



## Workholding Systems HILMA.MC-P Z Balance

### position flexible clamping, mechanically operated

### jaw widths 60, 100 and 125 mm



#### Advantages

- Patented segment design
- Clamping without deformation of workpieces by position flexible clamping point
- Clamping system also suitable for concentric clamping
- Compact design
- High precision and accuracy of the manufactured workpieces by high rigidity
- Sturdy design and good swarf protection
- Large jaw openings
- Extensive range of jaws
- Clamping of raw and finished parts without retrofitting
- Easy to maintain

#### Description

Workholding systems of the HILMA.MC-P Z Balance series excel by a very compact design and their patented segment design.

Due to the position flexible function, deformation of the workpiece during clamping can be avoided.

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.MC-P 100/125 Z Balance 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.MC-P Z Balance a wide range of clamping jaws is available (see data sheet WS 5.450Z).

#### Customised versions

HILMA.MC-P Z Balance workholding systems can also be delivered as customised versions. For example with other lengths or with individual mounting holes.

Please contact us.

#### 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.

#### Technical data

Clamping principle: **position flexible**  
 Operation: **mechanically**  
 with a torque wrench  
 Compensation stroke:  $\pm 2$  mm

#### HILMA.MC-P 60 ZB

Jaw width: 60 mm  
 Clamping force\*: 15 kN at 60 Nm  
 Clamping stroke: 30 mm  
 Max. jaw opening: 6–150 mm

#### HILMA.MC-P 100 ZB

Jaw width: 100 mm  
 Clamping force\*: 25 kN at 90 Nm  
 Clamping stroke: 50 mm  
 Max. jaw opening: 6–204 mm

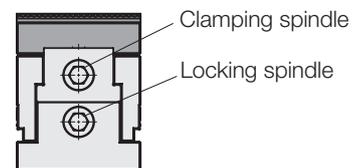
#### HILMA.MC-P 125 ZB

Jaw width: 125 mm  
 Clamping force\*: 40 kN at 180 Nm  
 Clamping stroke: 101 mm  
 Max. jaw opening: 6–400 mm

#### Function

The workholding systems HILMA.MC-P Z Balance have a floating clamping point (with released locking). After operation of the clamping spindle, first the two clamping slides concentrically approach a location-fixed workpiece position. When both clamping jaws are in contact with the workpiece, the desired clamping force is applied by means of a torque wrench. Until this moment the clamping point is still floating. If the desired clamping force is reached, the clamping point which was floating up to this moment will be safely fixed by the locking spindle.

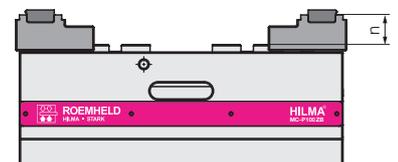
The adaptation of the clamping point to the location-fixed workpiece position will prevent a deformation of the workpiece



#### \*Important note

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

For higher clamping heights, the clamping forces are reduced.



#### Application

Besides 5-axis machining and concentric clamping, the position flexible workholding system HILMA.MC-P Balance offers the solution for individual or series clamping of bars, rails, profiles, guide rails or housings. The compensating function avoids tensioning and deformation on the workpiece.

Also workpieces that are fixed by internal contours or positioning elements can be clamped concentrically. For this purpose, customer-specific dowel holes or tapped holes can be provided in the guide bars of the HILMA.MC-P Balance in which the workpiece supports or stops can be fixed.

#### 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

#### Application example

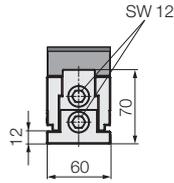
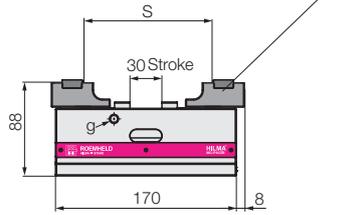


Clamping of aluminium bars with workholding system HILMA.MC-P 100 Z Balance.

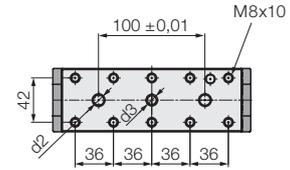
# Technical data Dimensions

## HILMA.MC-P 60 ZB

Accessory: Clamping jaw  
(Fig. shows reversible step jaw 945836901)

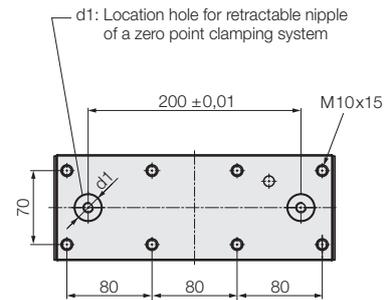
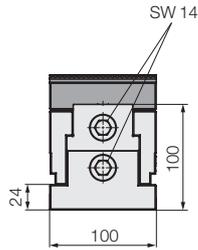
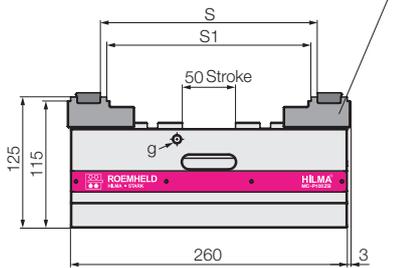


View from below



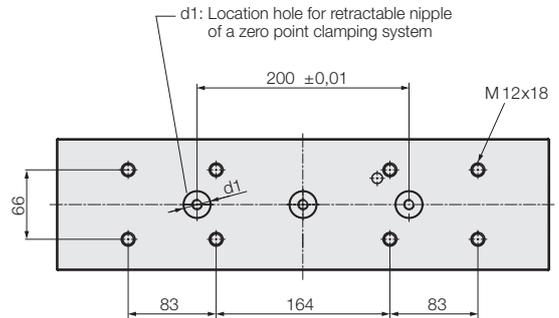
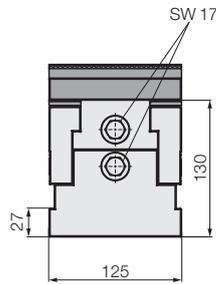
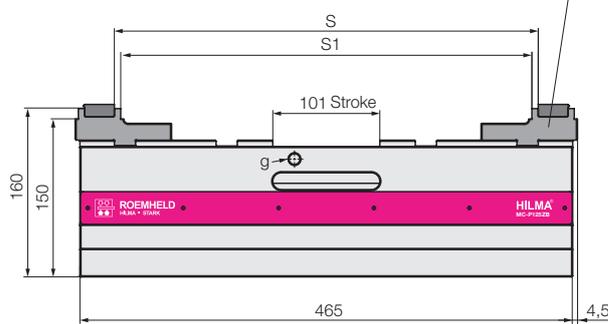
## HILMA.MC-P 100 ZB

Accessory: Clamping jaw  
(Fig. shows reversible step jaw 945856901)



## HILMA.MC-P 125 ZB

Accessory: Clamping jaw  
(Fig. shows reversible step jaw 945866901)



All dimensions in [mm]

Series		HILMA.MC-P 60 ZB	HILMA.MC-P 100 ZB	HILMA.MC-P 125 ZB
Clamping principle		position flexible	position flexible	position flexible
Operation		mechanical	mechanical	mechanical
Clamping force / torque	[kN/Nm]	15/60	25/90	40/180
Repetitive clamping accuracy**	[mm]	± 0.015	± 0.015	± 0.015
Stroke, position flexible	[mm]	± 2	± 2	± 2
S*	[mm]	6–150	18–204	18–400
S1*	[mm]	–	6–192	6–388
d1	[mm]	–	25+0.01x5 / M10x14	25+0.01x5 / M10x18
d2	[mm]	10F7	–	–
d3	[mm]	M10x11	–	–
g on both sides	[mm]	M8x10	M8x14	M12x18
Weight without clamping jaws	[kg]	4.6	17.5	52.3
Part no. without clamping jaws		945830701	945850701	945860701

\* depending on the used clamping jaw

\*\* with closed locking