

Zero-point clamping system



Technical information zero-point clamping system



Application

The modular structured flexible zero-point clamping system was specifically developed for the machining and non-machining fields.

This system enables a quick and accurate clamping and referencing of fixtures and workpieces on all production machines, machining centres, EDM's and inspection equipment.

Whether subplate, fixture, vice or workpiece, this system allows an exchange with a defined reference point in a matter of seconds and repeat accuracy of less than 0.005 mm.

The advantages

- Modular system
- Compact flat design
- Workpiece or fixture change within seconds
- Pneumatic system
- Positive locking
- Holding forces up to 75 kN and pull-in forces up to 15 kN
- Turbo function
- Positioning via short conical locator
- Works reliably in every mounting position
- Sealing air function

Your benefit

- Can be combined with our modular clamping system
- Better machine room utilisation
- Increased productive machine running times, significantly reduced set-up times
- Reliable system
- Very high cutting forces possible
- High operating and process safety
- Increased pull-in forces are standard
- Very high repeat accuracy
- Clamping cylinder installation in both vertical and horizontal positions
- Blow out function can be activated when changing pallets.



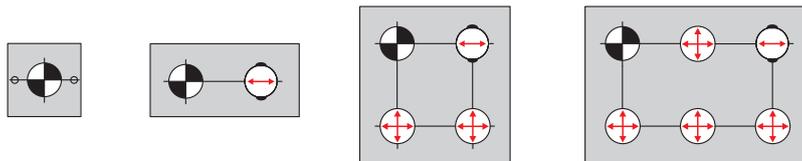
Technical information zero-point clamping system



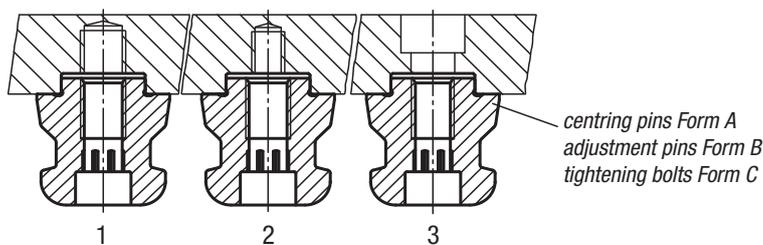
Spigot arrangement/set-up

The workpieces, fixtures or subplates are positioned and clamped using spigots. There are three different spigot types.

- Centring spigot fixed in x and y direction (reference point)
- ⊖ Compensating pin fixes the free axis (studs)
- ⊕ Clamping spigot Spigot with undersize (no centring function only clamping function)
- Cylindrical pin For individual clamping, positioning is done with centring spigot + 2 cylindrical pins



- 1 = fastening with grub screw DIN 913
- 2 = fastening with DIN 912 screw through the tightening bolt
- 3 = fastening with DIN 912 screw through the fixture or workpiece

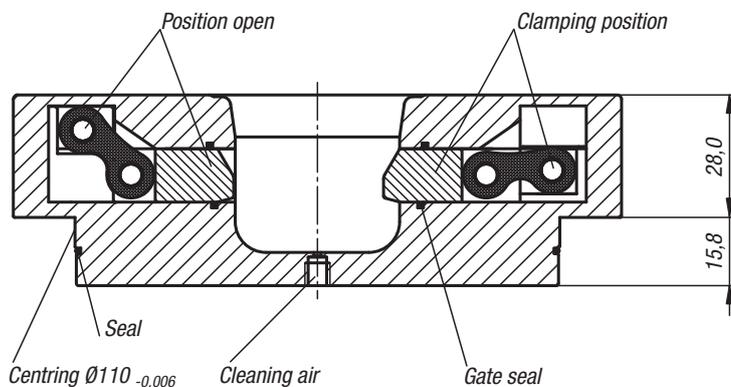


The function

The proven UNI lock clamping module was made even flatter due to a new mechanism. The built-in toggle system together with guided clamping slides ensures high process reliability of the system.



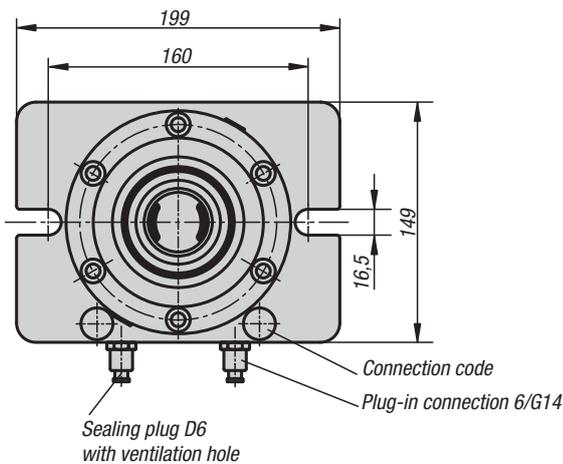
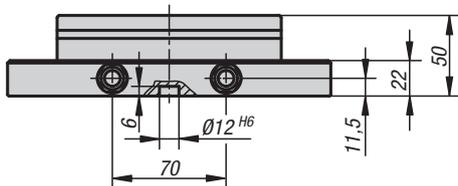
Toggle lever mechanism



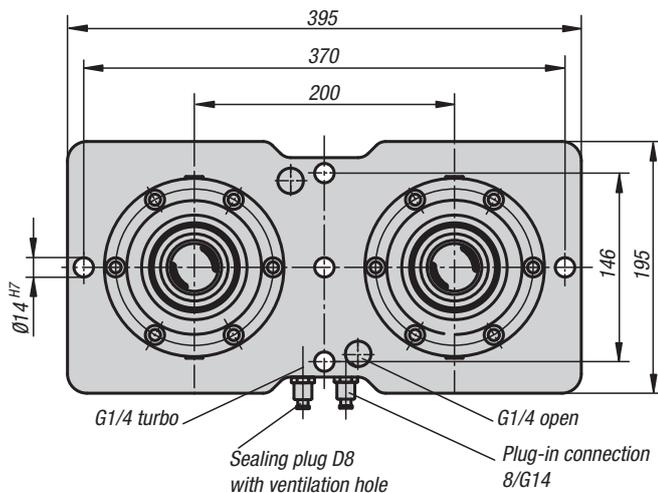
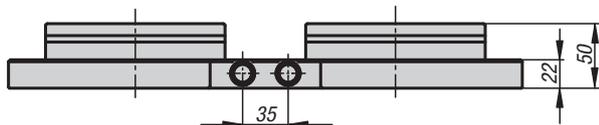
UNI lock clamping station



1x



2x



Material:

Clamping module mild steel.
Base plate steel 1.1730.

Version:

Clamping module contact surfaces case-hardened and ground.
Base plate ground on both sides.

Sample order:

K1009.1000149199

Note:

Completely mounted multi-clamping stations with integrated UNI lock Ø138 mm mounting clamps. The clamping stations are secured to the machine table directly or with clamps. Common bore patterns are pre-centred on the rear side for mounting. Clamping stations can be aligned via the 14H7 reference holes. The clamping stations are actuated via a central pneumatic connection. The high clamping forces are generated by the integrated spring package (the unit clamps in the de-pressurized state). The release process occurs pneumatically.

The following retaining forces are possible with the UNI lock clamping bolt in conjunction with mounting screws M10, M12, M16.

- Retaining force (M10) 35,000N/module
- Retaining force (M12) 50,000N/module
- Retaining force (M16) 75,000N/module

On request:

Clamping station in special dimensions.

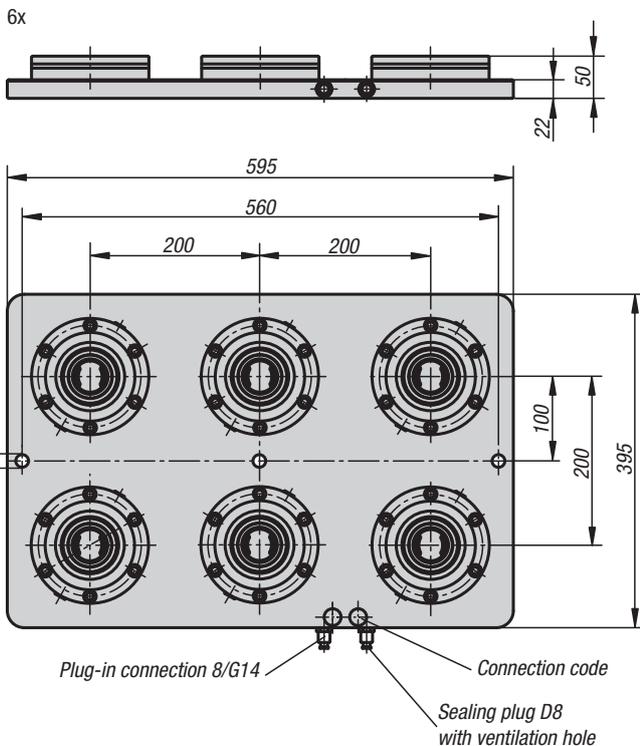
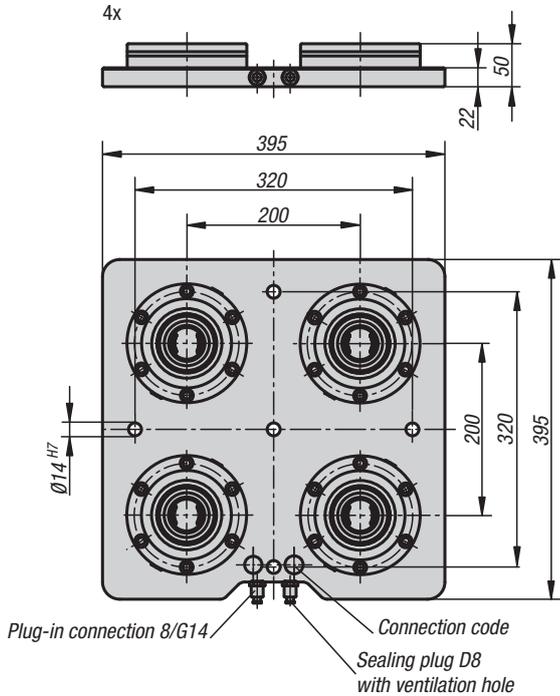
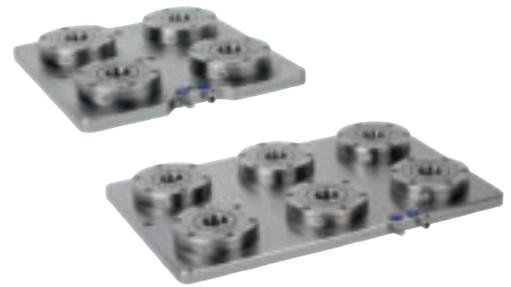
Technical data:

- Opening pressure: 6bar, lubricated air
- Turbo pressure: 6bar
- Air connection: G1/4
- Repeat accuracy ≤ 0.005 mm
- Reference holes 14H7 to align the clamping plate.
- Pneumatic connectors for 6 mm pneumatic hose.

KIPP UNI lock clamping station

Order No.	Type	weight kg
K1009.1000149199	1x	7.2
K1009.2200395195	2x	17.681

UNI lock clamping station



Material:

Clamping module mild steel.
Base plate steel 1.1730.

Version:

Clamping module contact surfaces case-hardened and ground.
Base plate ground on both sides.

Sample order:

K1009.4200395395

Note:

Completely mounted multi-clamping stations with integrated UNI lock Ø138 mm mounting clamps. The clamping stations are secured to the machine table directly or with clamps. Common bore patterns are pre-centred on the rear side for mounting. Clamping stations can be aligned via the 14H7 reference holes. The clamping stations are actuated via a central pneumatic connection. The high clamping forces are generated by the integrated spring package (the unit clamps in the de-pressurized state). The release process occurs pneumatically.

The following retaining forces are possible with the UNI lock clamping bolt in conjunction with mounting screws M10, M12, M16.

- Retaining force (M10) 35,000N/module
- Retaining force (M12) 50,000N/module
- Retaining force (M16) 75,000N/module

On request:

Clamping station in special dimensions.

Technical data:

- Opening pressure: 6bar, lubricated air
- Turbo pressure: 6bar
- Air connection: G1/4
- Repeat accuracy ≤ 0.005 mm
- Reference holes 14H7 to align the clamping plate.
- Pneumatic connectors for 6 mm pneumatic hose.



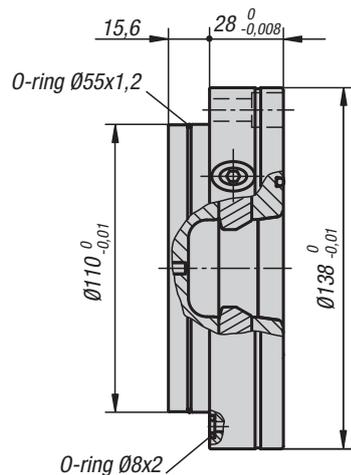
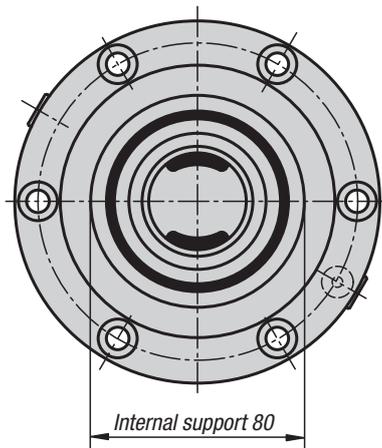
KIPP UNI lock clamping station

Order No.	Type	weight kg
K1009.4200395395	4x	58
K1009.6200595395	6x	52.2

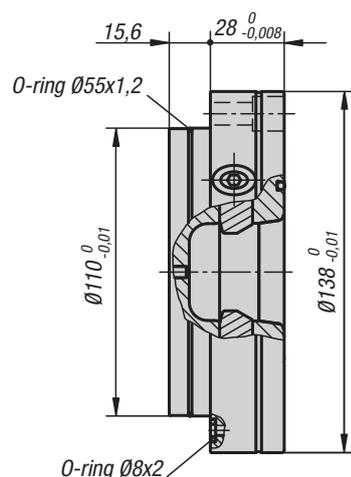
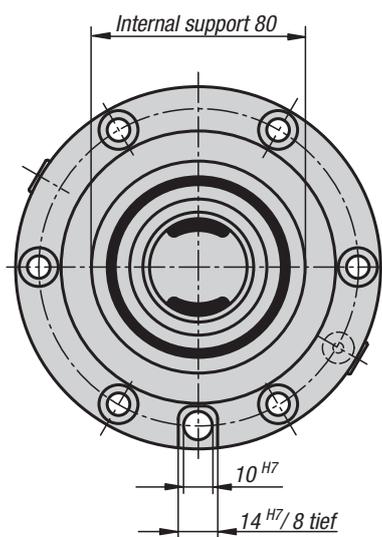
UNI lock installation clamp



Without rotation lock



With rotation lock



Material:

Steel.

Version:

Contact surfaces case-hardened and ground.

Sample order:

K1003.138280

Note:

The UNI lock mounting clamps can be mounted in any position, with or without projection on machine tables, in fixtures (tooling plates, cubes, tombstones, etc.).

The modular design lets the number of clamps and distance between the clamps to be ideally adjusted to suit your clamping task. The clamps can be supplied with or without rotation lock.

The high clamping forces are generated by the integrated spring package (the unit clamps in the de-pressurized state). The release process occurs pneumatically.

The following retaining forces are possible with the UNI lock clamping bolt in conjunction with mounting screws M10, M12, M16:

- Retaining force (M10) 35,000N
- Retaining force (M12) 50,000N
- Retaining force (M16) 75,000N

Supplied with:

- 1x clamping module incl. 6x mounting bolts.
- 6x screw caps.
- 2x air connection O-rings.
- 1x installation O-ring.

Technical data:

- Opening pressure: 6bar, lubricated air
- Turbo pressure: 6bar
- Air connection: G1/8
- Repeat accuracy ≤ 0.005 mm

KIPP UNI lock installation clamp

Order No.	Version	weight kg
K1003.138280	Without rotation lock	3.56
K1003.138281	With rotation lock	3.52

UNI lock double clamping module



Material:
Steel.

Version:
Contact surfaces case-hardened and ground.

Sample order:
K1122.1381500

Note:
UNI lock double clamp modules are particularly suitable for the direct clamping of workpieces. Workpieces with complex geometry can be completely machined on 4 and 5 sides. UNI lock double clamp modules can be mounted in any position.

The high clamping forces are generated by the integrated spring package. (the unit clamps while not pressurised). Clamping is released pneumatically.

The following clamping forces are possible with the UNI lock clamping pin in conjunction with M10, M12, M16 fastening screws:

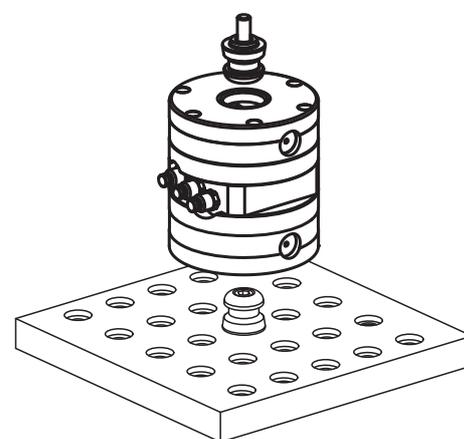
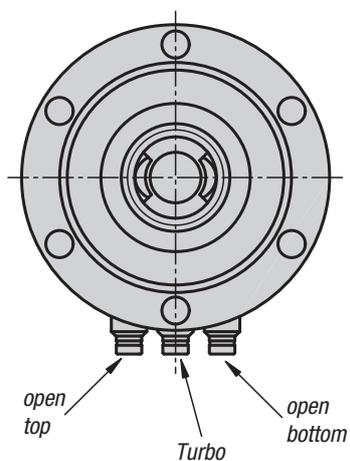
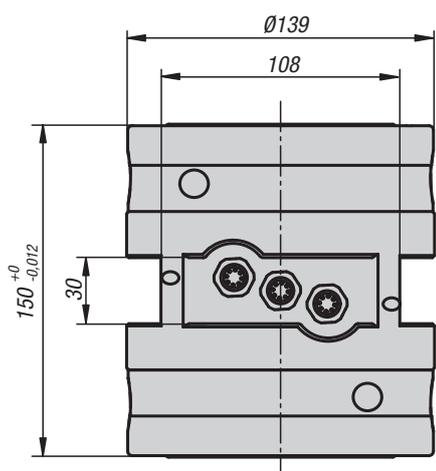
Clamping force (M10) 35,000 N

Clamping force (M12) 50,000 N

Clamping force (M16) 75,000 N

Supplied with:
1 double clamp module incl. 3x pneumatic connections.

Technical data:
Opening pressure: 6 bar, lubricated air
Turbo pressure: 6 bar
Air connection: G 1/8
Repeat accuracy ≤ 0.005 mm



KIPP UNI lock double clamping module

Order No.	Type	weight kg
K1122.1381500	double clamp	3

UNI lock manual clamping module



Material:
Steel.

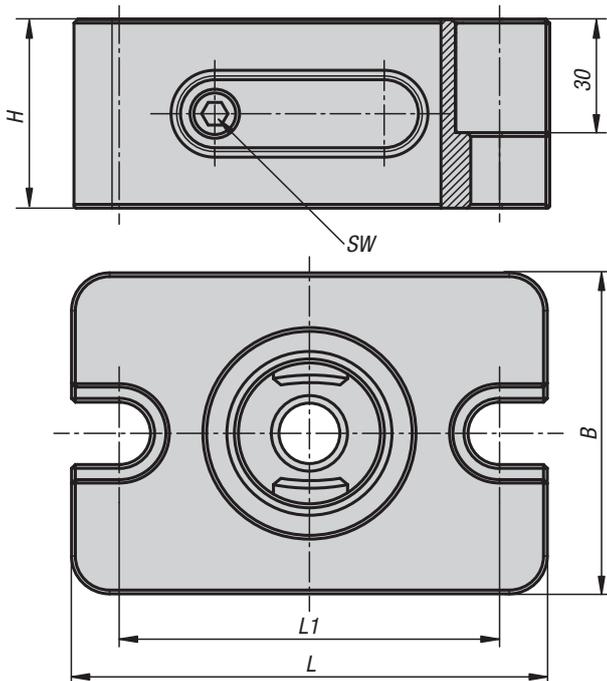
Version:
Contact surfaces case-hardened and ground.

Sample order:
K1123.1605050

Note:
UNI lock manual clamping modules can be adapted directly to machine tables with grid holes or T-slots, and to grid hole subplates with 50 mm grid spacing system size M10/M12/M16.
The UNI lock manual clamping module H 50 is particularly suitable for machines with reduced Z travel. The low installation height of the manual clamping module facilitates full utilisation of the Z travel.
The UNI lock manual clamping module H 50 can be mounted in any position.

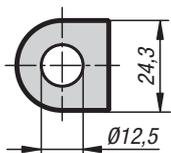
Supplied with:
1 manual clamping module incl. fastening accessories.

Technical data:
Repeat accuracy ≤ 0.005 mm

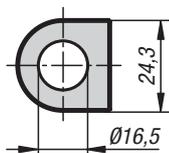


Mounting accessories

M12:



M16:



KIPP UNI lock manual clamping module

Order No.	B	H	L	L1	SW	weight kg
K1123.1605050	85	50	125	100	6	3.52

Interchangeable subplates

for UNI lock zero-point clamping system

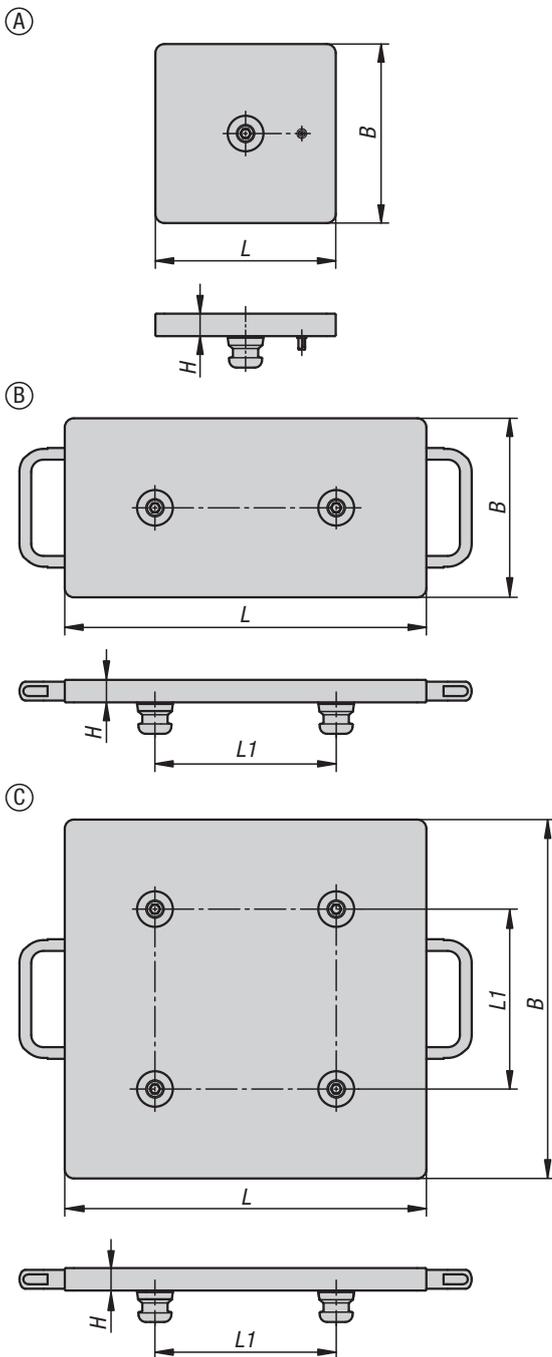


Material:
High-strength aluminium.

Sample order:
K1218.1000200200

Note:
Interchangeable subplates are particularly suitable for quickly exchanging fixtures on zero point clamping plates. Ground on both sides, standard clamping pin gauge of 200 mm. Complete with clamping pins and handles.

On request:
Further gauges and special sizes.



KIPP Interchangeable subplates for UNI lock zero point clamping system

Order No.	Form	B	H	L	L1	weight ca. kg
K1218.1000200200	A	199	25	199	-	1
K1218.2200200200	B	199	25	399	200	3
K1218.4200400400	C	399	25	399	200	5

UNI lock clamping pin

size 80 mm

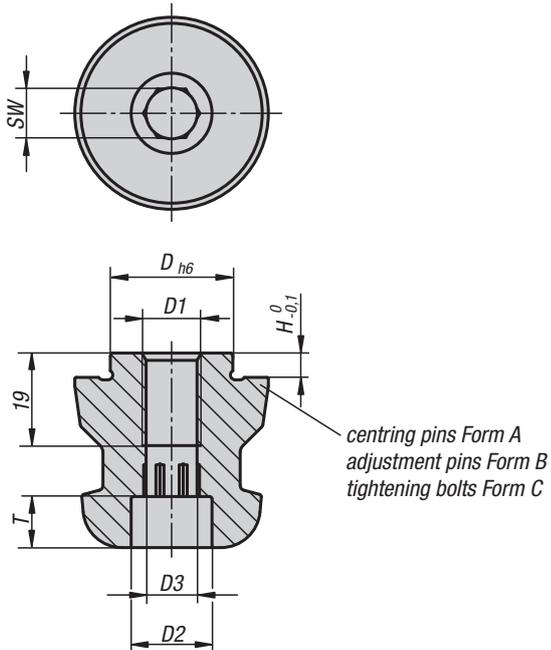


Material:
Steel.

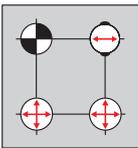
Version:
Hardened and black oxidised.
Contact faces ground.

Sample order:
K0967.140160512

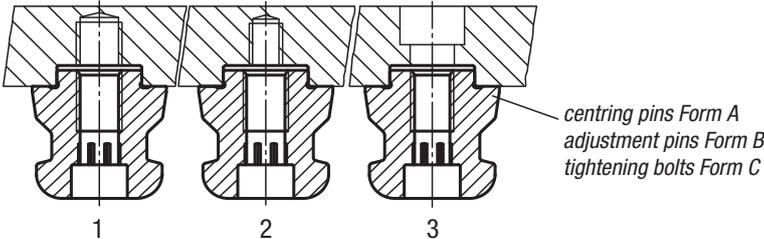
Note:
The UNI lock clamping bolt is suitable for clamping and positioning workpieces and fixtures. Clamping bolts are screwed onto the exchange element and adapted to the various basic modules.



- ⊕ Centring pins = Form A fixes in x and y axis (reference point)
- ⊖ Adjustment pins = Form B fixes the free axis (bayonet pin)
- ⊕ Tightening bolts = Form C Pins with undersize (no centring function, clamping only)



- 1 = fastening with grub screw DIN 913
- 2 = fastening with DIN 912 screw through the tightening bolt
- 3 = fastening with DIN 912 screw through the fixture or workpiece



UNI lock clamping pin

size 80 mm



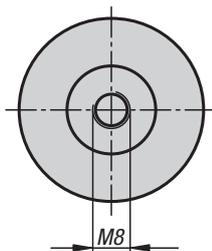
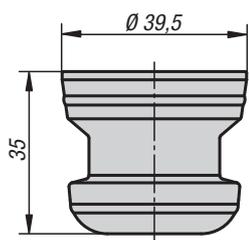
KIPP UNI lock clamping bolt

Order No.	Form	D	D1	D2	D3	H	T	SW
K0967.140160512	A	16	M12	16,5	10,3	5	10,5	10
K0967.140180512	A	18	M12	16,5	10,3	5	10,5	10
K0967.140200512	A	20	M12	16,5	10,3	5	10,5	10
K0967.140220516	A	22	M16	18,5	14,2	5	12,5	17
K0967.140240516	A	24	M16	18,5	14,2	5	12,5	17
K0967.140250512	A	25	M12	16,5	10,3	5	10,5	10
K0967.140250516	A	25	M16	18,5	14,2	5	12,5	17
K0967.140251012	A	25	M12	16,5	10,3	10	10,5	10
K0967.140251016	A	25	M16	18,5	14,2	10	12,5	17
K0967.240220516	B	22	M16	18,5	14,2	5	12,5	17
K0967.240240516	B	24	M16	18,5	14,2	5	12,5	17
K0967.240250512	B	25	M12	16,5	10,3	5	10,5	10
K0967.240250516	B	25	M16	18,5	14,2	5	12,5	17
K0967.240251012	B	25	M12	16,5	10,3	10	10,5	10
K0967.240251016	B	25	M16	18,5	14,2	10	12,5	17
K0967.340220516	C	22	M16	18,5	14,2	5	12,5	17
K0967.340240516	C	24	M16	18,5	14,2	5	12,5	17
K0967.340250512	C	25	M12	16,5	10,3	5	10,5	10
K0967.340250516	C	25	M16	18,5	14,2	5	12,5	17
K0967.340251012	C	25	M12	16,5	10,3	10	10,5	10
K0967.340251016	C	25	M16	18,5	14,2	10	12,5	17



K1010

Protection bolts



Material:
Aluminium.

Version:
Black anodized

Sample order:
K1010.040

Note:
Protection bolts to cover the hole.

KIPP Protection bolts

Order No.	Dimensions
K1010.040	see drawing

K1010

Protective plug

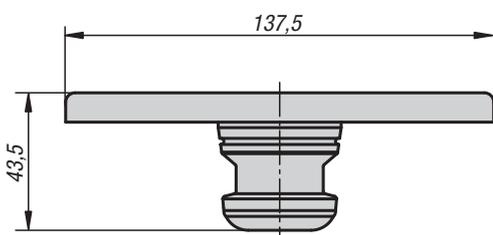


Material:
Aluminium.

Version:
Black anodized

Sample order:
K1010.138

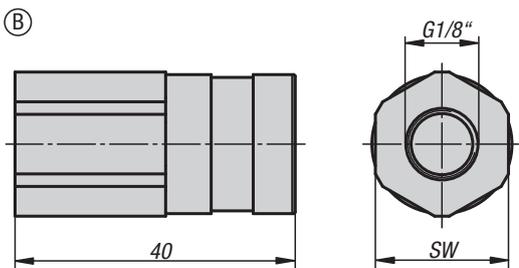
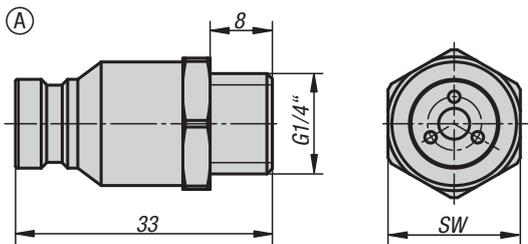
Note:
Protective cap for clamping module D = 138.



KIPP Protective plug

Order No.	Dimensions
K1010.138	see drawing

Quick-fit couplings



Material:
Steel.

Version:
galvanized.

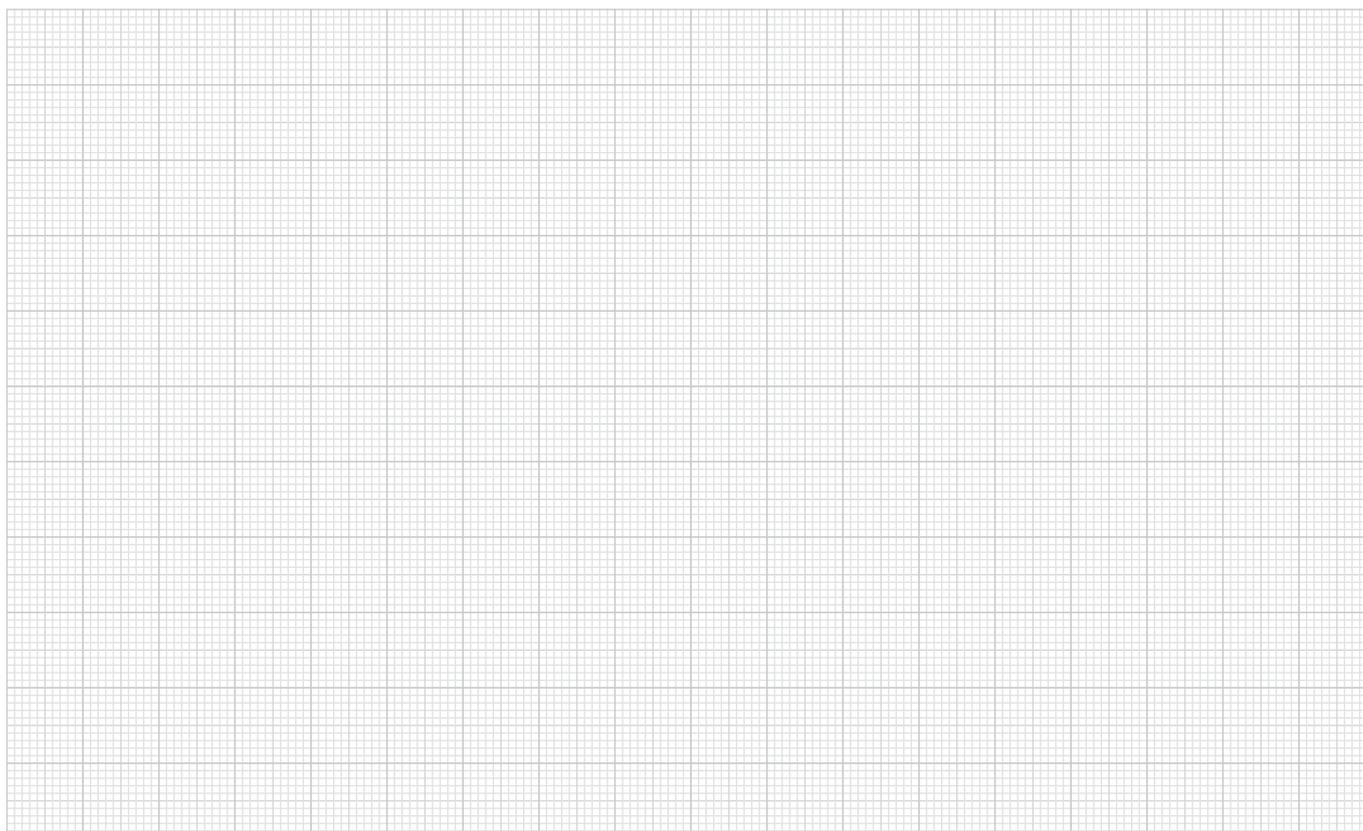
Sample order:
K1011.0014

Note:
Quick-fit couplings suitable for UNI lock clamping stations.

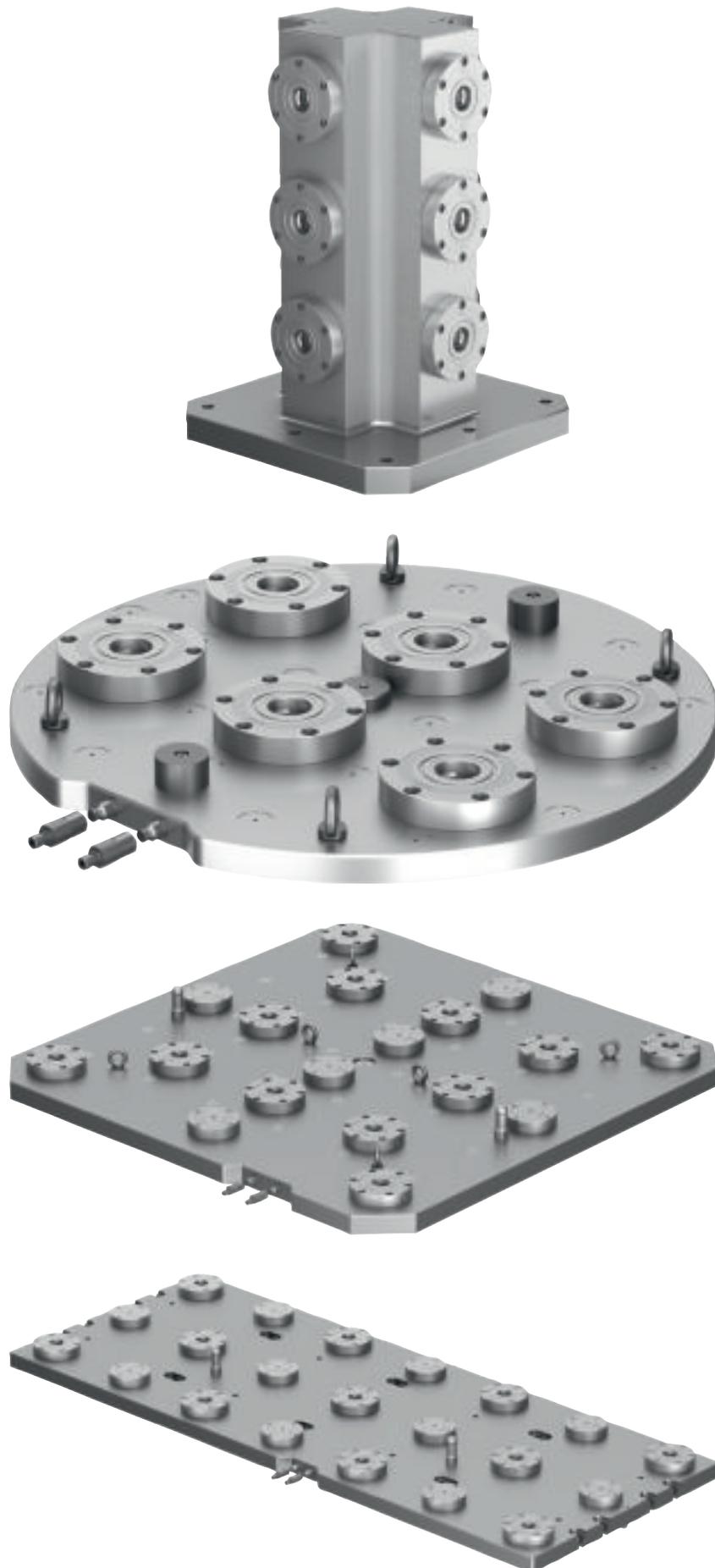
KIPP Quick-fit couplings

Order No.	Form	SW
K1011.0014	A	17
K1011.1018	B	19

Notes



Example



Example

