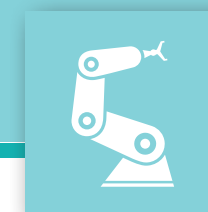
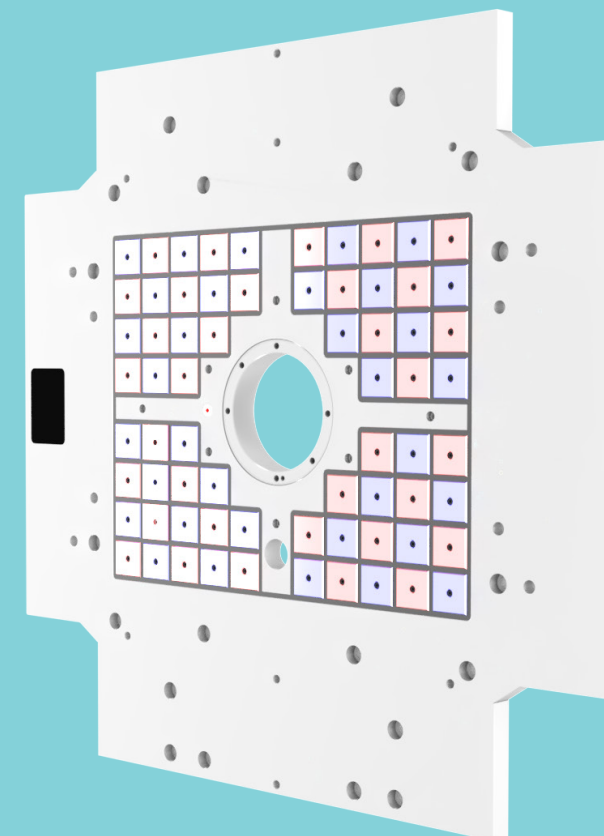


NINGBO HAITIAN SMART SOLUTIONS TECHNOLOGY CO., LTD.

ADD: No.32 Jiangnan Zhong Road, Xiaogang, Beilun, Ningbo , P.R.China.
Zipcode: P.R.China 315801
Tel: +86-574-86185122 86185758
Fax: +86-574-86181692
E-Mail: htsmart@mail.haitian.com



Auxiliary Equipment

Quick Mold Change

Magnetic Clamping / Specification



WeChat Official
Account

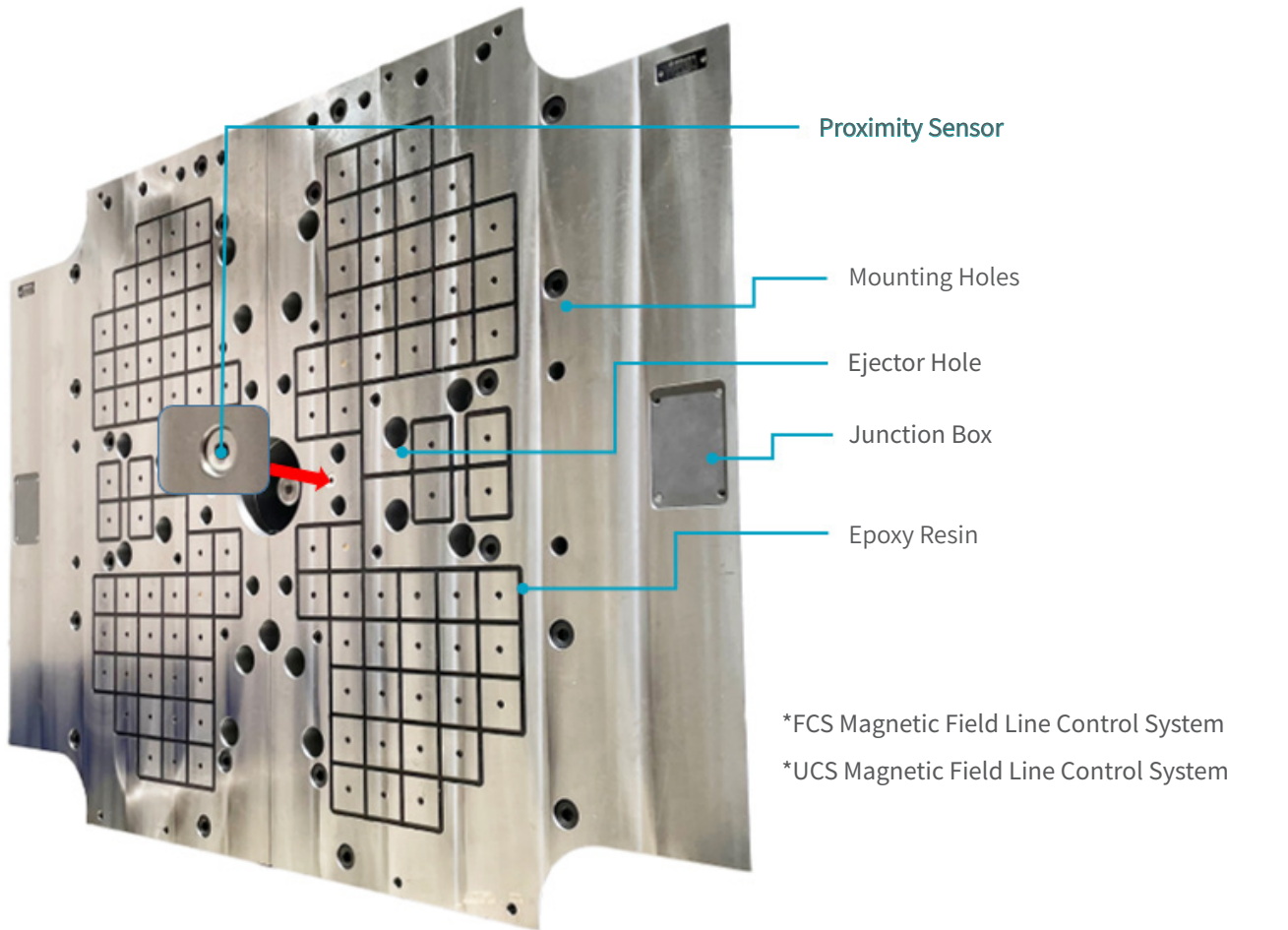
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Magnetic Clamping for Injection Molding Machines

Haitian Smart Solutions Magnetic Clamping Quick Mold Change System is designed for injection molding machines, featuring high safety and strong mold versatility. Moreover, it is the ideal choice for all injection molding machine models—from 40 tons to 5,500 tons, and from horizontal to vertical types.

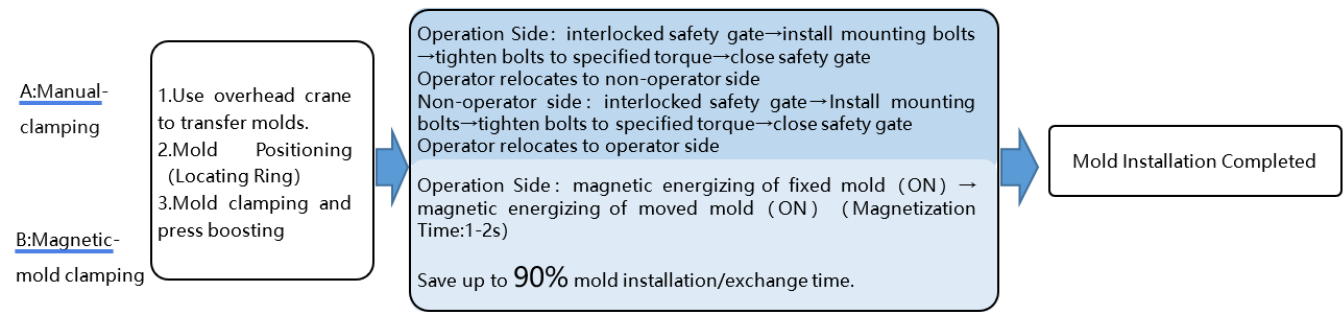
Drafting and formulating unit of China’s National Standard for Magnetic Platens, participant in ISO International Standard formulation, with UL Dual Certifications.



- Proximity Sensor:** The proximity induction switch checks the position of the mold when it is magnetized, and can stop the machine when it detects that the mold is separated by 0.2mm from the Magnetic Clamping.
- Mounting Holes:** Completely customized according to the customer's injection molding machines.
- Ejector Hole:** Reserve the through holes required for the ejection bar on the formwork.
- Junction Box:** Integrated into the steel frame of the mold.
- Epoxy Resin :** Multiple layers of imported epoxy resin are poured from bottom to top to ensure that the coil is completely wrapped in resin.
- FCS Magnetic Field Line Control System:** The magnetic flux sensor FCS allows the detection of magnetic flux before the injection molding machine works.
- UCS Magnetic Field Line Control System:** The Magnetic Clamping is only 100% magnetized and 100% demagnetized, and there will be no insufficient magnetic force, with real-time UCS monitoring.

Shortened Mold Change Time and Enhanced Production Efficiency

- ◎ Save 90% of mold installation and removal time. For factories with multiple injection molding machines and frequent mold changes, significantly increase overall production efficiency by reducing mold change time.
- ◎ Simplify work, save labor and improve workshop management.



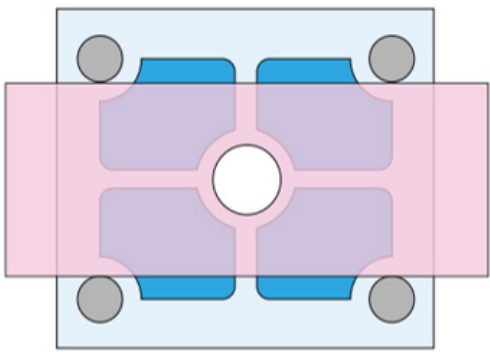
Comparison of Mold Changing

Increased Mold Tolerance and High Versatility

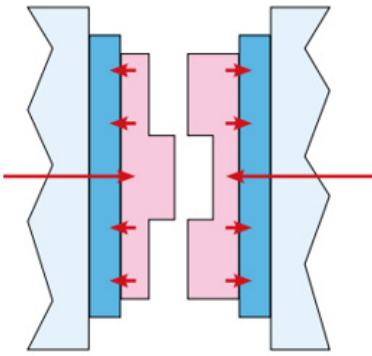
- ◎ Completely avoid mold interference when using manual or hydraulic-pneumatic clamps, facilitate the arrangement of peripheral connections of the mold (water, gas, electricity, etc.), and significantly increase the design freedom of the mold.
- ◎ No need for a fixed-size mold back plate, the Magnetic Clamping is highly applicable to molds and can even hold molds larger than machine templates, with strong versatility.
- ◎ It can evenly attach the mold backplate, prevent mold stress deformation, improve product quality and consistency, and extend the service life of the mold.

High Quality, High Precision

- ◎ For multi-cavity clamping, rotary molding machine and other cases where labels or other plug-ins need to be inserted in the clamp, the accuracy and stability of Hilectro Magnetic Clamping provide perfect precision clamping.



Excellent Versatility



Even Distribution of Magnetic Clamping Force

Low Cost and Enterprise Efficiency Improvement

- ◎ Except for a few seconds during the magnetization and demagnetization operation process, no electrical energy is used in the adsorption state.
- ◎ No need to reinvest in platens, bolts, consumables hardware and other accessories, freeing up storage space.
- ◎ The hidden costs of the hydraulic clamping system, such as fuel consumption and maintenance, are no longer occurring.
- ◎ The maintenance cost is almost zero in the later use.
- ◎ Magnetic clamping enhances mold stability, reduces product defect rates, and boosts overall production efficiency.

Protect the Excitation Coil

The magnetic plate pressure transmission path is:magnetic pole,reversible permanent magnet,substrate.Excitation coil is located at the bottom of the structure,protected by mechanical structural parts,and has strong resistance to damage.

Multi-layer Resin Pouring Process

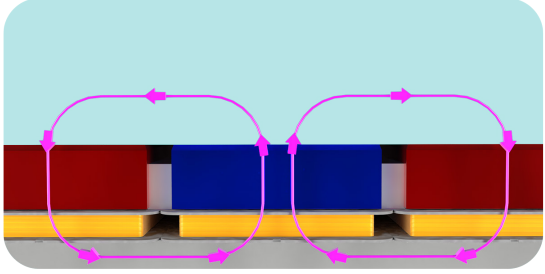
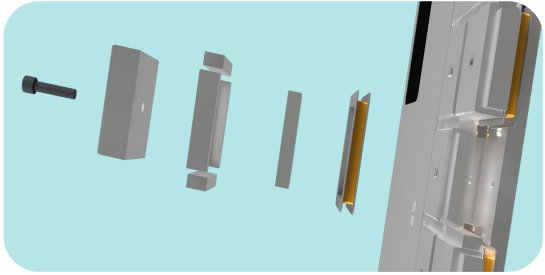
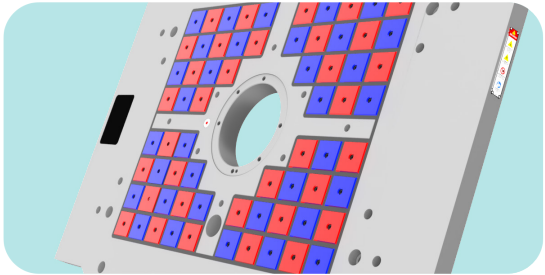
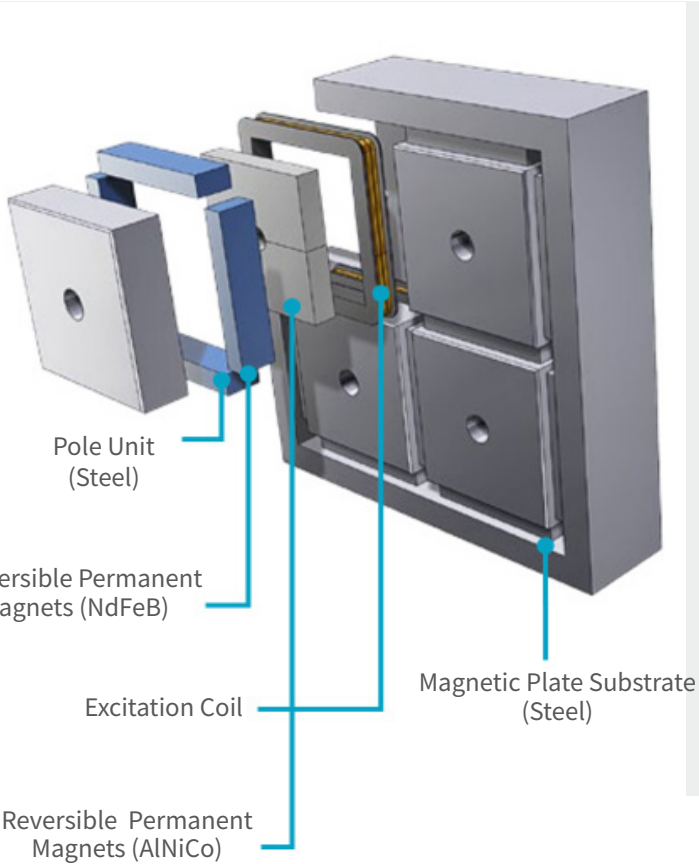
The excitation coil is located at the bottom, and the multi-layer resin pouring process is used from bottom to top to ensure that the coil is completely wrapped in resin, protecting the excitation coil from water and oil invasion, and improving product reliability.

Closed Back Design

The back of the magnetic plate substrate is a confined space, and the screw holes are also filled with sealing materials to ensure that the inner coil is in an absolutely closed environment and is free from the intrusion of water, oil and gas.

Variable-Thickness Resin Casting Process

After the surface resin solidifies, it is lower than the magnetic pole contact surface,and the resin surface layer is not under pressure,and due to the height difference,small foreign objects can be stored,reducing the probability of pressure loss.



Bipolar Neutral Crown Technology

Haitian Smart Solutions Magnetic Clamping adopts bipolar magnetic poles and neutral substrate technology, which is more conducive to controlling magnetic field lines. With N/S poles arranged adjacently and the substrate being neutral, it achieves magnetic field line balance, strictly controls the penetration height of magnetic field lines within 20mm, and does not interfere with mold operation.

High-grade Permanent Magnetic Material

Neodymium iron boron is the absolute source of magnetic clamping force for magnetic plates. Haitian Smart Solutions Magnetic Clamping uses neodymium iron boron of grade N40H, which has a maximum residual magnetic flux Br value of up to 1.28T and high temperature resistance performance up to 120°C. Alnico is used as the permanent magnet for switching the magnetic field direction of the Magnetic Clamping, and LNG52 alnico is used in the Smart Solutions Magnetic Clamping with excellent performance. Better material ensures higher magnetic clamping force and reliability of Haitian Smart Solutions magnetic platen.

Strong Magnetic Clamping Force

Haitian Smart Solutions Magnetic Clamping has a strong magnetic clamping force, with a single 80X80 square magnetic pole having a magnetic attraction force of up to 1000kgf; The mold has a good magnetic adsorption state and strong anti-gap ability, with a maximum magnetic field strength greater than 10kGs at a 0.8mm gap.

Maximum Operating Temperature

The standard configuration of Haitian Smart Solutions Magnetic Clamping can withstand a maximum temperature of 120°C . Additionally, a 150°C high-temperature Magnetic Clamping can be optionally equipped. The proximity sensor switch is standard with a maximum operating temperature of 150°C, significantly reducing damage to the sensor switch, and the control system is standard with a high-temperature alarm function.

A Wide Range of Pole Sizes

The magnetic pole sizes of Haitian Smart Solutions Magnetic Clamping include: square 80×80, square 70×70, square 50×50, and angular special-shaped magnetic poles, etc. The rich magnetic pole sizes make the magnetic layout of Haitian Smart Solutions Magnetic Clamping more diverse and customizable, while also ensuring better mold versatility.



Magnetic Saturation Detection System

The magnetic saturation of each magnetization and demagnetization is monitored in real time, and only 100% magnetization allows production.

Magnetic Flux Monitoring System

Monitor the magnetic pole flux feedback value in real time to monitor whether the mold's ability to obtain magnetic field lines meets the requirements.

Displacement Dislocation Monitoring System

Mold displacement monitoring to protect mold adsorption and misalignment at all times.

Magnetic Force Monitoring System

Accurate collection of magnetic force magnitude with high sensitivity, providing a direct reflection of the mold's adsorption status.

Temperature Monitoring System

Monitoring the working temperature of the Magnetic Clamping displaying the temperature value, and triggering an alarm if it exceeds the limit.

A Moved Mold Magnetic Template

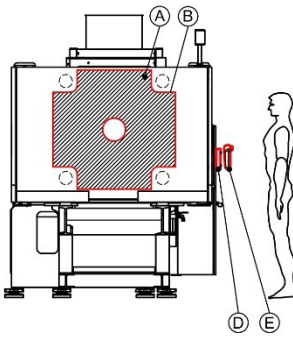
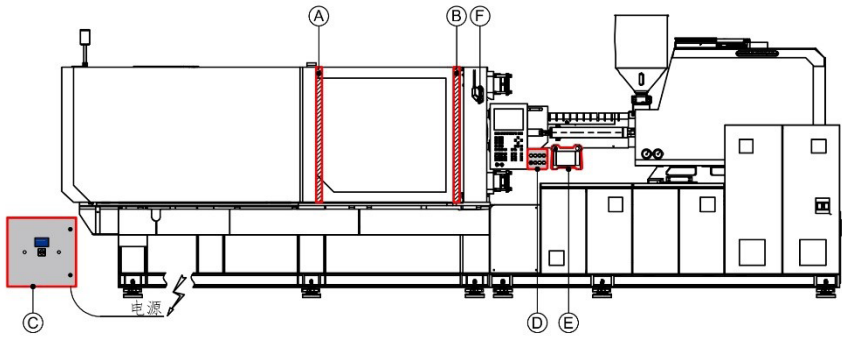
B Fixed Mold Magnetic Template

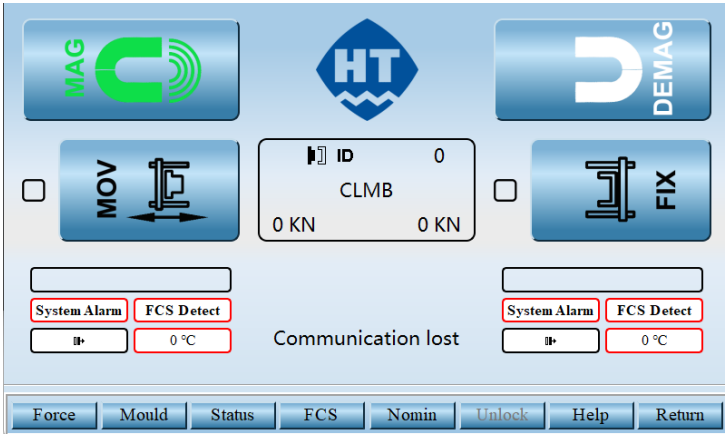
C Electronic Control System

D Button Controller

E Touch Screen Controller

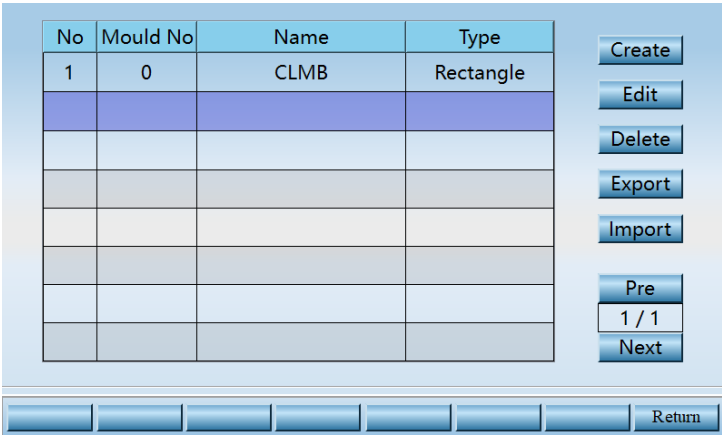
F European Standard Signal Interface EU70.0/EU70.1





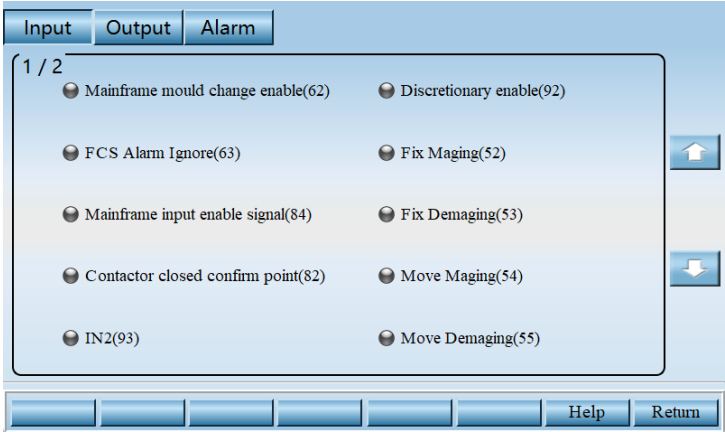
Feature-rich Control System

The self-developed control system of the intelligent magnetic platen has rich and leading magnetic platen control functions.



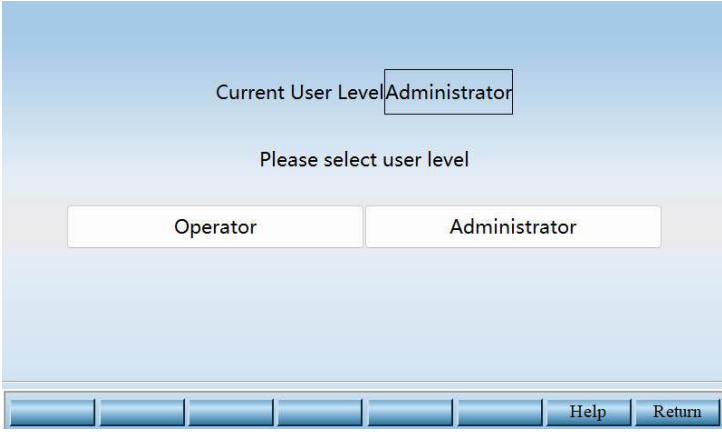
Mold Management System

Mold status control, better suitable for the magnetic platen's application requirements.



Fault and Maintenance Prompt System

Fault alarm and maintenance time prompt, facilitating maintenance and repair.



Multi-level Permission Management System

Multi-level permission management ensures the safety of personnel operations.

- ③ **Magnetic Force Nominal Function**
Combined with the mold management system, it monitors the magnetization data of each mold for each time.
- ③ **Mold Change Process Node Confirmation Function**
The mold change process node is combined with the touch screen system to monitor the status of the die change process.
- ③ **Dual Proximity Switch Intelligent Detection Function**
The dual proximity switch intelligently judges the AND and OR gate relationship, improving the safety requirements for use.

Specifications

Name	Parameter	
Magnetic pole size	Square 50X50	Square 80X80
Single pole magnetic force	350kgf	1000kgf
Magnetic density	14kgf/cm ²	16kgf/cm ²
Magnetic plate thickness	36mm	51mm
Maximum contact surface temperature	120°C (150°C is optional)	
Magnetic penetration depth	20mm	
Mold proximity sensor sensing distance	0.2mm	
Standard voltage	220-480VAC 50/60Hz	
Controller	Button box/touchscreen	
European interface	EU70.0/EU70.1	
Communication interface	RS485/TCP	

Model	Fixed Platen			Movable Platen			Thickness (mm)
	Magnetic Force(kN)	No. of Poles	Max. weight of Half mold(Ton)	Magnetic Force(kN)	No. of Poles	Max. weight of Half mold(Ton)	
HQP 006HD	54.72	16	0.86	54.72	16	0.86	36
HQP 009HD	82.08	24	1.29	82.08	24	1.29	36
HQP 012HD	95.76	28	1.50	95.76	28	1.50	36
HQP 016HD	123.12	36	1.93	123.12	28	1.50	36
HQP 020HD	164.16	48	2.58	177.84	52	2.79	36
HQP 025HD	196	20	3.08	196	20	3.08	51
HQP 028HD	196	20	3.08	235.2	24	3.69	51
HQP 032HD	235.2	24	3.69	274.4	28	4.31	51
HQP 038HD	274.4	28	4.31	313.6	32	4.92	51
HQP 047HD	352.8	36	5.54	392	40	6.15	51
HQP 053HD	392	40	6.15	431.2	44	6.77	51
HQP 060HD	431.2	44	6.77	470.4	48	7.38	51
HQP 070HD	470.4	48	7.38	548.8	56	8.62	51
HQP 080HD	548.8	56	8.62	588	60	9.23	51
HQP 090HD	588	60	9.23	666.4	68	10.46	51
HQP 100HD	666.4	68	10.46	744.8	76	11.69	51
HQP 120HD	784	80	12.31	901.6	92	14.15	51
HQP 130HD	862.4	88	13.54	980	100	15.38	51
HQP 140HD	901.6	92	14.15	1058.4	108	16.62	51
HQP 160HD	1019.2	104	16.00	1176	120	18.46	51
HQP 180HD	1215.2	124	19.08	1372	140	21.51	51
HQP 210HD	1372	140	21.54	1568	160	24.62	51
HQP 240HD	1528.8	156	24.00	1764	180	27.69	51
HQP 280HD	1803.2	184	28.31	2077.6	212	32.62	51
HQP 330HD	2077.6	212	32.62	2391.2	244	37.54	51
HQP 400HD	2430.4	248	38.15	2822.4	288	44.31	51
HQP 550HD	3253.6	332	51.08	3802.4	388	59.69	51

※Note: The table data represents the standard Magnetic Clamping configuration. The final magnetic configuration can be customized according to customer requirements.