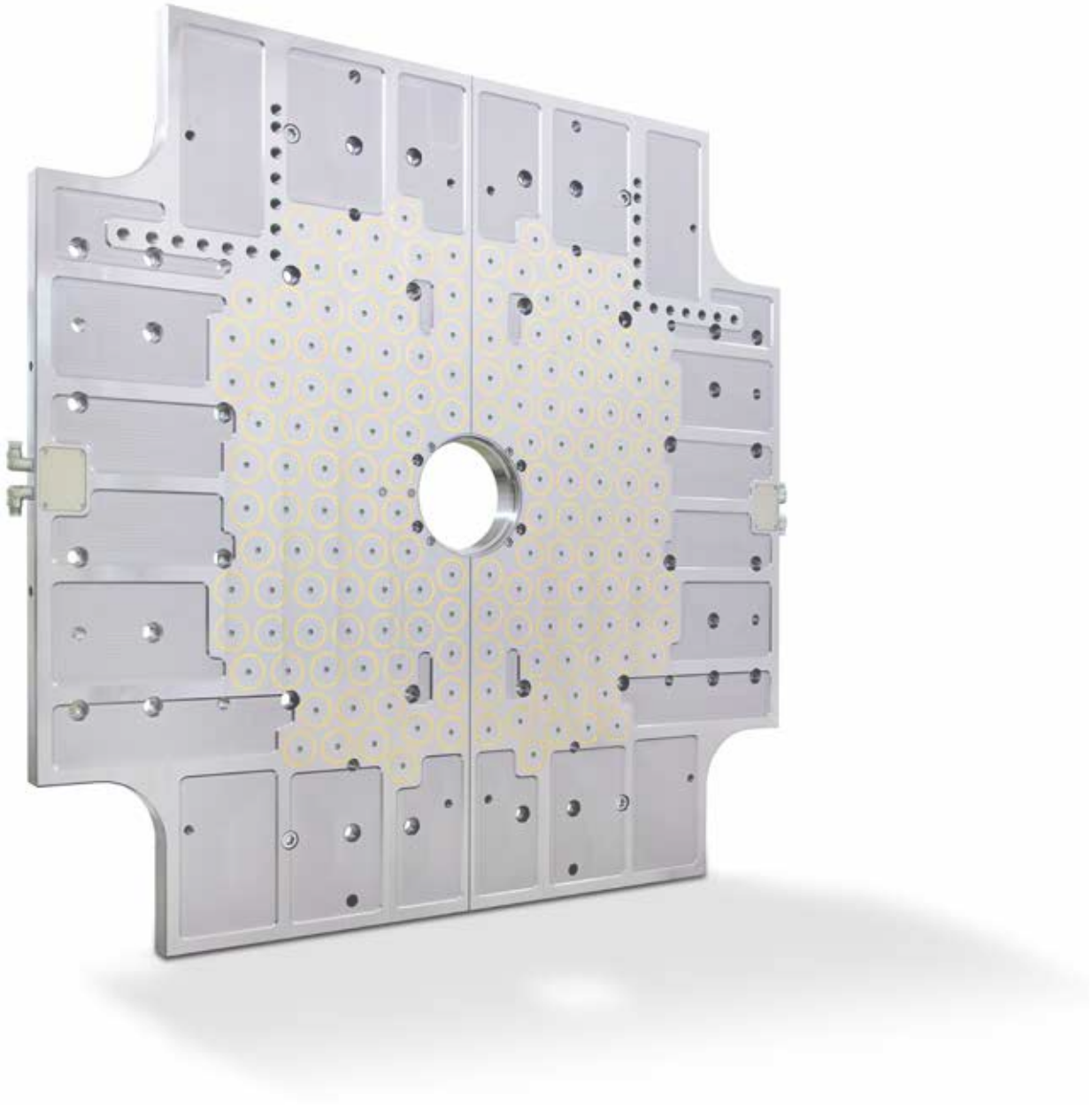
FAST MOVING TECHNOLOGY

STÄUBLI

Magnetic clamping QMC 122

IMAG technology | Plastics industry

IMAG, providing high performance, safety and operator ease!



Find all Stäubli solutions for the plastics industry on:
www.quick-mould-change.com



High performance, innovation and reliability to meet the industry requirements

With its innovative technology, Stäubli's clamping solutions are designed to meet the needs of industry 4.0.

Our efficient and easy to use magnetic clamping systems give you the flexibility required to increase the production capability of different parts.

Adaptable to all injection presses and mould sizes, magnetic clamping does not require any modification of existing moulds. Answering the need for frequent production changes, it's technology is highly rated for its versatility, simple implementation and its ability to optimise productivity.

Creating a safer working environment for staff and the operation

The QMC 122 system is compliant with the safety standards: EN201: 2009, and directive 2014/35/UE and 2014/30/UE.

- Each magnetic module in a QMC 122 plate is fitted with a search coil to detect any flux changes, even if these are minimal.
- The clamping force of each half-mould is displayed on the IMAG interface, allowing the operator the option to control the clamping/declamping process.
- The detection of any major incident immediately stops the machine via the Euromap safety interface.

Quality service

For Stäubli, the quality of a solution goes beyond technical solutions. Whether it is for system installation, theoretical and practical operator training or after-sales service, we have dedicated teams who provide each of our customers with quality service, meeting their individual requirements.

- **Maximum** safety
- **Display** of clamping strength
- **Detection** of mould movements
- **Magnetisation** in less than 1 second*
- **Low** energy consumption
- **Uniform clamping** → significant reduction of mould wear
- 2-year **guarantee**

* up to 160 modules.

Safety features

Colour screen, clear messages, validation of processes and continuous improvements to the IMAG interface have strengthened the reliability of the clamping procedure and interaction with the operator.

IMAG Editor

The IMAG Editor software enables the clamping force for each mould to be calculated in advance, depending on the press on which it will be used.

With this information any potential issues can be anticipated ahead of production.

Display of the clamping force and comparison with the opposing forces of the press

The clamping force of each half of the mould is measured and displayed in real time on the IMAG screen. A message immediately alerts the operator, if it is too low.

Detection of mould movements

The honeycomb design provides optimal rigidity and maximises the quantity of magnetic poles acting on the mould. Each individual “pot” is fitted with a specific search coil. The mould is therefore monitored at all points and the slightest movements are detected.

Mould stock referencing

Each mould is identified and its initial clamping force recorded, which allows the monitoring of clamping performance. During subsequent use, any variation is detected by the system which alerts the operator, who can then carry out preventative maintenance.

Another major innovation

The automatic control of tipping or sliding of the mould (referencing of moulds allows the system to record their weight and dimensions and compare them with the clamping force).

Temperature control and permanent display

In the event of excessive plate temperature, a message and alarm alerts the operator.

Fully controlled clamping/declamping operations

The IMAG allows the operator to easily view and confirm that all safety points/checks have been completed before clamping/declamping. These safety operations are simple to follow via the user interface:

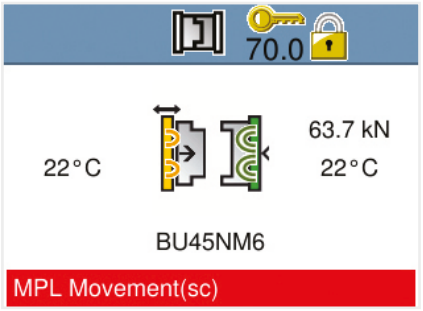
- "press ready" to signal when the door is closed
- select mould changing mode
- lock mould in place
- confirm crane is attached

Various other functions

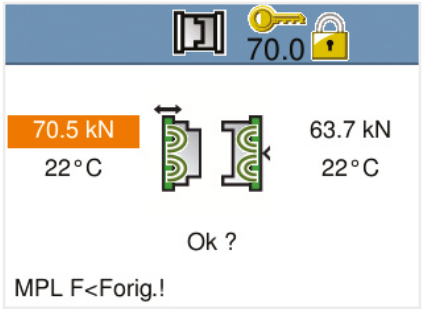
- 3 user levels with codes dependent on the authority level:
  - Service mode (Stäubli technician): installation, setting parameters and maintenance
  - Chief operator mode: access to the history, date, language, PIN code, machine forces and setting parameters
  - Operator mode: all the information necessary for mould changing operations
- Access to the history of operations carried out
- User interface available in numerous languages: Brazilian, Chinese, Czech, Dutch, English, French, German, Hungarian, Italian, Japanese, Korean, Polish, Romanian, Russian, Slovenian, Spanish, Swedish and Turkish.

To ensure perfect coordination between the press and its clamping system, the IMAG integrates and displays signals from the machine according to Euromap and SPI AN-145 (mould change mode, MCS available).

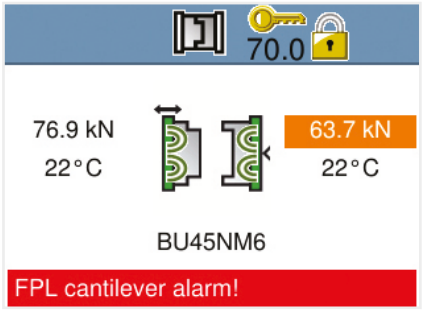
The system can be fully integrated with the manufacturer's interface: please contact us for more information.



Screen with message
"alert mould movement"

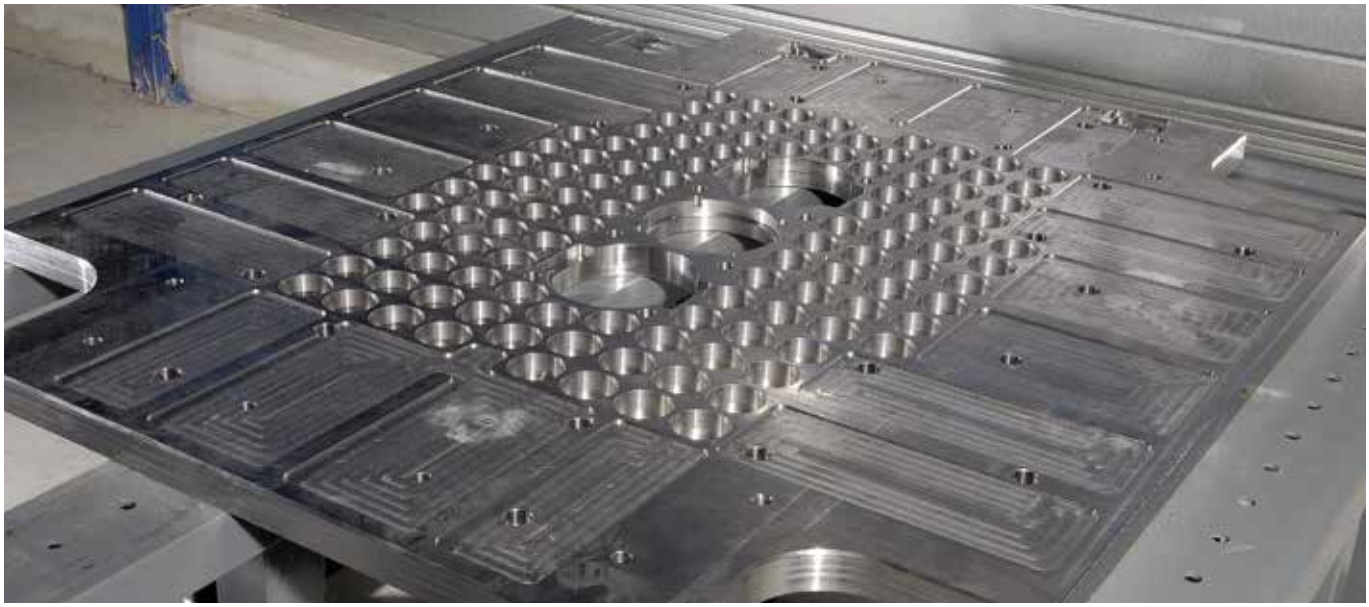


Screen with message
"clamping force lower than the initial force"



Screen with message
"alert risk of tipping"

Innovative design and manufacturing process



Each plate is customised to meet your exact specifications

The modular design adapts to the press, the mould stock and other necessary requirements.

Specific machining is available for fixing points, shape of the plate, centring ring etc.

QMC 122 technology is suitable for press sizes from 50 to in excess of 4000 tonne.

Stability and strength

Our magnetic plates, with their honeycomb design and metal construction, provide a constant clamping force during the manufacturing process. The reinforced insulation of the electrical parts, in particular the connectors, ensures the system is reliable even under the most demanding conditions.

The industrial manufacturing process provides accurate measurement of the clamping force (not possible whilst assembling the components of the magnetic plate manually) and eliminates any risk of assembly errors.

Knowledge and use of the most innovative electronic technology

As we design and manufacture our entire magnetic clamping systems, from the development of the controller through to the production of the plates, you can be assured that this is an efficient and reliable Stäubli product.

The advantages of magnetic technology

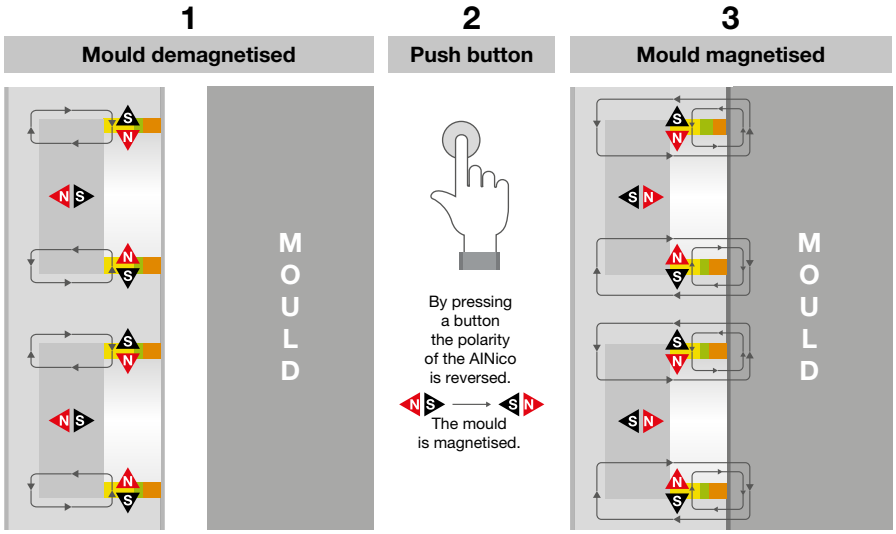
Magnetic technology is fast, simple and requires no adaption of the moulds. It is particularly suitable for frequent mould changes and moulds with non-standard dimensions.

Magnetisation and demagnetisation operations are carried out by simply pressing a button. For an example, magnetisation for 160 magnetic modules can be achieved in less than 1 second.

- Independent circular magnetic modules
- The option to clamp moulds with thin back plates (min. 20mm) without interference with the moving parts of the mould and / or with the sensors (limited magnetic flux penetration)
- Concentration of the magnetic modules in the centre of the plate:
  - compatibility with a wide range of moulds by integrating the injector hole positions
  - prevention of mould distortion on opening
- Optimised press opening space thanks to reduced plate thickness (52mm)

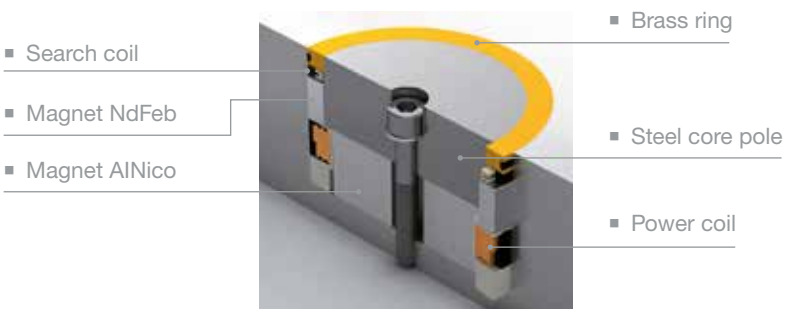
QMC 122 systems are energy efficient, as electricity supply is only required for magnetisation and demagnetisation.

Once magnetised, clamping is guaranteed, even in the event of power failure.



Pole size (mm)	Ø 60
Plate thickness (mm)	52
Maximum working temperature (°C)	100
Supply voltages (V) - others available on request	200 to 480
Frequency (Hz)	50 or 60
Machine clamping, force clamping of the machine (T)	50 to 4000
Ejection holes according to the specification	
Mounted on all of our systems, as standard - Temperature sensor on each plate - Force measurement → Flow sensor on each pole - Removable centring ring, fixed side and - if necessary - moving side - Fixing screw	

For other operating conditions: please contact us.



PATENTED

US PATENT 6.489.871
6.363.153 / 7.782.164
and other countries

RL23103044A

■ Stäubli Units ○ Representatives/Agents

Global presence of the Stäubli Group

www.staubli.com

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