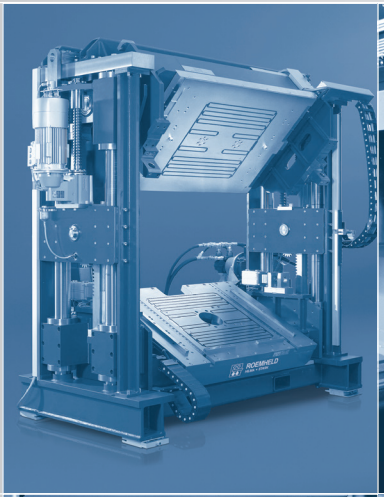
ROEMHELD
HILMA ▪ STARK

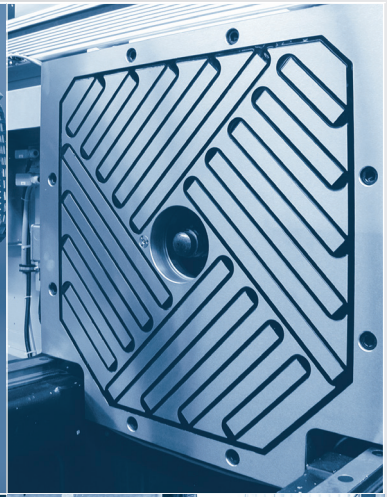
Program summary

M-TECS
Magnetic Clamping Systems

Plastics processing
M-TECS 120

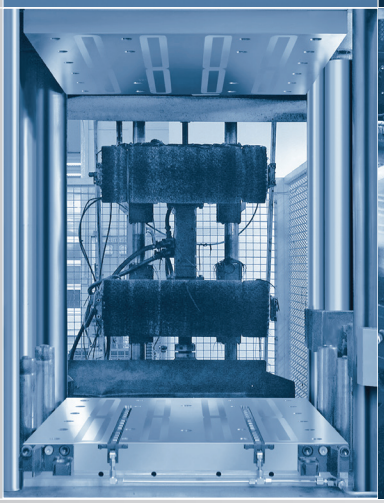
For thermoplastics
up to 120° C





Rubber processing
M-TECS 240

For elastomer
and thermosetting plastics
up to 240°C



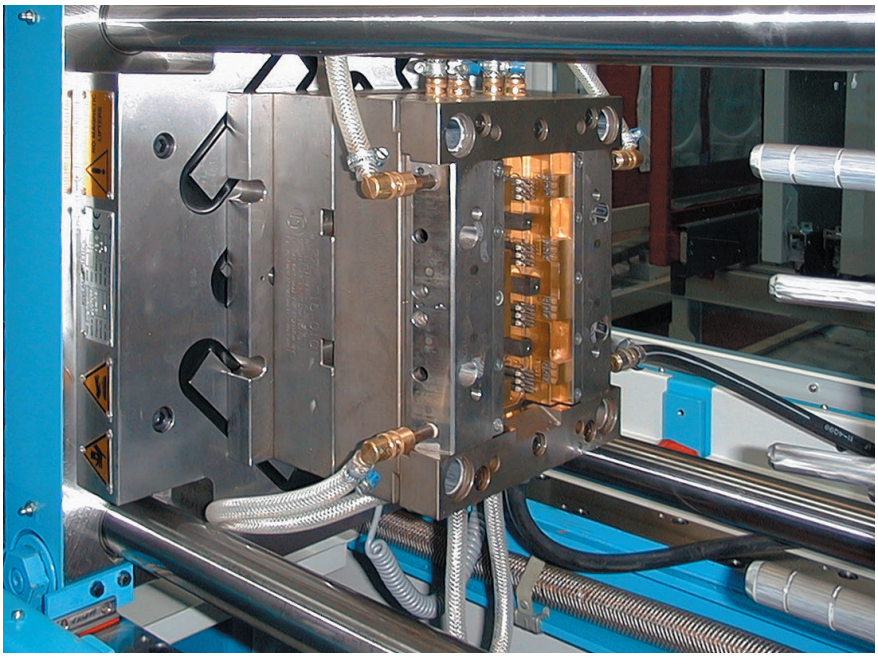
With optimum starting conditions, you'll make the race

M-TECS magnetic plates ensure maximum power concentration. If a mould does not completely cover the magnetic plate surface, forces are directed to the clamping area, precisely where they are needed. This gives you maximum safety – a clear benefit particularly for small or medium moulds.

Also, large moulds are safely kept in place with the highest clamping forces. However for all types of machines, mould change takes just a matter of minutes. The solid webs between the poles result in outstanding rigidity

Magnetic clamping system on a vertical press for temperatures up to 240 °C

Best time for retrofitting



Plastic injection moulding using M-TECS 120

What advanced clamping is about:

- perfect technology
- short downtimes
- low set-up costs
- increased productivity
- low investment costs
- rapid amortisation
- enhanced production quality
- fewer rejects
- less mould wear, hence reduced main-

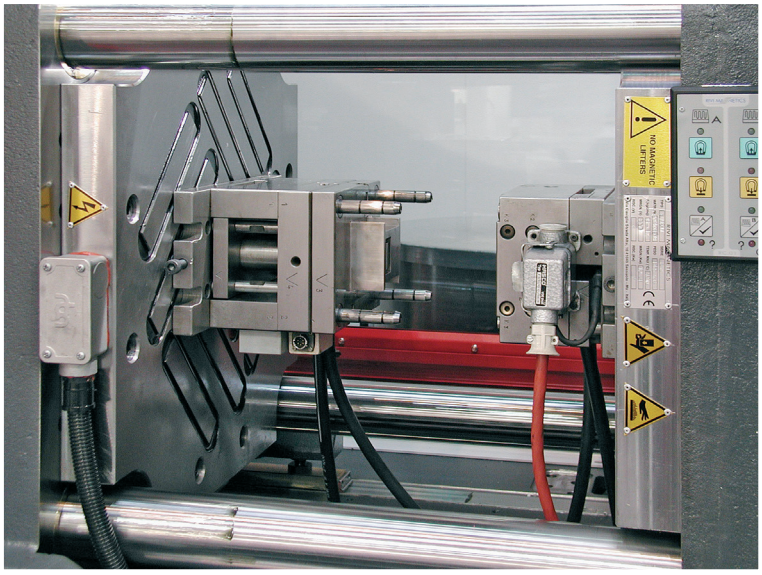
Good start – quick change

Gain time with M-TECS –
Low downtimes. High productivity. Low set-up cost.

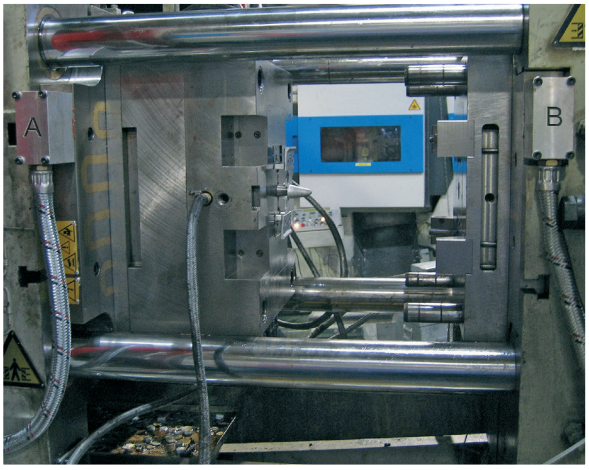
Small batches entail frequent mould change. Whenever only few parts
are required, M-TECS magnetic clamping technology provides a clear competitive advantage:

- low downtimes

M-TECS is a magnetic clamping technology that sets standards for magnetic quick change systems for the plastics processing industry. M-TECS 120 and M-TECS 240 operate with an electric permanent magnet. Special long poles give maximum safety, maximum force, and perfect reliability.
The systems are designed to suit all types of machines (both horizontal and vertical) and can be easily retrofitted. Relatively low investment cost and short amortisation times will convince all those who depend on flexibility and speed in the plastics processing industry.



Even the smallest moulds are securely held. Due to the long pole concentration effect maximum magnetic forces are transmitted into the mould base plate.
Machine FM 110 Electra, magnetic force 8 tons



Magnetic clamping system on URPE die casting machine CC 125, closing force 1500 kN, magnetic force 110 kN, temperature range up to 240 °C.

Test-run on exacting courses

M-TECS clamping systems were first used in the ceramics industry. In this environment, where conditions are much rougher than in injection moulding, they have been widely applied and have handsomely stood the test.
M-TECS 120 and M-TECS 240 have proved demonstrably convincing in terms of force, safety, and reliability.

M-TECS 120

The quick change system for thermoplastics
Temperature stable up to 120 °C

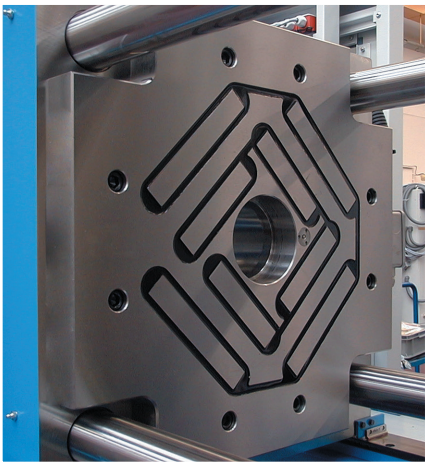
M-TECS magnetic clamping systems provide evident benefits: Injection moulds, even if not standardised, can be easily and quickly changed without need for mould change. As a result of a clamping force which is evenly distributed all over the clamping surface, wear of the moulds is considerably reduced which means lower mould maintenance costs.
With no moving parts, the system itself is basically maintenance-free. It is suitable for retrofitting on existing injection moulding machines or incorporating into new machines.

M-TECS 120 being stable up to 120 °C, largely covers the whole temperature range that may occur in the thermoplastics processing industry. The magnetic poles have been designed to build up an actual clamping force of 18 kg/cm². Highest quality materials are used for the long pole design which is based on a double-magnet technology. Its outstanding power concentration makes the system much stronger than any comparable magnetic plates.

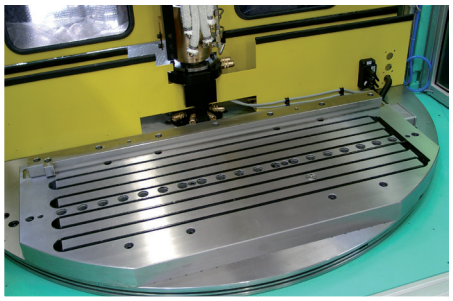
Technical data
M-TECS 120

Max. temperature	120 °C
Specific magnetic force	18 kg/cm²
Effective magnetic force	5 – 12 kg/cm²
Magnetic penetration depth	15 – 20 mm
Plate thickness	47 mm
Fixing	as per Euromap

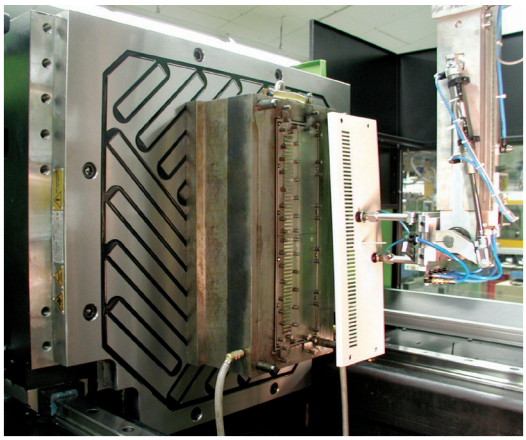
Available for all machine sizes



M-TECS 120-K – Changing time just a few minutes



M-TECS 120 - on a vertical rotary turntable machine



M-TECS 120 – An exceptional concentration of force: The magnetic force is transmitted through the long poles with double magnets into the clamping surface

A convincing technology to rely upon

Basically, the electric permanent magnet clamping system is firmly kept in place, even in the case of a power failure: electricity is required for just 1–2 seconds to first magnetise the system.

Then permanent magnets generate the required magnetic clamping force so that the system operates independently of any power source. Only for releasing

M-TECS 240

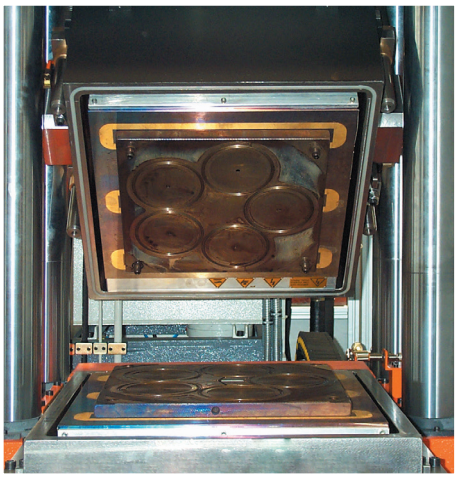
The quick change system for elastomer and thermosetting plastics. Temperature resistant up to 240 °C

M-TECS 240 opens up new paths for the rubber and the thermosetting plastics processing industries. With no downtime or waiting time to cool down or heat up moulds, changing times can sometimes be cut by hours. Using the advanced magnetic clamping technology, moulds can be changed even when they are hot as the operator will not make contact with them at all. This is both convenient and safe.

The magnetic plates have a complete metal surface. With no T-slot between the heating and the mould, temperatures inside the mould are quite homogeneous, which gives an enhanced production quality.
The system is available in various designs, for presses and injection moulding machines of all sizes, vertical and horizontal, with or without heating.
A real highlight is the magnetic clamping plate M-TECS 240 with an integral heating plate.

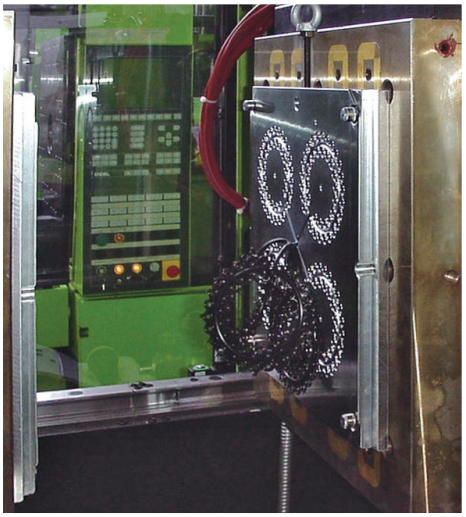
Technical data
M-TECS 240

Max. temperature	240 °C
Specific magnetic force	18 kg/cm²
Effective magnetic force	5 – 12 kg/cm²
Magnetic penetration depth	15 – 20 mm
Plate thickness	55 – 85 mm (85 mm incl. heating plate)



M-TECS 240
Rubber press with vacuum chamber

M-TECS 240 on a vertical press – various moulds on a machine bed without loss of space due to clamping claws



M-TECS 240 magnetic heating plate on an elastomer machine – full-surface magnetic force gives full-surface contact and more homogeneous temperatures

Guaranteed adaptability to any power level and any system design

M-TECS magnetic clamping systems have been CE tested and comply with the provisions of the applicable machine guidelines 98/37 EEC, 73/23 EEC and EMC 89/336.

The magnetic plates can be designed to fit various mould systems. With their highly flexible layout, they may be adapted to suit a large range of sizes and shapes. Each pole can be considered as an independent power source. Standard or special designs are available. You get a 2 year guarantee on both systems.

Die clamping and changing systems from Hilma-USA

Please contact us if you would like further information such as technical data sheets or spreadsheets for ROI calculation.
Also, we will be pleased to provide sample calculations of investment cost and amortisa-

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