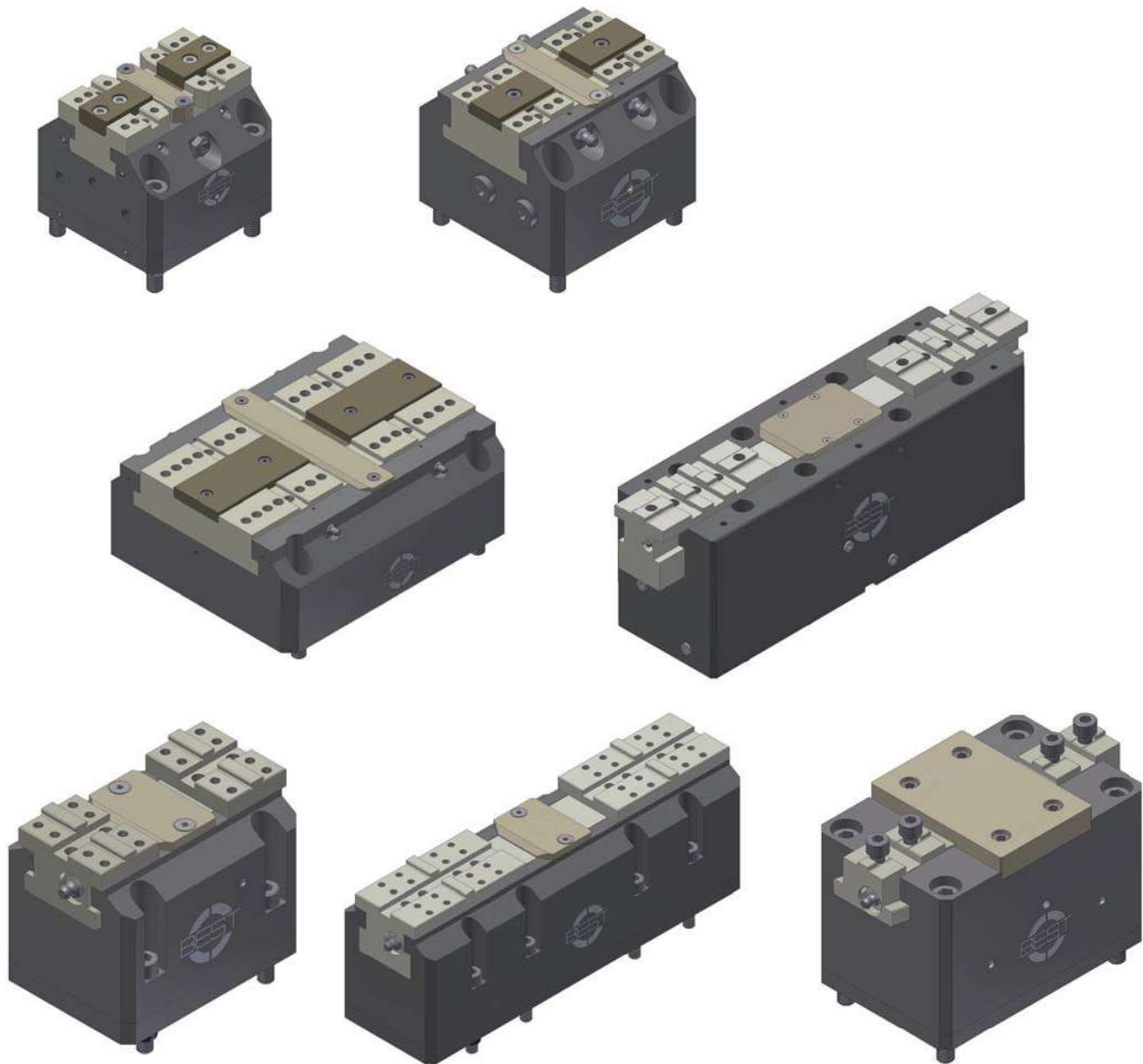


5.2. Hydraulic vice models

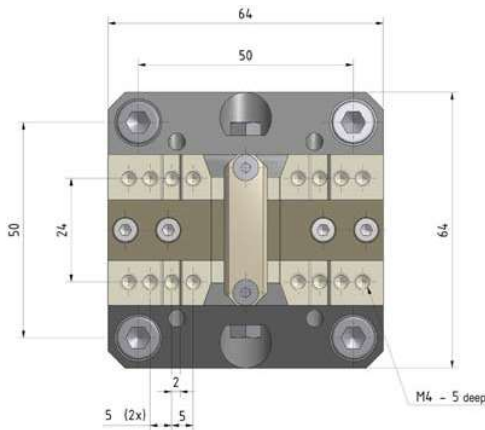
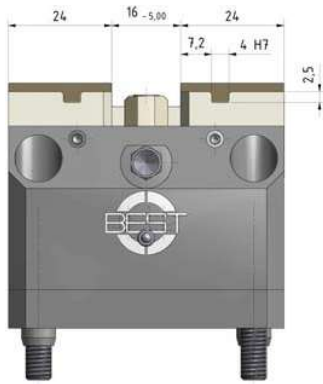
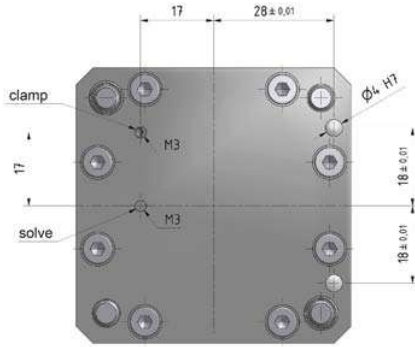
5.2.1 Hydraulic centric vices



Advantages of the BEST hydraulic vices:

- Extremely high rigidity as a result of solid design
- Extremely high clamping forces (up to 50 kN)
- Housing sizes from 64 mm to 500 mm
- Repetition accuracy of 0.005 mm (with ground-in jaws)
- Centring accuracy of +/- 0.01 mm (with ground in jaws)
- Jaw widths of up to 500 mm
- Low wear due to nitrogen-hardened surfaces
- Suitable for internal or external clamping
- Individual special solutions / customer-specific customisations available on request
(Please provide us with the specific data for your application, and we will send you a technical draft together with an offer for the number of items you require)

5.2.1.1 Hydraulic centric vice BSH-64



Technical data:

Order number:	100-0064-001
Designation:	BSH-64
Dimensions (LxWxH):	64 x 64 x 55 mm
Weight:	1.4 kg
Clamping range:	0–55 mm
Stroke per jaw:	2.5 mm
Max. actuating pressure:	65 bar
Min. actuating pressure.:	5 bar
Max. clamping force:	4.8 kN at 65 bar
Stroke volume:	6 cm ³ per double stroke
Jaw connection:	Tongue and groove
Hydraulic connections:	On the side and underside

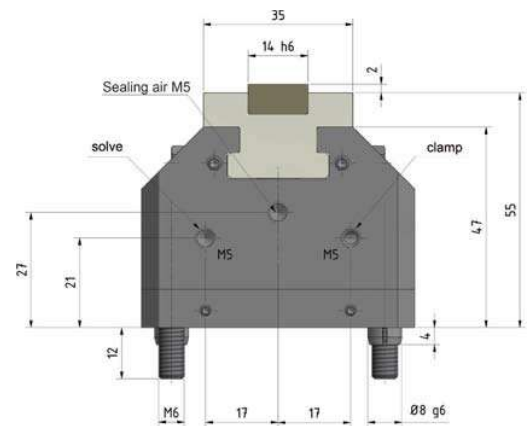
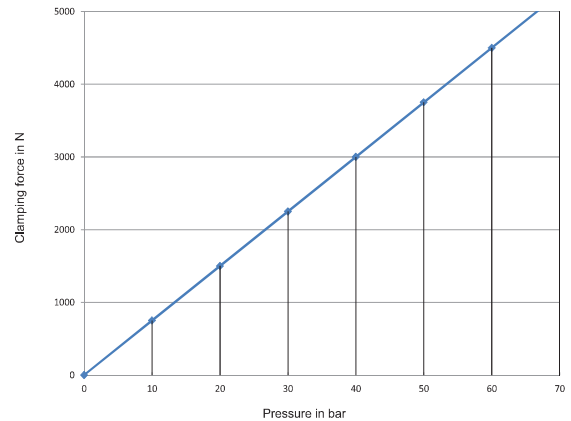


Diagramme clamping force BSH-64



Optional additional functions:

- Clamping path monitoring
- Fixed jaw
- Central lubrication system
- Sealing air

See optional additional functions, page 88.

Please let us know if you require one of the additional functions so that we can take this into consideration in the offer.

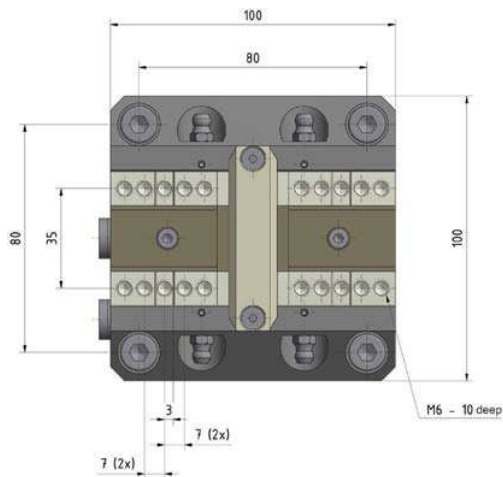
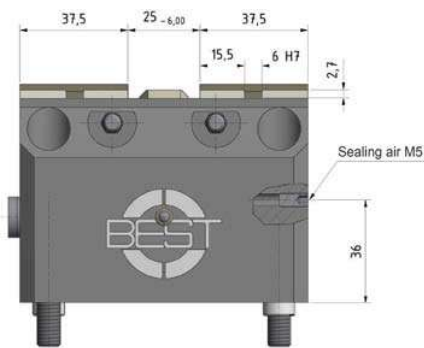
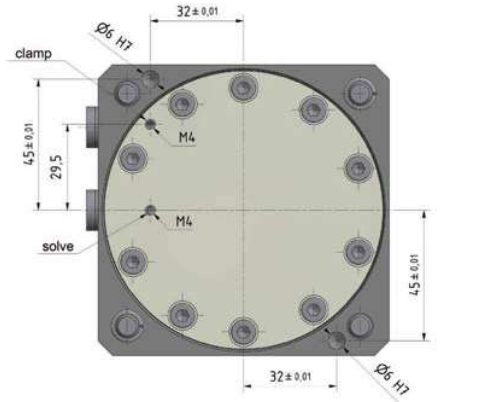
Matching blank jaw:

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

Seal set (for maintenance):

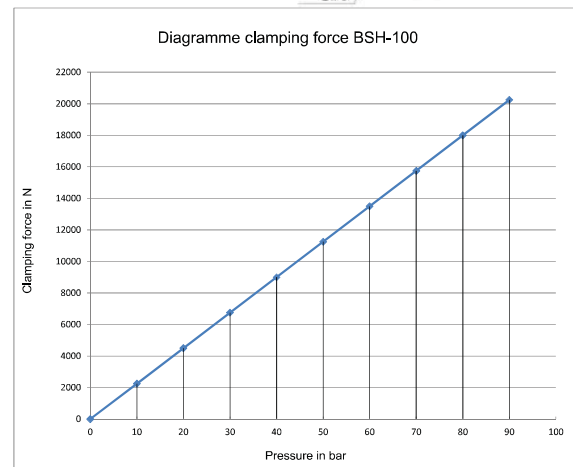
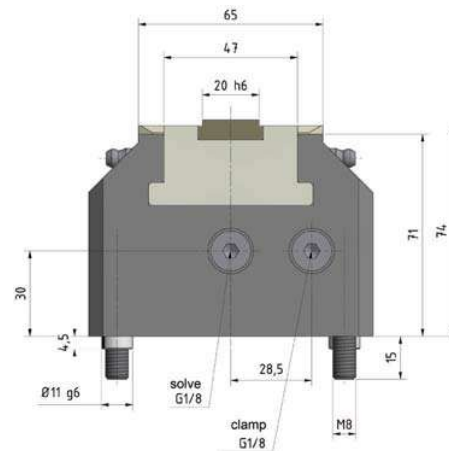
Order number:	100.300.064
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5.2.1.2 Hydraulic centric vice BSH-100



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 per jaw:	3 mm
Max. actuating pressure:	90 bar
Min. actuating pressure:	5 bar
Max. clamping force:	20.25 kN at 90 bar
Stroke volume:	19 cm ³ per double stroke
Jaw connection:	Tongue and groove
Hydraulic connections:	On the side and underside



Optional additional functions:

- Clamping path monitoring
- Fixed jaw
- Central lubrication system
- Sealing air

See optional additional functions, page 88.

Please let us know if you require one of the additional functions so that we can take this into consideration in the offer.

Matching blank jaw:

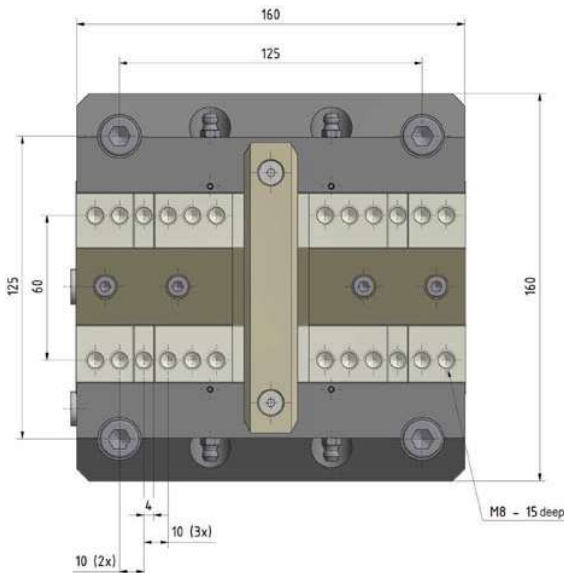
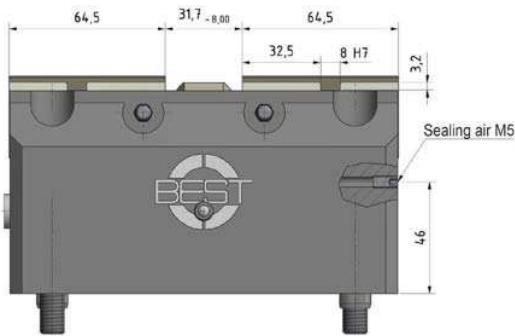
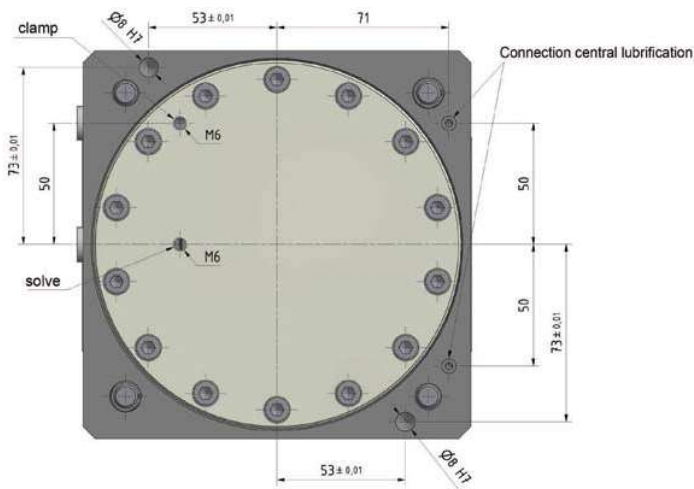
Order number:	301-0060-002
Dimensions (WxLxH):	60 x 45 x 30 mm
Material:	16 MnCr5

Seal set (for maintenance):

Order number:	100.300.100
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5.2.1.3 Hydraulic centric vice BSH-160



Technical data:

Order number:	100-0160-001
Designation:	BSH-160
Dimensions (LxWxH):	160 x 160 x 87 mm
Weight:	16 kg
Clamping range:	0–150 mm
Stroke per jaw:	4 mm
Max. actuating pressure:	80 bar
Min. actuating pressure:	5 bar
Max. clamping force:	47 kN at 80 bar
Stroke volume:	65 cm ³ per double stroke
Jaw connection:	Tongue and groove
Hydraulic connections:	On the side and underside

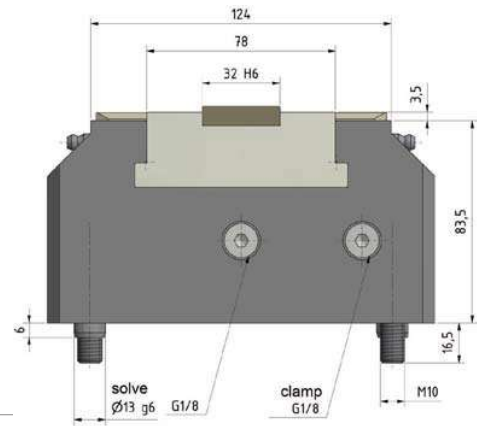
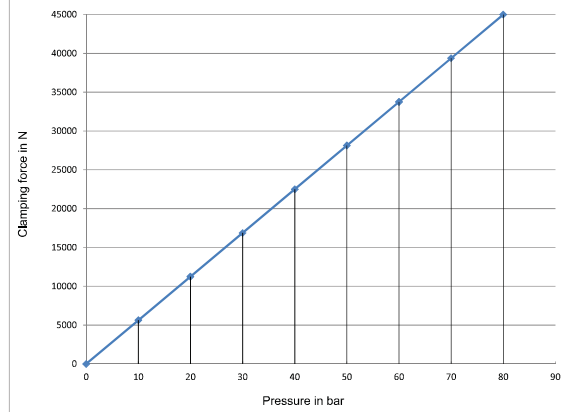


Diagramme clamping force BSH-160



Optional additional functions:

- Clamping path monitoring
- Fixed jaw
- Central lubrication system
- Sealing air

See optional additional functions, page 88.

Please let us know if you require one of the additional functions so that we can take this into consideration in the offer.

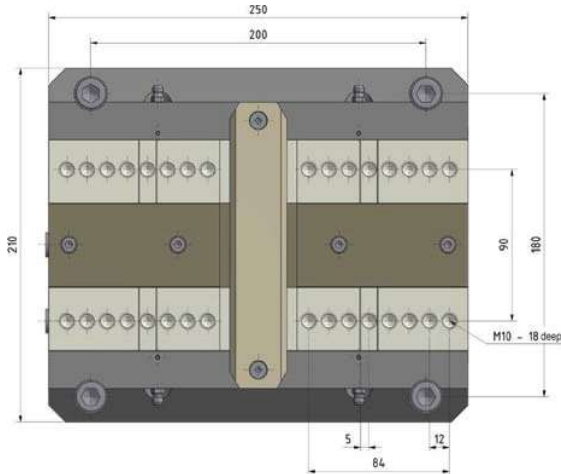
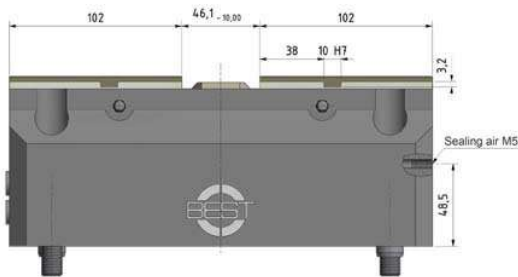
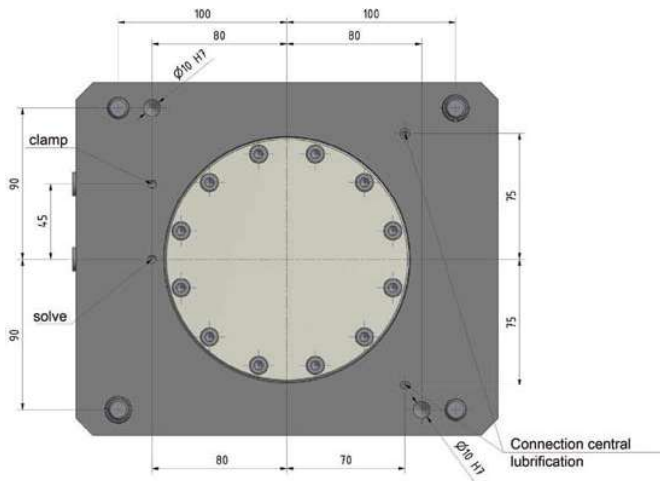
Matching blank jaw:

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

Seal set (for maintenance):

Order number:	100.300.160
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5.2.1.4 Hydraulic centric vice BSH-250



Optional additional functions:

- Clamping path monitoring
- Fixed jaw
- Central lubrication system
- Sealing air

See optional additional functions, page 88.

Please let us know if you require one of the additional functions so that we can take this into consideration in the offer.

Technical data:

Order number:	100-0250-002
Designation:	BSH-250
Dimensions (LxWxH):	210 x 250 x 97 mm
Weight:	35 kg
Clamping range:	0–240 mm
Stroke per jaw:	5.2 mm
Max. actuating pressure:	90 bar
Min. actuating pressure:	5 bar
Max. clamping force:	78 kN at 90 bar
Stroke volume:	121 cm ³ per double stroke
Jaw connection:	Tongue and groove
Hydraulic connections:	On the side and underside

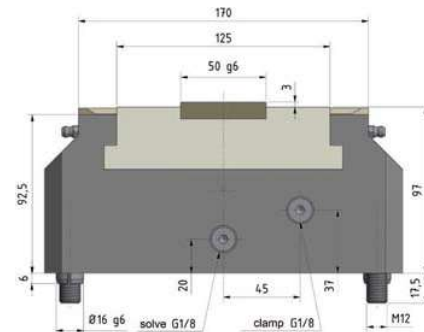
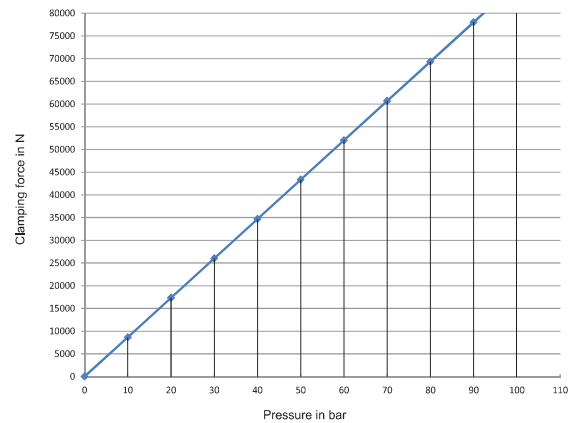


Diagramme clamping force BSH-250



Matching blank jaw:

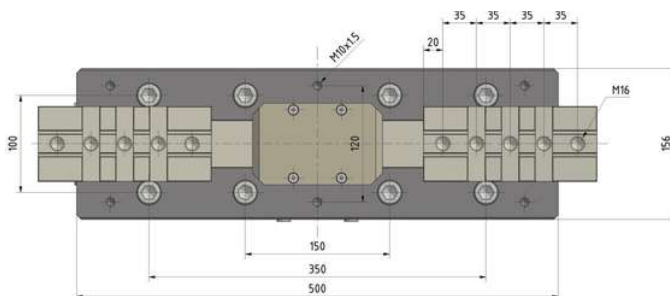
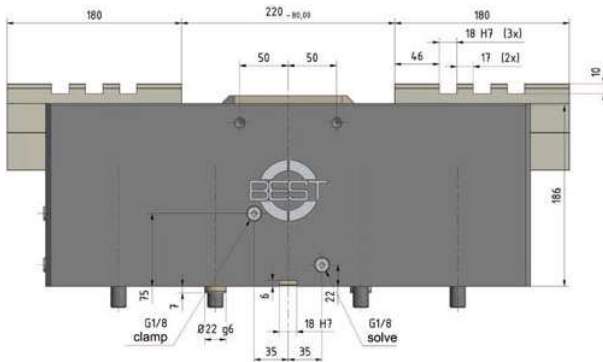
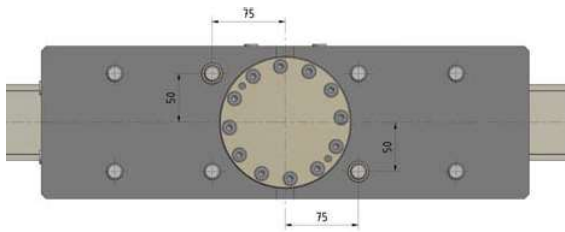
Order number:	301-0125-009
Dimensions (WxLxH):	125 x 100 x 60 mm
Material:	16 MnCr5

Seal set (for maintenance):

Order number:	100.300.250
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5.2.1.5 Hydraulic centric vice BSH-500



Technical data:

Order number:	100-0500-002
Designation:	BSH-500
Dimensions (LxWxH):	500 x 156 x 204 mm
Weight:	111 kg
Clamping range:	0–500 mm
Stroke per jaw:	40 mm
Max. actuating pressure:	140 bar
Min. actuating pressure:	5 bar
Max. clamping force:	72 kN at 140 bar
Stroke volume:	578 cm ³ per double stroke
Jaw connection:	Tongue and groove
Hydraulic connections:	On the side and underside

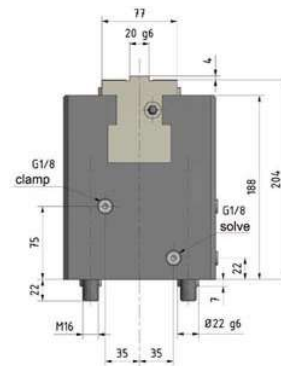
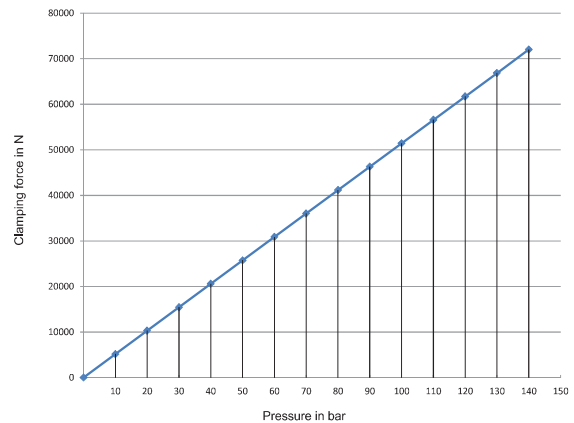


Diagramme clamping force BSH-500



Optional additional functions:

- Clamping path monitoring
- Fixed jaw
- Central lubrication system
- Sealing air

See optional additional functions, page 88.

Please let us know if you require one of the additional functions so that we can take this into consideration in the offer.

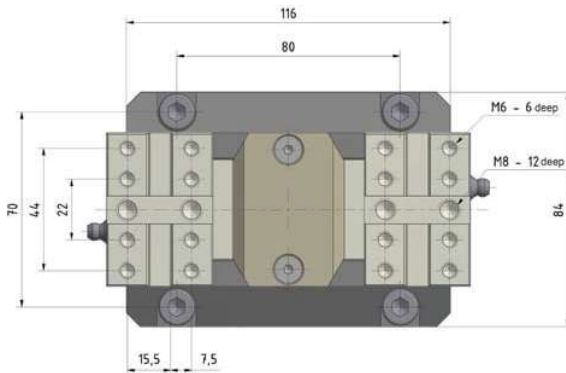
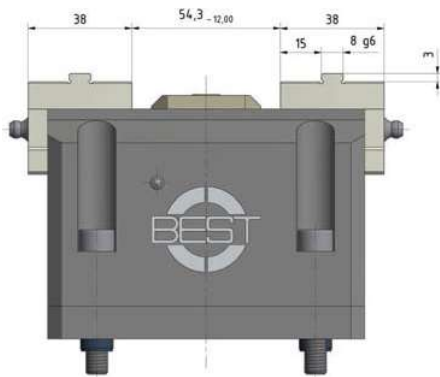
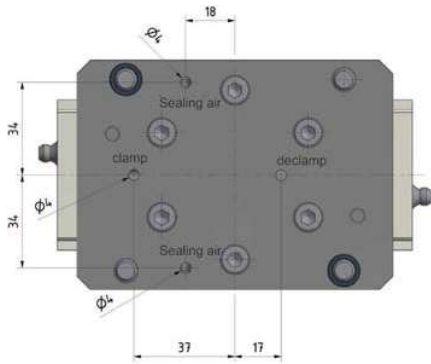
Matching blank jaw:

Order number:	301-0150-008
Dimensions (WxLxH):	180 x 150 x 70 mm
Material:	16 MnCr5

Seal set (for maintenance):

Order number:	100.300.500
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5.2.1.6 Hydraulic centric vice special size BSH-116



Technical data:

Order number:	100-0116-001
Designation:	BSH-116
Dimensions (LxWxH):	116 x 84 x 94 mm
Weight:	6 kg
Clamping range:	0–100 mm
Stroke per jaw:	6 mm
Max. actuating pressure:	140 bar
Min. actuating pressure:	5 bar
Max. clamping force:	17.5 kN at 140 bar
Stroke volume:	23 cm ³ per double stroke
Jaw connection:	Tongue and groove
Hydraulic connections:	On the underside

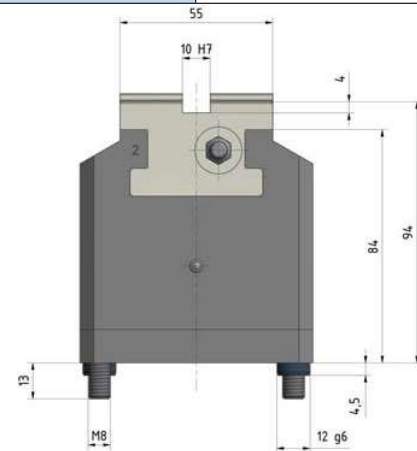
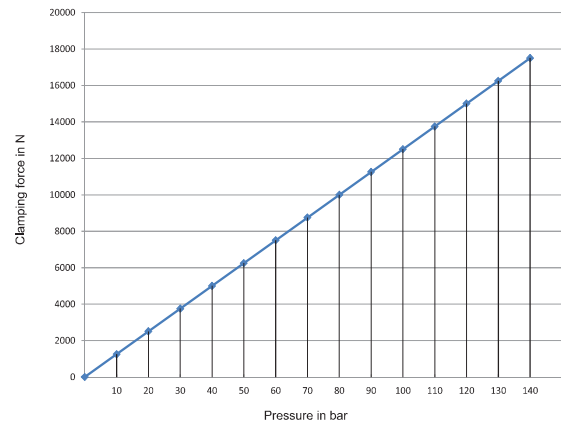


Diagramme clamping force BSH-116



Optional additional functions:

- Clamping path monitoring
- Fixed jaw
- Sealing air

See optional additional functions, page 88.

Please let us know if you require one of the additional functions so that we can take this into consideration in the offer.

Matching blank jaw:

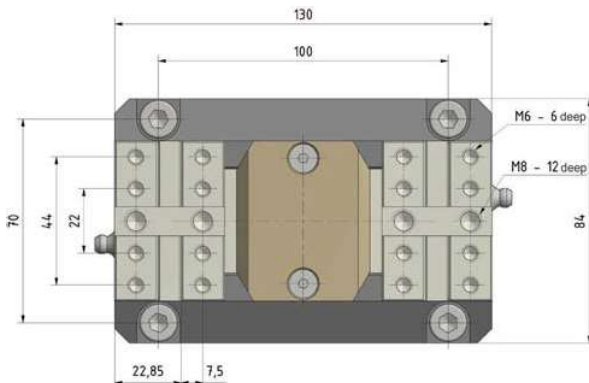
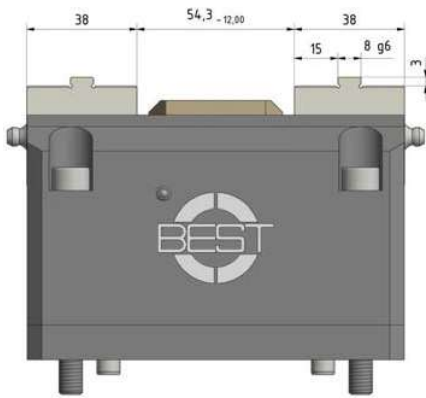
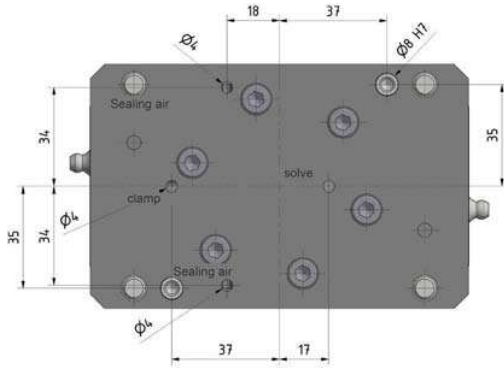
Order number:	301-0070-005
Dimensions (WxLxH):	70 x 50 x 50 mm
Material:	16 MnCr5

Seal set (for maintenance):

Order number:	100.300.116
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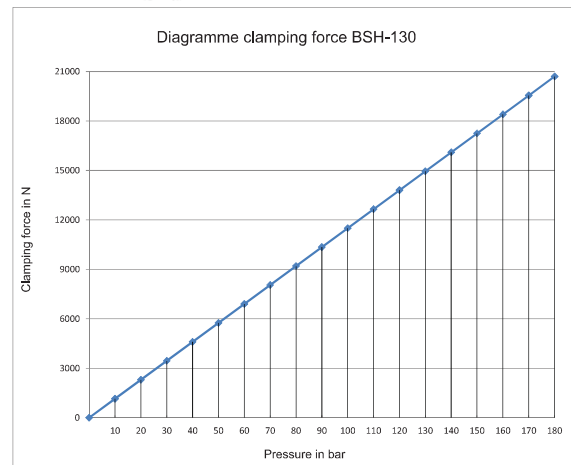
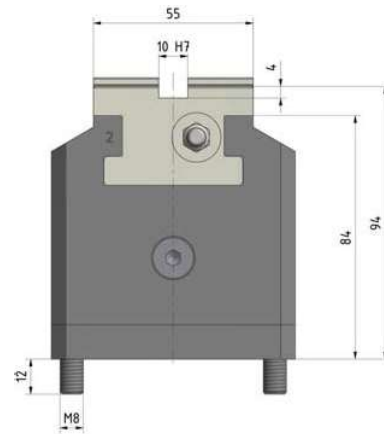


5.2.1.7 Hydraulic centric vice special size BSH-130



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 per jaw:	6 mm
Max. actuating pressure:	180 bar
Min. actuating pressure:	5 bar
Max. clamping force:	20.7 kN at 180 bar
Stroke volume:	40 cm ³ per double stroke
Jaw connection:	Tongue and groove
Hydraulic connections:	On the underside



Optional additional functions:

- Clamping path monitoring
- Fixed jaw
- Sealing air

See optional additional functions, page 88.

Please let us know if you require one of the additional functions so that we can take this into consideration in the offer.

Matching blank jaw:

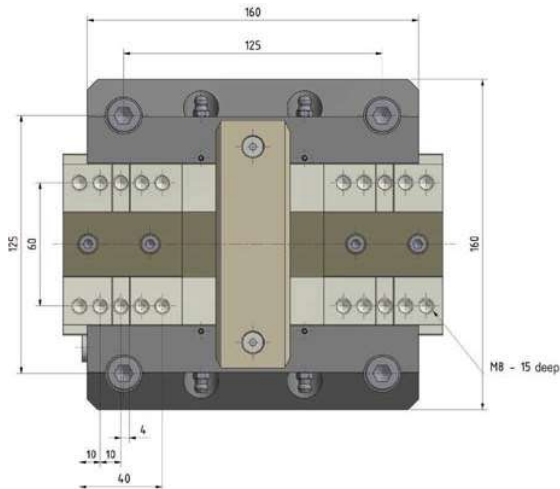
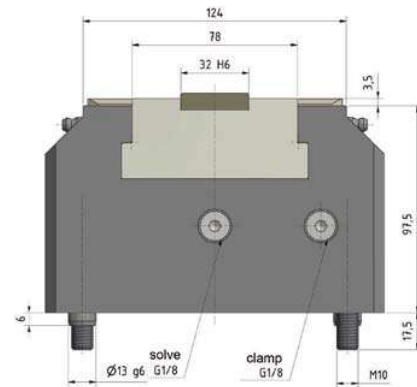
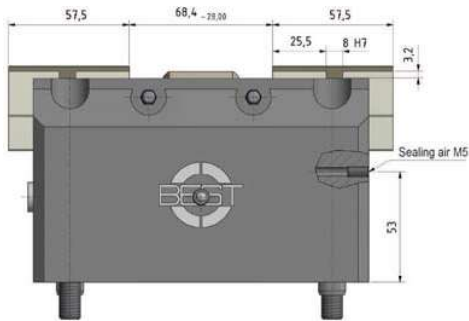
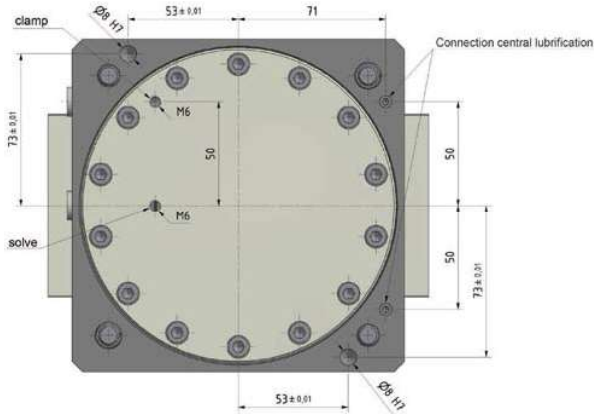
Order number:	301-0070-005
Dimensions (WxLxH):	70 x 50 x 50 mm
Material:	16 MnCr5

Seal set (for maintenance):

Order number:	100.300.130
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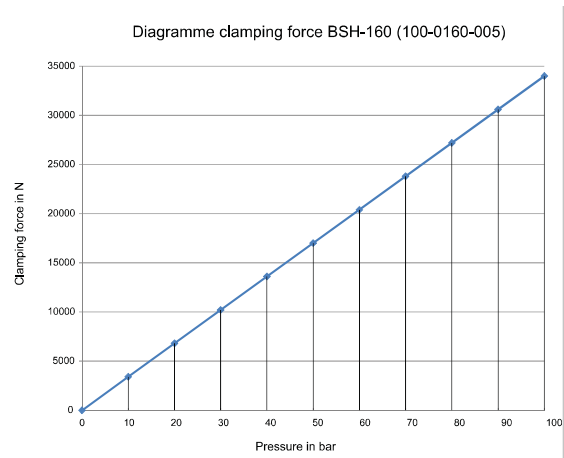
5.2.1.8 Hydraulic centric vice special size BSH-160-SH

Vice with extra long stroke



Technical data:

Order number:	100-0160-005
Designation:	BSH-160-SH
Dimensions (LxWxH):	160 x 160 x 101 mm
Weight:	17 kg
Clamping range:	0–150 mm
Stroke per jaw:	14 mm
Max. actuating pressure:	100 bar
Min. actuating pressure:	5 bar
Max. clamping force:	34 kN at 100 bar
Stroke volume:	131 cm ³ per double stroke
Jaw connection:	Tongue and groove
Hydraulic connections:	On the side and underside



Optional additional functions:

- Clamping path monitoring
- Fixed jaw
- Central lubrication system
- Sealing air

See optional additional functions, page 88.

Please let us know if you require one of the additional functions so that we can take this into consideration in the offer.

Matching blank jaw:

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

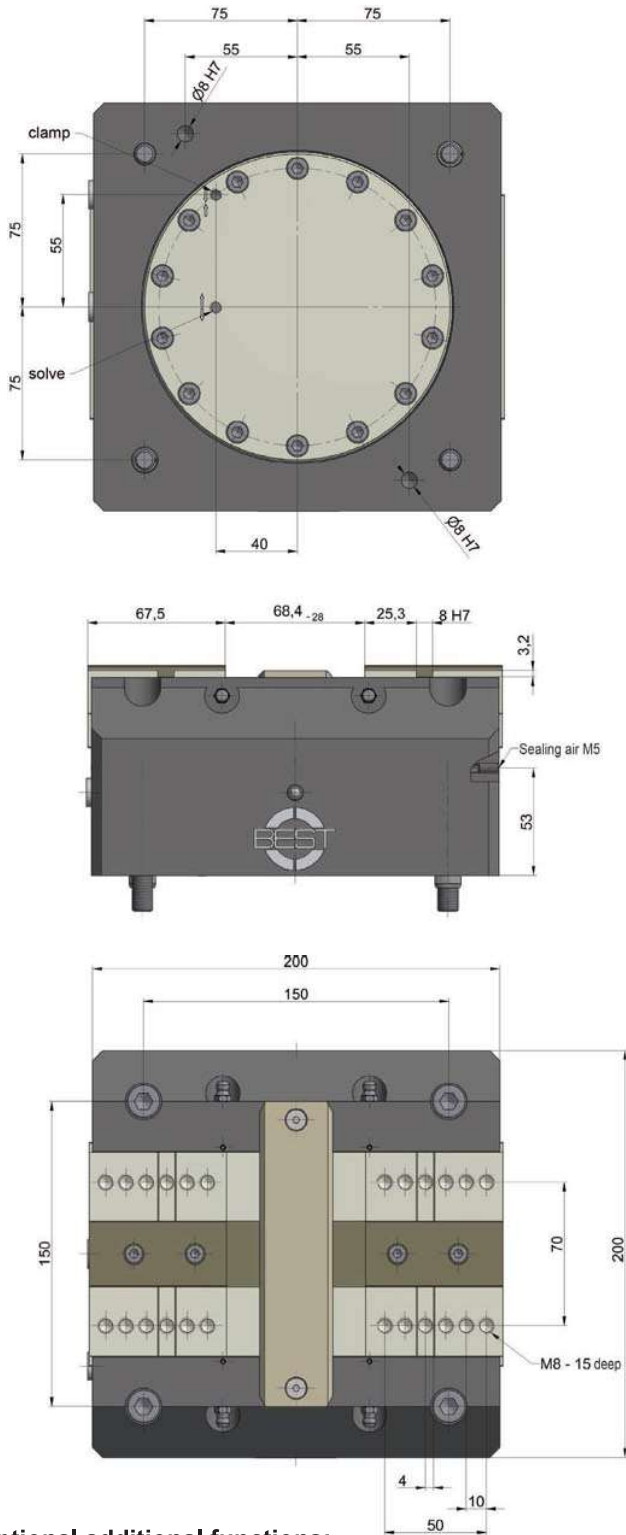
Seal set (for maintenance):

Order number:	100.300.160
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5.2.1.9 Hydraulic centric vice special size BSH-200-SH

Vice with extra long stroke



Optional additional functions:

- Clamping path monitoring
- Central lubrication system
- Fixed jaw
- Sealing air

See optional additional functions, page 88.

Please let us know if you require one of the additional functions so that we can take this into consideration in the offer.

Technical data:

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

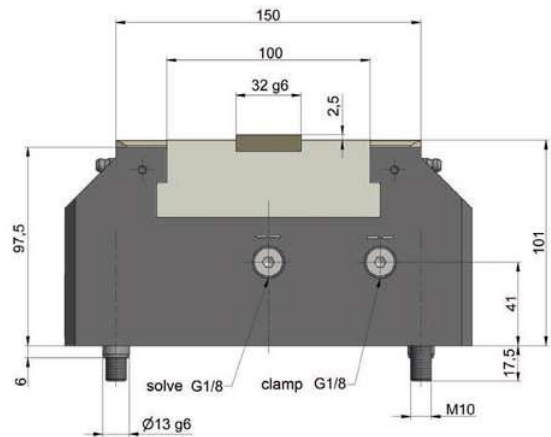
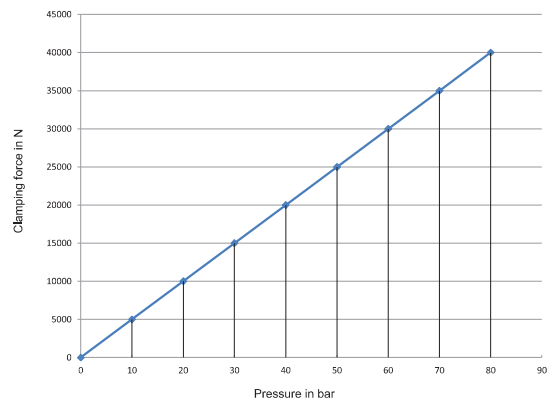


Diagramme clamping force BSH-200



Matching blank jaw:

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

Seal set (for maintenance):

Order number:	100.300.200
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5.2.1.10 Hydraulic centric vice special size BSH-290

Vice with extra long stroke

Technical data:

Order number:	100-0290-001
Designation:	BSH-290
Dimensions (LxWxH):	290 x 84 x 104 mm
Weight:	17 kg
Clamping range:	0–250 mm
Stroke per jaw:	15 mm
Max. actuating pressure:	150 bar
Min. actuating pressure:	5 bar
Max. clamping force:	11 kN at 150 bar
Stroke volume:	23 cm ³ per double stroke
Jaw connection:	Tongue and groove
Hydraulic connections:	On the underside

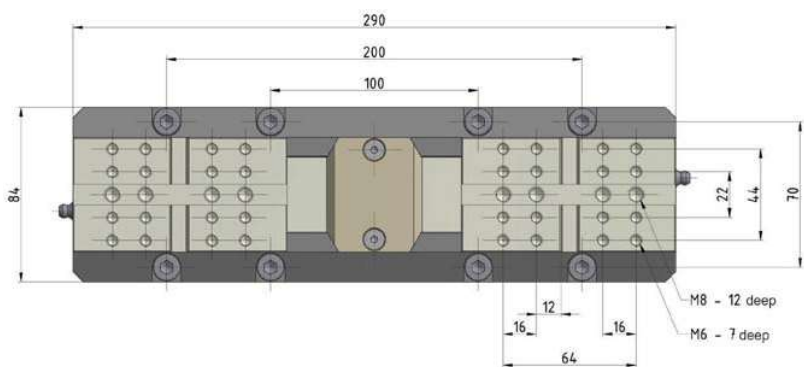
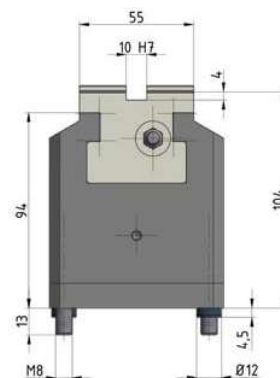
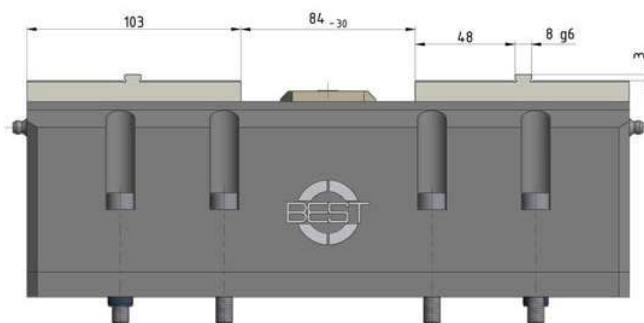
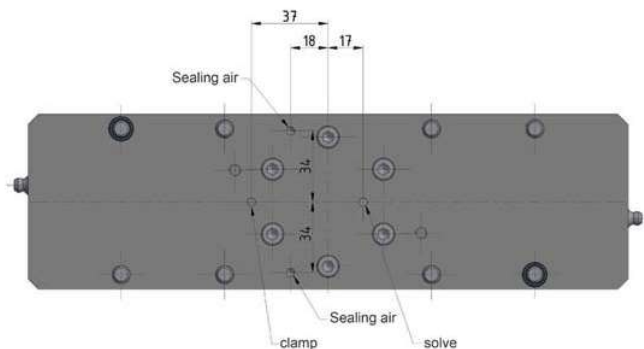
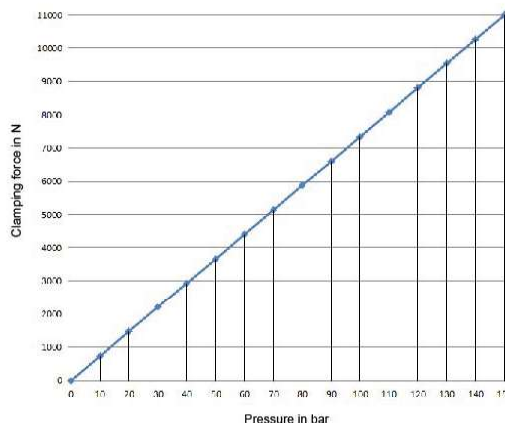


Diagramme clamping force BSH-290



Optional additional functions:

- Clamping path monitoring
- Fixed jaw
- Sealing air
- Central lubrication system

See optional additional functions, page 88.

Please let us know if you require one of the additional functions so that we can take this into consideration in the offer.

Matching blank jaw:

Order number:	301-0100-014
Dimensions (WxLxH):	130 x 100 x 50 mm
Material:	16 MnCr5

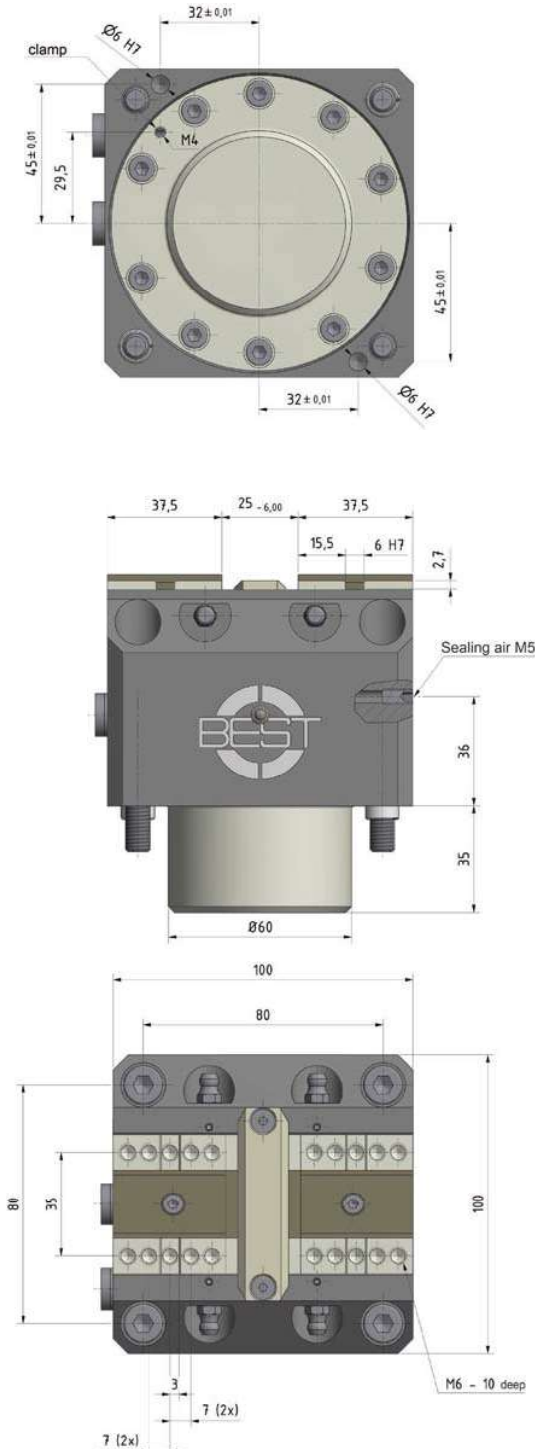
Seal set (for maintenance):

Order number:	100.300.116
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5.2.1.11 Hydraulic centric vice special size BSH-100-FR

Vice with spring reset



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 per jaw:	3 mm
Max. actuating pressure:	90 bar
Min. actuating pressure:.	5 bar
Max. clamping force:	18 kN at 90 bar
Stroke volume:	9 cm ³
Jaw connection:	Tongue and groove
Hydraulic connections:	On the side and underside

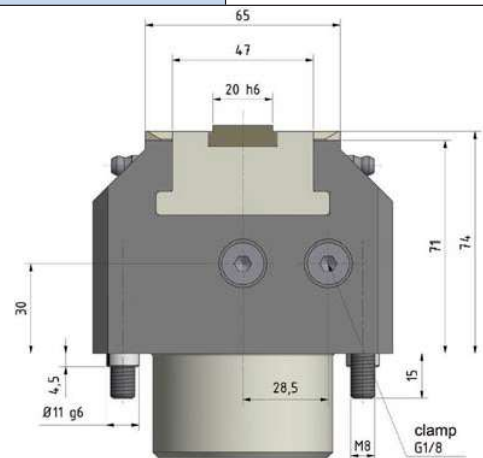
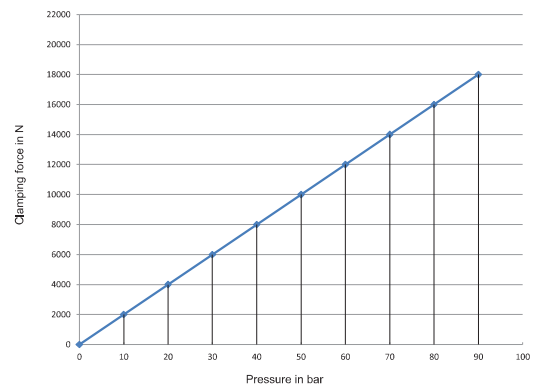


Diagramme clamping force BSH-100 (100-0100-001-02)



Optional additional functions:

- Clamping path monitoring
- Sealing air
- Fixed jaw
- Central lubrication system

See optional additional functions, page 88.

Please let us know if you require one of the additional functions so that we can take this into consideration in the offer.

This solution with spring reset is also possible with other vice models.

Let us know what your requirements are and we will be happy to work out a solution for you.

Matching blank jaw:

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

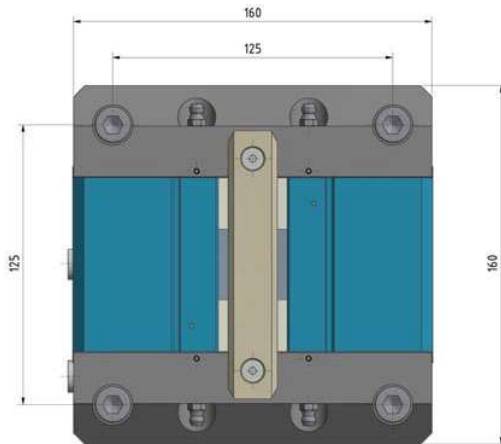
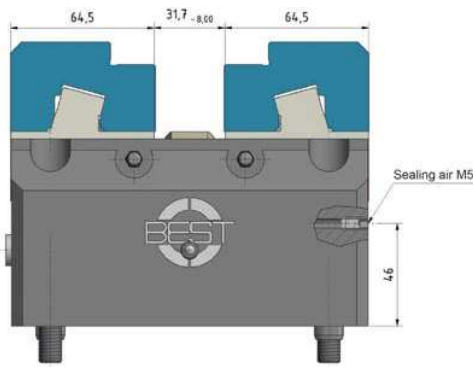
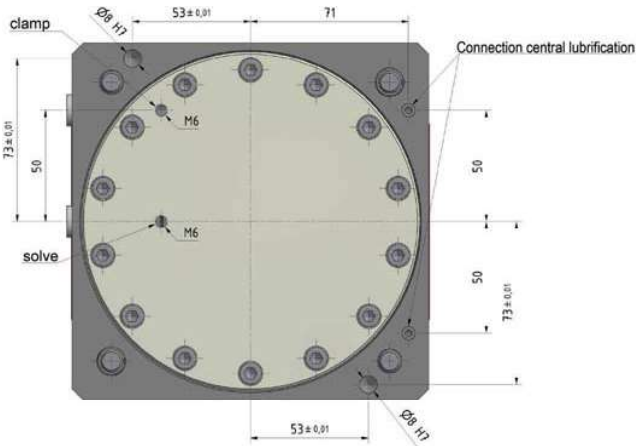
Seal set (for maintenance):

Order number:	100.300.100
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5.2.1.12 Hydraulic centric vice special size BSH-160-KB

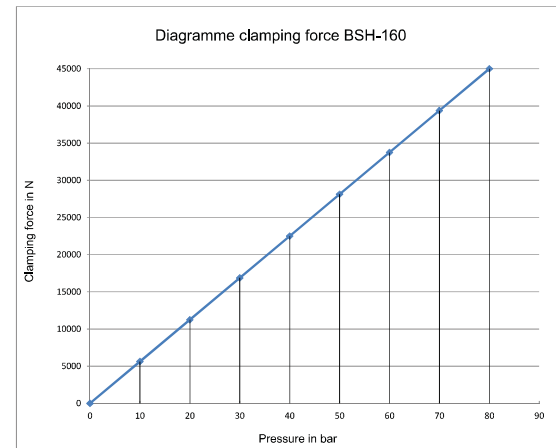
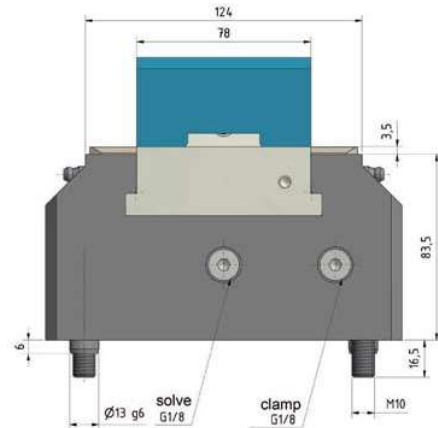
Vice with click jaws for automated changeover

Jaw changeover without screws! Just click and go!



Technical data:

Order number:	101-0160-001
Designation:	BSH-160-KB
Dimensions (LxWxH):	160 x 160 x 87 mm
Weight:	18 kg
Clamping range:	0–150 mm
Stroke per jaw:	4 mm
Max. actuating pressure:	80 bar
Min. actuating pressure:	5 bar
Max. clamping force:	47 kN at 80 bar
Stroke volume:	65 cm ³ per double stroke
Jaw connection:	Click jaws
Hydraulic connections:	On the side and underside



The clamping jaws shown are not in the scope of delivery of the vice!

Optional additional functions:

- Clamping path monitoring
- Fixed jaw
- Central lubrication system
- Sealing air

See optional additional functions, page 88.

Please let us know if you require one of the additional functions so that we can take this into consideration in the offer.

Matching blank jaw:

Order number:	301-0160-008
Dimensions (WxLxH):	78 x 65 x 50 mm
Material:	16 MnCr5

Seal set (for maintenance):

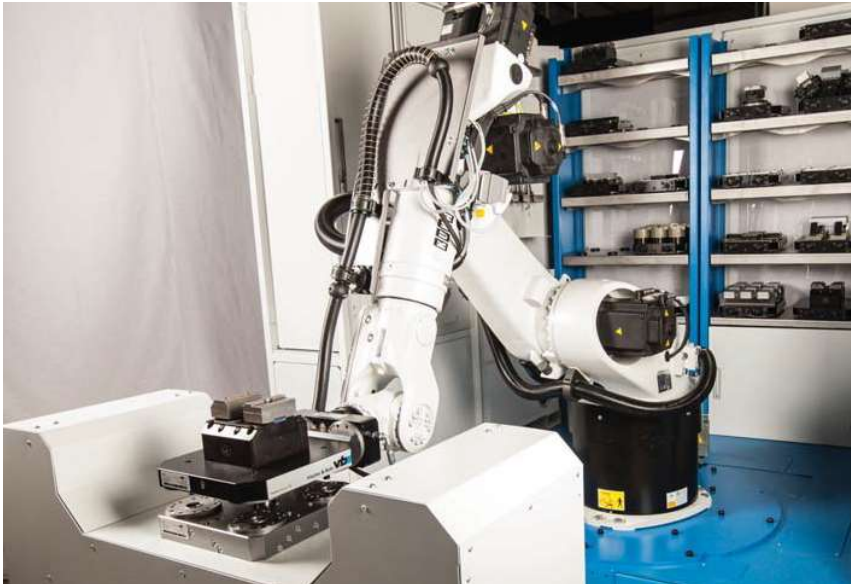
Order number:	100.300.160
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The click jaws interface is also possible with other vice models.

Let us know what your requirements are and we will be happy to work out a solution for you.



5.2.2 Sample applications



Automated application of the BSH-160 with pendulum grip jaws on pallets. Vices, workpiece and tool can be exchanged by the robot from the magazine in the Vischer & Bolli robot cell.



Customer-specific special solution. Since space on the machine is limited, a solution with tombstone and two hydraulic vices was not an option. For that reason, the clamping device with two-sided clamping was developed.



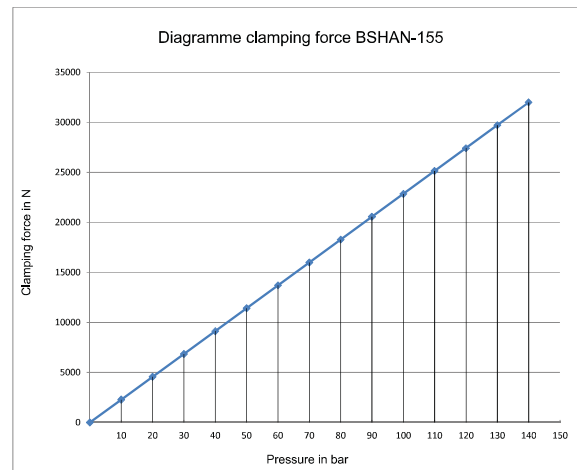
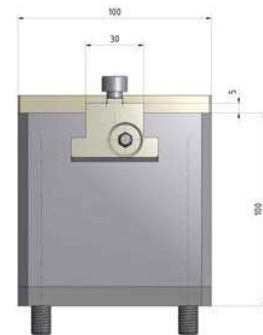
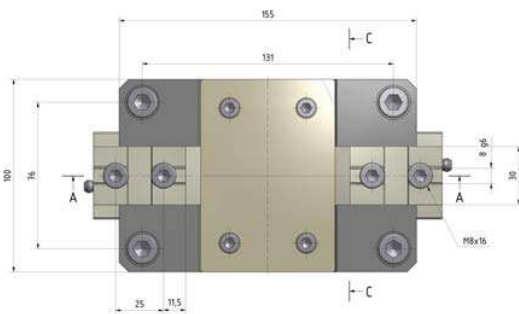
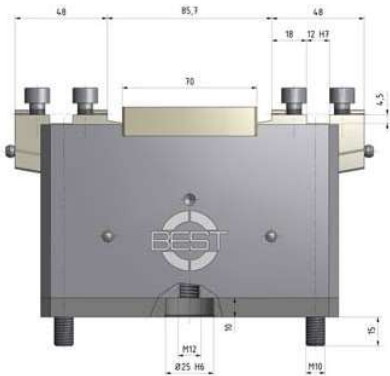
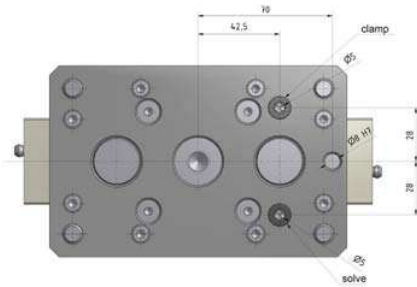
4 BSH-160 on a swivelling bridge with workpiece-specific jaws.

Quelle: Fa. Kögel GmbH Zerspanungstechnik

5.2.3 Hydraulic compensation vice BSHAN-155

Technical data:

Order number:	102-0155-001
Designation:	BSHAN-155
Dimensions (LxWxH):	155 x 100 x 105 mm
Weight:	12 kg
Clamping range:	0–100 mm
Stroke per jaw:	2.6 mm
Clamping compensation:	2 mm
Max. actuating pressure:	140 bar
Min. actuating pressure.:	5 bar
Max. clamping force:	32 kN at 140 bar
Holding force:	30 kN
Setting force of the jaw:	30 N
Stroke volume:	26 cm ³ per double stroke
Jaw connection:	Tongue and groove
Hydraulic connections:	On the underside



Matching blank jaw:

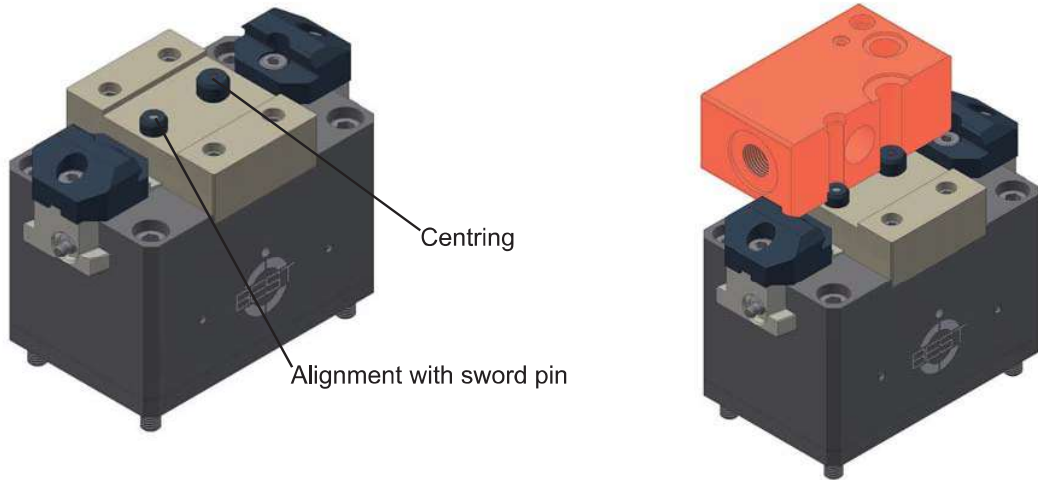
Order number:	301-0050-009
Dimensions (WxLxH):	50 x 50 x 45 mm
Material:	16 MnCr5

Seal set (for maintenance):

Order number:	100.302.155
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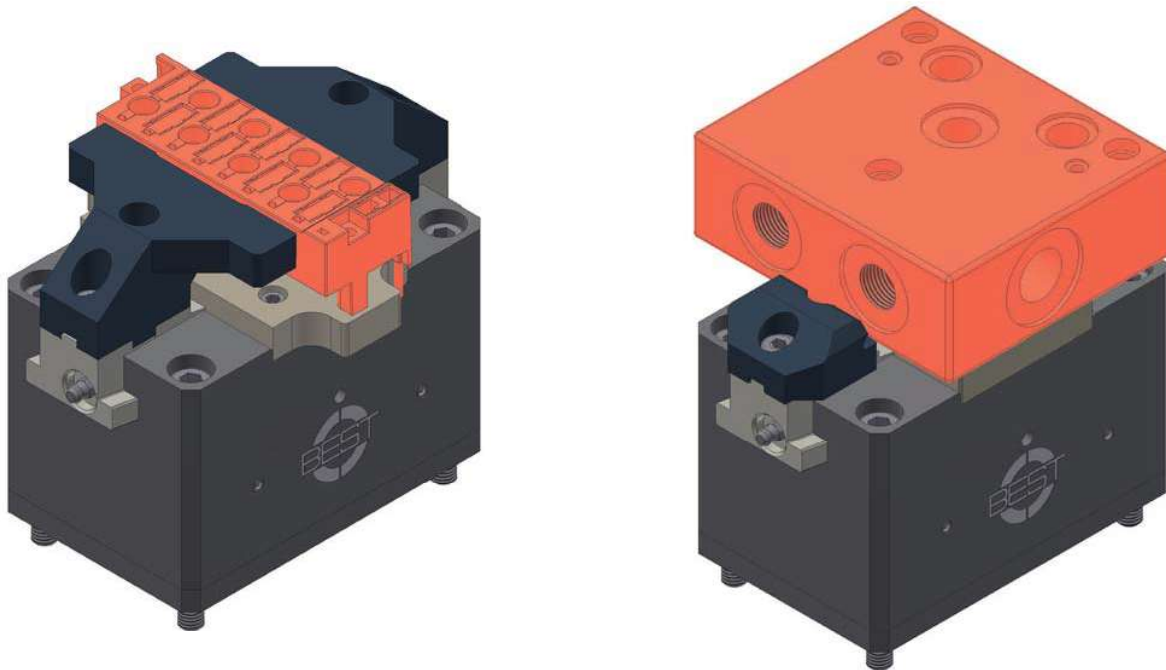
Principle of function:

- Workpiece with reference drill holes or reference areas is placed onto the workpiece fixation device of the vice
- First, the first jaw floats onto the workpiece (setting force max. 30 N), and after that the second jaw
- When both jaws abut against the workpiece, the pressure is built up (holding force: 30 KN)
→ This allows for a compensation of dimensional deviations of the blank workpieces.
- The slanted jaw guide line creates a pull-down effect, which pushes the workpiece onto the support



Application options:

- For clamping workpieces with dimensional deviations of up to 2 mm (e.g. cast parts)



Please send us your workpiece that needs to be clamped (ideally the Step format), and we will gladly send you a technical draft together with an offer for the number of items you require.