

Technology Creates the Future
60 Years of Focus, Determined to Continue Innovating

APAN SERVES OF THE STREET ON MOULDING SERVES

New Generation
Precision
Stability
Pursuit of Perfection

Hong Kong

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Superb energy-saver

- Grade 1 in national energy efficiency scale

中国节能型注塑机能耗标记识 China energy saving injection molding machine identification

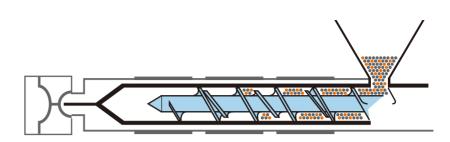






Superior stability and reliability

- Patented circular platen reduces platen deformation and evenly distributes stress
- World-class servo-driven hydraulic system



S Excellent screw with good plasticizing and mixing properties

- Result of more than 20 years of accumulated Japanese expertise



4 Super quiet operation

- Average noise level 75.4dB for JM168MK6

6 High speed, short cycle time:

- The fastest clamping, injection and ejection movements among competition
- Suitable also for thin-walled products with mass volume production





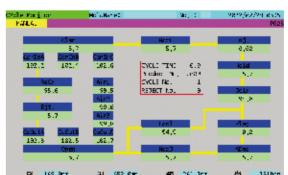




6 Super high precision

- Accurate pressure and speed control
- Quick and easy automatic mould height adjustment







^{*} Product images are for reference only and subject to change without notice.



1. Grade 1 in national energy efficiency scale

1 Highly optimised hydraulics design leverages advanced servo control system and German pump technology, resulting in reduced energy consumption.

2 Lower energy consumed compared with major competitor in identical production environment



Grade 1 energy efficiency certification

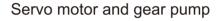
中国节能型注塑机能耗标记识 China energy saving injection molding machine identification







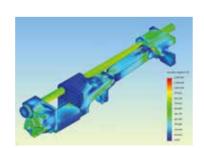




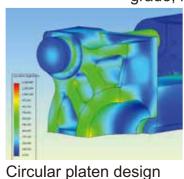
2. Superior stability and reliability

1 Unique patented circular platen design, highest rigidity and lowest deformation.



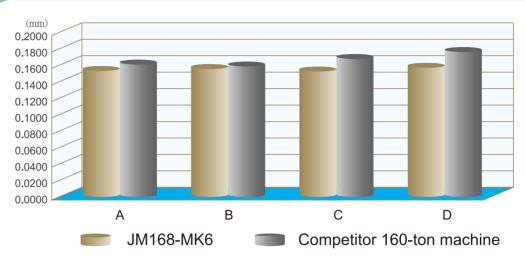


Tie-bars made with high grade, high tensile steel



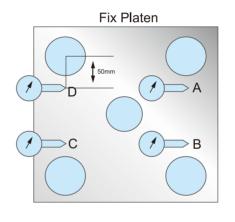
evenly distribute stress

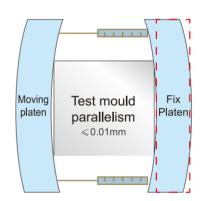
Platen deformation comparison with major competitor under similar clamping force



Less deformation higher product quality

Deformation comparsion





Benefits:

- Stable part dimensions
- Less burrs and flashes

- Optimised lubrication design
- 8 Named-brand hydraulic components from Rexroth & Yuken etc.
- 4 Named-brand servo control system
- **6** Optimized machine frame structure
- 6 High-precision gear-based mould adjustment mechanism ensures stability and part quality



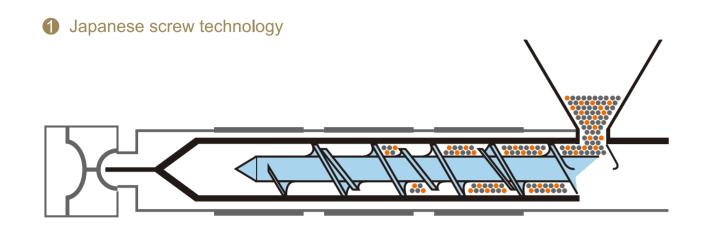








3. High-performance and versatile screw designs



2 Variations based on process requirements

Standard nitrided screw - versatile, all-purpose single-flight



PVC screw (optional) - hard-chrome-plated, corrosion-resistant, high quality finish for PVC and other corrosive resins



Specialized PC barrier screw (optional) - hard-chrome-plated, 42CrMoAl steel



Mixing screws for high-demand mixing requirements

Standard mixing head (optional)

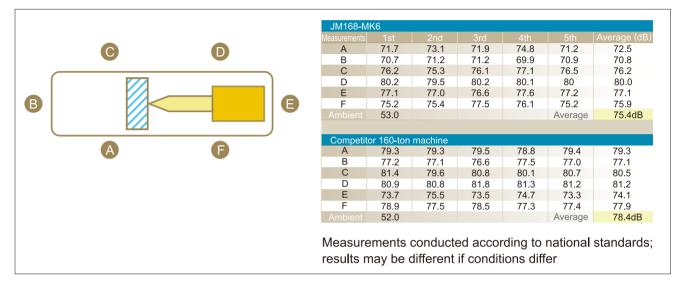


High-mixing barrier screw (optional)



4. Super quiet operation

- 1 Advanced servo control system contributes to extremely low noise.
- 2 Enhanced ejector control system enables lightning-fast but virtually-silent ejector movements.



5. Higher speed, lower cycle time

- Advantage of shorter cycle time
 - · Increased production efficiency · Higher energy efficiency
 - · Smoother and more stable motions
- The timing chart of a dry cycle compared with major competitor:

			—	k <u>.</u>	 ◆ Clomp alo	>			
			Open 0.9s		 Clamp clo 1.67s	se <u>L</u>			
pen/clamp close valve	Clamp clo	ose		1	 		▼ 0	pen 1.68s	•
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Test Part specifications

5

Cycle time reduced by 37.3%



6. Enduring high precision

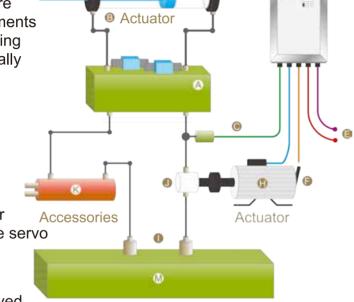
1 New proprietary servo pressure regulation technology, exclusive for the MK6 series

 Most servomotor-driven injection moulding machines on the market regulate pressure through reversing the pump for brief moments for fast pressure relief. The caveat is risking undue wear and tear to the pump, gradually degrading performance.

• The MK6 series employs a proprietary, patented, advanced pressure regulation technology that ensures fast pressure relief while never reversing the pump.

· This unique technology matches the high-speed intelligent computer controller with a specialised feedback loop from the servo control system driving a special relief valve to achieve this difficult task.

· Service life of the pump is greatly preserved, eliminating performance degrades.





Automatic mould-height/clamping force adjustment

Fully-automatic mould-height adjustment process is fool-proof and simple to use. You no longer need to measure the thickness of the mould, or manually adjust clamping force. With the new algorithm you simply puts on a new mould, enters the desired clamping force, then press "OK". The machines does the rest, speedily and accurately, without mistakes. Complexity is greatly reduced and operating personnel training is mostly eliminated.

- Very little time required (can be as short as 15 seconds)
- Clamping force is accurate
- Fool-proof, single-screen, one-click operation
- No training required

Automatic adjustment to the required clamping force

Installation of mould

Set Automatic clamping force ON Input desired clamping

force (ton)

Press OK



Mold adjustment complete

Complete the operation within the same screen

2 A new industry benchmark for low-pressure mold protection

High precision linear potentiometers are used for the clamping, injection and ejector axes which, when combined with highly-optimised algorithms, enables superior low-pressure mould protection - effective even with obstacles thinner than 0.1mm (or the thickness of a sheet of paper)!



A Hydraulic block

Before mould close, put in a sheet of standard A4 paper



Almost closing detecting paper

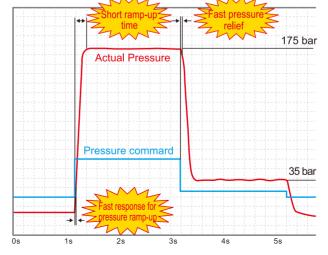


Low-pressure mould protection causes clamp to open

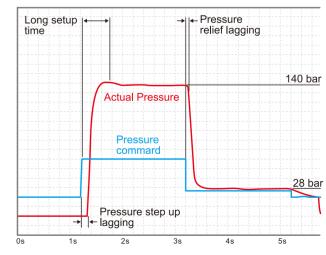


A4 Paper is not even punctured through!

4 Fast response, short ramp-up time, precise pressure control. Suitable for producing precision part with superior, weight and dimensional stability.



JM168-MK6-two-stage holding pressure



Major competitor 160-ton machine-two-stage holding pressure





7. All new intelligent computer controller: CPC-6.0

Characteristics

- 1. Designed and developed in Japan
- 2. Complies with JIS and IEC testing standards
- 3. Named-brand high-definition 7" TFT color LCD screen
- 4. Wide power range: AC110V~AC280V, 50/60Hz
- 5. LED backlight with high brightness and long life
- 6. Advanced SMT technology with highest stability and reliability
- 7. Multiple languages
- 8. Intelligent fault diagnostics
- 9. Online operational instructions
- 10. Full suite of networking features as per Industrie 4.0

The Industrie 4.0 environment

2 Features Set

- 1. Storage for 150 sets of mold data
- 2. Multi-stage authorisation allows fine-grained access control
- 3. 8 sets of high-accuracy PID barrel temperature control (30°C-500°C)
- 4. Cold start prevention, automatic pre-heat, blocked nozzle alarm, overflow detection
- 5. Temperature range detection and broken thermocouple detection
- 6. 6-stage injection, 6-stage holding
- 7. 20 channels of sequential injection control (valve gates) by position and time
- 8. 6-stage plasticising, 6-stage back pressure
- 9. Up to 6 core pulls and 6 air blows
- 10. Alarms history storage for maintenance and troubleshooting
- 11. Production quantity and batch control settings; automatically stops production when quantity reached.
- 12. Automatic toggle lubrication with alarms
- 13. Cycle time monitor
- 14. Injection speed/pressure curves, compare with standard, and injection end position statistics.
- 15. Status monitor screens show all inputs, outputs, outputs, timers and counters, convenient for maintenance and troubleshooting
- 16. Retrieval and storage of mould data internally or on external SD card (optional)
- 17. Intelligent fault diagnostics and online operating instructions
- 18. Hot-runners control (up to 60 zones) (optional)
- 19. Networking features for Industrie 4.0 shop-floor integration (optional)

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			-
	Clamping unit	5.	Nozzle guard
1.	Automatic toggle lubrication	6.	Cold start prev
2.	Adjustable mechanical safety lock	7.	Broken thermo
3.	Hydraulic safety device	8.	Blocked nozzle
4.	Automatic mould thickness and clamping force	9.	Barrel safety c
	adjustment		F
5.	High tensile chrome-plated tie bars	1.	Speed and pre
6.	See-through window and safety door with	2.	Low noise inte
	hydraulic and electrical safety interlock protection.	3.	AC servomoto
7.	Differential boost for high-speed clamping	4.	High efficiency
8.	EUROMAP standard ejector	5.	Removable oil
	Injection unit	6.	Suction and re
1.	Nitrided screw and barrel		
2.	Automatic PID temperature control	1.	See operation

Standard Features

	Clamping unit	٥.	Nozzie guard			
1.	Automatic toggle lubrication	6.	Cold start prevention			
2.	Adjustable mechanical safety lock		Broken thermocouple detection alarm			
3.	Hydraulic safety device	8.	Blocked nozzle and overflow detection			
4.	Automatic mould thickness and clamping force		9. Barrel safety cover			
	adjustment		Hydraulics Unit			
5.	High tensile chrome-plated tie bars	1.	Speed and pressure control via servo drive			
6.	6. See-through window and safety door with hydraulic and electrical safety interlock protection.7. Differential boost for high-speed clamping		2. Low noise internal gear pump			
			AC servomotor			
7.			High efficiency oil cooler			
8.	EUROMAP standard ejector	5.	Removable oil tank, easy to clean and service			
	Injection unit	6.	Suction and return line filter			
1.	Nitrided screw and barrel		Controller			
2.	Automatic PID temperature control	1.	See operation manual			
3.	Screw RPM display					
			I			
	Optional features	10.	Ceramic heater bands			

Optional features							
Clamping Unit							
Core pulls							
Robot mounting plates							
EUROMAP 67 robot interface with connectors							
T-slot							
EUROMAP/ SPI holes pattern							
Air blows							
Oil less bushings for toggles system							
Ejection-on-fly/ core-pull-on-fly							
Increase ejector stroke							
Injection Unit							
Barrel thermal insulation cover							
Reduced/ enlarged injection unit							
Feeding zone temperature control							
Bimetallic screw/ barrel							
Movable hopper							
Stainless-steel hopper							
Extended nozzle							
Chrome plated nozzle							
PVC and UPVC-specialized injection units							

eatures	10.	Ceramic heater bands				
g Unit		Locking type screw head set				
		Mixing head				
		Hydraulics Unit				
rface with connectors		Oil temperature control, with or without alarm				
	2.	Oil level alarm				
attern		Unscrews				
	4.	3R by-pass filter				
gles system	5.	External return line filter				
on-fly	6.	External suction filter				
	7.	Enlarge/ reduced plasticising motor				
n Unit	8.	Enlarge oil cooler				
cover	9.	Enlarge/reduced servo pump				
tion unit	10.	Hydraulic oil preheat				
re control		Controller				
	1.	Voltage stabilizer				
	2.	Beckhoff CBmold controller				
	3.	Multi-zone hot-runners control				

Back pressure control



Specifications (668 - 1650 tons)

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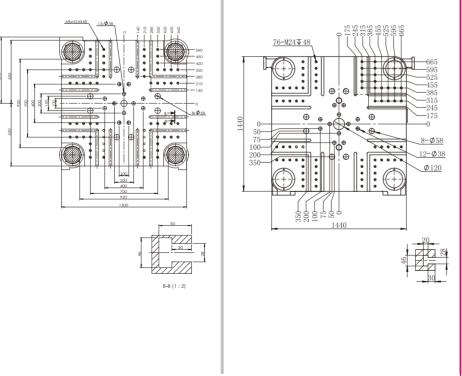
Specifications

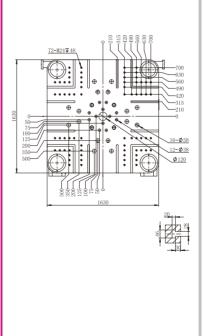
		JM668-MK6	JM800-MK6	JM1000-MK6	JM1200-MK6	JM1400-MK6	JM1650-MK6
INJECTION UNIT							
Screw Diameter	mm	83 90 98	90 98 110	98 110 120	110 120 130	120 130 140	130 140 150
Screw L/D Ratio	L/D	23.9 22.0 20.2	24 22 19.6	24.7 22 20.2	24 22 20.3	23.8 22 20.4	23.7 22 20.5
Screw Stroke	mm	425	500	550	600	650	700
Swept Volume	cm ³	2300 2704 3206	3179 3770 4749	4146 5224 6217	5699 6782 7960	7347 8623 10001	9286 10770 12364
Shot Weight(PS)	g	2093 2460 2917	2893 3430 4322	3773 4754 5658	5186 6172 7244	6686 7847 9101	8450 9801 11251
	0Z	73.8 86.8 102.9	102.1 121 152.5	133.1 167.7 199.6	182.9 217.7 255.5	235.9 276.8 321	298.1 345.7 396.9
Injection Pressure(Max.)	kgf/cm²	2163 1840 1552	2170 1840 1460	2320 1840 1550	2190 1840 1570	2110 1800 1550	2090 1800 1570
Injection Rate	cm ³ /s	540 635 753	607 720 907	700 885 1053	875 1045 1226	1035 1215 1409	1195 1390 1596
Screw Rotation Speed (Max.) rpm	170	130	110	110	100	95
Screw Nozzle Force (Max.)	t	12	16.7	16.7	16.7	16.7	16.7
Nozzle Stroke	mm	450	560	595	700	720	800
CLAMPING UNIT							
Clamping Force(Max.)	t	668	800	1000	1200	1400	1650
Opening Stroke	mm	920	1050	1230	1310	1500	1600
Space Between Tie Bar(H*V)	mm	920*920	1020*1020	1160*1160	1250*1250	1450*1350	1550*1430
Mlould Thickness(Min-Max)	mm	380-920	400-1000	450-1160	500-1250	650-1400	700-1500
Maximum Daylight	mm	1840	2050	2390	2560	2900	3100
Ejector Force	t	18.2	18.2	21.5	21.5	35.2	35.2
Ejector Stroke	mm	265	280	320	320	400	400
Mould Register Hole	mm	200	250	250	250	250	250
POWER/HEATING UNIT							
System Pressure	kgf/cm²	175	175	175	175	175	175
Motor Power	kW	96	116	138	174	206	214
Electrical Heating Power	kW	35.5	46.9	58.7	70.1	77.6	95.4
Temperature Control Zones		5+1	6+1	6+1	6+1	6+1	6+1
OTHERS							
Machine Dimensions(L*W*H) m*m*m	9.9*2.1*2.1	10.9*2.41*2.5	11.9*2.7*3.3	12.6*2.8*3.4	13.8*3.2*3.6	14.8*3.2*3.7
Oil Tank Capacity	liter	950	1050	1250	1600	1750	2000
Machine Weight(Approx)	t	23	34	44	55	77	97
MOULD PLATEN DIMENSIO	NS						

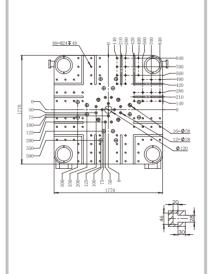
MOULD PLATEN DIMENSIONS

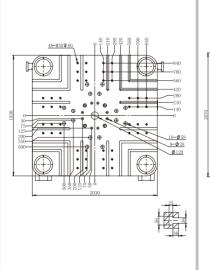
Mounting Holes

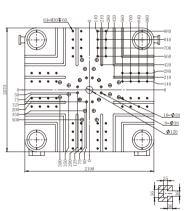
T slots with mounting holes (Optional)











^{*}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.