FAST MOVING TECHNOLOGY

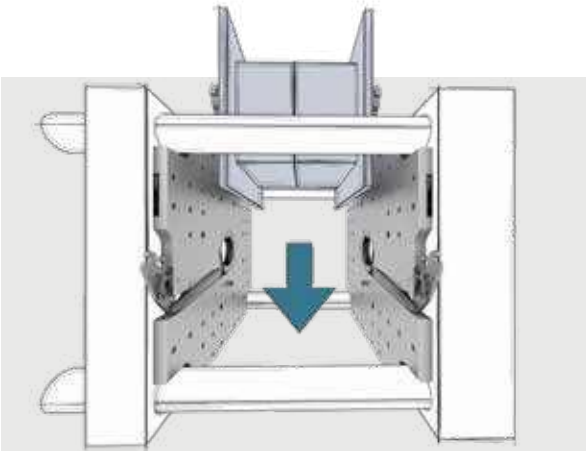
STÄUBLI

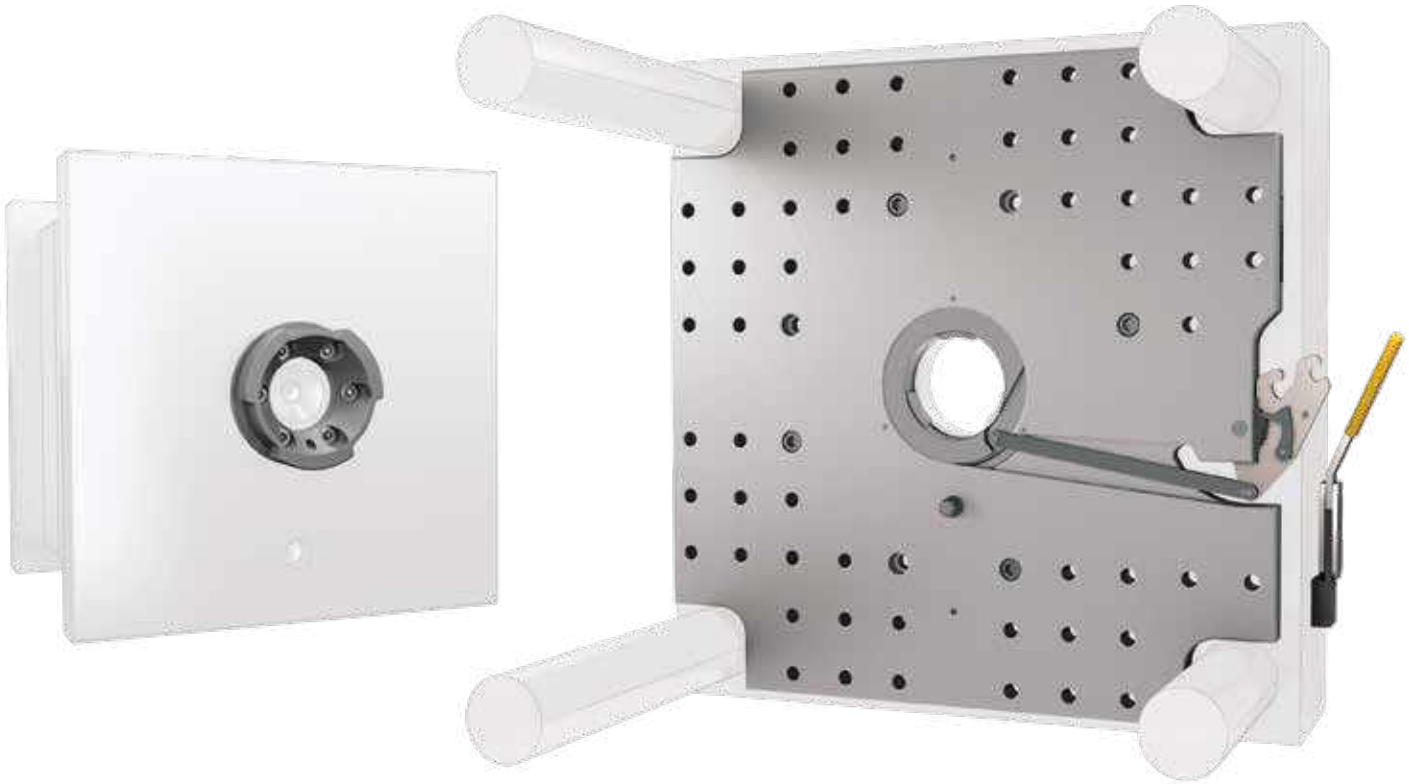
Mechanical Clamping System QMC 106

Higher productivity | Plastics industry

VERSATILE AND SIMPLE INTEGRATION

Fast and efficient clamping with QMC 106 clamping system





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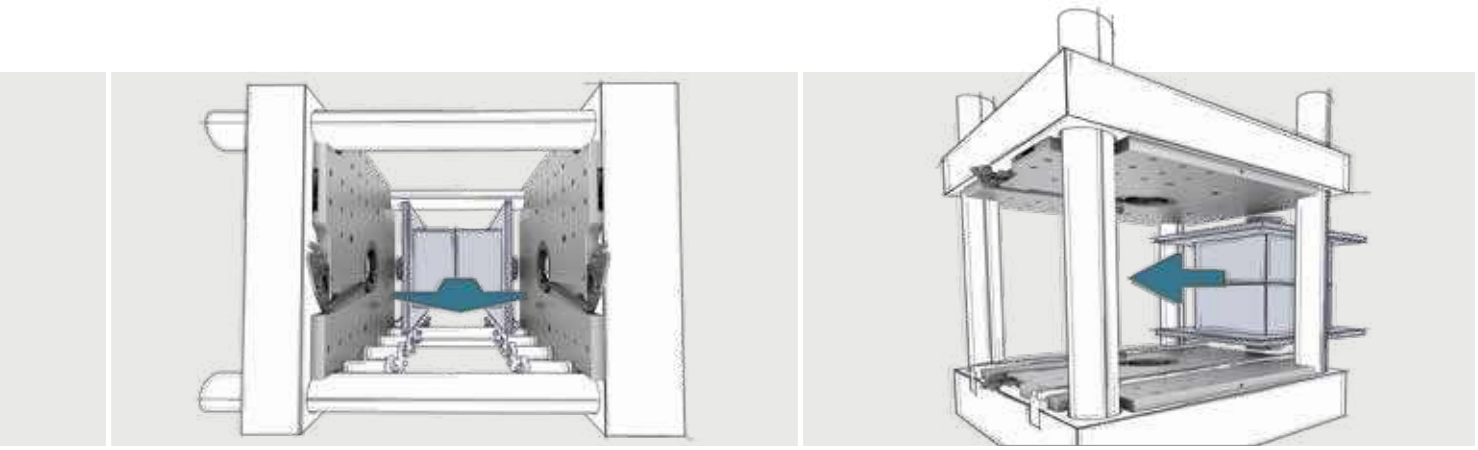


Full flexibility for mould loading

QMC 106 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 106 mechanical clamping system substantially reduces the time taken to change a mould. It provides a significant, highly cost effective contribution to optimising overall setup time which forms the basis for Single Minute Exchange of Die (SMED).

Seamless integration

The drilling pattern for the QMC 106 base plate is adaptable to EUROMAP, SPI or JIS standards. This ensures that all moulds can still be clamped to the QMC 106 base plate in the conventional way.

The QMC 106 is ideal for retrofitting to existing machines. It requires no additional external energy supply, and complex integration into the machine control system is not necessary. Thanks to their versatility the QMC 106 systems can be incorporated in a range of machine types and applications.

Easy assembly

The QMC 106 base plates are screwed onto the machine's platens using the existing drilling pattern. A useful optional installation aid is available to simplify installation.

For all moulds

On the mould side it is only necessary to exchange the existing centring ring for a Stäubli QMC 106 locking ring. A hole on the mould side holds the guide column on the base plate of the QMC 106 for centring it.

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.

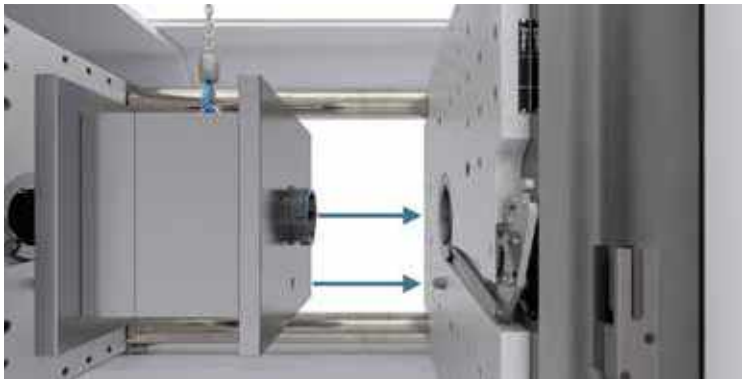
Additional insulating plates can be used on the mould side and the machine side.

- **Quick and simple** clamping in one single step
- **Great flexibility** with simple tool 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
- Turntable and sliding table applications

Robust and flexible



Fast and precise mould positioning
The locking ring and a guide column with attached keyway in the mould comprise a positioning system for precise and efficient mould insertion.

The robust design of the QMC 106 clamping system makes it suitable for a wide range of applications.

Design
The base plate of the QMC 106 clamping system with its integrated, robust, threaded clamping cartridge makes a very low mould installation height possible, which ensures efficient use of the machine.

A guide column is inserted into the base plate, ensuring the precise positioning of the mould on the machine and making automated part removal possible.

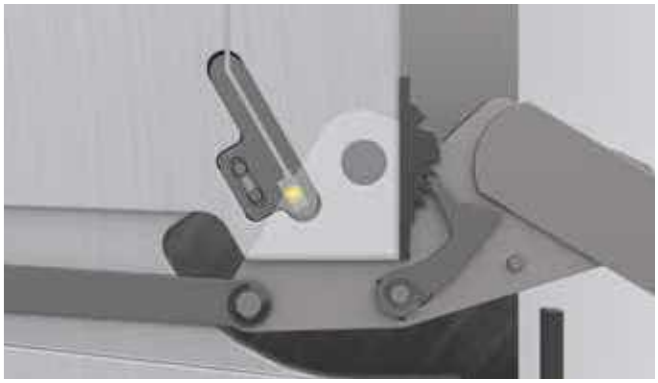
The compact design takes space requirements for heated injection nozzles and decentral ejection systems into account.

System sizes
The QMC 106 clamping system is available in different sizes with a maximum clamping force of up to 250 kN, and designed for centring ring sizes of between 100 and 160 mm.

Materials
The use of high quality materials ensures a long service life for the QMC 106 clamping system.

- Polished steel base plate
- Alloy steel, heat and surface-treated threaded clamping cartridge
- Hardened steel locking ring
- Detachable stainless steel lever
- Capable of operating in high temperatures of up to 200 °C

Mechanical safety lock
When the clamping lever is used the threaded clamping cartridge is automatically mechanically secured.



Safety is maximised with an optional proximity switch
An optional proximity switch can be used to indicate whether the system is in a locked position.

Precise centring and safe clamping

The QMC 106 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 guide column on the base plate and a fitting hole on the base plate ensure precise alignment.

The combination of these two fixed points ensures the precise alignment of the mould.

The mould is clamped by pushing the hand lever down. This twists and braces the clamping cartridge thread. The lever is then removed and placed in the available optional holder.

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

Machine safety
During the clamping process the edges of the threaded clamping cartridge self-lock to prevent deliberate or accidental opening. A safety catch additionally prevents accidental opening of the system. The system can only be unlocked with the Stäubli hand lever, which rules out any manipulation.

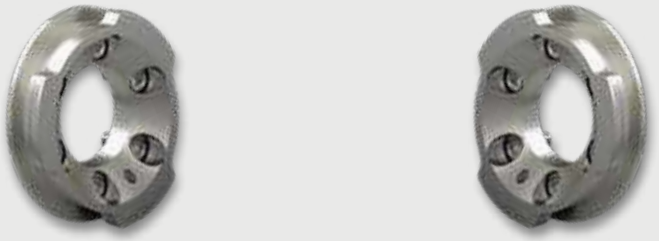
QMC 106 systems have the option to be equipped with an inductive proximity switch which displays the lock positioning.

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

Overview

Machine side

Mould side



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
- Other plate geometries

QMC 106 for Euromap

The machine-side equipment's drilling patterns comply with the Euromap standard.

Corresponding to this standard, the same centring diameters are used on fixed and mobile clamping plates. Both the machine and mould sides therefore have an identical design.

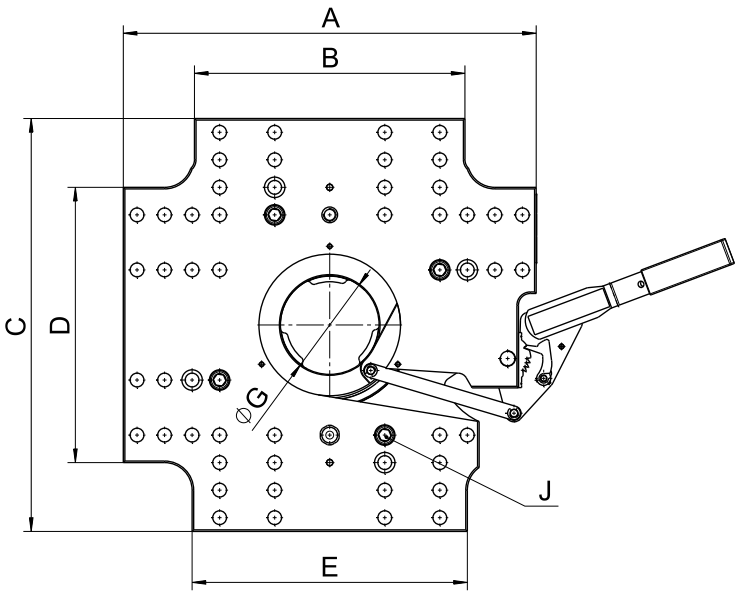
QMC 106 for SPI and JIS

The drilling patterns of the machine-side equipment are in accordance with SPI or JIS.

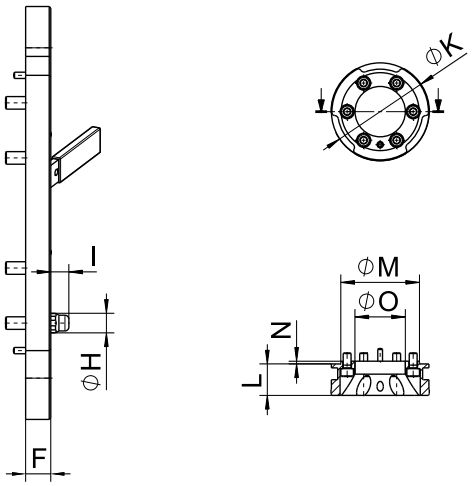
Corresponding to the standard, the mould is centred in the fixed side clamping plates. On the mobile side the mould is centred in the clamping system. Different sized locking rings are used on both sides of the machine. This allows the use of decentral ejection systems on the mobile side.

QMC 106 Euromap

QMC 106.10



QMC 106.60



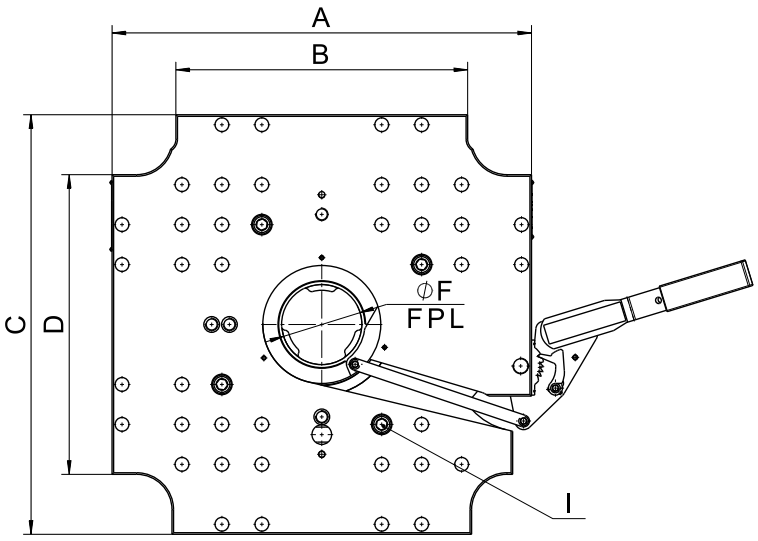
Euromap

Size	Unit	1	2	3	4	5	6	7	8
Max. retention force	[kN]	80	100	120	120	180	180	250	250
Min. platen size	[mm]	160x160	196x196	196x196	220x220	246x246	246x246	296x296	296x296
Max. mould weight	[kg]	800	900	900	1000	1500	1500	2000	2000
A	[mm]	260	310	310	400	525	525	670	760
B	[mm]	150	204	204	244	354	344	424	474
C	[mm]	260	300	300	400	525	525	670	760
D	[mm]	154	210	210	250	280	350	430	480
E	[mm]	154	210	210	250	360	350	430	480
F	[mm]	20	20	20	25	32	32	40	40
Ø G Centring ring diameter	[mm]	100	100	110	125	125	125	160	160
Ø H	[mm]	20	20	25	25	25	25	25	25
I	[mm]	20.5	20.5	23	23	23	23	23	23
J Thread		M12	M12	M12	M12	M16	M16	M16	M20
Ø K	[mm]	100	100	110	125	125	125	160	160
L	[mm]	27	27	27	33	40	40	49,5	49,5
Ø M	[mm]	90	90	90	100	100	100	150	150
N	[mm]	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Ø O	[mm]	42	42	52	64	64	64	80	80

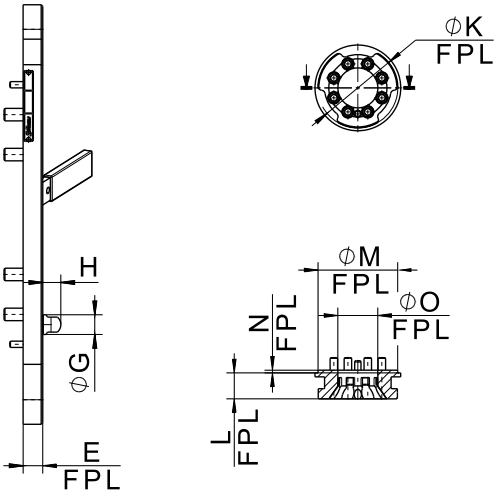
QMC 106 SPI / JIS

QMC 106.10

Fixed machine clamping plate

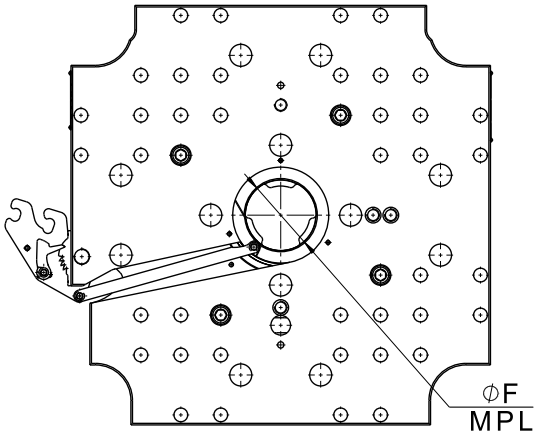


QMC 106.60

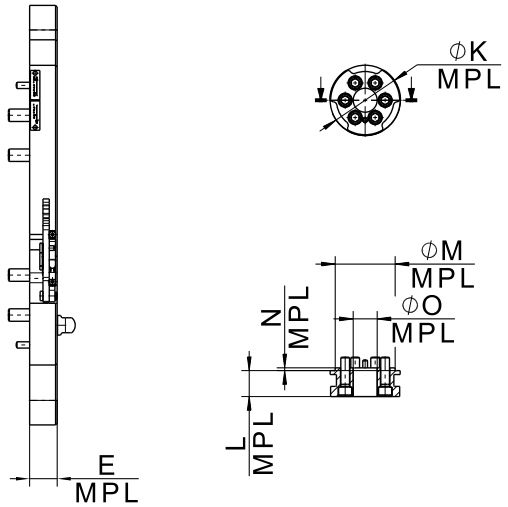


QMC 106.10

Mobile machine clamping plate



QMC 106.60



SPI

Size	Unit	1	2	3	4
Max. retention force	[kN]	210	210	210	210
Min. platen size	[in]	7.875 x 7.875	7.875 x 7.875	7.875 x 7.875	7.875 x 7.875
Max. mould weight	[tnsh]	23	23	23	23
A	[in]	15.7	20.0	29.0	38.0
B	[in]	9.8	15.0	19.0	25.0
C	[in]	15.7	20.0	29.0	38.0
D	[in]	9.8	15.0	19.0	25.0
E_{FPL} / E_{MPL}	[in]	0.98 / 1.38	0.98 / 1.38	0.98 / 1.38	0.98 / 1.38
Ø F_{FPL} / F_{MPL}	[in]	4 / 3.54	4 / 3.54	4 / 3.54	4 / 3.54
Ø G	[in]	0.98	0.98	0.98	0.98
H	[in]	0.78	0.78	0.78	0.78
I Thread		UNC 5/8	UNC 5/8	UNC 5/8	UNC 5/8
Ø K_{FPL} / K_{MPL}	[in]	4 / 3.54	4 / 3.54	4 / 3.54	4 / 3.54
L_{FPL} / L_{MPL}	[in]	1.3 / 1.3	1.3 / 1.3	1.3 / 1.3	1.3 / 1.3
Ø M_{FPL} / M_{MPL}	[in]	3.99 / 3	3.99 / 3	5.5 / 3	5.5 / 3
N_{FPL} / N_{MPL}	[in]	0.138 / 0.138	0.138 / 0.138	0.617 / 0.138	0.617 / 0.138
Ø O_{FPL} / O_{MPL}	[in]	2 / 1.2	1.75 / 1.2	2 / 1.2	2.375 / 1.2

JIS

Size	Unit	1	2	3	4	5	6	7
Max. retention force	[kN]	200	200	200	200	200	200	200
Min. platen size	[mm]	220 x 220	220 x 220	220 x 220	220 x 220	220 x 220	246 x 246	246 x 246
Max. mould weight	[kg]	1500	1500	1500	1500	1500	1500	1500
A	[mm]	400	580	737	840	920	630	830
B	[mm]	250	380	483	580	620	380	550
C	[mm]	400	580	737	840	920	630	830
D	[mm]	250	380	483	580	620	380	550
E_{FPL} / E_{MPL}	[mm]	25 / 35	25 / 35	25 / 35	25 / 35	25 / 35	25 / 35	25 / 35
Ø F_{FPL} / F_{MPL}	[mm]	100 / 90	100 / 90	100 / 90	100 / 90	100 / 90	120 / 90	120 / 90
Ø G	[mm]	25	25	25	25	25	25	25
H	[mm]	23	23	23	23	23	23	23
I Thread		M 16	M 16	M 16	M 16	M 20	M 16	M 20
Ø K_{FPL} / K_{MPL}	[mm]	100 / 90	100 / 90	100 / 90	100 / 90	100 / 90	120 / 90	120 / 90
L_{FPL} / L_{MPL}	[mm]	33 / 33	33 / 33	33 / 33	33 / 33	33 / 33	33 / 33	33 / 33
Ø M_{FPL} / M_{MPL}	[mm]	90 / 76.2	90 / 76.2	90 / 76.2	90 / 76.2	90 / 76.2	90 / 76.2	90 / 76.2
N_{FPL} / N_{MPL}	[mm]	3.5 / 3.5	3.5 / 3.5	3.5 / 3.5	3.5 / 3.5	3.5 / 3.5	3.5 / 3.5	3.5 / 3.5
Ø O_{FPL} / O_{MPL}	[mm]	40 / 30.5	40 / 30.5	40 / 30.5	40 / 30.5	40 / 30.5	50 / 30.5	50 / 30.5

Options

Applications with machine side insulating plates

QMC 106.30

The QMC 106.30 insulating plate is adapted to the contour of the QMC 106 clamping system. It is positioned on the machine side between the clamping plate and the clamping system.

QMC 106.60

The mould side QMC 106.60 locking ring is adapted to the thickness of the machine side insulating plate.

Applications with mould side insulating plates

QMC 106.60

The mould side QMC 106.60 locking ring is adapted to the thickness of the mould side insulating plate.

Custom Stäubli locking ring options

Decentral ejection

Heated injection nozzle

External mounting flange

Hand lever for clamping system operation

Description	Standard	Size	Product code
Stable hand lever for operation of the QMC 106 clamping system.	Euromap	1 - 3	K81702758
		4 - 6	K81702755
		7 - 8	K81771210
	SPI	1 - 4	K81702755
	JIS	1 - 7	K81702755

Description	Standard	Size	Product code
Hand lever with integrated torque limiter for operation of the QMC 106 clamping system. The lever gives way when the admissible clamping force is exceeded.	Euromap	1 - 6	K85619194
		7 - 8	K85619191
	SPI	1 - 4	K85619194
	JIS	1 - 7	K85619194

Description	Standard	Size	Product code
Holder for the safe storage of the QMC 106 system lever during the production process.	Euromap	1 - 6	K81568113
		7 - 8	K81568112
	SPI	1 - 4	K81568113
	JIS	1 - 7	K81568113

Installation aid for the precise positioning of the clamping plates

Description	Standard	Size	Product code
The installation aid ensures the precise positioning of the QMC 106 clamping system's two clamping plates. Available for lease or purchase.	Euromap	1 - 2	K81545081
		3	K81545083
		4	K81545084
		5 - 6	K81545085
		7 - 8	K81545087
	SPI	1 - 2	K81545078
		3 - 4	K81545079

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