

## 5-axis clamping system compact



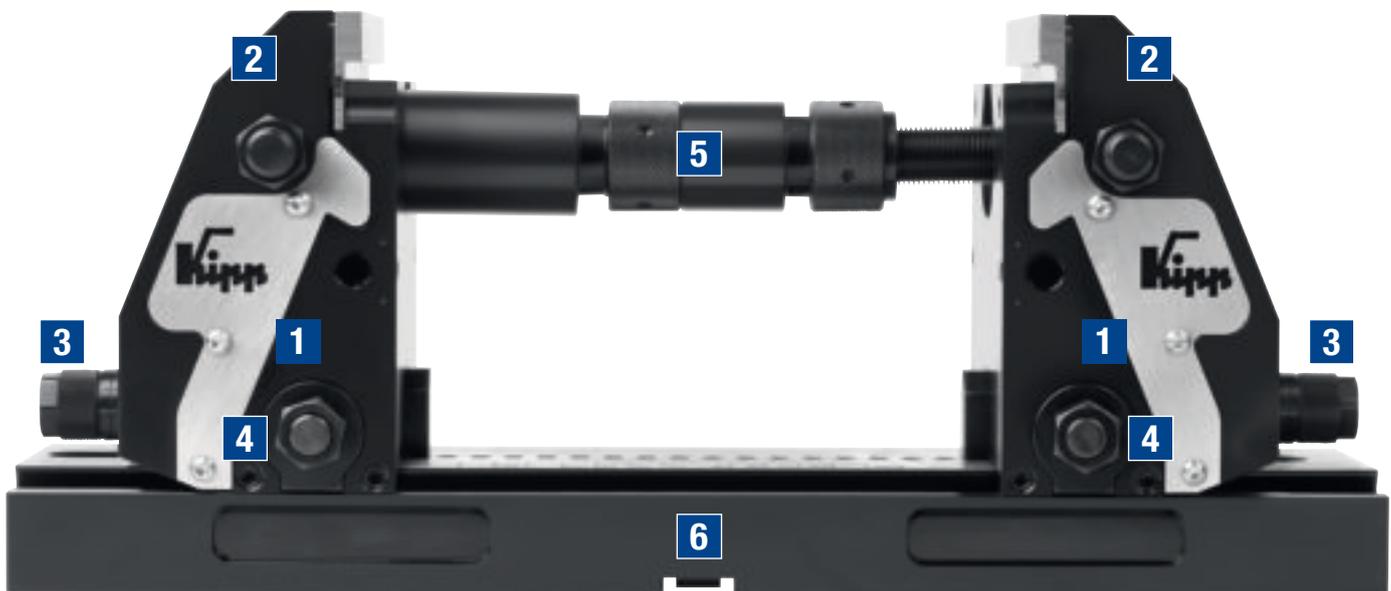
# 5-axis clamping system compact



## Function

We are setting standards with the new “KIPP 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** Clamping element
- 3** Fine adjustment with knurled screw
- 4** Clamping screw
- 5** Extension shafts
- 6** Base plate

### ADVANTAGES:

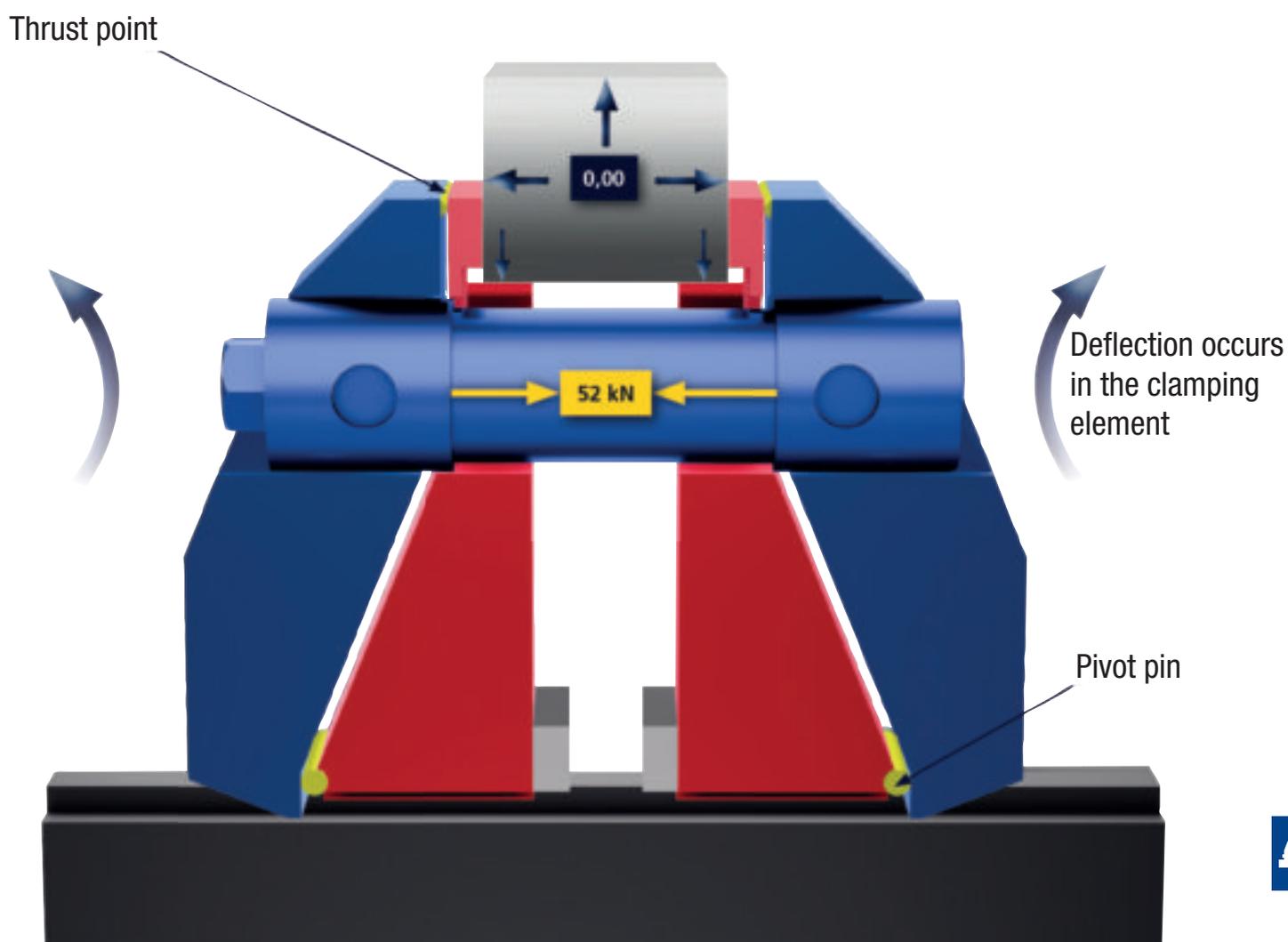
- Very high tractive force
- High stiffness in the system
- Pull-down function of the jaw plates on both sides
- Optimum fine adjustment of the jaw plates on the workpiece
- Increased tool service life
- The workpiece is always centred due to the systematic construction
- Large clamping width, 20 mm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

### NEW CLAMPING TECHNOLOGY PATENT PENDING

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



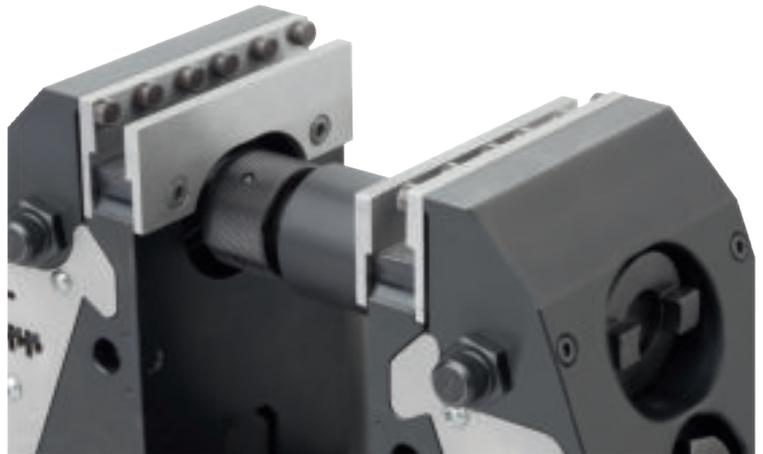
- Clamping elements
- Locators



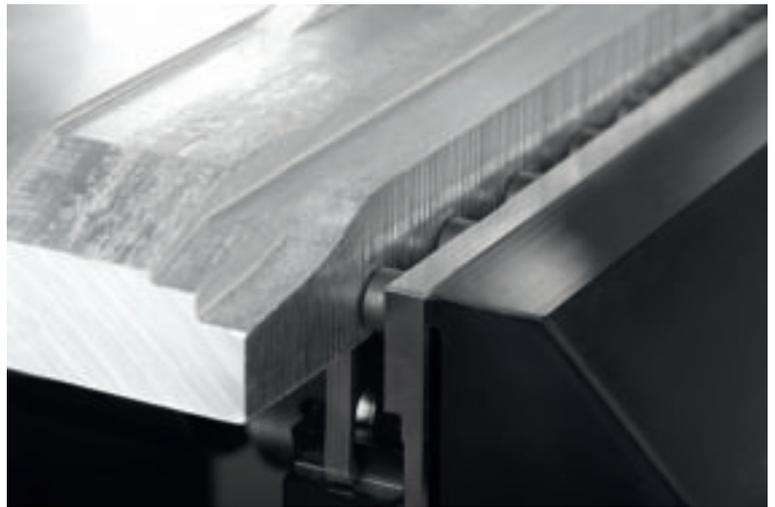
# Applications



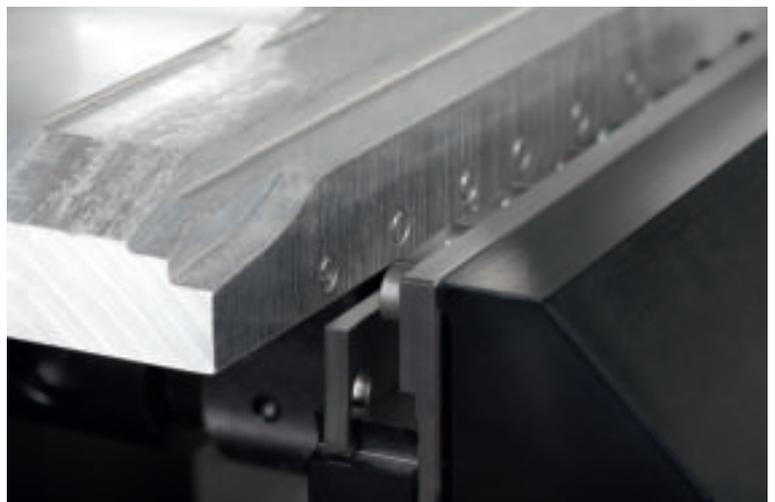
5-axis compact clamping system incl. clamping jaw with pins for clamping unmachined parts, and screwed-on seating ledges. The clamping depth can be determined by milling a seat.



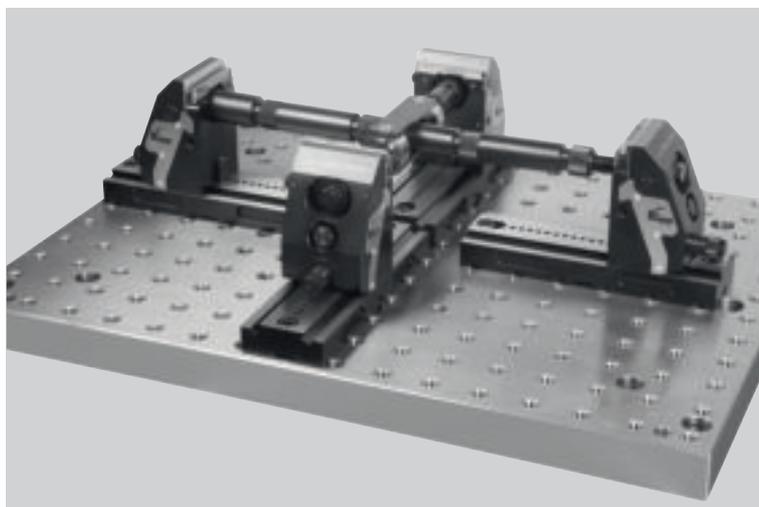
Clamped blank. Sure set-up through positive clamping pins.



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.



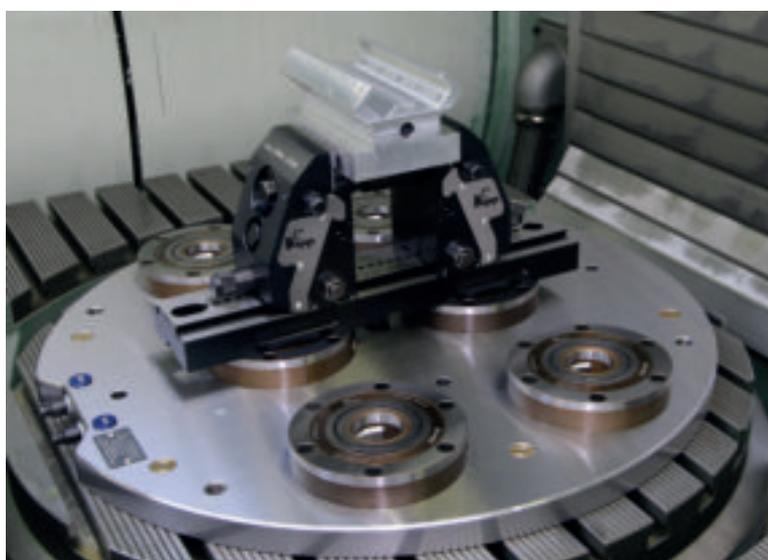
5-axis compact clamping system positioned directly on the machine table.

Use of pendulum jaws which also act as fixed jaws.

Workpiece clamping with smooth jaws.

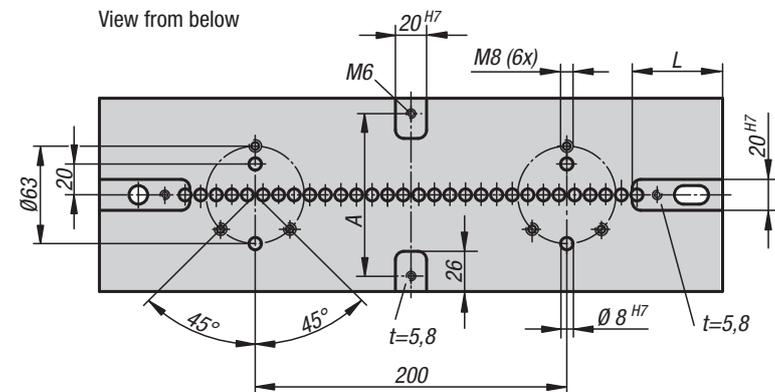
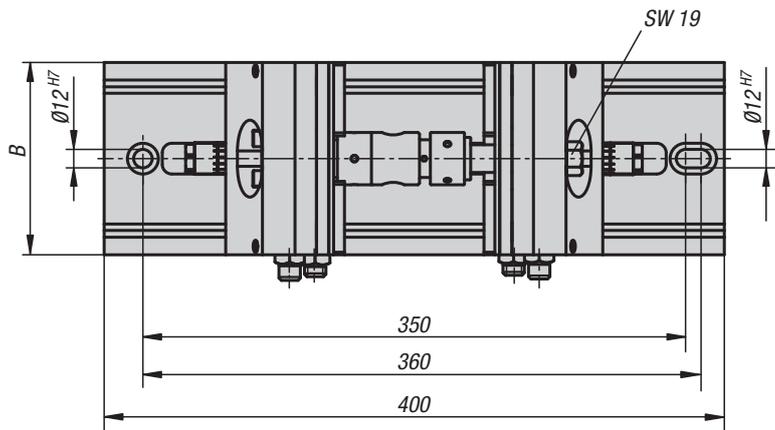
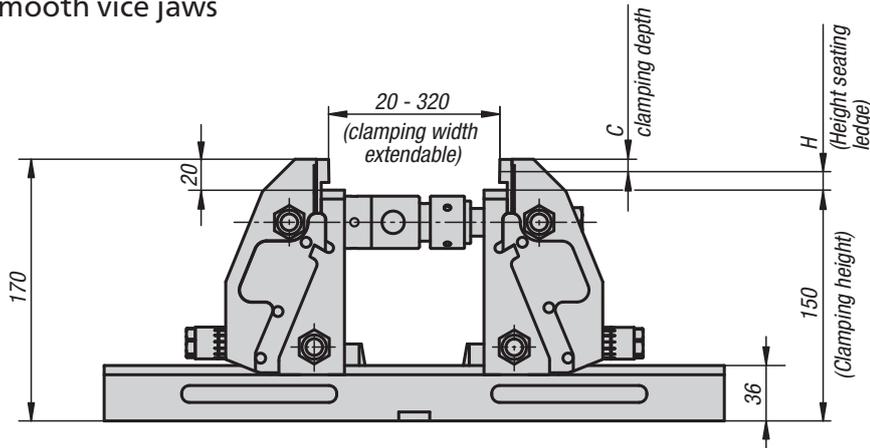


Mounted directly on a KIPP zero-point clamping system over the integrated clamping bolts in the vice base plate.



## 5-axis clamping system compact

smooth vice jaws



**Material:**

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

**Version:**

Jaws black oxidised.  
Jaw plates bright.

**Sample order:**

K0973.124000901500

**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:**

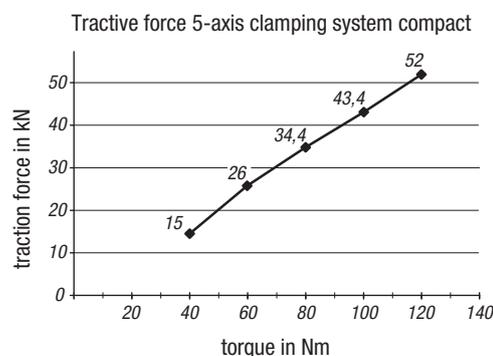
The 5-axis clamping system compact can be mounted on T-slot tables, grid systems or, using an adapter flange on conventional zero-point clamping systems.

**Scope of delivery:**

**Accessories:**

- Seating ledges K0974
- Jaw plates K0975
- Pendulum jaws K0988
- Centre jaws K0987
- Coupling for cross-clamping K0992

Order the seating ledges and jaw plates with pins separately.

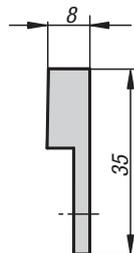
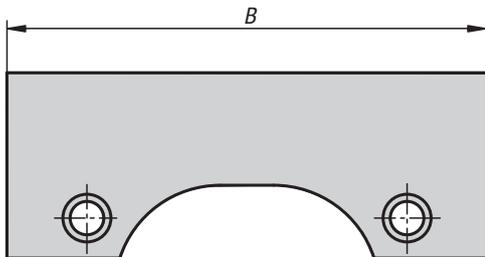


**KIPP 5-axis clamping system compact, smooth vice jaws**

Order No.	A	B	C	H	L	Tractive force max. kN	Suitable shoulder screw	weight kg
K0973.124000901500	70	90	8/3	12/17	57,5	52	K0815.12055	21.96
K0973.124001251500	105	125	8/3	12/17	58	52	K0815.12055	30.16

# K0975

## Jaw plates smooth



**Material:**  
Tool steel.

**Version:**  
Hardened, bright.

**Sample order:**  
K0975.0900

**Note:**  
For clamping pre-machined workpieces and for final machining.

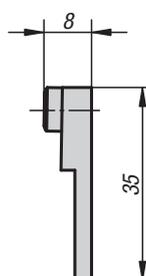
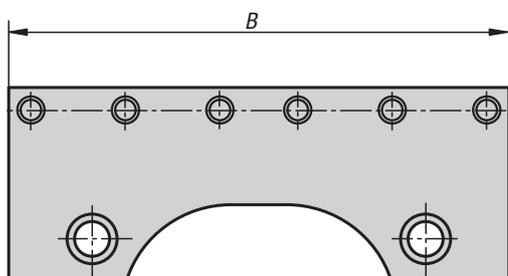
Supplied singly.

### KIPP Jaw plates smooth

Order No.	B
K0975.0900	90
K0975.1250	125

# K0975

## Jaw plates with pins



**Material:**  
Tool steel.

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

**Sample order:**  
K0975.0901

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

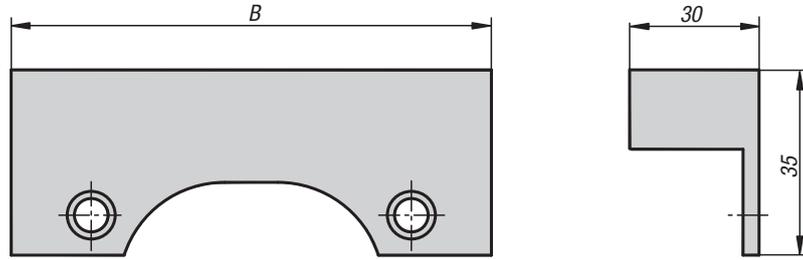
Supplied singly.

### KIPP Jaw plates with pins

Order No.	B	No. of pins
K0975.0901	90	6
K0975.1251	125	8

## Jaw plates

machinable



**Material:**  
Carbon steel.

**Version:**  
Black oxidised.

**Sample order:**  
K0975.0902

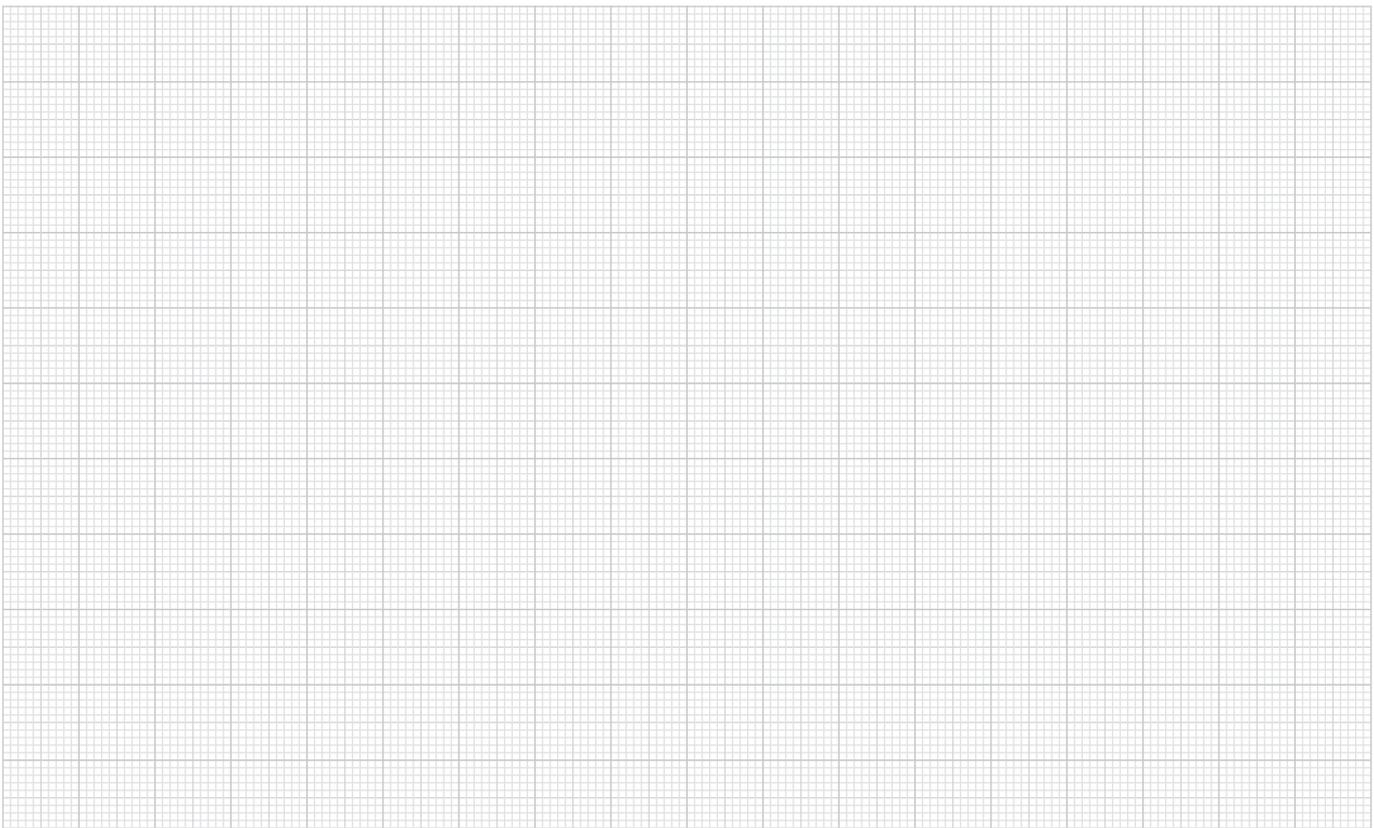
**Note for ordering:**  
Supplied singly.

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

### KIPP Machinable jaw plates

Order No.	B
K0975.0902	90
K0975.1252	125

## Notes



## Seating ledges



**Material:**  
Hardened steel

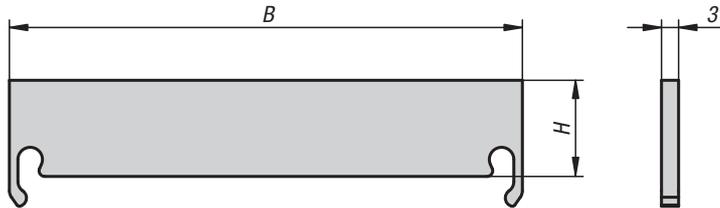
**Version:**  
Bright.

**Sample order:**  
K0974.0900312

**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.

**Accessories:**  
for K0973



### KIPP Seating ledges

Order No.	B	H
K0974.0900312	90	12
K0974.0900317	90	17
K0974.1250312	125	12
K0974.1250317	125	17

## Seating ledges

screw-on



**Material:**  
Steel.

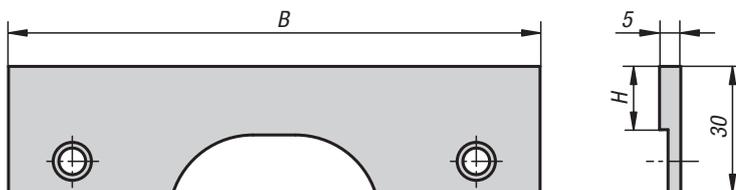
**Version:**  
Bright.

**Sample order:**  
K0974.0900515

**Note:**  
Screw-on seating ledges are used to set the seating height of the workpiece. The desired seating height is achieved by milling over the screwed on ledges. A very high accuracy of the height to the machine table can be achieved.

Supplied in pairs.

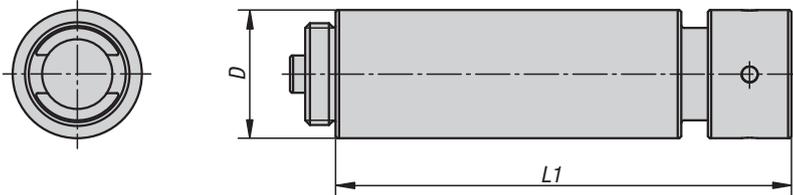
**Accessories:**  
for K0973



### KIPP Seating ledges, screw-on

Order No.	B	H
K0974.0900515	90	15
K0974.1250515	125	15

## Extension shafts



**Material:**  
Carbon steel.

**Version:**  
Black oxidised.

**Sample order:**  
K0990.060

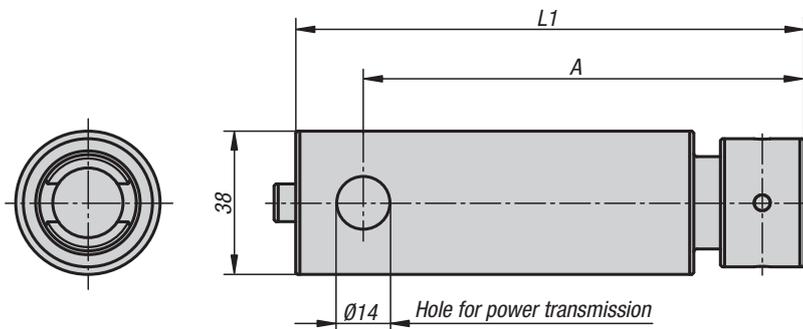
**Note:**  
For setting the clamping width.  
Supplied with union nut.  
The extension shafts can be combined as required.

### KIPP Extension shafts

Order No.	D	L1
K0990.060	34	60
K0990.120	34	120
K0990.240	34	240
K0990.480	34	480

# K0991

## Adapter shafts



**Material:**  
Carbon steel.

**Version:**  
Black oxidised.

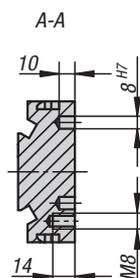
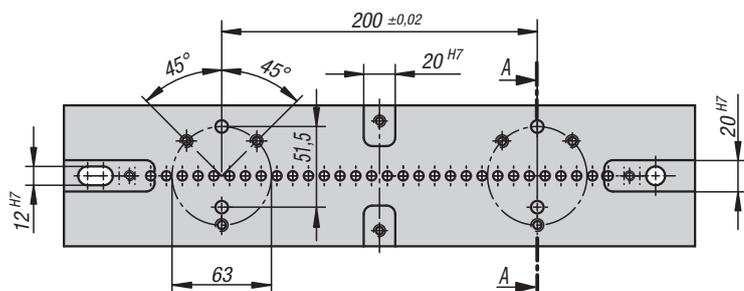
**Sample order:**  
K0991.060

**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.

### KIPP Adapter shafts

Order No.	D	L
K0991.060	38	60
K0991.120	38	120

## Base plates

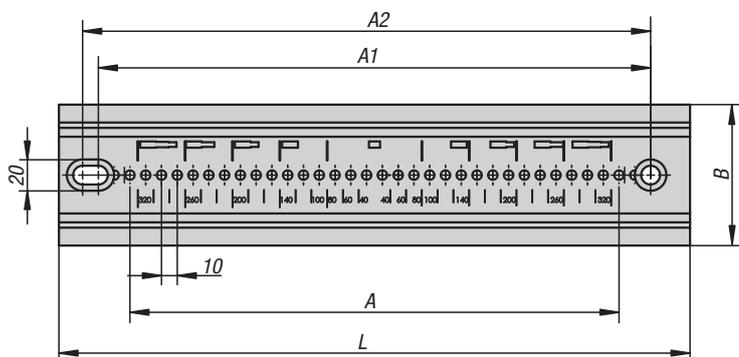
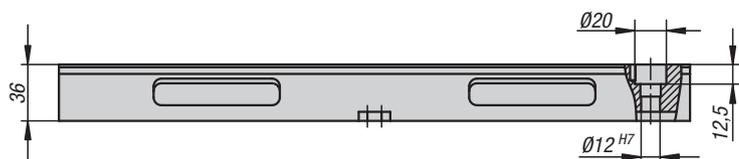


**Material:**  
Steel.

**Version:**  
Black oxidised.  
Function faces ground.

**Sample order:**  
K0994.090280

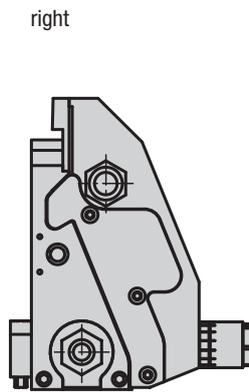
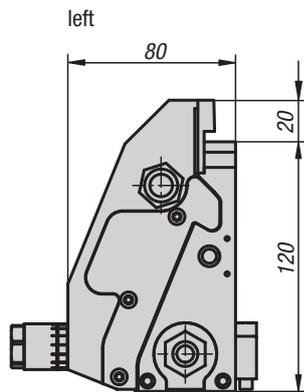
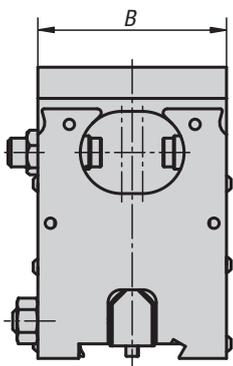
**Note:**  
Base plates with locating slots on the underside for easy alignment of the plate on the machine table. Securing via grid holes 12F7 for 40 mm and 50 mm grid spacing possible. Lateral recesses provided for separate clamping means.



### KIPP Base plates

Order No.	A	A1	A2	B	L	Suitable shoulder screw	weight kg
K0994.090280	20x10	240	250	90	280	K0815.12055	5.74
K0994.125280	20x10	240	250	125	280	K0815.12055	8.52
K0994.090400	31x10	350	360	90	400	K0815.12055	8.33
K0994.125400	31x10	350	360	125	400	K0815.12055	12.25

## Vice jaws complete



**Material:**

Jaws mild steel.  
Jaw plates tool steel.

**Version:**

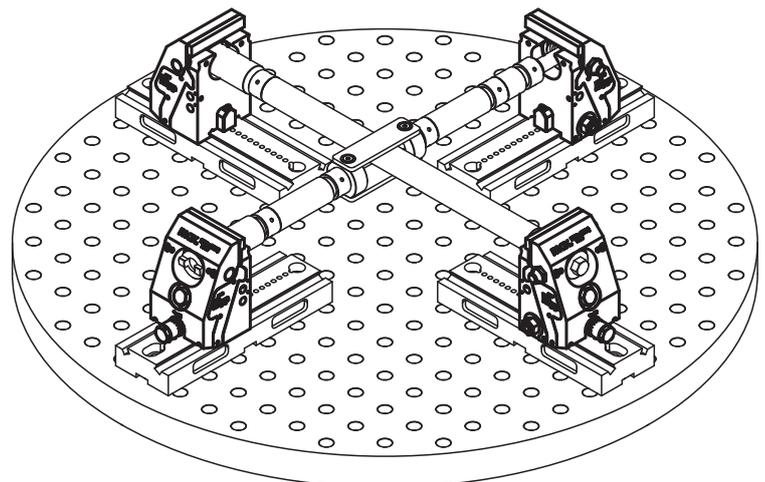
Jaws black oxidised.  
Vice jaws bright.

**Sample order:**

K0976.09015010

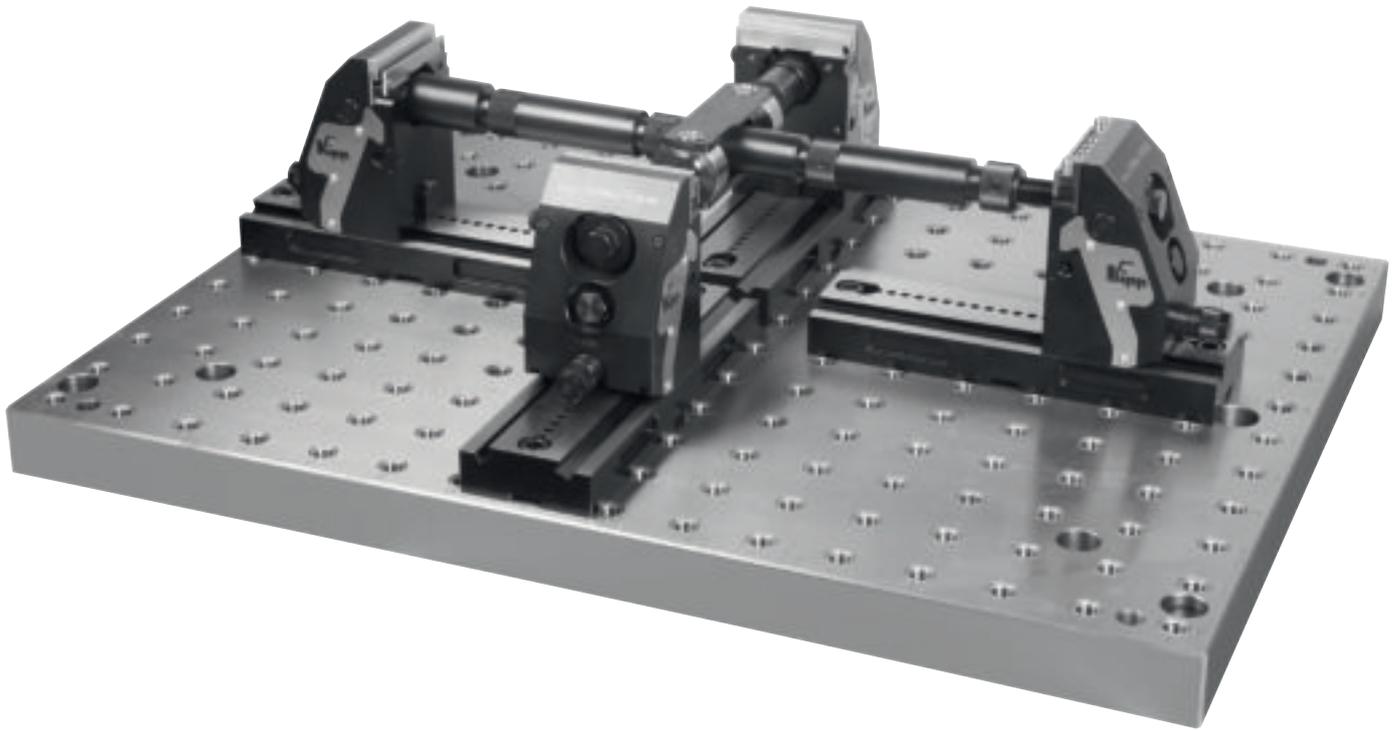
**Note:**

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.

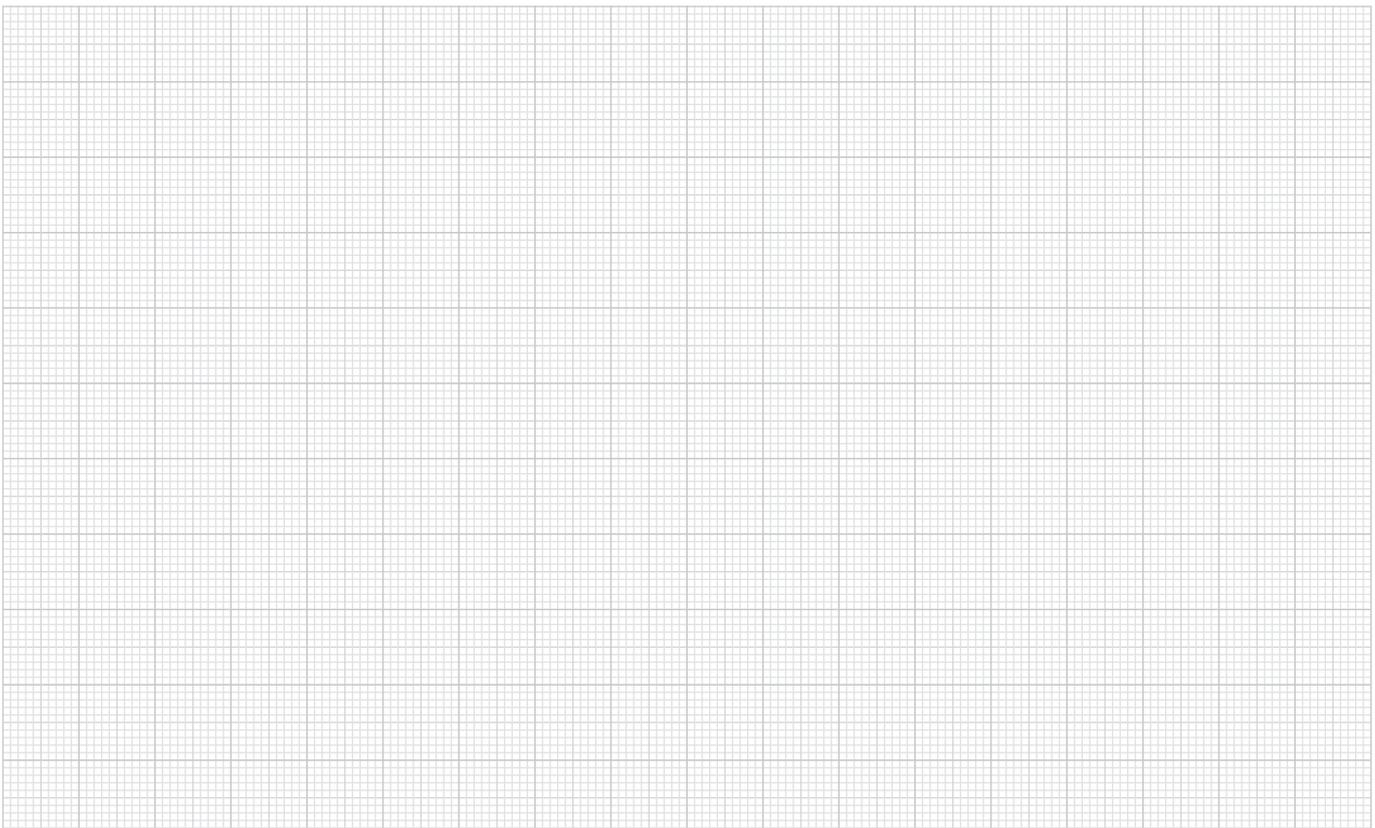


### KIPP Vice jaws, complete

Order No.	Version	B	weight kg
K0976.09015010	right	90	5.18
K0976.09015020	left	90	5.18
K0976.12515010	right	125	7.416
K0976.12515020	left	125	7.416



## Notes



## Pendulum jaws



**Material:**

Body mild steel.  
Jaw plates tool steel.

**Version:**

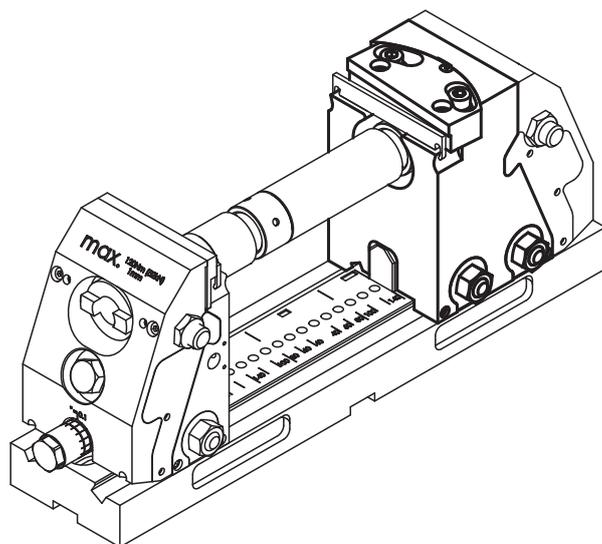
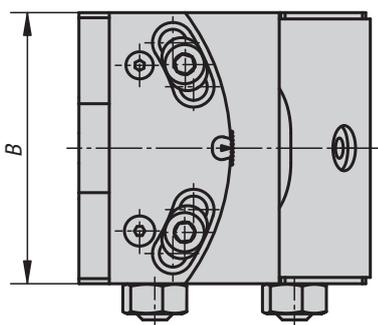
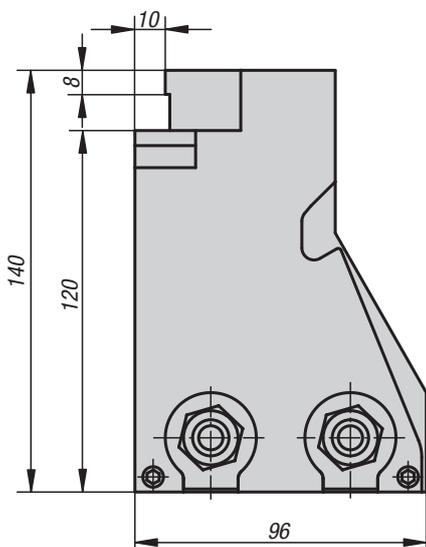
Body black oxidised.  
Vice jaws hardened, bright.

**Sample order:**

K0988.09015010

**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.

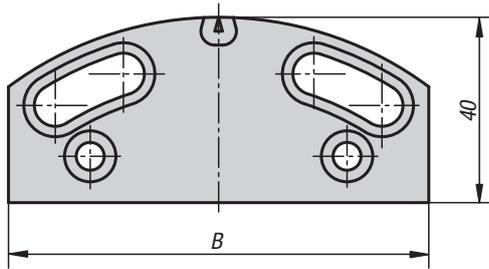
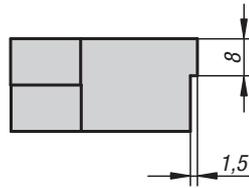
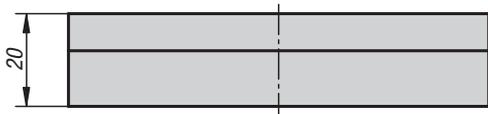


### KIPP Pendulum jaws

Order No.	B	weight kg
K0988.09015010	90	6
K0988.12515010	125	8.77

## Jaw plates smooth

for pendulum jaws



**Material:**  
Tool steel.

**Version:**  
Hardened, bright.

**Sample order:**  
K1001.0900

**Note:**  
For clamping pre-machined and ground workpieces.

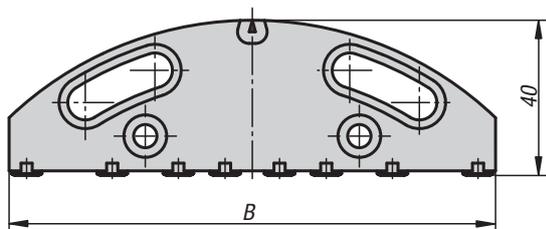
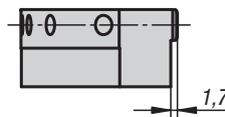
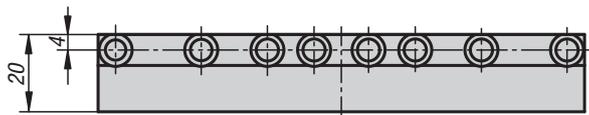
Supplied singly.

### KIPP Jaw plates smooth for pendulum jaws

Order No.	B
K1001.0900	90
K1001.1250	125

## Jaw plates with pins

for pendulum jaws



**Material:**  
Tool steel.

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

**Sample order:**  
K1001.0901

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

Supplied singly.

### KIPP Jaw plates with pins for pendulum jaws

Order No.	B	No. of pins
K1001.0901	90	6
K1001.1251	125	8



## Centre jaws

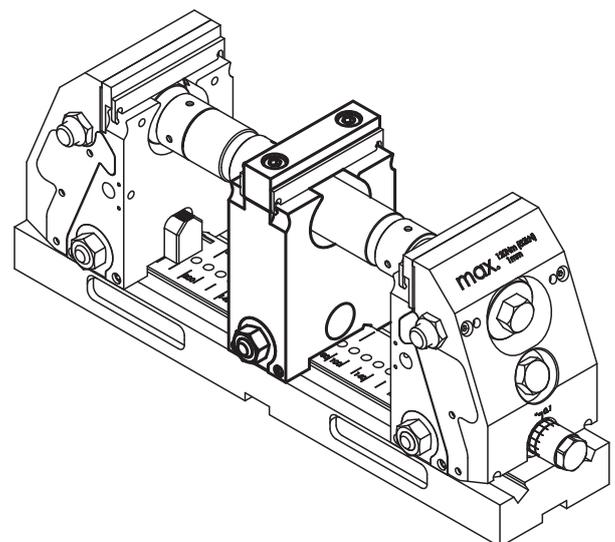
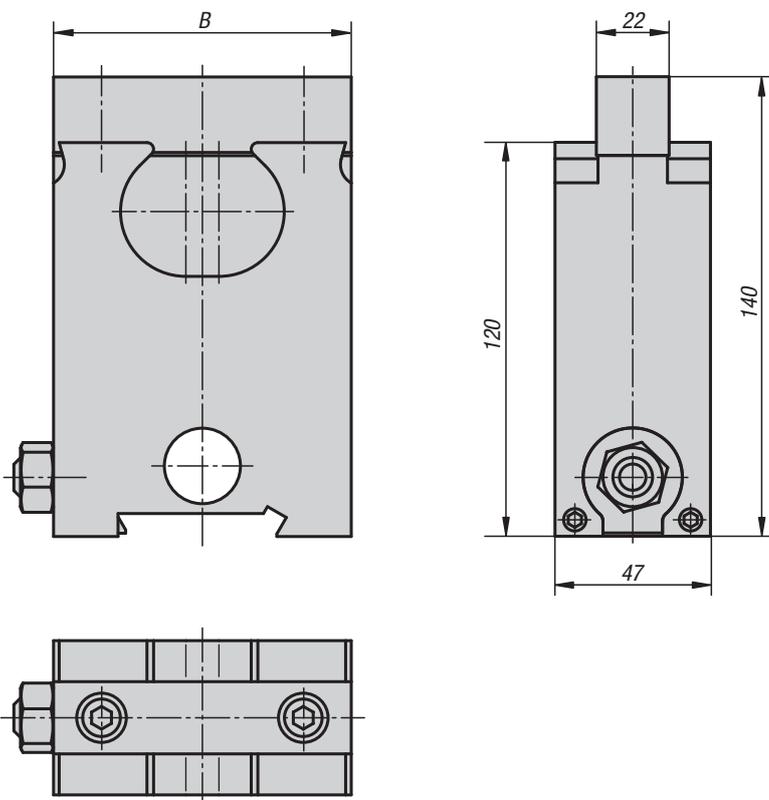


**Material:**  
 Body mild steel.  
 Jaw plates tool steel.

**Version:**  
 Body black oxidised.  
 Vice jaws hardened, bright.

**Sample order:**  
 K0987.0901500

**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.



### KIPP Centre jaws

Order No.	B	weight kg
K0987.0901500	90	3.38
K0987.1251500	125	4.94

# K1002

## Jaw plates smooth

for centre jaws



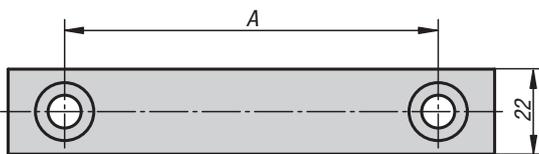
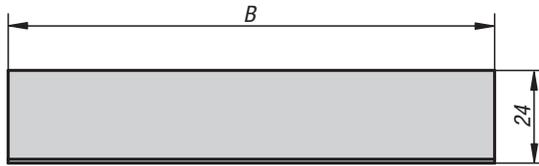
**Material:**  
Tool steel.

**Version:**  
Hardened, bright.

**Sample order:**  
K1002.0900

**Note:**  
For clamping pre-machined and ground workpieces.

Supplied singly.



### KIPP Jaw plates smooth for centre jaws

Order No.	A	B
K1002.0900	61	90
K1002.1250	96	125

# K1002

## Jaw plates with pins

for centre jaws



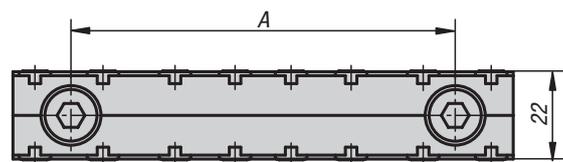
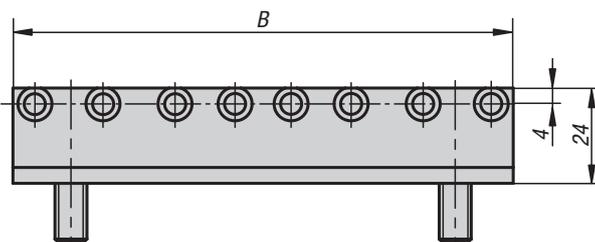
**Material:**  
Tool steel.

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

**Sample order:**  
K1002.0901

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

Supplied singly.



### KIPP Jaw plates with pins for centre jaws

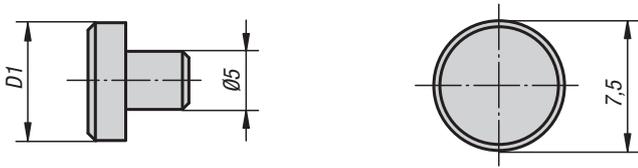
Order No.	A	B	No. of pins
K1002.0901	61	90	6
K1002.1251	96	125	8



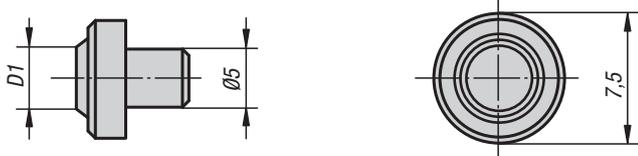
## Jaw pins



flattened



cup point



**Material, version:**  
Tool steel, hardened.

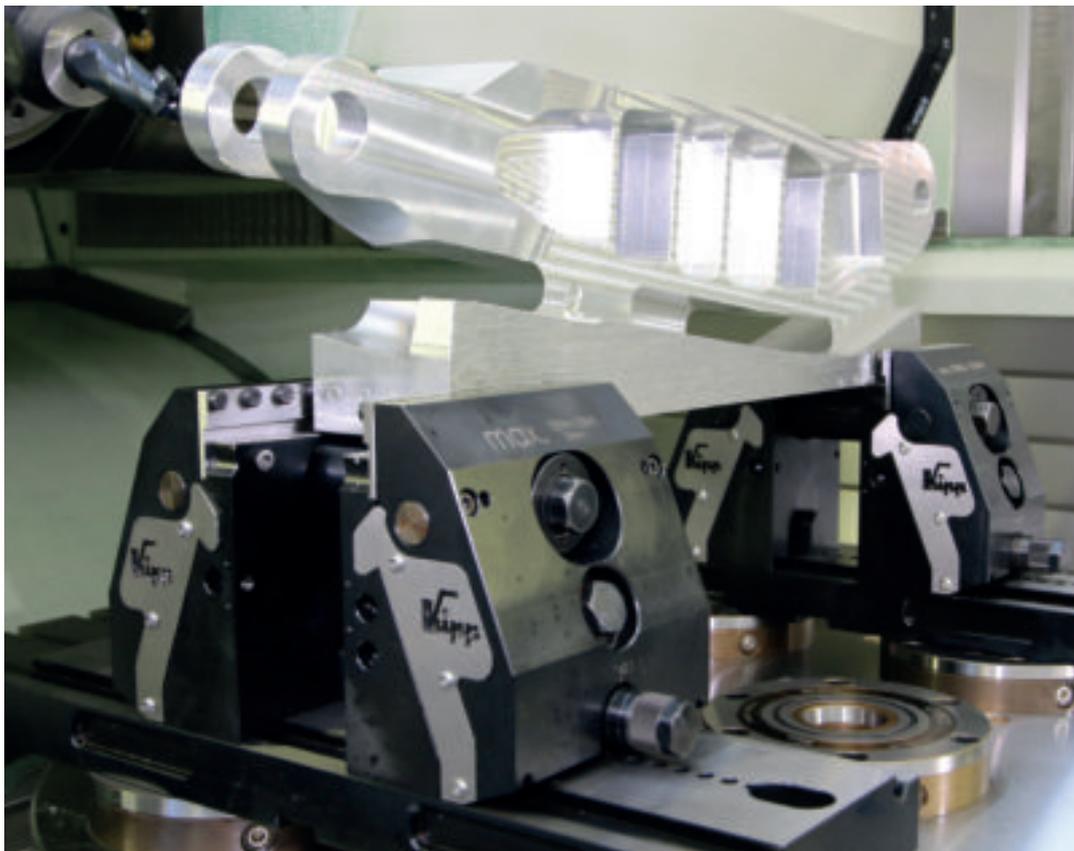
**Sample order:**  
K0946.05600

**Note:**  
Suitable for standard jaw plates and jaw adapters of round workpieces.  
Installed by pressing in.

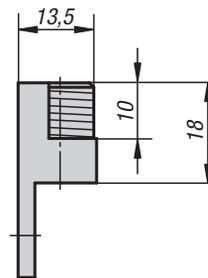
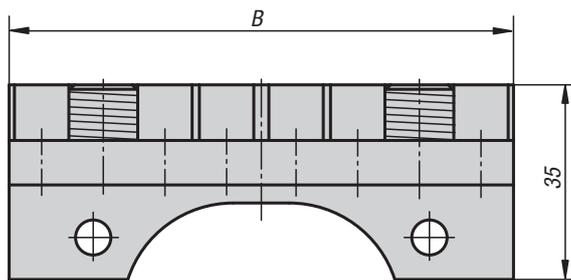
### KIPP Jaw pins

Order No.	Version	D1	Application
K0946.05000	flattened	7,5	Material over 1000 N/mm <sup>2</sup> tensile strength
K0946.05400	cup point	4	Material up to ca. 1000 N/mm <sup>2</sup> tensile strength
K0946.05600	cup point	6	Material up to ca. 1000 N/mm <sup>2</sup> tensile strength

## Application example



## Cylinder clamping sets



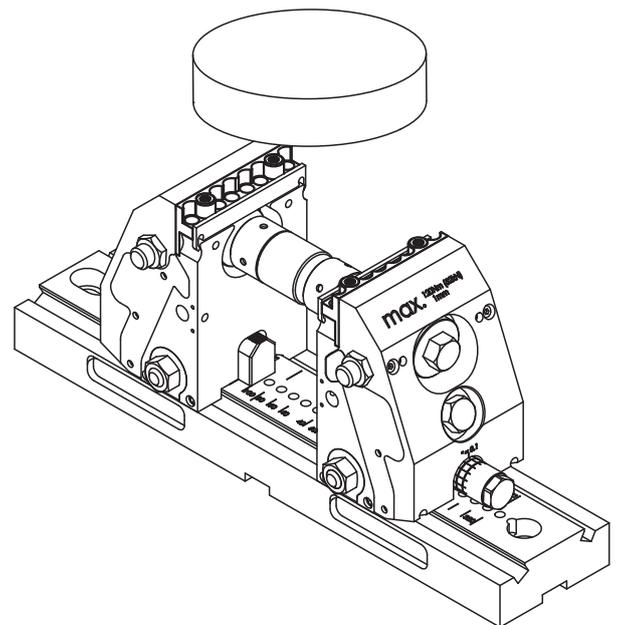
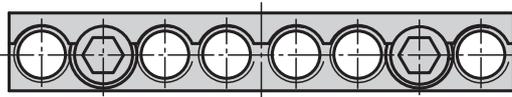
**Material:**  
Tool steel.

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

**Sample order:**  
K0989.09035

**Note:**  
For holding round workpieces.

Supplied in pairs.

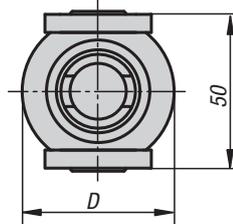
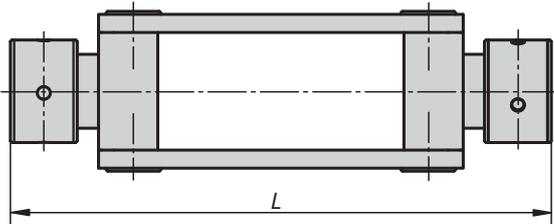


### KIPP Cylinder clamping sets

Order No.	B	Clamping range min. - max.
K0989.09035	90	20 mm - 250 mm
K0989.12535	125	20 mm - 320 mm

## Couplings

for cross-clamping

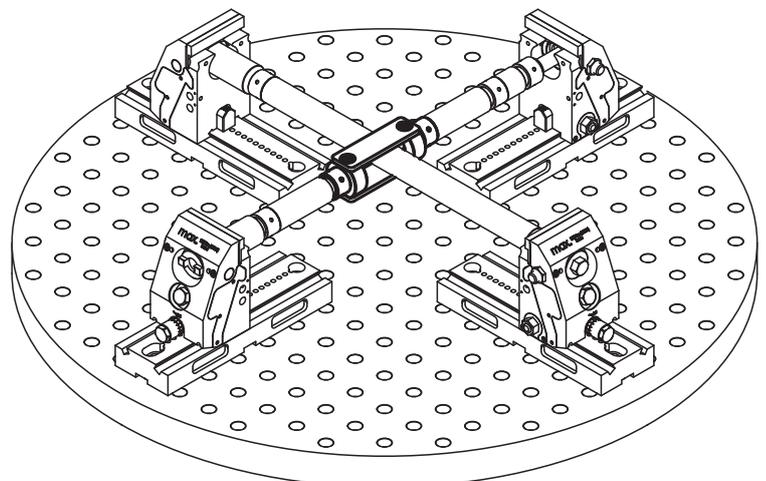
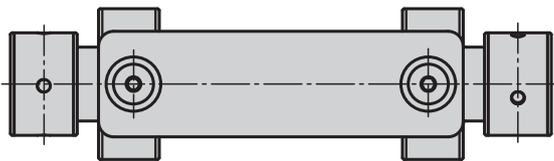


**Material:**  
Carbon steel.

**Version:**  
Black oxidised.

**Sample order:**  
K0992.178

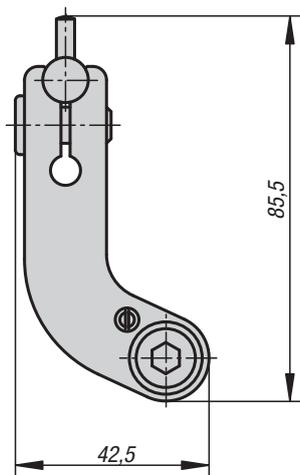
**Note:**  
Two 5-axis clamping systems can be connected using a coupling for cross-clamping, allowing a workpiece to be held on four sides.



### KIPP Couplings for cross-clamping

Order No.	D	L
K0992.178	50	178

## Stop sets



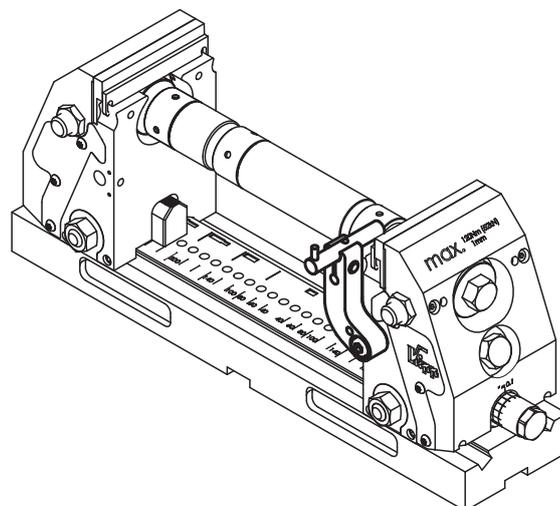
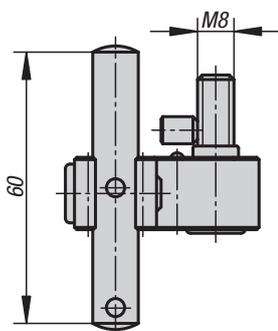
**Material:**  
Steel.

**Version:**  
Swivel arm, black oxidised.  
Stop pin bright.

**Sample order:**  
K0993.150

**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.



### KIPP Stop sets

Order No.

Suitable for

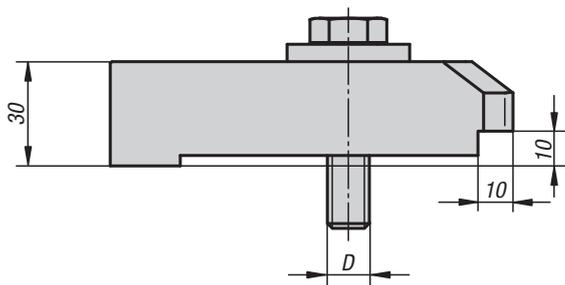
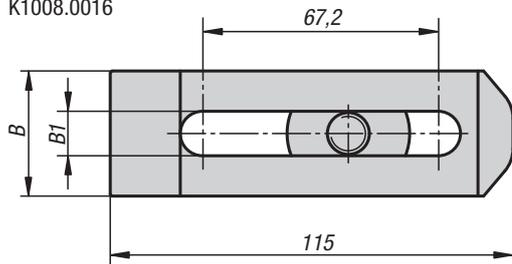
K0993.150

5-axis compact clamping system

## Clamping claw sets



K1008.0012  
K1008.0016



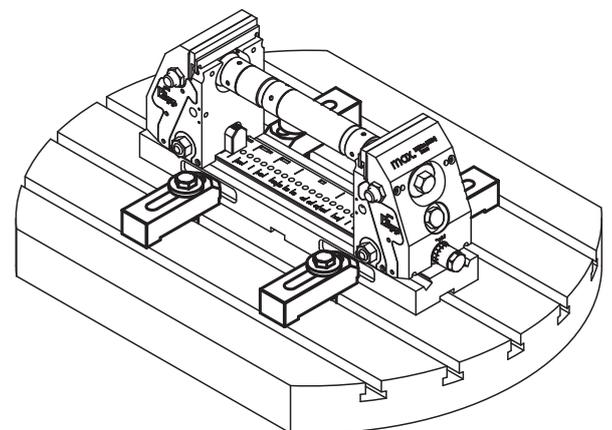
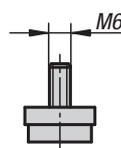
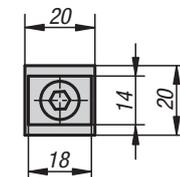
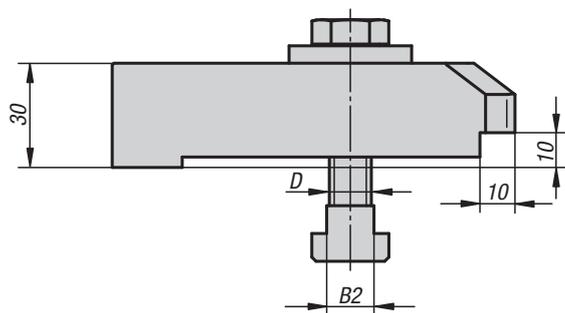
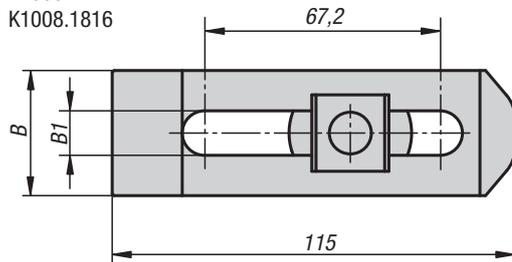
**Material:**  
Carbon steel.

**Version:**  
Black oxidised.

**Sample order:**  
K1008.0012

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

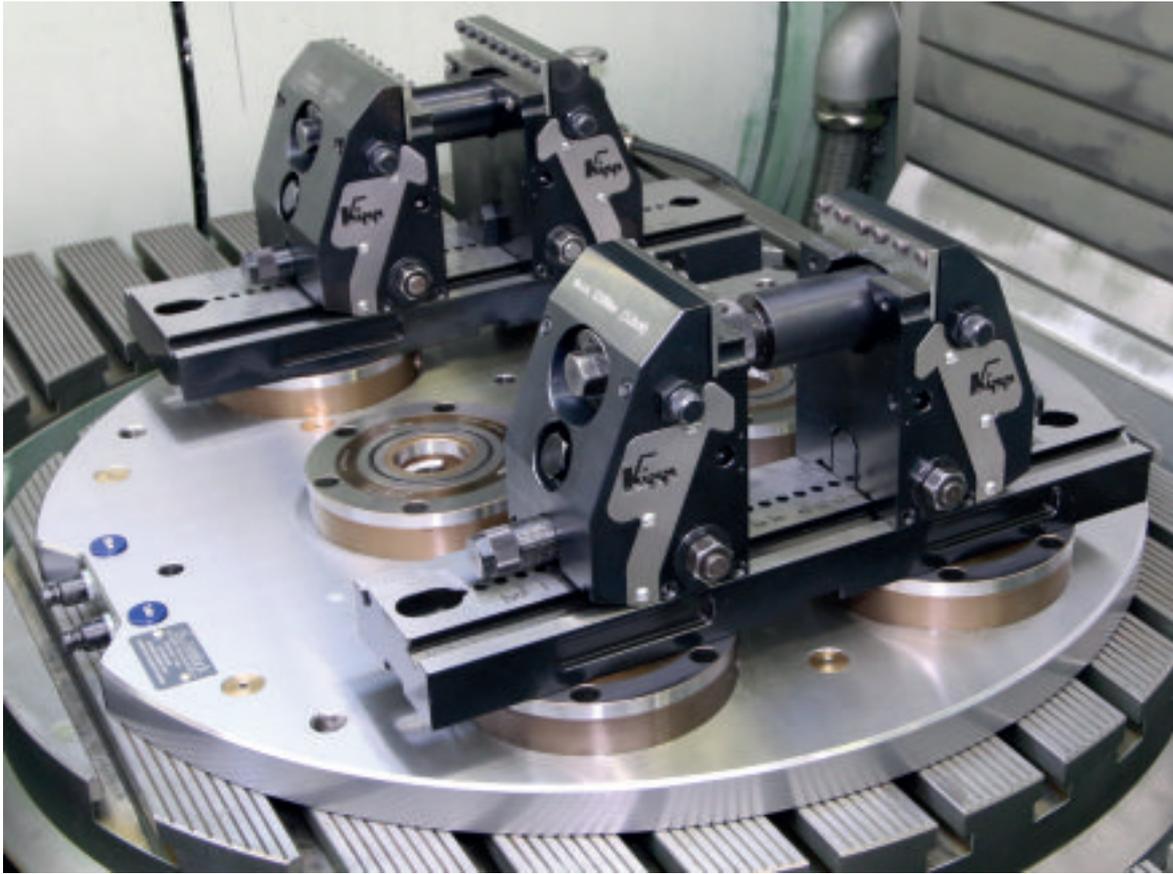
K1008.1412  
K1008.1816



### KIPP Clamping claw sets

Order No.	B	B1	B2	D
K1008.0012	40	12,8	-	M12
K1008.0016	40	16,8	-	M16
K1008.1412	40	12,8	13,5	M12
K1008.1816	40	16,8	17,5	M16

# Application example



## Notes

