

The logo for norelem, featuring the word "norelem" in a bold, white, sans-serif font. The letters "no" and "em" are set against a green background, while the letters "rele" are set against a black background.

norelem

**5-AXIS
CLAMPING SYSTEM**
+ ACCESSORIES



CONTENTS

Visual Directory P. 10

Jaw Vices P. 11 – 27

GERMANY

norelem Normelemente KG
Volmarstraße 1
71706 Markgröningen
Tel. +49 7145 206-41
Fax. +49 7145 206-66
info@norelem.de
www.norelem.de

FRANCE

norelem SAS
5, rue des Libellules
10280 Fontaine-les-Grès
Tel. +33 03 25 71 89 30
info@norelem.fr
www.norelem.fr

SWITZERLAND

norelem Normelemente AG
Chli Ebnet 1
6403 Küsnacht am Rigi
Tel. +41 41 83387 00
info@norelem.ch
www.norelem.ch

UNITED KINGDOM

norelem LTD
Innovation Centre
1 Devon Way
B31 2TS Birmingham
Tel. +44 121 222 5321
info@norelem.co.uk
www.norelem.co.uk

SWEDEN

norelem AB
Zakrisdalsvägen 26
653 42 Karlstad
Tel. +46 545 688 11
info@norelem.se
www.norelem.se

A modern office interior with glass walls and a person's hand resting on a table. The scene is brightly lit with recessed ceiling lights. A dark green rectangular box is overlaid on the image, containing the text "green light for all your projects." in white and green. A person's hand, wearing a grey sweater, is resting on a white table in the foreground. In the background, there are white office chairs and a glass-walled meeting room.

**green light
for all your
projects.**

You get a green light for all your other ideas with our full range of high quality standard parts from our complete catalogue the BIG GREEN BOOK. Order your complimentary copy from www.norelem.com



THE FULL RANGE IN THE BIG GREEN BOOK

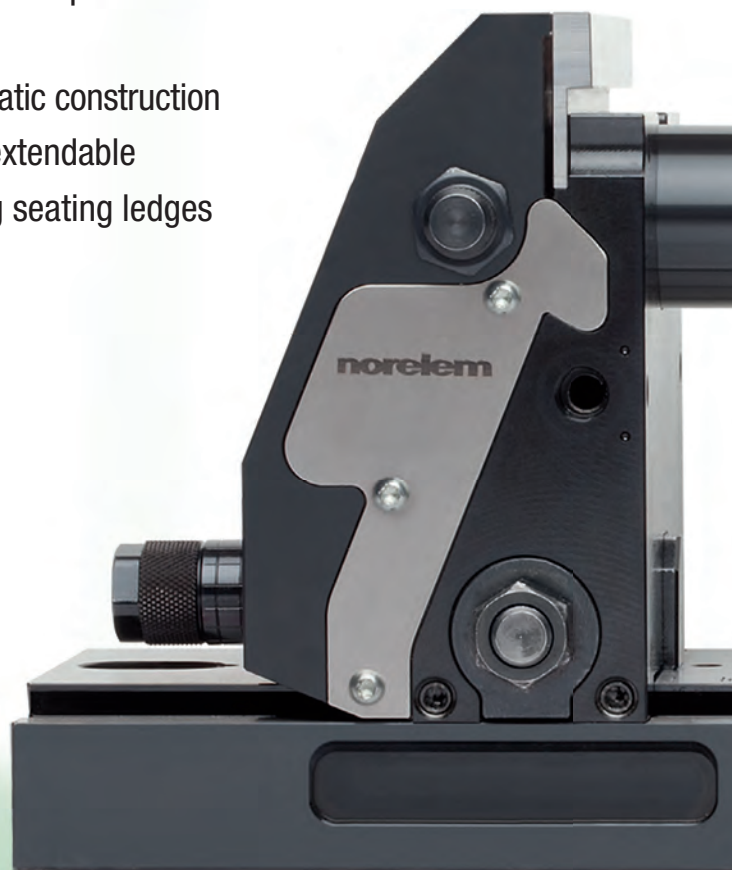
5-AXIS CLAMPING SYSTEM COMPACT

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.

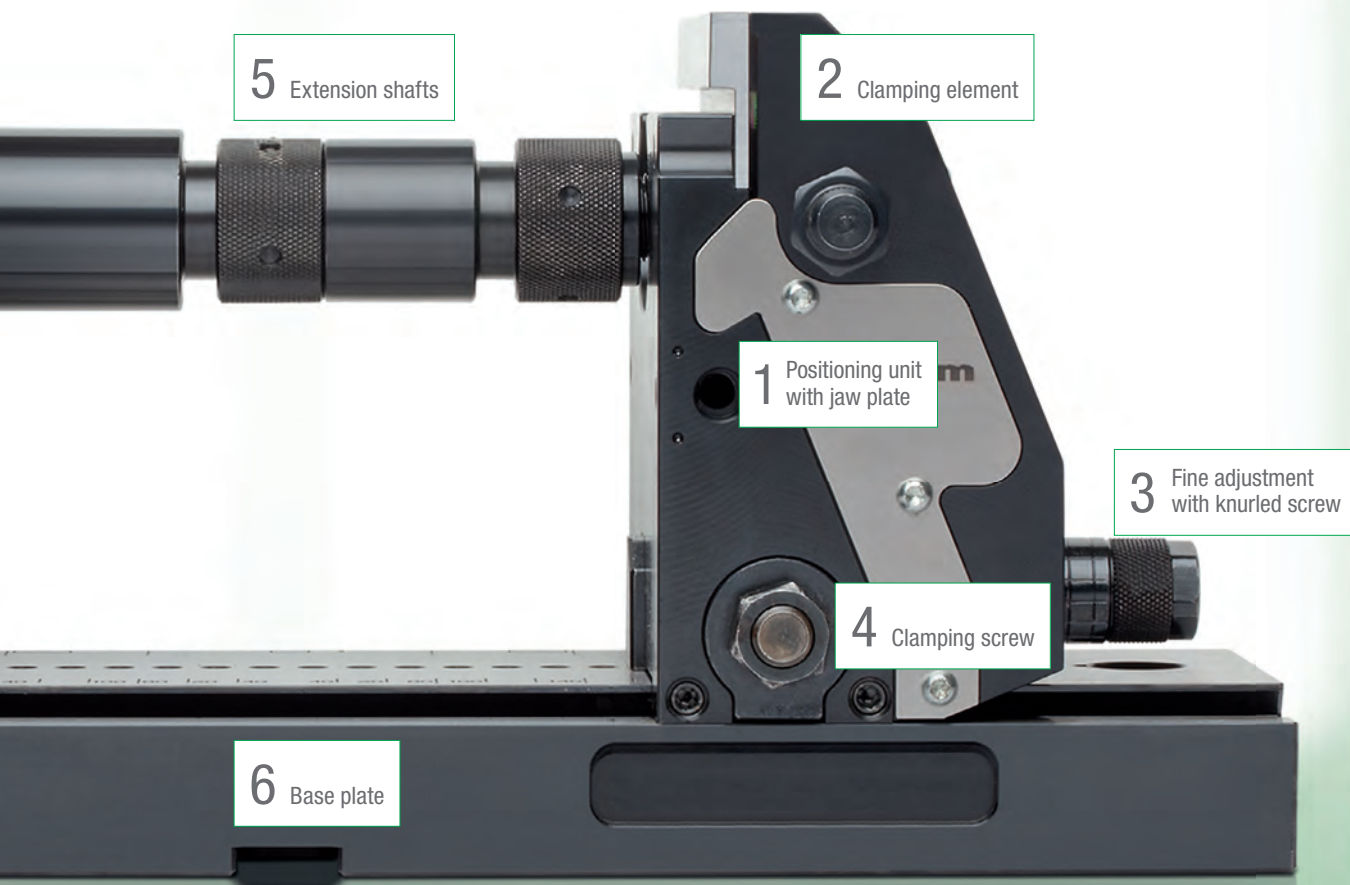
The intelligent clamping technology increases clamping rigidity for the highest cutting and feed forces. The optimal accessibility to the workpiece allows short, standard tooling to be used. Tooling costs are significantly reduced.

ADVANTAGES

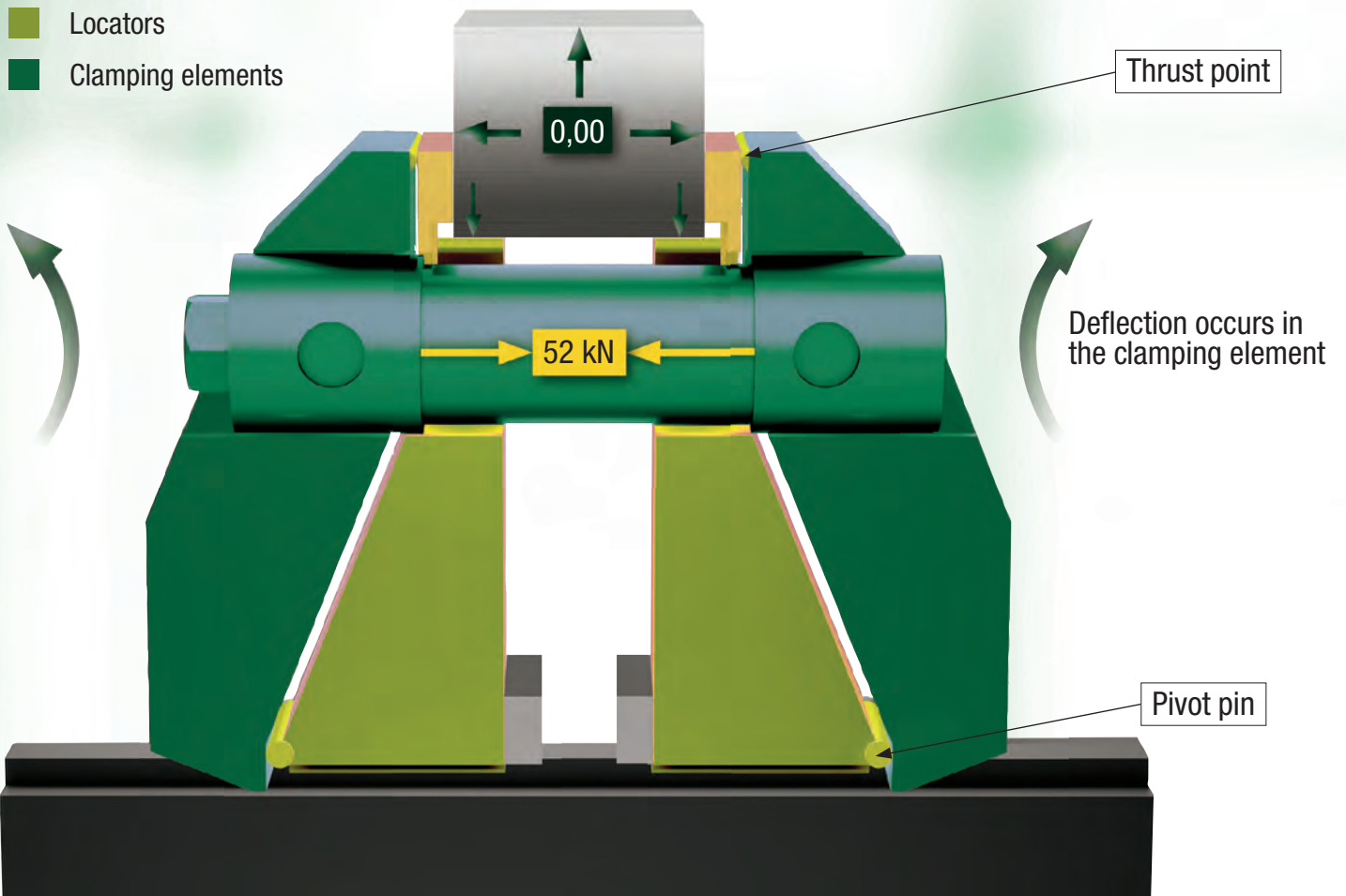
- Very high tractive force
- High stiffness in the system
- Pull-down function of the jaw plates on both sides
- Optimum fine adjustment of the jaw plates on the workpiece
- Increased tool service life
- The workpiece is always centred due to the systematic construction
- Large clamping width, 20 mm 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



norelem clamps.



highest
clamping
force,
maximum
stiffness.



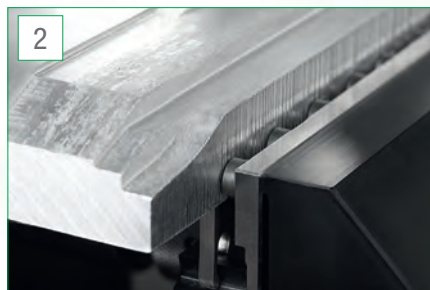
FORCES

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



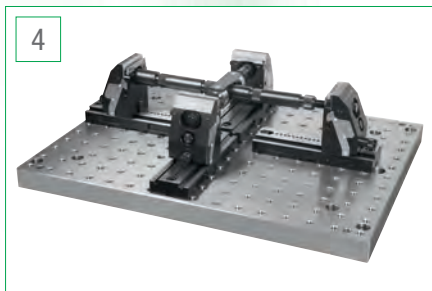
Clamped workpiece using jaw plates with pins. The high tractive force creates a positive clamping situation.



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



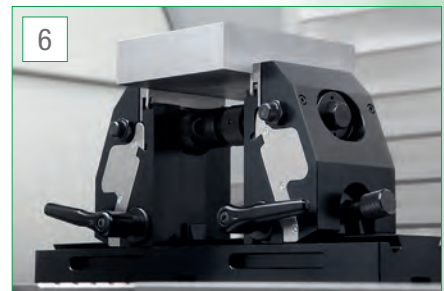
Blank after clamping. Clamping pin imprint is visible on the edge of the workpiece.



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.



41300
Page 12



5-axis clamping system compact jaw plate, smooth



41330
Page 18



Jaw plates with pins for pendulum jaws



41305
Page 13



Base plates



41335
Page 19



Centre jaws



41355
Page 24



Extension shafts



41360
Page 24



Adapter shafts



41365
Page 25



Couplings for cross-clamping



41370
Page 26



Stop sets



41375
Page 27



Clamping claw sets



41315
Page 14



Vice jaws complete



41340
Page 20



Jaw plates smooth for centre jaws



41320
Page 15



Jaw plates smooth



41340
Page 20



Jaw plates with pins for centre jaws



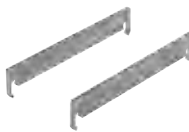
41320
Page 15



Jaw plates with pins



41345
Page 21



Seating ledges



41325
Page 16



Pendulum jaws



41060
Page 22



Jaw pins



41330
Page 17



Jaw plates smooth for pendulum jaws



41350
Page 23



Cylinder clamping sets



Article new/expanded

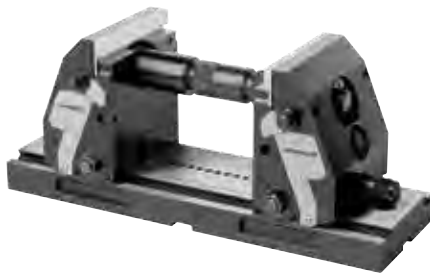
41000

Vices



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:

nIm 41300-124000901500

Note:

The clamping jaws can be re-adjusted to new workpieces rapidly and securely thanks to ease of use and quick adjustment by means of a scale. The workpiece always centres itself due to the symmetrical structure of the 5-axis clamping system. Short standard tools can be used thanks to optimum accessibility to the workpiece. This reduces tooling costs significantly. Clamping widths from 20 mm to 320 mm are possible.

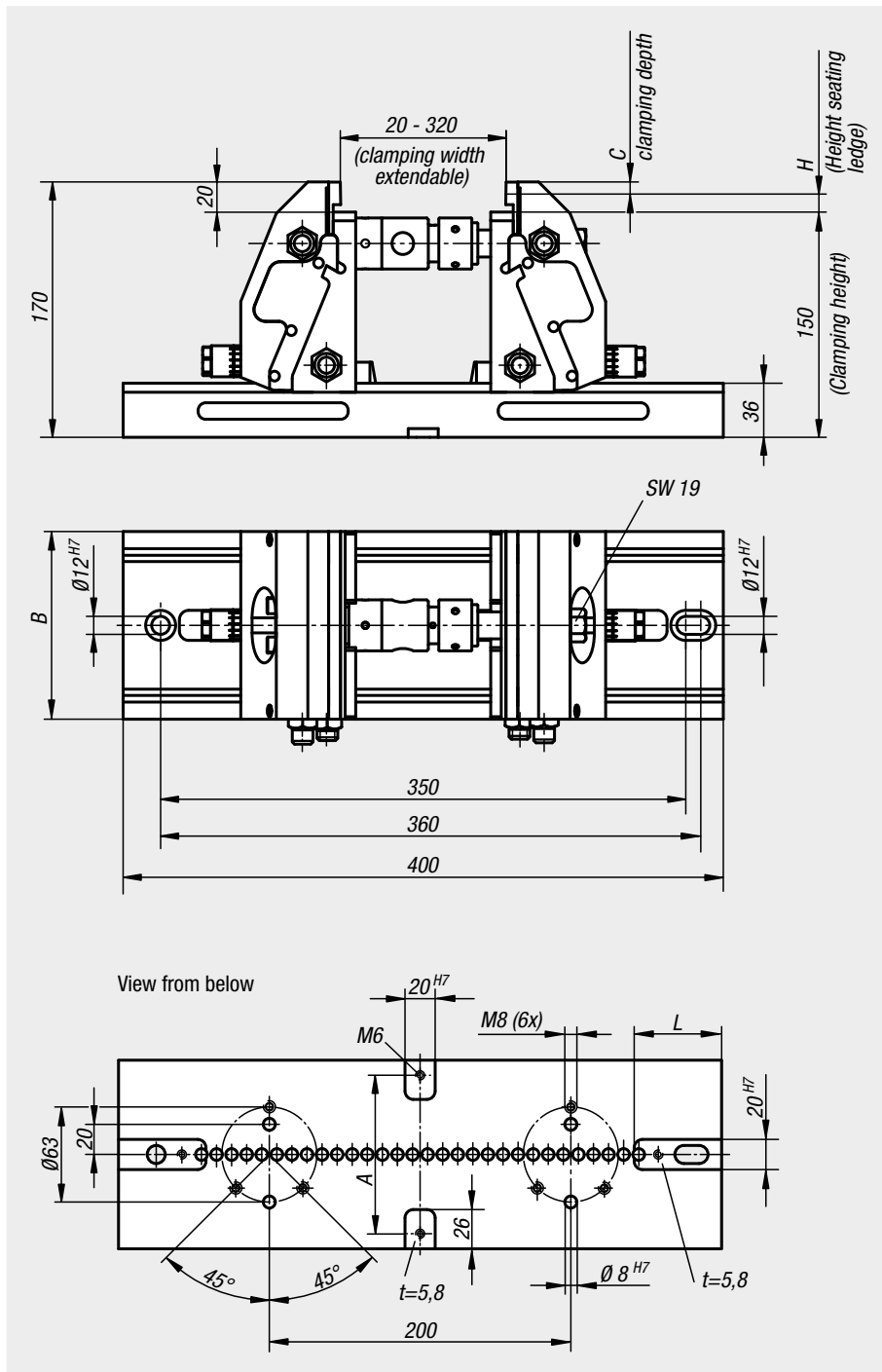
Assembly:

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.

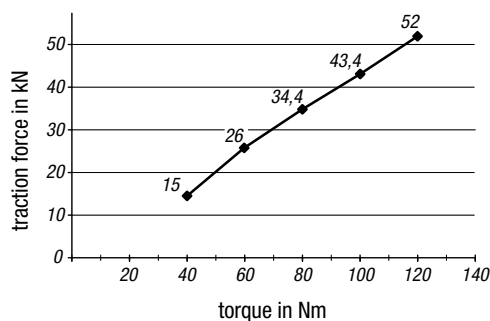
Accessories:

- 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
41300-124000901500	70	90	8/3	12/17	57,5	52	07533-12055
41300-124001251500	105	125	8/3	12/17	58	52	07533-12055

Base plates

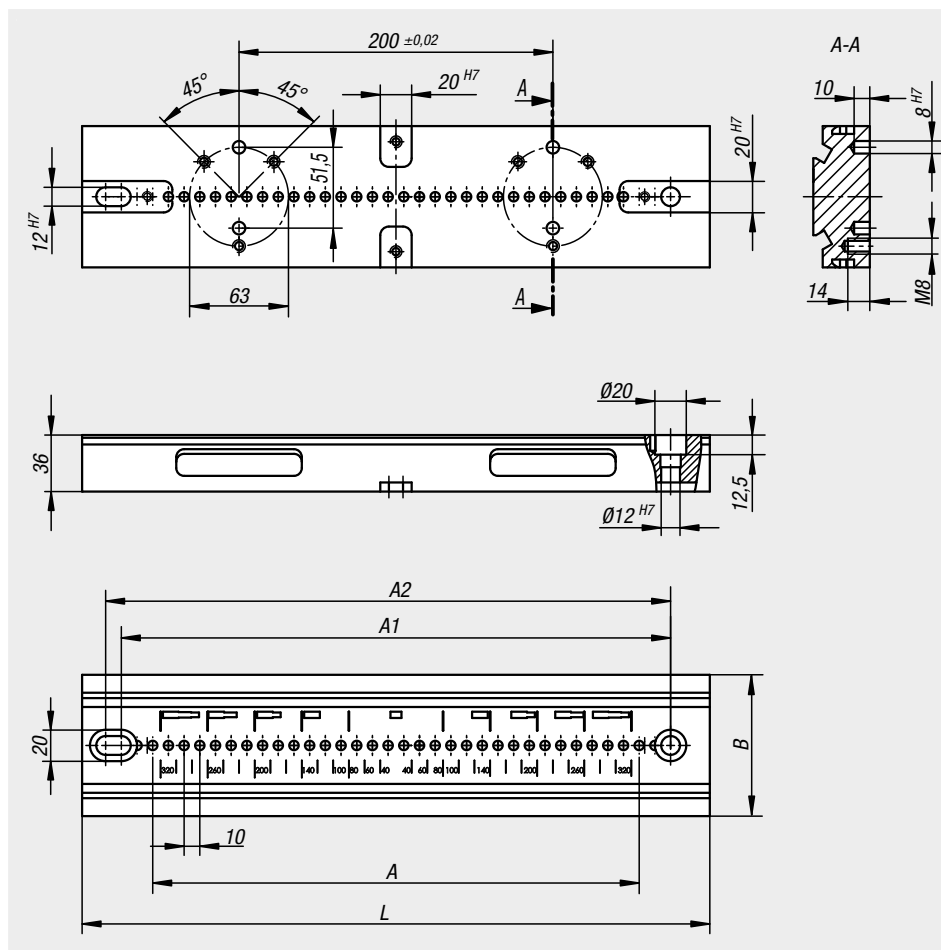


Material:
Steel.

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
41305-090280	20x10	240	250	90	280	07533-12055
41305-125280	20x10	240	250	125	280	07533-12055
41305-090400	31x10	350	360	90	400	07533-12055
41305-125400	31x10	350	360	125	400	07533-12055

Vice jaws, complete


Material:

Jaws mild steel.
Jaw plates tool steel.

Version:

Jaws black oxidised.
Vice jaws bright.

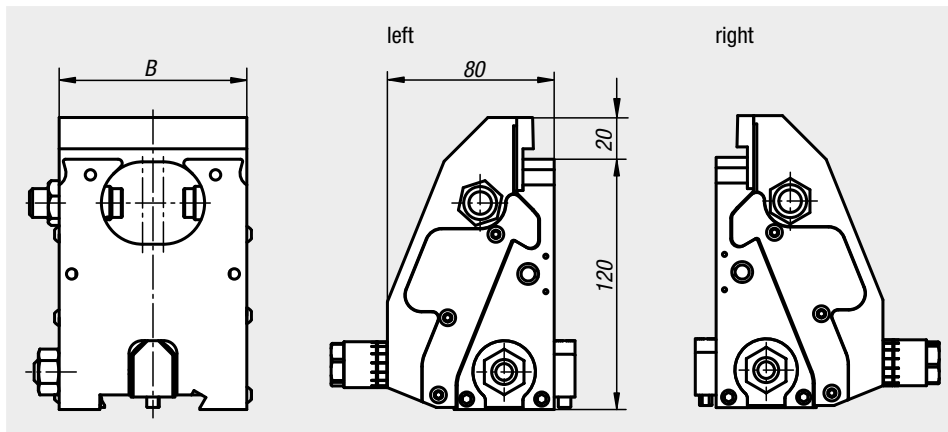
Sample order:

nIm 41315-09015010

Note:

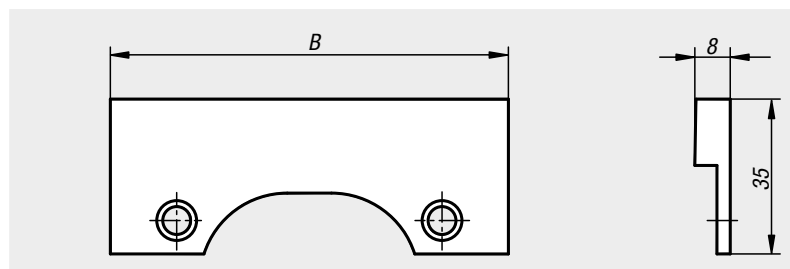
These vice jaws are for expanding the 5-axis clamping system compact.

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
41315-12515020	left	125
41315-12515010	right	125
41315-09015020	left	90
41315-09015010	right	90

Jaw plates smooth


Material:

Tool steel.

Version:

Hardened, bright.

Sample order:

nIm 41320-0900

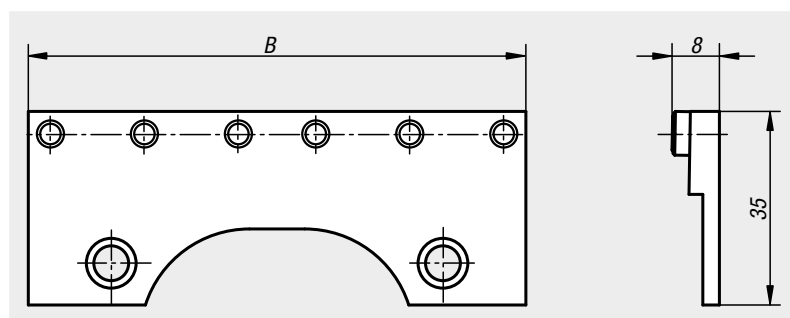
Note:

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:

nIm 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

Pendulum jaws


Material:

Body mild steel.
Jaw plates tool steel.

Version:

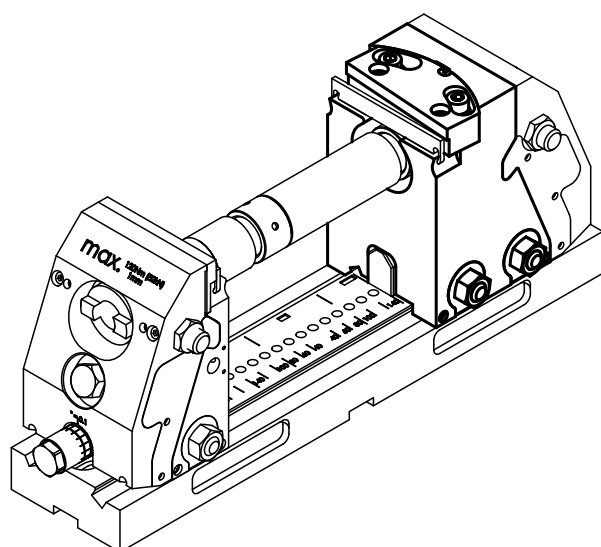
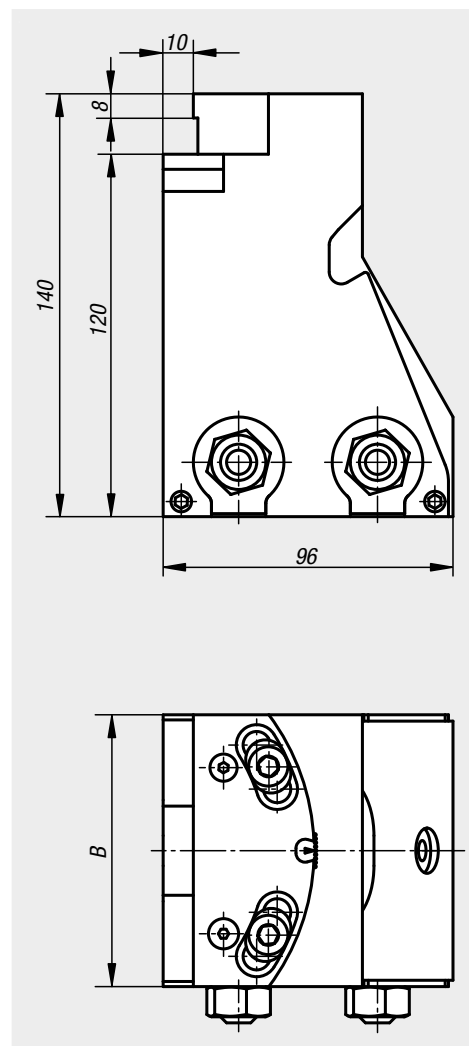
Body black oxidised.
Vice jaws hardened, bright.

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
41325-09015010	90
41325-12515010	125

Jaw plates smooth

for pendulum jaws



Material:

Tool steel.

Version:

Hardened, bright.

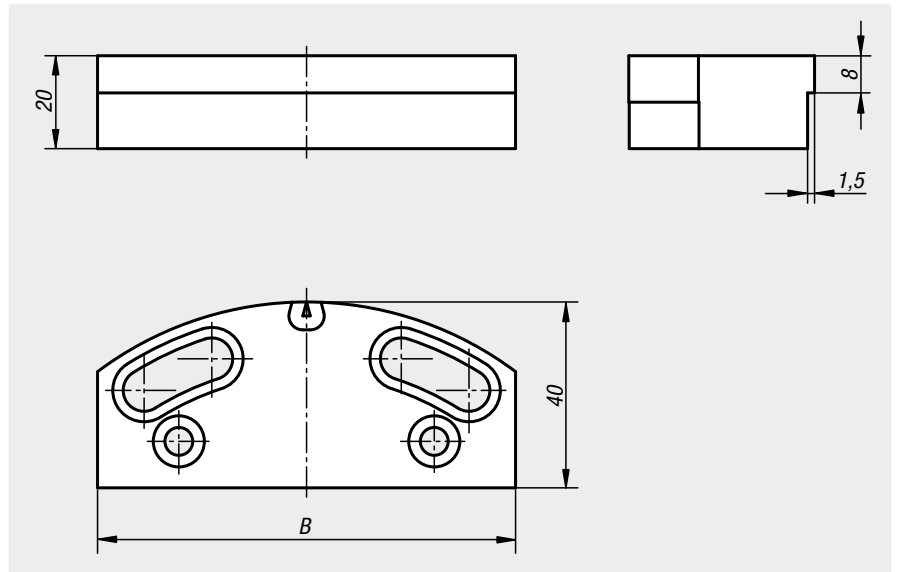
Sample order:

nIm 41330-0900

Note:

For clamping pre-machined and ground workpieces.

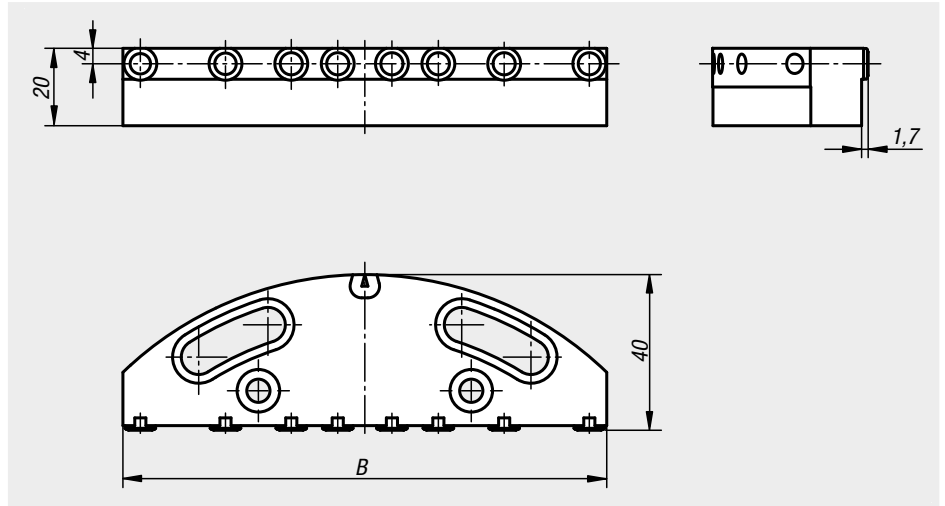
Supplied singly.



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:

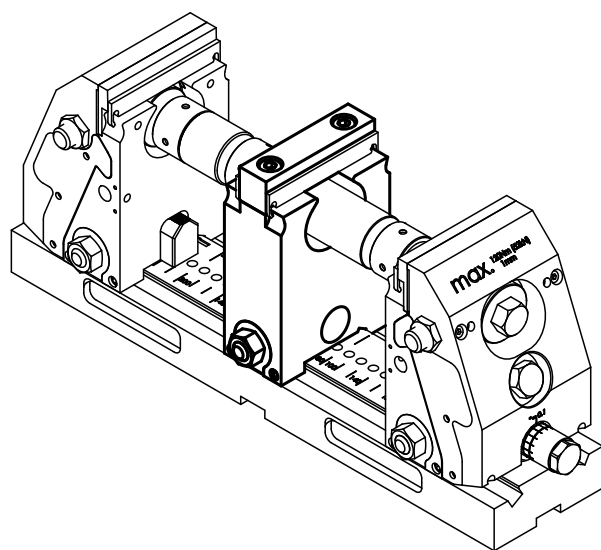
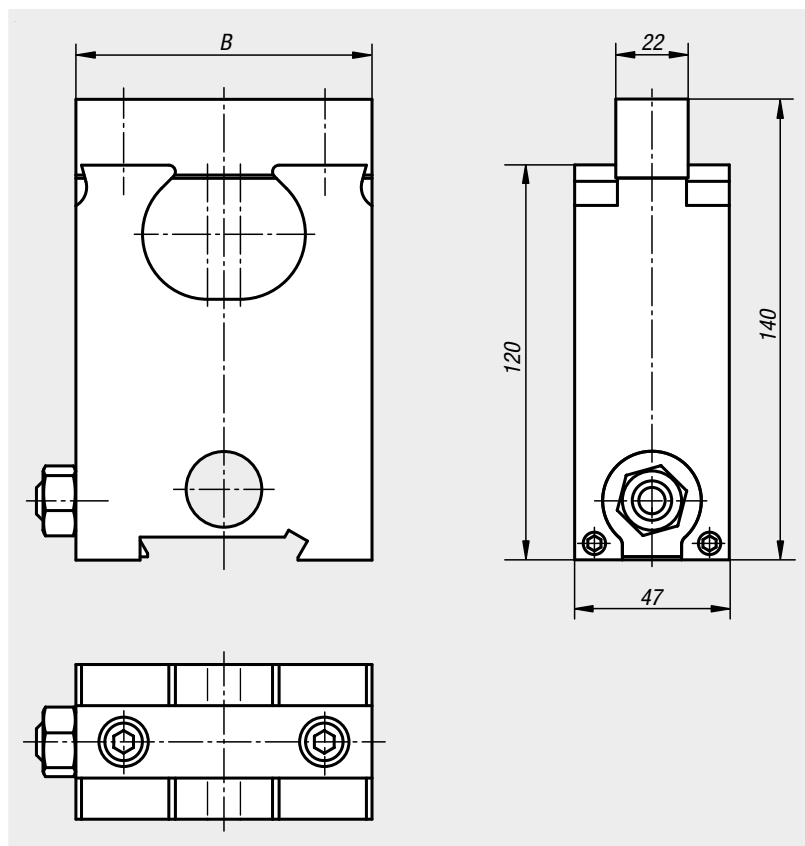
Body black oxidised.
Vice jaws hardened, bright.

Sample order:

nIm 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

41335-0901500

90

41335-1251500

125

Jaw plates smooth

for centre jaws



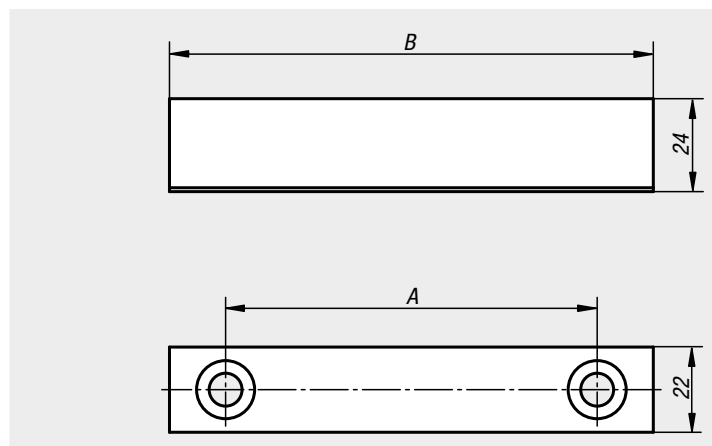
Material:
Tool steel.

Version:
Hardened, bright.

Sample order:
nlm 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



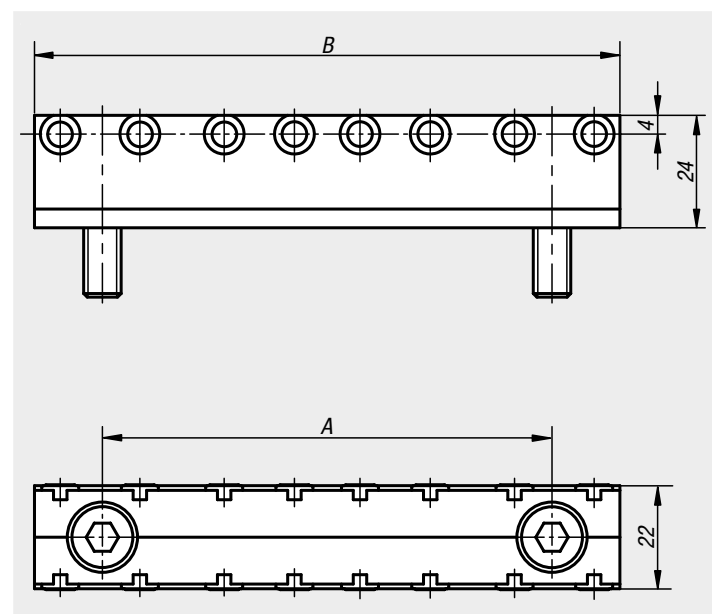
Material:
Tool steel.

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

Sample order:
nlm 41340-0901

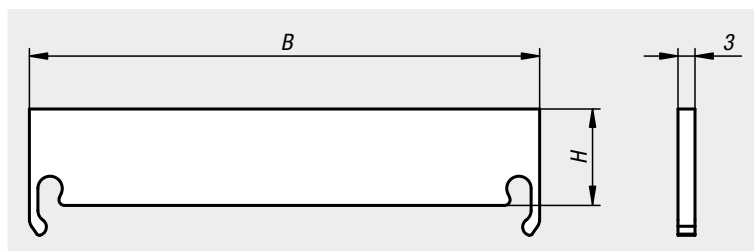
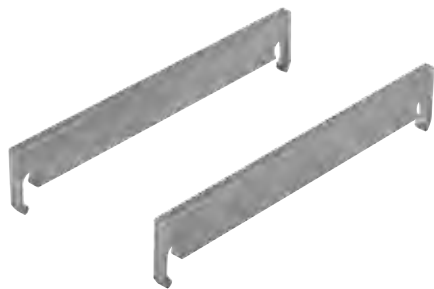
Note:
For positive clamping without preforming, e.g. rough pieces, heavy cutting, castings etc.

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:

nln 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

Jaw pins

**Material:**

Tool steel.

Version:

Hardened.

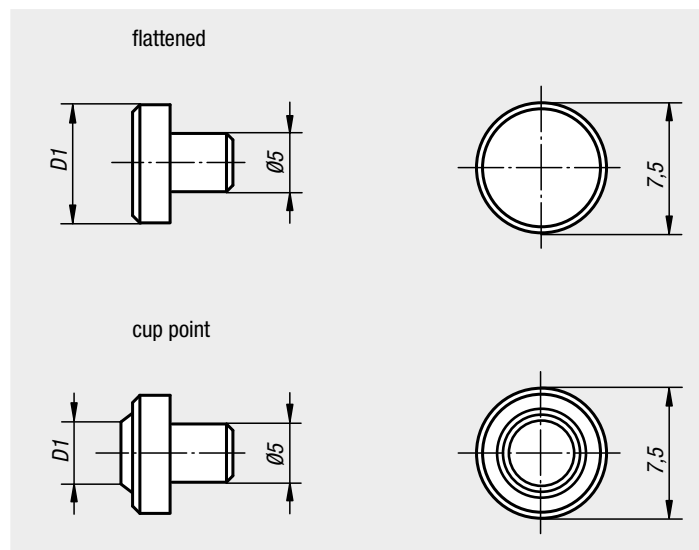
Sample order:

nlm 41060-05000

Note:

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

Installed by pressing in.



Order No.	Version	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.

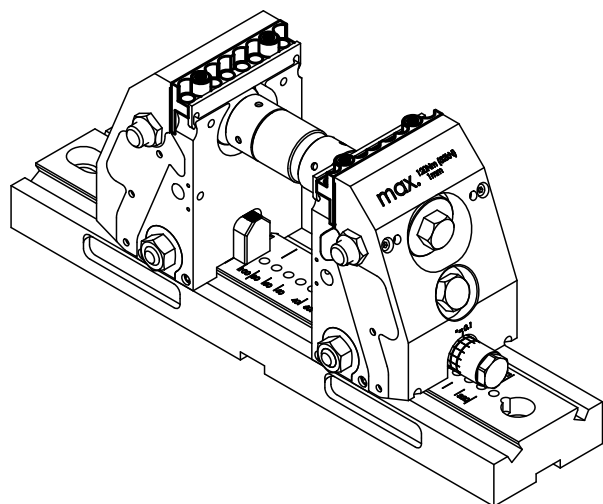
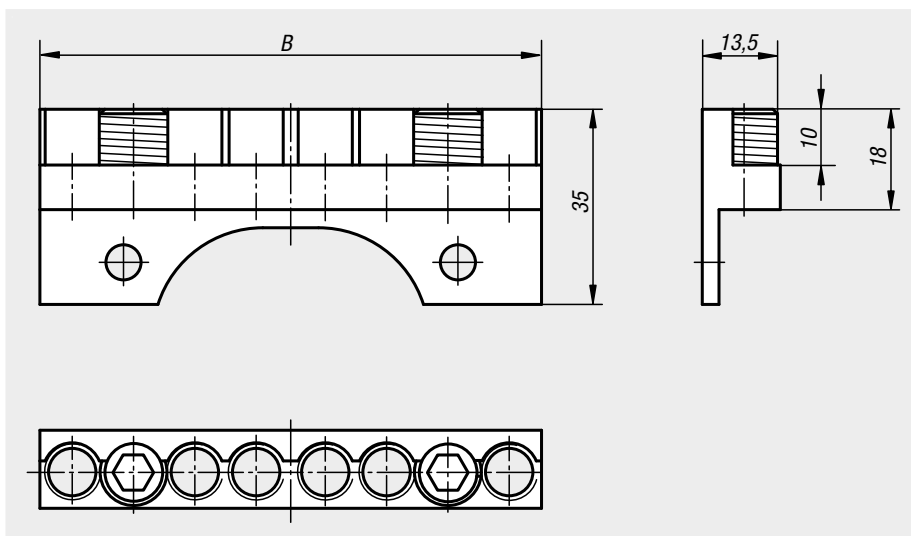
Sample order:

nIm 41350-09035

Note:

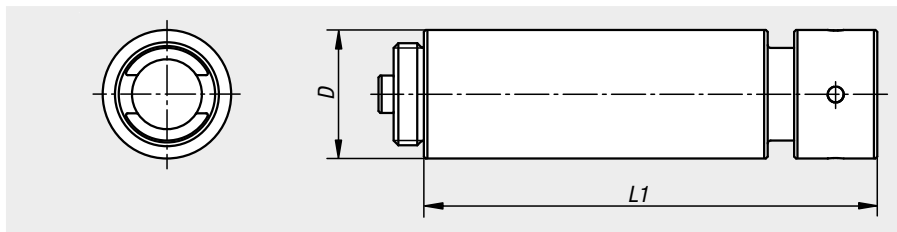
For holding round workpieces.

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:

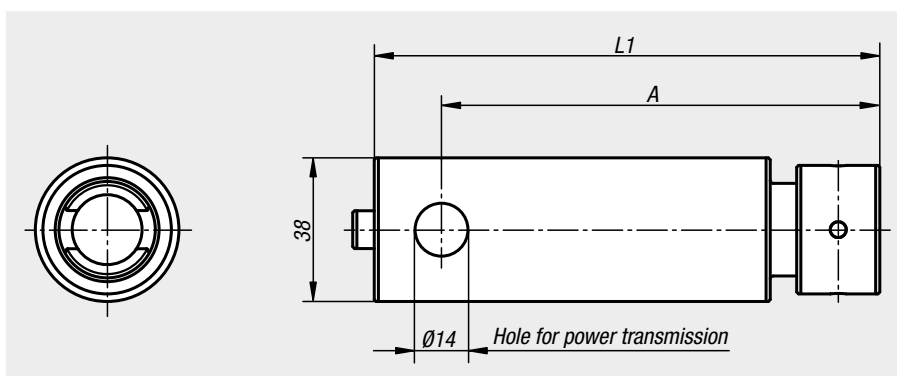
For setting the clamping width.

Supplied with union nut.

The extension shafts can be combined as required.

Order No.	D	L1
41355-060	34	60
41355-120	34	120
41355-240	34	240
41355-480	34	480

Adapter shafts


Material:

Carbon steel.

Version:

Black oxidised.

Sample order:

nIm 41360-060

Note:

For setting the clamping width.

Supplied with union nut.

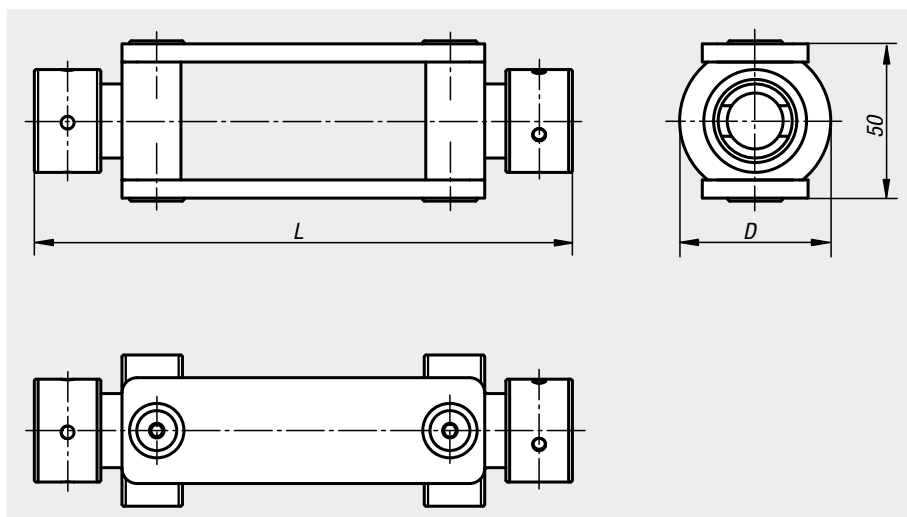
The adapter shafts are linked to the vice jaws by the lateral holes.

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

Order No.	A	L1
41360-060	56	74
41360-120	116	134

Couplings

for cross-clamping



Material:

Carbon steel.

Version:

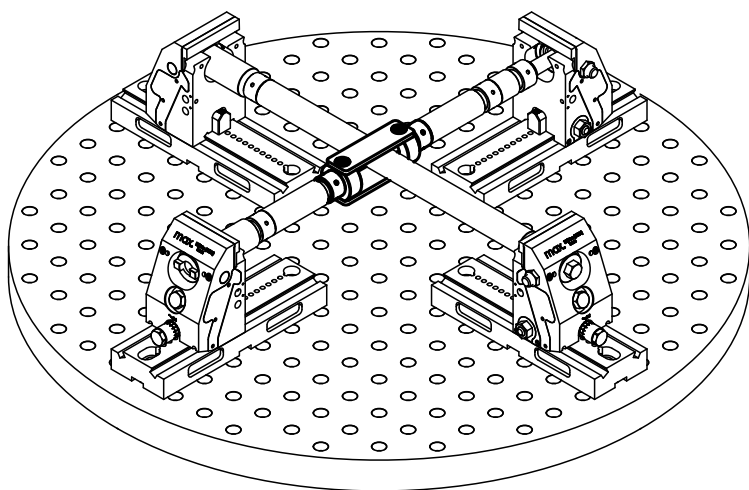
Black oxidised.

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.

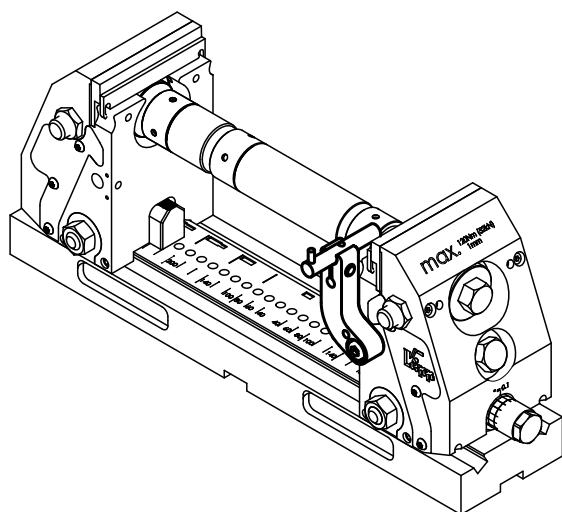
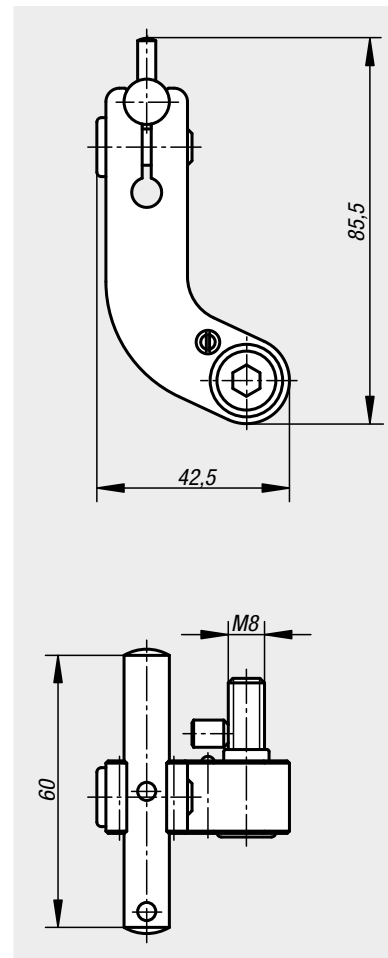
Sample order:

nIm 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.



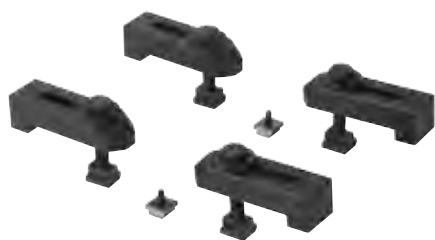
Order No.

Suitable for

41370-150

5-axis compact clamping system

Clamping claw sets

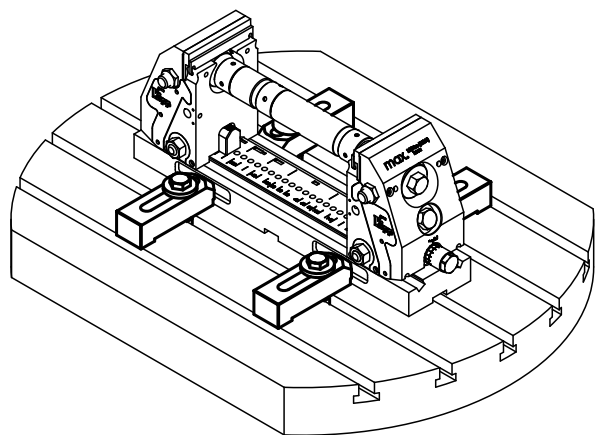
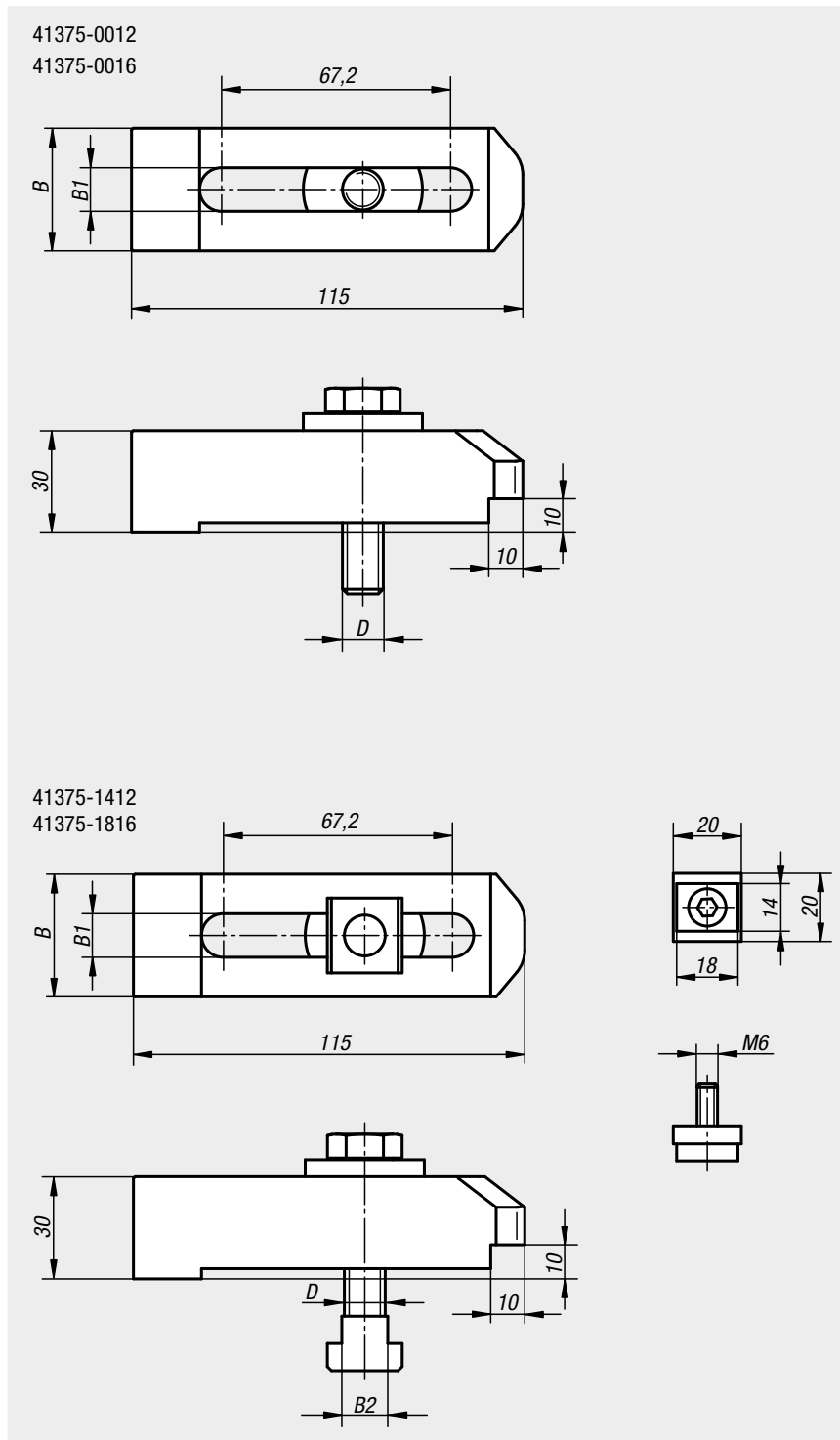


Material:
Carbon steel.

Version:
Black oxidised.

Sample order:
nlm 41375-0012

Note:
Clamping claw set for compact 5-axis clamping system.
All common T-slots, grid and fastening hole spacings can be covered.



Order No.	B	B1	B2	D
41375-0012	40	12,8	-	M12
41375-0016	40	16,8	-	M16
41375-1412	40	12,8	13,5	M12
41375-1816	40	16,8	17,5	M16

