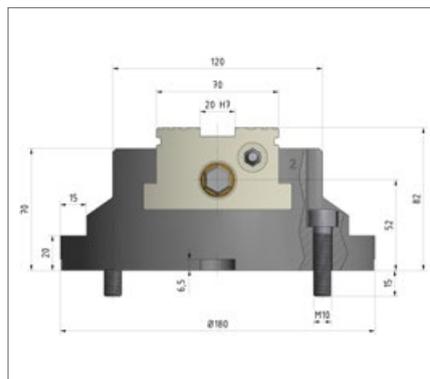
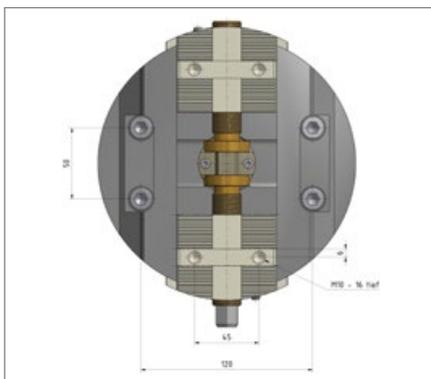
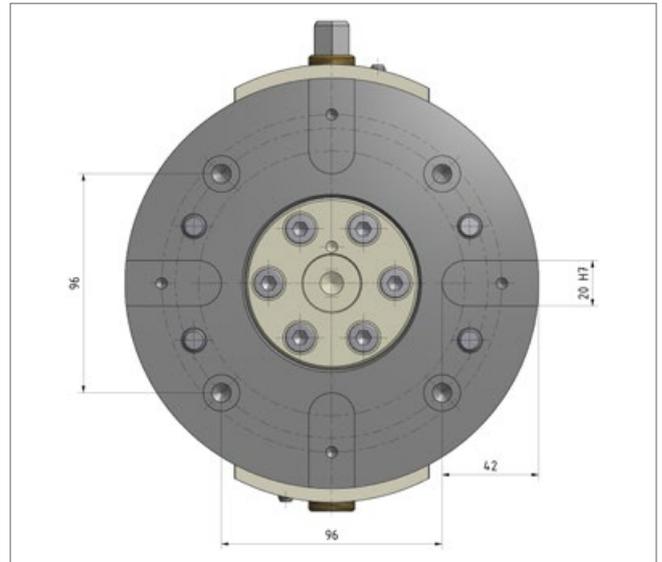
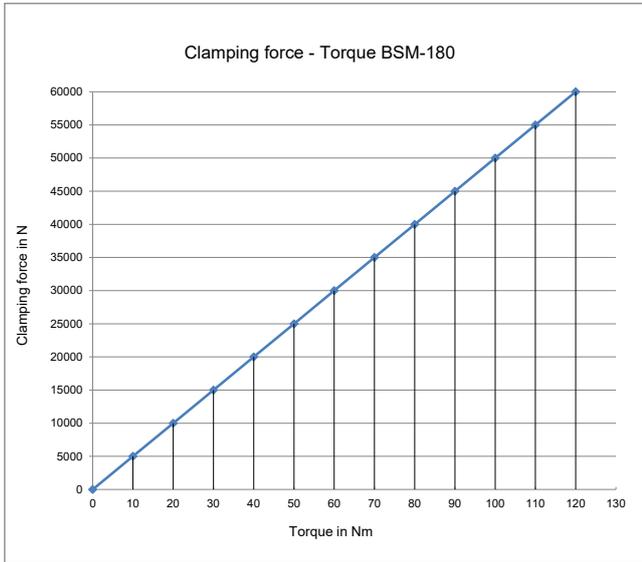
Installation options of the BSM-115-KV:

- The BSM-115-KV centric vise can be mounted on the machine table or a pallet from above with screws or clamps.
- By attaching a tightening bolt and two alignment bolts (see page 116) the BSM-115-KV can easily be converted to an RPC-115-KV zero-point centric vise (see page 113).

Compatible jaws for the centric vise can be found on pages 83 to 93.

MECHANICAL CENTRIC VISE

BSM-180



Technical data

Order number:	200-0180-010
Designation:	BSM-180
Overall length:	Ø 180 mm
Overall height:	82 mm
Weight:	10.9 kg
Clamping range	0 - 160 mm
Stroke per jaw	35 mm
Max. torque:	120 Nm
Clamping force max.:	60 kN
Jaw connection:	Quick change-over and cross offset

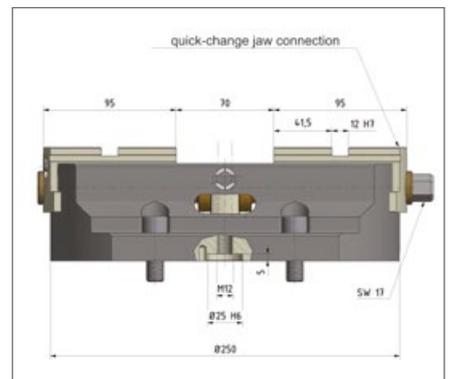
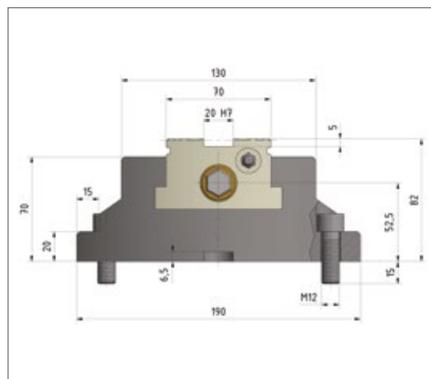
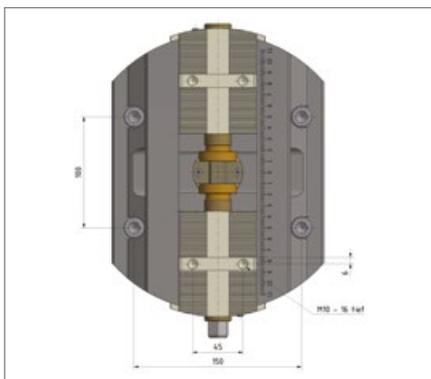
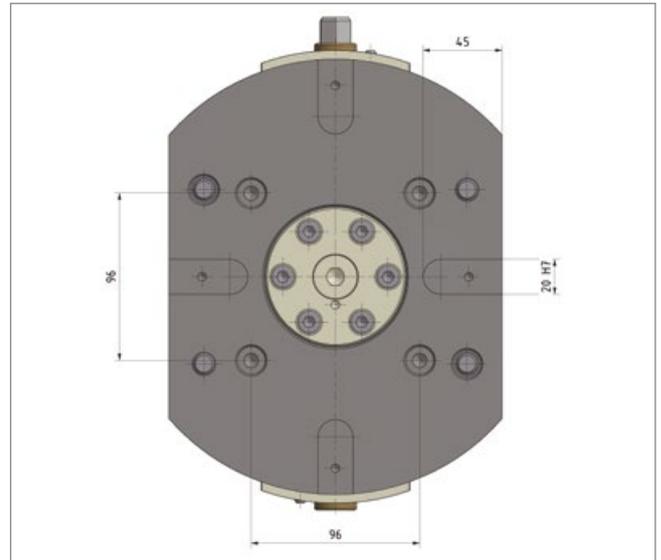
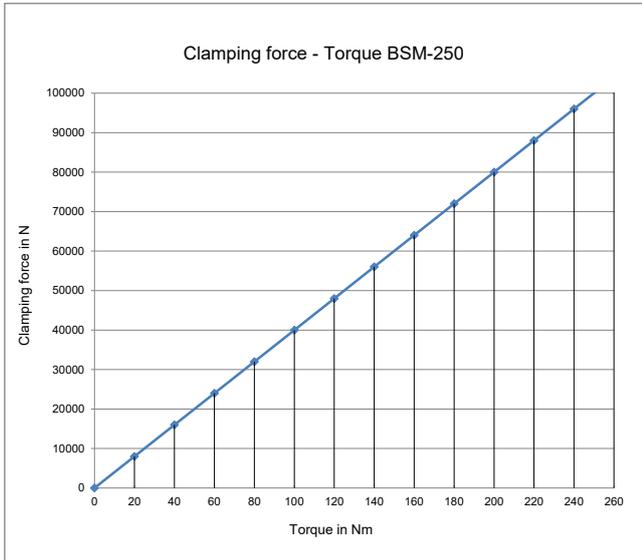
Installation options of the BSM-180:

- The BSM-180 centric vise can be mounted on the machine table or a pallet from above with screws or clamps.
- By attaching a tightening bolt and two alignment bolts (see page 116) the BSM-180 can easily be converted to an RPC-180 zero-point centric vise (see page 113).

Compatible jaws for the centric vise can be found on pages 83 to 93.

MECHANICAL CENTRIC VISE

BSM-250



Technical data

Order number:	200-0250-010
Designation:	BSM-250
Overall length:	Ø 250 mm
Overall height:	82 mm
Weight:	19 kg
Clamping range	0 - 250 mm
Stroke per jaw	35 mm
Max. torque:	250 Nm
Clamping force max.:	100 kN
Jaw connection:	Quick change-over and cross offset

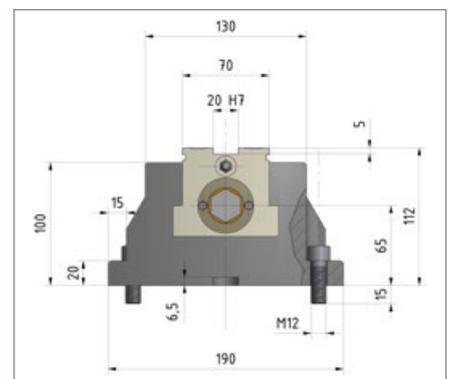
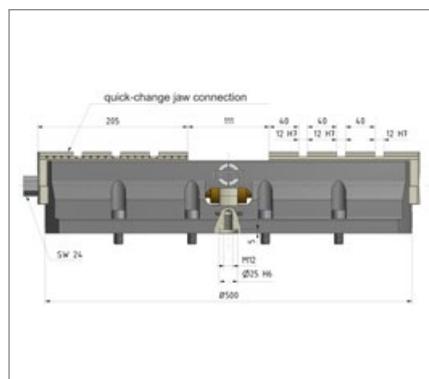
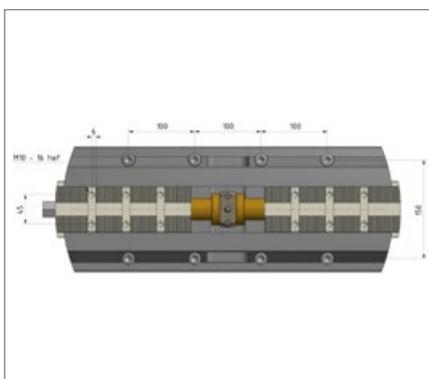
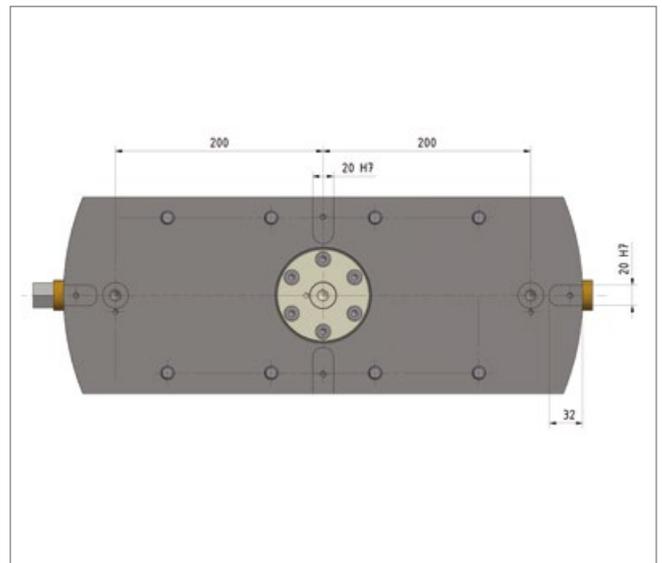
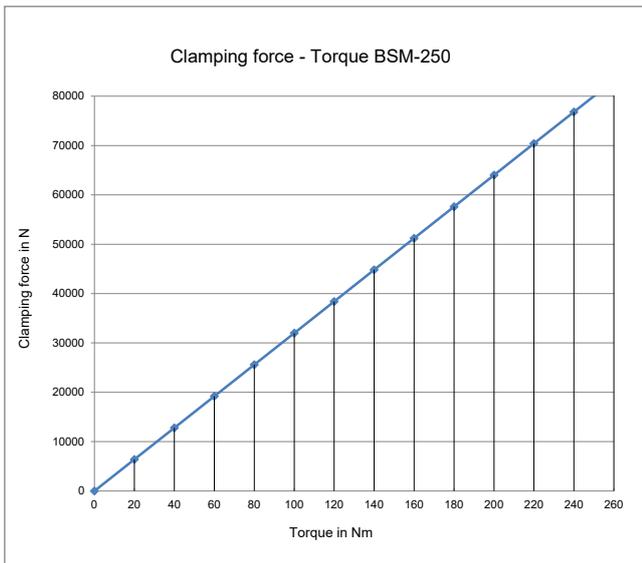
Installation options of the BSM-250:

- The BSM-250 centric vise can be mounted on the machine table or a pallet from above with screws or clamps.
- By attaching a tightening bolt and two alignment bolts (see page 116) the BSM-250 can easily be converted to an RPC-250 zero-point centric vise (see page 113).

Compatible jaws for the centric vise can be found on pages 83 to 93.

MECHANICAL CENTRIC VISE

BSM-500



Technical data

Order number:	200-0500-010
Designation:	BSM-500
Overall length:	500 mm
Overall height:	112 mm
Weight:	59 kg
Clamping range	0 - 500 mm
Stroke per jaw	55 mm
Max. torque:	250 Nm
Clamping force max.:	80 kN
Jaw connection:	Quick change-over and cross offset

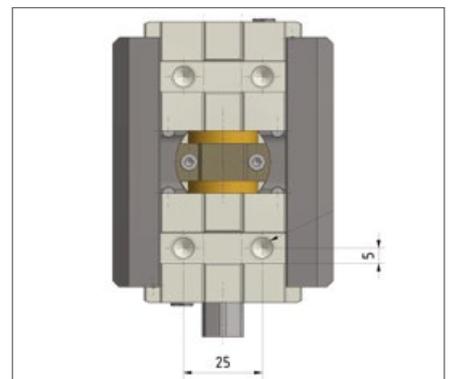
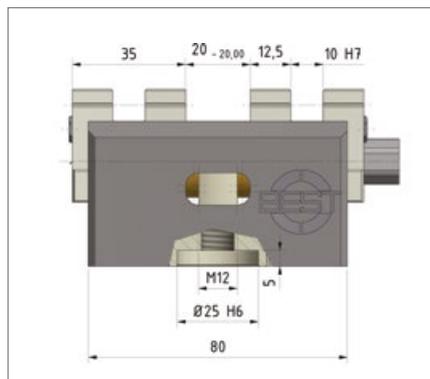
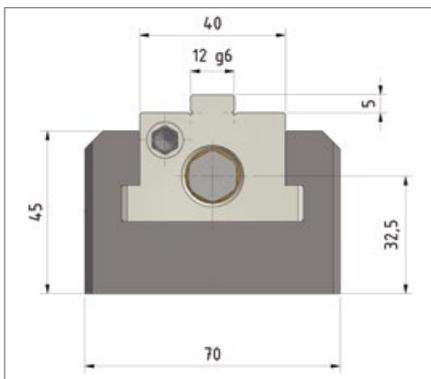
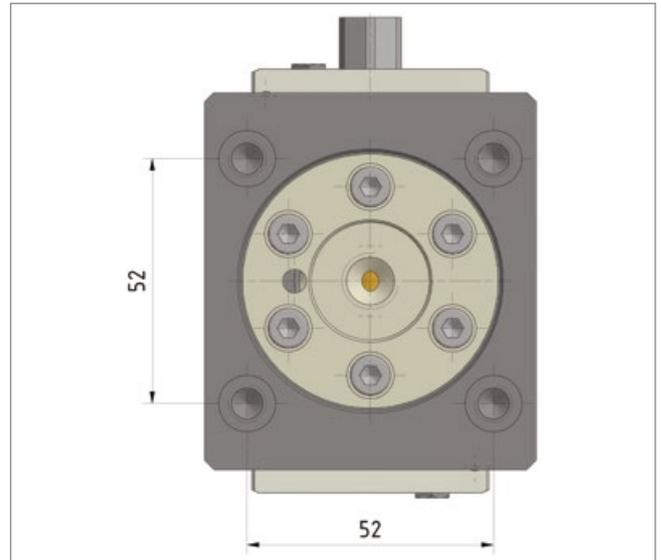
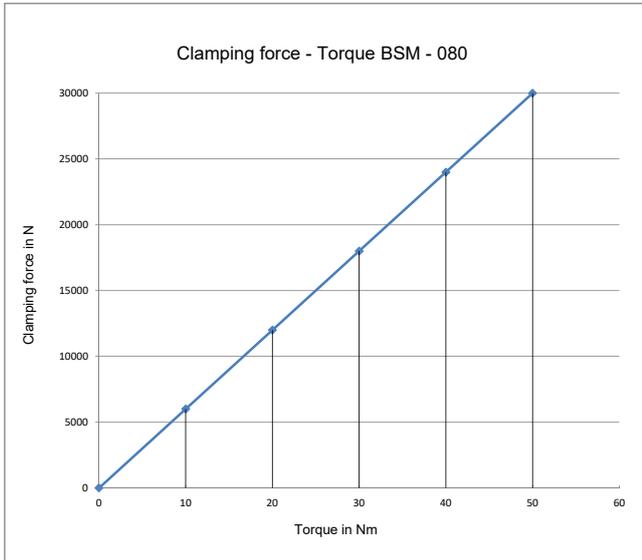
Installation options of the BSM-500:

- The BSM-500 centric vise can be mounted on the machine table or a pallet from above with screws or clamps.
- By attaching one tightening bolt and one sword-shaped bolt (see page 116) the BSM-500 can easily be converted to an RPC-500 zero-point centric vise (see page 113).

Compatible jaws for the centric vise can be found on pages 83 to 93.

MECHANICAL CENTRIC VISE

BSM-080-KV



Technical data

Order number:	200-0080-001
Designation:	BSM-080-KV
Overall length:	80 mm
Overall height:	50 mm
Weight:	1.8 kg
Clamping range	0 - 80 mm
Stroke per jaw	10 mm
Max. torque:	50 Nm
Clamping force max.:	30 kN
Jaw connection:	Cross offset

Installation options of the BSM-080-KV:

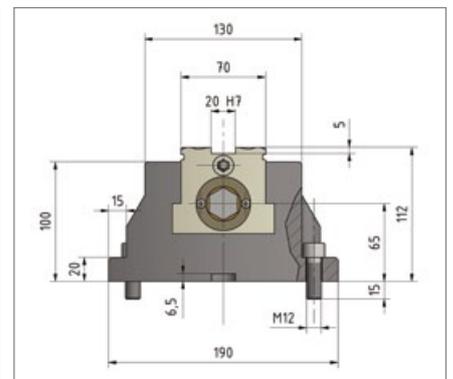
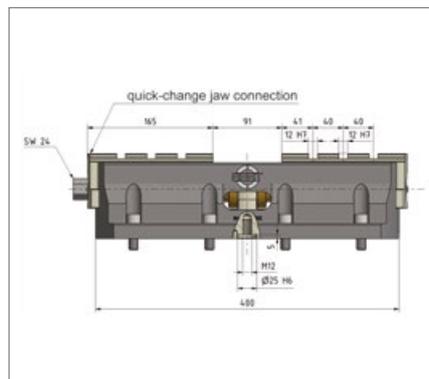
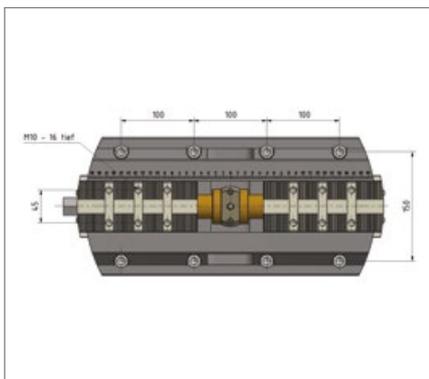
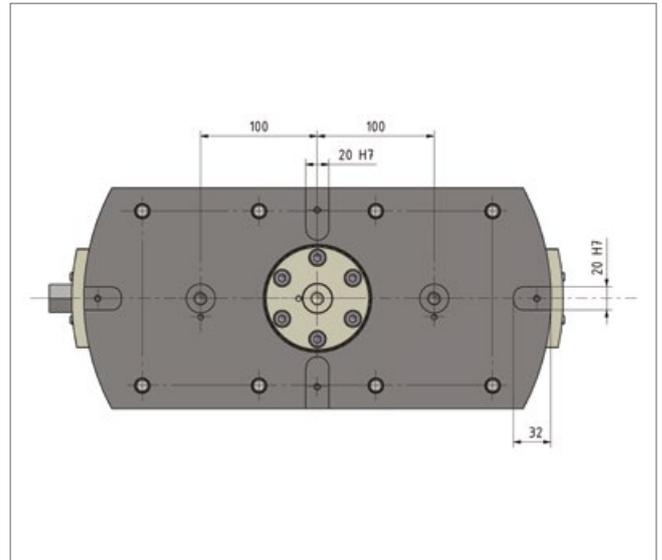
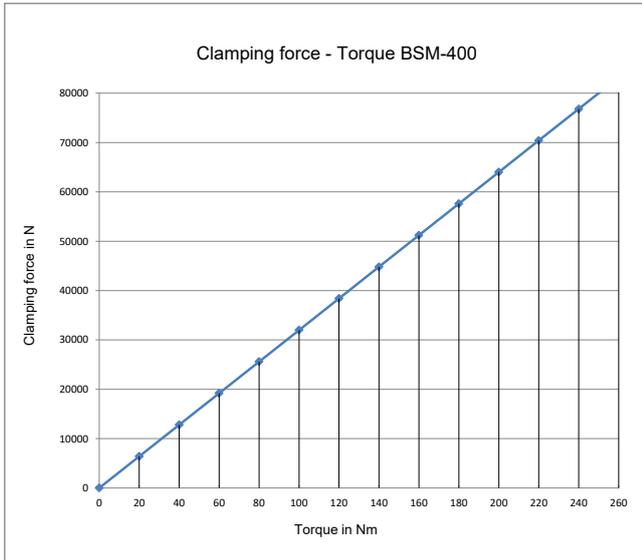
- The BSM-080-KV centric vise can be mounted on a pallet from below with screws.
- By attaching a tightening bolt and two alignment bolts (see page 116) the BSM-080-KV can easily be converted to an RPC-080-KV zero-point centric vise.

Compatible jaws for the centric vise can be found on pages 83 to 93.

We will be glad to offer you additional jaws to meet your individual requirements.

MECHANICAL CENTRIC VISE

BSM-400



Technical data

Order number:	200-0400-001
Designation:	BSM-400
Overall length:	400 mm
Overall height:	112 mm
Weight:	45 kg
Clamping range	0 - 400 mm
Stroke per jaw	45 mm
Max. torque:	250 Nm
Clamping force max.:	80 kN
Jaw connection:	Quick change-over and cross offset

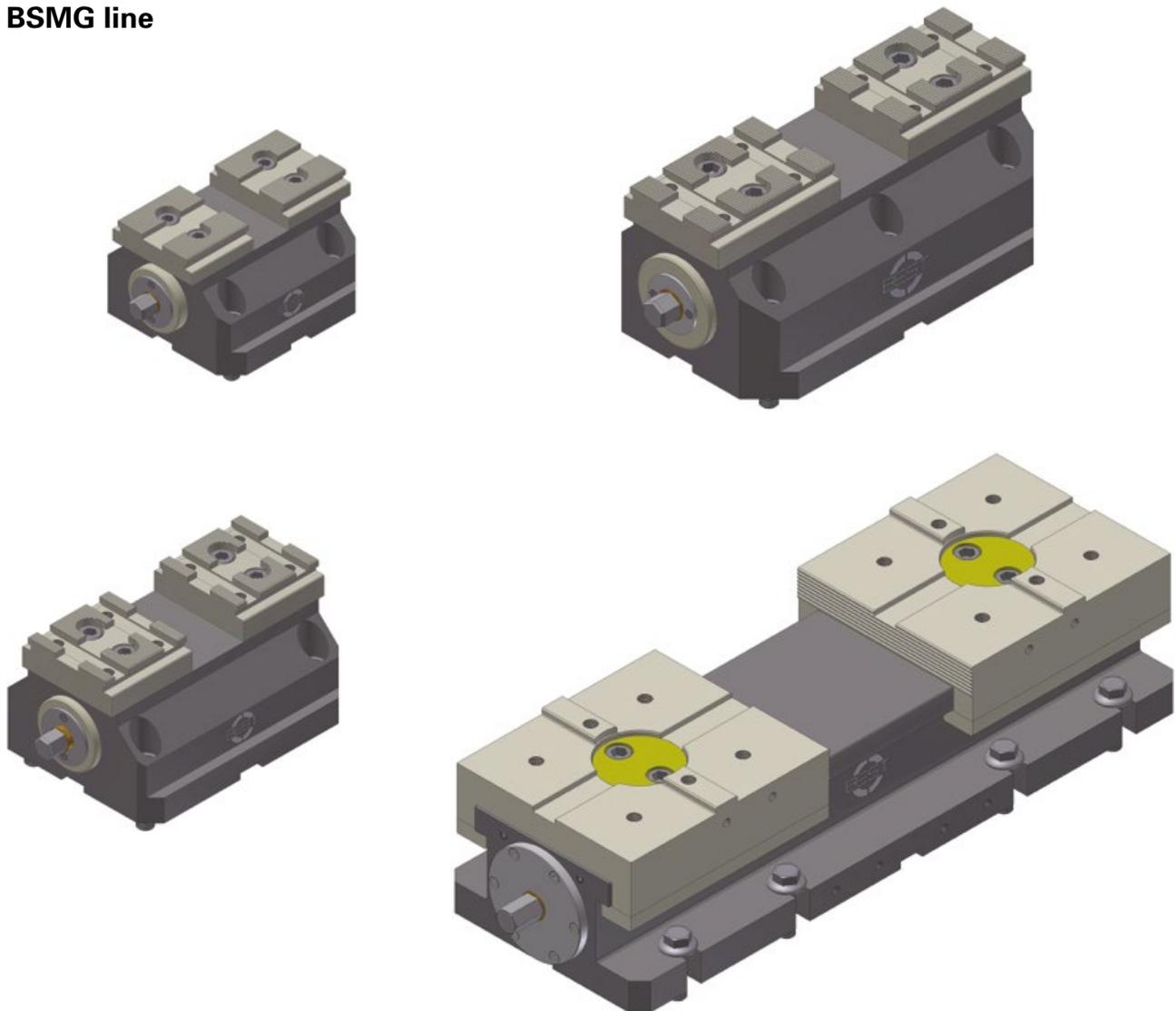
Installation options of the BSM-400:

- The BSM-400 centric vise can be mounted on the machine table or a pallet from above with screws or clamps.
- By attaching a tightening bolt and a sword-shaped tightening bolt (see page 116) the BSM-400 can easily be converted to an RPC-400 zero-point centric vise.

Compatible jaws for the centric vise can be found on pages 83 to 93.

ENCAPSULATED CENTRIC VISE

BSMG line

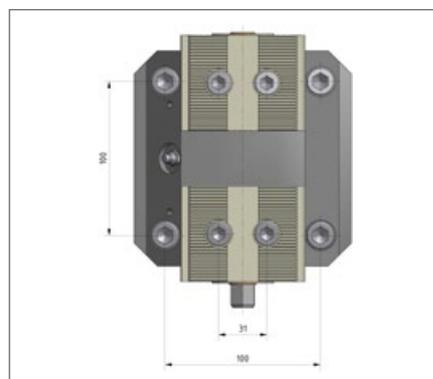
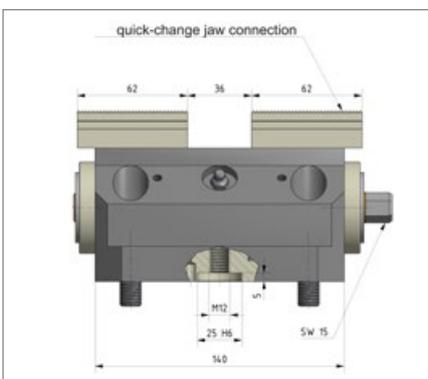
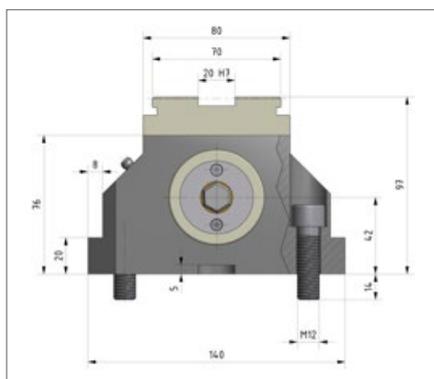
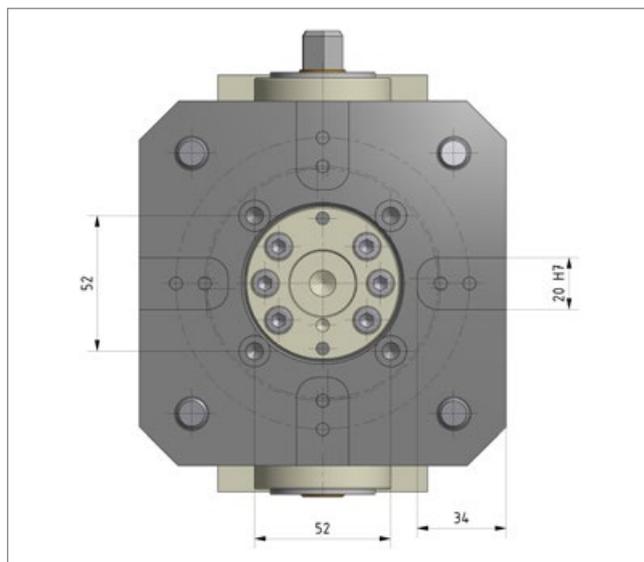
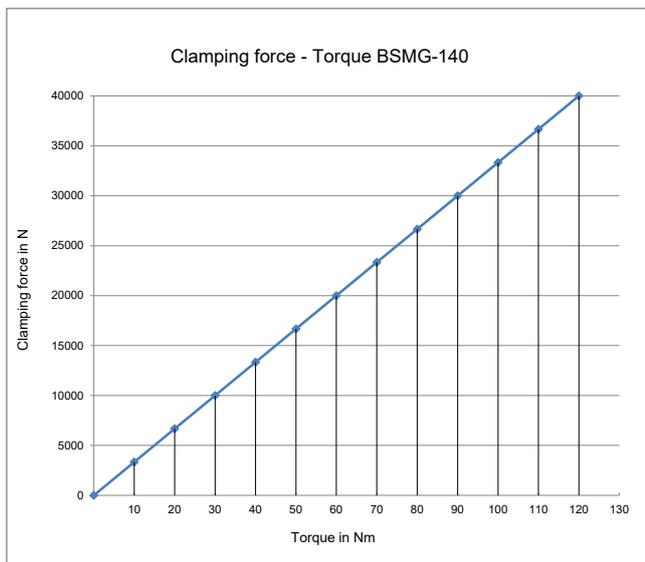


Advantages of the BSMG centric vise:

- Maximum process reliability in unattended production due to the encapsulated design, therefore preventing contamination inside the centric vise (when sealing air is used)
- Solid construction for very high rigidity
- Extremely high clamping forces (up to 100 kN)
- Body sizes from 140 mm to 600 mm
- Repeatability of 0.005 mm (in connection with ground jaws)
- Centering accuracy of ± 0.01 mm (in connection with ground jaws)
- Clamping widths up to 600 mm
- Hardened surfaces minimize wear
- Depending on the requirements, the BSMG centric vise can be conventionally bolted onto the machine table or as an RPCG zero-point vise on the Realpoint system

ENCAPSULATED CENTRIC VISE

BSMG-140



Technical data

Order number:	220-0140-004
Designation:	BSMG-140
Overall length:	140 mm
Overall height:	97 mm
Weight:	10 kg
Clamping range	0 - 130 mm
Stroke per jaw	18 mm
Max. torque:	120 Nm
Clamping force max.:	40 kN
Jaw connection:	Quick change-over

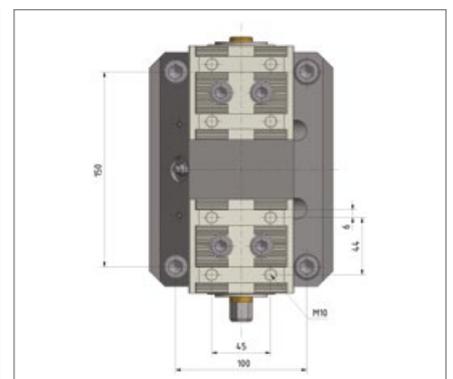
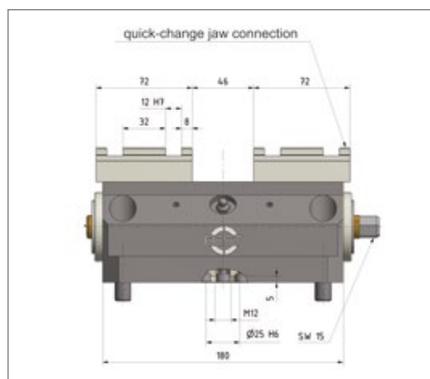
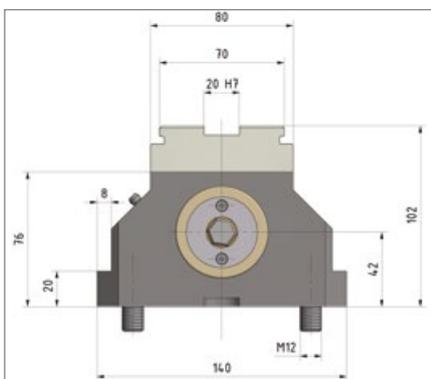
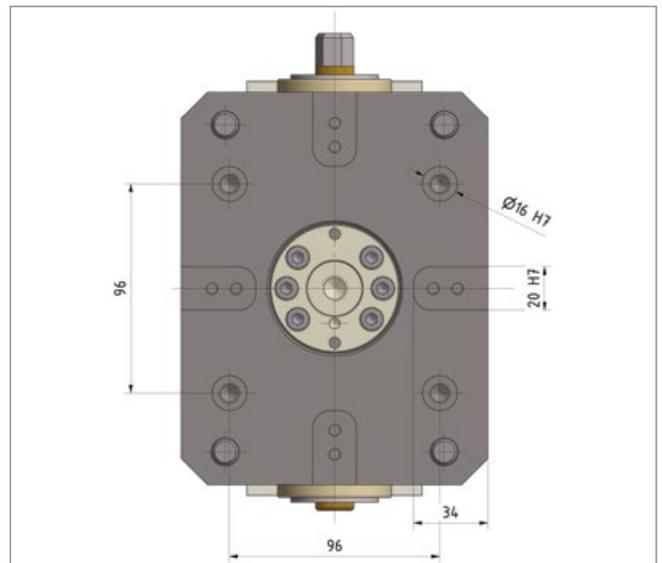
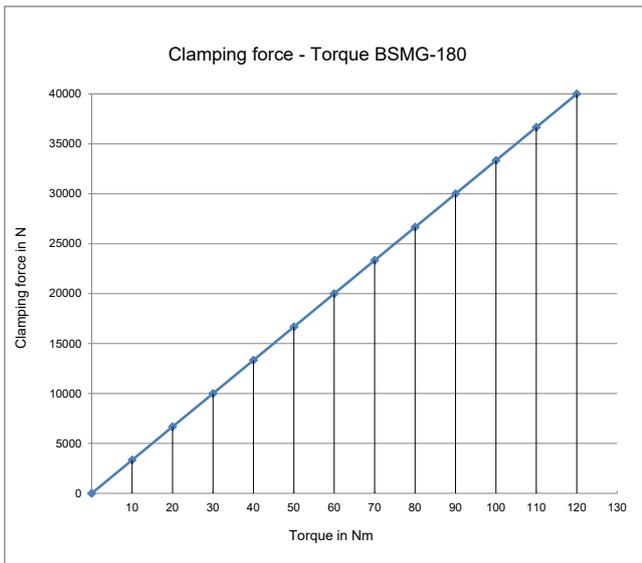
Installation options of the BSMG-140:

- The BSMG-140 centric vise can be mounted on the machine table from above with screws or clamps.
- By attaching a tightening bolt and two alignment bolts (see page 116) the BSMG-140 can easily be converted to an RPCG-140 zero-point centric vise (see page 113).

Compatible jaws for the centric vise can be found on pages 83 to 93.

ENCAPSULATED CENTRIC VISE

BSMG-180



Technical data

Order number:	220-0180-004
Designation:	BSMG-180
Overall length:	180 mm
Overall height:	102 mm
Weight:	13 kg
Clamping range	0 - 170 mm
Stroke per jaw	23 mm
Max. torque:	120 Nm
Clamping force max.:	40 kN
Jaw connection:	Quick change-over and cross offset

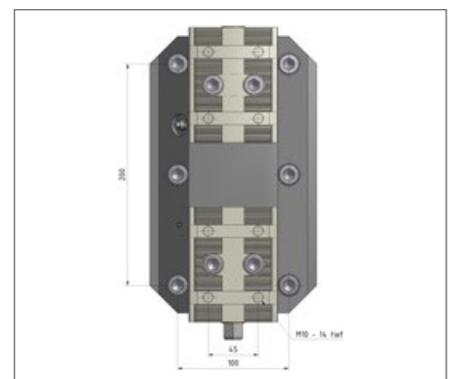
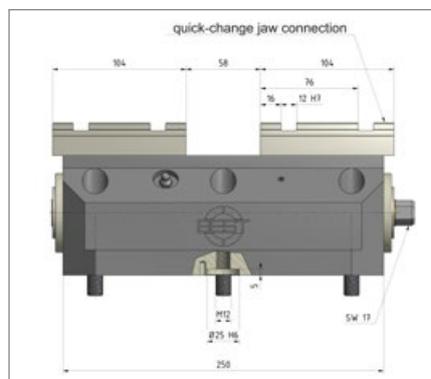
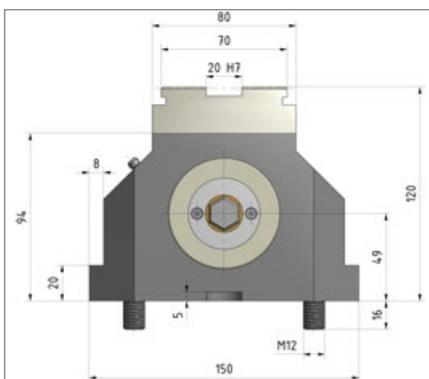
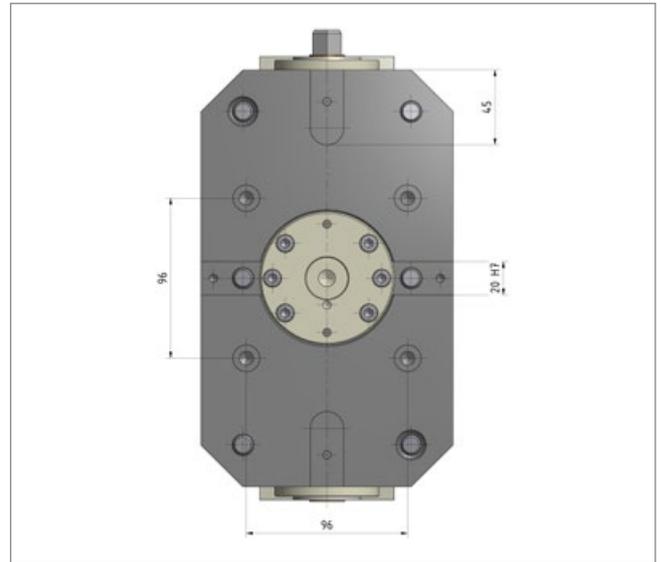
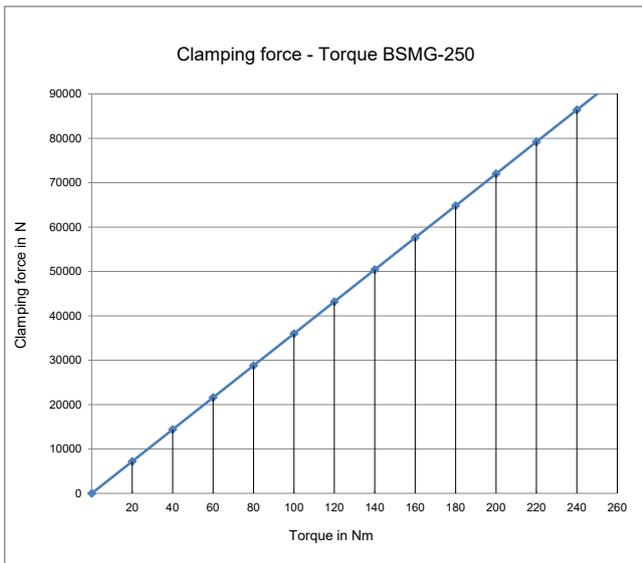
Installation options of the BSMG-180:

- The BSMG-180 centric vise can be mounted on the machine table from above with screws or clamps.
- By attaching a tightening bolt and two alignment bolts (see page 116) the BSMG-180 can easily be converted to an RPCG-180 zero-point centric vise (see page 113).

Compatible jaws for the centric vise can be found on pages 83 to 93.

ENCAPSULATED CENTRIC VISE

BSMG-250



Technical data

Order number:	220-0250-004
Designation:	BSMG-250
Overall length:	250 mm
Overall height:	120 mm
Weight:	23 kg
Clamping range	0 - 240 mm
Stroke per jaw	29 mm
Max. torque:	250 Nm
Clamping force max.:	90 kN
Jaw connection:	Quick change-over and cross offset

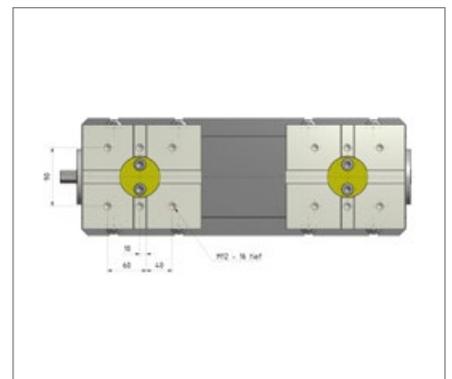
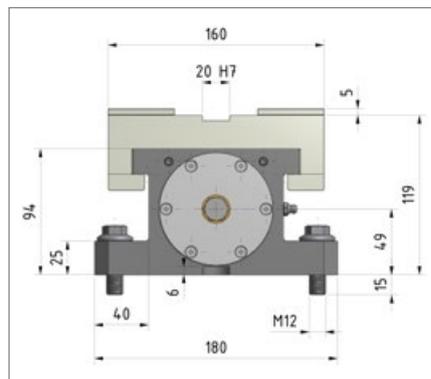
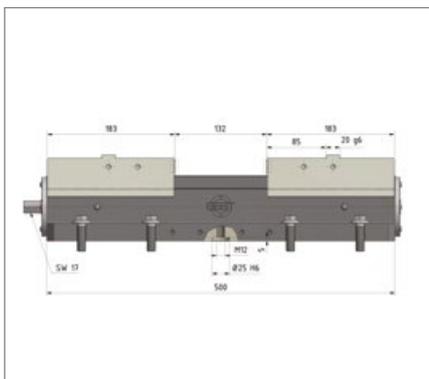
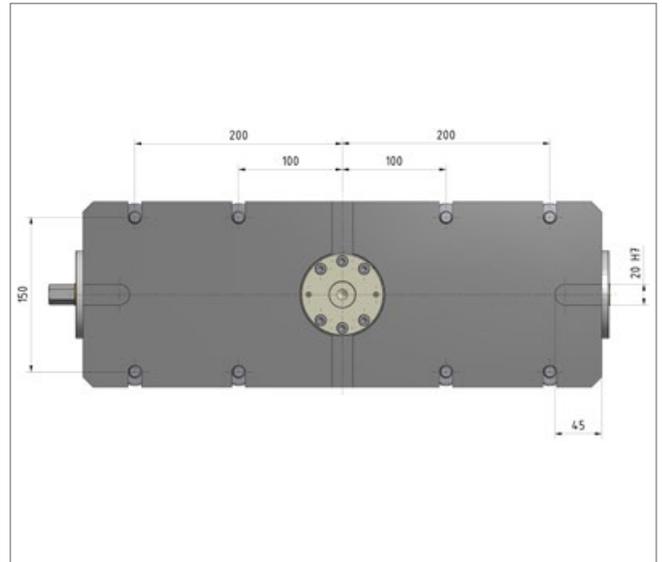
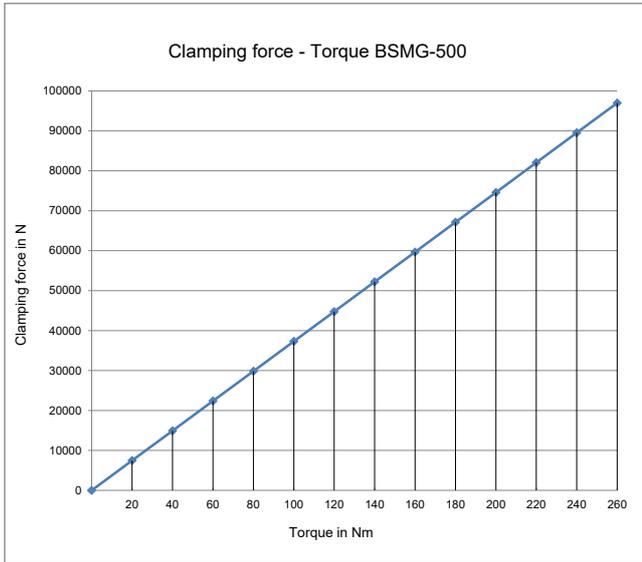
Installation options of the BSMG-250:

- The BSMG-250 centric vise can be mounted on the machine table from above with screws or clamps.
- By attaching a tightening bolt and two alignment bolts (see page 116) the BSMG-250 can easily be converted to an RPCG-250 zero-point centric vise (see page 113).

Compatible jaws for the centric vise can be found on pages 83 to 93.

We will be glad to offer you additional jaws to meet your individual requirements.

ENCAPSULATED CENTRIC VISE BSMG-500



Technical data

Order number:	220-0500-200
Designation:	BSMG-500
Overall length:	500 mm
Overall height:	119 mm
Weight:	57 kg
Clamping range	0 - 500 mm
Stroke per jaw	65 mm
Max. torque:	250 Nm
Clamping force max.:	93 kN
Jaw connection:	Cross offset

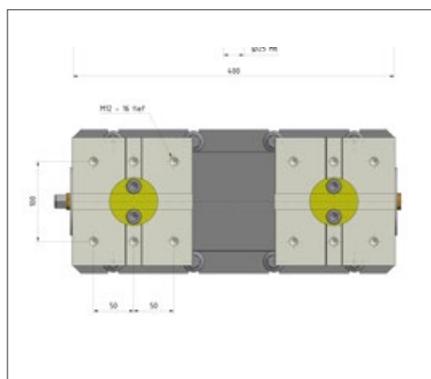
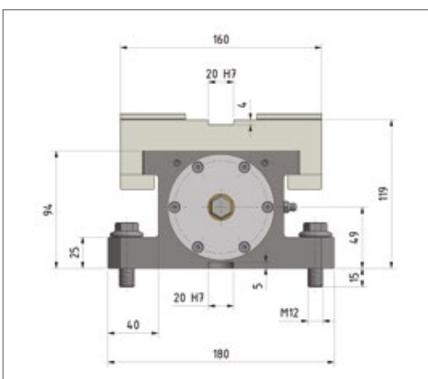
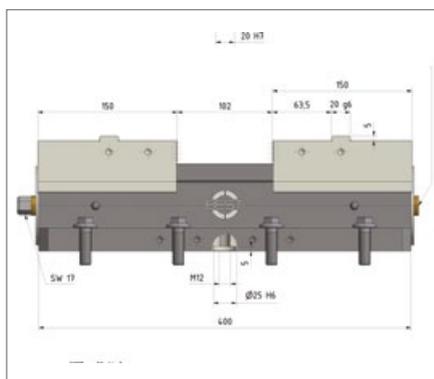
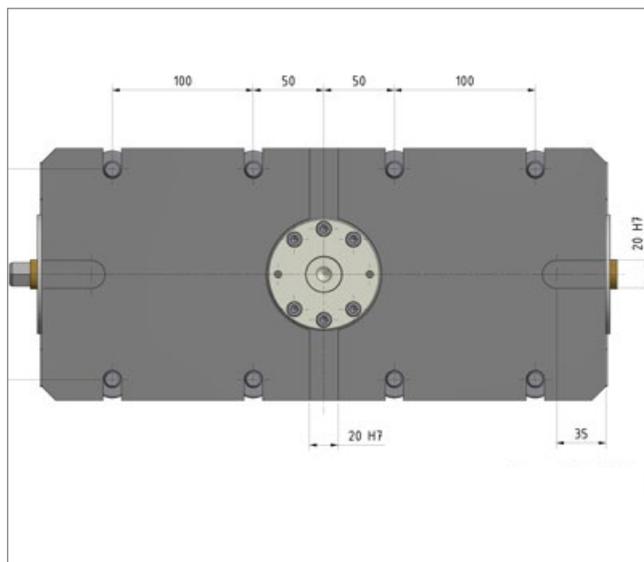
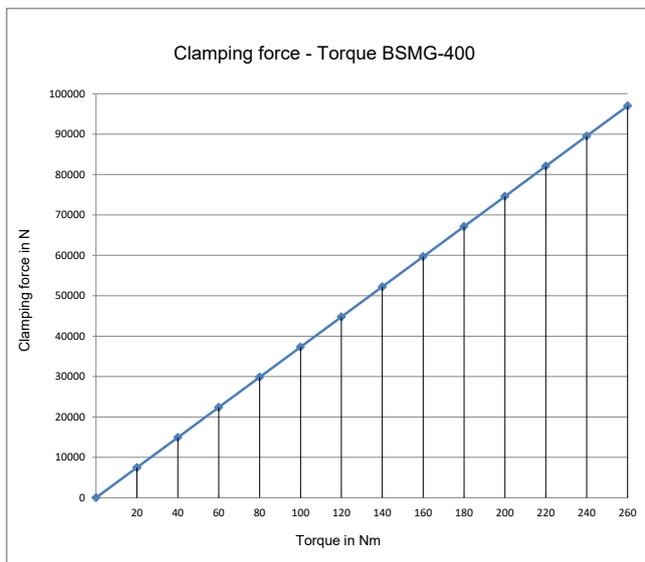
Installation options of the BSMG-180:

- The BSMG-500 centric vise can be mounted on the machine table from above with screws or clamps.

Compatible jaws for the centric vise can be found on pages 83 to 93.

ENCAPSULATED CENTRIC VISE

BSMG-400



Technical data

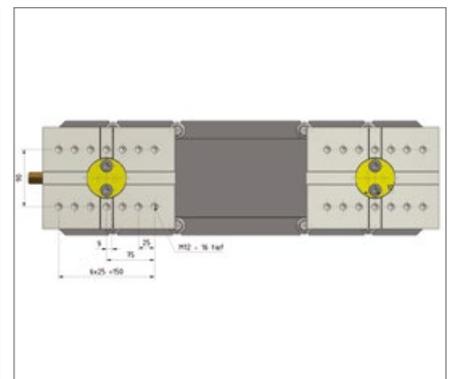
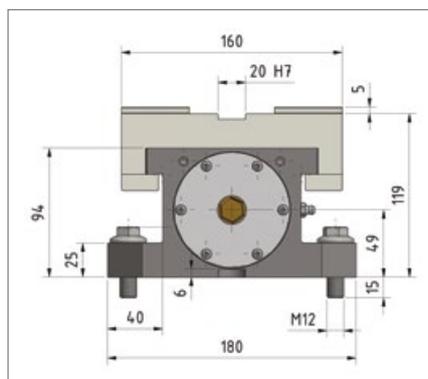
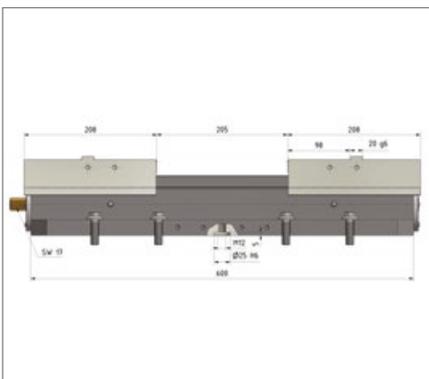
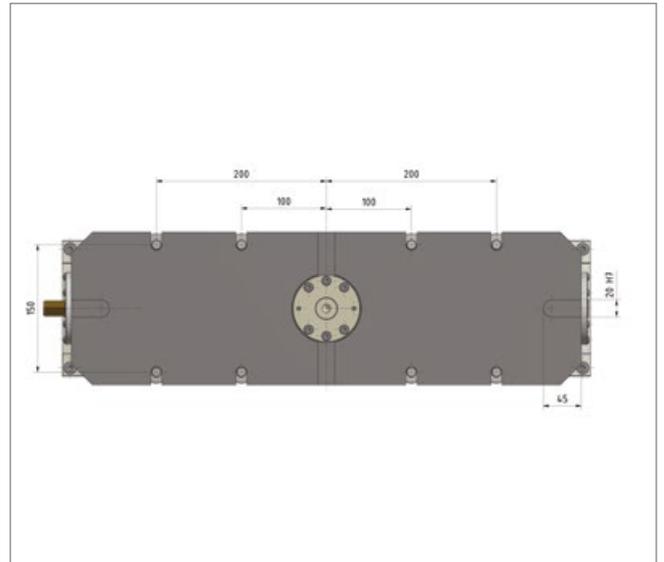
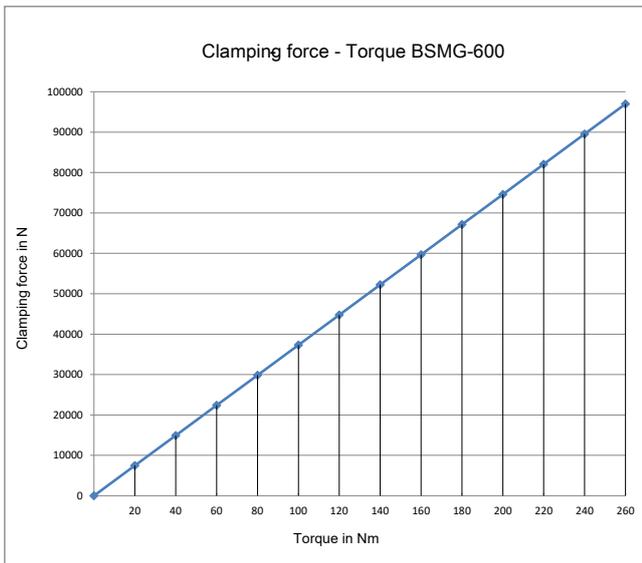
Order number:	220-0400-001
Designation:	BSMG-400
Overall length:	400 mm
Overall height:	119 mm
Weight:	48 kg
Clamping range	0 - 400 mm
Stroke per jaw	50 mm
Max. torque:	250 Nm
Clamping force max.:	93 kN
Jaw connection:	Cross offset

Installation options of the BSMG-400:

- The BSMG-400 centric vise can be mounted on the machine table from above with screws or clamps.

We will be glad to offer you jaws to meet your individual requirements.

ENCAPSULATED CENTRIC VISE SPECIAL SIZE BSMG-600



Technical data

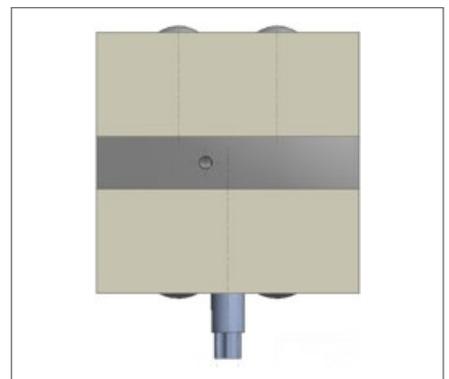
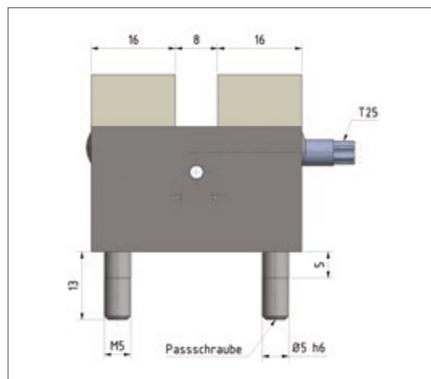
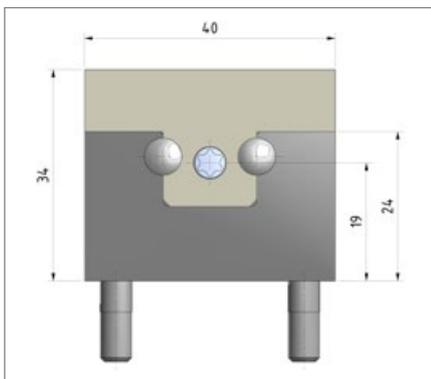
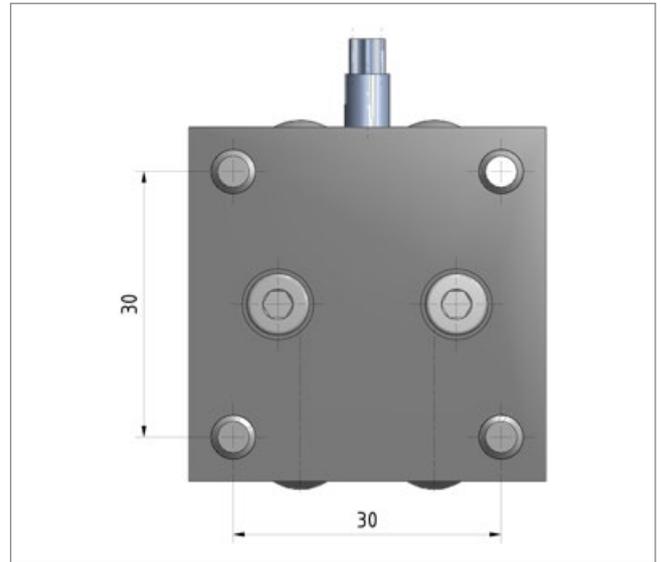
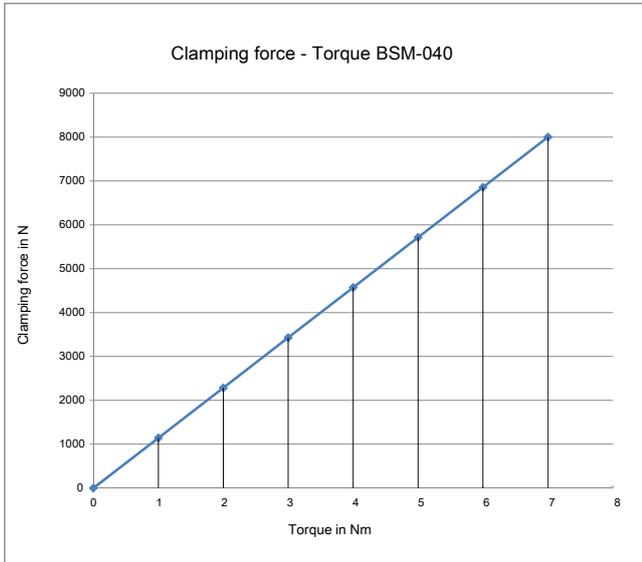
Order number:	220-0600-004
Designation:	BSMG-600
Overall length:	600 mm
Overall height:	119 mm
Weight:	67 kg
Clamping range	0 - 600 mm
Stroke per jaw	77 mm
Max. torque:	250 Nm
Clamping force max.:	93 kN
Jaw connection:	Cross offset

Installation options of the BSMG-600:

- The BSMG-600 centric vise can be mounted on the machine table from above with screws or clamps.

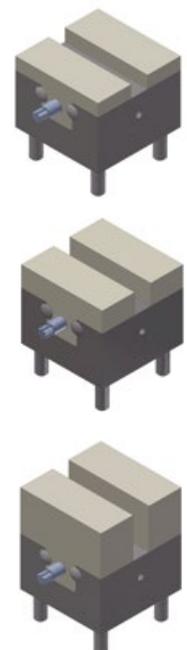
We will be glad to offer you jaws to meet your individual requirements.

MINIATURE VISE BSM-040 WITH JAW BLANKS



Technical data

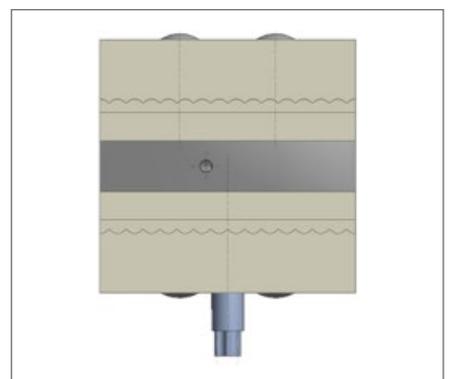
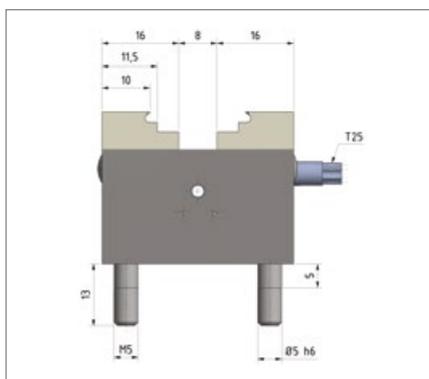
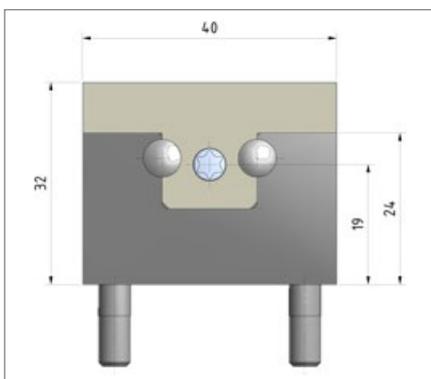
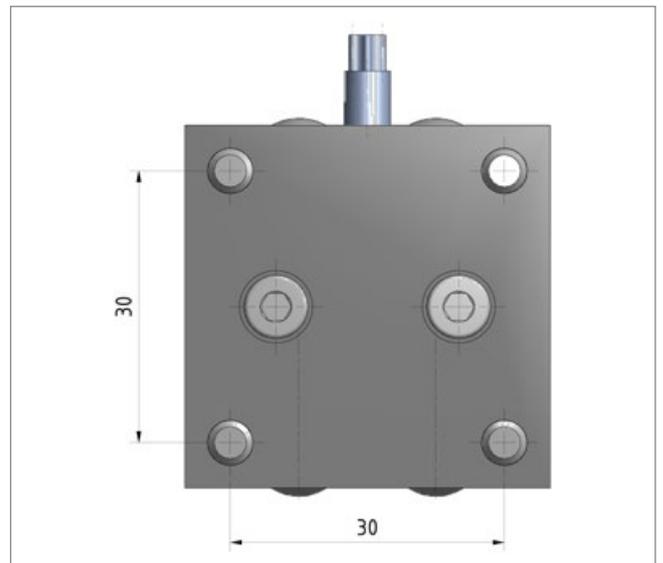
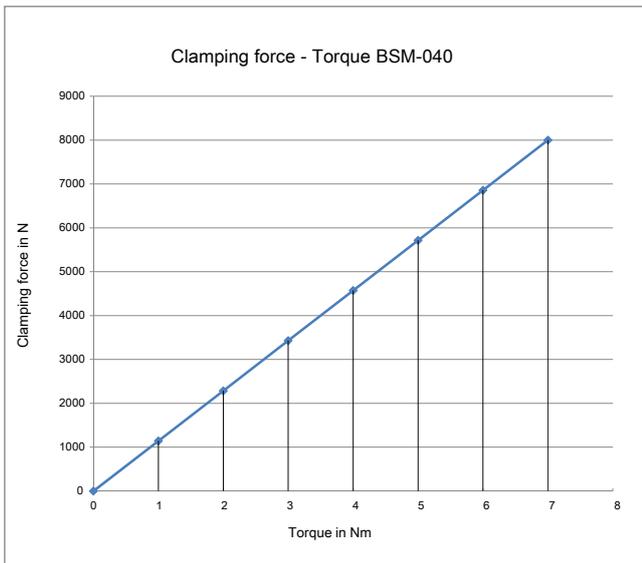
Order number:	200-0040-001	200-0040-002	200-0040-003
Designation:	BSM-040	BSM-040	BSM-040
Dimensions (LxWxH):	40 x 40 x 30 mm	40 x 40 x 34 mm	40 x 40 x 44 mm
Weight	approx. 500 g	approx. 500 g	approx. 500 g
Clamping range	0 - 34 mm	0 - 34 mm	0 - 34 mm
Stroke per jaw	5 mm	5 mm	5 mm
Max. torque:	7 Nm	7 Nm	7 Nm
Clamping force max.:	8 kN	8 kN	8 kN
Repeatability	+/- 0.02 mm		
Jaw connection:	Clamping jaw screwed onto spindle		
Order number for single part:	300-0040-001	300-0040-002	300-0040-003



Area of application:

Especially for machining small, precise workpieces with form jaws, such as in the watch industry or medical technology.

BSM-040 WITH GRIP JAWS



Technical data

Order number:	200-0040-004	200-0040-005	200-0040-006
Designation:	BSM-040	BSM-040	BSM-040
Dimensions (LxWxH):	40 x 40 x 32 mm	40 x 40 x 32 mm	40 x 40 x 32 mm
Weight	approx. 500 g	approx. 500 g	approx. 500 g
Clamping range	3 - 13 mm	12 - 22 mm	21 - 31 mm
Stroke per jaw	5 mm	5 mm	5 mm
Max. torque:	7 Nm	7 Nm	7 Nm
Clamping force max.:	8 kN	8 kN	8 kN
Repeatability	+/- 0.02 mm		
Jaw connection:	Clamping jaw screwed onto spindle		
Order number for single part:	300-0040-004	300-0040-005	300-0040-006



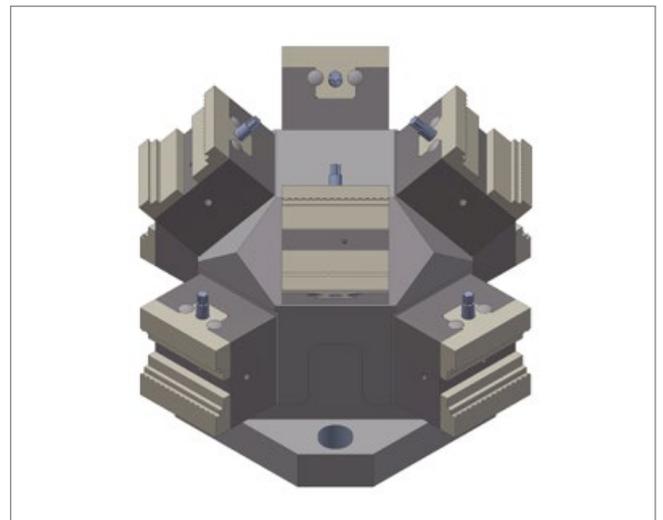
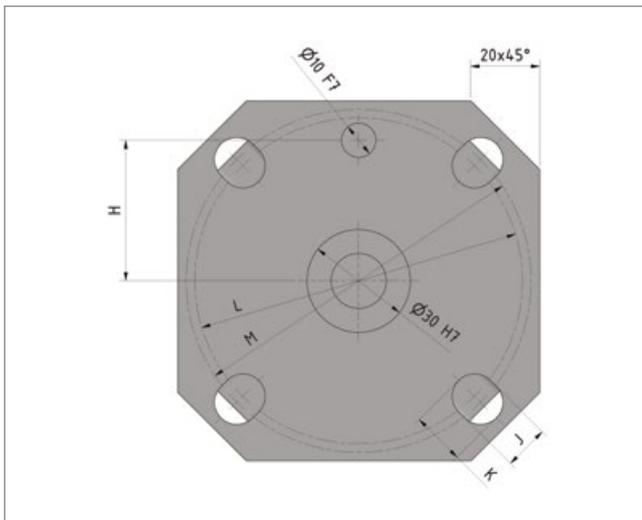
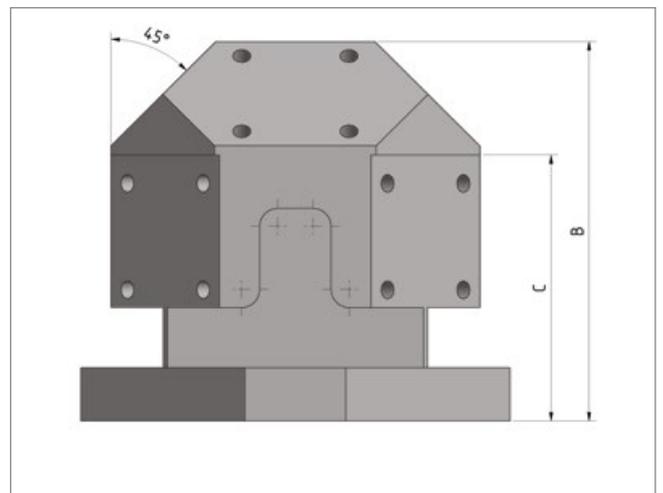
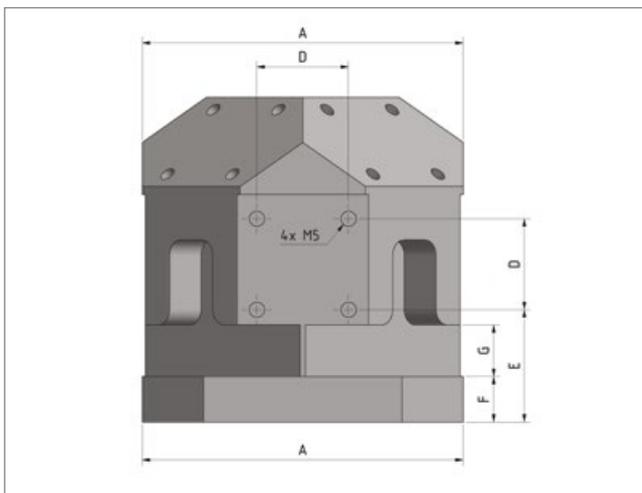
Area of application:

Especially for blank or finish machining of small, precise workpieces, such as in the watch industry or medical technology.

5-AXIS CLAMPING BLOCK FOR MINIATURE VISES

Properties:

- Material: Aluminum, therefore lightweight
- Optimized utilization of the 5-axis machine
- Excellent accessibility for machining of workpieces due to staggered arrangement of the miniature vise and 45° arrangement of the upper vise



Dimension table:

Order number:	Designation	A mm	B mm	C mm	D mm	E mm	F mm	G mm	H mm	J mm	K mm	L mm	M mm
250-0105-001	B5S100-8	105	107	75	30	37	15	17	41	13	15.5	Ø 95	Ø 100

Compatible miniature vises for the 5-axis clamping block can be found on pages 23 and 24; they are not included in the scope of delivery for this 5-axis clamping block.

5-axis clamping blocks for miniature vises in other materials (e.g. steel), heights and shapes are available on request.

SPECIAL SOLUTIONS

If one of the following special solutions is of interest to you, or if you have another special application, we would be pleased to hear from you.

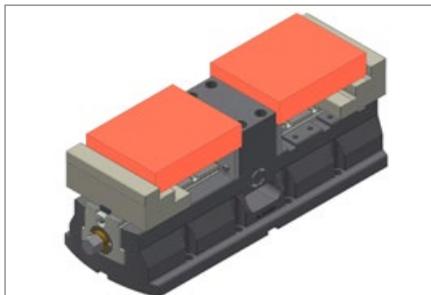
After you have provided us with the data for your individual requirements, you will receive a technical draft with an offer for the requested number of units.



Order number:	200-0115-010	200-0115-011	210-0115-004
Designation	BSM-115 quick change-over	BSM-115 cross offset	BSM-115 cross offset

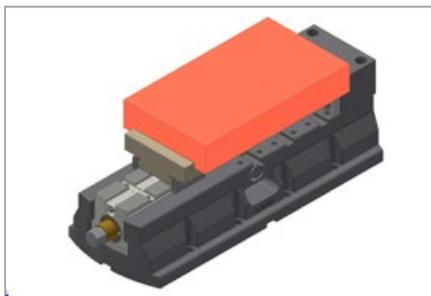
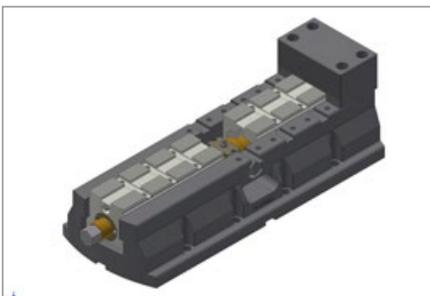
These centric vises are variants of the standard model BSM-115.

The technical data of these variants is analogous to the standard models (see pages 63 and 64).



Order number:	200-0500-020
Designation	BSM-500 double clamp

The BSM-500 centric vise (see page 68) can be modified to allow clamping of two workpieces. Dimensional deviations of the two clamped workpieces can be compensated by means of play on the spindle bearing. By attaching a fixed jaw in the center, two identical parts can therefore be clamped together in one clamping setup.



Order number:	200-0500-025
Designation	BSM-500 with fixed jaw or as centric vise

The BSM-500 centric vise (see page 68) can be modified for use either as a centric vise or with a fixed jaw. The fixed jaw can be positioned as desired.

JAW PRODUCTS

Quick-change jaws:

The quick-change jaws are compatible with all vises equipped with a quick change-over interface.

The jaws are tightened by means of a screw on the side (max. 25 Nm).

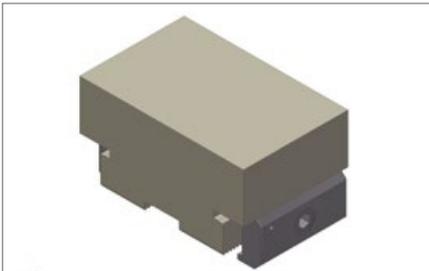
Jaw blanks

Steel jaw blanks (quick-change connection):

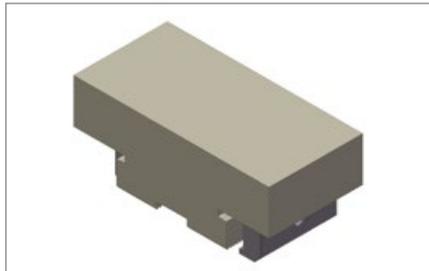
Order number:	Dimensions (WxHxD)
310-0094-002	94 x 60 x 49 mm
310-0125-001	125 x 60 x 49 mm
310-0150-001	150 x 60 x 49 mm

Material:
40CrMnMo7

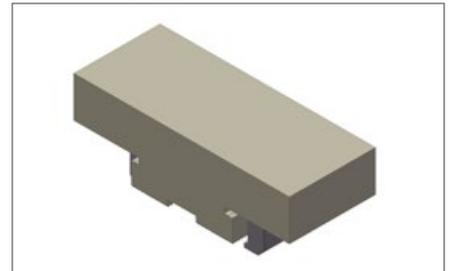
Application:
For manufacturing form jaws.



310-0094-002



310-0125-001



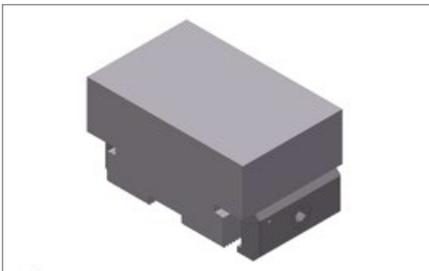
310-0150-001

Aluminum jaw blanks (quick-change connection):

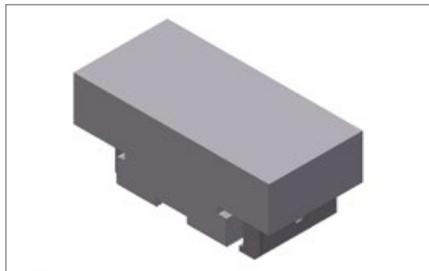
Order number:	Dimensions (WxHxD)
310-0094-001	94 x 60 x 49 mm
310-0125-001	125 x 60 x 49 mm
310-0150-001	150 x 60 x 49 mm

Material:
AlZnMgCu0.5

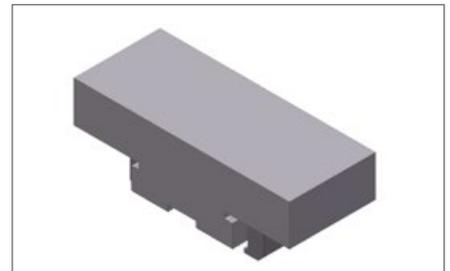
Application:
For manufacturing form jaws.



310-0094-001



310-0125-001



310-0150-001

The quick-change jaws are released/clamped with only ONE screw tightened to a max. of 25 Nm: The quick-change jaw is compatible with all vises that have a quick change-over interface. The jaws can be offset on the tothing by 2 mm each.



JAW PRODUCTS

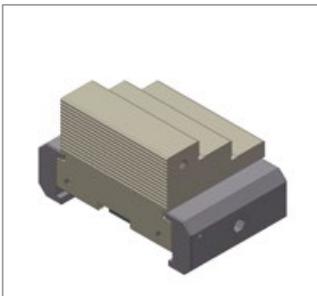
Profile jaws:

Hard profile jaws (quick change connection):

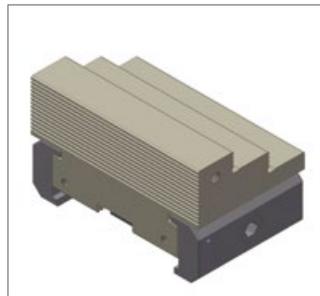
Order number:	Dimensions (WxLxH)
300-0065-001	65 x 60 x 49 mm 3 steps: each 20 x 10 (LxH)
300-0094-007	94 x 60 x 49 mm 3 steps: each 20 x 10 (LxH)
300-0125-003	125 x 60 x 49 mm 3 steps: each 20 x 10 (LxH)
300-0061-003	61 x 50 x 35 mm 1 step: 4 x 5 (LxH)

Profile jaws are hardened. The accuracy of the end-stop face relative to the toothing is +/- 0.02 mm. For higher accuracy, the jaws must be ground out on the vise under clamping pressure.

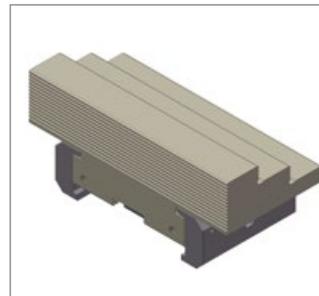
Application: For clamping workpieces where damage must be prevented. The clamping surface is grooved and not serrated. This provides optimal protection in clamping set-ups for machining of workpieces.



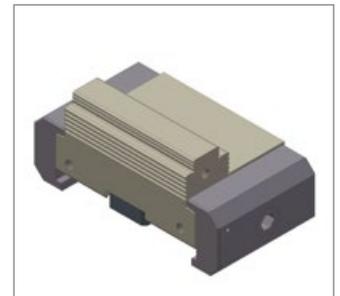
300-0065-001



300-0094-007



300-0125-003



300-0061-003

Grip jaws:

Grip jaws with grip rail (quick change connection):

Order number:	Dimensions (WxLxH)
300-0094-006	94 x 60 x 34 mm
300-0048-001	48 x 60 x 34 mm

The grip jaws are hardened, the grip rail grips at a height of 3 mm. The accuracy of the clamping surface in relation to the toothing is +/- 0.05 mm. Application: For clamping of raw materials with even point loading, especially for aluminum when high surface pressure is required for maximum holding power.



300-0094-006



300-0048-001

Grip jaws with Mastergrip inserts (quick change connection):

Order number:	Dimensions (WxLxH)
300-0094-017	94 x 50 x 40 mm

Grip jaws are hardened. Mastergrip claws are mounted on each side of the counter bore and grip at a height of 5 mm. The standard version is equipped with 6301-0010-001 inserts (see page 92).

Application: For clamping a wide range of materials for which three different clamping inserts are optionally available. Meshing of the teeth results in high surface pressure and maximum holding power. If the Mastergrip claws wear out, they can easily be replaced (see replacement parts p. 92). The jaw also has a smooth side for clamping machined surfaces.



300-0094-017

JAW PRODUCTS

Pendulum grip jaws:

Pendulum grip jaws (quick-change connection):

Order number:	Dimensions (WxLxH)
300-0094-010	94 x 50 x 49 mm

Two KonGrip claws with a hardness of 52-54 HRC are mounted on each side of the counter bore on this pendulum jaw and grip at a height of 5 mm.

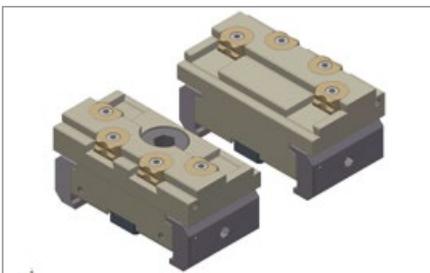
300-0094-019	94 x 50 x 40 mm
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Pendulum jaws are hardened. On each side of the counter bore, this pendulum jaw has Mastergrip claws that grip at a height of 5 mm. The standard version is equipped with 6301-0010-001 inserts (see page 92).

300-0094-024	94 x 50 x 49 mm
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The pendulum jaws are hardened, the grip rail grips at a height of 3 mm. The accuracy of the clamping surface in relation to the toothing is +/- 0.05 mm.

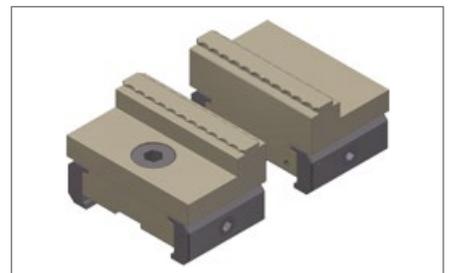
Application: The pendulum jaw sets consist of one fixed jaw and one pendulum jaw. This allows clamping of workpieces with two non-parallel sides using the pendulum jaw set (up to an inclination of 5°). The grip inserts or the grip rail make the jaw sets particularly suitable for machining of blank parts. Meshing of the teeth results in high surface pressure and maximum holding power.



300-0094-010



300-0094-019



300-0094-024

Prismatic jaws:

Prismatic jaws (quick change connection):

(Please ask us, we will make you an individual offer).

Order number:	Dimensions (WxLxH)
-	upon request

The prismatic jaws with a quick-change interface can be used to clamp a wide variety of shafts from 5 mm to 120 mm in diameter.

These jaws can easily be used for machining on the face (e.g. surface milling, drilling, thread cutting) as well as on the longitudinal side (e.g. milling of exactly centered recesses). Tell us your clamping shaft diameter and we will let you know which prismatic jaws you need for the desired diameter.



Other custom tailored jaws are available upon request. Please provide us with the data for your individual requirements, after which you will receive a technical draft with an offer for the requested number of units.

JAW PRODUCTS

Cross offset jaws:

The cross offset jaws are suitable for certain vise models (see table below).

If you require one of the jaws for a different vise, send us your inquiry.

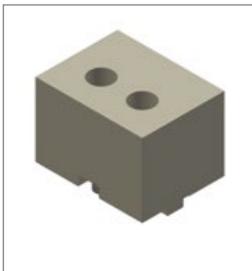
Jaw blanks:

Steel jaw blanks (cross offset connection):

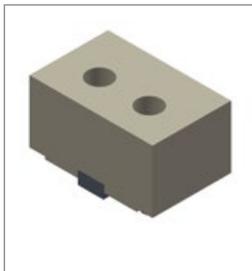
Order number:	Compatible with vise model:	Dimensions (WxLxH)
301-0065-001	BSM-115-KV (see p. 64) + BSM-080-KV (see p. 69)	65 x 50 x 45 mm
301-0094-002	BSM-140 (see p. 65)	94 x 60 x 50 mm
301-0125-002	BSM-180 (see p. 66)	125 x 60 x 50 mm
301-0150-001	BSM-250 + BSM-500 (see p. 67 to 68)	150 x 120 x 70 mm
301-0160-004	BSMG-500 (see p. 76)	160 x 183 x 80 mm

Material: 16MnCr5

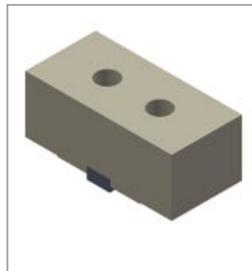
Application: For manufacturing form jaws and subsequent clamping of formed parts on which clamping marks must be prevented on the workpiece surface.



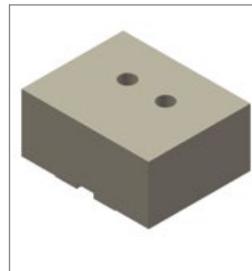
301-0065-001



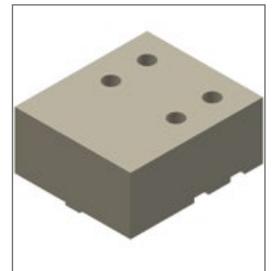
301-0094-002



301-0125-002



301-0150-001



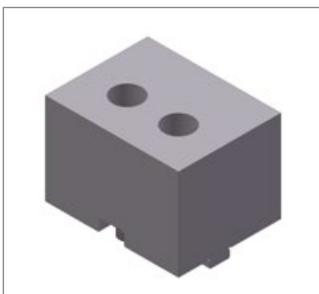
301-0160-004

Aluminum jaw blanks (cross offset connection):

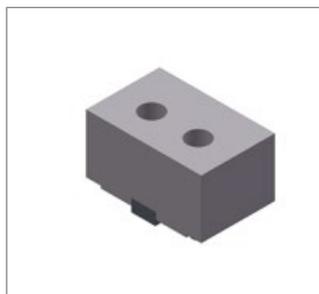
Order number:	Compatible with vise model:	Dimensions (WxLxH)
311-0065-001	BSM-115-KV (see p. 64) + BSM-080-KV (see p. 69)	65 x 50 x 45 mm
311-0094-001	BSM-140 (see p. 65)	94 x 60 x 50 mm
311-0125-001	BSM-180 (see p. 66)	125 x 60 x 50 mm
311-0150-001	BSM-250 + BSM-500 (see p. 67 to 68)	150 x 120 x 70 mm

Material: high-strength aluminum

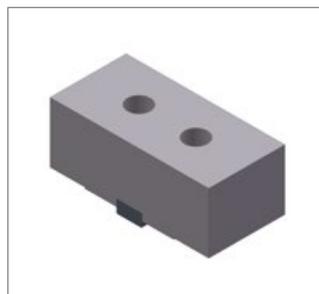
Application: For manufacturing form jaws and subsequent clamping of formed parts on which clamping marks must be prevented on the workpiece surface.



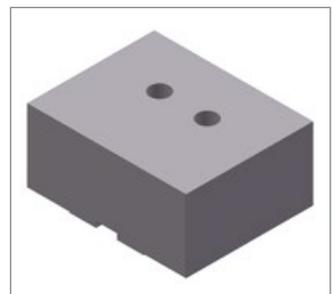
311-0065-001



311-0094-001



311-0125-001



311-0150-001

JAW PRODUCTS

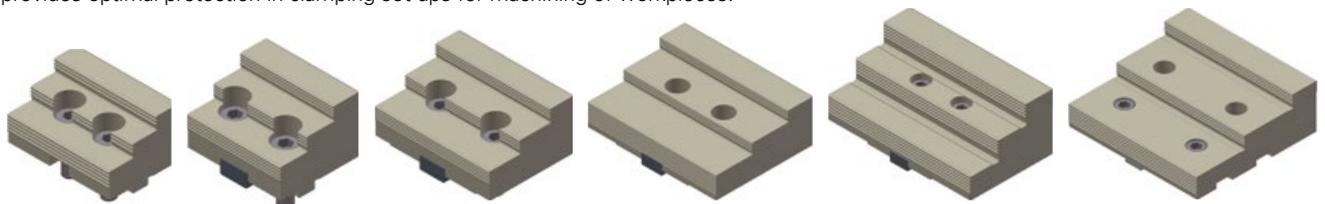
Profile jaws

Hard profile jaws (cross offset connection):

Order number:	Compatible with vise model:	Dimensions (WxLxH)	Clamping range
301-0065-002	BSM-115-KV (see p. 64)	65 x 45 x 32 mm 3 steps each 15 x 8 (L x H)	4-92 mm
301-0070-003	BSM-140 (see p. 65)	70 x 60 x 42 mm 3 steps each 20 x 10 (L x H)	2-130 mm
301-0094-003	BSM-180 (see p. 66)	94 x 70 x 42 mm 3 steps each 25 x 10 (L x H)	4-172 mm
301-0125-003	BSM-250 + BSM-500 (see p. 67 to 68)	125 x 95 x 42 mm 3 steps each 35 x 10 (L x H)	BSM-250: 2-210 mm BSM-500: 2-456 mm
301-0160-001	BSM-250 + BSM-500 (see p. 67 to 68)	160 x 93 x 65 mm 3 steps each 31 x 20 (L x H)	BSM-250: 2-194 mm BSM-500: 2-440 mm
301-0160-003	BSMG-500 (see p. 76)	160 x 151,2 x 55 mm 3 steps each 60 x 15 (L x H)	2-490

Profile jaws are hardened. For high accuracy, the jaws must be ground out on the vise under clamping pressure.

Application: For clamping workpieces where damage must be prevented. The clamping surface is grooved and not serrated. This provides optimal protection in clamping set-ups for machining of workpieces.



301-0070-003

301-0160-003

301-0094-003

301-0125-003

301-0160-001

301-0160-003

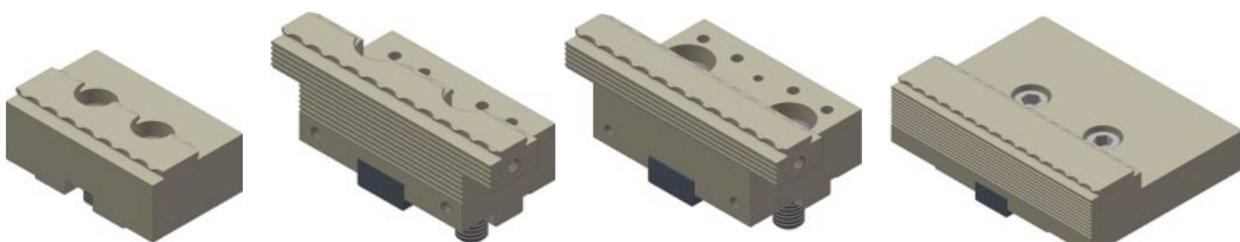
Grip jaws:

Grip jaws with grip rail (cross offset connection):

Order number:	Compatible with vise model:	Dimensions (WxLxH)	Clamping range
301-0065-005	BSM-115-KV (see p. 64)	65 x 45 x 32 mm	10-70 mm
301-0094-006	BSM-140 (see p. 65)	94 x 40 x 34 mm	10-95 mm
301-0094-004	BSM-180 (see p. 66)	94 x 50 x 34 mm	12-78 mm; 90-157 mm
301-0125-019	BSM-250 + BSM-500 (see p. 67 to 68)	125 x 95 x 34 mm 3 steps each 35 x 10 (L x H)	BSM-250: 10-80 mm 140-210 mm BSM-500: 10-460 mm

Grip jaws are hardened. The grip rail grips at a height of 3 mm.

Application: For clamping of raw materials with even point loading, especially for aluminum when high surface pressure is required for maximum holding power.



301-0065-005

301-0094-006

301-0094-004

301-0125-019

JAW PRODUCTS

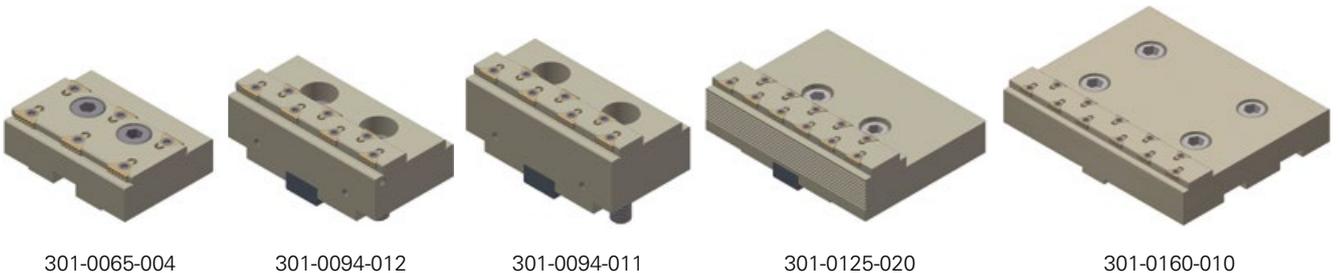
Grip jaws with Mastergrip inserts (cross offset connection):

Order number:	Compatible with vise model:	Dimensions (WxLxH)	Clamping range
301-0065-004	BSM-115-KV (see p. 64)	65 x 47.5 x 20 mm	8–52 mm
301-0094-012	BSM-140 (see p. 65)	94 x 50 x 34 mm	10–37 mm; 60–107 mm
301-0094-011	BSM-180 (see p. 66)	94 x 50 x 40 mm	12–149 mm
301-0125-020	BSM-250 + BSM-500 (see p. 67 to 68)	125 x 95 x 34 mm	BSM-250: 10–80 mm; 140–210 mm BSM-500: 10–460 mm
301-0160-010	BSMG-500 (see p. 76)	160 x 130 x 30 mm	BSMG-500: 10–460 mm

Material: Nitrided steel

The grip jaws are nitrided to a depth of approx. 0.2 mm. Mastergrip claws are attached to each side of the counter bore on this grip jaw. The standard version is equipped with 6301-0010-001 inserts (see page 92).

Application: For clamping cut-to-size blanks, raw material with oxidized surfaces and cast parts with the same point load. Meshing of the teeth results in high surface pressure and maximum holding power. When the Mastergrip claws wear out, they can easily be replaced by (see replacement parts, page 92). The jaw also has a smooth side for clamping machined surfaces.



301-0065-004

301-0094-012

301-0094-011

301-0125-020

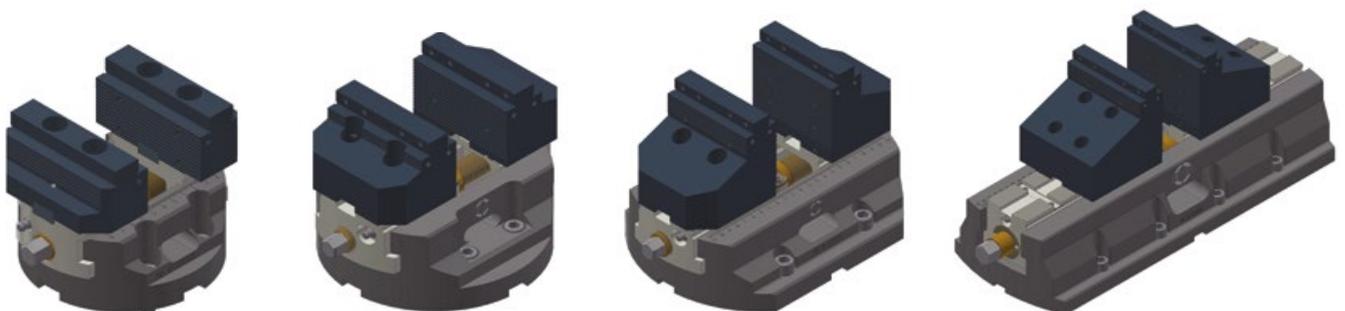
301-0160-010

5-axis jaws

5-axis jaws (cross offset connection):

Order number:	Compatible with vise model:	Dimensions (WxLxH)	Clamping range
301-0100-014	BSM-140 (see p. 65)	100 x 50 x 50 mm	20–90 mm
301-0100-013	BSM-180 (see p. 66)	100 x 69 x 65 mm	20–75 mm; 80–150 mm
301-0100-012	BSM-250 (see p. 67)	100 x 95 x 95 mm	20–85 mm; 135–200
301-0125-014	BSM-500 (see p. 68)	125 x 120 x 120 mm	18–448 mm

The use of 5-axis jaws gives you optimum accessibility to your workpiece. The jaws can be used with a smooth profile or optionally as grip jaws. For use as grip jaws, you need 8 grippers 6304-0010-001 for each set of jaws (see page 93).



301-0100-014

301-0100-013

301-0100-012

301-0125-014

JAW PRODUCTS

Prismatic jaws:

The quick-change jaws are compatible with all vises equipped with a quick change-over interface.

The jaws are tightened by means of a screw on the side (max. 25 Nm).

Prismatic jaws (cross offset connection)

(Please contact us, we will make you an individual offer)

Order number:	Compatible with vise model	Dimensions (WxHxD)	Clamping range
301-0120-003	BSM-180 (page 66)	70 x 60 x 110 mm	Ø 19–45 mm horizontal Ø 30–70 mm horizontal Ø 60–116 mm horizontal
301-0125-005	BSM-180 (page 66)	125 x 60 x 87 mm	Ø 45–95 mm horizontal
301-0250-004	BSM-250 (page 67)	70 x 80 x 105 mm	Ø 79–110 mm horizontal
301-0025-001	BSM-250 (page 67)	70 x 81 x 49 mm	Ø 25–40 mm horizontal

The prismatic jaws with cross offset connection can be used to clamp a wide variety of shafts from 5 mm to 300 mm in diameter.

These jaws can easily be used for machining on the front side (e.g. face milling, drilling, thread cutting) as well as on the longitudinal side (e.g. milling of exactly centered recesses).

Tell us the shaft diameter you want to clamp and we will let you know which prismatic jaws you need for the desired diameter.

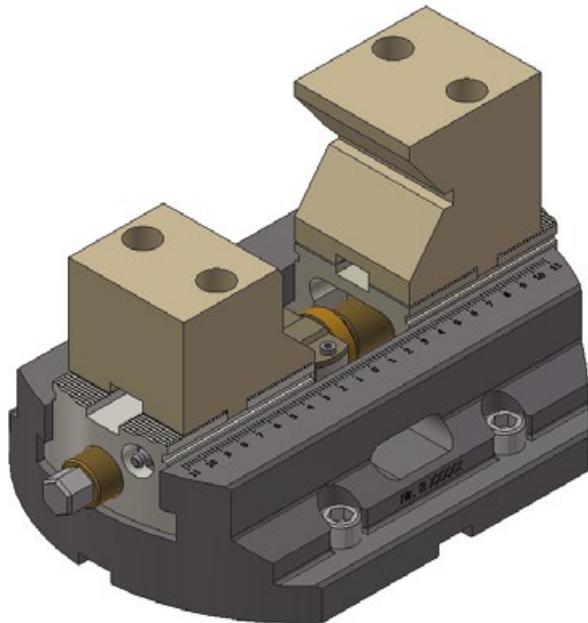


Special prismatic jaw 301-0020-001 for BSM-115-KV, clamping range 6-20 mm horizontal and vertical

Other custom tailored jaws are available upon request. Please provide us with the data for your individual requirements, after which you will receive a technical draft with an offer for the requested number of units.

JAW PRODUCTS

Shaft chuck with three-point prismatic jaws:



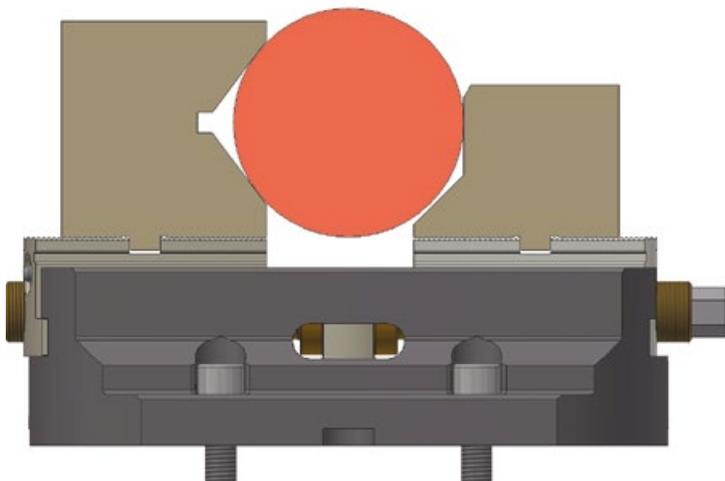
Technical data

The dimensions are identical to the standard vise model BSM-250 (200-0250-010, p. 67)

Order number:	201-0250-002
Designation:	BSM-250-WS
Overall length:	Ø 250 mm
Overall height:	82 mm
Weight:	19 kg
Clamping range	Ø 10 - 130 mm
Total stroke:	75 mm
Max. torque:	250 Nm
Clamping force max.:	98 kN
Jaw connection:	Cross offset

Three-point prismatic jaws (cross offset connection):

Order number:	Compatible with vise model	Dimensions (WxHxD)	Clamping range
301-0250-008	BSM-250-WS	70 x 80/85 x 45/50 mm	Ø 10–40 mm
301-0250-009	BSM-250-WS	70 x 80 x 60/85 mm	Ø 40–90 mm
301-0250-010	BSM-250-WS	70 x 93.5/95 x 100/145 mm	Ø 90–130 mm



Operating principle:

- Three-point system ensures a reliable clamping set-up
- One jaw is open at the top, to enable a larger clamping range per jaw set
- A smaller stroke is required for workpiece removal
- Workpieces can easily be removed upwards
- Each diameter is clamped centrally when the shaft chuck is used

The jaws and the vise model shown here are one example of a solution. The shaft chuck version is also available for other vise sizes. Please tell us your requirements, we will be glad to develop a solution for you.

JAW PRODUCTS

Vario jaws

Vario jaws with cross offset connection:

Order number:	Compatible with vise model:	Dimensions (WxLxH)	Clamping range
303-0200-001	BSM-500 (see p. 68)	200 x 130 x 30 mm	12-414 mm; 72-445 mm
303-0200-004	BSM-250 + BSM-500 (see p. 67 to 68)	200 x 101 x 22 mm	BSM-250: 32-262 mm; 53-267 mm BSM-500: 32-510 mm; 53-516 mm

Vario jaws can be used to clamp cylindrical and cubic workpieces.

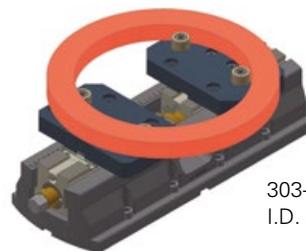
The clamping inserts can be positioned at different locations on the jaw, so that one set of jaws can be used for a wide range of parts.

Changing the jaw inserts makes it possible to clamp both blank parts and workpieces for finishing. When ordering the jaws, please specify the application for which the jaws are required.

Clamping inserts must be ordered separately (see page 92). Other sizes are available upon request.



303-0200-001
O.D. clamping



303-0200-001
I.D. clamping

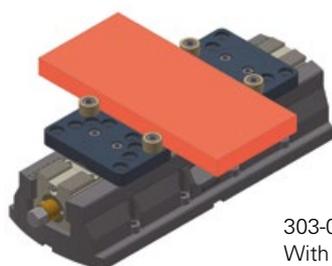
Vario jaws with cross offset connection (one jaw floating):

Order number:	Compatible with vise model:	Dimensions (WxLxH)	Clamping range
303-0160-001	BSM-180 (see p. 66)	160 x 86 x 22 mm	8–180 mm; 116–216 mm
303-0160-002	BSM-250 + BSM-500 (see p. 67 to 68)	160 x 101 x 22 mm	BSM-250: 14–205 mm; 130–263 mm BSM-500: 14–450 mm; 116–466 mm

Vario jaws can be used to clamp cylindrical and cubic workpieces. One jaw is designed to float, to allow clamping of non-parallel workpieces.

The clamping inserts can be positioned at different locations on the jaw, so that one set of jaws can be used for a wide range of parts. Changing the jaw inserts makes it possible to clamp both blank parts and workpieces for finishing. When ordering the jaws, please specify the application for which the jaws are required.

Clamping inserts must be ordered separately (see page 92). Other sizes are available upon request.



303-0160-002
With workpiece



303-0160-002

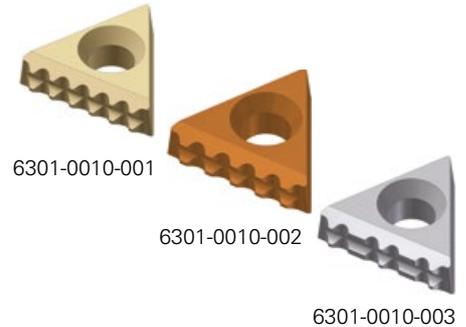
Other custom tailored jaws are available upon request. Please provide us with the data for your individual requirements, after which you will receive a technical draft with an offer for the requested number of units.

REPLACEMENT PARTS AND ACCESSORIES

Mastergrip clamping inserts:

Order number:	Designation
6301-0010-001	Mastergrip insert for steel
6301-0010-002	Mastergrip insert for hardened steel (up to 50-54 HRC) and titanium
6301-0010-003	Master grip insert for aluminum

For replacement parts for the jaw 300-0094-017, 300-0094-019, 301-0065-004, 301-0094-011, 301-0094-012, 301-0125-020 and 301-0160-010 see pages 84, 85 and 88.



Accessories for Mastergrip clamping inserts:

Order number:	Designation
6301-0010-100	VTX30 screws for Mastergrip inserts
6301-0050-002	3D HM special form milling cutter for jaw seats of Mastergrip inserts



Vario clamping inserts:

Order number:	Designation
6304-0029-001	Smooth clamping insert for Vario jaws Dimensions: 29 x 24 mm (Ø x height)
6304-0029-002	Gripper clamping insert for Vario jaws Dimensions: 29 x 24 mm (Ø x height)
6304-0029-003	Smooth clamping insert for Vario jaws Dimensions: 29 x 11 mm (Ø x height)
6304-0029-004	Gripper clamping insert for Vario jaws Dimensions: 29 x 11 mm (Ø x height)
6304-0029-005	Smooth clamping insert for Vario jaws Dimensions: 29 x 19 mm (Ø x height)
6304-0029-006	Gripper clamping insert for Vario jaws Dimensions: 29 x 19 mm (Ø x height)
6304-0029-007	Gripper clamping insert for Vario jaws Dimensions: 29 x 19 mm (Ø x height)

Suitable for Vario jaws (see page 91). Also available in other sizes on request.



Floating claw:

Order number:	Designation
5222-0020-001	Floating claw

Replacement part suitable for jaws 300-0094-010 (see page 85). Ø 20 mm



KonGrip claw:

Order number:	Designation
6301-0016-002	KonGrip claw

Replacement part for KonGrip jaws (Ø 16 mm) (no longer in standard jaw line)



REPLACEMENT PARTS AND ACCESSORIES

Carbide thrust part

Order number:	Designation
6304-0010-001	Carbide thrust part M6

Suitable for 5-axis jaws (see page 88).
Extension of 5-axis jaws to grip jaws. 8 pieces per set are required.



6304-0010-001

Clamping tips:

Order number:	Designation
6302-0060-001	60° center eccentric, Ø 4 mm
6302-0090-001	90° center centric, Ø 4 mm
6302-0090-002	90° center eccentric, Ø 4 mm

Replacement part for grip jaws with tips (no longer in the current standard jaw line)

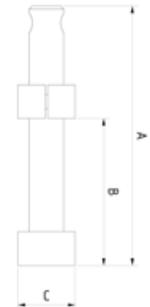


Magnetic end-stops:

Order number:	A mm	B mm	C mm	Holding power:
5062-0020-001	92	10 - 80	Ø 20	45 N (~4.5 kg)
5062-0020-002	95	10 - 80	Ø 25	80 N (~8.0 kg)
5062-0020-003	95	11 - 80	24 x 47.5	120 N (~12.0 kg)



5062-0020-001

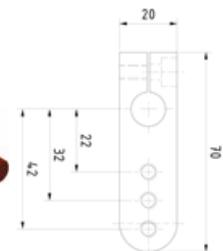


Threaded end-stop

Order number:	A mm	B mm	C mm	Holding power:
5062-0020-004	95	10 - 80	Ø 12	mounted with M6



5062-0020-004



Threaded end-stop (flexibly adjustable)

Order number:	Adjustment range:			Holding power:
	X mm	Y mm	Z mm	
320-0083-001	23	38	40	mounted with M6

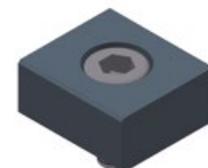


320-0083-001

Flat T-slot nut:

Order number:	Designation
6904-0020-022	Flat T-slot nut incl. M6 x 12 screw

Dimensions: 20 x 10 x 22 mm (LxWxH)
replacement part for cross offset jaws (alignment)



6904-0020-022

REPLACEMENT PARTS AND ACCESSORIES

Replacement parts for quick-change system:

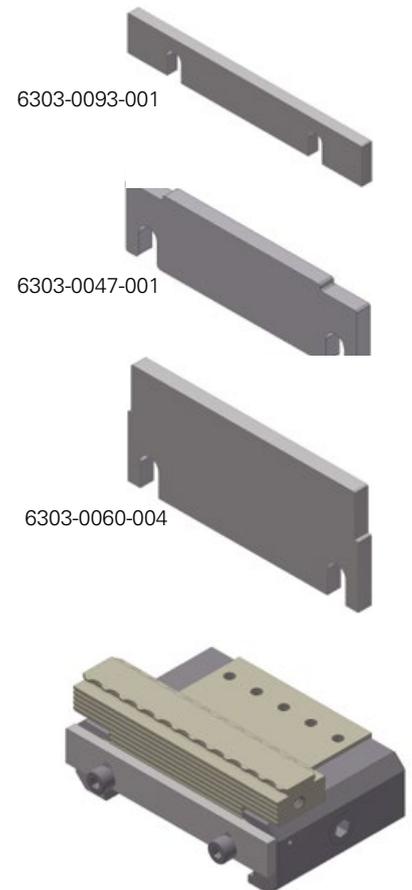
Order number:	Designation
5600-0050-001	Clamp with left-hand thread, 50 mm wide
5600-0050-002	Clamp with right-hand thread, 50 mm wide
5600-0060-001	Clamp with left-hand thread, 60 mm wide
5600-0060-002	Clamp with right-hand thread, 60 mm wide
5742-0014-001	Spindle for quick-change jaws
6904-0020-050	Feather key for quick-change jaws

Replacement parts suitable for all quick-change jaws (see pages 83 to 85).



Parallel supports:

Order number:	Height mm	Width mm (total)	Width mm (support plate)
6303-0047-001	20	69	47
6303-0047-002	24	69	47
6303-0047-003	29	69	47
6303-0047-004	31	69	47
6303-0047-005	34	69	47
6303-0047-006	39	69	47
6303-0047-007	44	69	47
6303-0047-008	46	69	47
6303-0060-001	20	69	60
6303-0060-002	24	69	60
6303-0060-003	29	69	60
6303-0060-004	31	69	60
6303-0093-001	14	94	93
6303-0093-002	20	94	93
6303-0093-003	24	94	93
6303-0093-004	29	94	93
6303-0093-005	31	94	93
6303-0093-006	34	94	93
6303-0093-007	39	94	93
6303-0093-008	44	94	93
6303-0093-009	46	94	93
6303-0093-010	47	94	93



Example of use for parallel supports

Other sizes are available upon request.

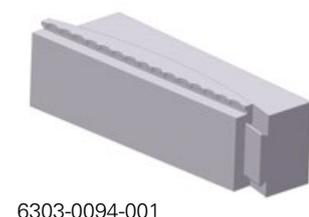
Magnetic pendulum jaws:

Order number:	Designation
6303-0094-001	Pendulum jaws

For clamping non-parallel parts, magnetic for mounting of steel jaws,

Dimensions: 94 x 30 x 22 mm

Model: Tool steel / 62 Rockwell hardened



6303-0094-001

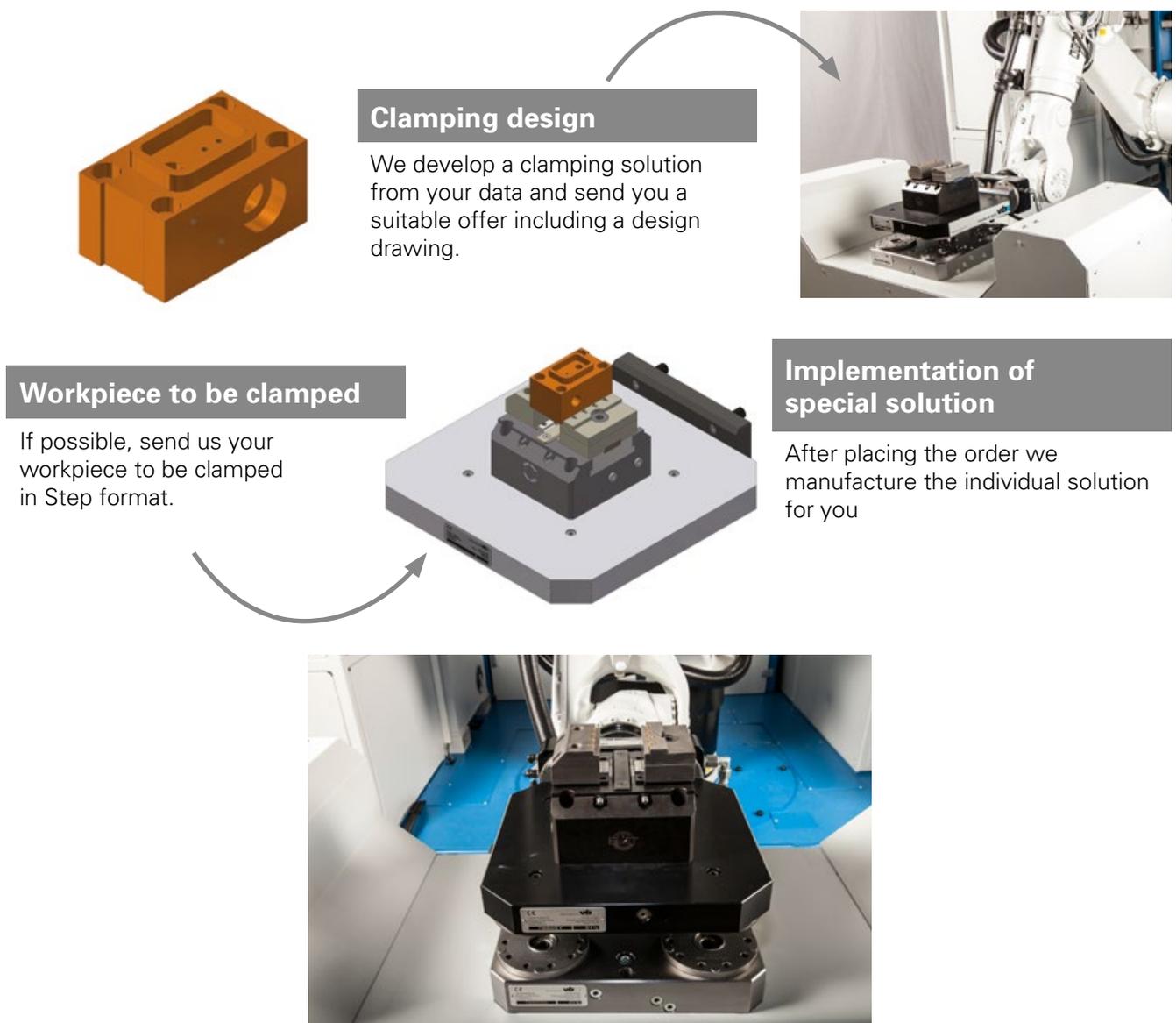
CUSTOMIZED SOLUTIONS

Do you have a workpiece that you would like to clamp, but need help in doing so?

Then you have come to the right place!

Simply send us the workpiece to be clamped (ideally in Step format) and tell us which machining operations you would like to perform in the required clamping set-up. After sending the relevant machine data and specifying the required clamping method (mechanical, pneumatic or hydraulic), our experienced design engineers will prepare an individual offer for you.

If possible, they will use our standard materials. If special materials are required, we can also deliver a solution in very small quantities.

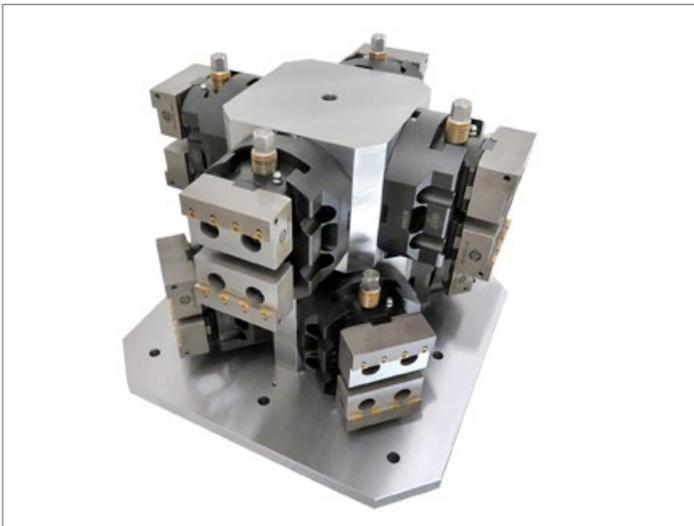


The example shown is an application for automation of a Vischer & Bolli robot cell. A pallet with the BSH-160 vise is placed on the machine by a robot. The pendulum grip jaws are manufactured specifically for the workpiece.

APPLICATION EXAMPLES MECHANICAL



4 BSM-140 vises with grip jaws including end-stop on a 5-axis pyramid.



8 BSM-140 vises with grip jaws on a clamping tower. In the custom fixture, the lower level was offset from the upper level to reduce the height, since the machine allows only limited travel in the Z direction.



3 BSM-140 vises with form jaws on a 5-axis pyramid. The vises are each mounted on a mechanical zero-point plate. The pyramid is picked up on a pneumatically actuated zero-point clamping system.

APPLICATION EXAMPLES

MECHANICAL



2 BSM-140 vises with grip jaws. The two vises are used for pallet clamping. Only the outer jaws of the vise are used for clamping. This means that two small vises can be used to clamp a large component.

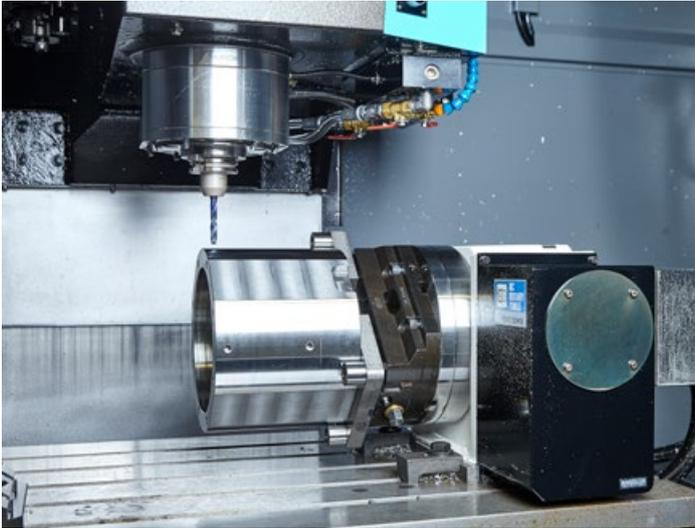


A shaft is clamped using 2 BSM-140 vises with prismatic jaws. The vises can be moved on the base plate as required. This allows clamping of shafts with different lengths and diameters.

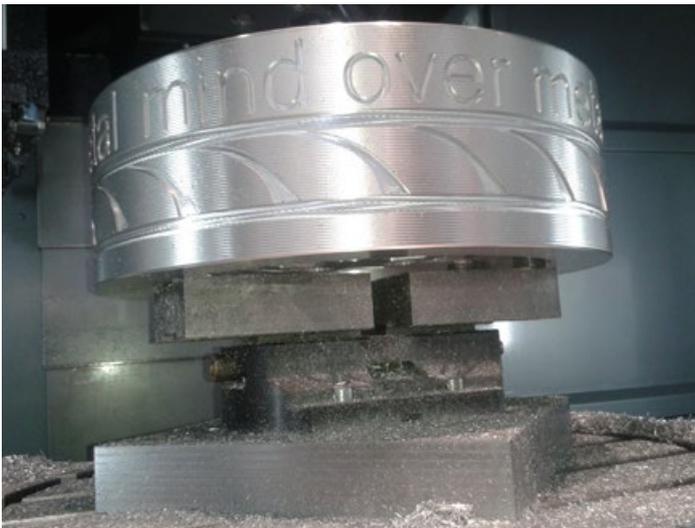


4 BSMG-500-WS vises (shaft chuck version) for clamping 2 shafts. The vises are controlled by a hydraulic motor, and the shafts are inserted by a robot.

APPLICATION EXAMPLES MECHANICAL



BSM-250 on Kitagawa rotary table.
Clamping set-up with Vario jaws for reworking of a housing.



BSM-250 with Vario jaws.
A workpiece with a diameter of 400 mm is clamped from the inside to the outside with protruding jaws.

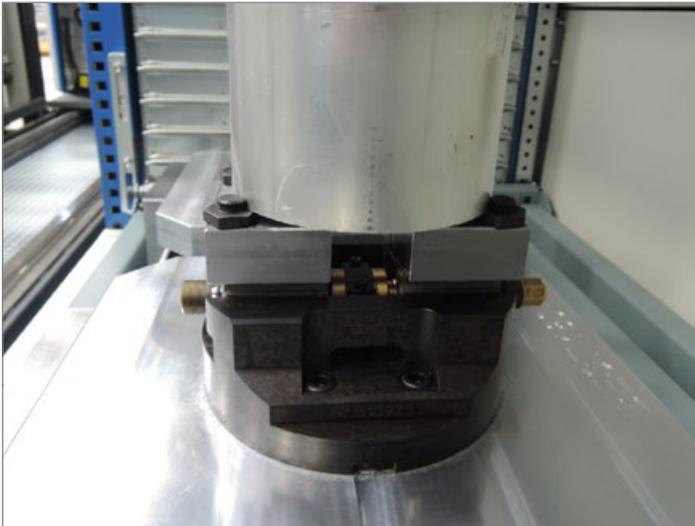


2 BSM-500 vises in series.
Clamping is achieved with Mastergrip jaws that can be rotated for clamping smaller workpieces.

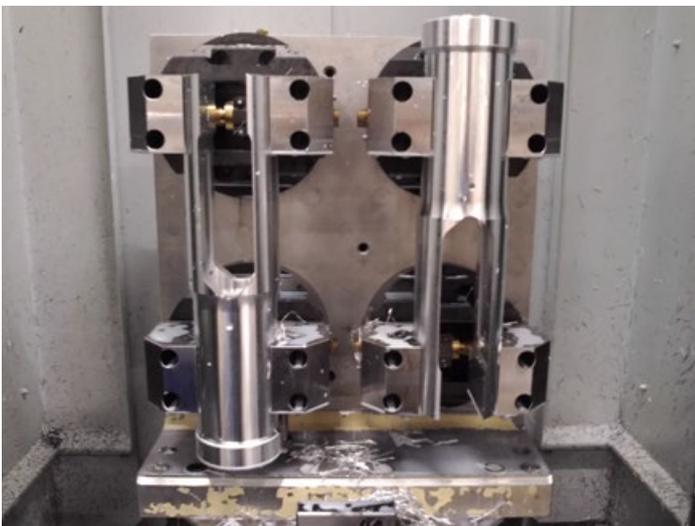
APPLICATION EXAMPLES MECHANICAL



The BSMG-500 vise operates automatically. A robot inserts the workpiece and uses an impact wrench to actuate the threaded spindle for clamping.



BSM-180 with customized grip jaws made by the customer from jaw blanks 300-0094-002.

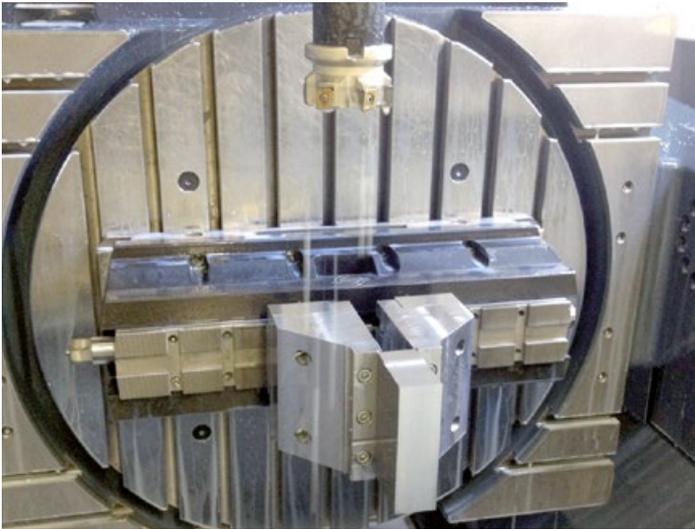


Four BSM-140 vises clamp two workpieces in OP20 vertically. Due to heavy-duty machining, only a thin wall remains on the side of the workpiece.

APPLICATION EXAMPLES MECHANICAL



BSM-250 on a 5-axis riser for optimum accessibility during 5-axis machining.



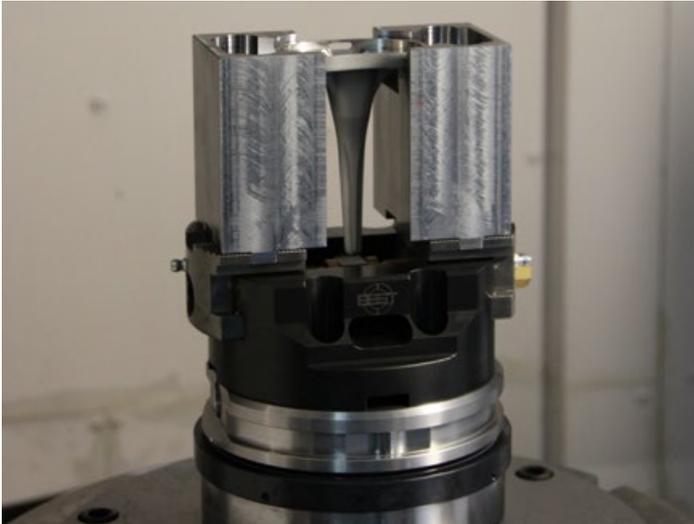
BSM-500 with high, beveled jaw for improved accessibility during 5-axis machining.



BSM-500 with protruding jaws for clamping workpieces up to 636 mm. The vise is mounted on a riser for optimum accessibility during 5-axis machining.

APPLICATION EXAMPLES

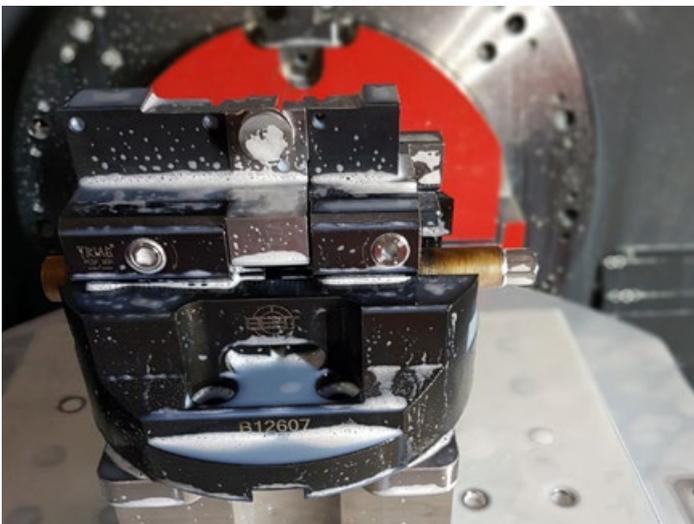
MECHANICAL



BSM-140 on EROWA zero-point system ITS148. A workpiece with form jaws is clamped at a height of 100 mm.



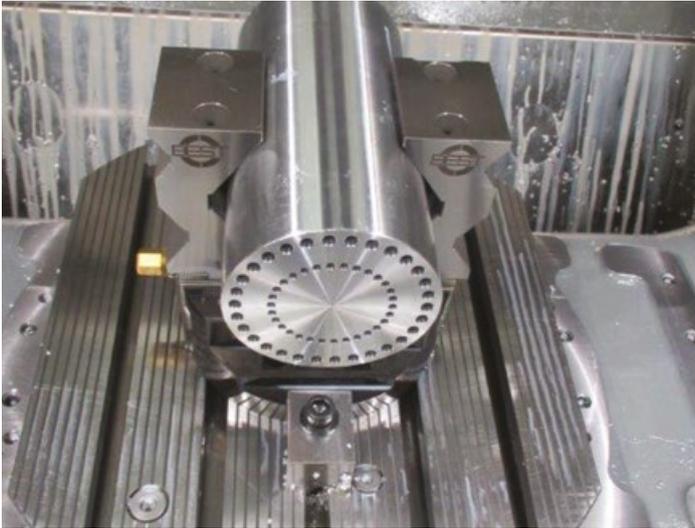
BSM-500 as a steady rest. The workpiece is clamped with a 3-jaw chuck, the centric vise is used purely for clamping support.



Four BSM-140 vises clamp two workpieces in OP20 vertically. The workpiece BSM-180 with special jaws. The jaws are designed for optimum accessibility during machining. Heavy-duty machining leaves only a thin wall on the side.

APPLICATION EXAMPLES

MECHANICAL



BSM-180 with prismatic jaws 301-0120-003 (see p. 66). The 3 prisms allow clamping of shafts with a diameter from \varnothing 19 - 116 mm with one jaw.



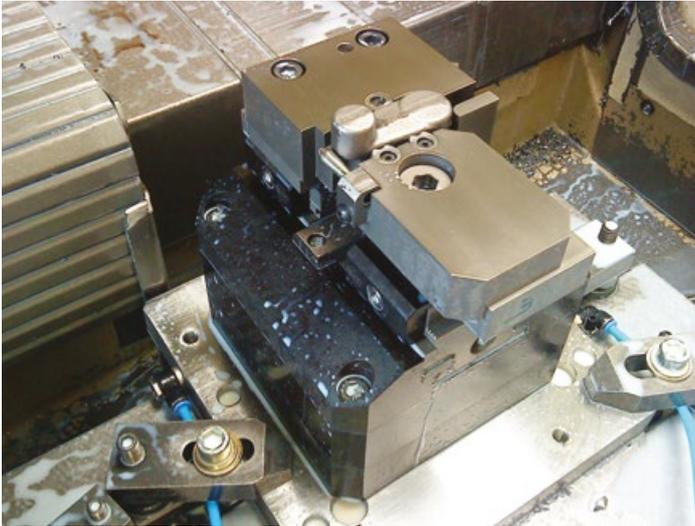
BSMG-500 with prismatic jaws. Jaws 301-0500-005 enable a clamping range of \varnothing 210 - 310 mm.



BSM-140 with form jaws (customized) for clamping a turned part with a 35 mm diameter.

APPLICATION EXAMPLES

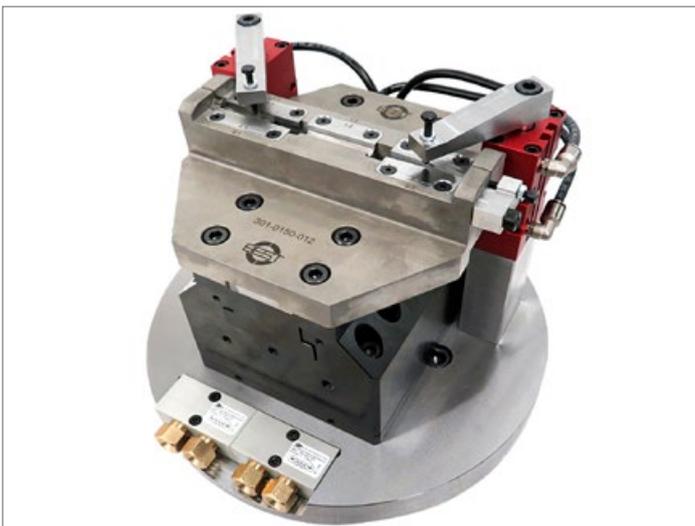
PNEUMATIC



BSPD-170 with workpiece-specific jaws. A cast blank is clamped with a large tolerance deviation. Two holes are drilled, which must align very precisely. The jaws have gripping inserts, one jaw floats to the workpiece.



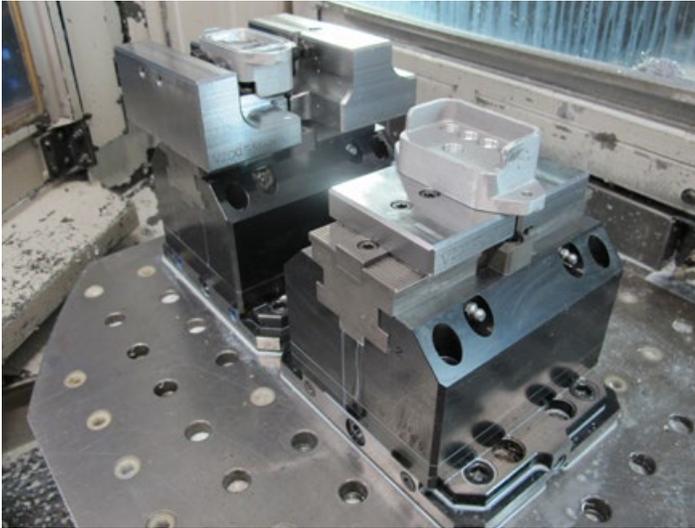
Base plate with 4 BSP-100 vises in series. OP10 and OP20 clamping set-up side by side.



BSP-160 special clamping device for tweezer clamping. Pallet with pressure maintenance. Swivel vises are used to reduce vibration.

APPLICATION EXAMPLES

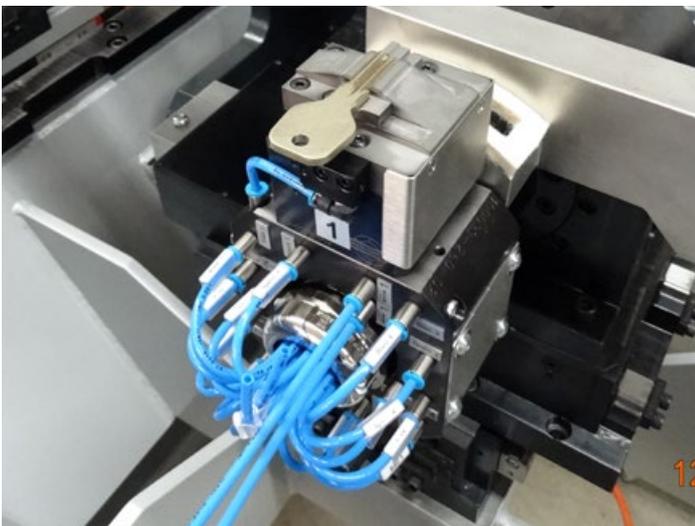
PNEUMATIC



2 BSP-160 vises with special jaw interface, adapted to a customer specified jaw interface. The vises are mounted on a mechanical zero-point clamping system. Clamping is achieved with workpiece specific jaws.



3 BSPD-250-SWBA vises in series for clamping a workpiece.



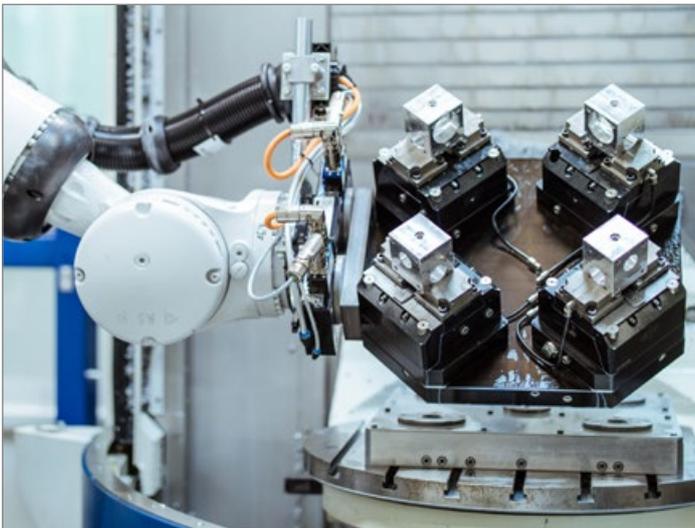
BSP-64 as special vise designed according to customer requirements. The vise can be used either as a centric vise or as a fixed jaw vise.

APPLICATION EXAMPLES

HYDRAULIC



Automated use of BSH-160 with pendulum grip jaws on a pallet.
The vise, workpiece and tool can be changed from the magazine by the robot in the Vischer & Bolli robot cell.



Clamping set-up in a modular robot cell from Vischer & Bolli.
A four-way pallet with BSH-160 vises is shown. The vises are loaded with workpieces by the robot. An air sensing control verifies that the workpiece is actually in contact with the jaw. After the clamping process, the robot places the pallet on the machine for machining of the workpieces.



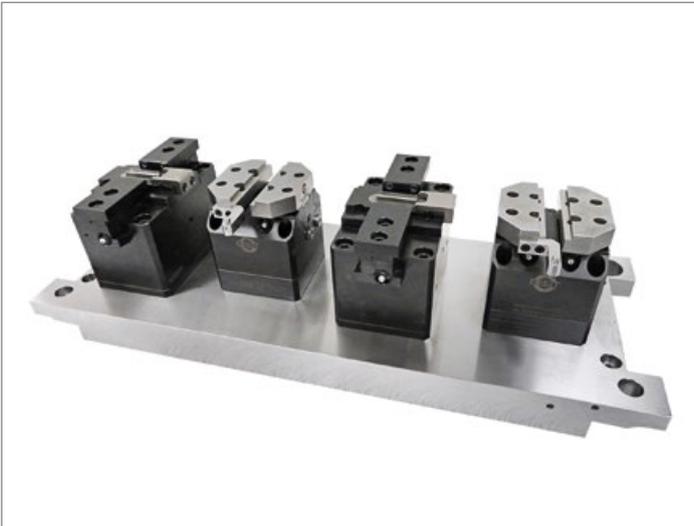
Fully automated clamping solution for change-over of workpieces. The click jaw interface also allows unattended change-over of the jaws by a robot. 4 BSH-100-KB vises with workpiece specific jaws are mounted on a swivel bridge.

APPLICATION EXAMPLES

HYDRAULIC



4 BSH-160 vises on a swivel bridge with workpiece specific jaws. Machining of the OP10 takes place on two clamping positions, the OP20 on the other.



Custom clamping fixture with 2 BSH-100 (OP10) and 2 BSHAN-155 (OP20). The BSHAN-155 vise is used for compensation clamping of the workpieces in the second clamping set-up. In this case the reference point of the compensating clamping set-up is a groove on the workpiece.



A shaft is clamped with 2 BSH-290 vises. The vise and the jaws were developed to meet the customer's requirements. The requirement was for the largest possible stroke. The BSH-290 can achieve a stroke of 15 mm per jaw.

APPLICATION EXAMPLES

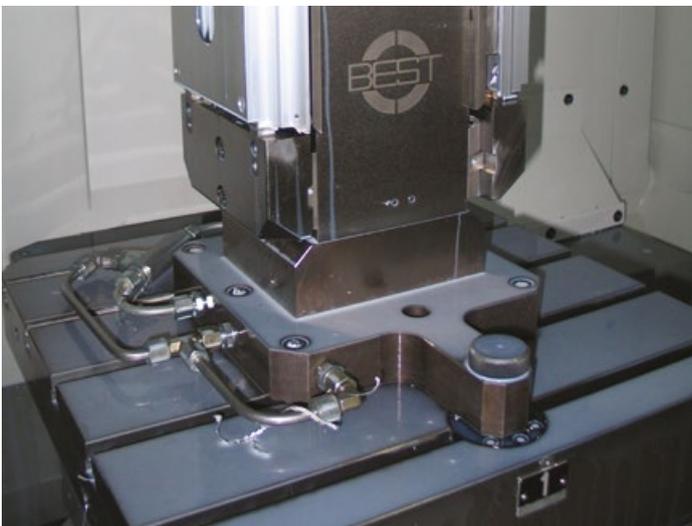
HYDRAULIC



4 BSH-100-FR vises clamp a profile from inside to outside. The vises have a spring-back function. Shown here WITHOUT a workpiece.



4 BSH-100-FR vises clamp a profile from inside to outside. The vises have a spring-back function. Shown here WITH a workpiece.

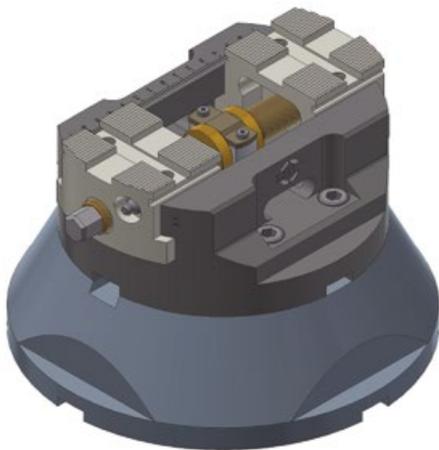


Customized solution. Since there is very little space on the machine, a solution with a tower and two hydraulic vises was out of the question. That is why a clamping device with a double clamping position was developed for the customer.

5-AXIS RISER

5-axis riser for an ideal degree of freedom in 5-axis machining with use of a vise. The raised position allows optimal access to the workpiece. The 5-axis riser is available in different heights, custom tailored for your machine. The standard version is steel, other materials available upon request.

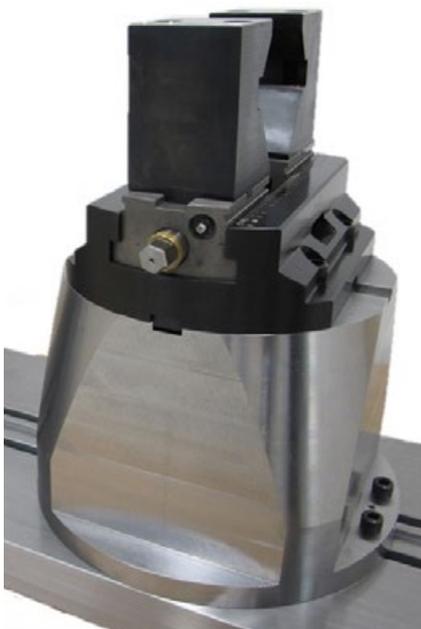
Either the Realpoint zero-point system or a fixed mounting position can be used as an interface to the vise.



6310-0250-001:
Riser for BSM-180, 70 mm high



6310-0300-001:
Riser for BSM-250, 150 mm high



User example with BSM-250 and prismatic jaws
The riser is 200 mm high

5-AXIS PYRAMID

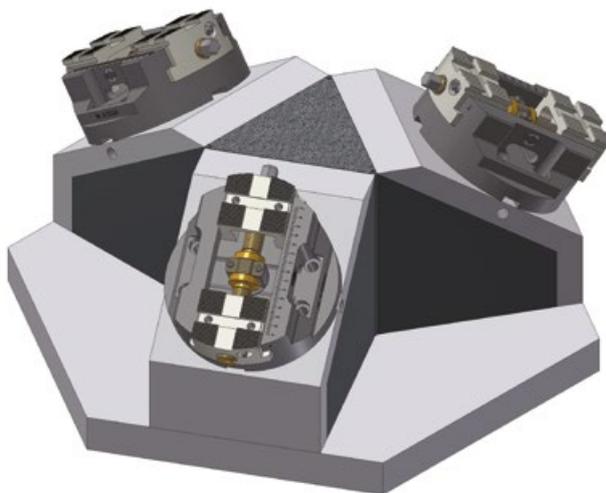
5-axis pyramid for an ideal degree of freedom in 5-axis machining with multiple clamping positions. The inclined configuration of the vises allows optimal access to all workpieces. The pyramids are available in different materials, sizes and shapes, custom tailored for your machine.

Either the Realpoint zero-point system or a fixed mounting position can be used as an interface to the vise.

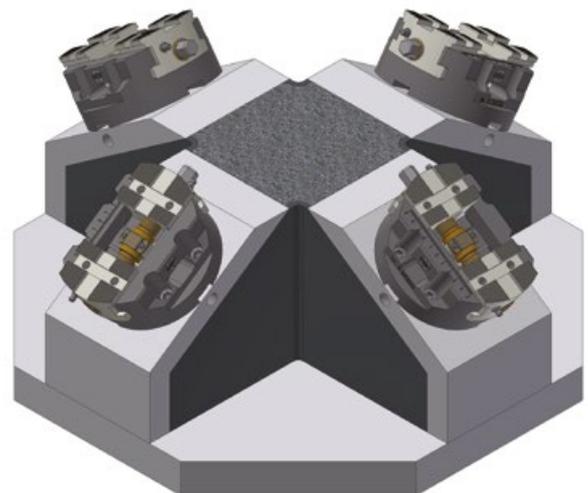
Properties:

- Material: Steel - mineral cast
- Lightweight, sturdy construction
- Low vibration: 10 x better compared to GG20, 100 x compared to high-strength aluminum
- Linear expansion coefficient: here, 100% better than aluminum
- Thermal conductivity: minimal linear expansion in case of temperature fluctuations
- The integrated Realpoint zero-point clamping system allows quick change-over of any centric vise of the RPC and RPCG product families (see p. 113)
- Vises of other manufacturers can be changed quickly using a pallet on the 5-axis pyramid

Example versions (we will be glad to customize the pyramid for your machine):



250-0540-001:
5-axis pyramid with 3 clamping positions



250-0540-030:
5-axis pyramid with 4 clamping positions

Compatible vises for the towers can be found on page 113.

Compatible pallets for attaching vises of other manufacturers can be found on page 114.

5-AXIS PYRAMID TOWER

5-axis pyramid tower for an ideal degree of freedom in 5-axis machining with the maximum number of clamping positions. The configuration in the differing angle of the tower and pyramid allows optimal access to all workpieces. The pyramid tower is available in different materials, sizes and shapes, custom tailored for your machine.

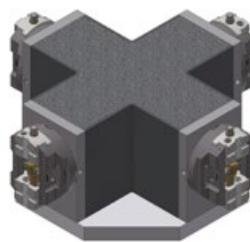
Either the Realpoint zero-point system or a fixed mounting position can be used as an interface to the vise.

Properties:

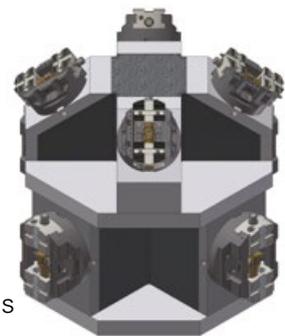
- Material: Steel - mineral cast
- Lightweight, sturdy construction
- Low vibration: 10 x better compared to GG20, 100 x compared to high-strength aluminum
- Linear expansion coefficient: here, 100% better than aluminum
- Thermal conductivity: minimal linear expansion in case of temperature fluctuations
- The integrated Realpoint zero-point clamping system allow quick change-over of any centric vise of the RPC and RPCG product families (see p. 113)
- Vises of other manufacturers can be changed quickly using a pallet on the 5-axis pyramid tower

Example versions (we will be glad to customize the 5-axis pyramid tower for your machine):

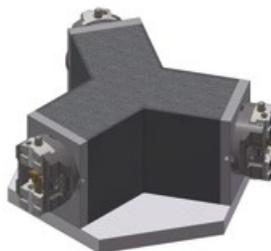
Bottom part of 5-axis pyramid tower (4 clamping positions)



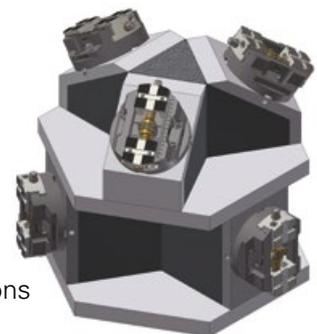
5-axis pyramid tower with 8 clamping positions



Bottom part of 5-axis pyramid tower (3 clamping positions)



5-axis pyramid tower with 6 clamping positions

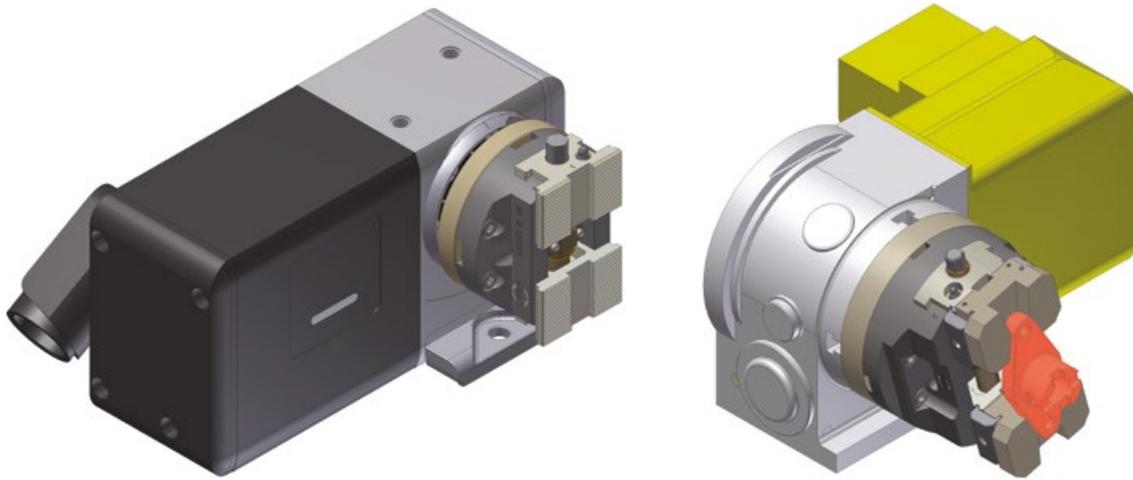


Compatible vises for the towers can be found on page 113.

Compatible pallets for attaching vises of other manufacturers can be found on page 114.

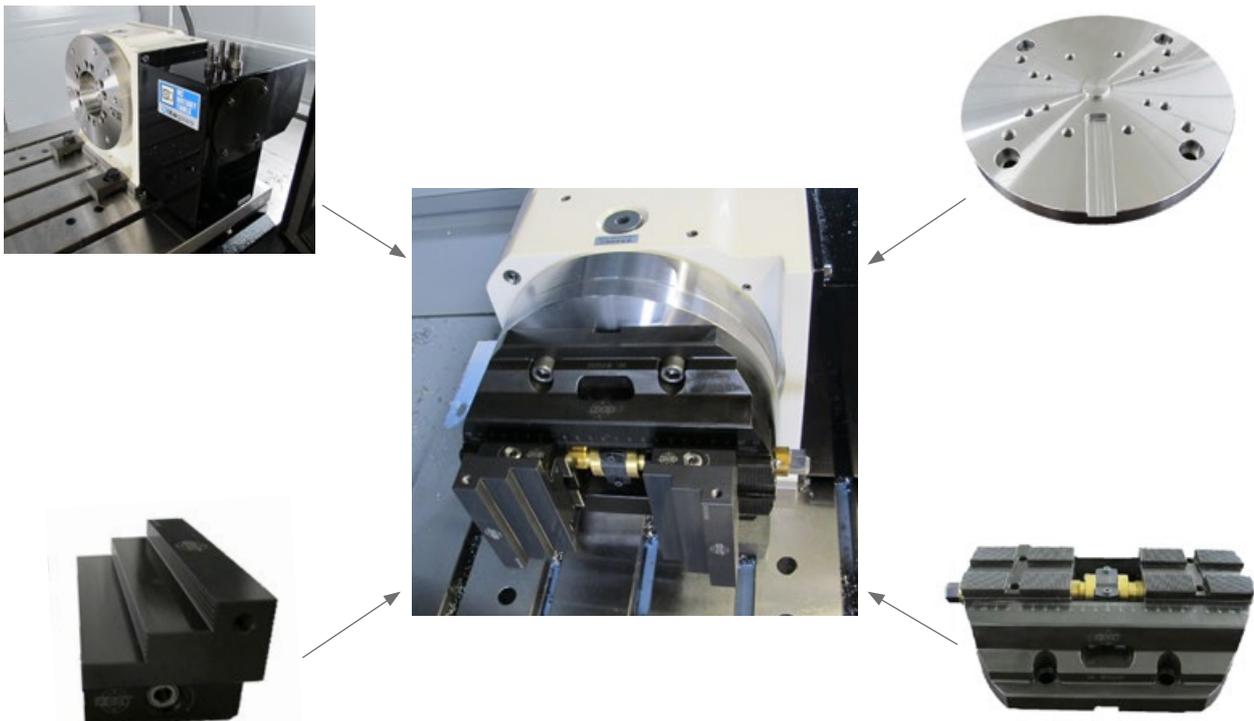
ADAPTATION TO ROTARY TABLES

The mechanical centric vise can be bolted precisely to NC rotary tables of various manufacturers (e.g. Lehmann, HAAS, Kitagawa, Nikken) by using an intermediate plate.



Advantages of rotary tables in combination with VBA vises:

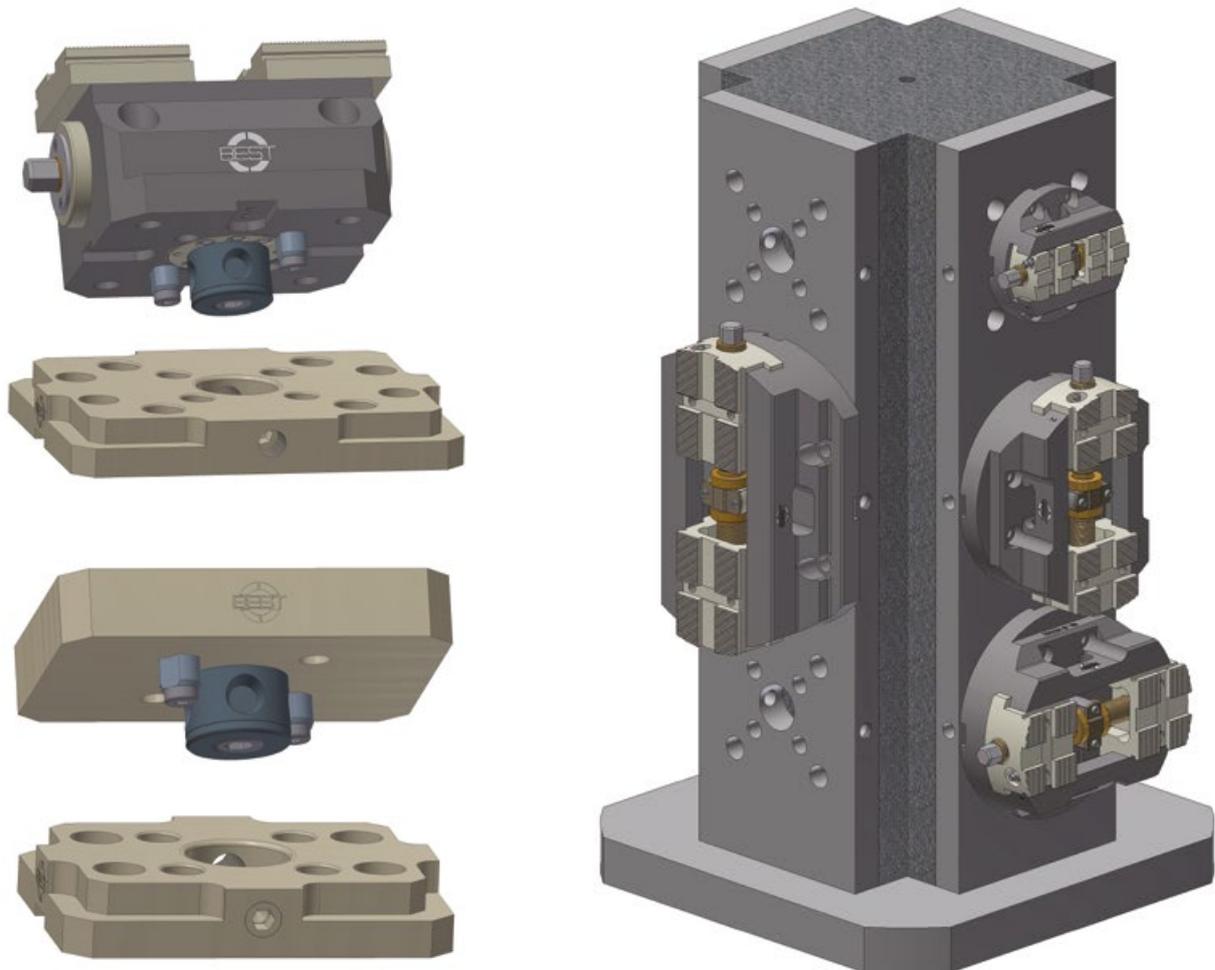
- Extension of 3- or 4-axis machines to include an additional axis
- Compact system due to BSM vise
- Round design of BSM vise ideal for rotary table



Send us the technical data of your rotary table, we will be glad to provide you with an offer for a suitable adapter plate including vises and jaws for your production.

ZERO-POINT CLAMPING

REALPOINT ZERO-POINT CLAMPING SYSTEM



Advantages of the Realpoint zero-point clamping system:

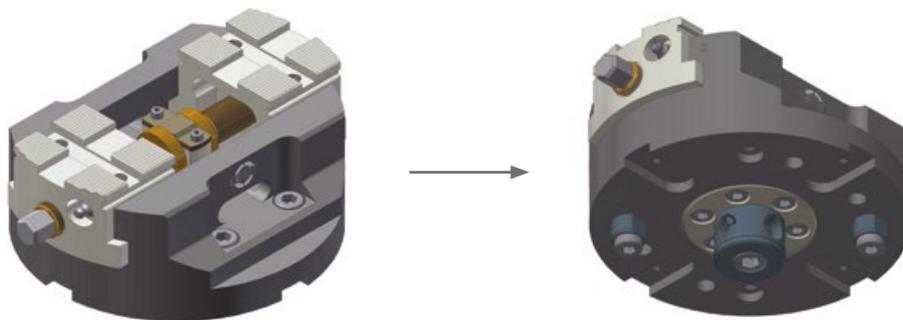
- Modular system: all components of the product family are compatible and designed for quick change-over (centric vise, base plates, quick-change jaws and cross offset jaws)
- Quick-change system saves set-up time (centric vise and pallets can be changed quickly by means of a side-mounted clamping screw)
- Only one tightening bolt size required for all models
- Extremely high draw-in forces (50 kN when the clamping bolt is tightened to 50 Nm)
- Pallets and centric vise can be indexed by 90°
- Extremely flat design of base plates and pallets (27 mm)
- Easy to integrate into cube, beam or special plate solutions for multi-axis machines
- By lining up the square base plates, the machine table becomes a grid table
- Excellent for palletizing in automated clamping solutions on the machine tool
- Pallets for individual mounting of your fixture or existing clamping tools
- Existing zero-point clamping systems of other manufacturers can easily be adapted to our system

RPC/RPCG CENTRIC VISE

By attaching one tightening bolt and two alignment bolts (see p. 116) BSM centric vises (starting on p. 62) can be converted to RPC zero-point vises and encapsulated BSMG centric vises (starting on p. 72) can be converted to encapsulated RPCG zero-point centric vises.

The zero-point versions of centric vises can be ordered assembled.

The order numbers for the respective zero-point versions can be found in the tables below.

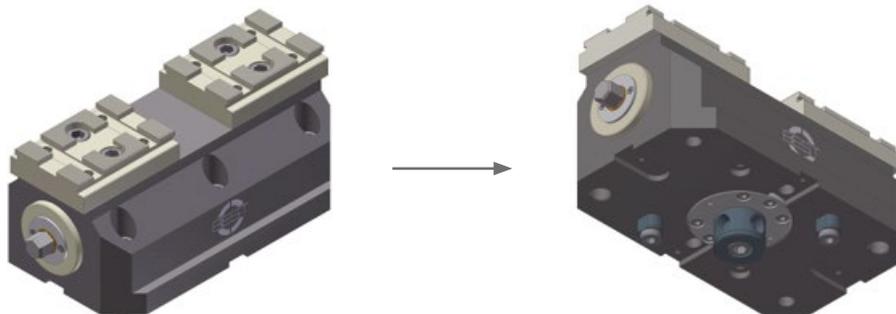


convert BSM...

Order number:	Designation
200-0115-012 (S. 63)	RPC-115-SWBA
200-0115-014 (S. 64)	RPC-115-KV
200-0140-010 (p. 65)	RPC-140
200-0180-010 (p. 66)	RPC-180
200-0520-010 (p. 67)	RPC-250
200-0500-010 (p. 68)	RPC-500

to RPC:

Order number:	Designation	incl. alignment pin:
205-0115-004	RPC-115-SWBA	5152-0016-001 (p. 116)
205-0115-005	RPC-115-KV	5152-0016-001 (p. 116)
205-0140-004	RPC-140	5152-0016-001 (p. 116)
205-0180-004	RPC-180	5152-0020-001 (p. 116)
205-0250-004	RPC-250	5152-0020-001 (p. 116)
205-0500-004	RPC-500	5152-0040-002 (p. 116)



convert BSMG...

Order number:	Designation
220-0140-004 (p. 73)	BSMG-140
220-0180-004 (p. 74)	BSMG-180
220-0250-004 (p. 75)	BSMG-250

to RPCG:

Order number:	Designation	incl. alignment pin:
225-0140-004	RPCG-140	5152-0016-001 (p. 116)
225-0180-004	RPCG-180	5152-0020-001 (p. 116)
225-0250-004	RPCG-250	5152-0020-001 (p. 116)

Compatible base plates for the centric vises can be found on page 114. Compatible mineral cast clamping towers for the centric vises can be found on page 115. Suitable 5-axis pyramids and 5-axis pyramid towers can be found on pages 109 and 110.

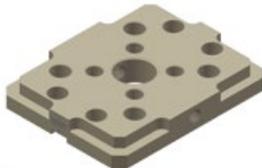
BASE PLATES

For zero-point adaptation of RPC centric vises (see page 47) and pallets (see below).
Clamping screw included.



Round version

Order number:	Ø mm	Height in mm	for alignment pin
281-0157-001	157	27	5152-0016-001 (p. 116)
281-0186-001	186	27	5152-0016-001 and 5152-0020-001 (p. 116)



Square version

Order number:	Length mm	Width mm	Height mm	for alignment pin
281-0150-001	150	116	27	5152-0016-001 (p. 116)
281-0196-001	196	156	27	5152-0016-001 and 5152-0020-001 (p. 116)
281-0250-001	250	190	27	5152-0016-00- and 5152-0020-001 (p. 116)
281-0500-001	500	190	27	5151-0040-002 (p. 116)

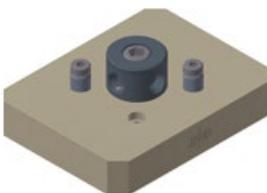
PALLETS

For adaptation of clamping elements or fixtures on the base plate.
Delivery includes one tightening bolt and two alignment bolts.



Round version

Order number:	Ø mm	Height in mm	incl. alignment pin
282-0157-001	157	27	5152-0016-001 (p. 116)
282-0186-001	186	27	5152-0020-001 (p. 116)



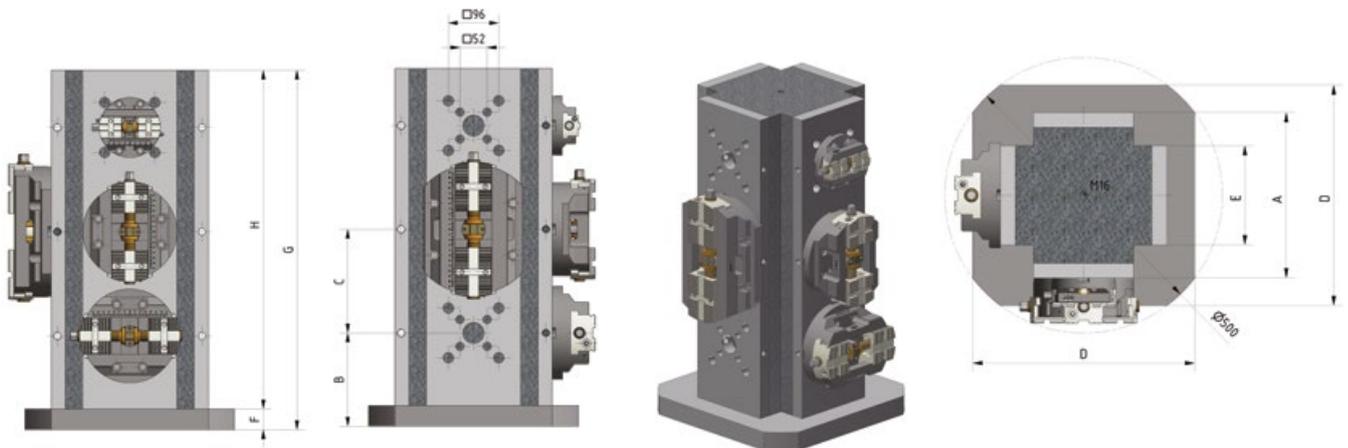
Square version

Order number:	Length mm	Width mm	Height mm	for alignment pin
282-0150-001	150	116	27	5152-0016-001 (p. 116)
281-0196-001	196	156	27	5152-0020-001 (p. 116)



Example of adaptation of a centric vise without zero-point connection on a base plate

MINERAL CAST CLAMPING TOWERS WITH INTEGRATED REALPOINT ZERO-POINT CLAMPING SYSTEM



Properties:

- Material: Steel - mineral cast
- Lightweight, sturdy construction
- Low vibration: 10 x better compared to GG20, 100 x compared to high-strength aluminum
- Linear expansion coefficient: here, 100% better than aluminum
- Thermal conductivity: minimal linear expansion in case of temperature fluctuations
- The integrated Realpoint zero-point clamping system allows quick change-over of any centric vise of the RPC and RPCG product families (see p. 109)
- Vises of other manufacturers can be changed quickly using a pallet on the tower



250-0290-001

250-0490-001

250-0690-001

Hole-grid tower special size

Dimension table:

Order number:	Designation	A mm	B mm	C mm	T mm	E mm	F mm	G mm	H mm	ca. kg
250-0290-001	B5S100-8	300	180	-	400	180	40	290	250	76
250-0490-001	B5S100-8	300	180	200	400	180	40	490	450	120
250-0690-001	B5S100-8	300	180	200	400	180	40	690	650	160

Compatible vises for the towers can be found on page 113.

Compatible pallets for attaching vises of other manufacturers can be found on page 114.

Clamping towers in other materials (e.g. cast iron or steel), heights and shapes, as well as versions with different hole-grid spacing are available on request.

ACCESSORIES

Order number:	Designation
---------------	-------------

5151-0040-001	Realpoint tightening bolt
---------------	---------------------------

The tightening bolt is suitable for all centric vise models and pallets (see pages 113 and 114).

Diameter: 40 mm



Order number:	Designation
---------------	-------------

5151-0040-002	Realpoint tightening bolt, sword-shaped
---------------	---

For alignment of the centric vise RPC-500 (see page 113)

Diameter: 40 mm



Order number:	Designation
---------------	-------------

5701-0016-001	Realpoint clamping screw
---------------	--------------------------

The clamping screw for pulling in the tightening bolts 5151-0040-001 (included in scope of delivery of the base plates on page 114)



Order number:	Designation
---------------	-------------

5152-0016-001	Realpoint alignment pin
---------------	-------------------------

For alignment of centric vises (see page 113) and pallets (see page 114)

Diameter: 16 mm



Order number:	Designation
---------------	-------------

5152-0020-001	Realpoint alignment pin
---------------	-------------------------

For alignment of centric vises (see page 113) and pallets (see page 114)

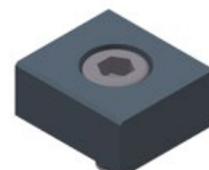
Diameter: 20 mm



Order number:	Designation
---------------	-------------

6904-0020-022	Flat T-slot nut incl. M6 x 12 screw
---------------	-------------------------------------

Dimensions: 20 x 10 x 22 mm (LxWxH)
for alignment of the centric vise when bolting to a base plate



ACCESSORIES



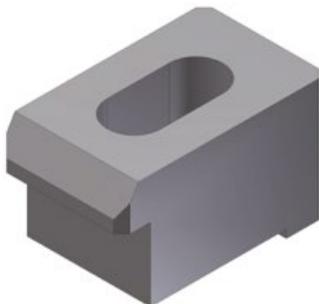
Order number:	Designation
6901-0060-001	Torque wrench

For controlled tightening with reversible ratchet lever
40-200 Nm torque
Length: 551 mm
Drive square: 1/2 inch

If you require a different version of the torque wrench, send us your inquiry.



Order number:	Designation
6902-0013-001	Socket insert wrench size 13
6902-0015-001	Socket insert wrench size 15
6902-0017-001	Socket insert wrench size 17
6902-0024-001	Socket insert wrench size 24



Order number:	Designation
6905-0050-001	M12 clamp

For mounting the centric vise on your machine table
Clamping height: 20 mm
Dimensions: 50 x 30 x 30 mm (LxWxH)

If you require a different clamp, send us your inquiry.

6905-0050-002	M12 clamp for BSM-115
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For mounting the BSM-115 centric vise on your machine table
Clamping height: 19 mm
Dimensions: 50 x 30 x 30 mm (LxWxH)

If you require a different clamp, send us your inquiry.



Order number:	Designation
6904-0410-002	Special grease

Special grease for maximum clamping forces of the centric vise.
500 g cartridge for lever type hand gun (6904-0500-001 see below).



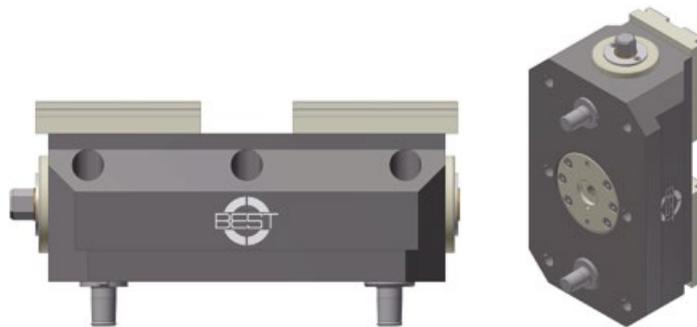
Order number:	Designation
6904-0500-001	Grease gun
6904-0500-002	Jet tube, curved

High-pressure hand lever grease gun for lubrication of vises. Filling with grease cartridge 6904-0410-002 (see above).

ADAPTATION TO ZERO-POINT SYSTEMS OF OTHER MANUFACTURERS

Mechanical centric vises can be adapted to existing zero-point systems of other manufacturers. A brief overview of solutions already implemented follows. Adaptation to systems from other manufacturers is possible on request.

Vischer & Bolli

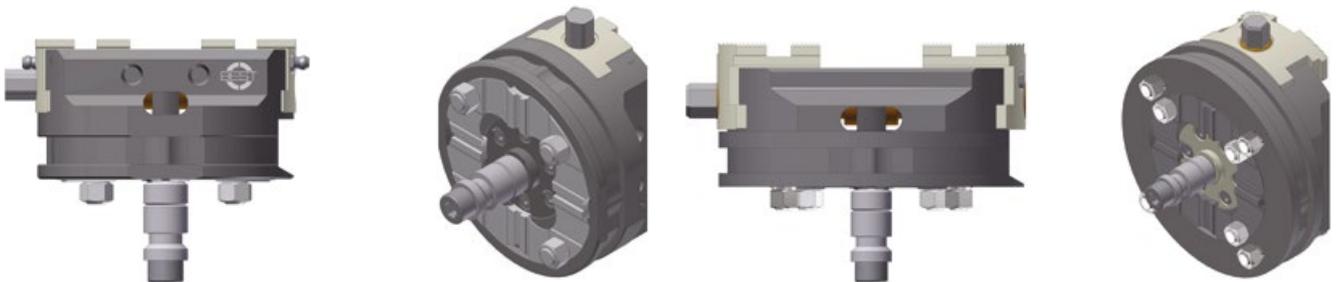


Order number:	920-0250-001
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Designation:	BSMG-250 VB
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Retrofitting of the bolt interface for the Vischer & Bolli DockLock zero-point system in the required depth gauge is possible, depending on the vise model. Please let us know your requirements.

Erowa



Order number:	200-0115-016	200-0140-011
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Designation:	BSM-115 EROWA	BSM-140 EROWA
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These centric vises have an integrated G Inox centering plate with the Erowa ITS 115 (200-0115-016) and Erowa ITS 148 (200-0140-011) connection. This makes the centric vise ideal for direct mounting in suitable Erowa clamping pots. The major advantage of this is the extremely flat design and high clamping forces, as with the BSM-115 (see page 8) and BSM-140 (see page 9) centric vises.

ADAPTATION TO ZERO-POINT SYSTEMS OF OTHER MANUFACTURERS

Lang



Order number:	200-0180-010
Designation:	BSM-0180 (standard model see p. 10, LANG bolt not included)

You can easily adapt BSM and BSMG vises to your existing LANG zero-point plates by attaching the LANG zero-point bolts on the underside of the vise.

Schunk



Order number:	200-0180-010-01
Designation:	BSM-180 Schunk

The bolt interface for the Schunk Vero-S zero-point system can be retrofitted in the desired depth gauge for the particular vise model. Please let us know your requirements.

ADAPTATION TO ZERO-POINT SYSTEMS OF OTHER MANUFACTURERS

Hoffmann

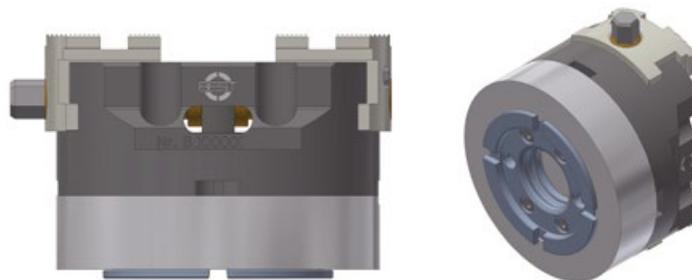


Order number:	920-0180-002
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Designation:	BSMG-180 zero clamp
---------------------	---------------------

The bolt interface for the Zero Clamp zero-point system can be retrofitted in the desired depth gauge for the particular clamp model. Please let us know your requirements.

PAROTEC

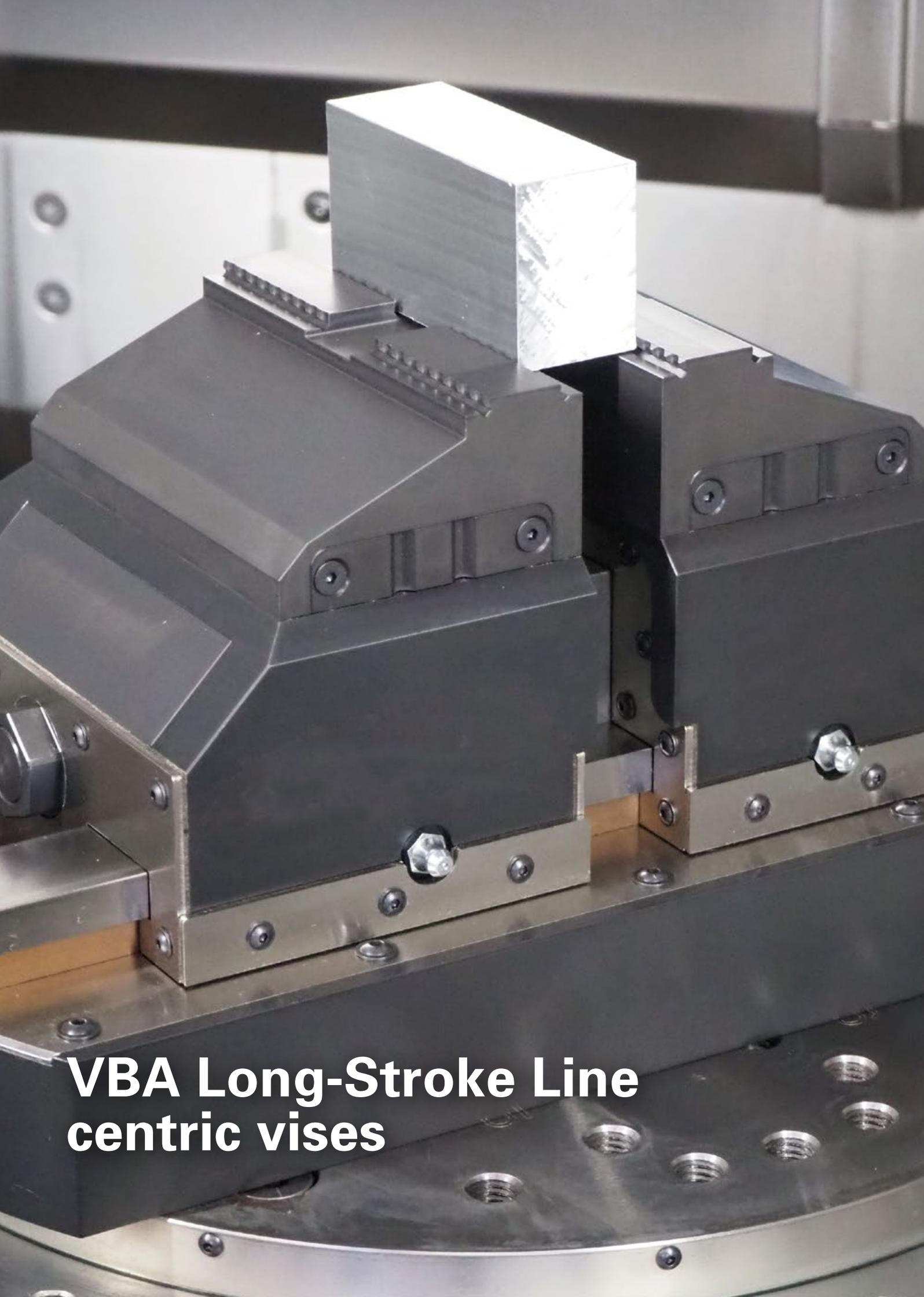


Order number:	200-0140-015
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Designation:	BSM-140 Parotec
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The Power-Grip zero-point system from PAROTEC can be integrated by means of a carrier plate. Please let us know which vise size you require.

Adaptation to zero-point systems of other manufacturers are possible upon request.



**VBA Long-Stroke Line
centric vises**

FOREWORD, OUTLINE AND OVERVIEW

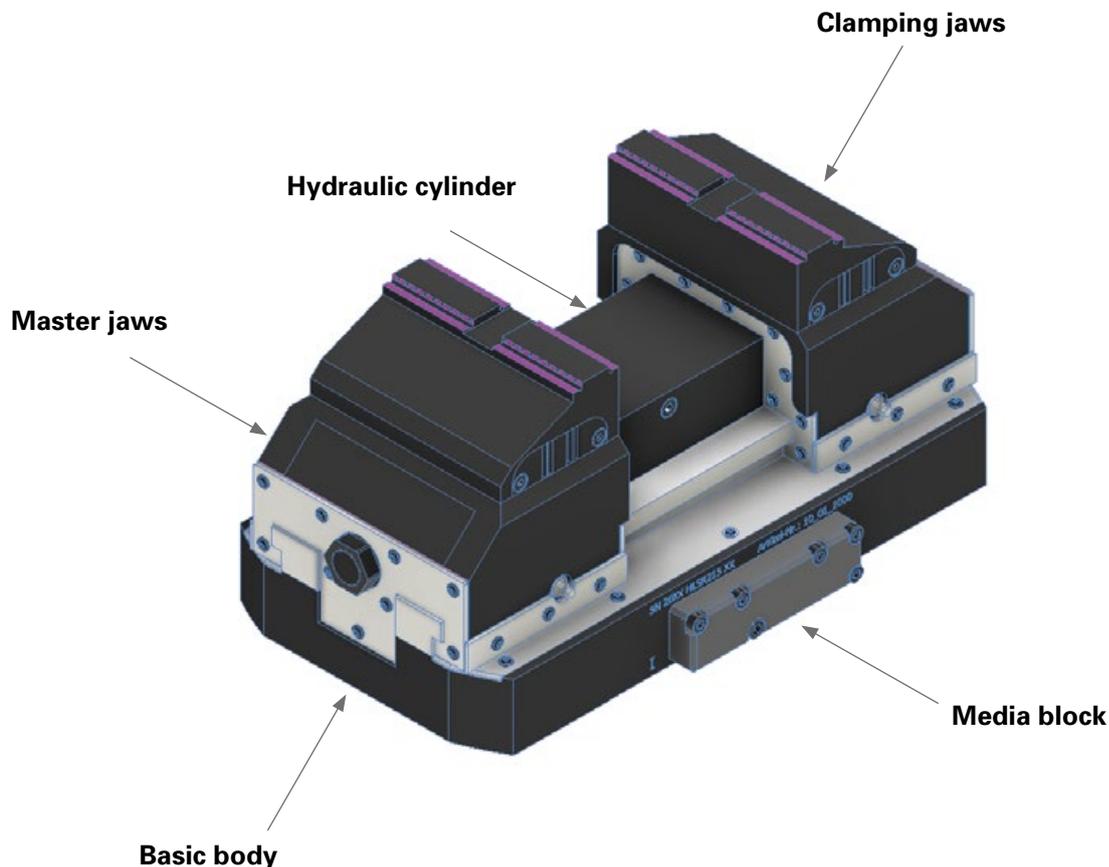
Industry is currently undergoing a transformation, which means entirely new challenges for all manufacturing processes, including workholding technology. We are setting new standards worldwide with our innovative and high-performance products.

Our efficient clamping devices help you to achieve a long-term increase in production and a tremendous competitive advantage.

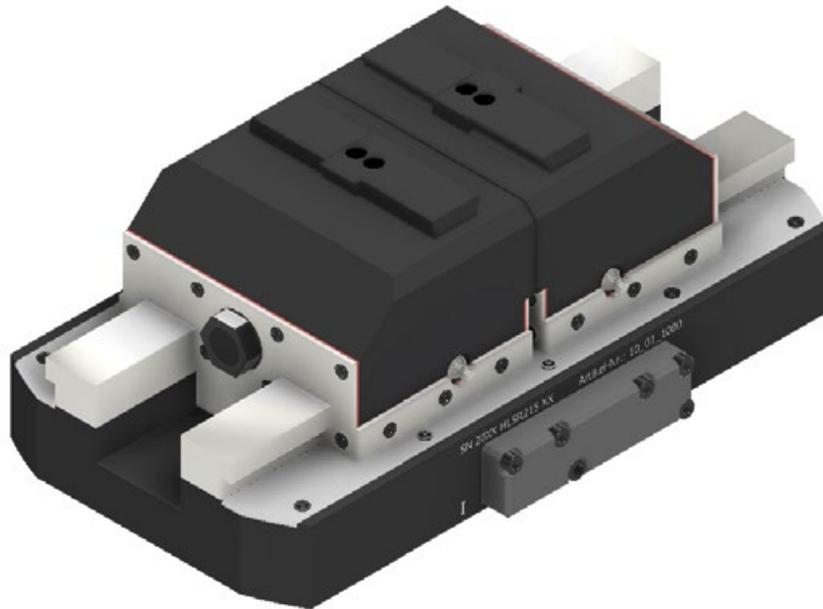
As a manufacturer of clamping devices, we know that every detail is crucial for achieving precise results. That is why we offer not only first-class products, but also expert technical advice. Our team has a wealth of expertise in the function and operation of our clamping devices, therefore helping you to meet your challenge.

Each of our products is designed for high performance.

Others produce mass, we produce class!



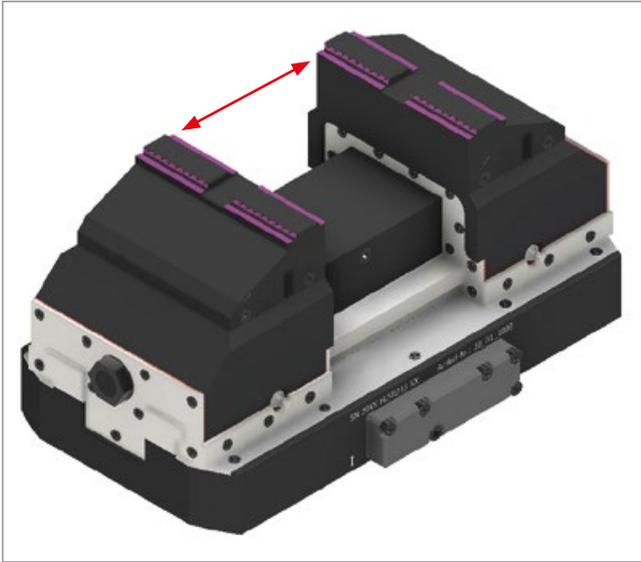
FEATURES



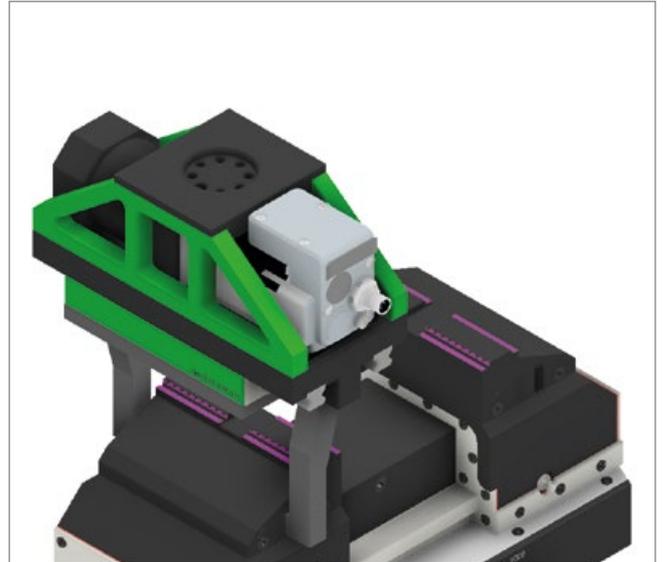
- Centric position is ensured by a mechanical rack and pinion drive
- 2 x 55 mm clamping stroke
- Double acting hydraulic unit
- Hose-free direct connection
- **Clamping range:** Cubic from 1 to 229 mm, Round up to 254 mm in standard version
Special version offers more options
- 60kN* clamping force at 180 bar operating pressure
- Jaw width: 118 mm
- Hardened functional surfaces
- Opening position can be positioned via a hydraulic flow meter.
- Quick jaw change-over allows reversing or changing of jaws without screws. Can also be automated in combination with a robotic handling system.
- **Feature options:** Burst pipe protection, air-sensing control of workpieces and/or jaws, I.D. clamping, larger clamping range, adaptation of geometry for direct mounting on the machine table.

* arithmetic total of the single forces acting on the jaws

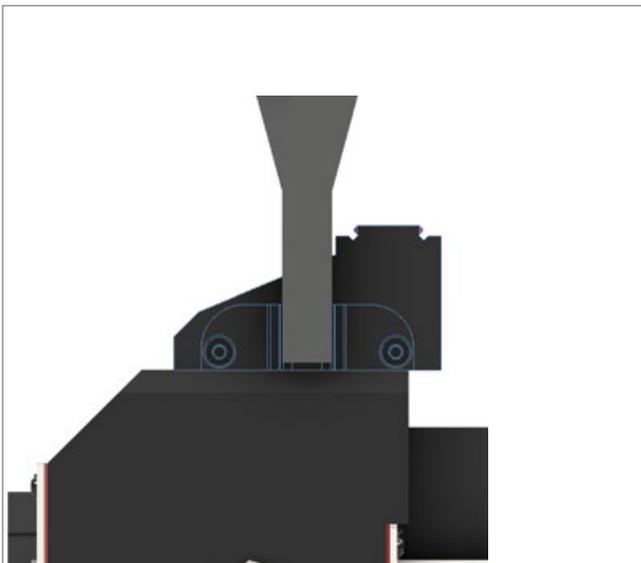
AUTOMATED JAW CHANGE-OVER



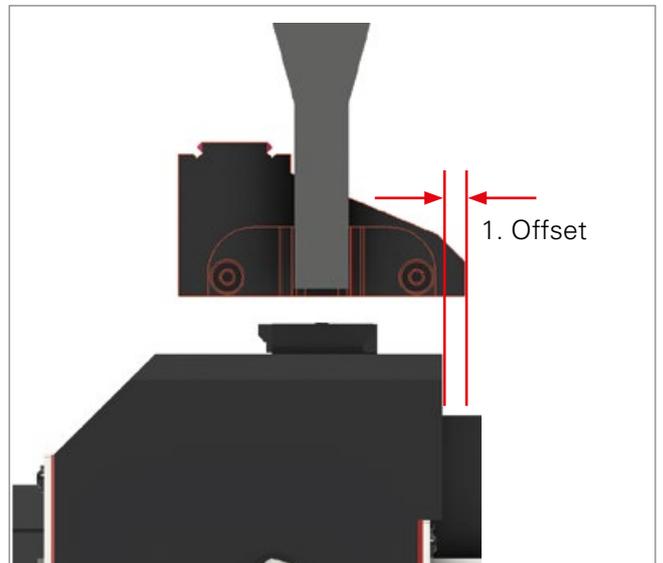
1. Move vise to outer end position



2. Grip chuck jaw with parallel gripper in the center recesses



3. Remove chuck jaw = gripper motion



4. Attach chuck jaw = gripper motion, see sequence

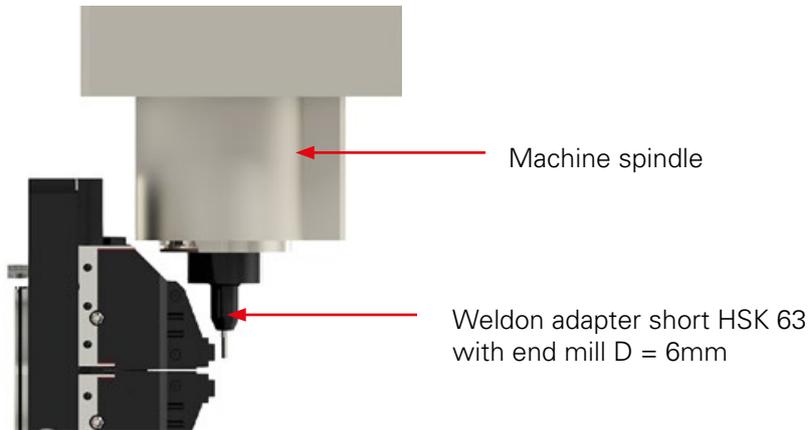
Motion sequence:

- 1. 9 mm
- 2. 3 mm
- 3. min.

Motion sequence:

- 1. Offset
- 2. Move to master jaw
- 3. 6 mm
- 4. Gripper
- 5. Gripper

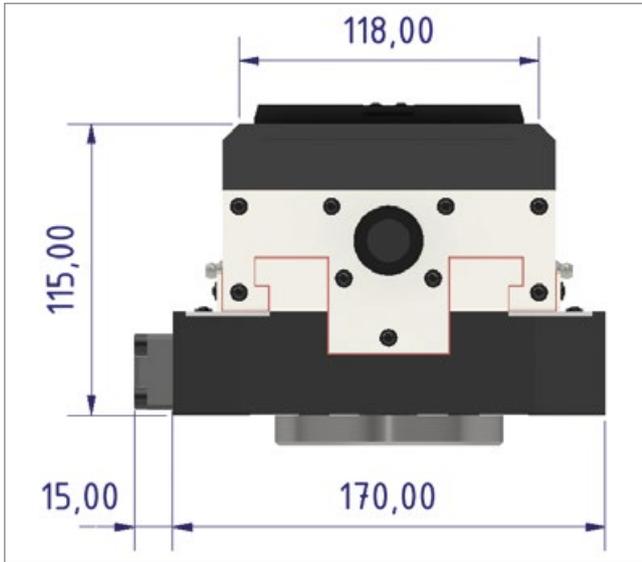
NO INTERFERENCE CONTOUR



No interference contour in swiveled state with top jaws height = 40 mm



TECHNICAL DATA FOR HLSR VISE



- Centric long-stroke vise
- Double acting hydraulic unit
- 60kN* clamping force at 180 bar operating pressure
- 2 x 55 mm clamping stroke
- Quick jaw change-over
- Hose-free direct connection
- Hardened functional surfaces
- Effective chip protection

Scope of delivery

Order number:	Type	Weight without accessories (kg)	Clamping stroke (mm)
10_01_1000	HSLR long stroke vise	30	110

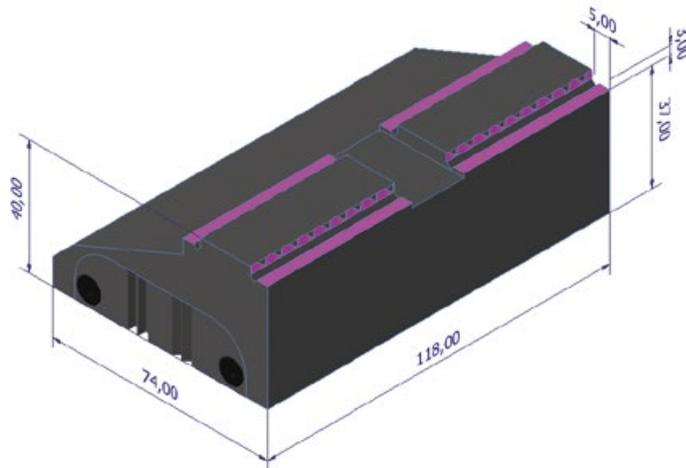
Features and technical data can vary depending on customized version.

* arithmetic total of the single forces acting on the jaws

PROFILE JAWS OP10

Grip profile reversible jaw 3 mm OP10

Max. workpiece strength:
up to 900 N/mm²

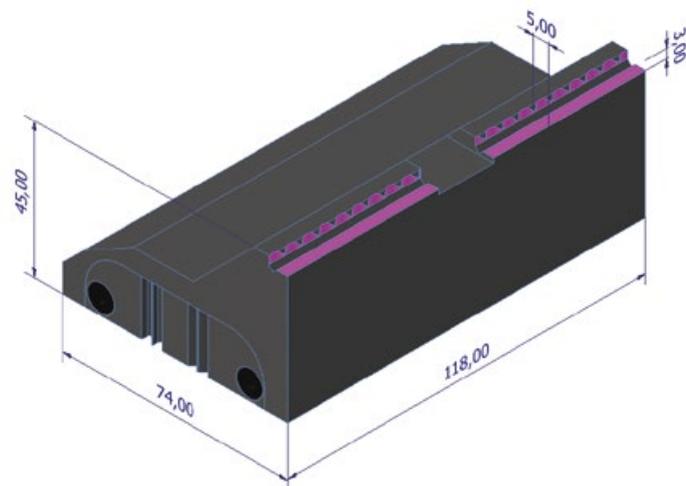


Scope of delivery:
1 set = 2 pieces

Order number:	Type	Clamping range s_1 (mm)	Clamping range s_2 (mm)
11_02_1200	Grip profile reversible jaw 3 mm	11 - 121	101 - 211

Grip profile jaw 3 mm OP10 (optimized interference contour)

Max. workpiece strength:
up to 900 N/mm²



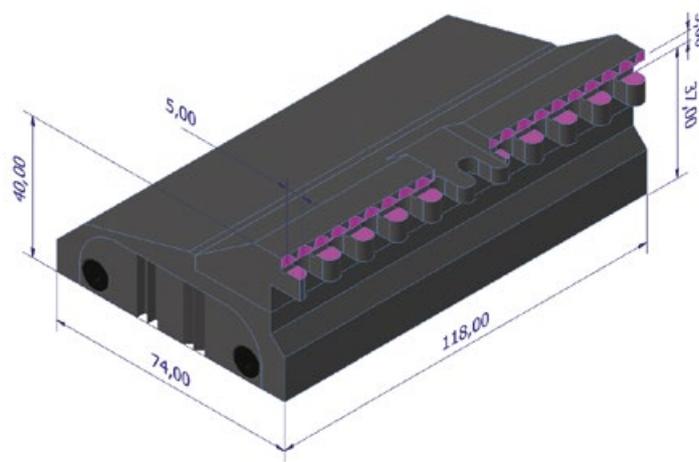
Scope of delivery:
1 set = 2 pieces

Order number:	Type	Clamping range s_1 (mm)	Clamping range s_2 (mm)
11_02_1300	Grip profile reversible jaw 3 mm	11 - 121	-

PROFILE JAWS OP10

Grip profile jaw 3mm OP10 (narrow components)

Max. workpiece strength:
up to 900 N/mm²

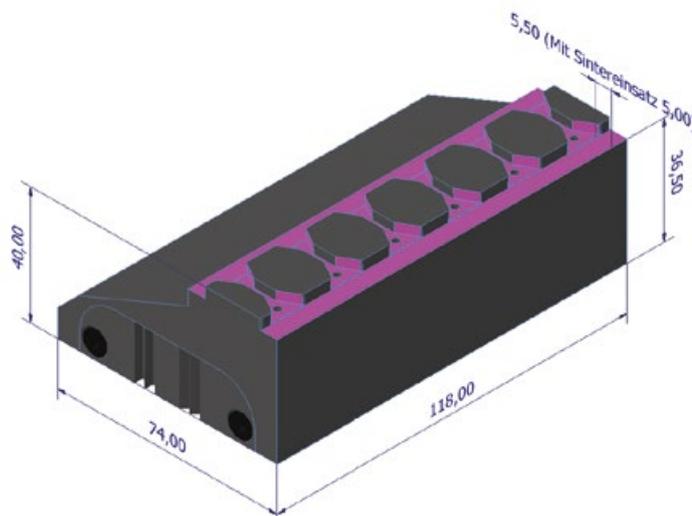


Scope of delivery:
1 set = 2 pieces

Order number:	Type	Clamping range s_1 (mm)	Clamping range s_2 (mm)
11_02_1400	Grip profile reversible jaw 3 mm	1 - 111	-

Mastergrip profile reversible jaw 3.5mm OP10

Note:
No gripper finger cut-out!



Scope of delivery:
1 set = 2 pieces

Order number:	Type	Clamping range s_1 (mm)	Clamping range s_2 (mm)
11_02_1500	Mastergrip profile reversible jaw 3.5 mm	11 - 121	99 - 209

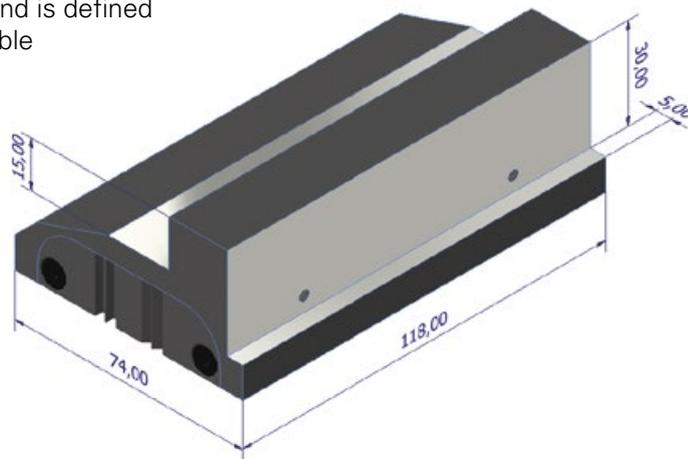
PROFILE JAWS OP20

Smooth reversible profile jaw OP20

Note:

The clamping depth is variable and is defined by screw-on parallel rails. (available separately - see page 129)

No gripper finger cut-out!



Scope of delivery:

1 set = 2 pieces

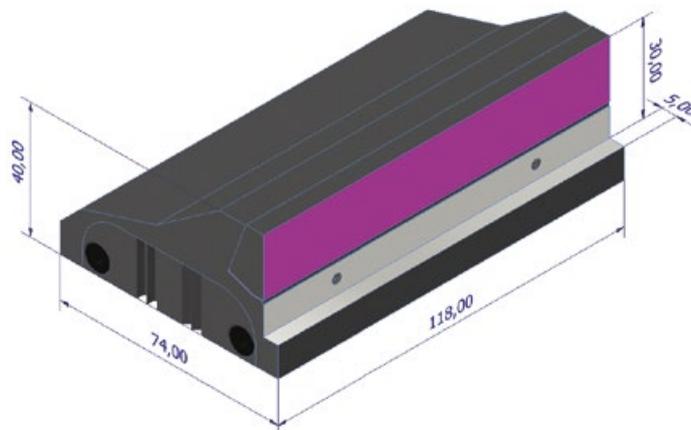
Order number:	Type	Clamping range s_1 (mm)	Clamping range s_2 (mm)
11_02_2100	Smooth reversible profile jaw variable	11 - 121	101 - 211

Pull-down jaw, small clamping range OP20

Note:

The clamping depth is variable and is defined by screw-on parallel rails. (available separately - see page 129)

No gripper finger cut-out!



Scope of delivery:

1 set = 2 pieces

Order number:	Type	Clamping range s_1 (mm)	Clamping range s_2 (mm)
11_02_2200	Profile jaw pull-down	11 - 121	-

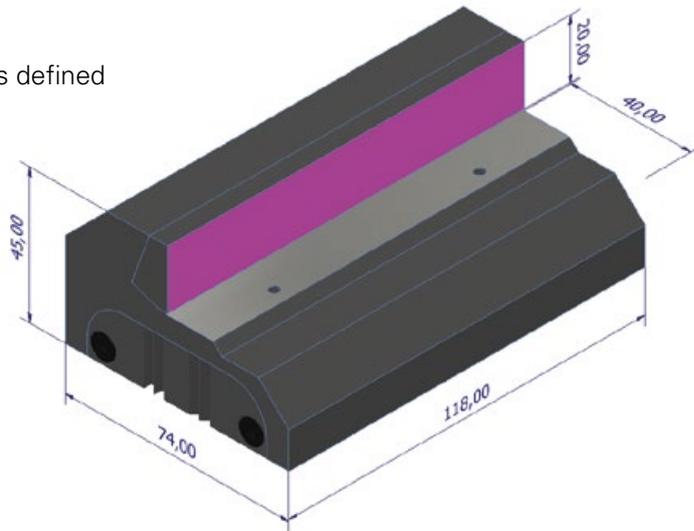
PROFILE JAWS OP20

Pull-down jaw, large clamping range OP20

Note:

The clamping depth is variable and is defined by screw-on parallel rails. (available separately - see below)

No gripper finger cut-out!



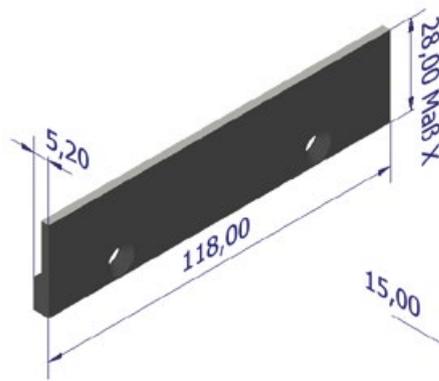
Scope of delivery:

1 set = 2 pieces

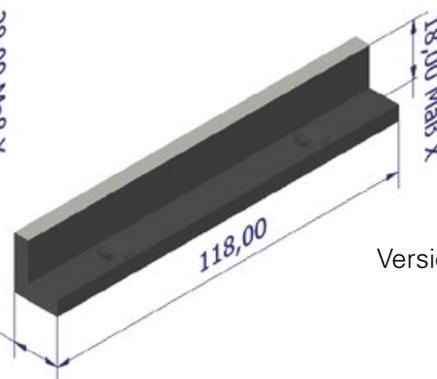
Order number:	Type	Clamping range s_1 (mm)	Clamping range s_2 (mm)
11_02_2300	Profile jaw pull-down	81 - 191	-

Parallel rails for jaws OP20

Model 1



Version 2



Scope of delivery:

1 set = 2 pieces

Order number:	Clamping depth (mm)	Version 1 Dimension X
11_02_2910	2	Parallel rail 28 mm
11_02_2911	3	Parallel rail 27 mm
11_02_2912	5	Parallel rail 25 mm
11_02_2913	8	Parallel rail 22 mm
11_02_2914	10	Parallel rail 20 mm
11_02_2915	13	Parallel rail 17 mm
11_02_2916	15	Parallel rail 15 mm
11_02_2917	18	Parallel rail 12 mm
11_02_2918	20	Parallel rail 10 mm

Order number:	Clamping depth (mm)	Version 2 Dimension X
11_02_2950	2	Parallel rail 18 mm
11_02_2951	3	Parallel rail 17 mm
11_02_2952	5	Parallel rail 15 mm
11_02_2953	8	Parallel rail 12 mm
11_02_2954	10	Parallel rail 10 mm
11_02_2955	13	Parallel rail 7 mm

INFORMATION ABOUT JAWS

Standard top jaws are often used for workpieces which have small tolerances in parallelism, such as OP20 clamping set-ups or aluminum blanks.

Permissible parallelism errors are 0.2mm per 100mm component length. Larger kerf tolerances can damage the clamping jaw interface and the base jaw guides!

To clamp components with larger tolerances in a reliable process, please use the pendulum jaw system.

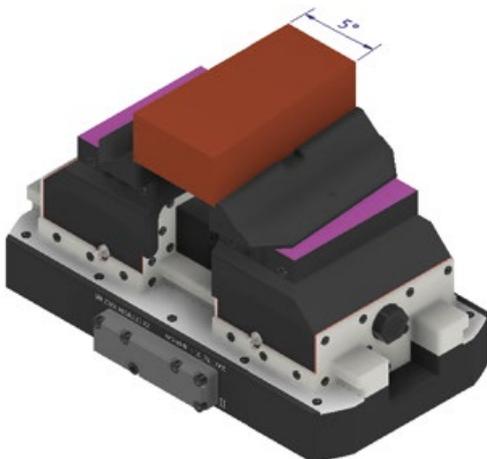
PENDULUM JAW SYSTEM

Process reliability is the top priority in automation! Raw or cast parts often have very high tolerances in parallelism. That is why we developed a pendulum jaw system that meets all demands and can compensate for these high tolerances.

The system has a movable jaw that compensates for inclined parts up to 5 degrees and a fixed jaw to determine the position. When released from the vise, the moving jaw is automatically realigned to the 0 degree position.

This system protects guides and jaw interfaces while significantly increasing process reliability.

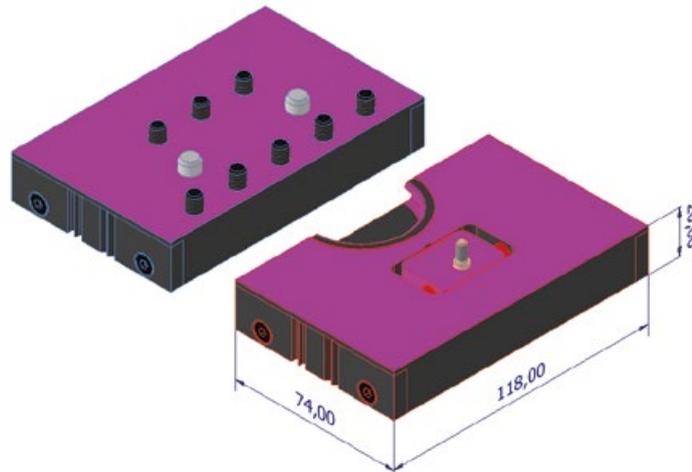
Furthermore, this system can considerably reduce your costs for material management, since it allows the use of rolled material instead of pre-turned material, for example.



User example shows a workpiece with 5 degrees of parallelism error. One can see how the pendulum jaw adapts to the workpiece.

PENDULUM JAW SYSTEM

Pendulum master jaws with 5 degree compensation



Scope of delivery:

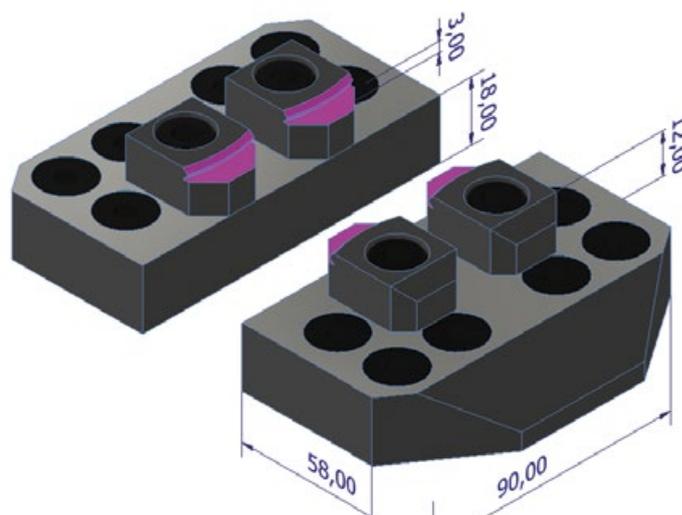
1 set = fixed and moving master jaw including mounting screws

Order number:	Type	Clamping range s_1 (mm)	Clamping range s_2 (mm)
11_02_3000	Grip profile reversible jaw 3 mm	-	-

Universal pendulum jaws 90mm OP10

Max. workpiece strength:

up to 900 N/mm²



Scope of delivery:

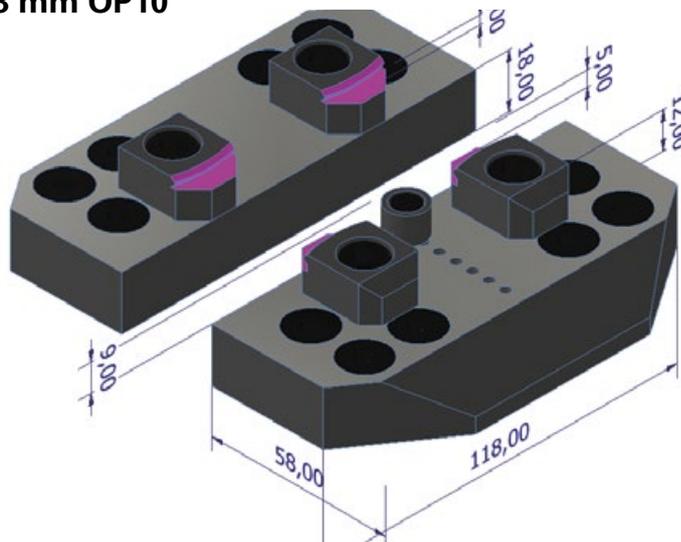
1 set = Universal pendulum jaw fixed and moving incl. 4 3mm Grip adapters OP10 and mounting screws

Order number:	Type	Clamping range s_1 (mm)	Clamping range s_2 (mm)
11_02_3100	Universal pendulum jaws OP10 B = 90mm	11 - 157	-

PENDULUM JAW SYSTEM

Universal pendulum jaws 118 mm OP10

Max. workpiece strength:
up to 900 N/mm²



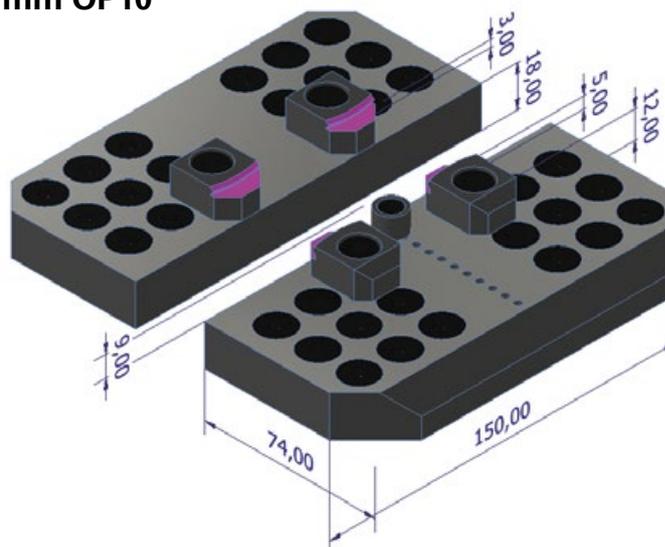
Scope of delivery:

1 set = Universal pendulum jaw incl. 2 3mm Grip adapters OP10, 2 5mm Grip adapters OP10, center Z-support pin and mounting material

Order number:	Type	Clamping range s_1 (mm)	Clamping range s_2 (mm)
11_02_3100	Universal pendulum jaws OP10 B = 118 mm	11 - 157	-

Universal pendulum jaws 150 mm OP10

Max. workpiece strength:
up to 900 N/mm²



Scope of delivery:

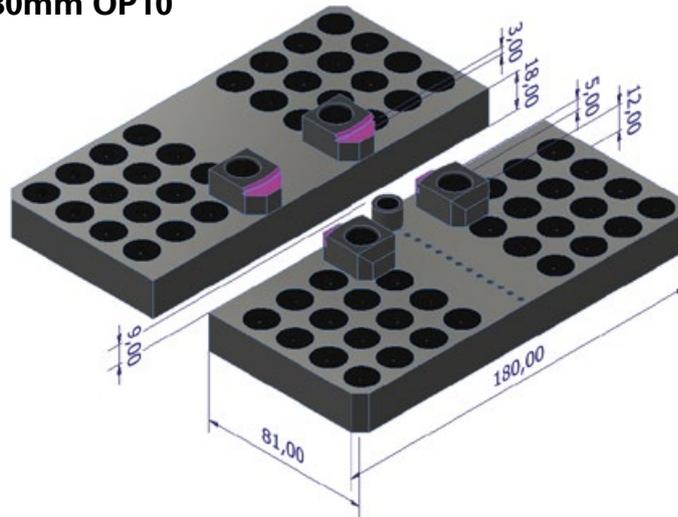
1 set = Universal pendulum jaw incl. 2 3mm Grip adapters OP10, 2 5mm Grip adapters OP10, center Z-support pin and mounting material

Order number:	Type	Clamping range s_1 (mm)	Clamping range s_2 (mm)
11_02_3120	Universal pendulum jaws OP10 B = 150 mm	11 - 193	-

PENDULUM JAW SYSTEM

Universal pendulum jaws 180mm OP10

Max. workpiece strength:
up to 900 N/mm²



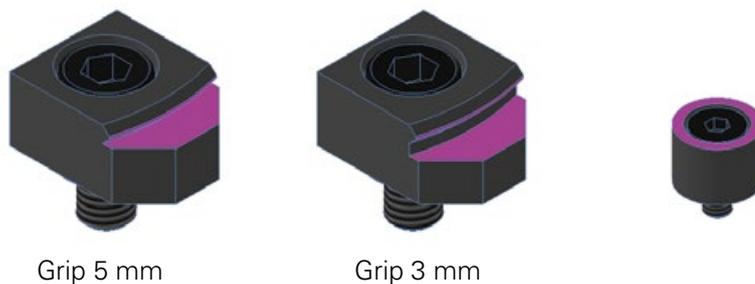
Scope of delivery:

1 set = Universal pendulum jaw incl. 2 3mm Grip adapters OP10, 2 5mm Grip adapters OP10, center Z-support pin and mounting material

Order number:	Type	Clamping range s_1 (mm)	Clamping range s_2 (mm)
11_02_3130	Universal pendulum jaws OP10 B = 180 mm	11 - 229	-

Replacement parts for universal pendulum jaws

Max. workpiece strength:
up to 900 N/mm²



Grip 5 mm

Grip 3 mm

Scope of delivery:

1 unit including mounting screw

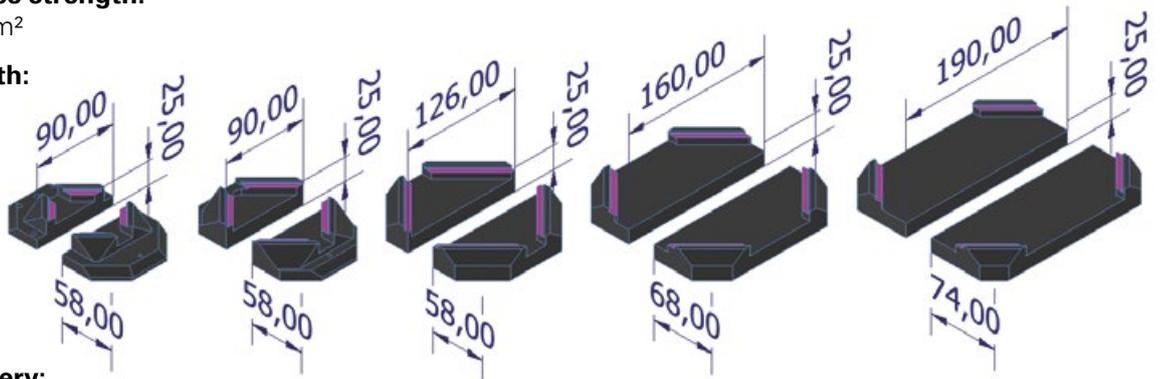
Order number:	Type	Overall height	Clamping depth
11_02_3150	Grip adapter 3 mm OP10	12 mm	3 mm
11_02_3151	Grip adapter 5 mm OP10	12 mm	5 mm
11_02_3152	Z support plate	9 mm	-

PENDULUM JAW SYSTEM

Prisma pendulum jaws OP10

Max. workpiece strength:
up to 900 N/mm²

Clamping depth:
t = 3 mm



Scope of delivery:

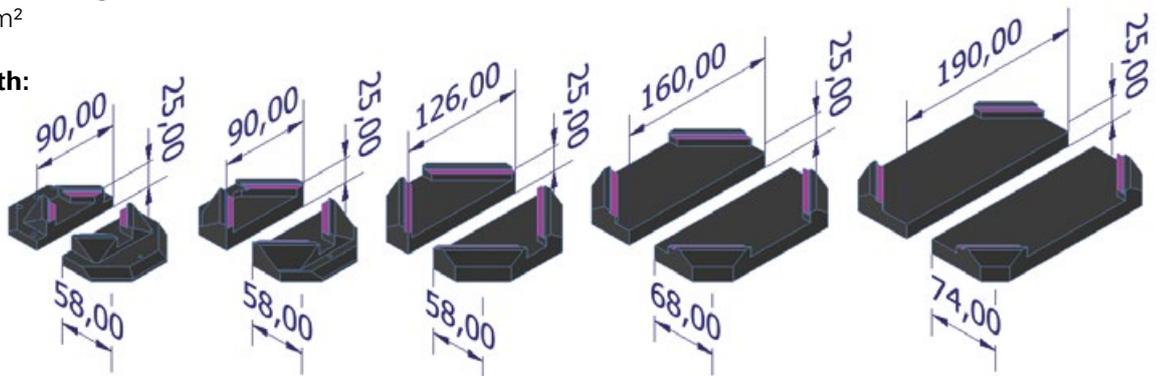
1 set = Prisma pendulum jaw fixed and movable

Order number:	Type	Diameter range
11_02_3200	Prisma pendulum jaws OP10	50 - 80 mm
11_02_3210	Prisma pendulum jaws OP10	70 - 120 mm
11_02_3220	Prisma pendulum jaws OP10	100 - 164 mm
11_02_3230	Prisma pendulum jaws OP10	150 - 214 mm
11_02_3240	Prisma pendulum jaws OP10	190 - 254 mm

Prisma pendulum jaws OP20

Max. workpiece strength:
up to 900 N/mm²

Clamping depth:
t = 3 mm



Scope of delivery:

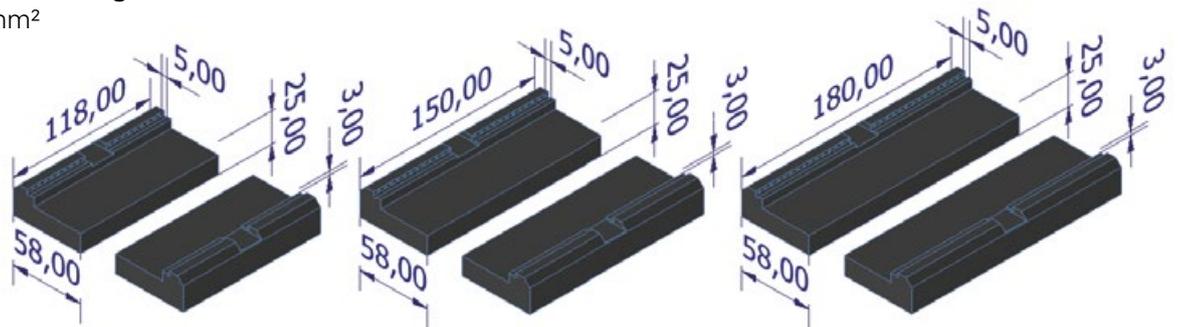
1 set = Prisma pendulum jaw fixed and movable

Order number:	Type	Diameter range
11_02_3300	Prisma pendulum jaws OP20	50 - 80 mm
11_02_3310	Prisma pendulum jaws OP20	70 - 120 mm
11_02_3320	Prisma pendulum jaws OP20	100 - 164 mm
11_02_3330	Prisma pendulum jaws OP20	150 - 214 mm
11_02_3340	Prisma pendulum jaws OP20	190 - 254 mm

PENDULUM JAW SYSTEM

Grip pendulum jaws 118 to 180 mm OP10

Max. workpiece strength:
up to 900 N/mm²



Scope of delivery:

1 set = Grip pendulum jaw fixed and movable

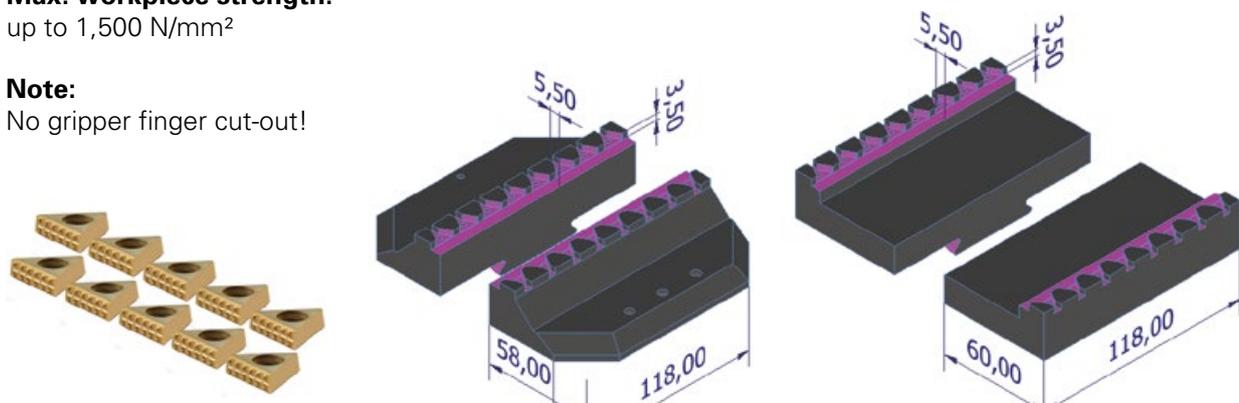
Order number:	Type	Clamping range s_1 (mm)
11_02_3430	Grip pendulum jaws B = 118 mm OP10	91-201
11_02_3450	Grip pendulum jaws B = 150 mm OP10	91-201
11_02_3470	Grip pendulum jaws B = 180 mm OP10	91-201

Mastergrip pendulum jaws 118 mm OP10

Max. workpiece strength:
up to 1,500 N/mm²

Note:

No gripper finger cut-out!



Scope of delivery:

1 set = 2 pieces without Mastergrip inserts and mounting screws (available separately - see page 26)

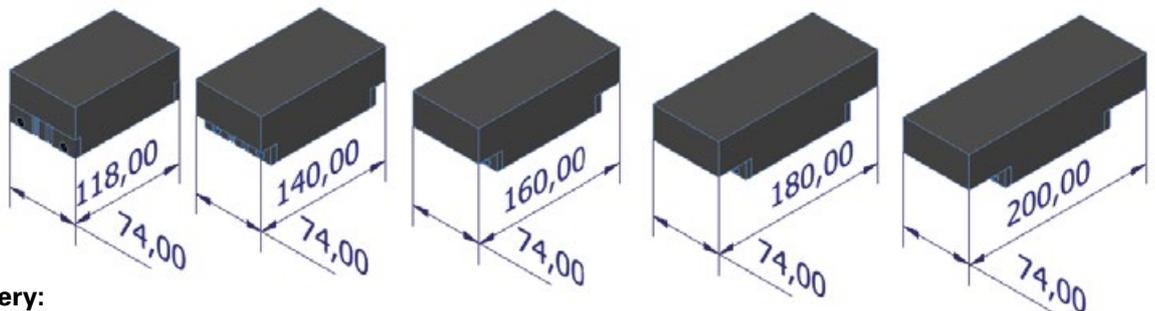
Order number:	Type	Clamping range s_1 (mm)
11_02_3500	Mastergrip pendulum jaws B = 118 mm OP10	11-121
11_02_3510	Mastergrip pendulum jaws B = 118 mm OP10	91-201

JAW BLANKS

Jaw blank 16MnCr5

Max. workpiece strength:

up to 900 N/mm²
(after hardening)



Scope of delivery:

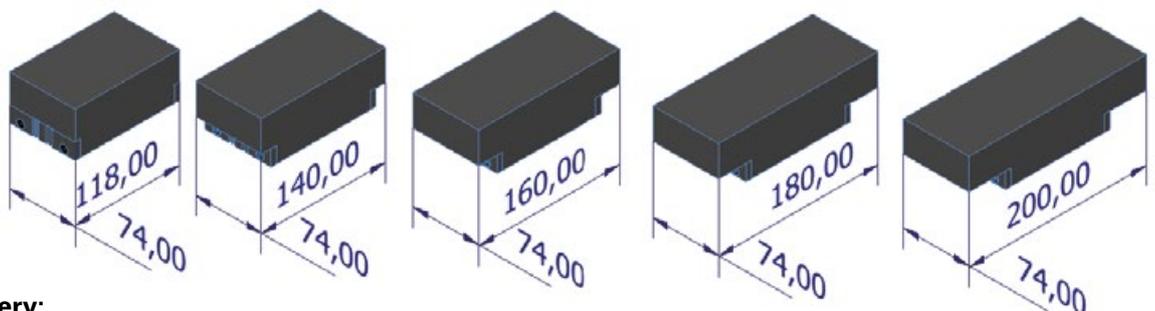
1 set = 2 jaw blanks

Order number:	Type	Width of blank
11_03_1000	Jaw blank 16MnCr5	118 mm
11_03_1100	Jaw blank 16MnCr5	140 mm
11_03_1200	Jaw blank 16MnCr5	160 mm
11_03_1300	Jaw blank 16MnCr5	180 mm
11_03_1400	Jaw blank 16MnCr5	200 mm

Jaw blank 42CrMo4

Max. workpiece strength:

up to 1100 N/mm²
(after hardening)



Scope of delivery:

1 set = 2 jaw blanks

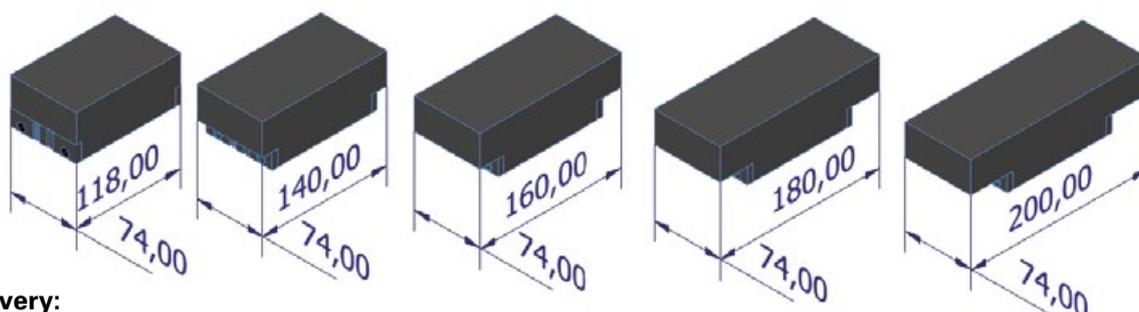
Order number:	Type	Width of blank
11_03_2000	Jaw blank 42CrMo4	118 mm
11_03_2100	Jaw blank 42CrMo4	140 mm
11_03_2200	Jaw blank 42CrMo4	160 mm
11_03_2300	Jaw blank 42CrMo4	180 mm
11_03_2400	Jaw blank 42CrMo4	200 mm

JAW BLANKS

Jaw blank aluminum 7075

Max. workpiece strength:

Only suitable for manufacturing form jaws



Scope of delivery:

1 set = 2 jaw blanks

Order number:	Type	Width of blank
11_03_3000	Jaw blank aluminum 7075	118 mm
11_03_3100	Jaw blank aluminum 7075	140 mm
11_03_3200	Jaw blank aluminum 7075	160 mm
11_03_3300	Jaw blank aluminum 7075	180 mm
11_03_3400	Jaw blank aluminum 7075	200 mm

Mastergrip inserts

- Low clamping depth / near-edge clamping
- Minimal machining and low material costs
- Pre-stamping not necessary
- High stability and active vibration damping
- Pull-down effect
- Simplest way for customer to manufacture jaws for Mastergrip clamping inserts
- Maximum life span
- Different models for steel, hardened steel / titanium (up to 54 HRC) and aluminum / plastic



Scope of delivery:

1 set = 10 pieces

Order number:	Type
584 501 19	Set of 10 STD inserts for steel
584 201 29	Set of 10 HRC inserts for hardened steel / titanium up to 50 - 54 HRC
584 501 39	Set of 10 inserts for aluminum
584 502 19	Set of 10VTx30 screws for inserts
584 503 10	TORX T9 screwdriver
584 504 10	3D HM special milling cutter
584 505 19	Set of 10 aluminum inserts for protecting the plate seats, without screws

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88131 Lindau

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Fax: +49 8382 9619-30
E-mail: verkauf@vb-automation.com



VBA Profi Line centric vise with OP10 pendulum Mastergrip jaws and workpiece contact control