

MK6e

SERVO DRIVE
INJECTION MOULDING MACHINES

evolution

Precision

Stability

Pursuit of Perfection

202103

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① Superb energy-saving

Grade 1 in national energy efficiency scale

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

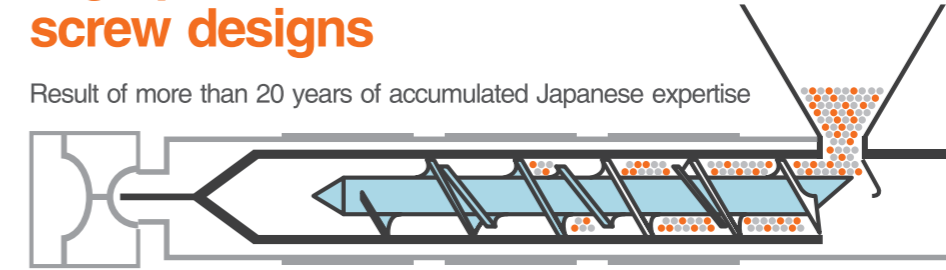


② Superior stability and reliability

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

③ High-performance and versatile screw designs

Result of more than 20 years of accumulated Japanese expertise



④ Silent operation

Average noise level 76.5dB(A) for JM200-MK6e

⑤ High speed, shorter cycle time

One of the fastest clamping, injection and ejection movements among competition



⑥ High precision

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

⑦ CPC-6.0 – The new standard in intelligent computer controller

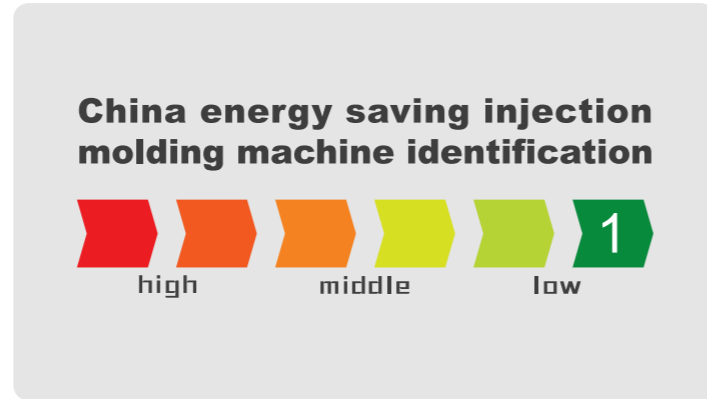


① Superb energy-saving

Highly-optimised hydraulics design leverages advanced servo-control system and leading-edge pump technology, resulting in reduced energy consumption



Servomotor and advanced gear pump

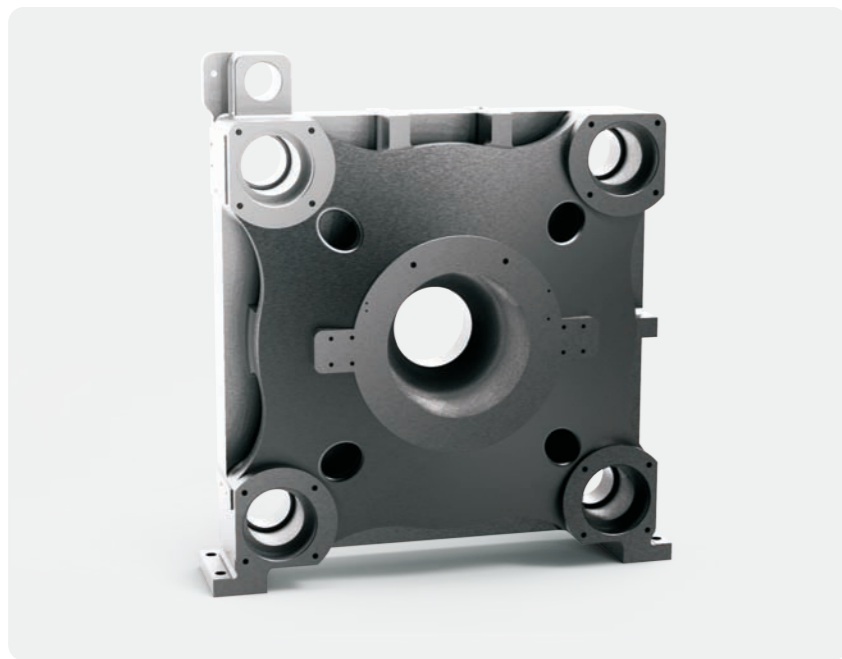


Grade 1 in national energy efficiency certification

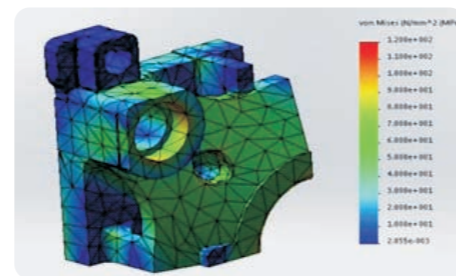


Optimised machine base structure - strong and stable

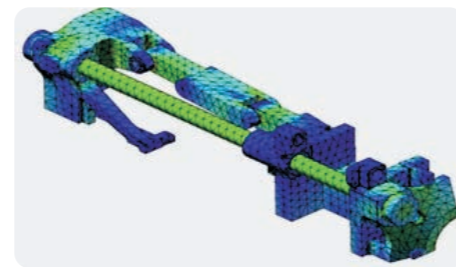
② Superior stability and reliability



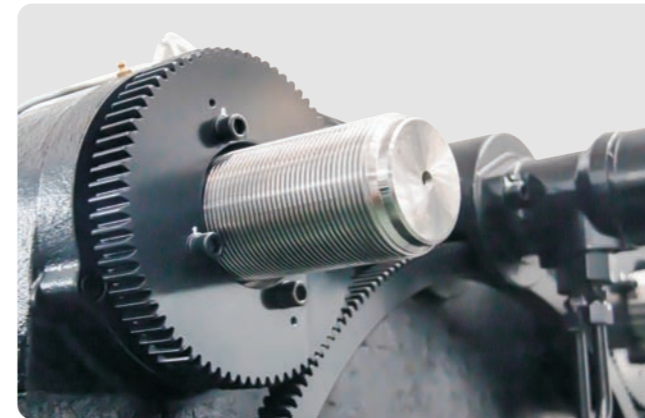
Patent number:ZL 2019 2 1456799.X
Unique patented circular platen design, high rigidity and lowest deformation



Circular platen design evenly distributes stress



Tie-bars made with high-grade high-tensile steel



High-precision gear-based mould adjustment mechanism ensures stability and part quality



Named-brand servo-drive system



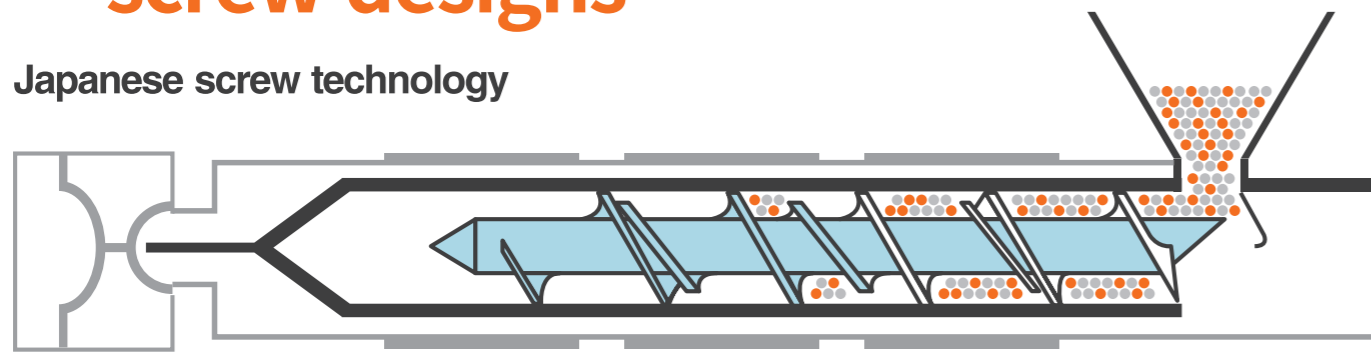
Optimised lubrication design



Named-brand hydraulic components

③ High-performance and versatile screw designs

Japanese screw technology



Variations based on process requirements

Standard nitrided screw



UPVC screw – chrome-plated, corrosion-resistance, high surface finish (optional)



PC screw – chrome-plated, 42CrMo alloy steel (optional)



Mixing screws for high mixing demands

Standard mixing screw (optional)



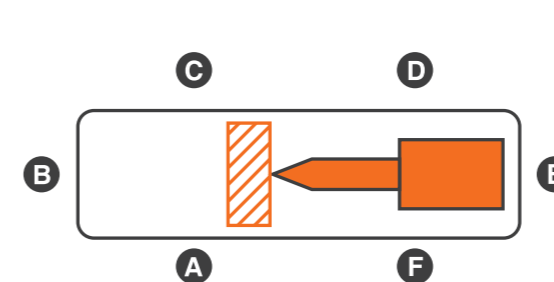
Strong mixing screw (optional)



*For reference only

④ Silent operation

Advanced servo-control system contributes to extremely low operating noise



Noise level of JM200-MK6e (Euromap)

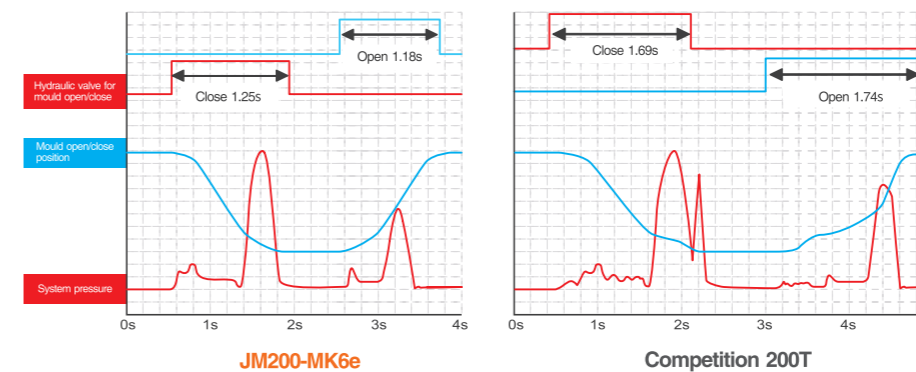
Test position	1	2	3	4	5	Average level
A	79	78.2	78.4	78.6	79	78.64
B	75.8	77.4	77.6	77.4	76.2	76.88
C	76.5	77.1	77.8	76.9	77.4	77.14
D	75.7	74.9	75	74.9	74.9	75.08
E	76.4	76.4	76.3	76	76.2	76.26
F	75.3	75.3	75	74.9	74.6	75.05
Ambient	53					Average level 76.5dB(A)

⑤ Higher speed, shorter cycle time

Anatomy of a single dry cycle compared

Model	Clamping	Opening	Total Time	Stroke
JM200-MK6e	1.25	1.18	2.43s	330mm
Competition 200T	1.69	1.74	3.43s	330mm

Test mould specifications
Weight: 400kg
Dimensions: 450mmx400mmx300mm (LxWxH)



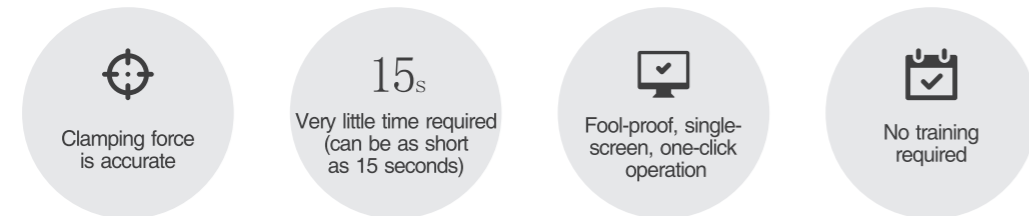
Cycle time: **29% shorter**
Speed: **40% faster (1.4x)**

Advantages of shorter cycle time

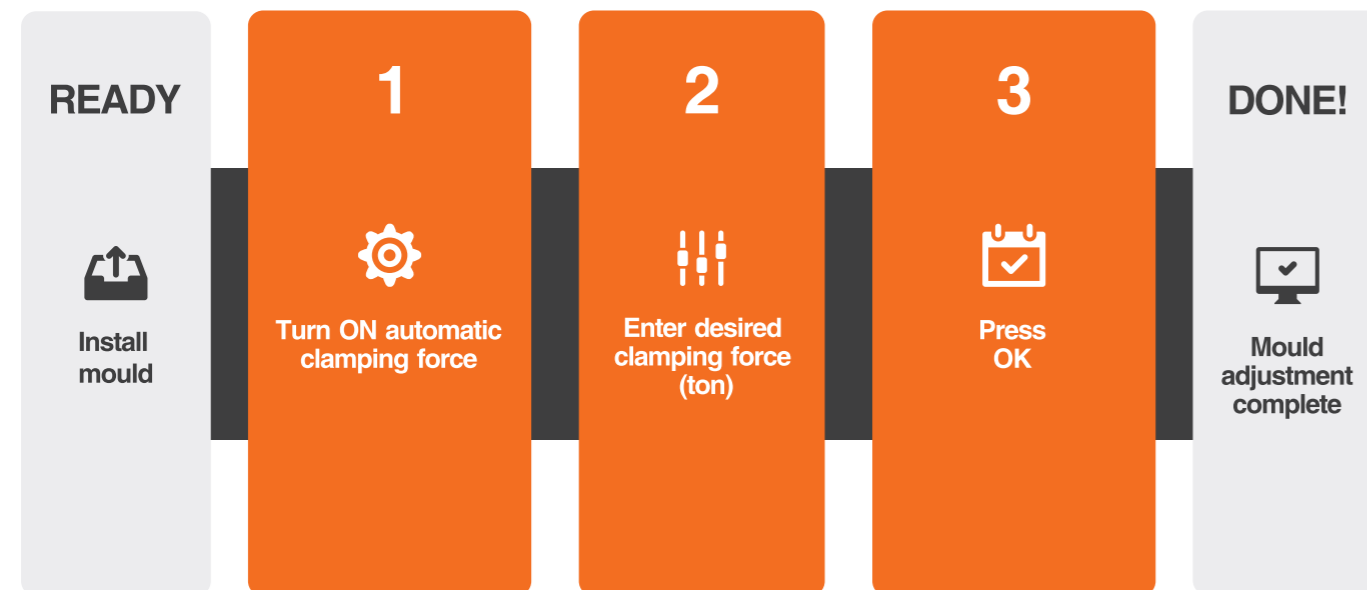
1. Increased production efficiency
2. Higher energy efficiency
3. Smoother and more stable motions

6 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 put on a new mould, enter 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.



Automatic adjustment to the required clamping force

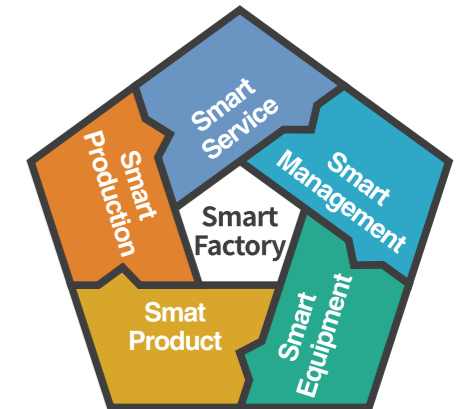


One screen, one button.

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














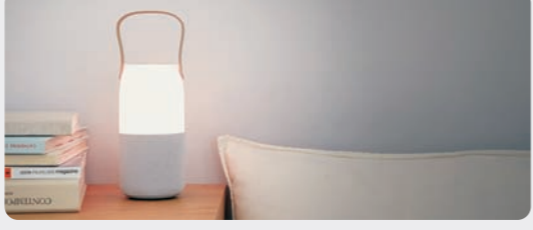



Industrie 4.0 meta-environment

Standard Features

- 1 Storage for 150 sets of mould data
- 2 Multi-stage authorization 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 plasticizing, 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, 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)
- 20 Data amendment can be saved to server via network



Wide applications window, ideal for a wide range of industries and parts!

 Automotive		
 Electronics		
 Medicals		
 Optics		
 Home Appliances		

Standard features

Clamping unit	
1	Automatic toggle lubrication
2	Adjustment-free mechanical safety lock
3	Automatic mould thickness and clamping force adjustment
4	High-tensile chrome-plated tie bars
5	Safety door with mechanical and electrical safety interlock protection
6	Differential boost for high-speed clamping
7	EUROMAP ejector
Injection unit	
1	Nitrided screw and barrel
2	Automatic PID temperature control
3	Screw RPM display
4	Back pressure control
5	Nozzle guard
6	Cold start prevention
7	Broken thermocouple detection alarm
8	Blocked nozzle and overflow detection
9	Barrel safety cover
10	Movable hopper
11	Lock-type tipset
Power pack	
1	Speed and pressure control via servo drive
2	Low noise internal gear pump
3	AC servomotor
4	High efficiency oil cooler
5	Suction and return line filter
Controller	
1	See operation manual

Optional features

Clamping unit	
1	Additional core pulls
2	Robot mounting plates
3	EUROMAP 67 robot interface with connectors
4	T-slots
5	EUROMAP/SPI holes pattern
6	Air blows
7	Oil-less bushings for toggles system
8	Ejection-on-fly / core-pull-on-fly
9	Increase ejector stroke
Injection unit	
1	Barrel thermal insulation cover
2	Reduced / enlarged injection unit
3	Cooling ring with temperature control
4	Bimetallic screw
5	Bimetallic barrel
6	Extended nozzle
7	Shut-off nozzle
8	Chrome plated nozzle
9	PVC and UPVC specialized injection units
10	Galvanized hopper
11	Ceramic heater bands
12	Mixing head
Hydraulics unit	
1	Oil temperature control, with or without alarm
2	Oil level alarm
3	Unscrews
4	Return line filter
5	External return line filter
6	External suction filter
7	Enlarge plasticizing motor
8	Enlarge oil cooler
9	Enlarge servo pump system
10	Hydraulic oil preheat
Controller	
1	Voltage stabilizer
2	Beckhoff CBmold/B&R controller
3	Multi-zone hot-runners control