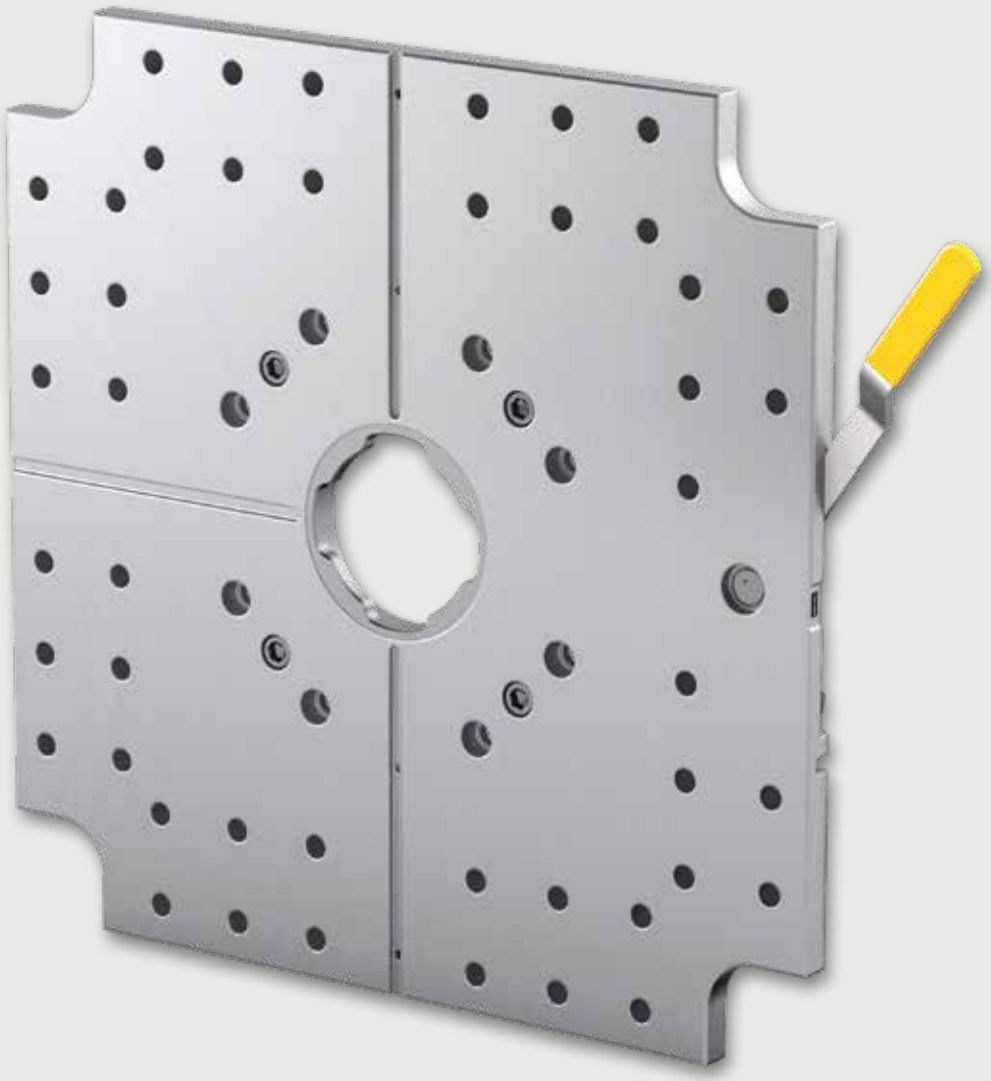
FAST MOVING TECHNOLOGY

STÄUBLI

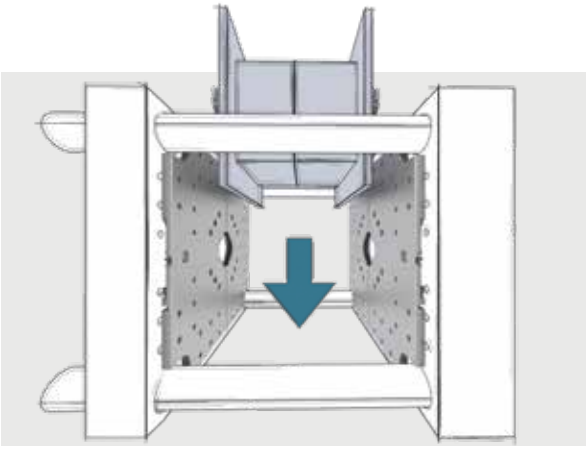
# Mechanical Clamping System QMC 105

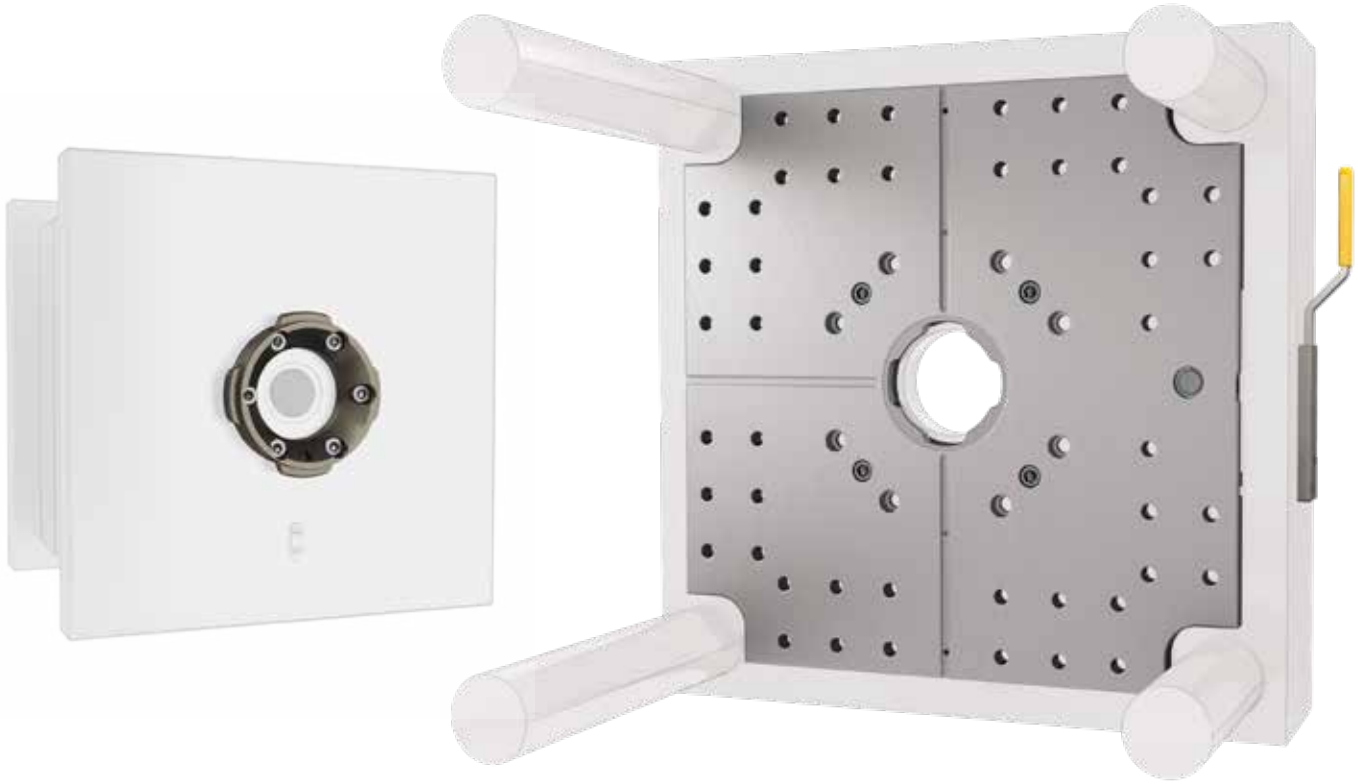
**Higher productivity | Plastics industry**



**VERSATILE AND SIMPLE INTEGRATION**

# Efficient clamping with QMC 105 clamping system





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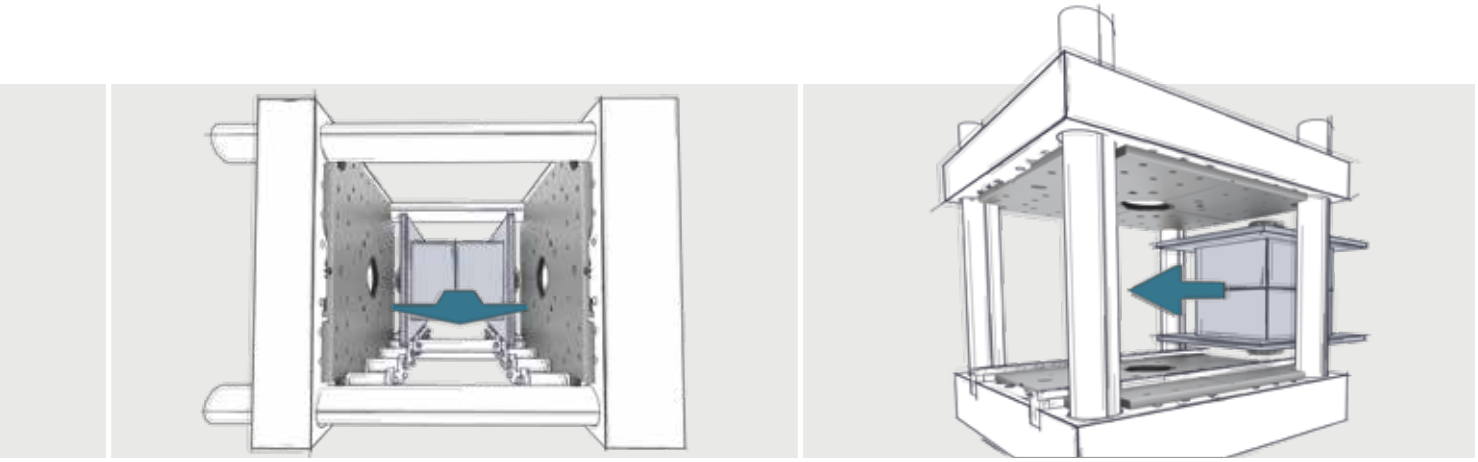
www.quick-mould-change.com



**Full flexibility for mould loading**

QMC 105 clamping elements can be used for vertical and horizontal mould changes.

The applicable safety requirements and standards must be checked and adhered to when using in vertical presses.

**The QMC 105 mechanical clamping system substantially reduces the time to change a mould. It provides a significant, highly cost effective contribution to optimising overall set up time which forms the basis for Single Minute Exchange of Die (SMED).**

**Seamless integration**

The QMC 105 requires no additional external energy supply, and complex integration into the machine control system is not necessary. It is therefore ideal for the retrofitting of existing machines. Thanks to their versatility, QMC 105 systems can be incorporated in a range of machine types and applications.

**Easy assembly**

The QMC 105 base plates are screwed onto the machine's platens using the existing drilling pattern. This helps make the assembly process quick and simple. Stäubli can provide assembly assistance upon request to ensure a precise fit and a perfectly aligned system.

The drilling pattern for the QMC 105 base plate is adaptable to Euromap, SPI or JIS standards. This ensures that all moulds can still be clamped to the QMC 105 base plate in the conventional way.

**For all moulds**

On the mould side it is only necessary to exchange the existing centring ring for a Stäubli QMC 105 locking ring. The attachment of an additional keyway makes central positioning unnecessary.

There is no requirement for a standard form size or thickness of the mould platens. To achieve the necessary surface pressure as only a small minimum plate size is required.

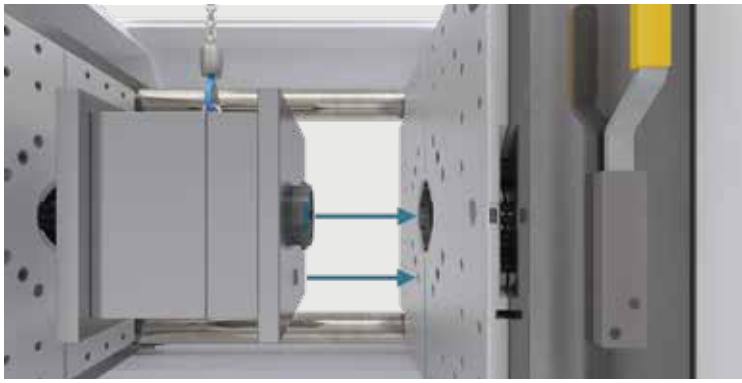
Additional insulating plates can be used on the mould side and on the machine side.

- **Quick and simple** clamping in one single step
- **Great flexibility** and adaptable to Euromap, SPI or JIS Standards
- **Excellent safety** and ease of use for the operator
- **Economic efficiency** due to seamless integration and long service life
- **High operating temperature** up to 200 °C

**Applications**

- Horizontal/vertical injection moulding machines
- Blow moulding machines
- Turntable machines

# Robust and flexible



**Fast and precise mould positioning**
The locking ring and keyway comprise a positioning system for precise and efficient mould insertion.

**The robust design of the QMC 105 clamping system makes it suitable for a wide range of applications.**

**Design**
The base plate of the QMC 105 clamping system with integrated, robust bayonette lock makes a very low mould installation height possible which ensures efficient use of the machine.

An additional anti-rotation keyway in the system's base plate ensures the precise positioning of the mould on the machine and automated part removal possible.

The locking rings used provide space for heated injection nozzles and decentral ejection systems.

**System sizes**
The QMC 105 clamping system is available in seven sizes with a clamping force of between 25 and 120 kN, and designed for centring ring sizes of between 60 and 125 mm.

**Materials**
The use of high quality materials ensures a long service life for the QMC 105 clamping system:
- Polished steel base plate
- Alloy steel, heat and surface-treated bayonette lock
- Hardened steel locking ring
- Detachable stainless steel lever
- Capable of operating in high-temperatures of up to 200°C

**QMC 105**
**for blow moulding machines**
To facilitate efficient mould changes on these machines, QMC 105 systems with several bayonette locks are used to enable a single manual lever operation:
- System integrated in the platen
- System mounted on the platen

**Mechanical safety lock**
When the clamping lever is released the bayonette lock is secured automatically.

**Safety is maximised by an integrable sensor technology**
The system's clamping position can optionally be displayed via proximity switches.

# Precise centring and safe clamping

**QMC 105 clamping system completes the mould clamping process in a single step.**

**How does it work?**
To clamp the mould, the mould side locking ring is inserted into the open lock of the base plate up to the stop. A keyway on the mould and the anti-rotation keyway on the base plate ensure precise alignment.

The hand lever is then inserted and pushed down. This twists and braces the bayonette lock. The lever is removed and placed in its holder.

- Centring and clamping in one simple step
- Quick and reliable
- Manually operated, without energy supply

Levers with a torque limiter and a holder are available as additional option.

**Machine safety**
During the clamping process the edges of the bayonette lock self-locks to prevent deliberate or accidental opening. This self-locking element is supported by a secure pin when the hand lever is removed.

QMC 105 systems can be optionally equipped with two inductive proximity switches which display the lock positioning.

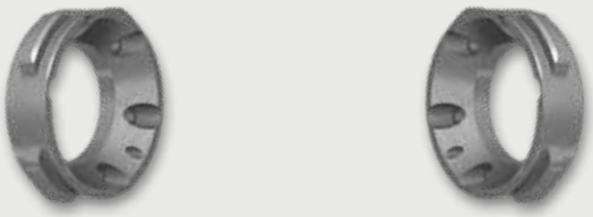
- Excellent safety and ease of use for the operator
- Fulfils safety requirements in accordance with EN 201

## TECHNICAL DATA

# Overview

### Machine side

### Mould side



| Size | 1 | 2 | 3 | 4.1 | 4.2 | 4.3 | 4.4 |
|---|---|---|---|---|---|---|---|
| **QMC 105.10: Machine side without proximity switch** | **K85010501** | **K85010511** | **K85010521** | **K85010561** | **K85010571** | **K85010531** | **K85010541** |
| **QMC 105.20: Machine side with proximity switch** | **K85010504** | **K85010514** | **K85010524** | **K85010564** | **K85010574** | **K85010534** | **K85010544** |
| **QMC 105.60: Tool side** | **K85010509** | **K85010519** | **K85010529** | **K85010539** | | | |
| **Base plate dimensions horizontal x vertical [mm x mm]** | 195 x 190 | 400 x 400 | 450 x 450 | 380 x 380 | 510 x 510 | 590 x 590 | 690 x 690 |
| **Centring diameter [mm]** | 60 | 100 | 110 | 125 | | | |
| **Max. retention force [kN]** | 25 | 100 | 100 | 120 | | | |
| **Max. mould weight [kg]** | 500 | 900 | 900 | 1000 | | | |
| **Min. platen size [mm]** | 100 x 100 | 165 x 165 | 175 x 175 | 185 x 185 | | | |
| **Max. temperature without proximity switch [°C]** | 200 | 200 | 200 | 200 | | | |
| **Max. temperature with proximity switch [°C]** | 70 | 70 | 70 | 70 | | | |

**Machine side items include:**

- Clamping system set with lever
- Fastening screws and pins

**Mould side items include:**

- Set of centring rings
- Fastening screws and pins

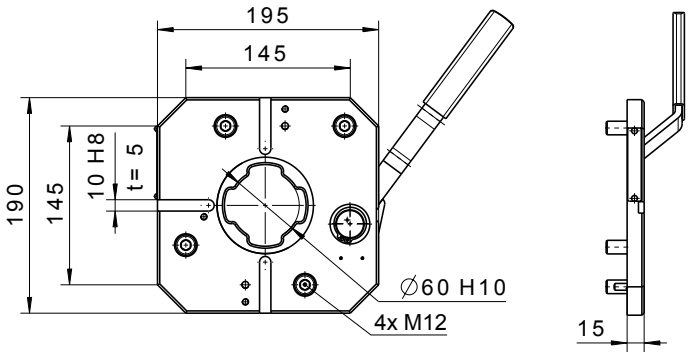
**Available by request:**

- Other ring geometries
- SPI / JIS drilling pattern
- QMC 105 for blow moulding machines

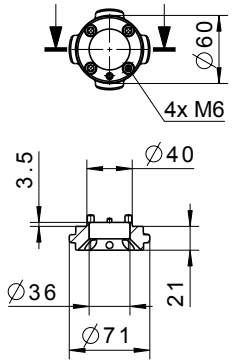
# Sizes

## QMC105.10 / 1

**ø60**

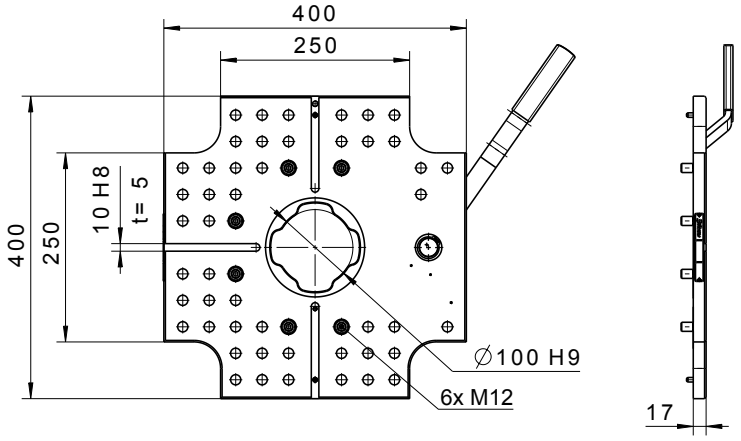



## QMC105.60 / 1

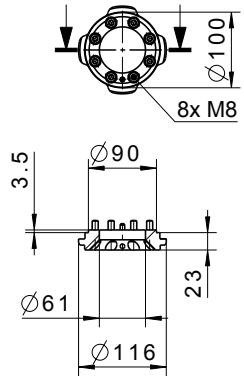



## QMC105.10 / 2

**ø100**

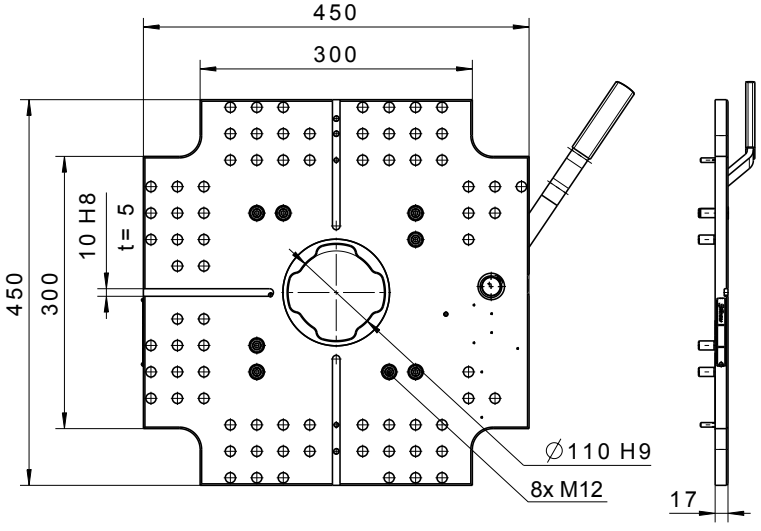



## QMC105.60 / 2

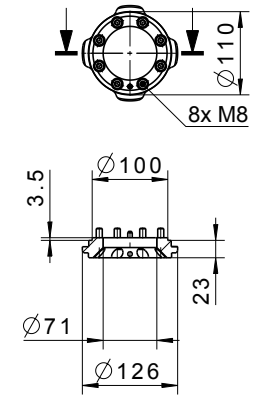



## QMC105.10 / 3

**ø110**



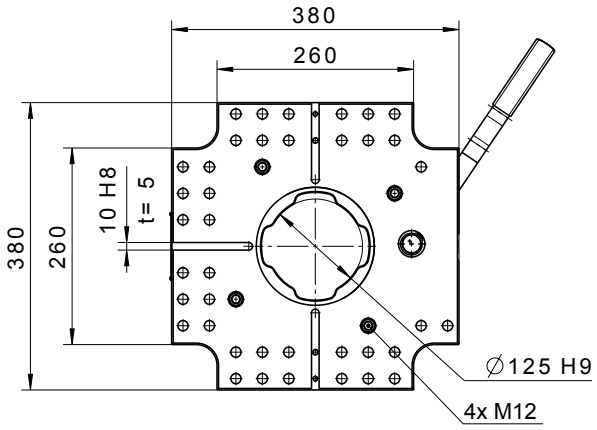

## QMC105.60 / 3

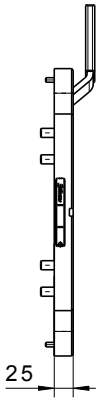


# Sizes

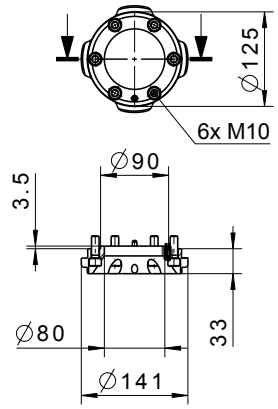
## QMC105.10 / 4.1

### ø125



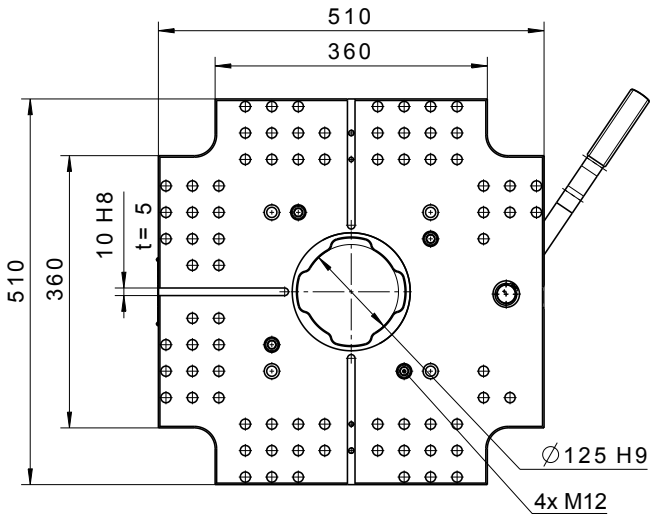



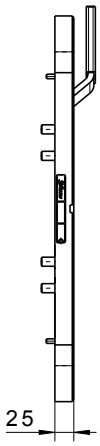

## QMC105.60 / 4



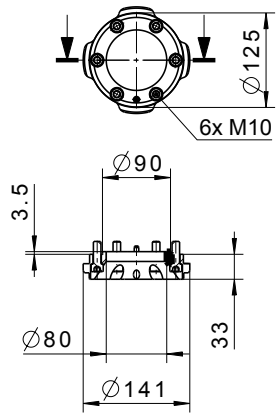

## QMC105.10 / 4.2

### ø125



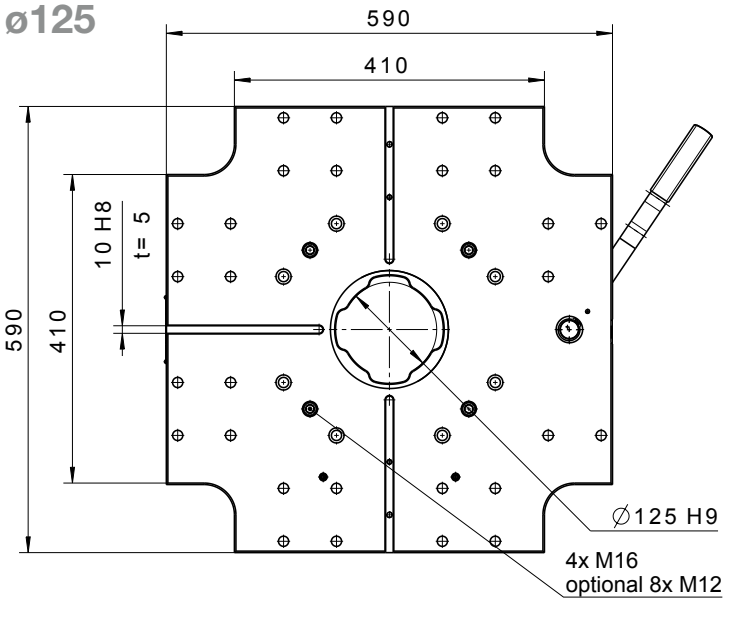




## QMC105.60 / 4

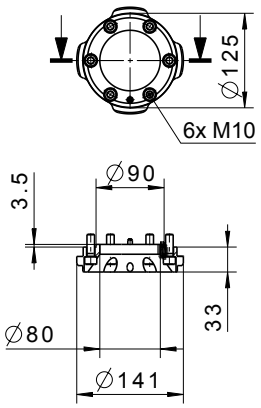


## QMC105.10 / 4.3

ø125

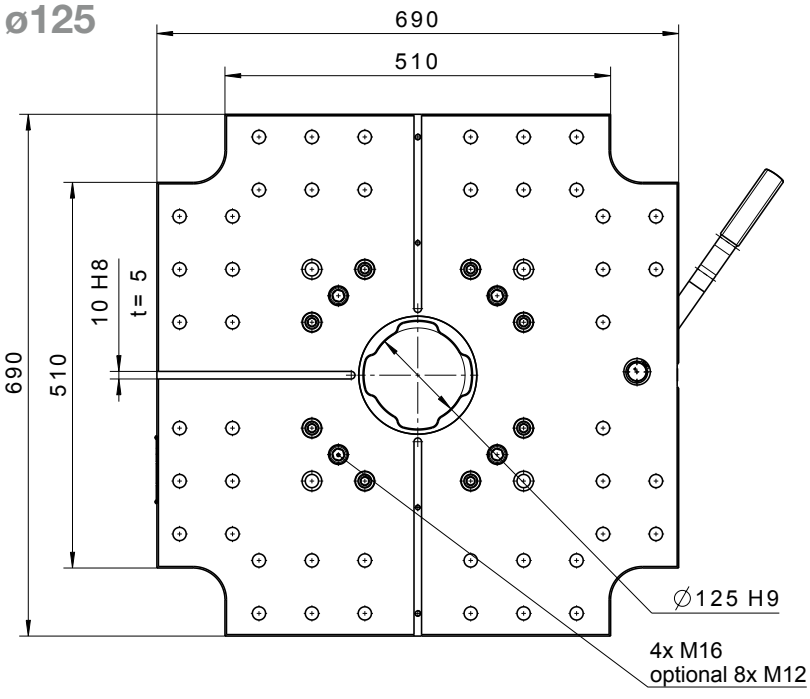



## QMC105.60 / 4

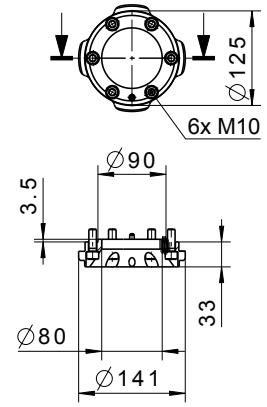



## QMC105.10 / 4.4

ø125




## QMC105.60 / 4



# Options

## Applications with machine side insulating plates

| QMC 105.30 | Size | Material | Thickness | Product code |
|---|---|---|---|---|
| The QMC 105.30 insulating plate is adapted to the contour of the QMC 105 clamping system. It is positioned on the machine side between the clamping plate and the clamping system. | 1 | Frathernit® | 8 mm | K85010507 |
| | 2 | Frathernit® | 8 mm | K85010517 |
| | 3 | Frathernit® | 8 mm | K85010527 |
| | 4.1 | Frathernit® | 8 mm | K85010567 |
| | 4.2 | Frathernit® | 8 mm | K85010577 |
| | 4.3 | Frathernit® | 8 mm | K85010537 |
| | 4.4 | Frathernit® | 8 mm | K85010547 |

| QMC 105.60 | Size | For insulating plate thickness | Product code |
|---|---|---|---|
| The mould side QMC 105.60 locking ring is adapted to the machine side insulating plate's thickness. | 1 | 8 mm | K85010596 |
| | 2 | 8 mm | K85010549 |
| | 3 | 8 mm | K85010558 |
| | 4.1 - 4.4 | 8 mm | K85010559 |

## Applications with mould side insulating plates

| QMC 105.06 | Size | For insulating plate thickness | Product code |
|---|---|---|---|
| The mould side QMC 105.60 locking ring is adapted to the thickness of the mould side insulating plate.<br><br>Customised insulating plates for moulds are also available from Stäubli. Please contact us for more information. | 1 | 5,0 - 6,5 mm | K85010599 |
| | 1 | 7,0 - 8,5 mm | K85010598 |
| | 1 | 9,0 - 10,0 mm | K85010597 |
| | 2 | 5,0 - 6,5 mm | K85010581 |
| | 2 | 7,0 - 8,5 mm | K85010582 |
| | 2 | 9,0 - 10,0 mm | K85010583 |
| | 3 | 5,0 - 6,5 mm | K85010584 |
| | 3 | 7,0 - 8,5 mm | K85010585 |
| | 3 | 9,0 - 10,0 mm | K85010586 |
| | 4.1 - 4.4 | 5,0 - 6,5 mm | K85010569 |
| | 4.1 - 4.4 | 7,0 - 8,5 mm | K85010548 |
| | 4.1 - 4.4 | 9,0 - 10 mm | K85010549 |

If the stated ring geometries are not compatible with the mould design we can offer various other locking rings.
Upon request we can provide a locking ring that is adapted to your requirements.

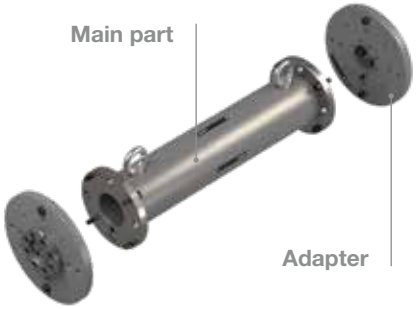
## Hand lever for clamping system operation

| Description | Size | Product code |
|---|---|---|
| Stable hand lever for operation of the QMC 105 clamping system. | 1 | K81779959 |
| | 2 - 4.4 | K81779960 |

| Description | Size | Product code |
|---|---|---|
| Hand lever with integrated torque limiter for operation of the QMC 105 clamping system. The lever gives way when the admissible clamping force is exceeded. | 1 | K81557052 |
| | 2 - 4.4 | K81557055 |

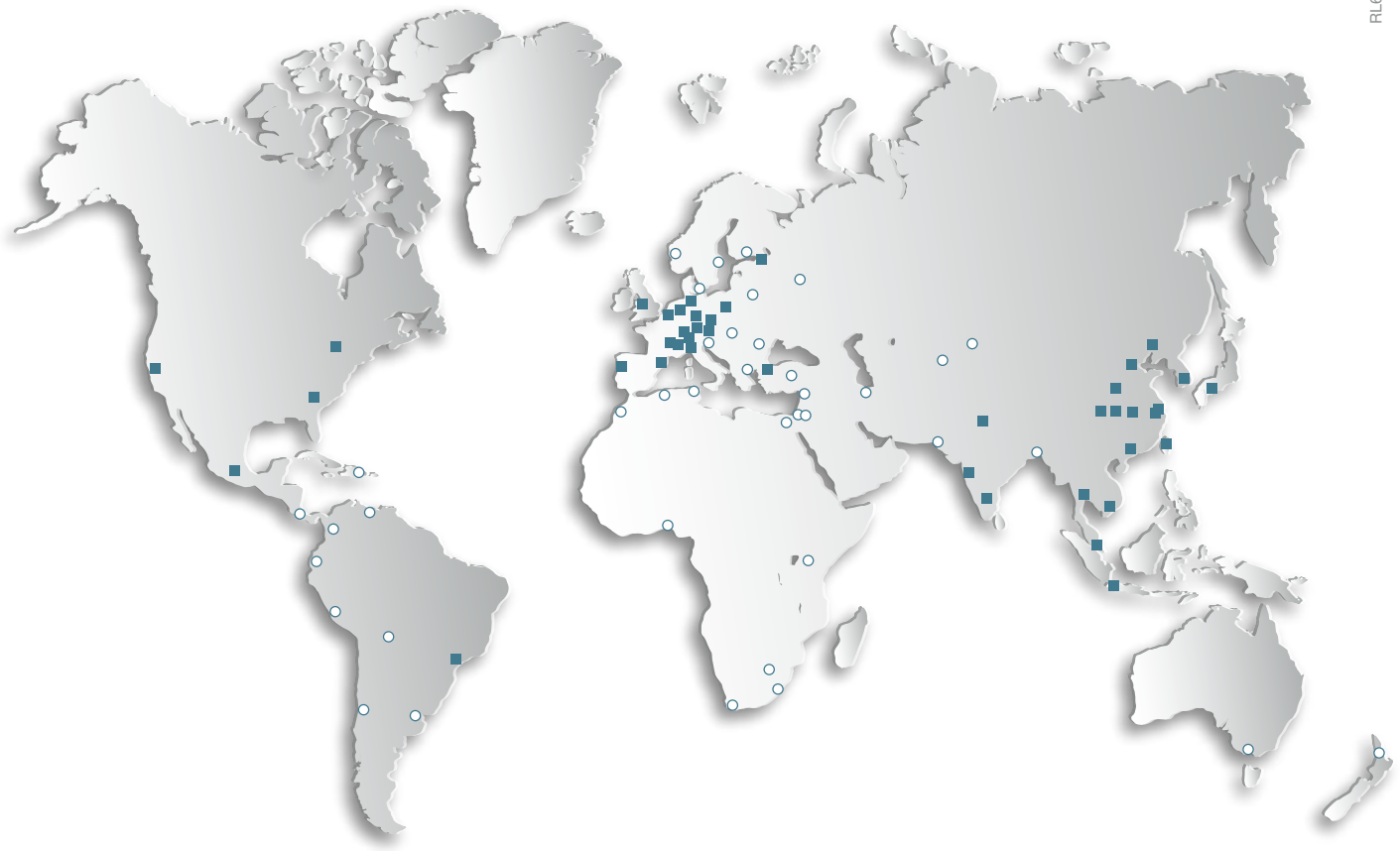
| Description | Size | Product code |
|---|---|---|
| Holder for the safe storage of the QMC 105 system lever during the production process. | 1 | K81568110 |
| | 2 - 4.4 | K81568111 |

## Installation aid for the precise positioning of the clamping plates




| Description | Size | Product code main part | Product code adapter |
|---|---|---|---|
| The installation aid provides the exact and parallel positioning of the QMC 105 clamping system's two clamping plates. Available for lease or purchase. | 1 | K81576660 | K81576661 |
| | 2 | | K81576900 |
| | 3 | | K81576687 |
| | 4.1 - 4.4 | | K81576686 |

RL6100303A



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