



## Workholding Systems HILMA.MCP Z

### concentric clamping, mechanically or hydraulically operated

#### jaw widths 40, 60, 100 and 125 mm



#### Advantages

- Patented segment design
- Compact design
- High precision and accuracy of the manufactured workpieces by high rigidity
- High zero-point stability
- Sturdy design and good swarf protection
- Large jaw openings
- Extensive range of jaws
- Clamping of raw and finished parts without retrofitting
- Easy to maintain

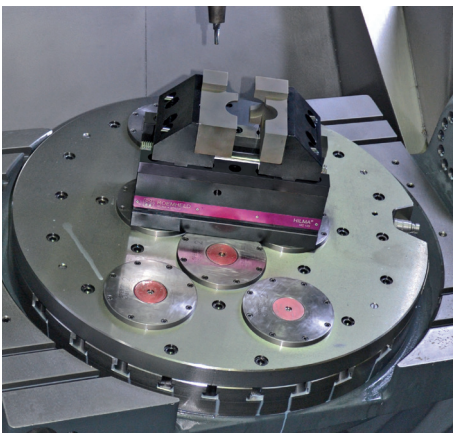
#### Application

The workholding systems HILMA.MCP Z are especially advantageous for 5-axis machining. The compact design allows a good accessibility of the tools to the workpiece. Collision-free tool paths and a 5-sided workpiece machining can be achieved with short standard tools. Due to the good swarf protection, workholding systems HILMA.MCP Z are particularly suitable for the use in pallet systems. The high force and stability obviate the need for pre-stamping of the workpieces.

#### Accessories

- Clamping jaws and jaw inserts, accessories for mounting, positioning and operation see data sheet WS 5.450Z
- Rapid change block Quintus see data sheet WS 5.6150
- Hydraulic pressure generators on request

#### Application example



Workholding system HILMA.MCP Z with workpiece-specific base jaw and form jaw used on a 5-axis machining centre.

#### Description

Workholding systems of the HILMA.MCP Z series excel by a very compact design and their patented segment design.

Thanks to the adjusting spindle arranged in the upper part of the housing, deformation in the base during clamping is reduced to a minimum. Thus, a high rigidity of the workholding system is obtained.

The patented segment design ensures a high degree of precision and stability. The guiding clearance is reduced to nearly zero.

All essential components are made of hardened steel.

The workholding systems HILMA.MCP 100Z/125Z are already prepared for the use on zero point clamping systems. For this purpose, there are location threads for retractable nipples at the bottom side of the housing.

For workholding systems HILMA.MCP Z, a wide range of clamping jaws is available (see data sheet WS 5.450Z).

#### Consultation

Our experts will be pleased to advise you also on site, and work with you to find the optimum clamping solution.

Extensive information such as drawings and CAD models are available on request.

#### Customised versions

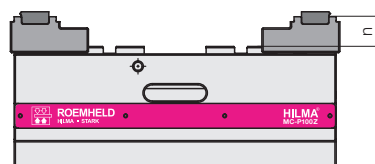
HILMA.MCP workholding systems can also be delivered as customised versions. For example with other lengths, height or with individual mounting holes.

Please contact us.

#### \*Important note

The specified clamping forces apply to a clamping height (n) of 15 mm.

For higher clamping heights, the clamping forces are reduced.



#### Technical data

Clamping principle: **concentric clamping mechanically**  
 Operation: with a torque wrench  
**hydraulically**  
 with a power unit

#### HILMA.MCP 40 Z

Jaw width: 40 mm  
 Clamping force\*: 7.5 kN at 23 Nm  
 Clamping stroke: 20 mm  
 Max. jaw opening: 6–79 mm

#### HILMA.MCP 60 Z and ZH

Jaw width: 60 mm  
 Mechanical clamping force\*: 15 kN at 60 Nm  
 Hydraulic clamping force\*: 10 kN at 320 bar  
 Clamping stroke: 30 mm  
 Max. jaw opening: 6–150 mm

#### HILMA.MCP 100 Z and ZH

Jaw width: 100 mm  
 Mechanical clamping force\*: 25 kN at 90 Nm  
 Hydraulic clamping force\*: 20 kN at 270 bar  
 Clamping stroke: 50 mm  
 Max. jaw opening: 6–204 mm

#### HILMA.MCP 125 Z and ZH

Jaw width: 125 mm  
 Mechanical clamping force\*: 40 kN at 180 Nm  
 Hydraulic clamping force\*: 35 kN at 270 bar  
 Clamping stroke: 101 mm  
 Max. jaw opening: 6–400 mm

#### HILMA.MCP 125 ZK

Jaw width: 125 mm  
 Clamping force\*: 40 kN at 180 Nm  
 Clamping stroke: 10 kN  
 Max. jaw opening: 6–215 mm

#### Versions

##### HILMA.MCP Z mechanically operated

In the mechanically-operated version, the clamping force is built up with a threaded spindle. When operating, both clamping slides move mechanically linked to the centre of the clamping system.

A torque wrench is used for exact and reproducible clamping force adjustment.

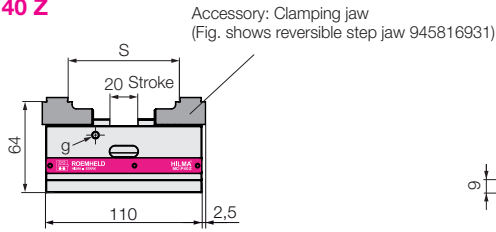
##### HILMA.MCP ZH hydraulically operated

In the hydraulically-operated version, the clamping force is built up by an externally generated hydraulic pressure. When pressurising, both clamping slides move mechanically linked to the centre of the clamping system. During unclamping, the clamping slides return hydraulically to the position that had been set with adjusting screws for stroke limitation. Thus, a further unnecessary wide opening of the clamping system is avoided.

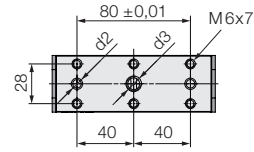
The clamping force adjustment is made by the setting of the operating pressure.

**Technical data • Dimensions**  
**mechanically operated • jaw widths 40, 60 and 100 mm**

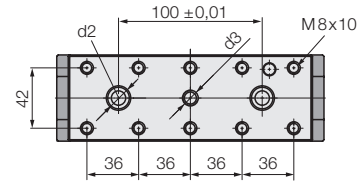
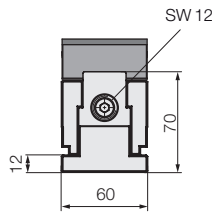
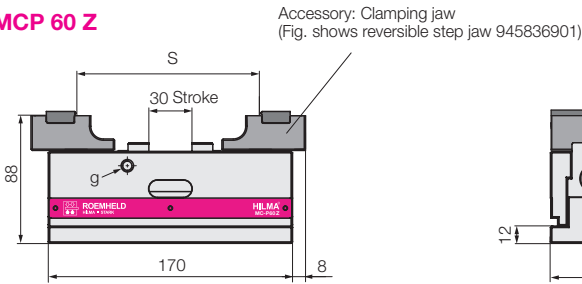
**HILMA.MCP 40 Z**



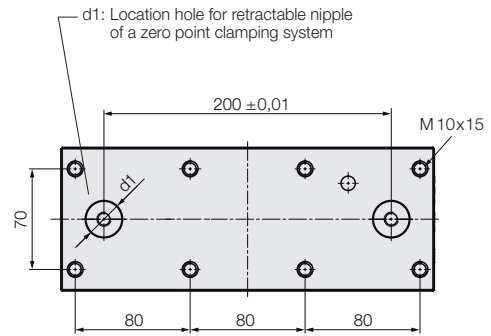
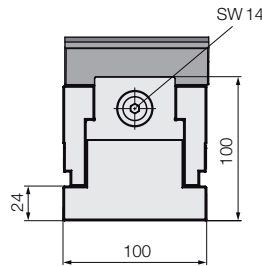
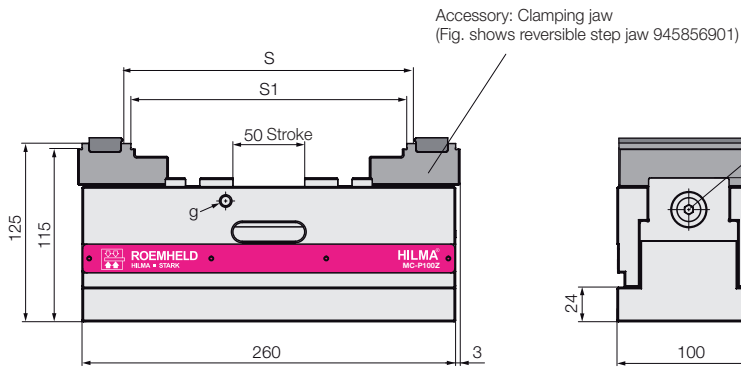
View from below



**HILMA.MCP 60 Z**



**HILMA.MCP 100 Z**



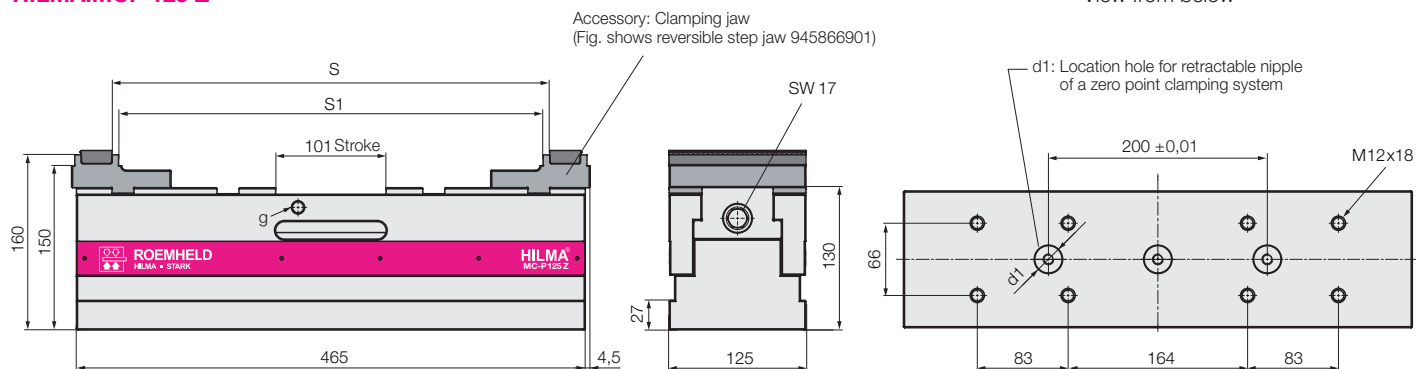
All dimensions in [mm]

Series		HILMA.MCP 40 Z	HILMA.MCP 60 Z	HILMA.MCP 100 Z
Clamping principle		concentric	concentric	concentric
Operation		mechanical	mechanical	mechanical
Clamping force / torque	[kN/Nm]	7.5/23	15/60	25/90
Repetitive clamping accuracy	[mm]	± 0.015	± 0.015	± 0.015
S*	[mm]	6 – 79	6 – 150	18 – 204
S1*	[mm]	–	–	6 – 192
d1	[mm]	–	–	25 + 0.01 x 5 / M10x14
d2	[mm]	6F7	10F7	–
d3	[mm]	M10x12	M10x11	–
g on both sides	[mm]	M5x6	M8x10	M8x14
Weight without clamping jaws	[kg]	1.5	4.7	17.7
Part no. without clamping jaws		945810301	945830302	945850302

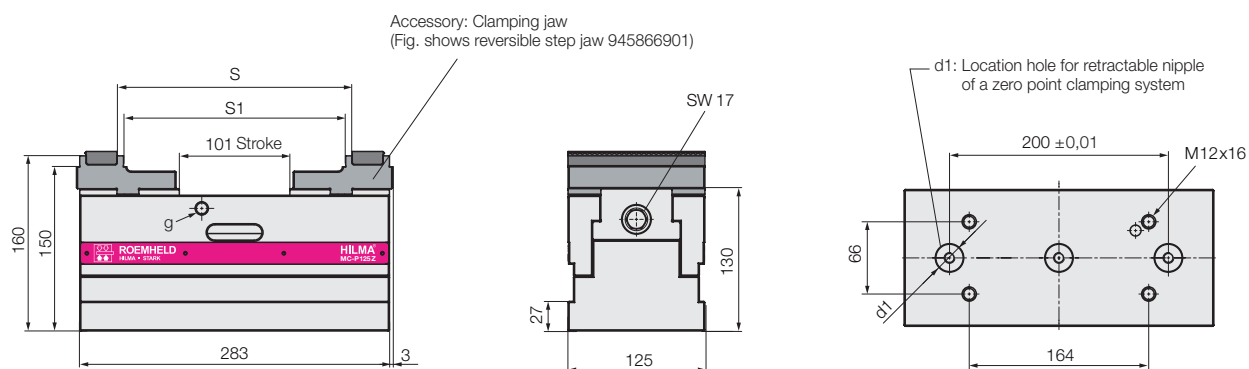
\* depending on the used clamping jaw

**Technical data • Dimensions**  
**mechanically operated • jaw width 125 mm**

**HILMA.MCP 125 Z**



**HILMA.MCP 125 ZK**



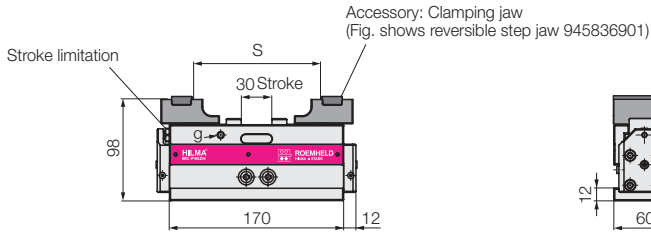
All dimensions in [mm]

Series		HILMA.MCP 125 Z	HILMA.MCP 125 ZK
Clamping principle		concentric	concentric
Operation		mechanical	mechanical
Clamping force / torque	[kN]	40/180	40/180
Repetitive clamping accuracy	[mm]	± 0.015	± 0.015
S*	[mm]	18–400	18–215
S1*	[mm]	6–388	6–203
d1	[mm]	25+0.01x5/M10x18	25+0.01x5/M10x18
g on both sides	[mm]	M12x18	M12x18
Weight without clamping jaws	[kg]	52.3	30.5
Part no. without clamping jaws		945860302	945860322

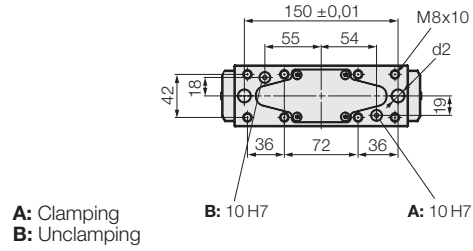
\* depending on the used clamping jaw

**Technical data • Dimensions**  
**hydraulically operated • jaw widths 60, 100 and 125 mm**

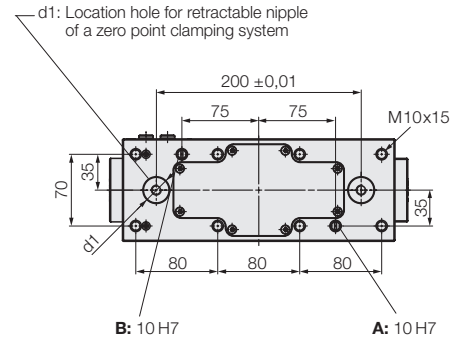
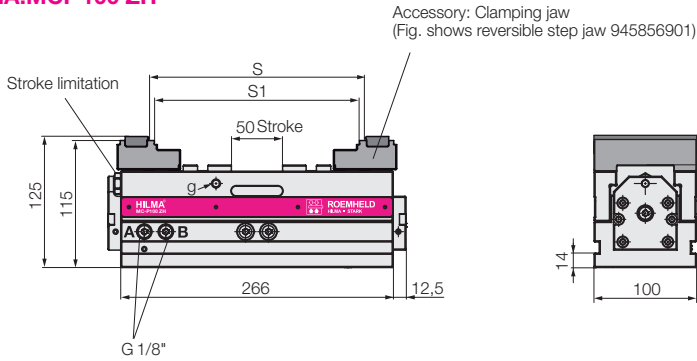
**HILMA.MCP60 ZH**



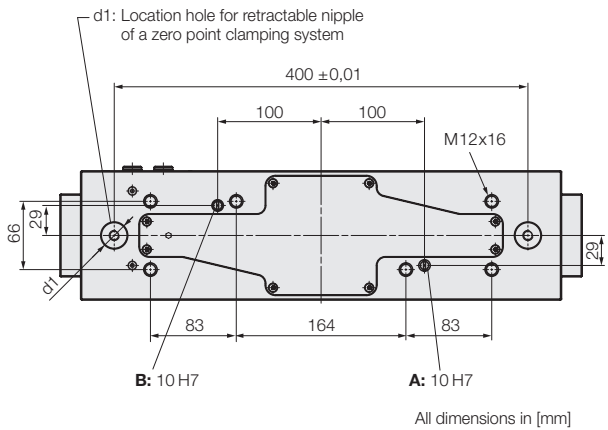
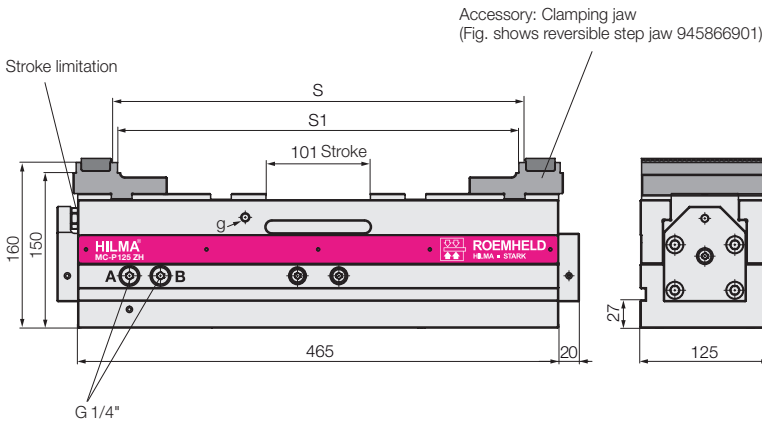
View from below



**HILMA.MCP100 ZH**



**HILMA.MCP125 ZH**



Series		HILMA.MCP60 ZH	HILMA.MCP100 ZH	HILMA.MCP125 ZH
Clamping principle		concentric	concentric	concentric
Operation		hydraulic	hydraulic	hydraulic
Clamping force / operating pressure	[kN/bar]	10/320	20/270	35/270
Max. unclamping pressure	[bar]	50	50	50
Max. oil volume	[cm <sup>3</sup> ]	15	51	161
Oil volume per 1 mm stroke	[cm <sup>3</sup> ]	0.5	1	1.6
Repetitive clamping accuracy	[mm]	± 0.02	± 0.02	± 0.02
S*	[mm]	6–150	18–204	18–400
S1*	[mm]	–	6–192	6–388
d1	[mm]	–	25+0.01 x5 / M10x14	25+0.01 x5 / M10x14
d2	[mm]	12F7	–	–
g on both sides	[mm]	M6x7	M8x11	M8x11
Weight without clamping jaws	[kg]	5.4	17.4	50.5
Part no. without clamping jaws		945830401	945850401	945860401

\* depending on the used clamping jaw