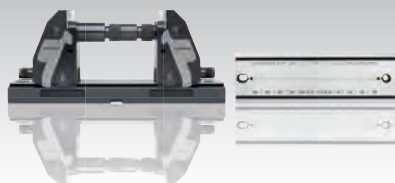


norelem measures

Clamping technology

41000

Vice Clamping Technology



41300
Page 1114



5-axis clamping system compact
jaw plate, smooth

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Page 1115



Base plates

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Page 1116



Vice jaws complete

41320
Page 1117



Jaw plates smooth

41320
Page 1117



Jaw plates with pins

41320
Page 1118



Jaw plates
machinable

41325
Page 1119



Pendulum jaws

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Page 1120



Jaw plates smooth
for pendulum jaws

41330
Page 1121



Jaw plates with pins
for pendulum jaws

41335
Page 1122



Centre jaws

41340
Page 1123



Jaw plates smooth
for centre jaws

41340
Page 1123



Jaw plates with pins
for centre jaws

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Seating ledges

41060
Page 1124



Jaw pins

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Page 1125



Cylinder clamping sets

41355
Page 1126



Extension shafts

41360
Page 1126



Adapter shafts

41365
Page 1127



Couplings
for cross-clamping

41370
Page 1128



Stop sets

41375
Page 1129

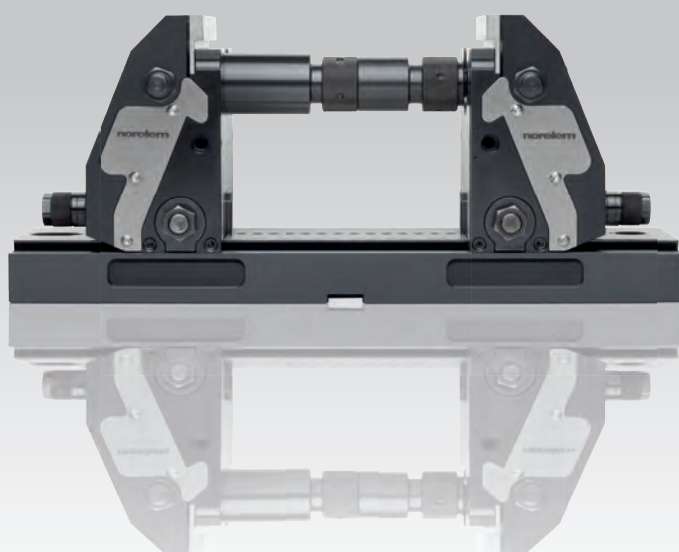


Clamping claw sets

+ New/Expanded Items

41000

Vices



80000

82000

83000

84000

85000

95000

96000

97000



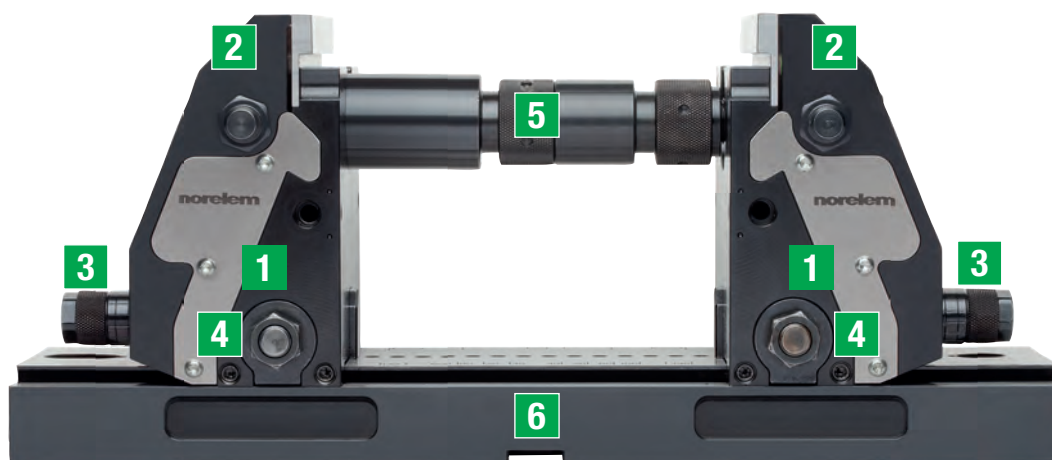
A-Z

5-axis clamping system compact

Function

We are setting standards with the new „5-axis clamping system compact“ in this field. The system was specifically designed for the optimal machining of complex workpieces on modern 5-axis machines.

The intelligent clamping technology increases clamping rigidity for the highest cutting and feed forces. The optimal accessibility to the workpiece allows short, standard tooling to be used. Tooling costs are significantly reduced.



- 1** Positioning unit with jaw plate
- 2** Vice jaws
- 3** Fine adjustment with knurled screw
- 4** Clamping screw
- 5** Extension shafts
- 6** Base plate

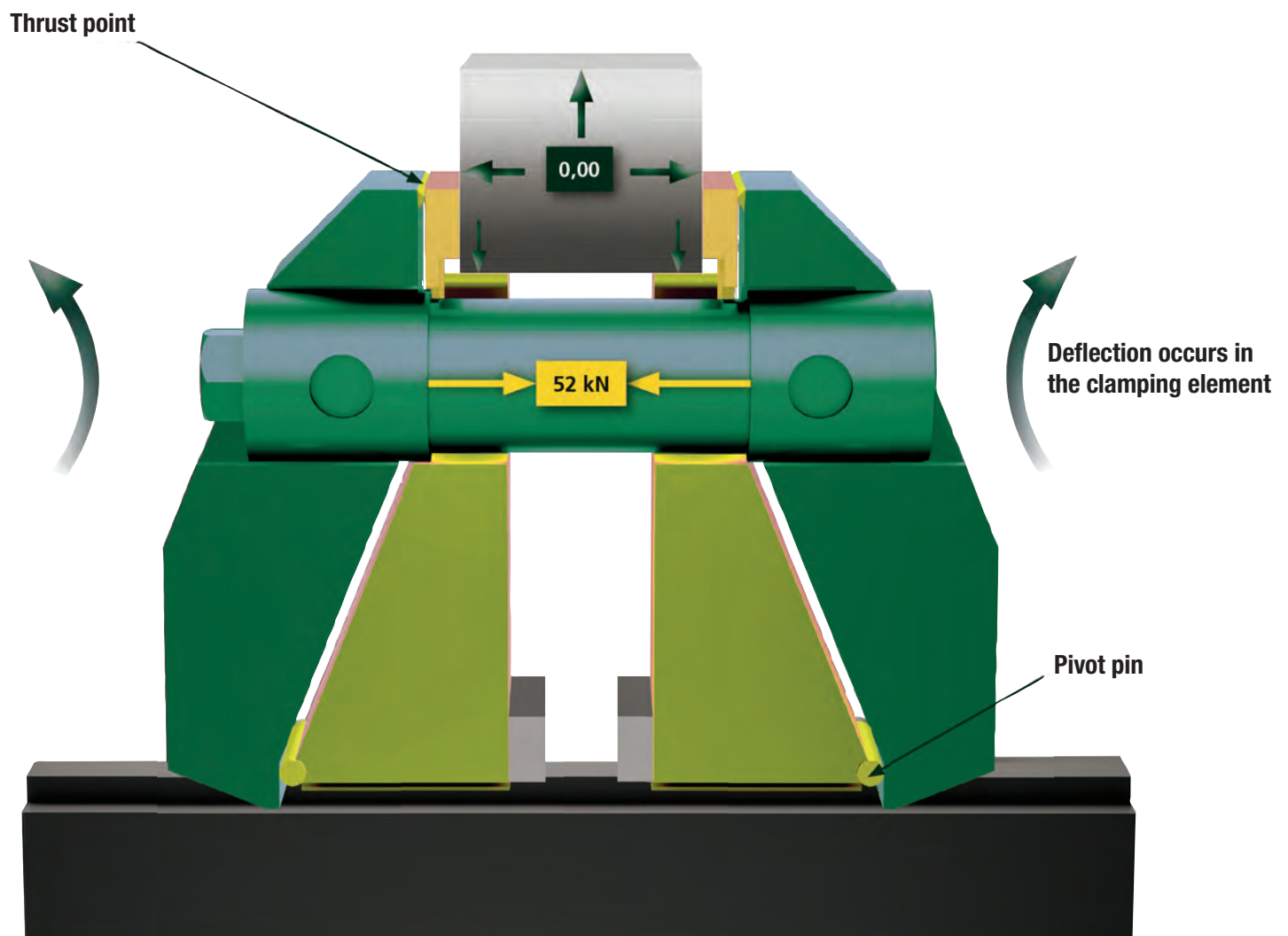
ADVANTAGES:

- Very high tractive force
- High stiffness in the system
- Pull-down function of the jaw plates on both sides
- Optimum fine adjustment of the jaw plates on the workpiece
- Increased tool service life
- The workpiece is always centred due to the systematic construction
- Large clamping width, 20 mm to 320 mm, freely extendable
- Clamping depth adjustable from 3 to 20 mm using seating ledges
- Best tool accessibility from all sides
- Easy to clean

Forces

The new clamping technology ensures force flow separation and workpiece positioning. The intelligent force distribution in the system allows only weak forces to be transferred to the machine table.

- Division of force flow and positioning
- Highest clamping force on the workpiece
- Maximum stiffness
- Centric tension



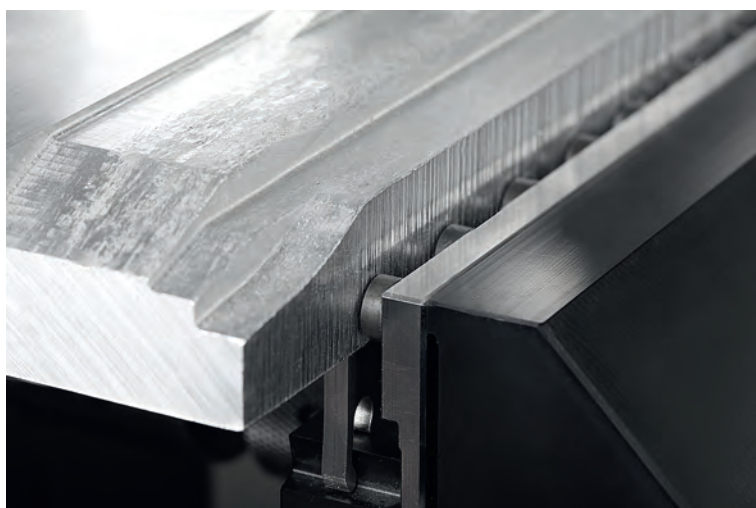
- Locators
- Clamping elements

Applications

Clamped workpiece using jaw plates with pins. The high tractive force creates a positive clamping situation.



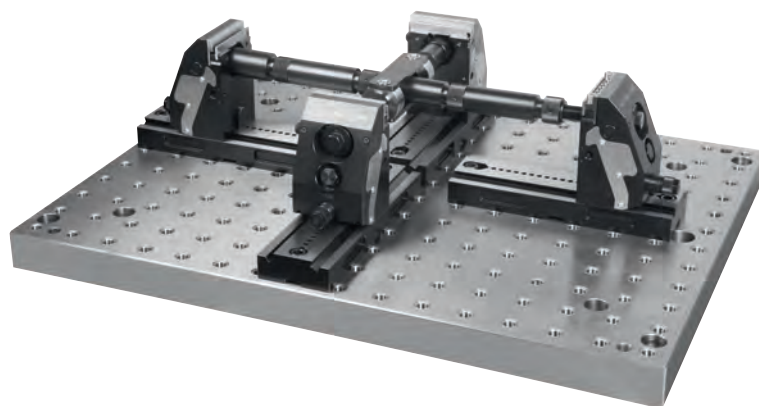
Clamped blank. Sure set-up through positive clamping pins.



Blank after clamping. Clamping pin imprint is visible on the edge of the workpiece.



With the coupling for cross-clamping, two 5-axis clamping systems can be compactly connected with each other offset by 90 degrees. Setups for workpieces with different dimensions of 4 sides are possible.



5-axis clamping system compact direct on the machine table.
Workpiece clamping with smooth jaws.

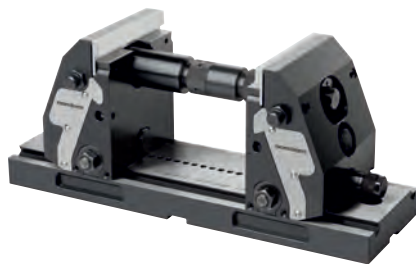


The jaws can be quickly tightened or loosened using the adjustable handles.
When the clamping lever is open, the jaws can be fine adjusted with the knurled knob.



5-axis clamping system compact

jaw plate, smooth



Material:

Base plate and jaw hardened steel.
Vice jaws tool steel.

Version:

Jaws black oxidised.
Jaw plates bright.

Sample order:

n1m 41300-124000901500

Note:

The easy operability and rapid adjustment using a scale means that the clamping jaws can be quickly and surely adapted to new workpieces.
The workpiece is always centred through the systematic construction of the 5-axis compact clamping system.
The optimal accessibility to the workpiece allows short, standard tooling to be used. Tooling costs are significantly reduced.

Positive down force by a clamping depth of >5 mm.
Clamping widths of 20 mm to 320 mm are possible.

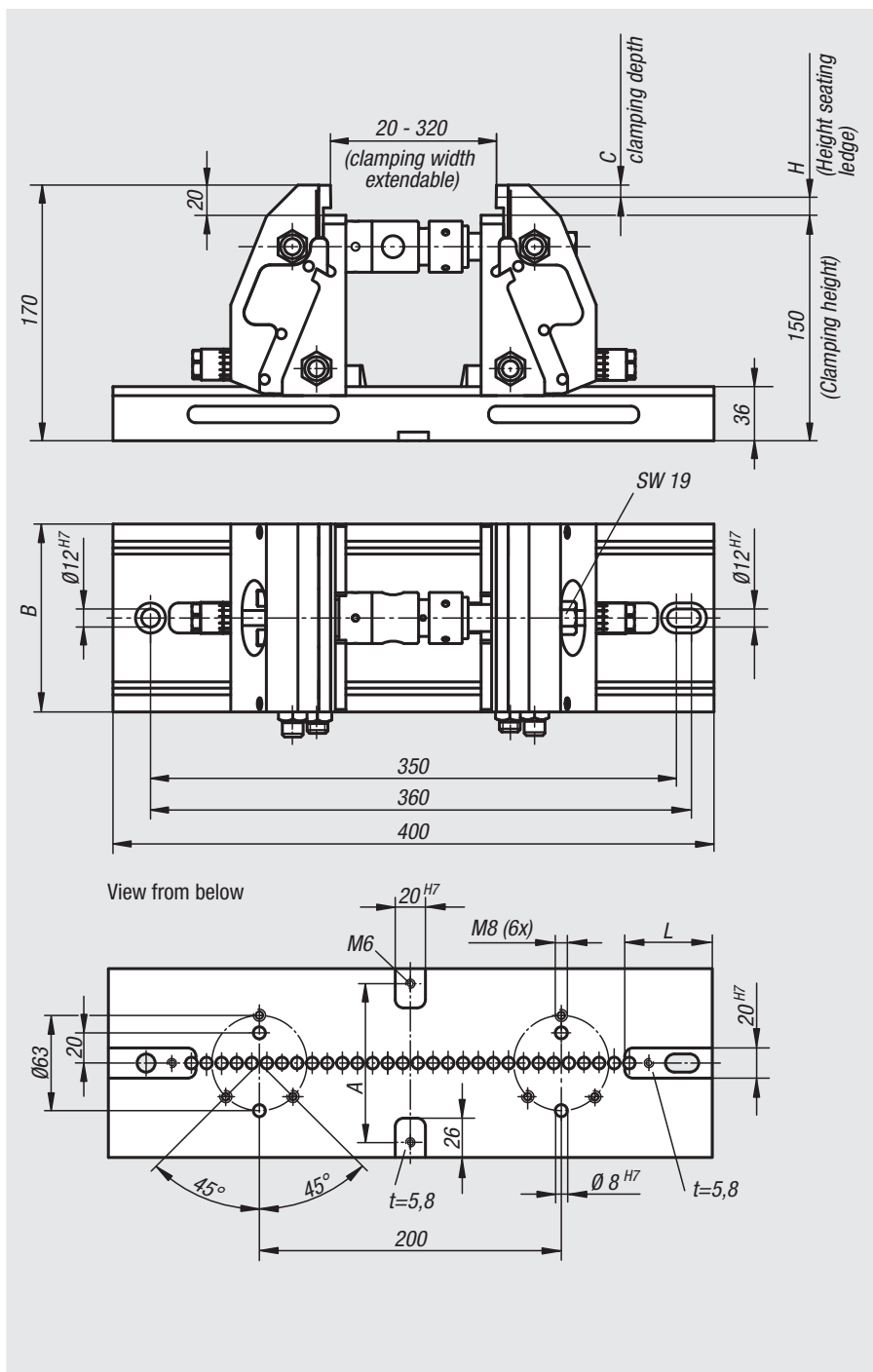
Assembly:

The 5-axis clamping system compact can be mounted on T-slot tables, grid systems or, using an adapter flange on conventional zero-point clamping systems.

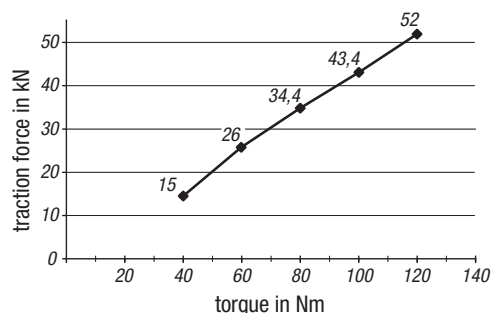
Accessories:

Seating ledge 41345
Jaw plates 41320
Pendulum jaws 41325
Centre jaws 41335
Coupling for cross-clamping 41365

Order the seating ledges and jaw plates with pins separately.



Tractive force 5-axis clamping system compact



Order No.	A	B	C	H	L	Tractive force max. kN	Suitable shoulder screw	weight kg
41300-124000901500	70	90	8/3	12/17	57,5	52	07533-12055	22,272
41300-124001251500	105	125	8/3	12/17	58	52	07533-12055	31

Base plates

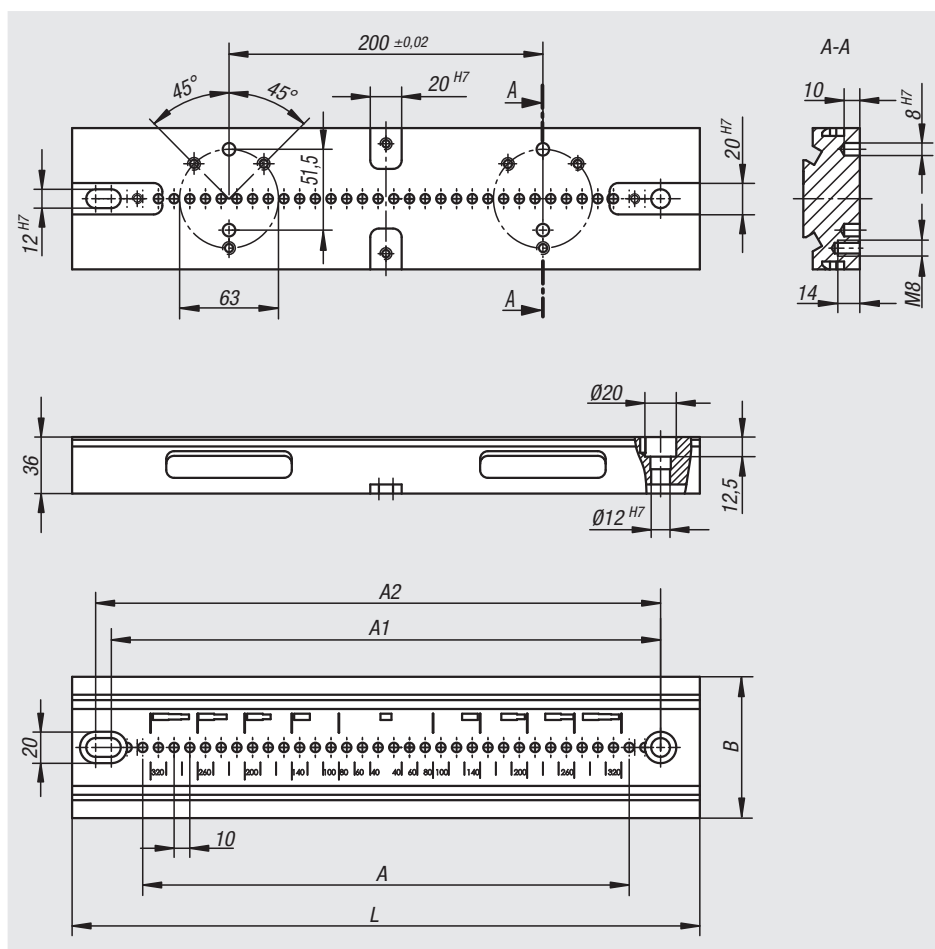


Material:
Steel.

Version:
Black oxidised.
Function faces ground.

Sample order:
nlm 41305-090280

Note:
Base plates with locating slots on the underside for easy alignment of the plate on the machine table.
Securing via grid holes 12F7 for 40 mm and 50 mm grid spacing possible.
Lateral recesses provided for separate clamping means.



Order No.	A	A1	A2	B	L	Suitable shoulder screw	weight kg
41305-090280	20x10	240	250	90	280	07533-12055	6,14
41305-090400	31x10	350	360	90	400	07533-12055	8,58
41305-125280	20x10	240	250	125	280	07533-12055	8,86
41305-125400	31x10	350	360	125	400	07533-12055	12,24

Vice jaws complete


Material:

Jaws mild steel.
Jaw plates tool steel.

Version:

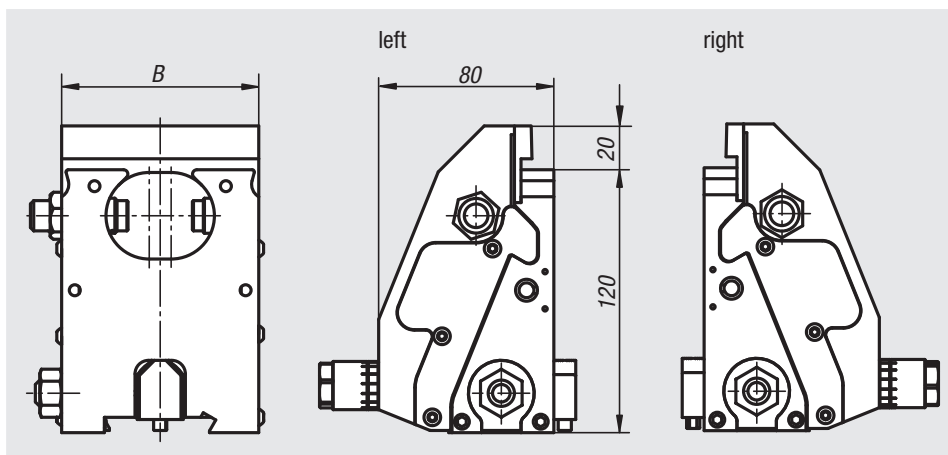
Jaws black oxidised.
Vice jaws bright.

Sample order:

nIm 41315-09015010

Note:

These vice jaws are for expanding the 5-axis clamping system compact.
With these vice jaws large workpieces can be held on all four sides by cross clamping. Base plates, extension shafts and the coupling for cross-clamping are also needed for this set up.



Order No.	Version	B	weight kg
41315-09015010	right	90	5,18
41315-09015020	left	90	5,18
41315-12515010	right	125	7,416
41315-12515020	left	125	7,416

Jaw plates smooth

**Material:**

Tool steel.

Version:

Hardened, bright.

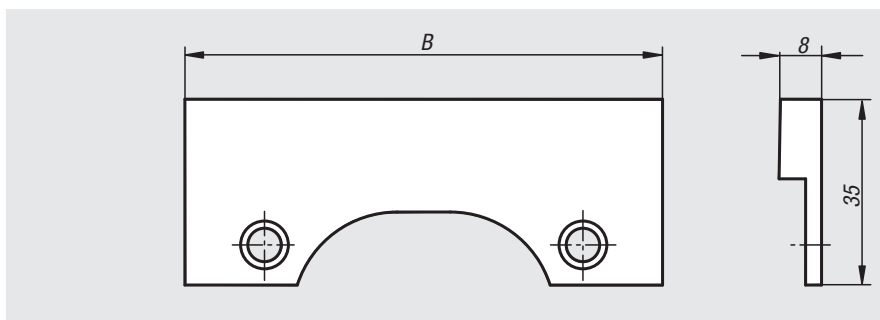
Sample order:

nlm 41320-0900

Note:

For clamping pre-machined workpieces and for final machining.

Supplied singly.



Order No.	B
41320-0900	90
41320-1250	125

Jaw plates with pins

**Material:**

Tool steel.

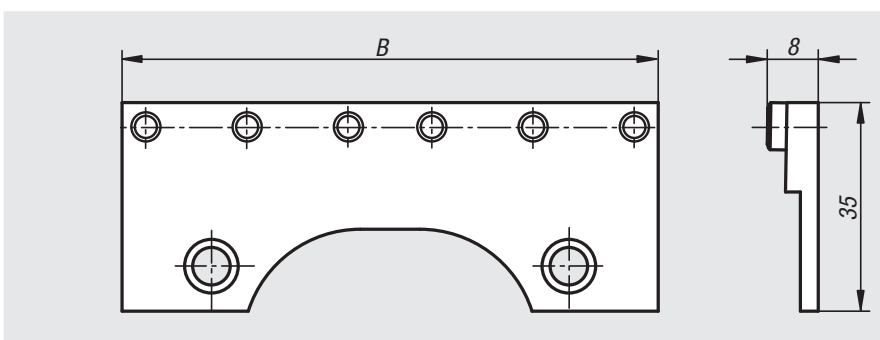
Version:Plate hardened, bright.
Pins hardened, black oxidised.**Sample order:**

nlm 41320-0901

Note:

For positive clamping without preforming, e.g. rough pieces, heavy cutting, castings etc.

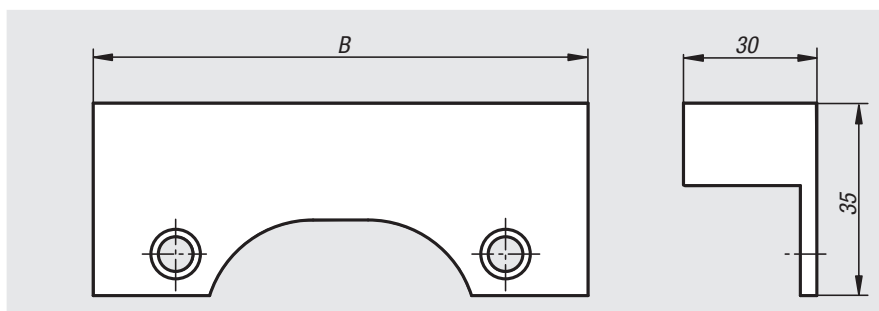
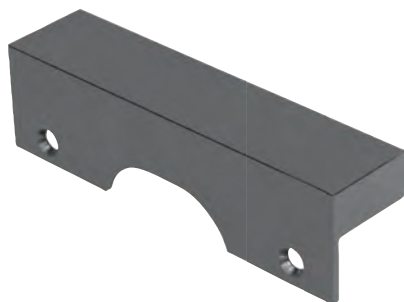
Supplied singly.



Order No.	B	No. of pins
41320-0901	90	6
41320-1251	125	8

Jaw plates

machinable



Material:
Carbon steel.

Version:
Black oxidised.

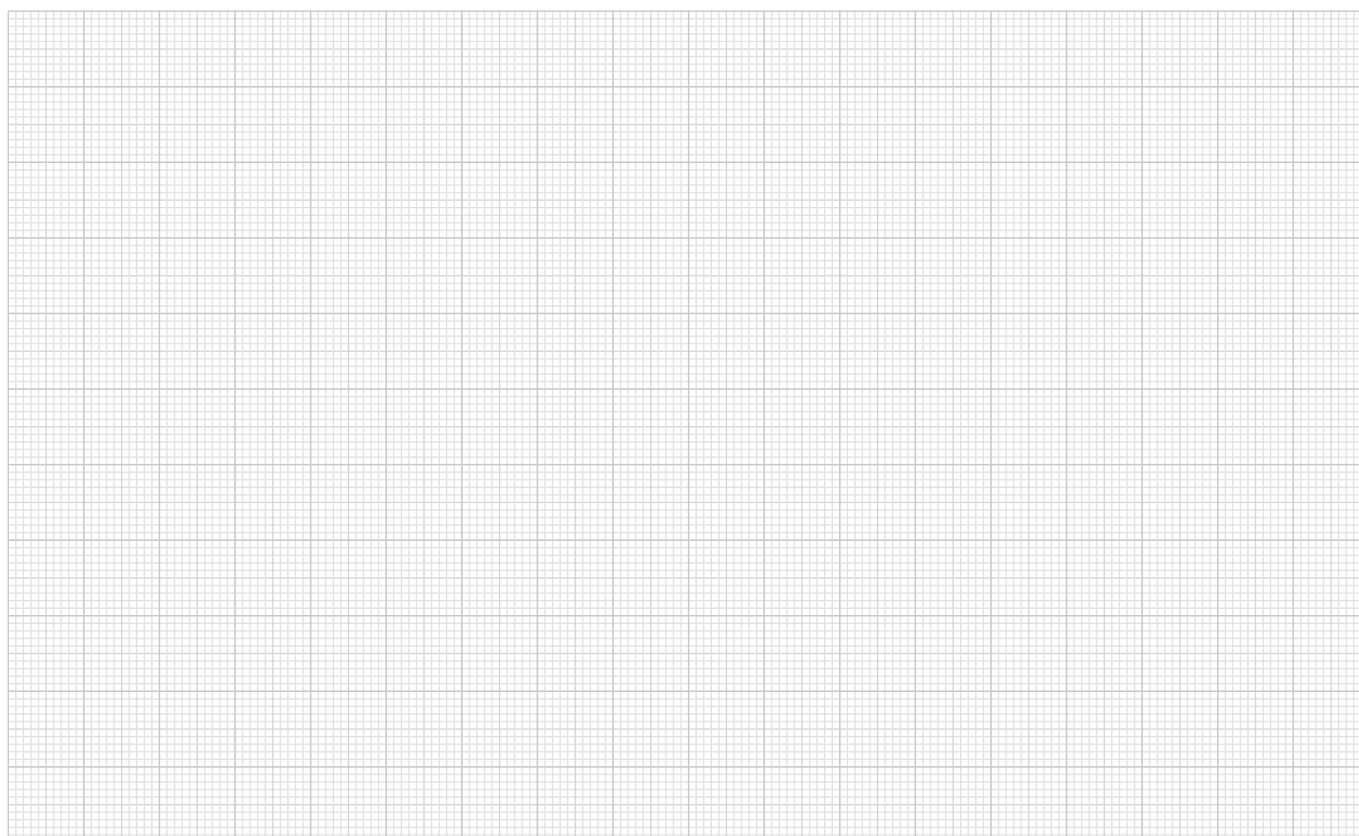
Sample order:
nlm 41320-0902

Note for ordering:
Supplied singly.

Note:
Machinable jaw plates are ideal for gripping on workpiece contours and machining in steps.

Order No.	B
41320-0902	90
41320-1252	125

Notes



Pendulum jaws


Material:

Body mild steel.
Jaw plates tool steel.

Version:

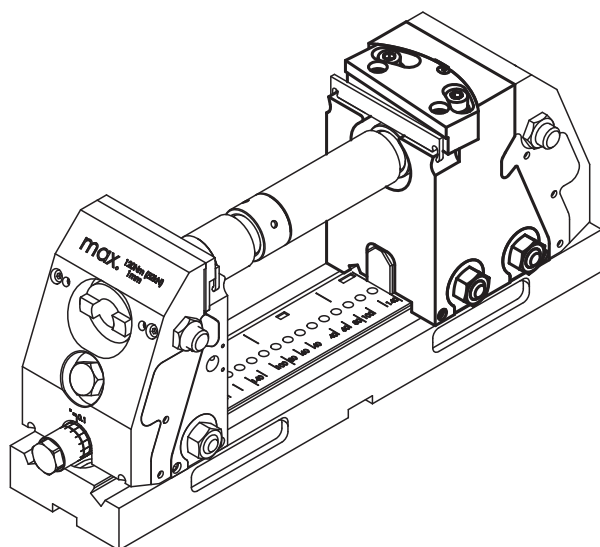
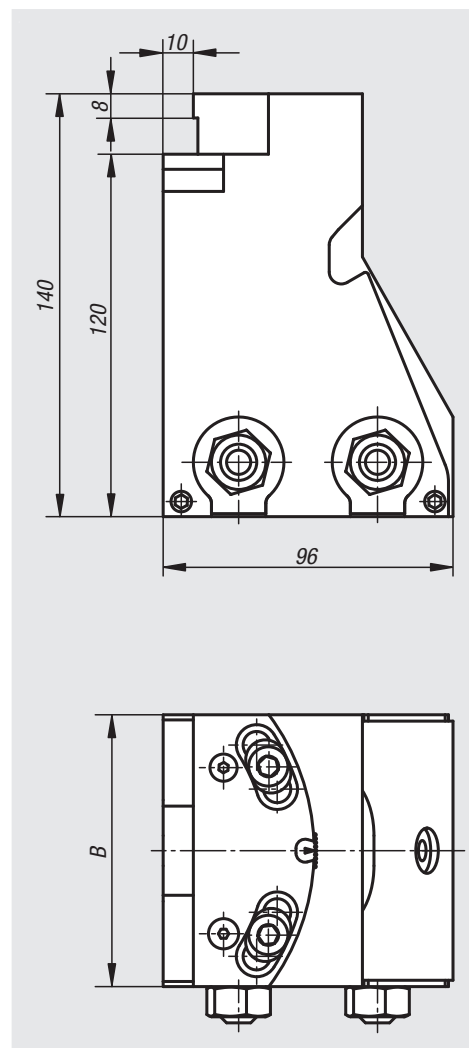
Body black oxidised.
Vice jaws hardened, bright.

Sample order:

nln 41325-09015010

Note:

Pendulum jaws are used to hold oblique workpieces.
The jaw plates of the pendulum jaws can be swivelled by $\pm 4^\circ$.
Pendulum jaws can also be used as fixed jaws.
Rigid design with 2 fastening screws.



Order No.	B	weight kg
41325-09015010	90	6
41325-12515010	125	8,77

Jaw plates smooth

for pendulum jaws


Material:

Tool steel.

Version:

Hardened, bright.

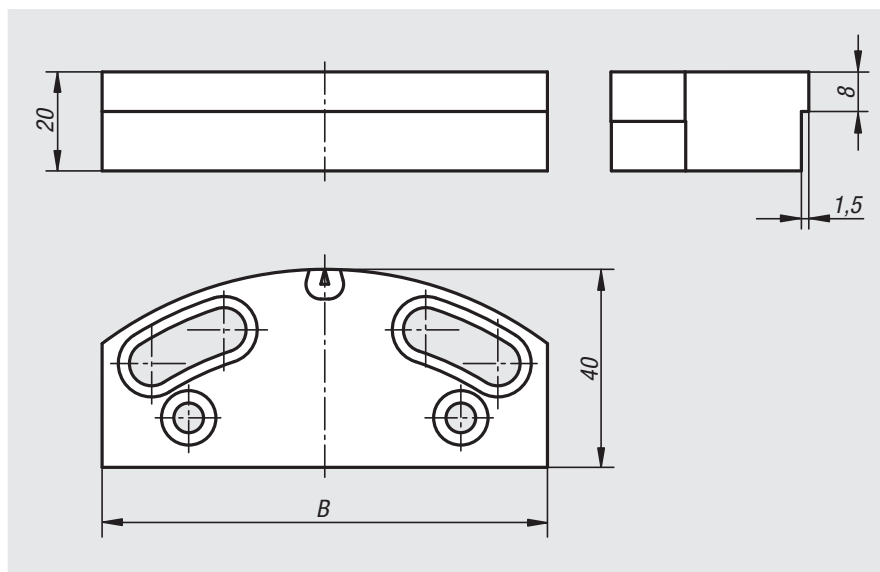
Sample order:

nlm 41330-0900

Note:

For clamping pre-machined and ground workpieces.

Supplied singly.



Order No.	B
41330-0900	90
41330-1250	125

Jaw plates with pins

for pendulum jaws


Material:

Tool steel.

Version:

Vice jaw hardened, bright.
Pins hardened, black oxidised.

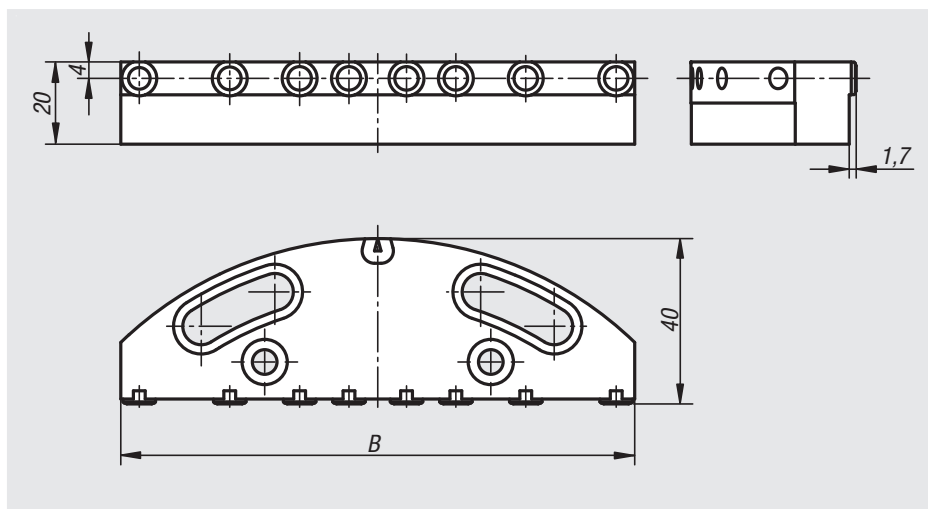
Note for ordering:

41330-0901

Note:

For positive clamping without preforming, e.g.
rough pieces, heavy cutting, castings etc.

Supplied singly.



Order No.	B	No. of pins
41330-0901	90	6
41330-1251	125	8

Centre jaws


Material:

Body mild steel.
Jaw plates tool steel.

Version:

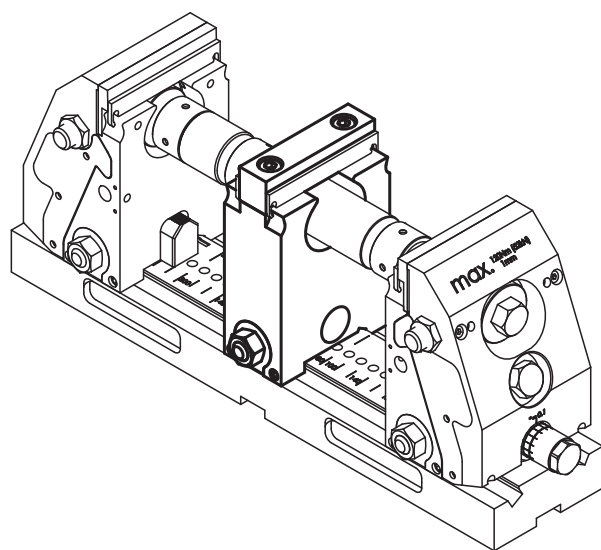
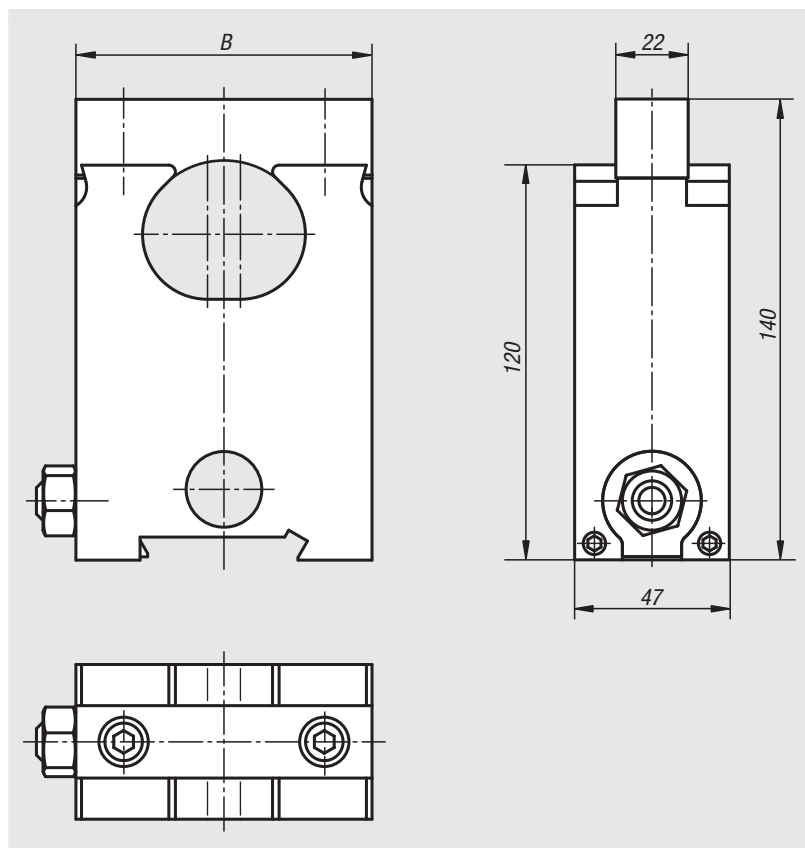
Body black oxidised.
Vice jaws hardened, bright.

Sample order:

nlm 41335-0901500

Note:

Centre jaws are used to clamp 2 workpieces simultaneously.
The centre jaws can be moved to suit the size of the workpiece. 2 different sized workpiece can be clamped.



Order No.	B	weight kg
41335-0901500	90	3,38
41335-1251500	125	5,1

Jaw plates smooth

for centre jaws


Material:

Tool steel.

Version:

Hardened, bright.

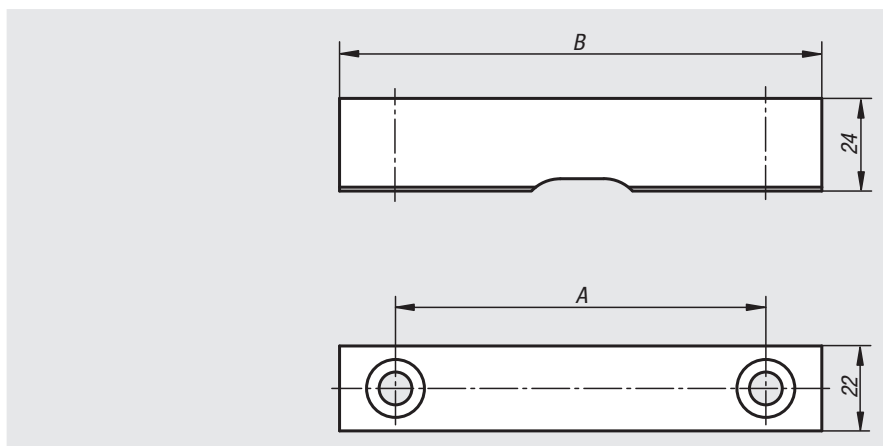
Sample order:

nIm 41340-0900

Note:

For clamping pre-machined and ground workpieces.

Supplied singly.



Order No.	A	B
41340-0900	61	90
41340-1250	96	125

Jaw plates with pins

for centre jaws


Material:

Tool steel.

Version:

Vice jaw hardened, bright.

Pins hardened, black oxidised.

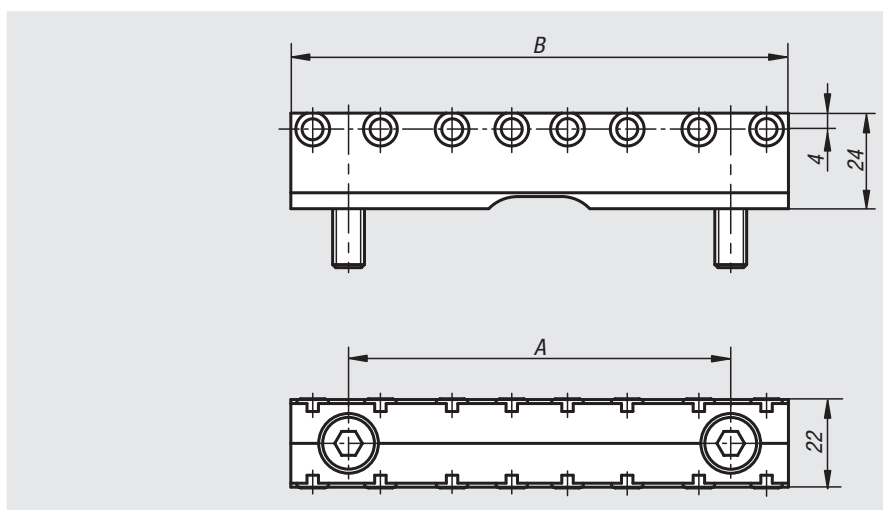
Sample order:

nIm 41340-0901

Note:

For positive clamping without preforming, e.g. rough pieces, heavy cutting, castings etc.

Supplied singly.



Order No.	A	B	No. of pins
41340-0901	61	90	6
41340-1251	96	125	8

Seating ledges


Material:

Hardened steel

Version:

Bright.

Sample order:

nIm 41345-0900312

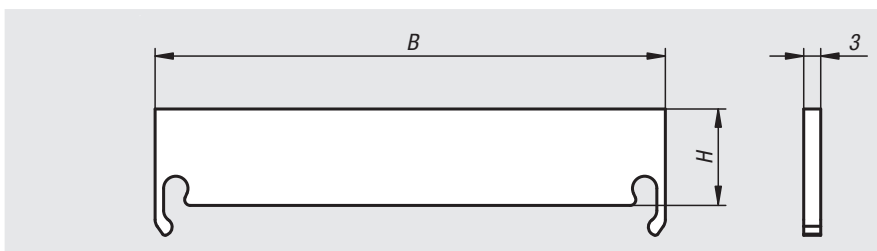
Note:

The seating ledges are suitable for adjusting the clamping depth of the workpiece on the compact 5-axis clamping system.

The 12 mm version does not interfere with the positive-down effect.

By the 17 mm version, the positive-down force is reduced but causes less edge deformation.

Supplied in pairs.



Order No.	B	H
41345-0900312	90	12
41345-0900317	90	17
41345-1250312	125	12
41345-1250317	125	17

41060

Jaw pins


Material:

Tool steel.

Version:

Hardened.

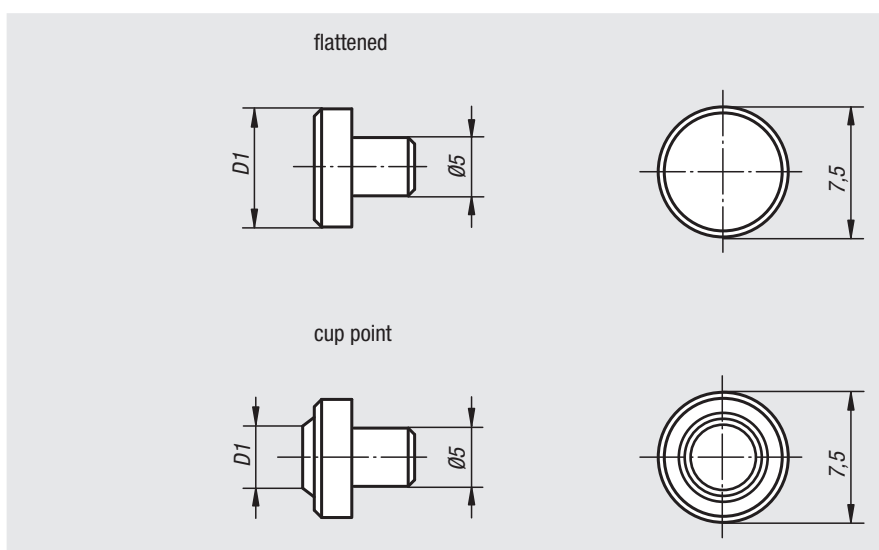
Sample order:

nIm 41060-05000

Note:

Suitable for standard jaw plates and jaw adapters of round workpieces.

Installed by pressing in.



Order No.	Version 1	D1	Application
41060-05000	flattened	7,5	material over 1000 N/mm ² tensile strength
41060-05400	cup point	4	material up to ca. 1000 N/mm ² tensile strength
41060-05600	cup point	6	material up to ca. 1000 N/mm ² tensile strength

Cylinder clamping sets



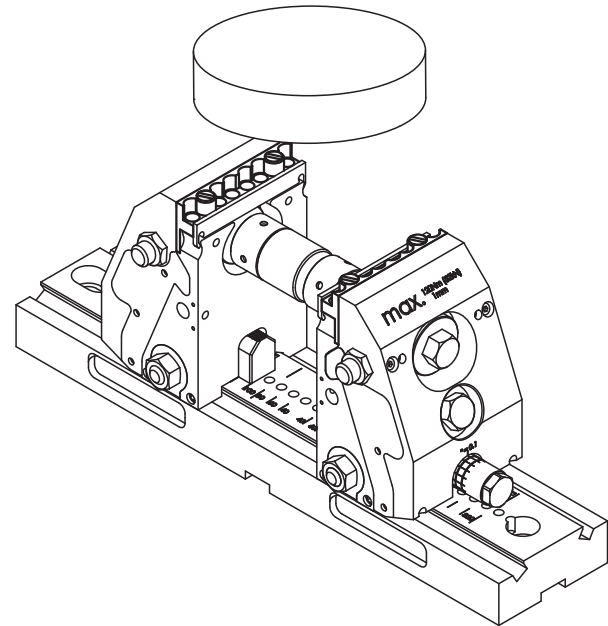
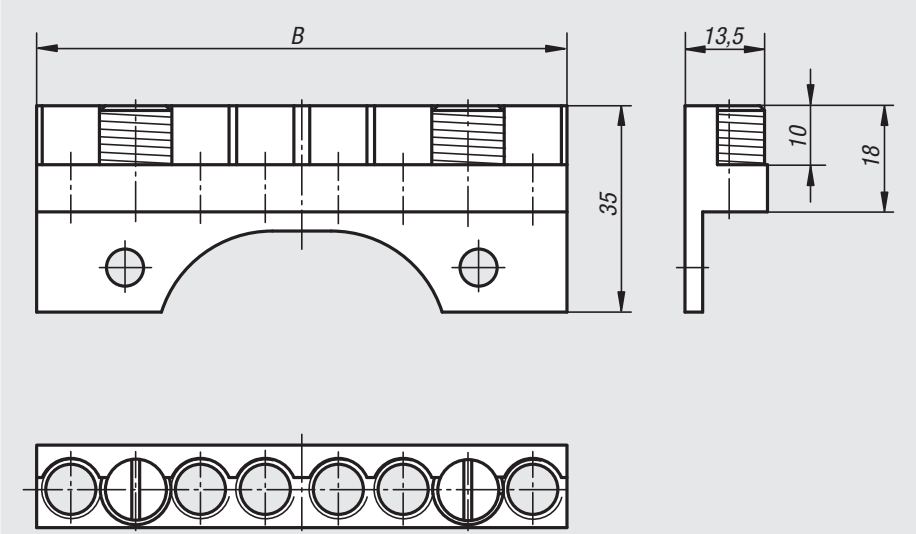
Material:
Tool steel.

Version:
Vice jaw hardened, bright.
Pins hardened, black oxidised.

Sample order:
nlm 41350-09035

Note:
For holding round workpieces.
Max. clamping travel of jaw is 1 mm.

Supplied in pairs.



Order No.	B	Clamping range min. - max.
41350-09035	90	20 mm - 250 mm
41350-12535	125	20 mm - 320 mm

Extension shafts


Material:

Carbon steel.

Version:

Black oxidised.

Sample order:

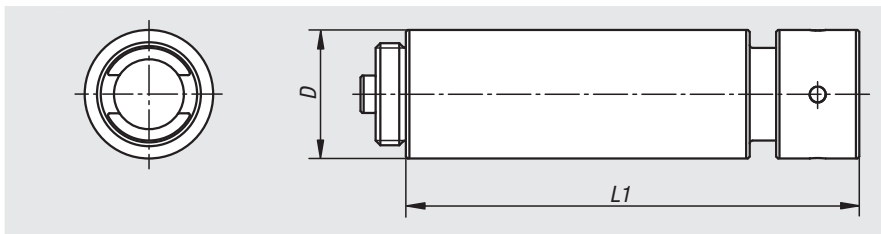
nIm 41355-060

Note:

For setting the clamping width.

Supplied with union nut.

The extension shafts can be combined as required.



Order No.	D	L1	Clamp range
41355-060	34	60	extension by 60 mm
41355-120	34	120	extension by 120 mm
41355-240	34	240	extension by 240 mm
41355-480	34	480	extension by 480 mm

Adapter shafts


Material:

Carbon steel.

Version:

Black oxidised.

Sample order:

nIm 41360-060

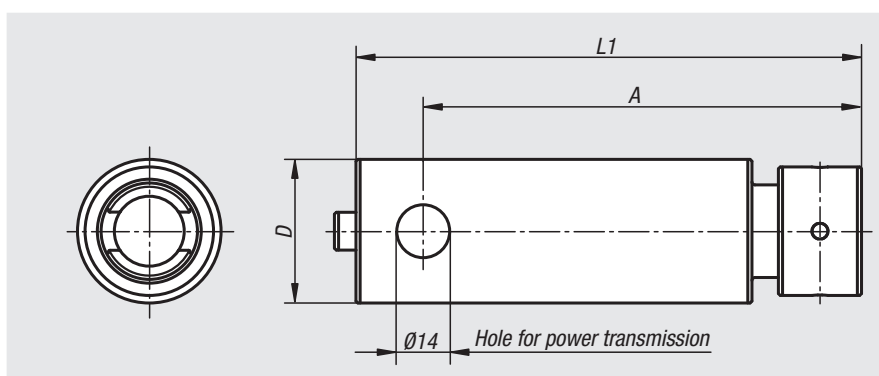
Note:

For setting the clamping width.

Supplied with union nut.

The adapter shafts are linked to the vice jaws by the lateral holes.

An adapter shaft must be mounted in every compact 5-axis clamp.



Order No.	A	D	L1	Clamp range
41360-060	56	38	74	20-80
41360-120	116	38	134	80-140

Couplings

for cross-clamping


Material:

Carbon steel.

Version:

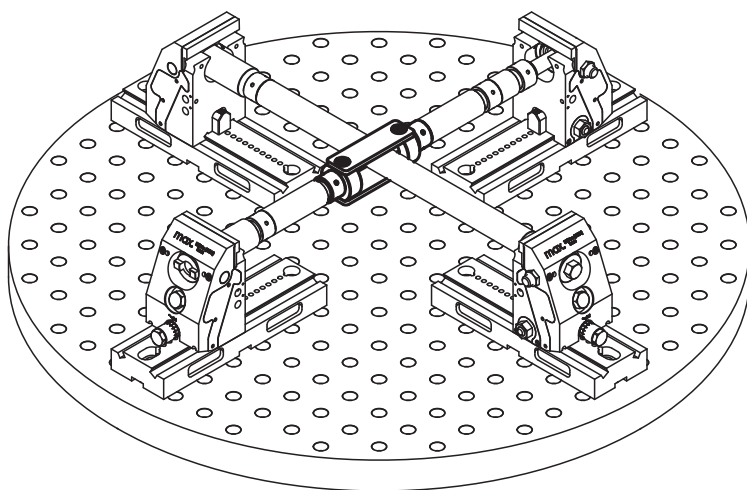
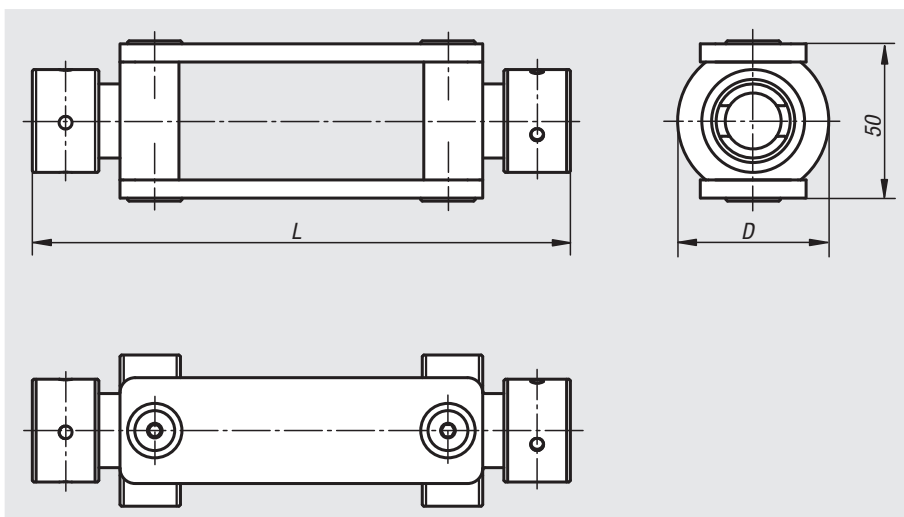
Black oxidised.

Sample order:

nln 41365-178

Note:

Two 5-axis clamping systems can be connected using a coupling for cross-clamping, allowing a workpiece to be held on four sides.



Order No.

D

L

41365-178

50

178

Stop sets


Material:

Steel.

Version:

Swivel arm, black oxidised.
Stop pin bright.

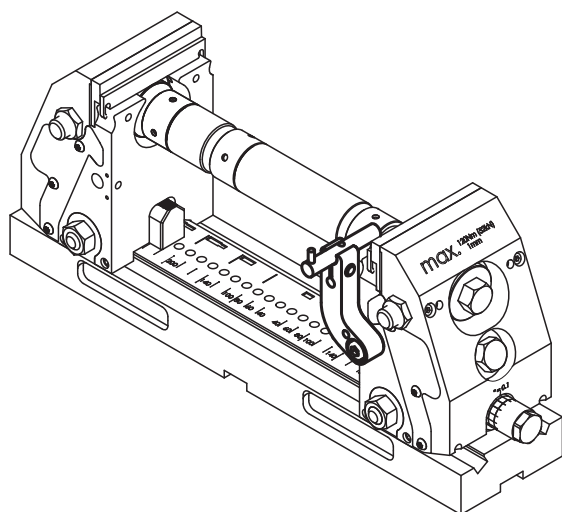
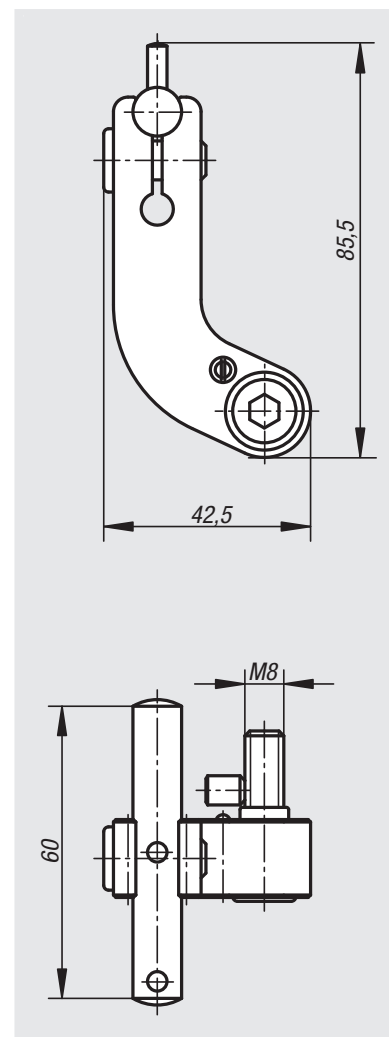
Sample order:

nln 41370-150

Note:

Stop set for direct fastening to jaws. The stop can be swivelled aside for machining the workpiece without losing the stop dimension.

Supplied complete with attachment parts.



Order No.

Suitable for

41370-150

5-axis vice compact and KIPPflexX

Clamping claw sets



Material:
Carbon steel.

Version:
Black oxidised.

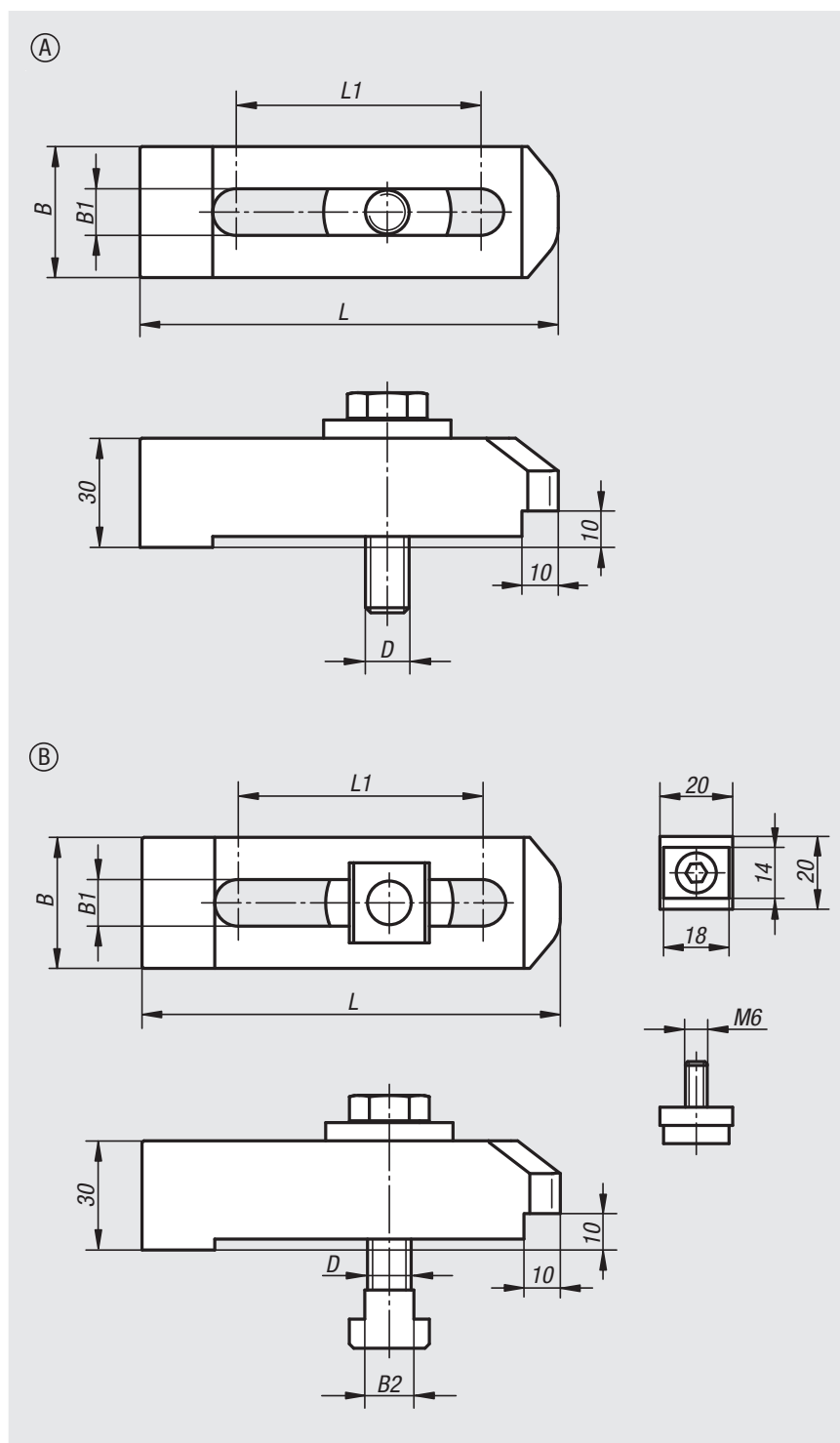
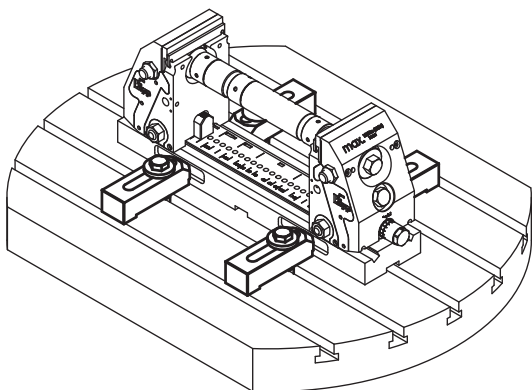
Sample order:
nlm 41375-0012

Note:
Form A
41375-0012
Claw clamp for M12, hex head bolt M12x55 grade 12.9, washer for clamping tool.

41375-0016
Claw clamp for M16, hex head bolt M16x60 grade 12.9, washer for clamping tool.

Form B
41375-1412
Claw clamp for M12, hex head bolt M12x55 grade 12.9, washer for clamping tool,
Nut for T-slots - slot size 14, slot guide key, cap screw M6x12.

41375-1816
Claw clamp for M16, hex head bolt M16x60 grade 12.9, washer for clamping tool,
Nut for T-slots - slot size 18, slot guide key, cap screw M6x12.



Order No.	Form	Form-Type	B	B1	B2	D	L	L1
41375-0012	A	without slot key	40	12,8	-	M12	115	67,2
41375-0016	A	without slot key	40	16,8	-	M16	115	67,2
41375-1412	B	with t-slot key	40	12,8	13,5	M12	115	67,2
41375-1816	B	with t-slot key	40	16,8	17,5	M16	115	67,2

Notes

