

magbo® Magnetic Quick Mold Change systems have unsurpassed solutions for:

- Automotive industry
- Electrical industry
- Compression molding
- Clean rooms
- Rubber molding
- Construction
- Custom molding

MBP

Electro-permanent magnetic system for quick mold change

Advanced Technologies:

- ✓ Real clamping force reading
- ✓ Removable full metallic surface
- ✓ Temperature monitor
- ✓ 30 mm option available
- ✓ Slide detection system
- ✓ Tool recovery system
- ✓ Side load rollers system

PATENTED
Removable Full
metallic surface

PATENTED
Tool recovery
system



The **BEST SOLUTION** for Quick Mold Change.

SOPH group specializes in permanent, electro-permanent and electro-magnetic technology covering the entire range of industrial magnetic technology available on the market today. **magbo** is the perfect product for quick mold and die change in the plastic injection, metal stamping, die casting and rubber molding industry. With more than 20 years manufacturing experience in the magnetic field, SOPH group will always offer the best technology for the application to meet our customer's needs.

- ✓ *Innovation*
- ✓ *Advanced technology*
- ✓ *JIT*
- ✓ *SMED and short production runs*



30 **NEW**
mm
Minium
Thickness

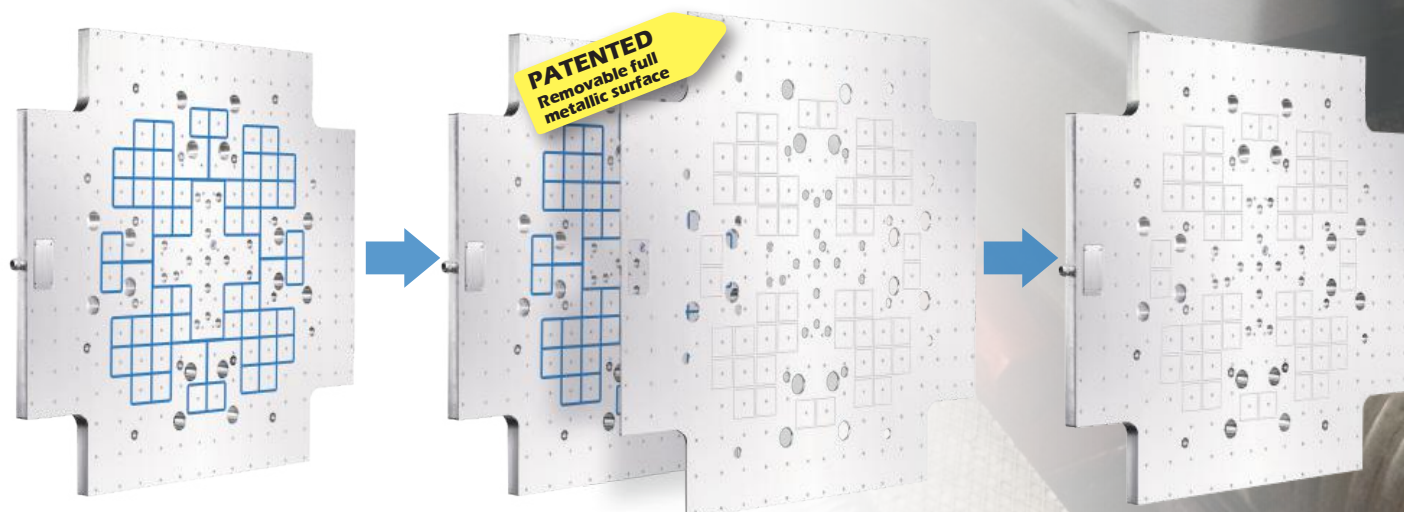
magbo saves daylight with the **NEW slimline** option ▼

Solid block construction of platens provides the best overall flatness tolerance within the thinnest possible construction parameters.

The new 30 mm magnetic platens option saves valuable machine daylight and reduces injection nozzle extension requirements.

Removable Full Metallic Surface ▼

Magnetic platen is more flexible when equipped with optional **Removable Full Metallic Surface (3 mm)**. Allows fast and easy repairs of the magnet if necessary.

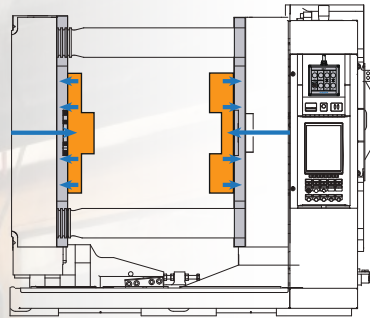


magbo®

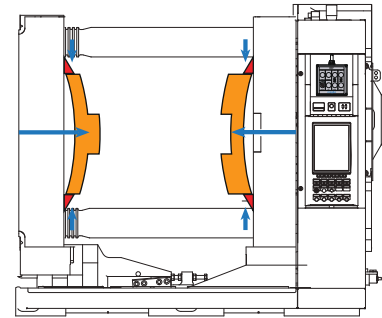
COMPETITIVE

Advantage.

More Uniform Clamping ▼



magbo clamping

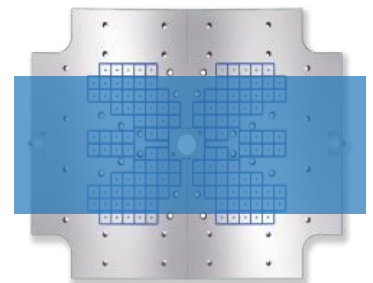
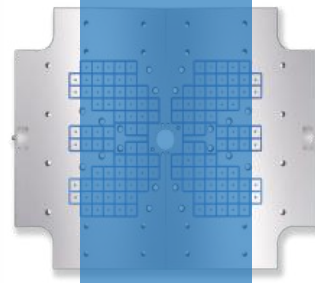
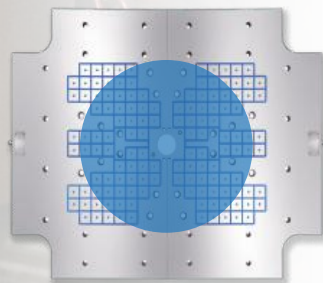


Traditional clamping

Traditional clamping focuses the clamping forces around the peripheral edges of the mold. **magbo** magnetic clamping generates clamping force over the entire surface of the mold. Once the mold is magnetized it is nearly a "part" of the machine platen. This increased rigidity equates to higher quality parts, increased repeatability and less maintenance of the mold.

More Flexibility ▼

Molds of any shape and size can be clamped without modification. Molds that will not fit in the SPI/EUROMAP/JIS clamping envelopes are easily managed with **magbo**.



magbo® Challenge to Hydraulic Clamps ▼

Features	magbo®	Hydraulic Mold Clamps
Safety	Real clamping force reading. Automatically stops the press if fault occurs.	Unable to show clamping force on each mold. Unable to stop the press if fault occurs.
Reliability	No moving or wearable parts, maintenance-free. With multiple sensors watching the system for faults.	Hydraulic oil leaks, pipe blockage, part replacement, high cost and time consuming. No feedback signal.
Uniform clamping force	magbo magnetic clamping generates uniform force over the entire surface of the mold.	Clamping force confined to the peripheral edge of the mold. No clamping force in mold center.
Quality	Increased rigidity equates to better quality parts.	Lower rigidity equates to lower quality parts.
Flexibility	Molds of any shape and size can be clamped without modification.	Requires specific mold shape and size.
Increased mold life	No deformation, extends the longevity of molds.	Deformation increases wear = decreased life of the mold.
Clean room approved	No hydraulic oil needed, ideal solution for production of uncontaminated parts in clean room environment.	Hydraulic systems leaks, require clean-up.
Green technology	No electrical power needed once energized. Power lost does not cause a loss of holding force.	Hydraulic pump needs to run as long as the mold is clamped.

Take the **magbo**[®] **CHALLENGE** to see if you are getting the full value of your investment.

CHALLENGE	magbo [®]	Other brands	CHALLENGE	magbo [®]	Other brands
RFM - Removable Full Metallic Surface	<input checked="" type="checkbox"/>	<input type="checkbox"/>	CSS - Current Sensing System	<input checked="" type="checkbox"/>	<input type="checkbox"/>
TRS - Tool Recovery System	<input checked="" type="checkbox"/>	<input type="checkbox"/>	SLR - Side Load Rollers System	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Maximum magnetic force = 120 t / m ²	<input checked="" type="checkbox"/>	<input type="checkbox"/>	RP - Rotary Platen Option	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Air gap performance = 90% force at 0.3 mm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Bi-pole = Most powerful and balanced force with no residual magnetism	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Neutral Frame with no magnetism holding the press for easy installation and removal	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Replaceable Location Ring	<input checked="" type="checkbox"/>	<input type="checkbox"/>
SDS - Slide Detection System	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Compact Control Unit	<input checked="" type="checkbox"/>	<input type="checkbox"/>
RFR - Real Force Reading	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1/2" Magnetic Flux Depth	<input checked="" type="checkbox"/>	<input type="checkbox"/>
TT / AT - Most Daylight with Slimline option	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Factory Trained World Wide Service	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MSD - Magnetic Saturation Detection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Dual Prox. Safety System Standard	<input checked="" type="checkbox"/>	<input type="checkbox"/>
TPM - Temperature Monitor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	In the Field Repairs of Magnetic Plates	<input checked="" type="checkbox"/>	<input type="checkbox"/>
MI - Multiple Injection Option	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Quick Disconnect Control Connections	<input checked="" type="checkbox"/>	<input type="checkbox"/>

magbo[®] = More value, technology, performance, less cost



Removable Full Metallic Surface

Magnetic platen is more flexible with removable full metallic surface.
Patent No.: 201620882673.9



Blow Molding

Special lightweight magnetic platens for increased mold weight capabilities on presses typically found in the blow molding sector.



Rotary Platen

Movable side platen for 180° rotary platen installed on a twin injection unit machine.

magbo®

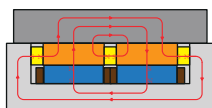
Increased **PRODUCTIVITY**
with **FASTER** and **SAFER**
mold changes.

Intrinsically Safe ▼

magbo® does not require electricity during the production cycle of the machine. A loss of electrical power does not change the magnetic force.

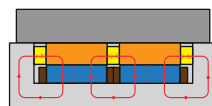
A instantaneous electrical charge energizes the magnetic system. **Once energized, the magnetic field will remain for an unlimited time.**

Magnetization



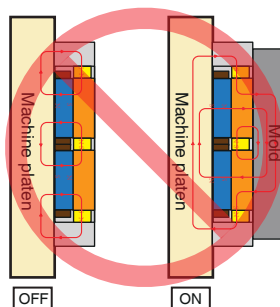
During the Mag phase, the magnetic flux is outside of the magnetic platen safely clamping the mold. The flux depth is limited to 1 inch so as not to affect any internal parts of the clamped mold.

Demagnetization



During the DeMag phase, the magnetic flux is drawn back inside of the magnetic platen. This Demag Cycle leaves no residual magnetism in the mold allowing it to be removed easily from the machine for changeover.

Neutral Frame ▼



The **magbo®** neutral frame magnetic system does not use the press as part of the magnetic loop under any circumstance.

This insures the highest air gap / force performance and the easy installation and removal of the plates under any circumstance.



1. Load the mold



2. Push the button

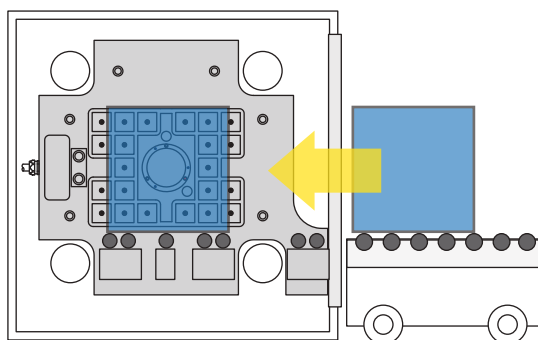


3. Run the press

SLR - Side Load Roller System ▼



NEW



magbo® side load roller system provides rollers outside the tie bars. It allows the molds to reach the mold cart over the tie bars of the press with no press modifications.





Standard designs **ENGINEERED** to fit your machine.

magbo® Applications ▼



Through Holes

The monoblock frame is drilled with all the mounting holes for installation and the through holes for ejector clearance on the moving platens.

Junction Box

Machined into the mono block MBP frame becomes an integrated part without protruding elements that could be damaged and with better characteristics of resistance and waterproof.

CSS Sensor

To check the current passage from the main discharge cables to the magnetic platen.

MSD Sensor

- Checks the magnetic quality of the mold
- Checks air gap which gives separate and redundant safety when combined with a proximity sensor.
- Double checks the current sensing system giving a separate and redundant safety to the CSS system.

Locating Ring

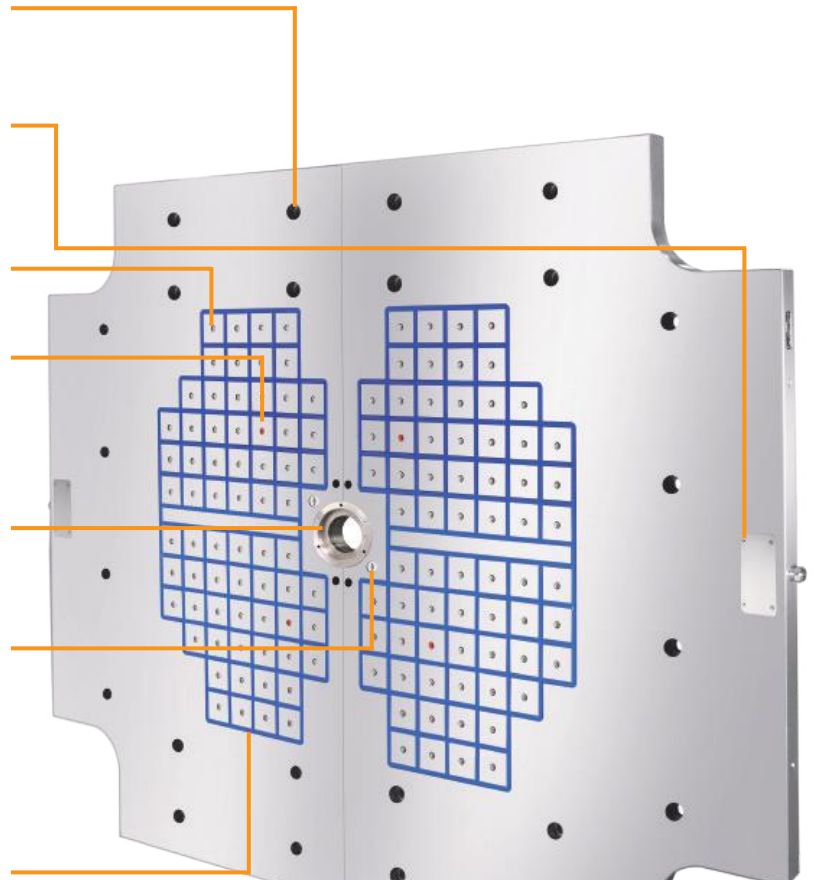
Replaceable locating ring allows you to replace it if any damage occurs without having to remove the entire system from the press.

Proximity Sensors

An inductive proximity sensor located in the "neutral" area detects the presence of the mold to enable the activation of the magnetization cycle. The 0,3 mm (0.012 in) threshold value prevents any "open field magnetization" to grant the operator safety and it immediately halts the machine functions in case of mold detachment. Full safety for the operator is also granted.

Resin Level

The heat insulating properties of the resin is augmented by leaving an air gap between the resin and the mold. This creates a longer lasting protective effect against overheating the permanent magnetic materials should an accidental overheating condition occur.



**Mold clamp capability
at 0.3 mm prox setting**

TRS - Tool Recovery System ▼

PATENTED
Tool recovery
system

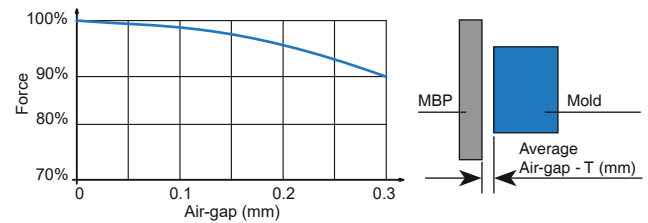


The patented tool recovery system insures the ability to remove a mold Even if the magnet is damaged with a mold clamped.

Patent No.:
201621216473.6

NEW

Better Air / Gap Curve ▼



Using an active north and south pole working together, **magbo** generates more magnetic force over an air gap compared to our competitors.

CUZ Controller ▼

Electrical cabinet (mm / in)

Machine tonnage	Length	Width	Height
Up to 800 t	700 (27.56)	500 (19.69)	250 (9.84)
800 to 2700 t	1000 (39.37)	800 (31.49)	300 (11.81)
2700 t above	1200 (47.24)	800 (31.49)	300 (11.81)



Standard pendant REM (mm / in)

Length	Width	Height
140 (5.51)	140 (5.51)	80 (3.15)

CUW controller (mm / in)

Machine tonnage	Length	Width	Height
Up to 450 t	330 (13)	230 (9.05)	120 (4.72)

Combined control panel and controller in one small package with quick disconnects. Easy to install and operate.



Touch screen pendant RET (mm / in)

Length	Width	Height
278 (10.95)	178 (7)	100 (3.94)

MBP Technical Characteristics ▼

magbo®	MBP 80	MBP 50	MBP 50 (TT)	MBP 50 (AT)
Force / pole (*)	1000 daN (2200 lb)	350 daN (770 lb)	350 daN (770 lb)	300 daN (660 lb)
Pole size	80 mm (3.14 ")	50 mm (1.96 ")	50 mm (1.96 ")	50 mm (1.96 ")
Magnet thickness	50 mm (1.97 ")	42 mm (1.65 ")	35 mm (1.38 ")	30 mm (1.18 ")
Max working temperature (mold contact face)	120 °C (248 °F)	120 °C (248 °F)	120 °C (248 °F)	120 °C (248 °F)
Depth of magnetic flux	20 mm (0.78 ")	10 mm (0.39 ")	10 mm (0.39 ")	10 mm (0.39 ")
Proximity sensor threshold value	0.3 mm (0.012 ")	0.3 mm (0.012 ")	0.3 mm (0.012 ")	0.3 mm (0.012 ")
Standard voltages	208V - 575V standard, 50 / 60 Hz			
Mounting holes and locating ring	EUROMAP / SPI / JIS			
Ejector holes	EUROMAP / SPI / JIS			
Proximity sensors	2 / side			
CSS - Current Sensor System	Standard			
MSD - Magnetic Saturation System	Standard			
Machine integration	E-stop / EUROMAP 70.0 / EUROMAP 70.1 / RS-485 / CANBus			

* The declared magnetic performance has been calculated with full coverage of each pole, on ground surface mild steel at min. thickness required.

Supply spec:

- Magnetic mold clamping platens fixed and moving side
- IPSA rated cabinet for main control center/panel
- Operator interface pendant
- All interface and power supply cables
- Self checking prox
- Instruction manual and Electrical diagrams
- Testing Certificate
- Mounting hardware
- Tool kit (prox adjustment tool and prox adjustment gauge)
- Replaceable locating ring

Options on request:

- 150°C / 300 °F
- SDS - Slide Detection System
- RP - Rotary Platen Option
- TRS - Tool Recovery System
- Available control option - allows loading the mold one half at a time when needed.
- 180°C / 356 °F
- RFR - Real Force Reading
- Additional operator interface pendant
- RFM - Removable Full Metallic Surface
- Vertical molding
- MI - Multiple Injection Option
- SLR - Side Load Roller
- TPM - Temperature Monitor



magbo®

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Technical Changes

The data and illustrations in this catalogue are not binding and only provide an approximate description. We reserve the right to make changes to the product delivered compared with the data and illustrations in this catalogue, e.g. in respect of technical data, design, fittings, material and external appearance.

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