

MK6.6/SI

Série Internationale

88 - 658 Ton

202403

CHEN HSONG

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About Chen Hsong

Chen Hsong, established in 1958, is one of the largest manufacturers of injection moulding machines in the world, with annual sales exceeding 20,000 sets.

For over 65 years, Chen Hsong sold to more than 85 countries across the globe, supplying injection moulding machines with clamping force from 20 tons to 6,500 tons. In 1991, Chen Hsong became listed on the Hong Kong Stock Exchange (stock code: 00057). Headquartered in Hong Kong, Chen Hsong operates numerous manufacturing and research facilities in China, including Shenzhen, Shunde, Ningbo and Taiwan, as well as in Japan.

Since 2011 when Chen Hsong and Mitsubishi Plastics Technology of Japan entered into a worldwide strategic partnership, Chen Hsong has been progressively upgrading its internal management, production and quality systems with industry best practices, including TPS (lean manufacturing), M-System (Mitsubishi quality system) and a Japanese “perfect quality” focus towards all R&D, procurement and production activities. For over a decade since then, and leveraging its superior supply chain and production capabilities, Chen Hsong also supplied Mitsubishi, as OEM, with world-renowned “MMX” large-tonnage two-platen injection moulding machines (up to 3,500 tons).

To provide customers with even better peace-of-mind, Chen Hsong insists on being the only fully vertically-integrated maker of injection moulding machines globally, starting from basic ductile iron casting to high-end fabrication and machining, and all major production steps until the completed assembly of each machine. Only through absolute control of each fine step of the manufacturing process would customers be best served with professionalism, quality and perfection.

65+ Years of Excellence
Since 1958

200+ Patented technologies

20+ Software IP

20,000 Sets / year
One of the largest producers of injection moulding machines in the world

Operates **800,000m²**
Production facilities with global presence

Shenzhen



Taiwan



Global Reach



Shunde

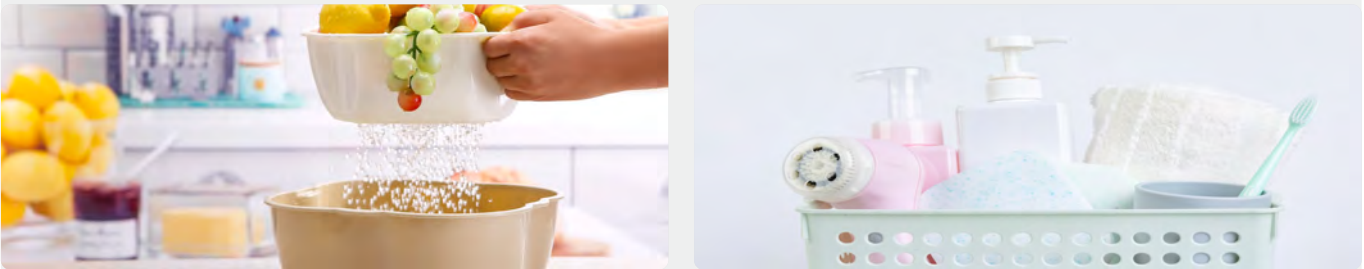
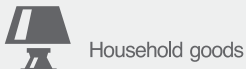
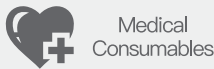
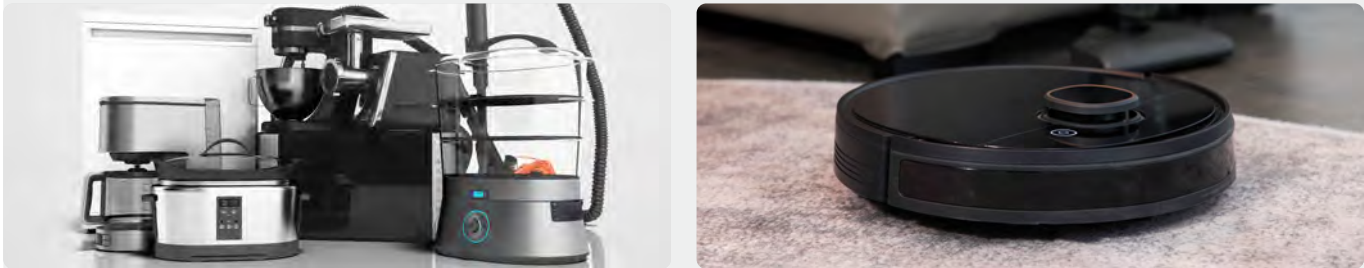


Ningbo



Wide Adaptability – A Machine for All Seasons

Perfect for all applications in diverse industries, meets all needs



MK6.6/SI *Série Internationale*



Brain of the machine – superiority guaranteed

12" Next-gen intelligent computer controller – power and ergonomics perfected



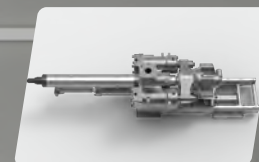
Advanced toggle design from decades of experience

Optimised motion control profile guarantees high speed with high stability



High-strength platens ensure high-quality precision parts

Patented high-strength platens have low deformation



Perfect parts from high-precision injection unit

Linear guide rails for injection - highly stable, high precision, high repeatability



Top-Of-The-Line Precision Control

Powerful Touch-Screen Performance

High-speed advanced CPU provides ample computing power for closed-loop calculations, leading to lightning-speed responses, ultra-high precision and exceptional repeatability.

- 01 12" large-sized touch-screen LCD panel
- 02 Wicked-fast CPU for lightning responses
- 03 Ultimate user-friendly HMI
- 04 Intelligent controls and easy smart tuning
- 05 Hourly production display
- 06 Comprehensive features set



The Fastest Compute Platform

25% higher HMI CPU clock speed
60% faster PLC CPU clock speed and I/O scan time



CPU clock speed	MK6.6/SI	Competition
HMI	1.0MHz	0.8MHz
PLC	0.48MHz	0.3MHz

Advanced high-speed CPU enables lightning-fast closed-loop calculations for faster responses and higher precision.

Mainstream Linux-based O/S with modern GUI.

The Best Panel



TOUCH-SCREEN: Fast and Precise	Physical buttons
Snappy and Smooth	Slow operation
Easy and Simple	Low resolution (800x600)
One-touch Access	

The Largest Features Set

All the professional features you'd ever need for demanding applications.

- | | | | |
|--|---------------------------|-------------------------------------|-----------------------------------|
| 01 USB socket | 02 Ethernet socket | 03 Smart clamp motion control | 04 Closed-loop injection/ejection |
| 05 Stored mould recipes | 06 Production log | 07 USB system upgrade | 08 Settings change audit log |
| 09 Standardised data interchange format | 10 Quick settings page | 11 Comprehensive quality monitoring | |
| 12 Built-in digital oscilloscope to monitor any data point value | 13 SPC data | 14 One-touch access to pages | |
| 15 Freely remap I/O's | 16 Screenshot at any time | 17 Interface with auxiliaries | 18 Freely programmable movements |
| 19 MES interface | 20 User control | | |

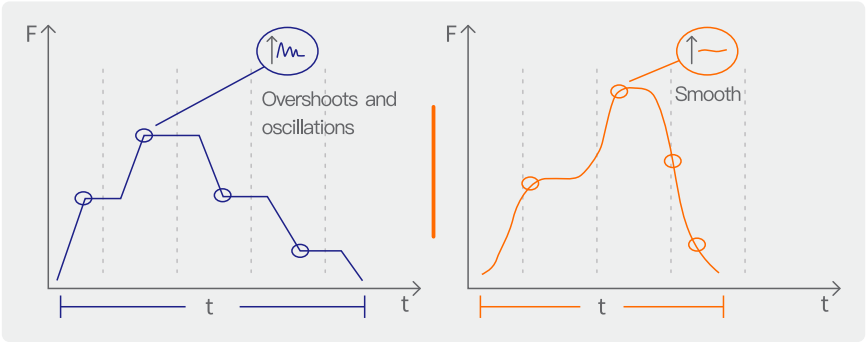
The Most Intelligent

With Chen Hsong's proprietary advanced Japanese motion-control algorithms, running on a top-speed CPU, the highly-intelligent automatic clamping force adjustment mechanism achieves precision within $\pm 5\%$ of your set-point value without any human interaction.

There is no longer any need to rely on expensive high-resolution transducers, experienced technicians or "black arts" for fine-tuned clamping adjustments. In the end, much fewer errors are made.



MK6.6/SI Intelligent Auto Clamp Adjustment
Dedicated Page for One-touch Operation
Simple and Easy-to-use Interface



Shorter Cycle Time and Smoother Clamp Motion

The Most Connected

Easy and effective Industry 4.0 smart manufacturing, now at your fingertips, with Chen Hsong's Mega Cloud online data platform.

True IOT connectivity, remote control and diagnostics, and fully networked productivity.

* Ipad Visualisation Interface



Break-Away Performance Speaks for Itself

Application Cases

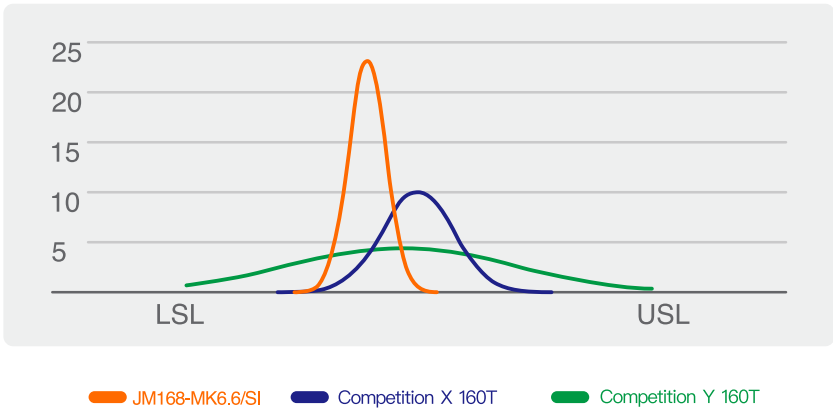
Part Specifications
LED lighting part
Shot Weight : 121g
Cavities : 8
Resin : PC
Cycle Time : 32.4s

Mould
Weight : 350kg
Dimensions : 400mmx400mmx300mm

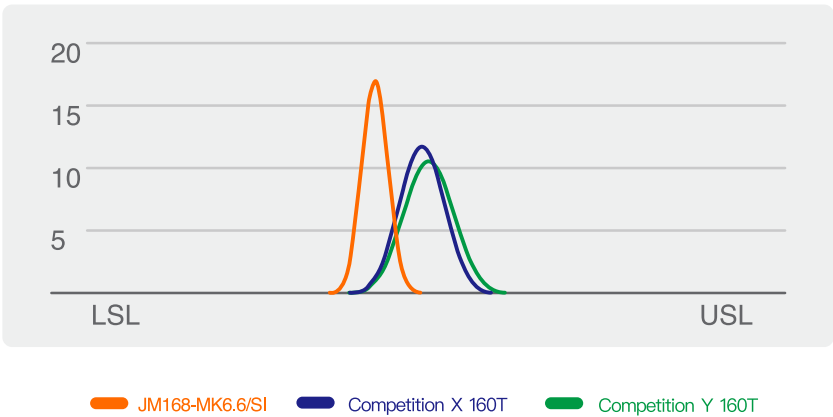


Production Data for Led Lighting Part

Part Weight Distribution



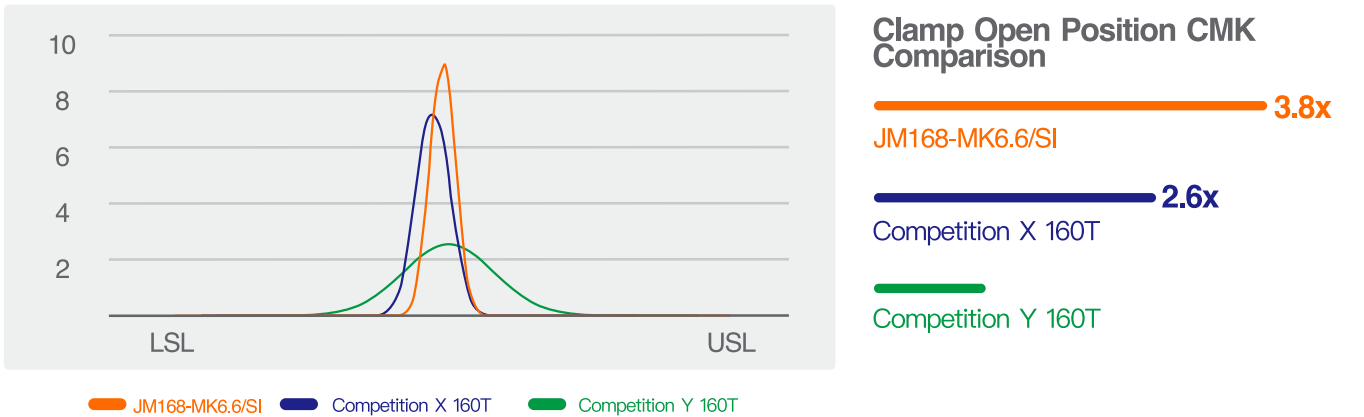
Wall Thickness Distribution



CPK (Process Capability Index) — higher is better, indicating higher stability and quality.

Breaks No Sweat-Sustainable Productivity

Clamp Open Position Distribution

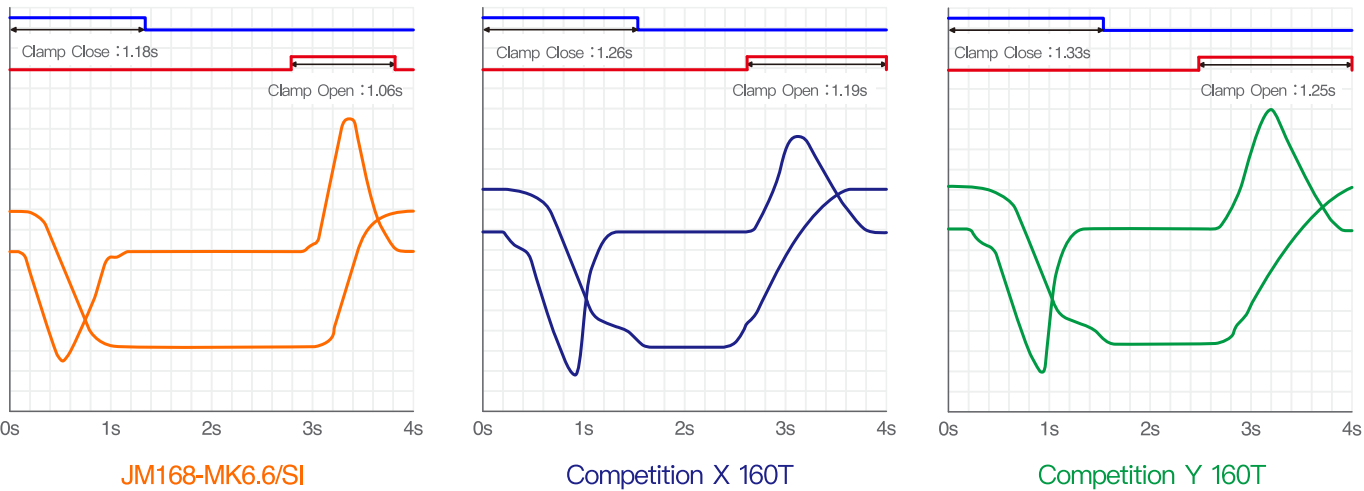


CMK (Machine Capability Index) — higher is better, indicating higher repeatability and better control

How Fast Is Fast Enough

Dry Cycle Comparison

Average (s)	Clamp Close (s)	Clamp Open (s)	Total Cycle (s)	Stroke (mm)
JM168-MK6.6/SI	1.18	1.06	2.24	300
Competition X 160T	1.26	1.19	2.45	300
Competition Y 160T	1.33	1.25	2.58	300



13% Faster Dry Cycle 15% More Speed

The Economics of Production

How productivity and energy saving translate into real profits

Power consumption comparison (against industry average for 160T)
Application Case Example : LED lighting part

Model	Cycle Time (s)	Production Time (h)	Power Consumption (kW・h)	Total Number of Cycles	Total Product Weight (g)	Average Power Consumption per Kg (kW・h/kg)	Average Power Consumption per Cycle (kW・h/Cycle)
JM168-MK6.6/Sl	32.4	8	50.4	889	107556	0.469	0.0567
Industry average for 160T	35.7	8	57.6	807	98420	0.585	0.0714

Show Me The Numbers

Production Simulation

11_M

11 months of production per year

21_H

21 hours of production per day

\$ 0.10

\$ 0.1047/kW・h

10_Y

10 years of primary usage

Faster is always better
JM168-MK6.6/Sl produces more shots in 10 years
(889-807) x 3 x 21/24 x 30 x 11 x 10 =

710,325 more shots

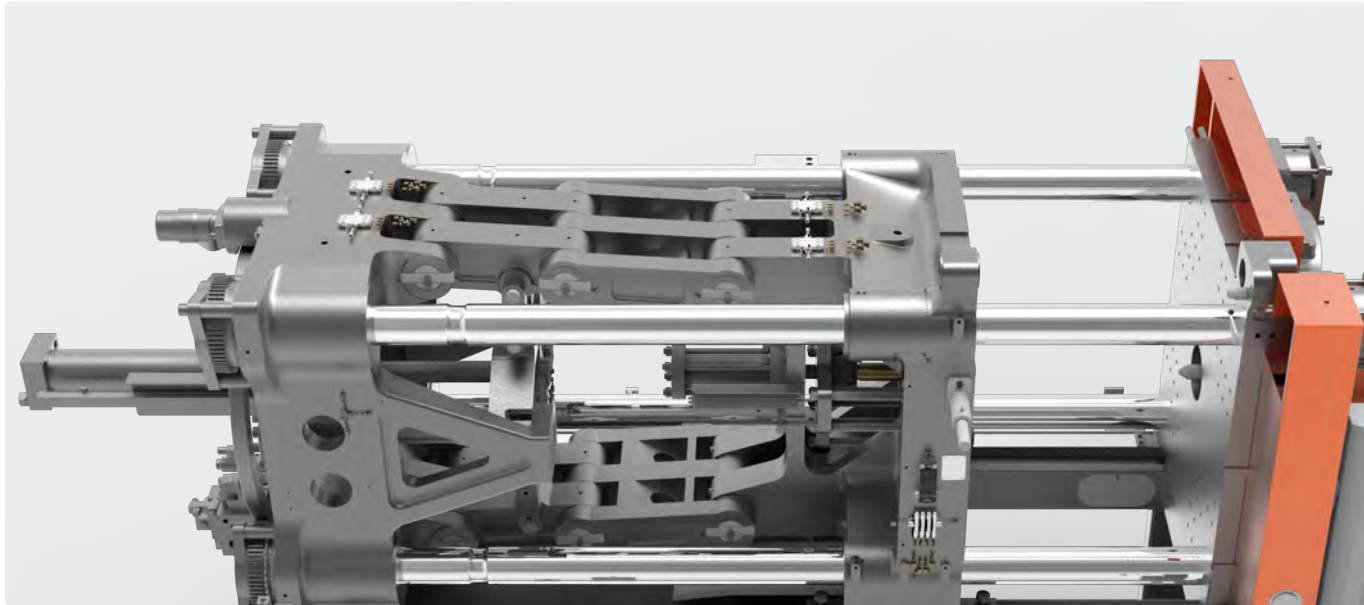
Efficiency is the name of the game
JM168-MK6.6/Sl produces 8 million shots in 10 years, saving about \$12,500 in energy costs
(0.0714-0.0567) x8, 000, 000x0.1047=

\$12,321.58

9% higher productivity

Toggle Design from Decades of Experience

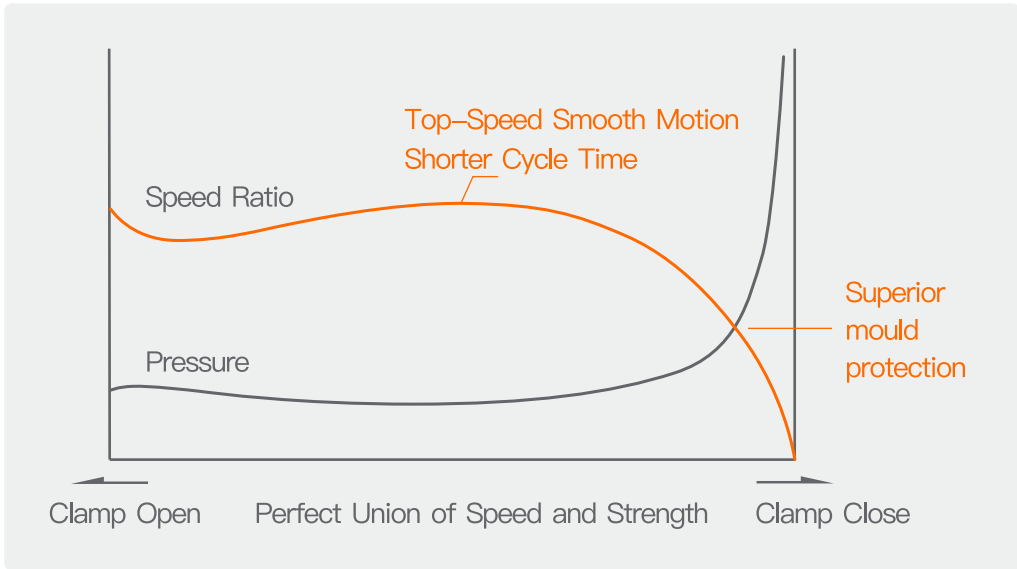
Optimised motion control profile guarantees high speed with high stability



Professional Japanese mechanical experts took the latest and newest in toggle design and hand-fitted a motion-control profile based on large amounts of software simulation and real-life verification. This combination largely avoids unnecessary friction and shocks among mechanical components, distributes tension uniformly to all tie-bars, and ensures high degree of parallelism, in order to prevent flashes on parts and reduce toggle wear. The result is a toggle system that moves snappily, silky-smooth and with no vibrations, improving power efficiency and usage lifewhile protecting against mould damages and unscheduled downtime.

Perfect Union of Toggle Design and Hydraulics

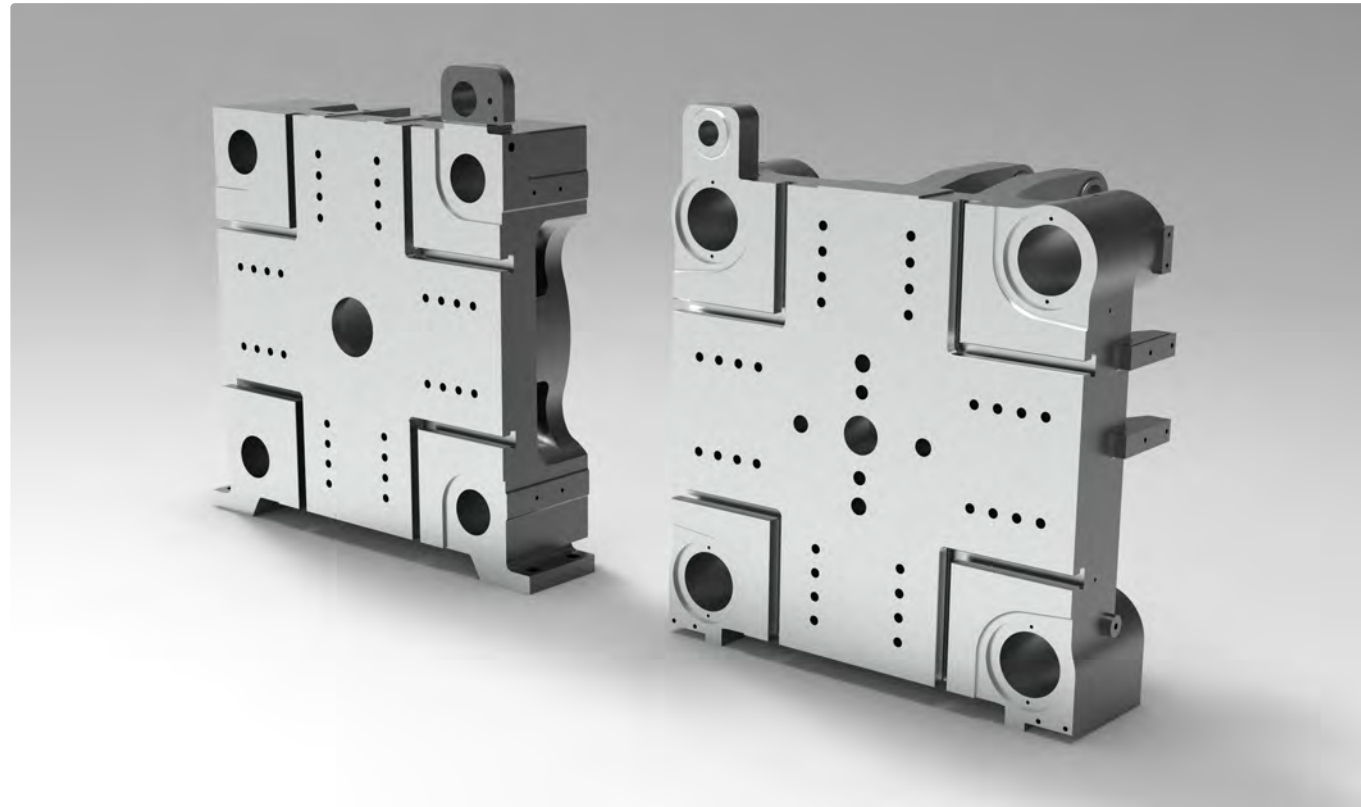
Fast and Precise



Finely tuned by leading Japanese hydraulic experts, and enhanced via proprietary fluid-dynamics simulation software, the entire hydraulic circuit is optimised to a high degree of perfection.

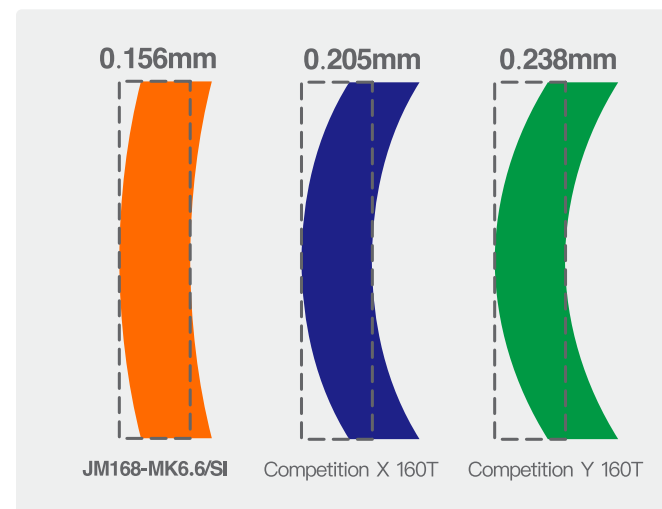
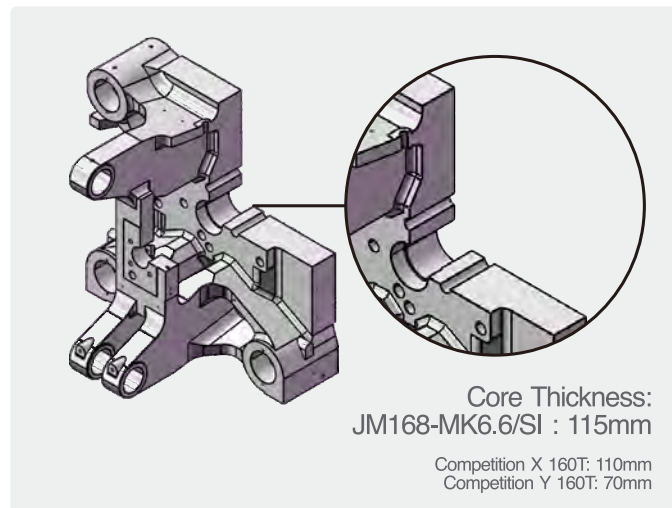
T-slot with Mounting Holes, Exquisite Quality

Significantly reduces mould changing time



Strong Platens for High Quality Parts

Patented high-strength platens with low deformation



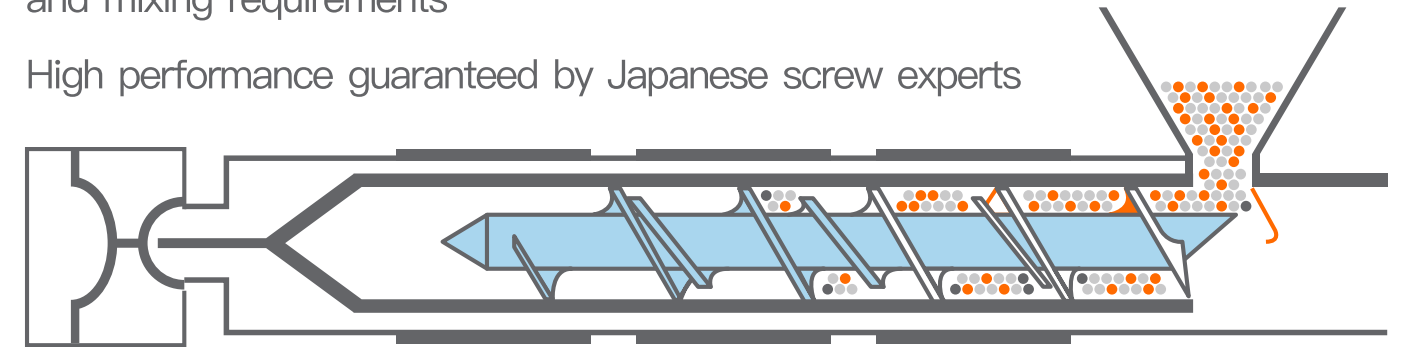
The centre of both platens is thickened to achieve lower deformation, and thus more uniform clamping force on the mould, than most competitive offerings.

Low platen deformation ensures high part quality and superior mould protection

The Part Is Only as Good as the Screw

Professional Japanese screw designs are well suited for most resins and mixing requirements

High performance guaranteed by Japanese screw experts



Well-suited for all applications

Chrome-plated mixing screw (88-568 standard)

Ideal for wide range of applications



Chrome-plated mixing screw (658 standard)

Ideal for wide range of applications



Chrome-plated, corrosion-resistant with optional mirror surface finish for PVC (optional)

PVC



Chrome-plated, optionally bimetallic, for engineering resins (optional)

Professional screw for engineering resins, common for household appliances and automotive applications



Bimetallic Screws

Bimetallic Screws (optional)

Perfect for highly corrosive or abrasive engineering resins (e.g. glass or carbon filled)



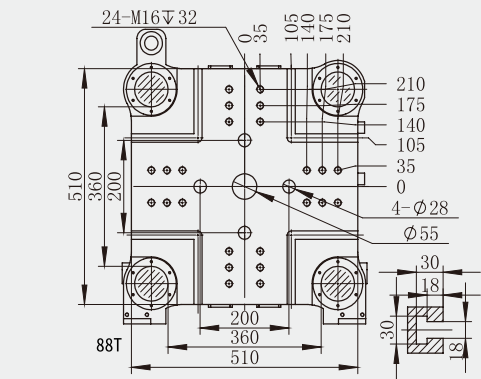
1.5–2mm bimetallic coating ensures long consistent usage life in corrosive or abrasive applications

Standard Features

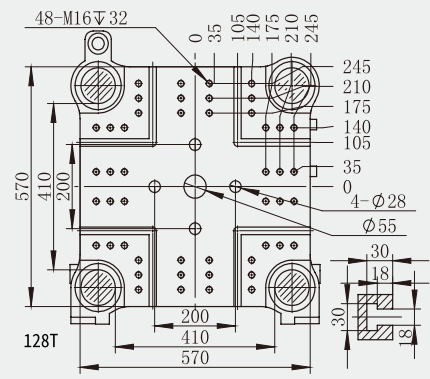
Electricals			
1 3-Phase Sockets	2 Tri-colour status indicator	3 Robot interface	
Clamping Unit			
1 Automatic toggle lubrication	2 T-slots	3 EUROMAP ejector	4 Adjustment-free mechanical safety lock
5 Automatic mould thickness and clamping force adjustment	6 High-tensile chrome-plated tie-bars		
7 Optimised machine base structure	8 Safety door with mechanical and electrical safety interlock protection		
9 Hydraulic core pulls (88-568T: 1 set, 658T: 2 sets)	10 Differential boost for high-speed clamping		
Injection Unit			
1 Nitrided screw and barrel	2 Screw RPM display	3 Automatic PID temperature control (including nozzle)	
4 Nozzle guard	5 Cold start prevention	6 Digital back pressure control	7 Broken thermocouple detection alarm
8 Barrel safety cover	9 Movable hopper	10 Linear guide rails	11 Mixing screw
12 Blocked nozzle and overflow detection			
Power Pack			
1 Oil temperature control	2 AC servomotor	3 Low-noise internal gear pump	4 High efficiency oil cooler
5 Speed and pressure control via servodrive	6 Suction and return line filter	7 Uninterruptible power system (UPS)	

Optional Features

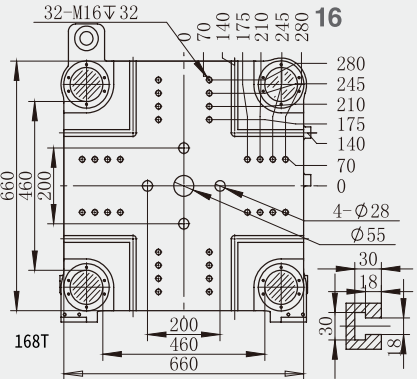
Electricals			
1 Multi-zone hot-runners control			
Clamping Unit			
1 Air blows	2 EUROMAP/SPI holes pattern	3 EUROMAP 12 or EUROMAP 67 robot interface with connectors	
4 Longer ejector stroke	5 Ejection-on-fly / core-pull-on-fly	6 Barrel inlet zone heat preservation / heating power enlargement	
7 Larger maximum mould thickness			
Injection Unit			
1 Shut-off nozzle	2 Valve gates	3 Specialised injection units for PVC or UPVC	
4 Reduced / enlarged injection unit			
Power Pack			
1 Oil level alarm	2 Hydraulic unscrew	3 Hydraulic oil pre-heat	4 Enlarged plasticising motor



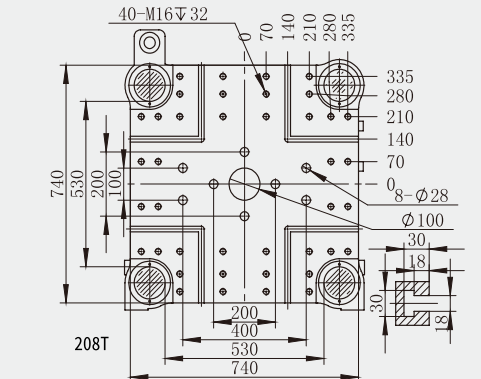
JM88-MK6.6/SI



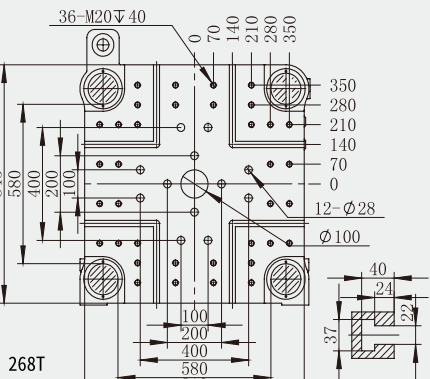
JM128-MK6.6/SI



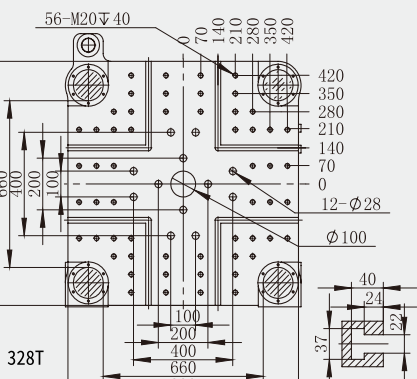
JM168-MK6.6/SI



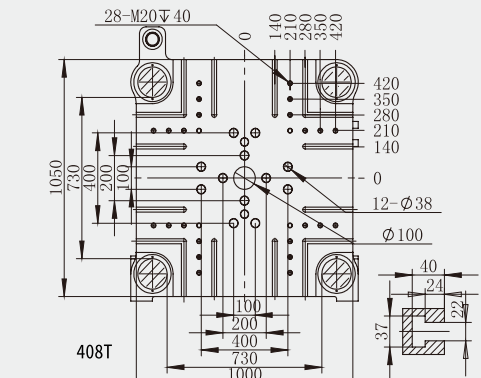
JM208-MK6.6/SI



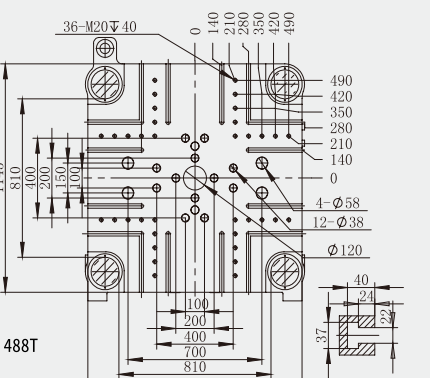
JM268-MK6.6/SI



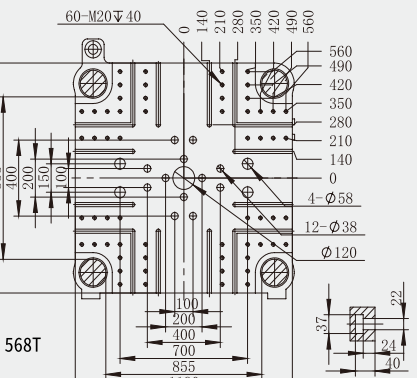
JM328-MK6.6/SI



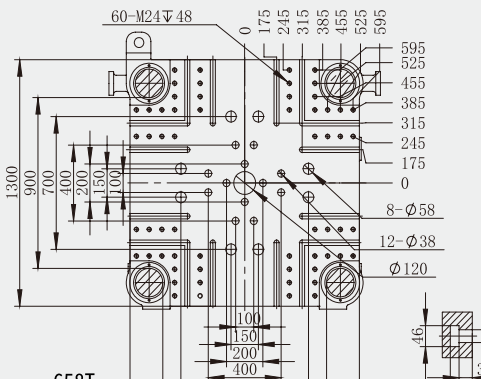
JM408-MK6.6/SI



JM488-MK6.6/SI



JM568-MK6.6/SI



JM658-MK6.6/SI

Série Internationale

The company keeps upgrading the products and reserves the right to change the product specifications and parameters without prior notice. The final interpretation to the above specifications and parameters belongs to the company.

Série Internationale

JETMASTER MK6.6/SI			JM88-MK6.6/SI			JM128-MK6.6/SI			JM168-MK6.6/SI			JM208-MK6.6/SI			JM268-MK6.6/SI			JM328-MK6.6/SI			JM408-MK6.6/SI			JM488-MK6.6/SI			JM568-MK6.6/SI			JM658-MK6.6/SI				
Injection Unit																																		
Screw Diameter	mm	31	36	41	36	41	46	41	46	52	46	52	60	52	60	67	60	67	75	67	75	83	75	83	90	75	83	90	83	90	98			
Screw L/D Ratio	L/D	24.4	21.0	18.4	23.9	21.0	18.7	23.6	21.0	18.6	23.7	21.0	18.2	24.2	21.0	18.8	23.5	21.0	18.8	23.5	21.0	19.0	23.2	21.0	19.4	23.2	21.0	19.4	23.9	22.0	20.2			
Screw Stroke	mm	180			205			230			260			300			335			375			415			415			450					
Swept Volume	cm³	135	183	237	208	270	340	303	382	488	431	551	734	636	847	1057	946	1180	1479	1321	1655	2027	1832	2244	2638	1832	2244	2638	2433	2861	3392			
Shot Weight (PS)	g	123	166	216	189	246	309	276	347	444	393	502	668	579	771	962	861	1074	1346	1202	1506	1845	1667	2042	2401	1667	2042	2401	2214	2603	3087			
	oz	4.4	5.9	7.6	6.7	8.7	10.9	9.7	12.3	15.7	13.9	17.7	23.6	20.4	27.2	33.9	30.4	37.9	47.5	42.4	53.2	65.1	58.8	72	84.7	58.8	72	84.7	78.1	91.8	108.9			
Injection Pressure (Max)	kgf/cm²	2367	1755	1353	2302	1775	1410	2233	1774	1388	2295	1796	1349	2365	1777	1425	2263	1815	1448	2230	1780	1453	2165	1768	1504	2165	1768	1504	2114	1798	1516			
Injection Rate (Max)	cm³/s	76	103	133	98	128	161	127	160	204	155	199	265	192	255	318	251	313	392	318	399	488	419	514	604	419	514	604	483	568	674			
Screw Rotation Speed (Max)	rpm	207			225			220			180			183			190			178			190			190			175					
Screw Nozzle Force (Max)	ton	4.5			4.5			4.5			4.5			9.0			9.0			9.0			9.0			9.0			9.0					
Plasticising Capacity (PS)	g/s	9	14.7	18.5	16	20	30.5	20	30	41	24.4	34	45	34.4	46	67.7	49	67	88	66	82.6	101	88	113	135	88	113	135	95	130	166			
Nozzle Stroke	mm	250			250			250			280			330			360			420			420			420			460					
Clamping Unit																																		
Clamping Force (Max)	ton	88			128			168			208			268			328			408			488			568			658					
Platen Size (HxV)	mm	510x510			570x570			660x660			740x740			845x810			945x930			1050x1000			1145x1120			1211x1190			1300x1260					
Opening Stroke	mm	330			370			420			490			530			600			670			770			835			920					
Space Between Tie Bars (HxV)	mm	360x360			410x410			460x460			530x530			580x580			660x660			730x730			810x810			855x855			900x900					
Mould Thickness (Min - Max)	mm	130-380			145-450			160-520			180-550			195-610			220-660			250-730			275-810			330-850			350-900					
Mould Carrying Capacity	kg	380			590			860			1200			1600			2250			3050			4150			4850			5700					
Max. Daylight	mm	710			820			940			1040			1140			1260			1400			1580			1685			1820					
Ejector Force	ton	2.8			4.2			4.2			6.7			7.7			7.7			11.1			11.1			16.6			18.2					
Ejector Stroke	mm	100			120			140			150			170			170			220			220			250			265					
Locating Ring Diameter	mm	100			100			125			125			125			125			160			160			160			200					
Power Pack																																		
System Pressure	kgf/cm²	175			175			175			175			175			175			175			175			175			175			175		
Pump Power	kW	11			16			16			24			31			48			60			31.4+31.4			31.4+31.4			31.4+48					
Barrel Heating	kW	6.8			10.5			12.9			16.1			19.6			25.6			31.2			37			37			44					
Temperature Control Zones	Zones	3+1			3+1			3+1			3+1			4+1			4+1			5+1			5+1			5+1			6+1					
Other																																		
Machine Dimensions (LxWxH)	m	4.3x1.2x1.9			4.6x1.3x2.0			5.2x1.4x2.0			5.7x1.5x2.1			6.4x1.6x2.3			7.2x1.7x2.4			7.9x1.9x2.3			8.6x1.9x2.3			8.8x2.0x2.3			9.6x2.2x2.5					
Oil Tank Capacity	L	160			190			240			280			400			520			690			730			730			870					
Machine Weight	ton	2.9			3.5			4.4			5.8			7.8			10			12.9			16.5			18.4			24					

*The technical parameters above are for reference only and discrepancies may arise in different circumstances.The company keeps upgrading the products and reserves the right to change the product specifications and parameters without prior notice.The final interpretation to the above specifications and parameters belongs to the company.