



ROEMHELD
HILMA ■ STARK



Workholding Systems

Compact clamping systems

CS • DCS • DUO

04/2014

Products | for | productivity

9.3600



ROEMHELD
HILMA ■ STARK

Compact clamping systems DUO, CS, DCS



Your benefits at a glance:

- ★ Mechanical and hydraulic designs
- ★ Compact design
- ★ Clamping jaws
- ★ Universal use
- ★ Optimum adaptation



Optimum choice for any application

Compact clamping system DUO 80

mechanical, overall length 200 and 240 mm



Compact clamping system CS 80 M

mechanical with power amplifier, overall length 360 mm



Compact clamping system CS 80 M

mechanical with power amplifier, overall length 200 mm



Compact double clamping system DCS 80 M

mechanical with power amplifier, overall length 280 mm



Compact clamping system CS 80 H

hydraulic, overall length 280 mm



Compact double clamping system DCS 80 H

hydraulic, overall length 360 mm



The figures show the various types of clamping jaws.

Thanks to several mechanical and hydraulic designs, the compact clamping systems can be optimally used in manual applications as well as in automated processes.

The very compact design of the clamping systems ensures the use even in confined work spaces.

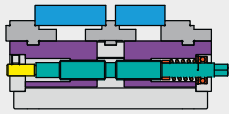
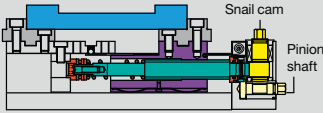
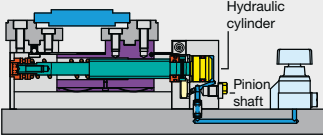
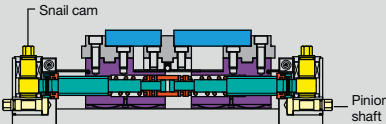
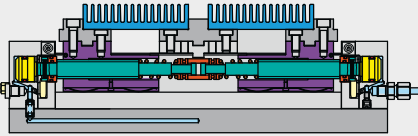
With a large practice-oriented range of standard jaws a broad range of applications can be obtained in your production. Graduated jaw widths of 25 to 80 mm allow machining from several sides in a single set-up.

Application is possible on vertical as well as horizontal machining centres. The large selection of different designs offers the optimum use on 5-axis machining centres and zero point clamping systems. (Single, series, and tower clamping)

Different types, lengths and any clamping position guarantee optimum adaptation to work space, workpiece and machining task.



Compact clamping systems, overview and selection criteria

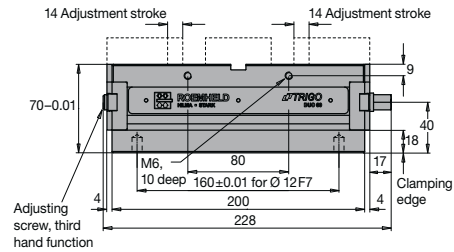
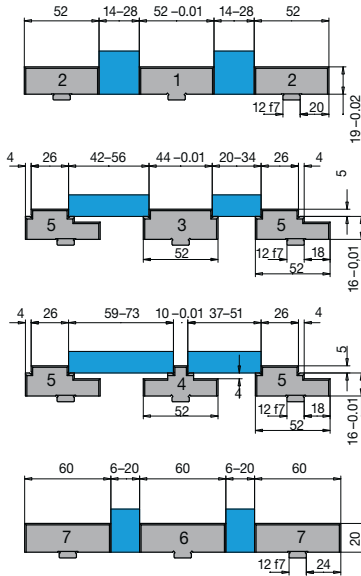
Type/Part no.	Size	Functional principle	Jaw opening max.	Clamping force
DUO 80/200 9.3654.0601	200 mm	 Double clamping system, mechanical, with spindle drive	2 x 72 mm	12 kN
DUO 80/240 9.3654.0701	240 mm		2 x 94 mm	12 kN
CS 80 M/200 9.3614.0202	200 mm	 Single clamping system, mechanical, with cam locking system	1 x 150 mm	20 kN
CS 80 M/280 9.3614.0302	280 mm		1 x 230 mm	20 kN
CS 80 M/360 9.3614.0402	360 mm		1 x 310 mm	20 kN
CS 80 H/200 9.3624.0202	200 mm	 Single clamping system, hydraulic, with return spring	1 x 150 mm	20 kN
CS 80 H/280 9.3624.0302	280 mm		1 x 230 mm	20 kN
CS 80 H/360 9.3624.0402	360 mm		1 x 310 mm	20 kN
DCS 80 M/280 9.3634.0102	280 mm	 Double clamping system, mechanical, with cam locking system	2 x 107 mm	20 kN
DCS 80 M/360 9.3634.0202	360 mm		2 x 142 mm	20 kN
DCS 80 H/280 9.3644.0102	280 mm	 Double clamping system, hydraulic, with return spring	2 x 107 mm	20 kN
DCS 80 H/360 9.3644.0202	360 mm		2 x 142 mm	20 kN

Technical data



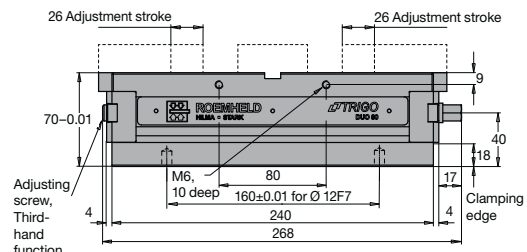
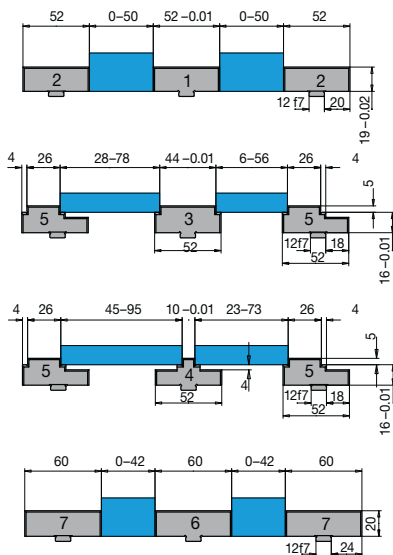
ROEMHELD
HILMA ■ STARK

Double clamping system DUO 80



Size 200 mm
Jaw width 80 mm
Clamping force 12 kN
Torque 50 Nm
Weight without jaws 7.1 kg

Part no.
9.3654.0601



Size 240 mm
Jaw width 80 mm
Clamping force 12 kN
Torque 50 Nm
Weight without jaws 8.4 kg

Part no.
9.3654.0701

Standard clamping jaws hardened and ground, including fixing screws

Pos.	Part no.	Designation	Pos.	Part no.	Designation
1	9.3913.4041	Central jaw 52 mm	5	9.3913.4111	Reversible step jaw
2	9.3913.4121	Reversible jaw	6	9.3913.4031	Central jaw, soft 60 mm
3	9.3913.4021	Central step jaw 44 mm	7	9.3913.4131	Reversible jaw, soft
4	9.3913.4011	Central step jaw 10 mm			



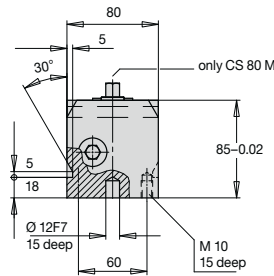
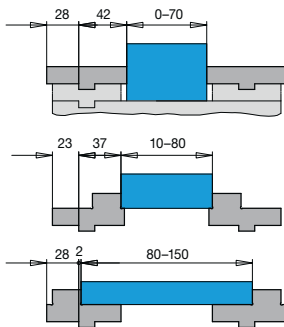
ROEMHELD
HILMA ■ STARK

Technical data

CS 80 M (mechanical) and CS 80 H (hydraulic)

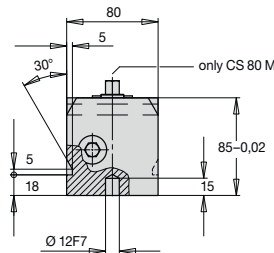
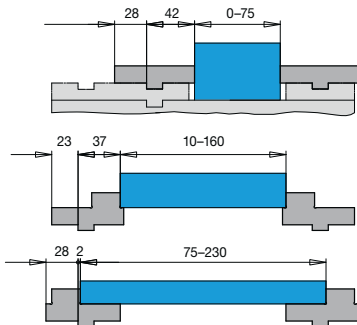
Jaw opening with standard jaws. For more details, see pages 10/11

Size 200 mm



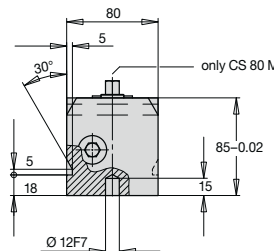
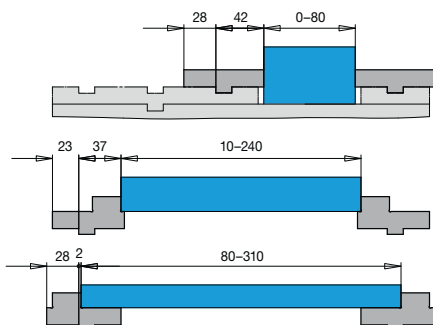
Clamping force 20 kN
Torque 60 Nm (M)
Operating pressure 250 bar (H)
Weight 9.7 kg

Size 280 mm



Clamping force 20 kN
Torque 60 Nm (M)
Operating pressure 250 bar (H)
Weight 12.7 kg

Size 360 mm



Clamping force 20 kN
Torque 60 Nm (M)
Operating pressure 250 bar (H)
Weight 15.7 kg

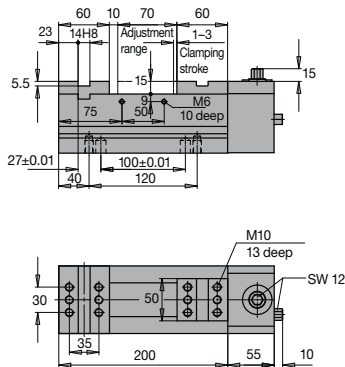
Technical data



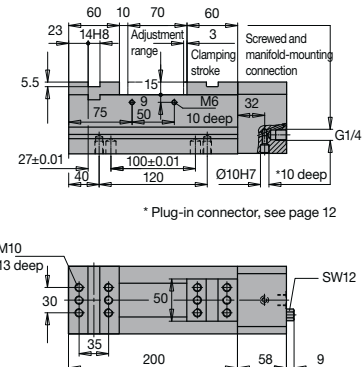
ROEMHELD
HILMA ■ STARK

Mechanical design with power amplifier CS 80 M

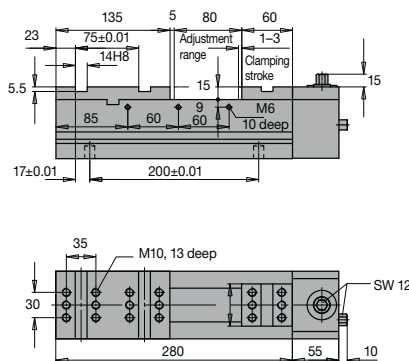
Hydraulic design CS 80 H



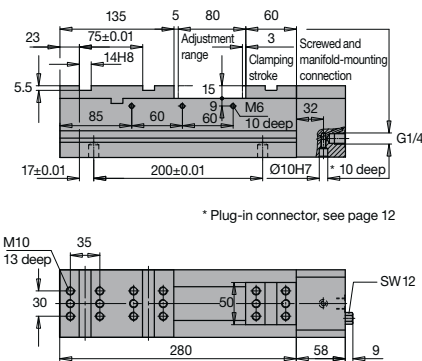
Part no. 9.3614.0202



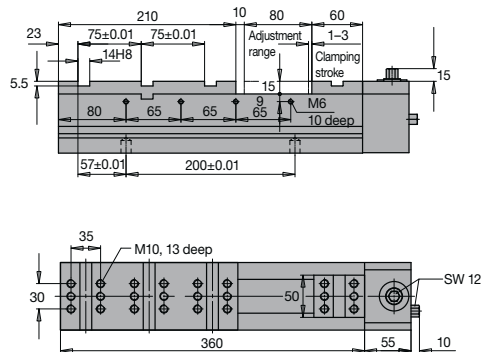
Part no. 9.3624.0202



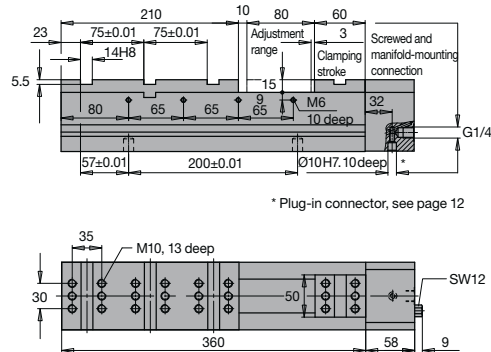
Part no. 9.3614.0302



Part no. 9.3624.0302



Part no. 9.3614.0402



Part no. 9.3624.0402



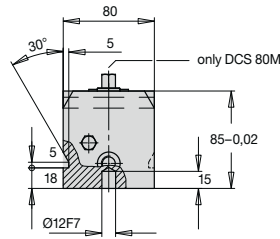
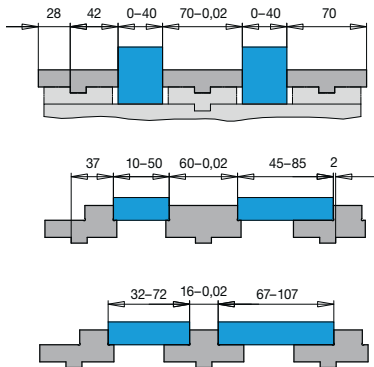
ROEMHELD
HILMA ■ STARK

Technical data

DCS 80 M (mechanical) and DCS 80 H (hydraulic)

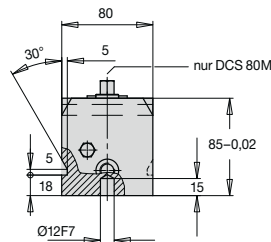
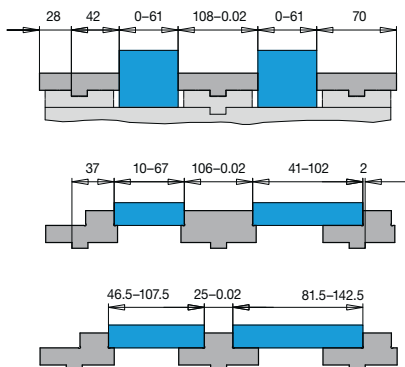
Jaw opening with standard jaws. For more details, see pages 10/11

Size 280 mm

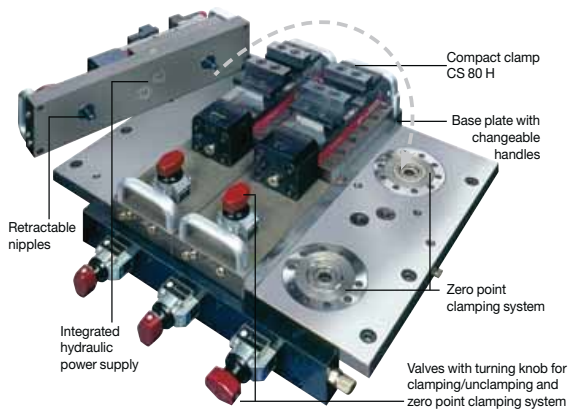


Clamping force	20 kN
Torque	60 Nm (M)
Operating pressure	250 bar (H)
Weight	14.5 kg

Size 360 mm



Clamping force	20 kN
Torque	60 Nm (M)
Operating pressure	250 bar (H)
Weight	18 kg



In order to reduce set-up times to a minimum, this hydraulic universal fixture has been provided with a zero point clamping system and with an integrated hydraulic supply (screw-in coupling elements).

This ensures rapid and safe exchange of clamps of various types on the base plate in exact position.

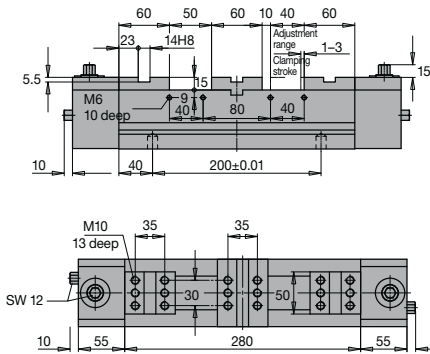
The system is set up in a separate set-up area, alternating with other systems and in parallel with the machining cycle.

Technical data



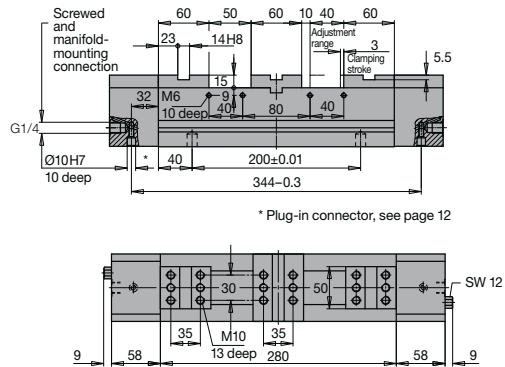
ROEMHELD
HILMA ■ STARK

Mechanical design with power amplifier DCS 80M

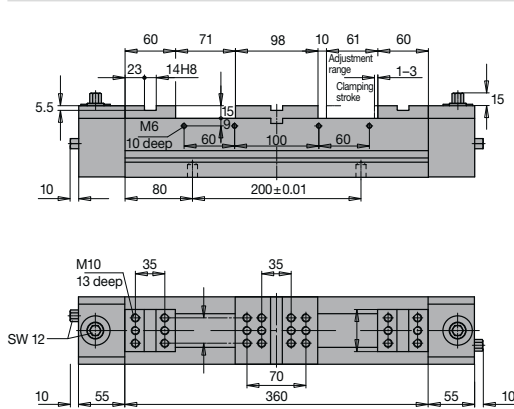


Part no. 9.3634.0102

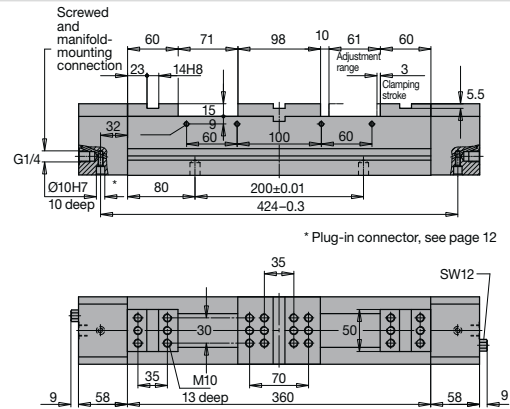
Hydraulic design DCS 80H



Part no. 9.3644.0102



Part no. 9.3634.0202



Part no. 9.3644.0202

Reversible clamping system with 4 compact clamps CS 80 H

The hydraulic oil is supplied without pipework through holes drilled in the base plate. Clamping and unclamping is carried out using valves with turning knob. The clamping force is adjustable and can be monitored.

The compact design enables a collision-free set-up.

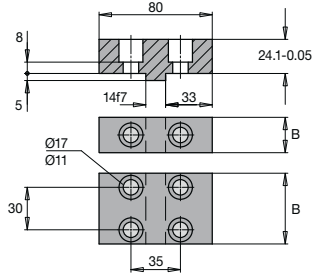




ROEMHELD
HILMA ■ STARK

Jaws

Top jaws for compact clamping systems

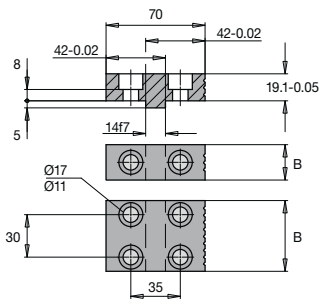
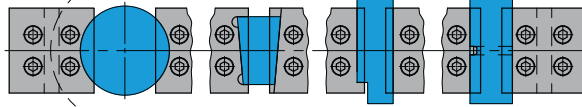


Reversible and central jaw soft 21 MnCr5G

for machining aluminium and non-ferrous metals and for adaptation to specific work-pieces, including fixing screws, for all compact clamping systems

Part no. **9.3911.4111**, B = 25 mm
Part no. **9.3911.4121**, B = 50 mm
Part no. **9.3911.4131**, B = 80 mm

Application examples:

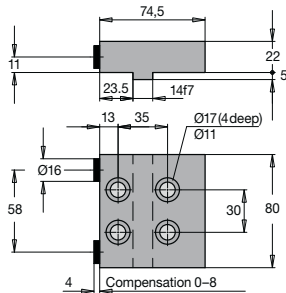
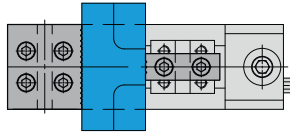


Reversible jaw

hardened and ground, clamping surfaces smooth and serrated, including fixing screws, for all compact clamping systems

Part no. **9.3911.4011**, B = 25 mm
Part no. **9.3911.4021**, B = 50 mm
Part no. **9.3911.4031**, B = 80 mm

Application example:



Mechanical compensation jaw

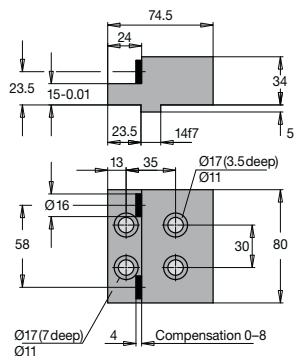
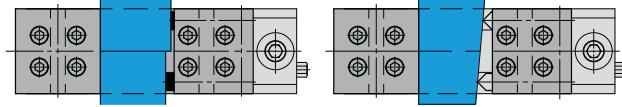
clamping bolts smooth, including fixing screws for all compact clamping systems

Part no. **9.3911.4431**

Sets of clamping bolts for compensation of between 0 and 32 mm

Part no. **9.3911.4461**, Clamping bolt smooth
Part no. **9.3911.4471**, Clamping bolt serrated
Part no. **9.3911.4481**, Clamping bolt with 90° cutting edge

Application examples:



Mechanical compensation step jaw

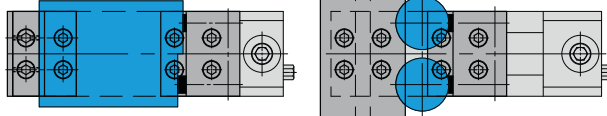
clamping bolts smooth, including fixing screws for all compact clamping systems

Part no. **9.3911.4531**

Sets of clamping bolts for compensation of between 0 and 32 mm

Part no. **9.3911.4561**, Clamping bolt smooth
Part no. **9.3911.4571**, Clamping bolt serrated
Part no. **9.3911.4581**, Clamping bolt with 90° cutting edge

Application examples:

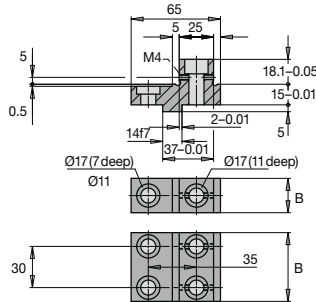


Jaws



ROEMHELD
HILMA ■ STARK

Top jaws for compact clamping systems

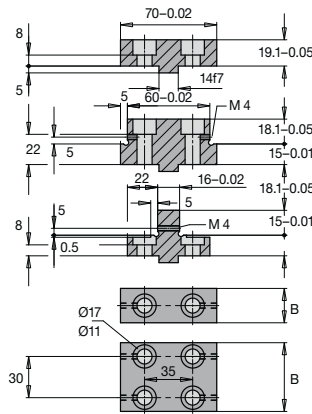
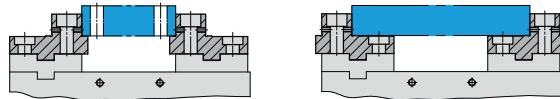


Reversible step jaw

hardened and ground, including fixing screws
For all compact clamping systems

Part no. **9.3911.4211**, B = 25 mm
Part no. **9.3911.4221**, B = 50 mm
Part no. **9.3911.4231**, B = 80 mm

Application examples:



Central jaw

hardened and ground, including fixing screws
only for compact double clamping systems 9.3634.01/0202 and 9.3644.01/0202

Central jaw 70-0.02 mm

Part no. **9.3911.4771**, B = 25 mm
Part no. **9.3911.4781**, B = 50 mm
Part no. **9.3911.4791**, B = 80 mm

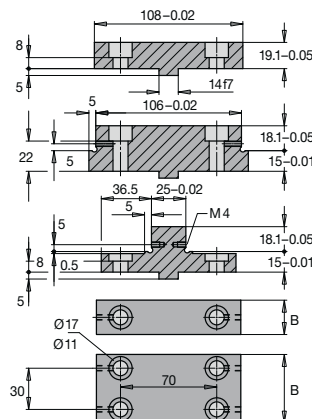
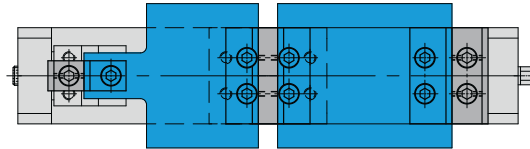
Central jaw 60-0.02 mm

Part no. **9.3911.4741**, B = 25 mm
Part no. **9.3911.4751**, B = 50 mm
Part no. **9.3911.4761**, B = 80 mm

Central jaw 16-0.02 mm

Part no. **9.3911.4711**, B = 25 mm
Part no. **9.3911.4721**, B = 50 mm
Part no. **9.3911.4731**, B = 80 mm

Application examples:



Central jaw

hardened and ground, including fixing screws
only for compact double clamping systems 9.3634.01/0202 and 9.3644.01/0202

Central jaw 108-0.02 mm

Part no. **9.3911.4671**, B = 25 mm
Part no. **9.3911.4681**, B = 50 mm
Part no. **9.3911.4691**, B = 80 mm

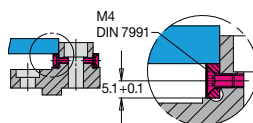
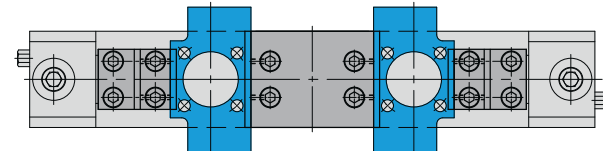
Central jaw 106-0.02 mm

Part no. **9.3911.4641**, B = 25 mm
Part no. **9.3911.4651**, B = 50 mm
Part no. **9.3911.4661**, B = 80 mm

Central jaw 25-0.02 mm

Part no. **9.3911.4611**, B = 25 mm
Part no. **9.3911.4621**, B = 50 mm
Part no. **9.3911.4631**, B = 80 mm

Application examples:



Precise steps

All reversible step jaws and central jaws are prepared for fitting precise steps or special workpiece pads as required by the customer.

Maintaining the dimension 5.1 + 0.1, the precise steps have a positive fit on their supports after having been screwed on.



ROEMHELD
HILMA ■ STARK

Accessories

Accessories for compact clamping systems

Ring spanner SW 12, 200 long

Part no.
9.3918.4311

Reversible ratchet, 200 long

with socket insert SW 12

Part no.
9.3918.4321

Hydraulic power units

for compact quick clamping systems with hydraulic power amplifier

Depending on their design, hydraulic power units may be used for operating single clamping points, groups of clamping points or all clamping points together. Individual control variants can be realized with our hydraulic power units in modular design which are delivered ready for connection.



Torque wrench, 5-60 Nm

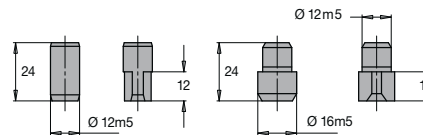
with socket insert SW 12

for mechanical compact quick clamping systems

Part no.
9.3918.4012

Set of positioning pins

consisting of a cylindrical and a milled positioning pin

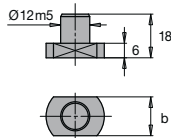


Part no.
9.3918.4211

Part no.
9.3918.4221

Key blocks

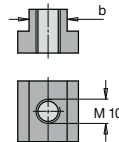
for positioning on machine tables and pallets with T-slots



Part no.	Width b
5.0508.0089	14h6
5.0508.0091	18h6

Set of T-nuts (1 set = 4 off)

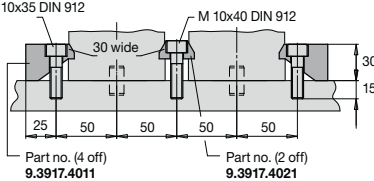
for fixation on machine tables and pallets with T-slots



Part no.	Width b
9.3917.4221	14
9.3917.4241	18

Set of clamping claws and screws

M 10x35 DIN 912

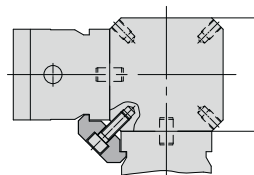


Part no. (4 off)
9.3917.4011

Part no. (2 off)
9.3917.4021

Set of clamping claws

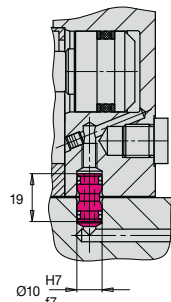
consisting of 8 clamping claws and screws for fixation on clamping towers



Part no.	a
9.3917.4041	100
9.3917.4051	120

Plug-in connector

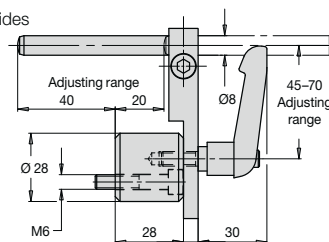
For manifold mounting of compact quick clamping systems with hydraulic power amplifier.



Part no.
8.0530.0023

Workpiece stop

for fixation on both sides of the base element



Part no.
9.3918.4111