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Haitian MA/GII

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Haitian MA/GII Series



Injection molding cost-effective choice

MA/GII follows the design concept of MA classic models, with "reliable, durable, extreme cost-effectiveness" as the product design direction, to achieve a comprehensive upgrade and iteration of technology.

MA/GII series servo injection molding machine adopts intelligent mold opening and closing control technology. It has a stronger injection unit and superior injection performance, which can be excellent to meet the diversified needs of daily necessities, household appliances and other industries.

GII

Haitian MA/GII Series

Machine Range

 Standard

Clamping Unit (kN)	Injection Unit	280	400	570	770	1000	1800	2250	3200	4000	4550	6350	7950
860		Standard											
1200			Standard										
1600				Standard									
2000					Standard								
2500						Standard							
3000							Standard						
3600								Standard					
4500									Standard				
5300										Standard			
6500											Standard		
7800												Standard	
10000													Standard

Haitian MA/GII Series

Highlights at a Glance

High cost -effective

Low investment cost and high production efficiency

Green Vantage

highly efficient and energy saving power unit, matching energy efficiency of electrical machines



High Modularity & Flexibility

Wide Range of combinations within the series as well as a flexible machine concept for other Injection Molding Technologies

Strong injection molding capability

Wide range of injection process coverage and flexible combination of different injection units

Flexible & Open Integration

Freely choose integrated cooperation unit to easily achieve upstream and downstream integration

Injection Unit



Linear guide for injection

- Precise guidance and smooth action
- Small friction coefficient, high operation precision
- Low energy consumption
- Fast acceleration and deceleration response
- Precise backpressure control

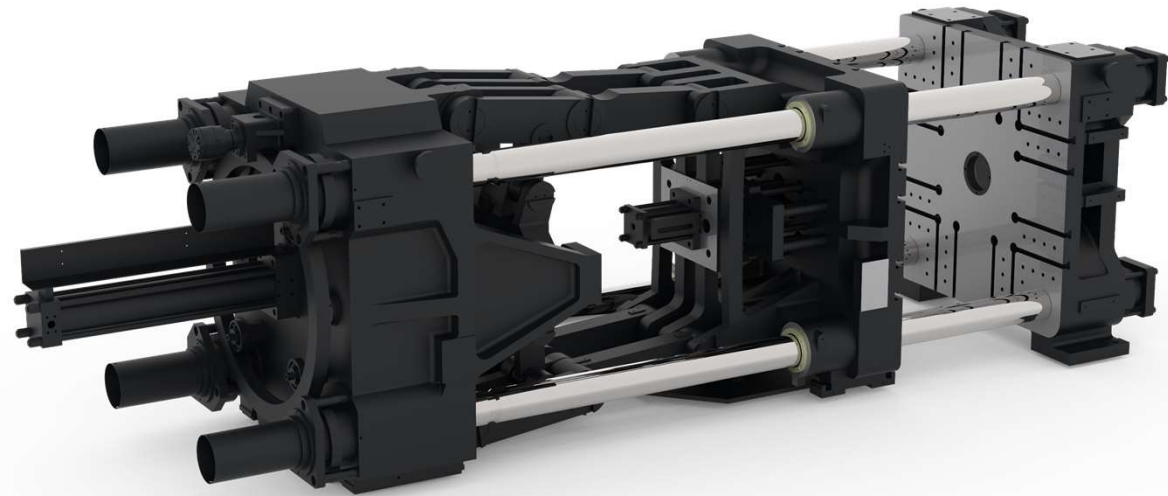
Injection Unit

Newly plasticizing components



- Newly designed plasticized components
- Unique high mixing injection screw design;
- High plasticizing efficiency and high wear resistance;
- For different characteristics of engineering plastics, professional screw and barrel can be configured.

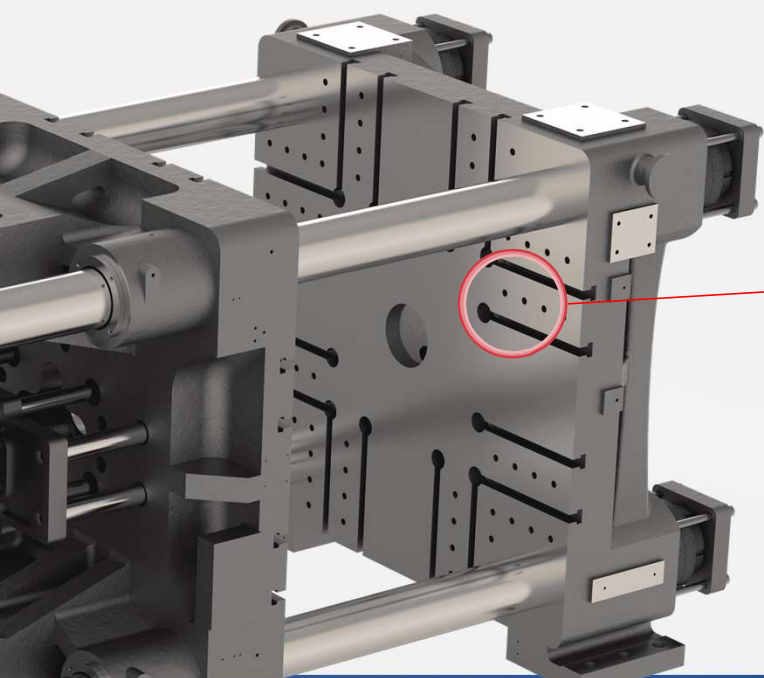
Clamping Unit



- High-functional platen design
- High rigidity
- Graphite steel sleeve automatic lubrication system
- Intelligent algorithm for mold open/close , Fast and accurate positioning
- Automatic mold adjustment system

Clamping Unit

Platen optimization, high rigidity



Full series of T-shot + threaded hole, fixed mold diversification, convenient and quick up and down mold, improve the efficiency of mold change.

G11

Clamping Unit

Lubrication system



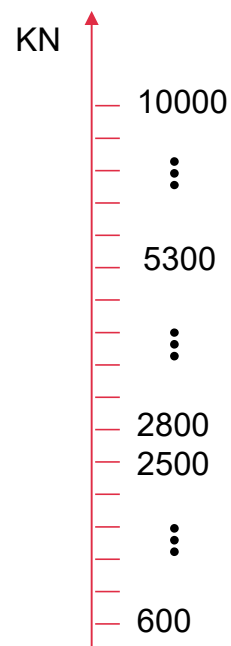
- Graphite steel sleeve (copper sleeve) : solid lubricant inlaid on the surface of steel sleeve and copper sleeve is a kind of non-metallic wear reducing material, which greatly improves the lubrication effect of crankshaft and the tie bar;
- The machine adopts thin oil lubrication to increase the life of parts and make the whole machine cleaner.
- Automatic lubrication system can accurately realize the lubrication of all moving parts.



Intelligent algorithm for mold open/close

Higher Repeatability Accuracy

High repeatability of the mold opening and closing by further optimized overall structure, oil circuit and programming



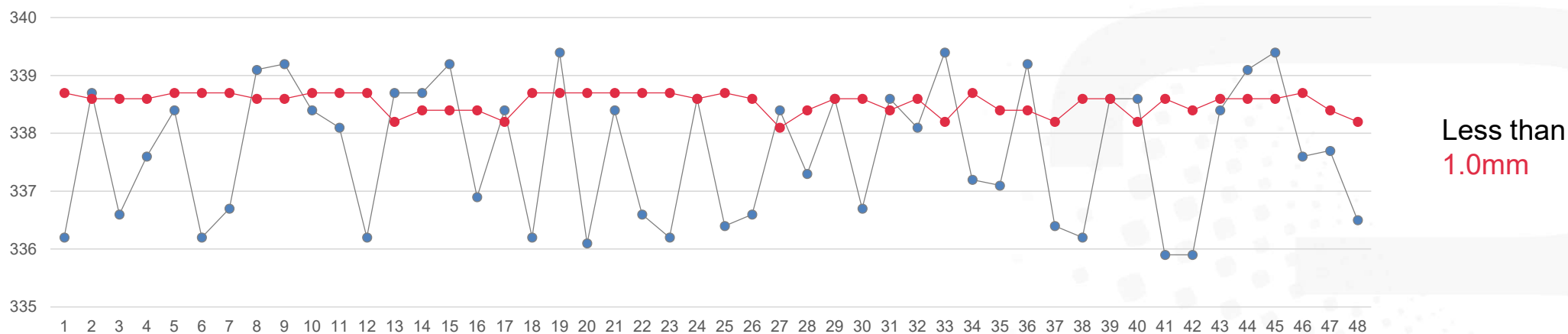
Improve from 5.0mm to less than 2.0mm

Improve from 3.0mm to less than 1.0mm

Intelligent algorithm for mold open/close

Higher Repeatability Accuracy
Test Example

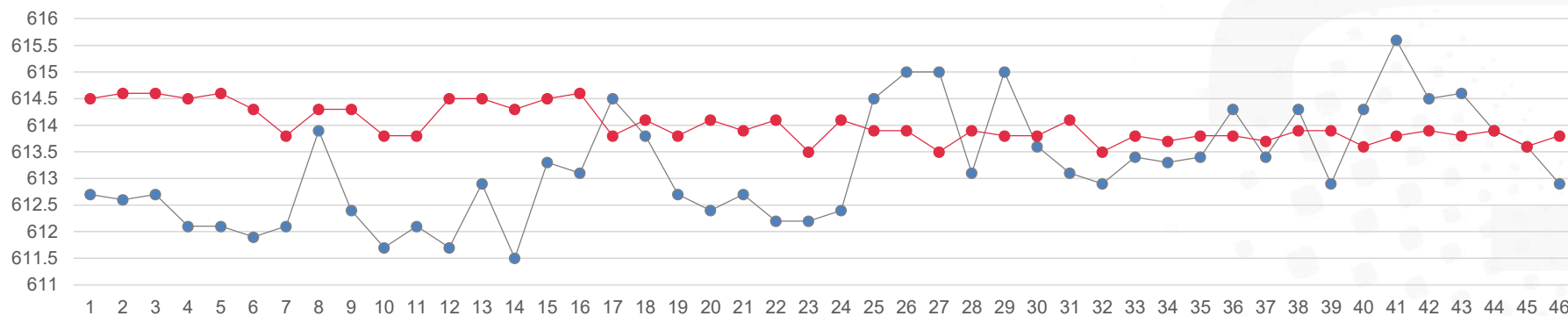
Repeatability Accuracy of 1200KN Mold Opening and Closing



Intelligent algorithm for mold open/close

Higher Repeatability Accuracy
Test Example

Repeatability Accuracy of 5300KN Mold Opening and Closing



Less than
2.0mm

Intelligent algorithm for mold open/close

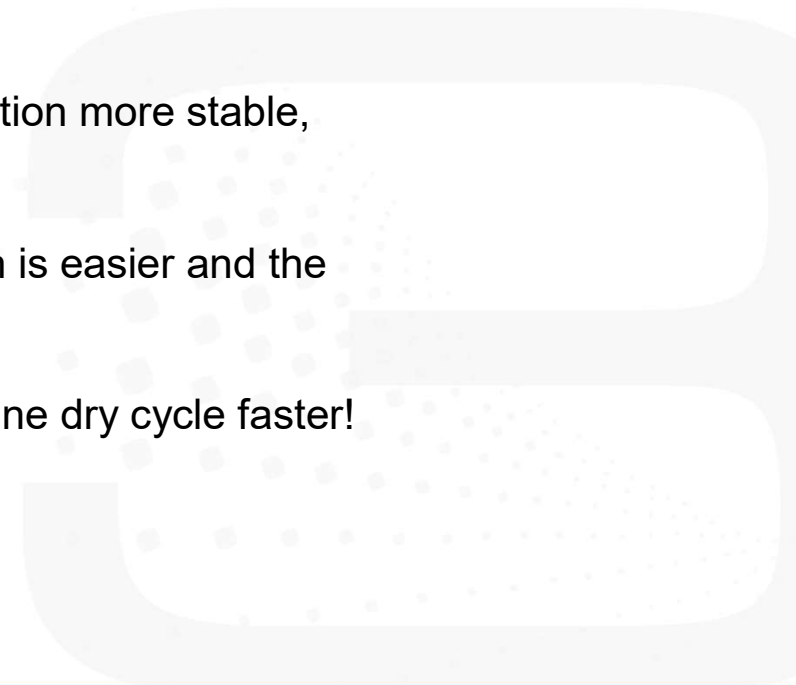
The specific advantage

The use of intelligent mold opening, machine position is accurate, the manipulator is easier to pick up, more stable!

In the same time, the machine mold open/close action more stable, smooth!

Parameter setting is reduced, so that the operation is easier and the requirements of the operator are reduced!

Machine mold open/close intelligent control, machine dry cycle faster!



Clamping Unit

Automatic mold adjustment function



- 650T and above automatic lubrication function
- Save manual maintenance time
- Convenient automatic operation of the machine

Servo Drive System

Relying on mature modular drive technology, launch an efficient servo power system

- **Speed +**

- The servo system has a wide speed regulation capacity (a large variable range). With its embedded structure, it has excellent speed performance, higher oil pump speed, and lower noise.

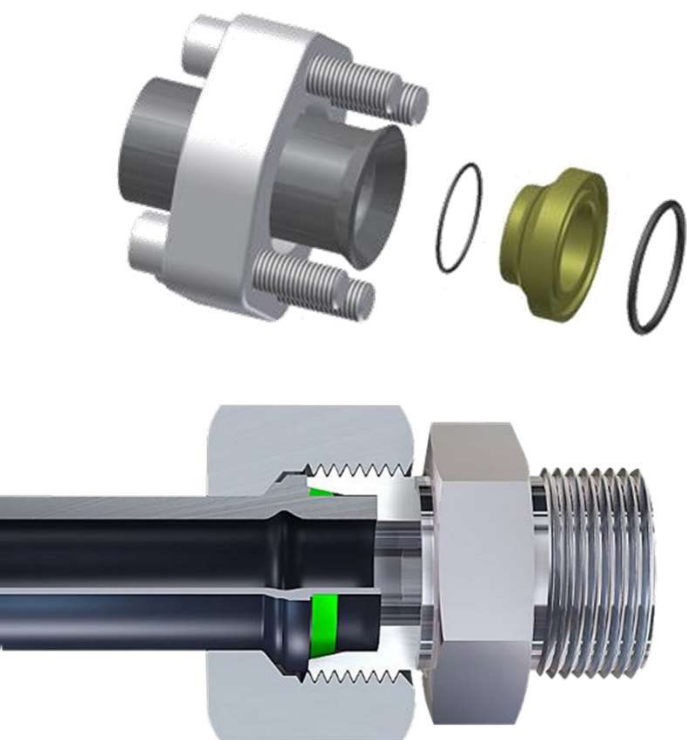
- **Loading +**

- The servo system has a low-speed and large torque capacity. rely on super-efficient high-performance chips and its advanced driving algorithm and optimized heat dissipation system. The overload and efficiency capacity is strong.
- The new high-temperature-resistant material, the temperature resistance capacity is greatly improved



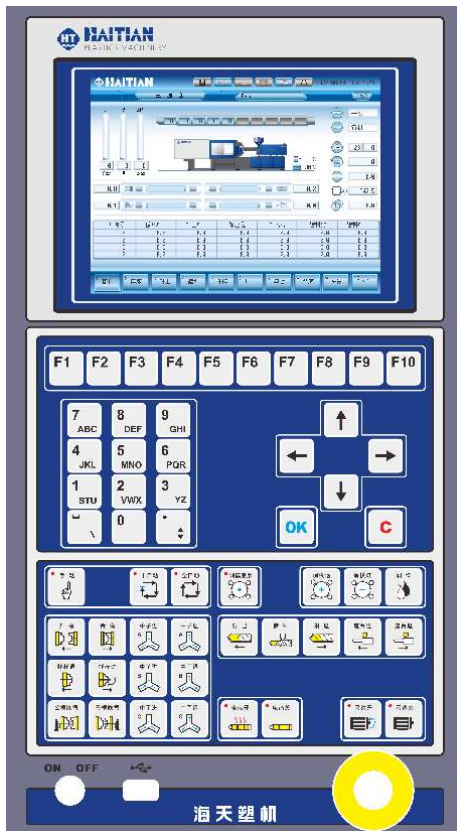
The hydraulic system

High pressure grade, no welding process for pipeline



- The system pressure is **17.5MPa**, and the process adjustment range is wider
- The system pressure is increased, the tank volume is reduced compared with the traditional machine, more fuel saving
- The whole series of **power pipeline welding process**, reduce the risk of oil leakage; Improve the cleanliness of pipelines and the service life of hydraulic components

Control system



- The control panel adopts LCD 8 "color screen and Techmation 5521 controller
- Special computer controller for injection molding machine, double CPU parallel processing data;
- The whole machine control system adopts full digital control, good controllability, high reliability, quick response period;
- Monitor production progress in real time and display various fault diagnosis;
- More powerful software functions, injection molding machine scalability is better, such as providing gas auxiliary, manipulator and other expansion support
- Reserved I-NET network management system, can realize the remote real-time monitoring and maintenance diagnosis of each injection molding machine, reasonable production scheduling and other advanced management methods; Built-in multi-group mould forming process parameter access system, convenient for factory management of mould, can realize the rapid adjustment of mould parameters, high speed and efficiency of production preparation;
- The temperature of barrel can be controlled accurately by computer setting and PID closed-loop mode. The temperature range can be set from 0°C to 400°C.

MA/GII contrast MA/G

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Injection unit

2

Clamping unit

3

Protective sheet metal

4

Hydraulic system

5

Others

GII

Injection unit

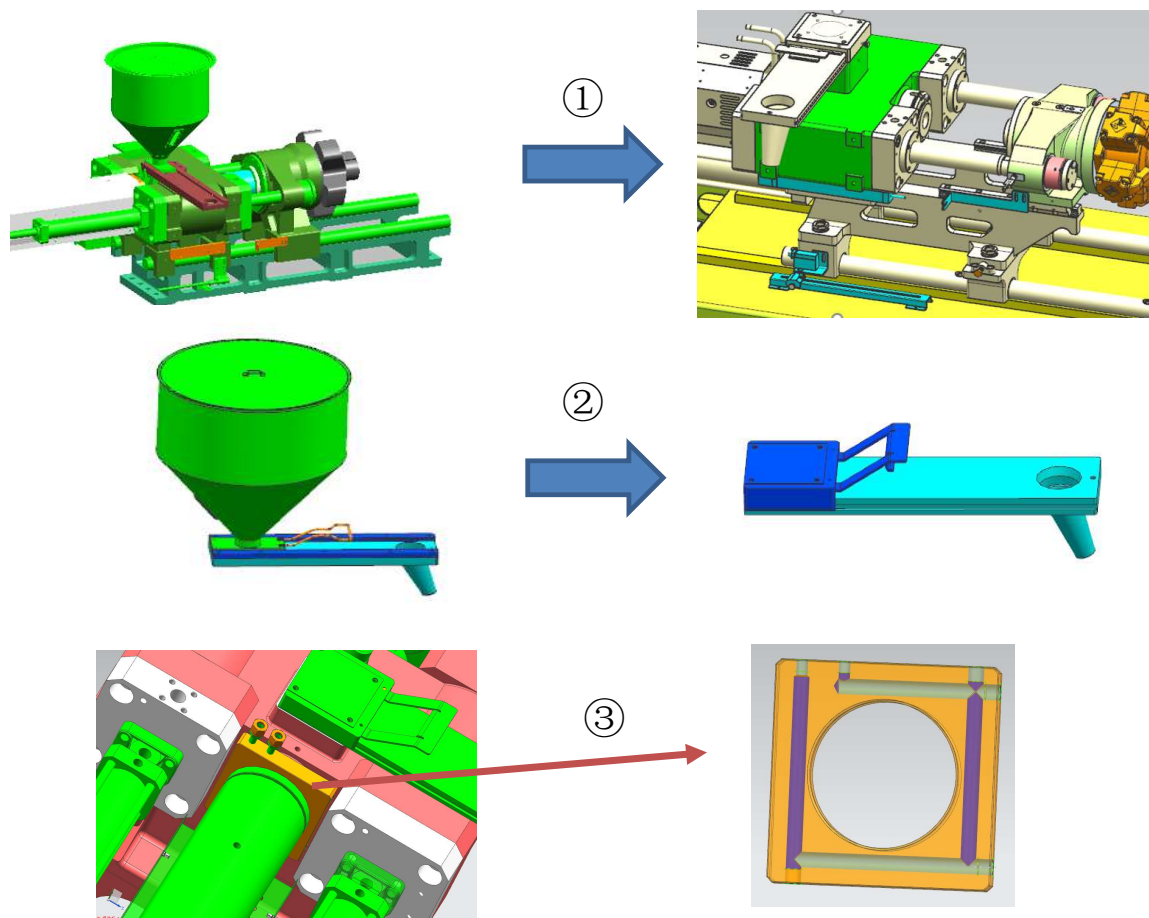
Structural distinction

Differences between MA/GII and MA/G injection unit

① Linear Guide is used for injection, and guide column structure is used for carriage

② Install transition slider for 360T and below, no slider for 450T and above, ordinary hopper and dryer can be switched freely

③ 86T-450T adopts new barrel cooling structure, 86T-450T barrel new design, the screw is the same as MAG, the cooling water hole on the raw material barrel is cancelled, the whole set can be interchangeable.



Injection unit

Parameter changes - injection pressure and injection rate, stronger performance, take B-screw as an example

model	GII-injection pressure	G-injection pressure
860	187	173
1200	187	171
1600	178	169
2000	172	170
2500	176	169
3000	181	182
3600	176	180
4500	174	156
5300	176	159
6500	178	177
7800	182	184
10000	179	174

model	GII-injection rate	G-injection rate
860	94	98
1200	115	110
1600	141	140
2000	187	174
2500	209	210
3000	283	279
3600	366	323
4500	459	478
5300	513	553
6500	540	620
7800	700	671
10000	790	850

- The injection pressure of B-screw basically reaches about 180Mpa, with stronger performance

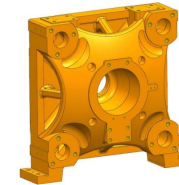
Clamping unit

Structural distinction

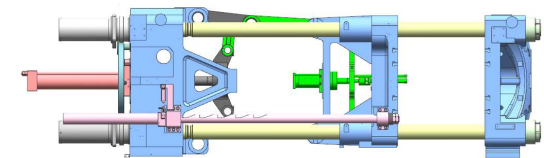
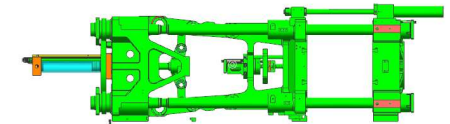
Differences between MAG/II and MA/G of clamping unit

- ① Mount Fuji platen, rigid lifting, deformation reduction, manipulator mounting holes on the fixed platen are EU 18;
- ② Mechanical safety :MAGII whole series without mechanical safety, MAG from 530T and above with mechanical safety;
Optional description: 86-250T is installed on the top of the moving platen and the Fixed platen, interferes with the EU 18 positioning hole. 300T and above is installed on the side of the moving platen and the real platen, which has no influence on the positioning of the robot.
- ③ Adjusting mold lubrication: MAGII650T and above adjusting mold automatic lubrication function, MAG adjusting mold has no automatic lubrication function.
- ④ Intelligent algorithm for mold open/close : New function

①



②



③



Clamping unit

Mold close parameters change

Machine	GII-tie bar space	G-tie bar space
860	360*360	360*360
1200	410*410	410*410
1600	470*470	455*455
2000	510*510	510*510
2500	570*570	570*570
3000	660*660	660*660
3600	710*710	710*710
4500	780*780	780*780
5300	830*800	830*800
6500	895*895	895*895
7800	980*980	980*980
10000	1090*1090	1090*1090

Machine	GII-ejector stroke	G-ejector stroke
860	100	100
1200	120	120
1600	140	140
2000	140	130
2500	150	150
3000	160	160
3600	160	160
4500	200	200
5300	200	200
6500	260	260
7800	260	260
10000	320	320

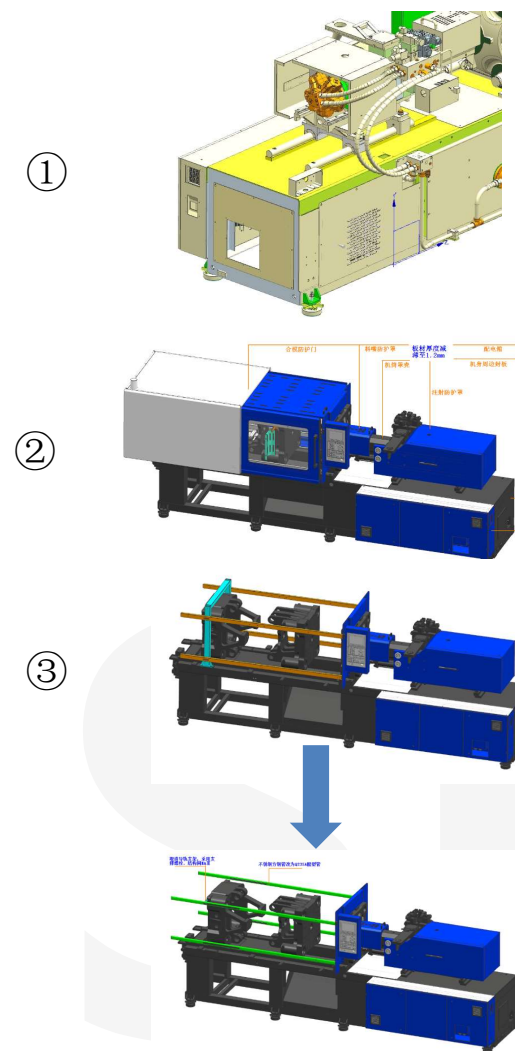
Machine	GII-number of ejector bar	G-number of ejector bar
860	3	5
1200	3	5
1600	3	5
2000	7	9
2500	7	13
3000	7	13
3600	7	13
4500	7	13
5300	11	17
6500	11	21
7800	11	21
10000	11	21

Consistent with MAIII, retained horizontally, canceled vertically

Sheet metal part

Differences between MAGII and MA/G sheet metal parts

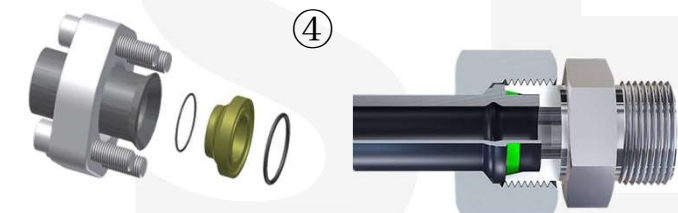
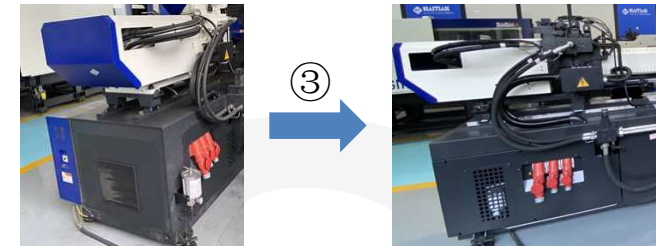
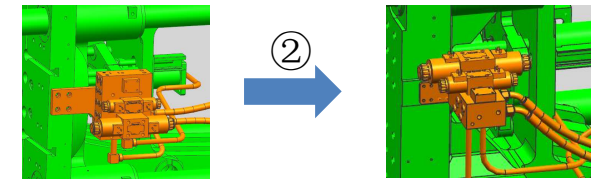
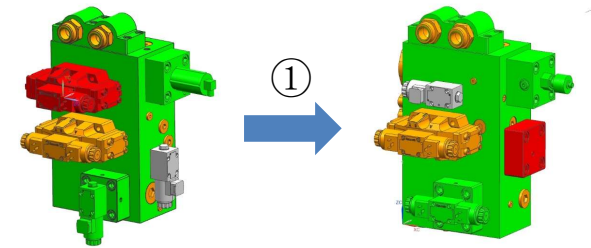
- ① Injection protection cover is lightweight and miniaturized: MAGII preplastic motor is exposed, MAG injection part is completely closed;
- ② Sheet metal lightweight :86T-200T protective door (fixed door, moving door), material nozzle protective cover, injection protective cover, distribution box sheet metal thickness changed to 1.2mm, 250T moving door, injection protective cover, distribution box sheet metal thickness changed to 1.2mm, 300T and above fixed door installation structure changed, cancelled frame;
- ③ The guide rail of protective door is simplified: 86T-250T guide bracket is changed to support bolt mode and MAIII structure is unified, 160T-250T protective door track is changed from square stainless steel to waist tube;
- ④ Automatic door: 1000T standard



Hydraulic parts

Differences between MAGII and MA/G hydraulic parts

- ① Clamping differential optimization: Clamping valve plate changed to external differential mode;
- ② Universal structure of ejector valve plate :200T-530T unified with MAIII
- ③ Location optimization of bypass oil filter: 86T-250T bypass filter is moved to the motor area of 01 machine body. The small sealing plate needs to be removed to replace the bypass filter element.
- ④ Pressure grade is improved, and pipeline connection is optimized: the system pressure is upgraded from 140MPa to 17.5mpa, and the process adjustment range is wider. The whole series of power pipeline without welding process, reduce the risk of oil leakage, improve pipeline cleanliness, improve the service life of hydraulic components.



Hydraulic parts

MAGII: The whole series with Vickers

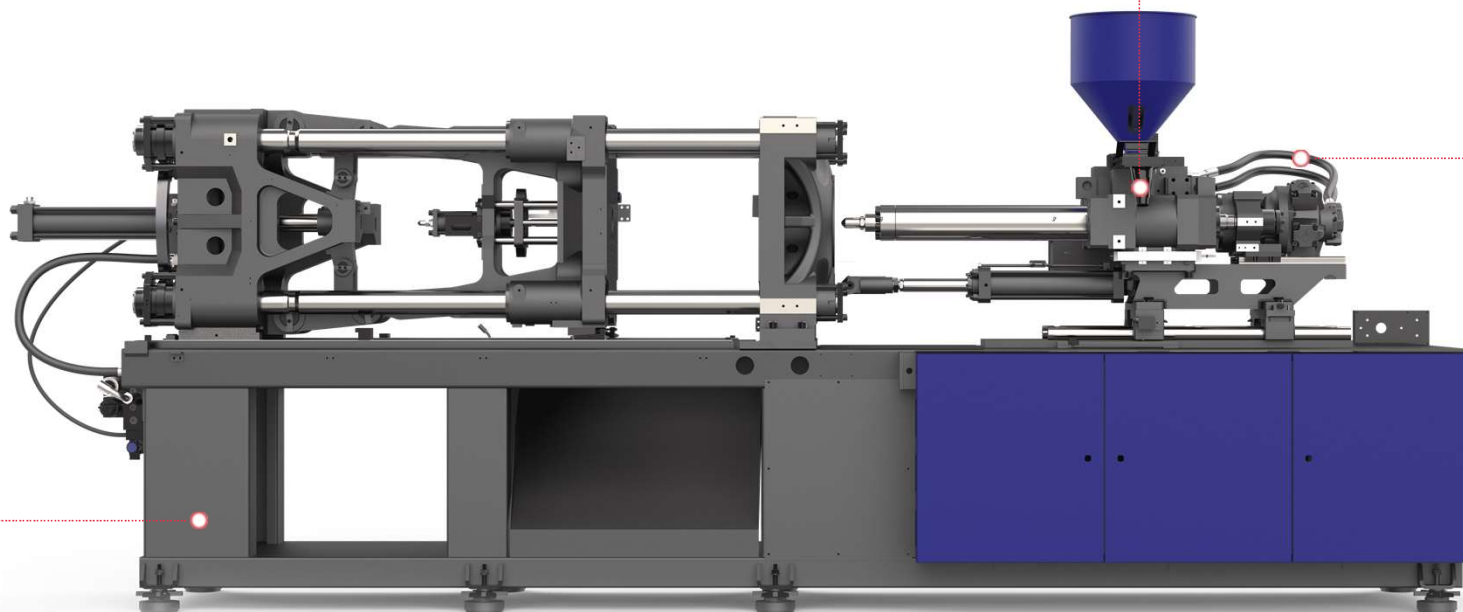
MAG: Rexroth or Vickers

Note: 160T-530 model electro-hydraulic valve (injection, clamping, differential main valve) from Vickers changed to Taiwan brand

MAGII: 86T-530T manual back pressure, proportional back pressure is optional

650T-1000T standard proportional back pressure control

MAG: Full series of standard proportional back pressure



Thin oil lubrication - MAGII cancels the oil box

MAGII: whole series without hose protection chain, optional protection chain

MAG: whole series of hose protection chains

GII

Hydraulic parts

Parameters change

① Adopt an efficient servo power system, the power labeling is increased by one gear, and the system pressure increases from 140MPa to 175MPa. The parameters are greater than or equal to MAG

② Hydraulic oil reduction, customer use cost reduction.

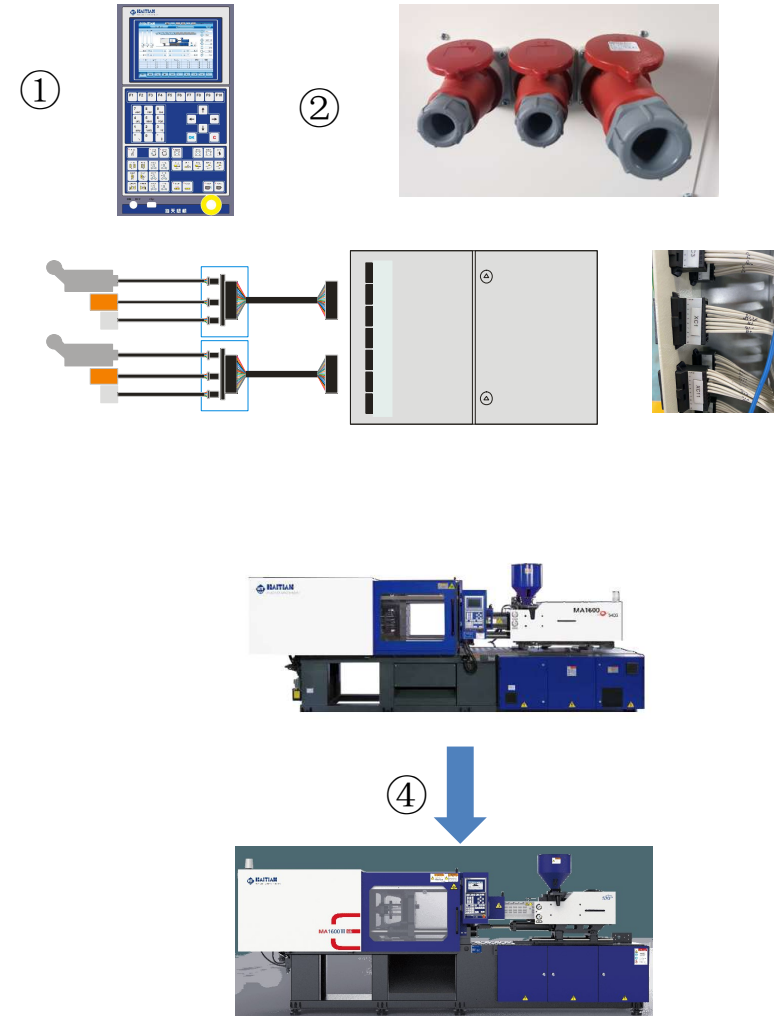
Machine	GII power	G power	GII -Oil tank	GII -Oil tank
860	13	11	135	170
1200	15	13	155	220
1600	18.5	15	185	235
2000	22	18.5	225	310
2500	30	22	265	355
3000	37	30	440	550
3600	45	37	540	640
4500	55	45	640	820
5300	65	55	800	990
6500	85	67	800	1300
7800	95	77	1000	1360
10000	110	92	1150	1610

GII

Electrical part

Differences between MAGII and MA/G electrical part

1. Controller panel: MGII for LCD 8 "controller host 5521(86T-450T) ,5531 for (530T-1000T),MAG use LCD 12" color screen, controller host TECH2;
2. External socket: MAGII full series of three groups of socket (1-32A,2-16A), MAG for 86T-200T two groups of socket (2-16A), 250T-450T two groups of socket (1-32A,1-16A), 530T-1000T three groups of socket (1-32A,2-16A)
3. Alarm light: 86-260T alarm light moves to the tail of 02, the light is still dual-color; 300T and above alarm lamp is upgraded from two-color to three-color, unified with MAIII;
4. Inverter: MAGII:860 -- 3600 KN: Techmation
MAG: 860 -- 2500 KN: Techmation



Others

machine body and cover change

MA/GII VS MA/G:

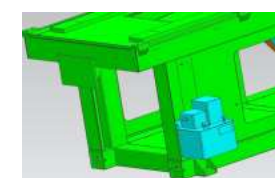
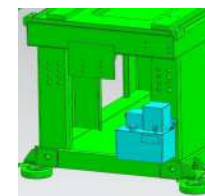
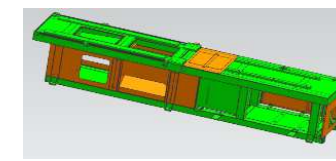
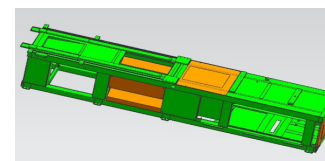
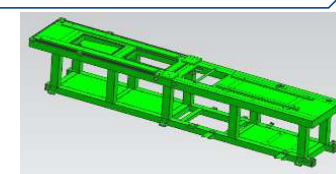
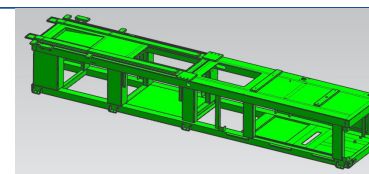
1. Small machine body lightweight (86T-250T)
 - a. Machine body changed to mortise and tenon structure (shape)
 - b. The aluminum cover plate under the barrel over the machine body is changed to black stainless steel plate
 - c. Add sealing plate on clamping side of machine body
 - d. Move clamping lubrication pump to the operating side of the machine

2. Optimization of pattern board on medium and large machines (300T and above)

The aluminum pattern cover is changed to Spray -sprayed pattern steel plate

3. Cancel the sealing plate under the protection door of clamping unit, cancel the fixed platen sealing plate, Cancel the seal platen above the product drop opening.

1

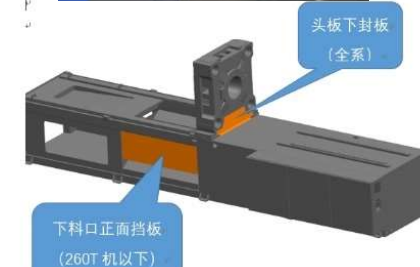
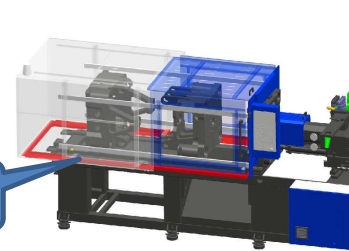


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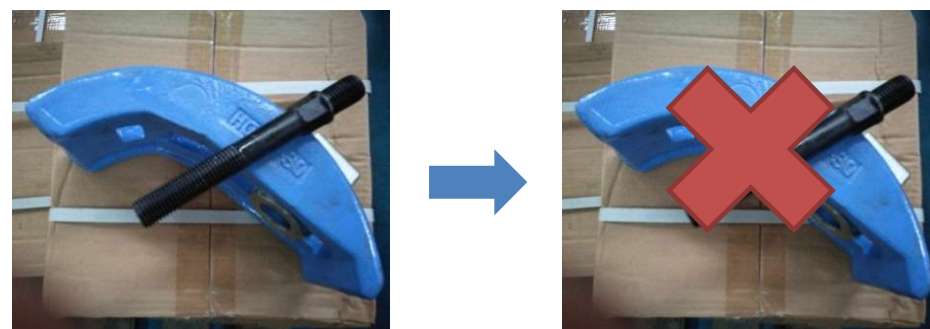
Cancel this plate



Different accessory boxes



The wooden cases of 530T and above for storing pad irons and grease shall be replaced by heavy cartons



MAGII: The mold fixture in the attachment is cancelled and is optional

MAG: standard

Machine color and printing



The main body color is the same as MAIII, but the distribution box is the same as the machine body color



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Thank you!



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