

NINGBO HAITAI INDUSTRY AND TRADE CO., LTD.  
NINGBO HAITAI PLASTIC MACHINERY CO., LTD.

**Add:** Qiuai, HaiTai Industry Park Baizhang East Road, NingBo 315101, P.R.China  
**Tel:** 0086-574-89022653    **Fax:** 0086-574-89022802  
**WhatsApp & Mobile:** +86-13780005252  
**E-mail:** sales@haitai-machine.com  
**Skype /Wechat:** haitaimachinery

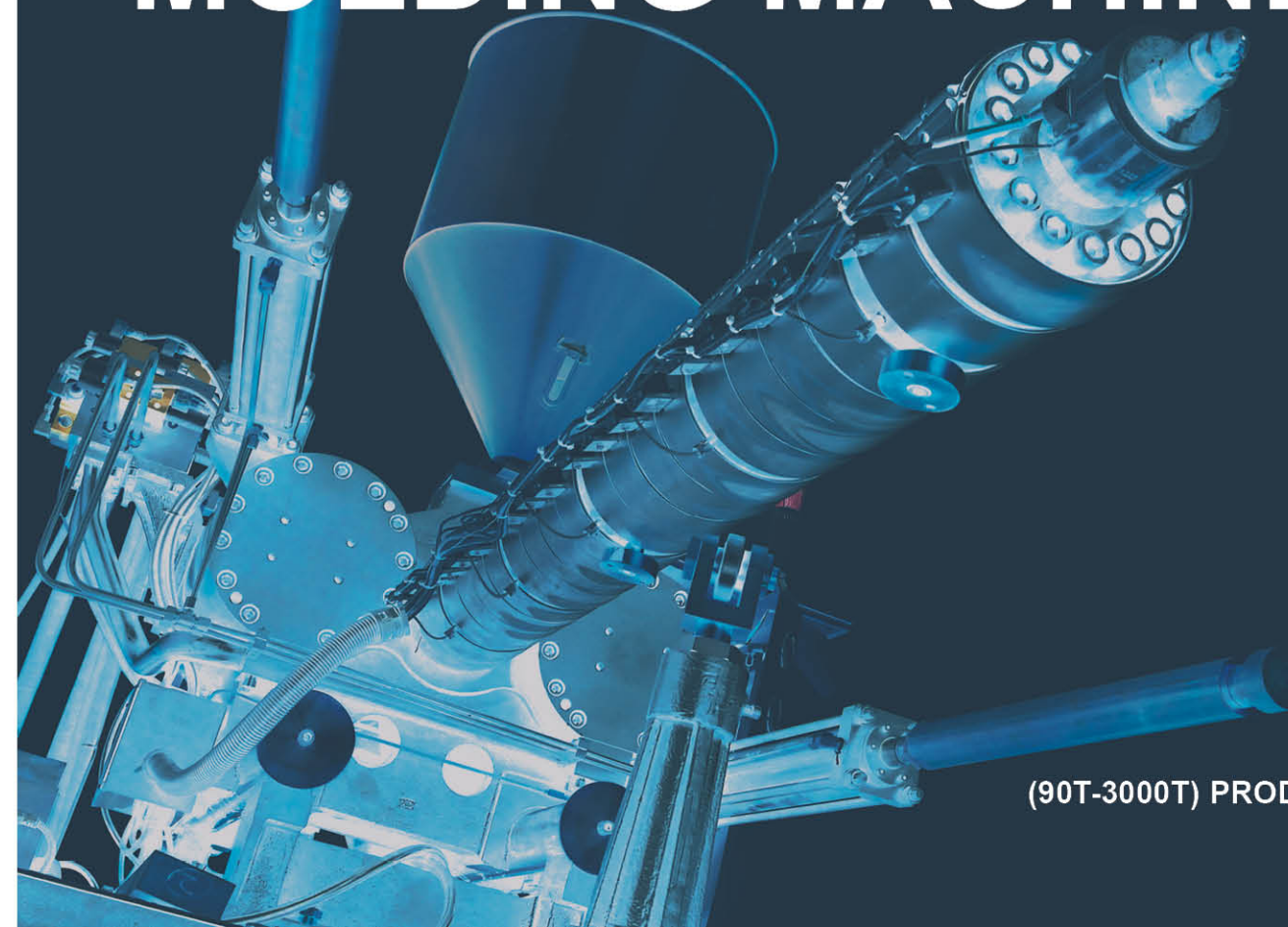
www.haitai-machine.com

Machine with CE certification is available, please point out in the contract for CE product



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# HAITAI INJECTION MOLDING MACHINE



(90T-3000T) PRODUCT INTRODUCTION [www.haitai-machine.com](http://www.haitai-machine.com)

**HAITAI**



## PLASTIC INJECTION MOLDING MACHINE

Brand-new design and excellent technique forges the best HAITAI Plastic injection molding machine of various types which meet your requirements and bring you more profits (90T-3000T) Product Introduction

# HAITAI

[www.haitai-machine.com](http://www.haitai-machine.com)



## HAITAI MACHINE

plastic injection molding machine

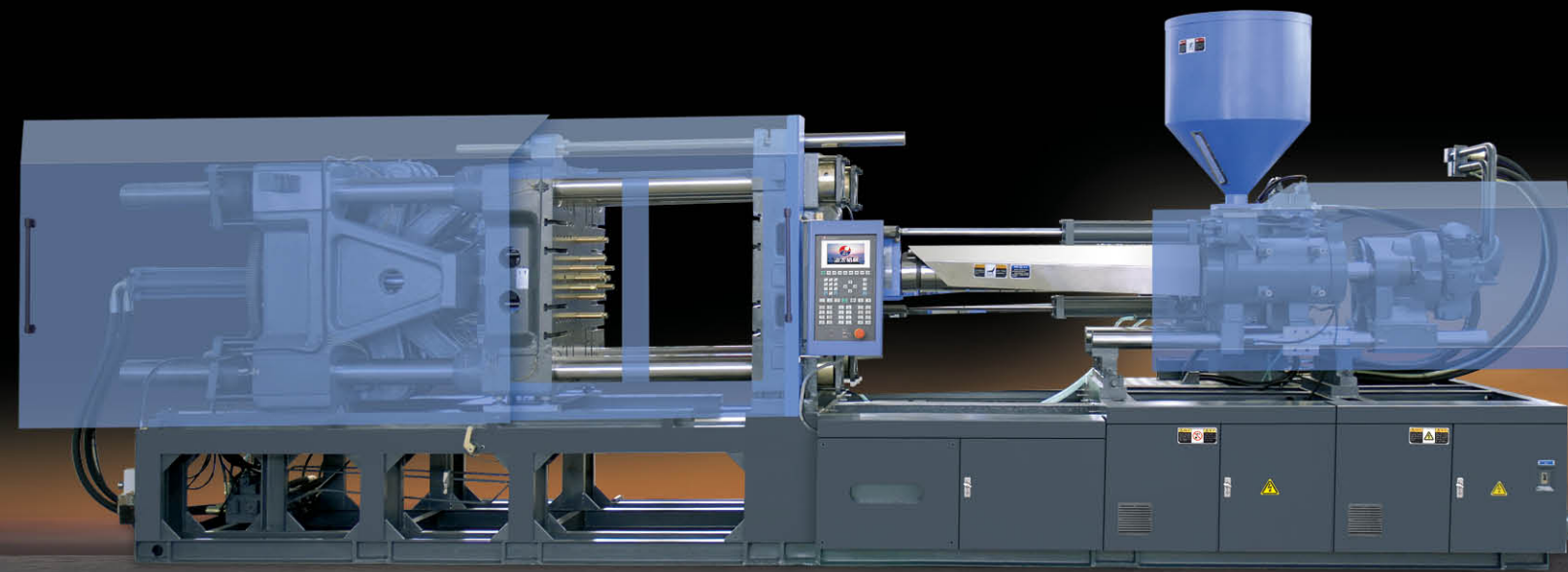
HaiTai Enterprise Haitai was founded in 1995. It is praised as the National Important & High Technology Enterprise, excellent technology enterprise for exportation in China, one of 100 key enterprises in Ningbo. It covers total area of 150,000 square meters. The headquarter is located in Haitai Industrial Park, Baizhang East road, Ningbo. Haitai Company owns large high-precision machining equipment and various types of CNC machining equipment as well as a full set of precision testing equipment and chemical facilities. Haitai had got the

certificate of the ISO9001-2000 international quality management system and it is the first to be certified by provincial measures authorization. Haitai have achieved ERP, PDM, CAM and other enterprise information engineering. Haitai stands stably among the top three enterprises year after year based on its comprehensive strength. in 2011, haitai had became a subsidiary of zhejiang time shine industry co., LTD due to asset restructuring. Haitai will be base on plastics machinery industry with brand-new image to create brighter future.



# HTW SERIES

## Plastic Injection Molding Machine



Super precision super long working life

- Optimization of high-speed toggle clamp unit and stress of low pressure for joint ensure super precision and super long life of machine.

Core / screw control

- Flexible core programming control, an independent hydraulic pump stations to provide power.

Extra large platen design greater space for installing platen.

- Large-capacity wide platen designed to meet the customer selection scope.

Working Environment

- Mobile waste oil clean tray, so that the waste oil clean platen area is very simple

Advanced Controller

- High-performance computers is used for the entire controller, big display, color display, full-featured

High-precision temperature control

- Self-adaptive barrel temperature accuracy and stability control

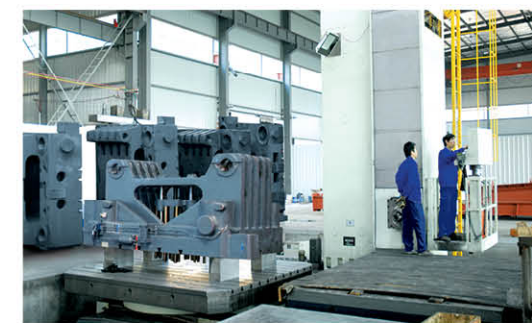
Oil System

- High-performance lubricating oil, decline the wear sharply, keep long-term positioning accuracy of the mold

Easily Transfer

- Multi-directional products removed, effective use of space, is suitable for installing various convey equipment

## RESEARCH & DEVELOPMENT MANUFACTURING

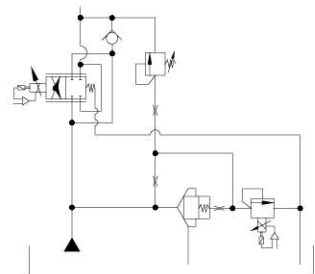
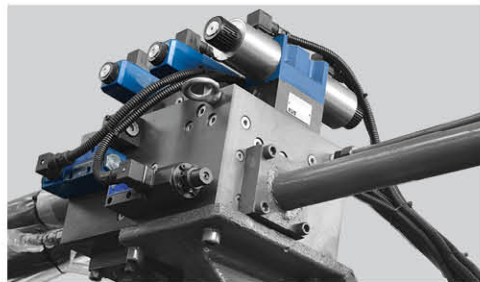


HAITAI possesses high qualified professional engineers who work in the design division and the R&D division.

We have been awarded research projects under the NATIONAL TORCH PLAN and obtained 26 technology patents.

## Production Equipment





injection molding machine hydraulic system closed-loop feedback control schematics

## HYDRAULIC SYSTEM

### Fast Response, Stable Output

- The manual plug valve hydraulic system make the machine having quick and smooth motion response
- Double proportional valve control pressure and flow
- Hydraulic oil cooling device
- High-performance imported hydraulic unit with optimizing allocation
- The fuel tank has a big opening hole so can be cleaned easily



## THE ELECTRONIC CONTROL SYSTEM

### Control System

All-digital control system uses dedicated controller, multiple CPU processing division, a multi-functional automatic fault detection, alarm system, certificates 99 mold of processing procedures, with remote control interface. System is of high stability and responsiveness. System uses color LCD, man made interface for easy operation and with a number of peripheral interfaces.

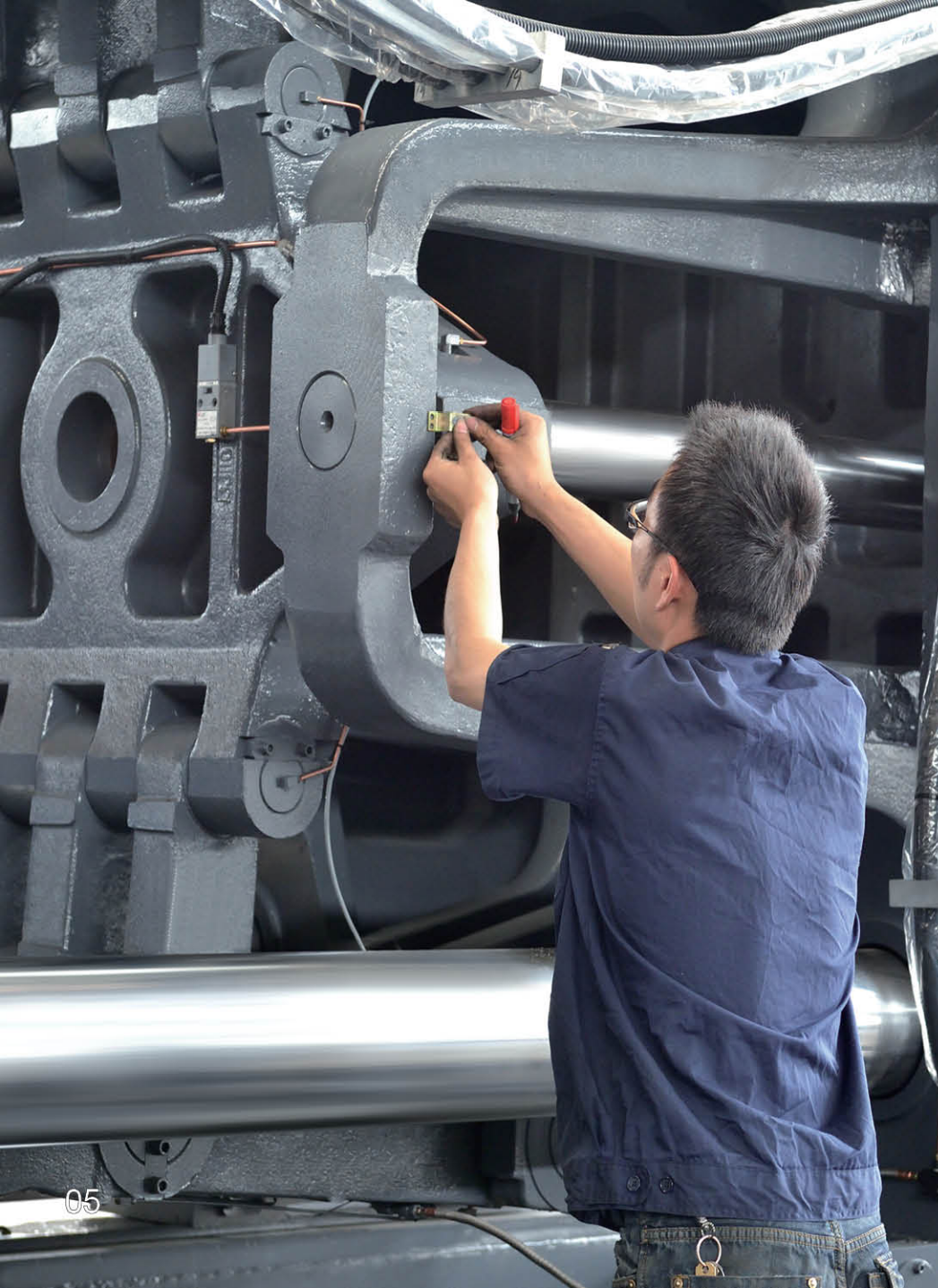
### Features

- A variety of text can be switched.
- Manual, semi-automatic and fully automatic mode.
- To provide EUROMAP robot interface.
- Automatic movement monitoring with alarm and fault diagnosis.
- Function of slope setting can set the start and stop of movements, so as ensure the smooth movement.

Using the world-renowned injection molding machine control valve precise control action, to make the system stable and reliable.







## CLAMPING SYSTEM

### Core/screw control

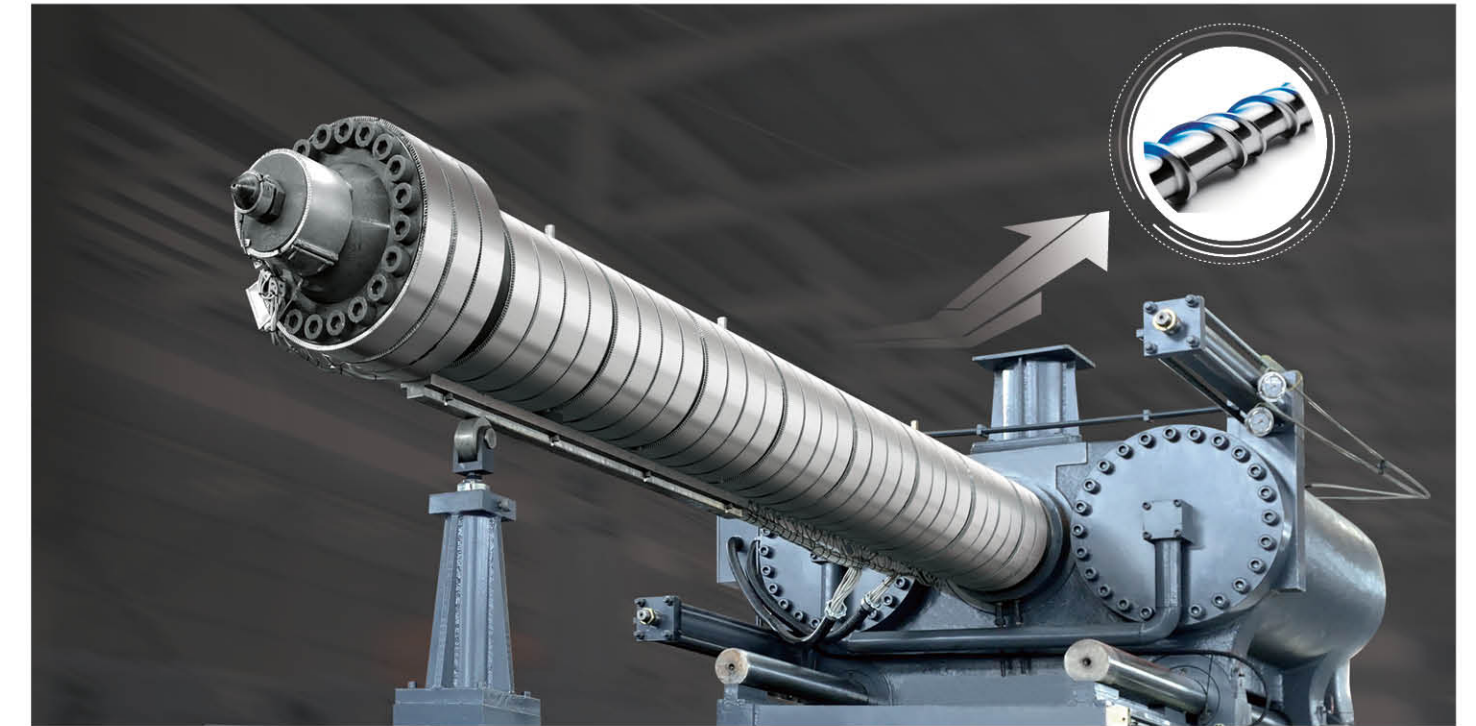
Flexible core programming control, an independent hydraulic pump station to provide power.

### Features

- Security doors fitted with hydraulic, mechanical and electrical interlocking triple safety device. When the safety door is open, the machine cannot clamp.
- Low pressure mold protection device to prevent damage to platen.
- Plywood, frame, the bridge, and the template attached structure, the finite element analysis.
- Hydraulic ejector, adjustable stroke, and top speed of ejector in and out, for multiple actions.
- Flexible tie bars nut eliminates fatigue fracture; assure the working life of tie bars
- Automatic adjustment. The replacement of different mold, the parameters set by clamping force to achieve the automatic adjustment.
- High-precision electronic detection device, multi-stage control of opening stroke, speed and location, location accuracy.



2005, diversified screw optimal design municipal science and technology research projects focus on key issues is completed, and is now designed professionally and production for a whole variety of raw material. the diversity of the screw is for your option.



## INJECTION SYSTEM

### Features

- A PID temperature control, precise temperature control of barrel.
- There are three or four screws and barrels with optimal design, respectively, nitride, hard plating, dual-metal, which is suitable for different processes of a variety of plastics. and the choice of product.
- Two-guided guided bar supports, double-balanced rapid injection.
- The high-torque hydraulic motors offer a stable plasticizing capacity, high-precision electronic device position detection enable

- accurate measurement.
- Multi-injection speed and pressure and multi-level holding pressure settings, switch from the injection time, location, pressure control to ensure the quality of molding.
- Multi-level back-pressure of pre-plastic and pre-speed are computer-controlled, anti-drooling and automated auto purge.
- Expected to prevent cold-start function to ensure that the screw, Barrel will not be harmed. Stability of the injection unit.



# HTW/JD SERIES

## Servo Energy-Saving Injection Molding Machine



### Characteristics of servo energy-saving injection molding machine:

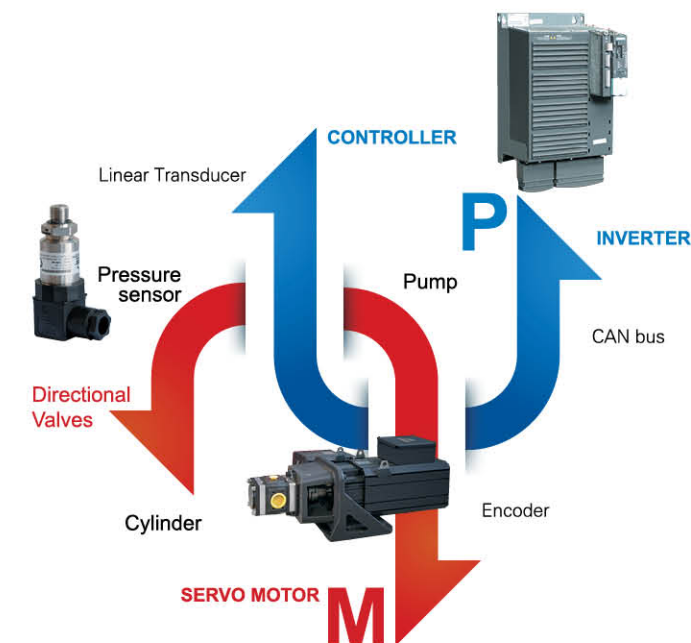
Equipped with high performance servo motor controlling system, the machine's output power can vary in accordance with the loading changes, which reduce energy consumption and noise. The motor rotates at lower speed in holding pressure stage, and doesn't work in cooling time.

### The performance of servo energy-saving molding machine:

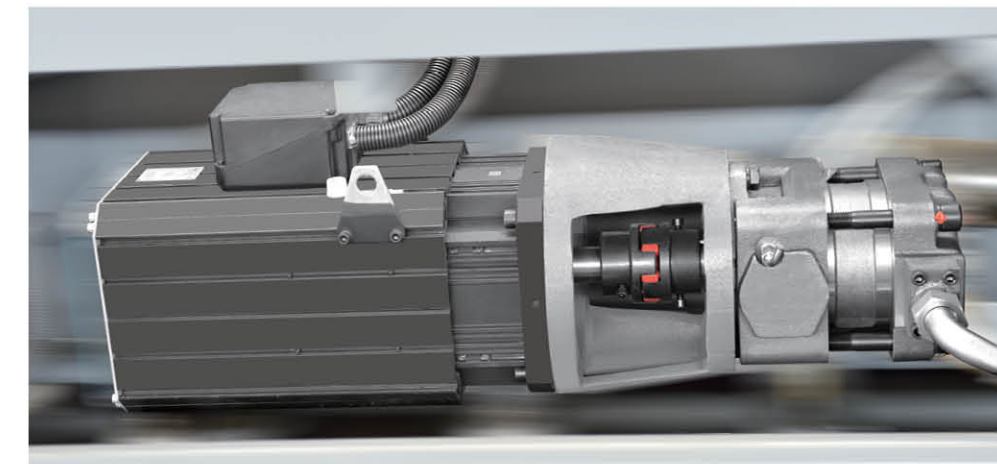
- It can improve injection precision.
- Servo motor can optimize the match of energy demand and realize automatic adjustments.
- It can greatly save power and water, resulting in environment protection and energy-saving.
- Quick response and low noise.

## HTW/JD SERVO ENERGY-SAVING INJECTION MOLDING MACHINE

HTW/JD servo energy-saving injection molding machine is equipped with high performance servo motor controlling system, the machine's output power can vary in accordance with the loading changes, which reduce energy consumption and noise. The motor rotates at lower speed in holding pressure stage, and doesn't work in cooling time.

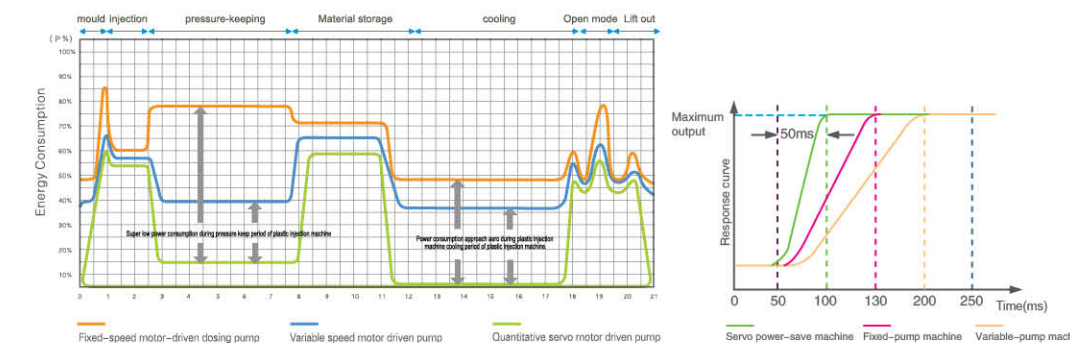


### A Revolution Of Controlling Hydraulic System



### Feature

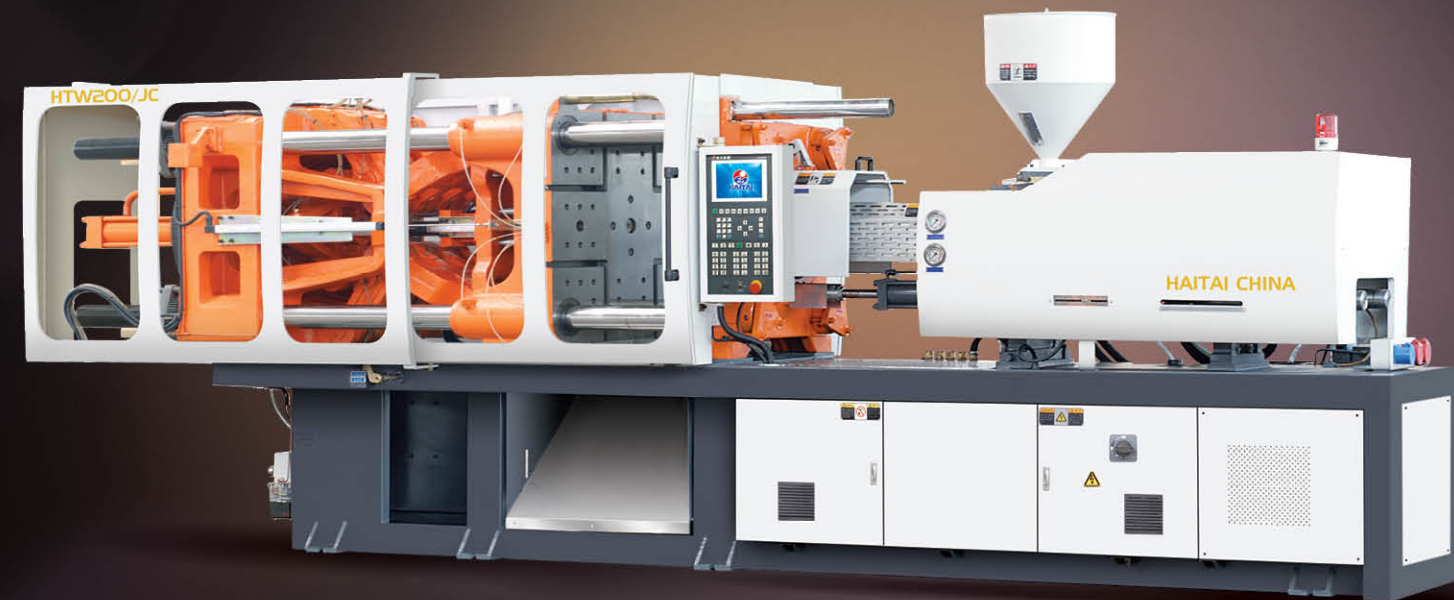
Servo energy-saving injection molding machines: there is no extra energy consumption due to output volume changes according to load alteration. In the phase of holding pressure, servo motor lowers rotate speed and consumes a little of energies. In the phase of cooling, motor doesn't work and consumes no energy. According to different products, servo energy-saving injection molding machines will save 20%-80% energy and bring you prominent economic benefit.





# HTW/JC SERIES

## Injection Molding Machine



### Characteristics of closed loop variable pump machine:

The HTW/JC injection molding machines employ a variable pump plus closed loop feedback, which offers stable control of shot size, the accuracy of resin quantity and the increase of the production of acceptable products.

### The performance of closed loop variable pump machine:

- Energy saving
- Significant reduction in oil temperature
- High speed system response with short moulding cycles
- Prolongs working life of the hydraulic oil and hydraulic components, thereby reducing frequency of maintenance and maintenance costs
- The extra oil filtration requirements are met by special imported filter components

# HTW/S SERIES

## MULTI-COLOR Plastic Injection Molding Machine



- Auxiliary injection unit is installed at the top of fixed platen, with 90 degrees to main injection unit for purpose of saving space.
- Auxiliary injection unit is modularizing designed, can match with variety of clamping forces and main injection unit.
- Tray is controlled by servo valve, so it can achieve fast rotating and breaking steadily without shock.

- Tray is equipped with two cores and mold water cooling interface, and core reaching signal and mold safety signal interface, to protect oil circuit and electric wire from intertwining and attrition.
- In order to keep the accuracy of tray position and protect mold, tray is equipped with electric wire from intertwining attrition, tray is equipped with imported high

- performance and long life time bearing to ensure the mode is safe.
- The function of tray and auxiliary injection can be chosen to be used or not, if not, machine shall produce single color product, same as the standard machine.
- Multiple core functions can satisfy complex manufacturing technique requirements.



# HTW/PET SERIES

## Injection Molding Machine



### Main advantages of HTW/PET injection moulding machine:

- Specially designed machine for the efficient production of PET bottle preforms
- A specially designed screw geometry virtually eliminates the production of harmful acid acetaldehydes
- Excellent plasticising rate, good colour dispersion and moulding stability

# HTW/F SERIES

## Injection Molding Machine

HTW/F series injection molding machines adopt optimized hydraulic system and high output volume of pump and motor. The injection rate can be increased greatly.



### Main advantages of HTW/F high speed injection molding machine:

- Optimised hydraulic system produces very high injection rates and high injection pressures - up to 290 MPA
- Special screw geometry greatly increases plasticising rate
- Boosted plasticising rates, mould opening and closing speeds, ejection speeds etc
- Clamping unit with improved rigidity meets the requirements of high injection speeds and pressures, and extends the service life of the mould
- Hydraulic accumulator is available as optional extra, with injection rate over 400mm per second



# HTW/JB SERIES

## Injection Molding Machine

The HTW/JB series injection molding machines use a fast response variable pump that has a very high efficiency and low noise. The variable pump continuously adjusts the output pressure and volume of the pump to match the values called for on the screen for the various parts of the moulding process. This system contrasts with fixed delivery pumps employing valves to control the required pressure and volume, and dumping excess oil to tank. This can result in energy savings of 20%-40% compared with normal machines.



### Main advantages of HTW/JB variable pump injection molding machine:

- Energy saving
- Fast system response and short cycle times
- Greatly decreases oil temperature of the system
- Smoother mould opening and locking, prolonging the life of the machine and the mould
- Prolongs working life of the hydraulic oil and hydraulic components, thereby reducing frequency of maintenance and maintenance costs
- The extra oil filtration requirements are met by special imported filter components

# HTW/UPVC SERIES

## Injection Molding Machine



### Main Advantages Of Htw/Upvc Injection Moulding Machine:

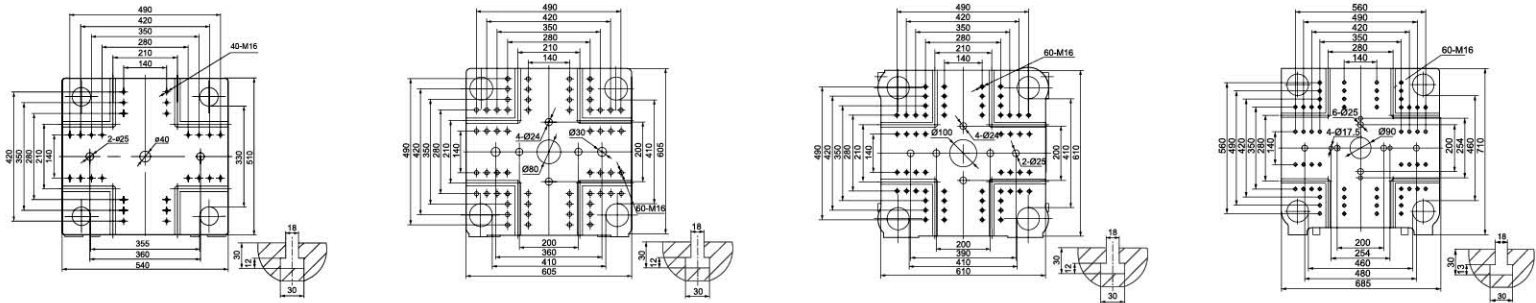
- Air cooling fans on barrel, for fast reaction time and precise temperature control
- New special screw geometry optimised for UPVC, achieving stabilised plasticising and excellent production
- Wider moving safety doors at back and front, to accommodate bulky core pulling cylinders
- Machine equipped with core pulling controls
- Automatic oil lubrication pump
- Equipped with automatic mould height adjustment system



Technical parameters

Item / Specification		HTW90			HTW110			HTW140			HTW160		
		A	B	C	A	B	C	A	B	C	A	B	C
INJECTION UNIT													
Screw diameter	mm	30	32	35	32	35	38	38	42	45	42	45	50
Screw L/D ratio	L/D	23.5	22	20.1	24.1	22	20.2	22.1	20	18.6	23.6	22	19.8
Shot volume(theoretical)	cm³	117	133	158	137	163	192	193	235	270	305	350	432
Injection weight(ps)	g	106	121	144	125	148	175	176	213	246	277	319	393
Injection rate	g/s	71	81	97	74	89	105	94	115	132	138	160	196
Injection pressure	MPa	230	203	170	260	219	186	205	170	147	203	177	143
Screw speed	rpm	225			210			190			180		
CLAMPING UNIT													
Clamping force	KN	900			1100			1400			1600		
Open stroke	mm	320			350			380			435		
Space between tie bars(WxH)	mm	355x330			410x410			410x410			460x460		
Max.Mold height	mm	350			380			450			520		
Min.Mold height	mm	150			150			160			180		
Ejector stroke	mm	90			100			120			135		
Ejector force	KN	30			38			50			45		
OTHERS													
Max.Pump pressure	MPa	16			16			16			16		
Pump motor power	KW	11			13			13			18.5		
Heating power	KW	7.55			8.2			7.9			12.5		
Machine dimension(LxWxH)	m	3.81x1.19x1.77			4.15x1.12x1.90			4.48x1.11x1.90			4.86x1.30x2.10		
Oil tank cubage	L	180			230			270			300		
Machine weight	t	2.8			3.4			4			6		

Platen Dimensions

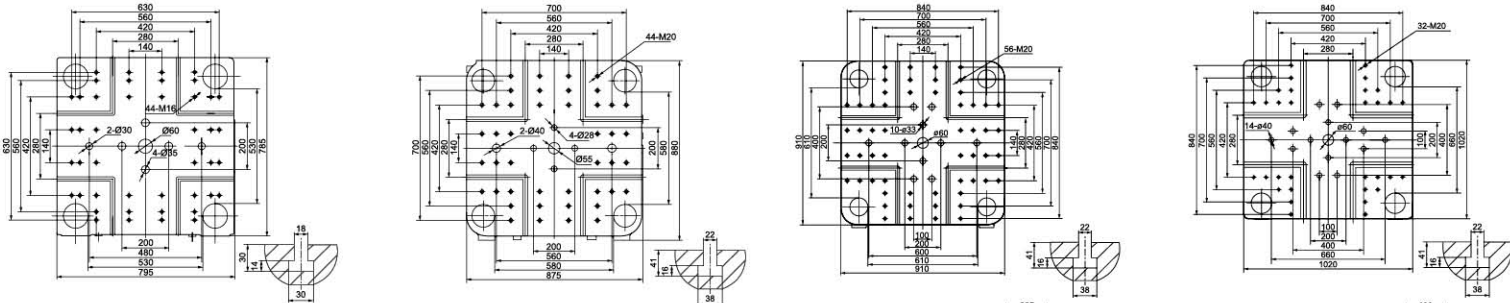


Mould Space Dimensions

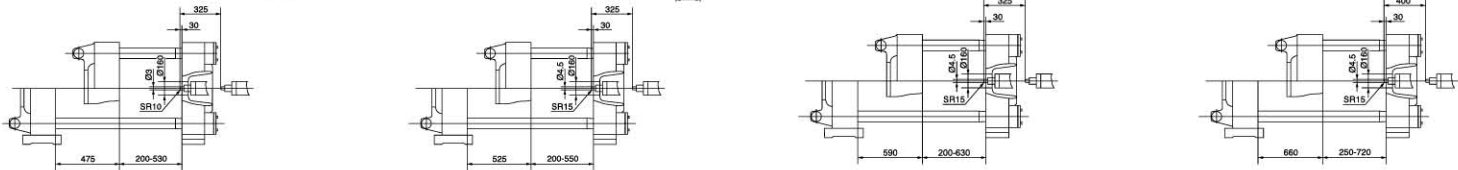


Item Specification		HTW200			HTW250			HTW280			HTW320		
		A	B	C	A	B	C	A	B	C	A	B	C
INJECTION UNIT													
Screw diameter	mm	45	50	55	50	55	60	55	60	65	67	70	75
Screw L/D ratio	L/D	23.3	21	19.1	23	21	19.2	22.9	21	19.4	22.5	21.5	20
Shot volume(theoretical)	cm³	340	420	510	455	550	655	676	805	945	1181	1289	1480
Injection weight(ps)	g	310	383	466	416	503	600	615	732	859	1076	1175	1349
Injection rate	g/s	124	154	186	187	227	270	223.5	266	312.2	337	368	422
Injection pressure	MPa	207	168	139	205	169	142	202.3	170	144.9	186	170	148
Screw speed	rpm	155			180			220			190		
CLAMPING UNIT													
Clamping force	KN	2000			2500			2800			3200		
Open stroke	mm	475			540			590			660		
Space between tie bars(WxH)	mm	530x530			580x580			610x610			660x660		
Max.Mold height	mm	530			550			630			720		
Min.Mold height	mm	200			200			200			250		
Ejector stroke	mm	140			145			150			160		
Ejector force	KN	70			70			70			70		
OTHERS													
Max.Pump pressure	MPa	16			16			16			16		
Pump motor power	KW	18.5			22			30			37		
Heating power	KW	13.6			15			18.3			24.7		
Machine dimension(LxWxH)	m	5.22x1.57x2.21			5.82x1.55x2.23			5.98x1.66x2.37			7.21x1.90x2.34		
Oil tank cubage	L	300			380			385			620		
Machine weight	t	7			8			9			12.5		

Platen Dimensions



Mould Space Dimensions

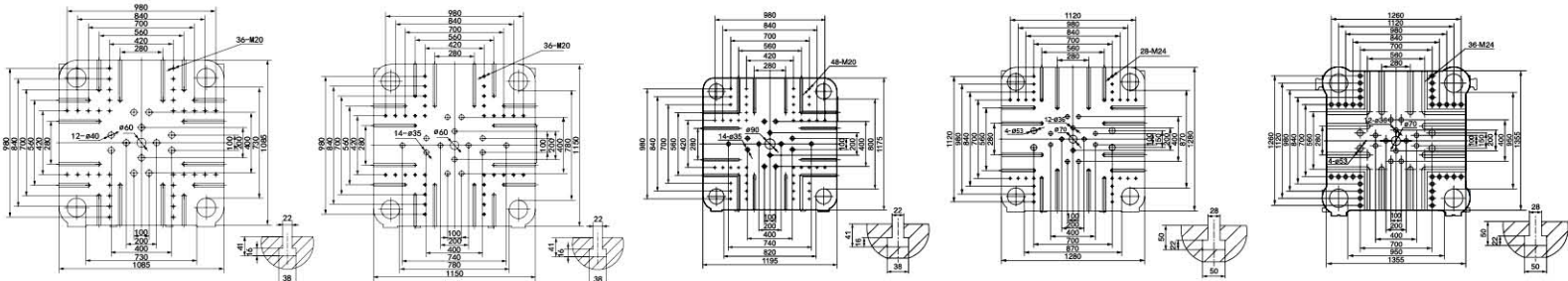




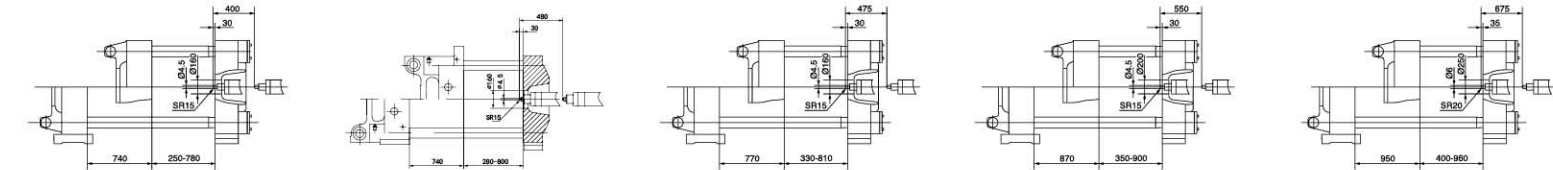
Technical parameters

Item / Specification		HTW400			HTW460			HTW500			HTW600			HTW730				
		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	D	
INJECTION UNIT																		
Screw diameter	mm	70	75	80	75	80	85	75	80	85	90	95	100	90	95	105	110	
Screw L/D ratio	L/D	23.6	22	20.6	22.7	21	20	22.7	21	20	23.2	22	20.9	23.2	22	19.9	19	
Shot volume(theoretical)	cm³	1500	1723	1960	1767	2010	2270	1900	2161	2440	2863	3190	3534	3181	3544	4330	4752	
Injection weight(ps)	g	1365	1567	1784	1608	1830	2066	1729	1967	2220	2605	2903	3216	2895	3225	3940	4324	
Injection rate	g/s	335	384	437	382	442	499	386	442	499	552	612	679	574	640	781	858	
Injection pressure	MPa	199	173	152	191	168	148	191	168	148	184	165	149	195	175	143	130	
Screw speed	rpm	150			160			130			150			115				
CLAMPING UNIT																		
Clamping force	KN	4000			4600			5000			6000			7300				
Open stroke	mm	705			740			770			870			950				
Space between tie bars(WxH)	mm	730x730			780x780			820x800			870x870			950x950				
Max.Mold height	mm	780			800			810			900			960				
Min.Mold height	mm	250			280			330			350			400				
Ejector stroke	mm	180			200			240			250			280				
Ejector force	KN	110			110			150			150			210				
OTHERS																		
Max.Pump pressure	MPa	16			16			16			16			16				
Pump motor power	KW	45			55			55			30+37			37+37				
Heating power	KW	29.3			31.4			31.4			42.95			56.7				
Machine dimension(LxWxH)	m	7.61x1.86x2.41			8.20x2.00x2.80			8.4x1.92x2.76			10.2x2.24x2.71			11.43x2.40x3.14				
Oil tank cubage	L	700			750			900			1100			1200				
Machine weight	t	16			18			18.5			28			37				

Platen Dimensions

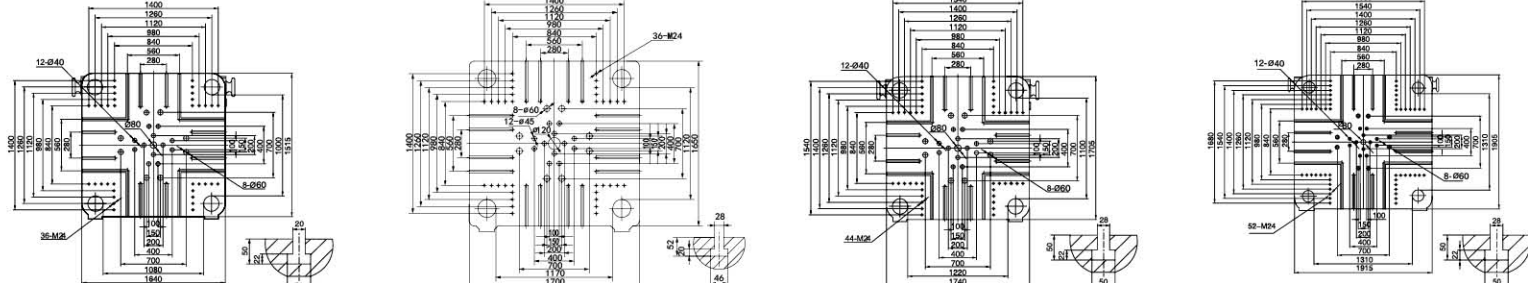


Mould Space Dimensions



Item / Specification		HTW1000				HTW1100				HTW1200				HTW1400			
		A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
INJECTION UNIT																	
Screw diameter	mm	90	100	110	115	100	110	120	125	110	115	120	125	110	120	130	140
Screw L/D ratio	L/D	25.5	23	20.9	20	25.2	23	21	20	23	22	21	20.2	25.7	24	22	20
Shot volume(theoretical)	cm³	3244	4006	4847	5297	4163	5037	5994	6504	5270	5760	6272	6805	6271	7463	8759	10158
Injection weight(ps)	g	2952	3645	4410	4821	3788	4583	5455	5919	4796	5242	5707	6193	5706	6791	7970	9243
Injection rate	g/s	580	717	867	948	793	867	944	1024	793	867	944	1024	815	970	1138	1320
Injection pressure	MPa	216	176	146	133	207	171	144	132	186	170	156	144	208	175	150	129
Screw speed	rpm	100				100				90				90			
CLAMPING UNIT																	
Clamping force	KN	11000				11000				12000				14000			
Open stroke	mm	1000				1200				1180				1350			
Space between tie bars(WxH)	mm	1080x1000				1160x1100				1220x1100				1310x1310			
Max.Mold height	mm	1100				1200				1200				1400			
Min.Mold height	mm	400				450				450				600			
Ejector stroke	mm	325				325				325				360			
Ejector force	KN	345				245				245				260			
OTHERS																	
Max.Pump pressure	MPa	16				16				16				16			
Pump motor power	KW	37+45				45+45				45+55				55+55			
Heating power	KW	59				68.4				66.1				86			
Machine dimension(LxWxH)	m	12.1x2.64x3.00				12.30x2.60x3.00				12.54x2.66x3.27				15.2x3.00x4.13			
Oil tank cubage	L	1700				1750				2100				2900			
Machine weight	t	53				58				60				90			

Platen Dimensions



Mould Space Dimensions

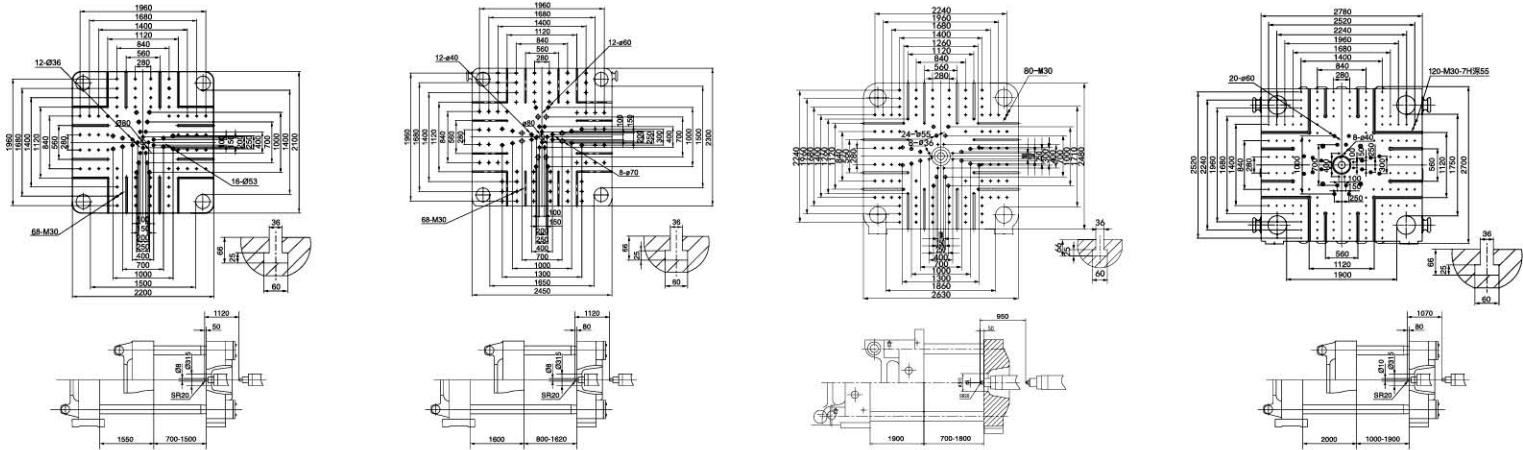




Technical parameters

Item \ Specification		HTW1660				HTW2000				HTW2500			HTW3000		
		A	B	C	D	A	B	C	D	A	B	C	A	B	C
INJECTION UNIT															
Screw diameter	mm	120	130	140	150	130	140	150	160	180	200	210	180	210	220
Screw L/D ratio	L/D	25.4	23.4	21.7	18.9	25.9	24	22.4	20.9	24	24	24	24	24	22.9
Shot volume(theoretical)	cm³	7368	8759	10159	11662	9460	11238	12900	14678	28501	35186	4003	29390	40003	43904
Injection weight(ps)	g	6704	7970	9244	10612	8608	10226	11739	13356	25935	32019	36402	26745	36402	39953
Injection rate	g/s	1056	1240	1438	1650	1172	1360	1560	1776	1523	1880	2000	1468	2000	2200
Injection pressure	MPa	195	165	145	126	190	163	142	125	193	156	142	210	155	141
Screw speed	rpm	85				70				53			50		
CLAMPING UNIT															
Clamping force	KN	16600				20000				25000			30000		
Open stroke	mm	1550				1600				1900			2000		
Space between tie bars(WxH)	mm	1500x1400				1650x1500				1850x1700			1900x1750		
Max.Mold height	mm	1500				1620				1800			1900		
Min.Mold height	mm	700				800				700			1000		
Ejector stroke	mm	420				420				450			450		
Ejector force	KN	420				490				490			565		
OTHERS															
Max.Pump pressure	MPa	17.5				16.5				16			16		
Pump motor power	KW	45+45+45				45+55+55				45+45+55+55			55+55+55+55		
Heating power	KW	94.9				110.7				170.9			177		
Machine dimension(LxWxH)	m	16.35x3.15x4.17				17.80x3.35x4.28				18.50x4.10x3.65			22.00x5.50x5.00		
Oil tank cubage	L	3000				3700				3100			4500		
Machine weight	t	125				156				180			220		

Platen Dimensions



Mould Space Dimensions



STANDARD & OPTIONAL FEATURES

haitai machine plastic injection molding machine

Clamp unit

- 5 x point double toggle system
- Special pre-tensioned tie bars for reliable endurance
- Mechanical & electrical safety devices
- Special hydraulic safety devices (for machine above 500 tons)
- Low pressure mould protection device
- Multi stage mold open/close pressure & speed control
- Multi stage & function hydraulic ejection control
- Fast mold closing device
- Mechanical open-stop device
- Adjustable slide riding on hardened steel tracks to support the moving platen
- Robust casting construction with strengthened tie bar guides, for rigid support and platen alignment
- Automatic mould height adjustment function for clamp tonnage set up
- Fixed platen-set forward of machine frame, to allow oversize moulds to overhang the platen
- Hollow spherical casting designed with finite element analysis (for maximum rigidity)
- Toggle lubrication-automatic lube system with function monitor (oil pressure sensor and oil level sensor)
- Frame with catch tray and guide channels (to collect surplus oil and keep machine frame clean)
- Automatic toggle greasing system by central lubrication device
- Hardened steel pins and bushes

Injection Unit

- Multi-step pressure, speed and time control for plasticizing
- Injection cushion position monitoring function
- Plasticizing cold start prevention function
- Hopper slide
- Purge guard with limit switch interlock
- Injection unit anti-slip aluminum cover
- PID barrel temperature control device
- Suck back function
- Screw plasticizing back pressure control function
- Cooling water manifold
- Multi stage injection hold pressure control
- Multi stage injection pressure control
- Nozzle centering alignment device

Hydraulics

- Multi-step pressure, speed and time control for plasticizing
- Injection cushion position monitoring function
- Plasticizing cold start prevention function
- Hopper slide
- Purge guard with limit switch interlock
- Injection unit anti-slip aluminum cover
- PID barrel temperature control device
- Suck back function
- Screw plasticizing back pressure control function
- Cooling water manifold
- Multi stage injection hold pressure control
- Multi stage injection pressure control
- Nozzle centering alignment device

Optional Extras

- Wide selection of special screw for special customer applications Eg: Bimetalic screw and chamber for special materials
- Fully cover enclose injection unit (up to 160 tons) for operator safety
- Back pressure control
- Oil level alarm
- Multi zone water flow control
- Automatic water valve
- Powered safety gate
- Shut-off nozzles
- Robot interface
- By-pass filter
- Extra core puller valves
- Hydraulic mould un-screw control
- Color doser signal
- Auxiliary machine (hopper dryer, auto loader, color doser, dehumidifier, mold temperature controller, hopper magnet,granulator, mixer, chiller, cooling tower)

Controls

- With 7,8 or 10 inch LCD colour screen
- Mold data storage function
- Swivel mounted control panel
- Control cabinet with cooling fans
- Cabinet door fitted with combination door lock+main isolator switch
- Elevated warning lamp
- PID barrel+nozzle temperature control