

THINK TECH FORWARD

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YIZUMI

PH

160T-500T

PH SERIES HIGH-SPEED
INJECTION MOLDING MACHINE



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[1] YIZUMI reserves the right to modify the product description in the catalogue. Specification might be changed without prior notice.
[2] The picture in the catalogue is for reference only. The real object should be considered as final.
[3] The data in the catalogue is obtained from internal testing in YIZUMI laboratory.
Please refer to the actual machine for the final data. YIZUMI reserves the right of final interpretation upon disputes and ambiguities.



THINK TECH FORWARD

PH Series

High-Speed Injection Molding Machine



High-Rigidity Structure



Direct Drive Electric Plasticizing

Optional Max.
Injection Speed
1000mm/s

Ultra High Speed Injection



Faster Dry Cycle



Intelligent Driving



Intelligent Motion Control



Intelligent Mold Protection



Maintenance Remind

Model	Clamping force (kN)	Injection speed (mm/s)
P160H	1600	600/650
P210H	2100	600
P280H	2800	500/600
P350H	3500	500/600
P420H	4200	500/600
P500H	5000	320/500

Overview

High-Rigidity Clamping Unit

Robust and durable design minimizes platen deformation, ensuring long-lasting performance even under high-speed, high-pressure, and heavy-duty operating conditions.

TBF (Tie Bar Free) Technology

Non-contact movement between the movable platen and tie bars eliminates friction, reducing energy consumption and improving energy efficiency. No lubrication is required, minimizing wear and maintenance costs. The mold area remains clean and oil-free, preventing product contamination.

Single-Cylinder Injection Unit

Single-cylinder injection unit design with low inertia enables fast acceleration, high injection repeatability, and optional max. injection speeds of up to 1000 mm/s.

Nitrogen Servo Injection

Fast acceleration response and high injection repeatability.



High-Load Machine Frame

High load capacity and strong bending resistance ensure minimal deformation, low vibration, and long service life.

Linear Guides for Movable Platen

Low friction resistance enables smooth movement and high operating precision, ensuring platen parallelism to meet the requirements of precision molds.

Horizontal Dual-Cylinder Carriage Design

The design effectively significantly reduces the turning torque of the injection unit and ensures a stable and reliable injection.

Direct Drive Electric Plasticizing

The technology delivers energy-efficient and environmentally friendly operation, reducing energy consumption by 30%–50% compared with hydraulic plasticizing.

Efficient for Productivity

Efficiency improvement

20% faster dry cycle for shorter overall production cycle.

Linear guide for mold opening/closing

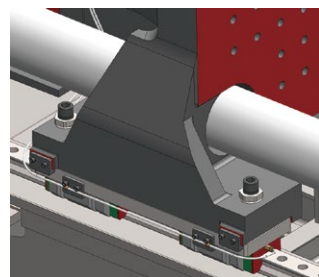
Fast and stable mold opening/closing with end position repeatability of $\pm 0.07\text{mm}$.

Nitrogen servo injection

Acceleration response time **<30ms**.

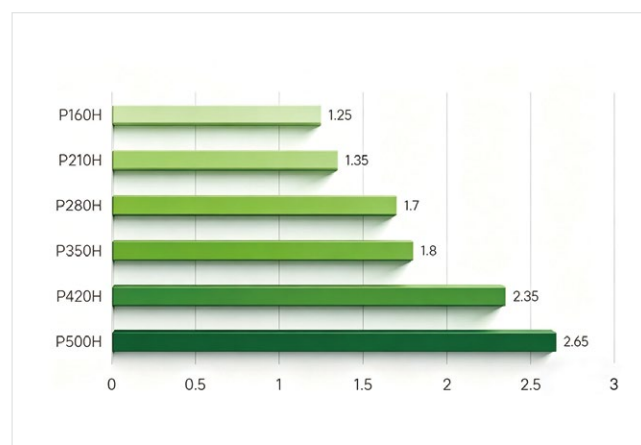


Nitrogen servo injection

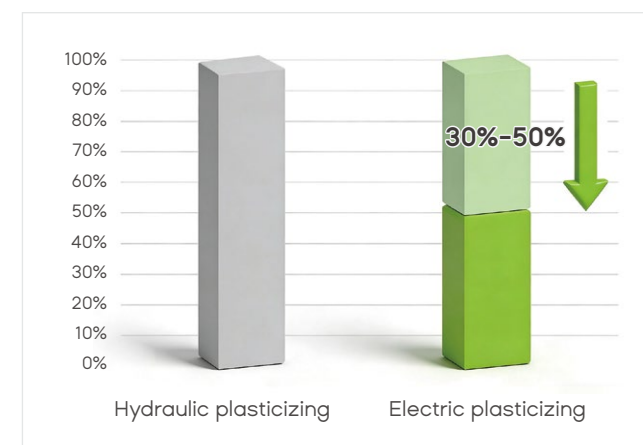


Linear guide for mold opening/closing

Dry cycle time (Euromap 6)

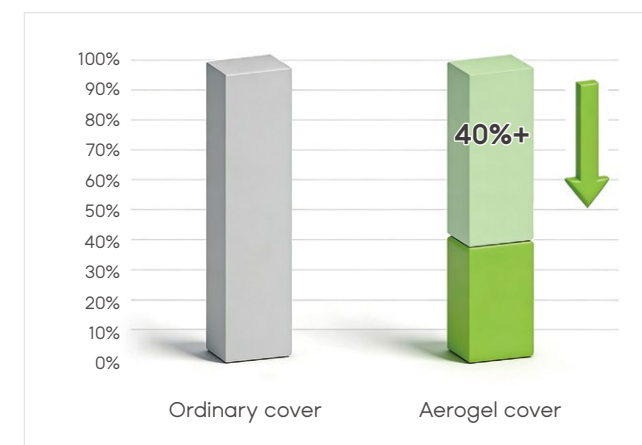


Plasticizing energy efficiency comparison



Electric plasticizing — low noise, low energy consumption. **30%–50%** energy-saving compared to hydraulic plasticizing.

Heat insulation cover energy efficiency comparison



Aerogel heat insulation cover — over **40%** more energy-efficient than ordinary cover.

EFFICIENT

Linear Guide for Mold Opening/Closing · TBF (Tie Bar Free) Technology

Nitrogen Servo Injection · Direct Drive Electric Plasticizing

Low-Shear High-Mixing Plasticizing Screw

High Efficiency · Superior Performance · Fully Realized

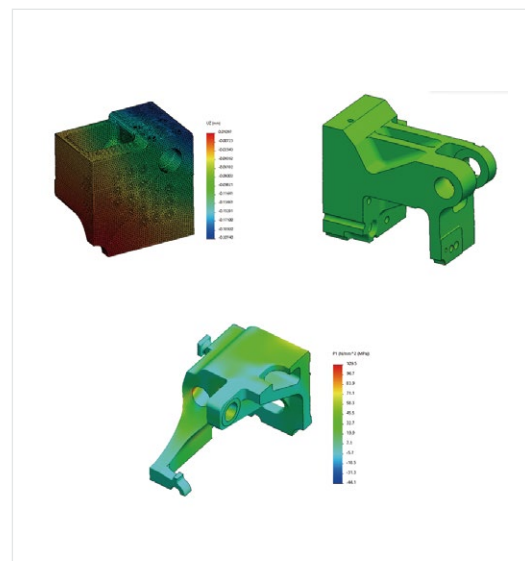
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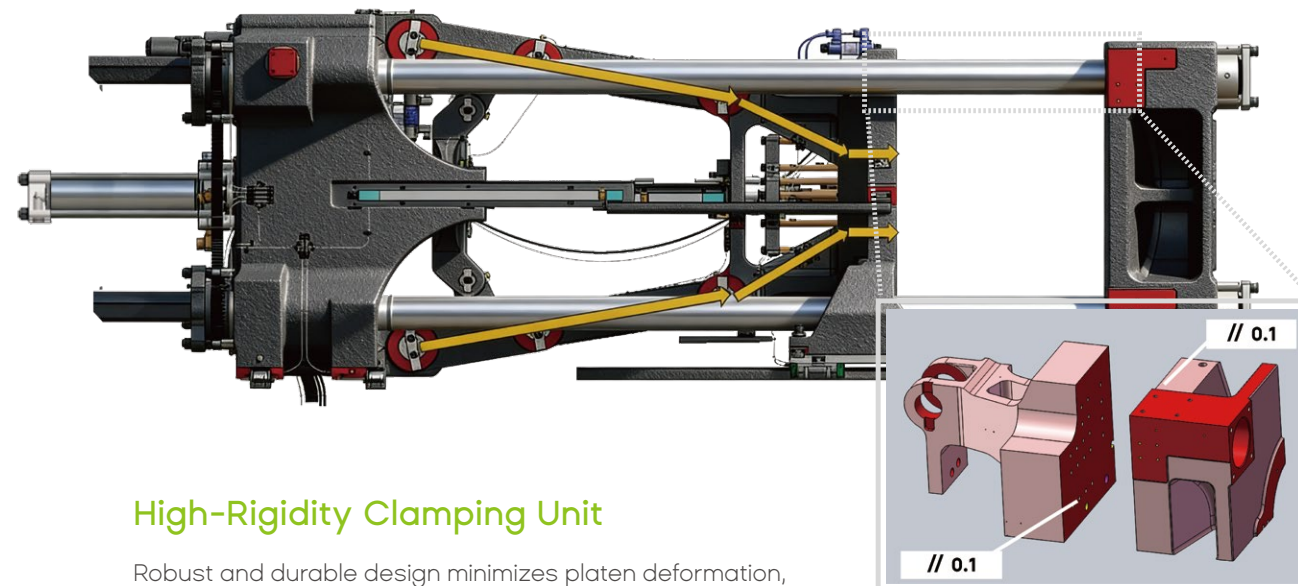
Durable for Reliability



Max. mold weight and
Space between tie bars



Platen stress analysis diagram



High-Rigidity Clamping Unit

Robust and durable design minimizes platen deformation, ensuring long-lasting performance even under high-speed, high-pressure, and heavy-duty operating conditions.

High-precision platen parallelism ensures reliable mold protection.

DURABLE

High-Rigidity Clamping Unit · High-Load Machine Frame

Horizontal Double-Cylinder Carriage · Dual-Alloy Screw Tips

Rigid Structure · Stable Performance · Reliable Operation

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INTELLIGENT

Intelligent for Excellence

KEBA controller (standard feature)

- 15" TFT full-color touchscreen (million-pixel resolution), external independent mechanical keyboard – for more reliable operation and smoother, more comfortable visuals.
- Storage for 700 sets of mold parameters.
- Supports common communication interfaces: RS-485, USB, CANOPEN, EtherCAT, OPC UA (optional) and Euromap77 (optional).
- Supports free programming (optional).

Intelligent mold protection

Paired with next-generation servo control technology and high-sensitivity, low-pressure mold protection, it ensures safety for precision molds.

Clamping force monitoring

This standard feature automatically checks each cycle, detects anomalies early, and effectively reduces defect rates.

INTELLIGENT CONTROL SYSTEM

KEBA Controller · Intelligent Mold Protection · Clamping Force Monitoring Maintenance Remind · Mold Pre-Open Function

Intelligent Control · Proactive Management · Closed-Loop Monitoring

Bottle Cap

Specifications	Cavity	IMM	Cycle	Daily output
2925	32	P160H-IU640-D45	3s	691,200
2925	48	P210H-IU840-D50	3s	1,036,800
2925	72	P350H-IU1480-D60	4s	1,382,400-1555,200
2925	96	P420H-IU1480-D60	4s	1,843,200-2,073,600



IML Cup

Specifications	Cavity	IMM	Cycle	Daily output
500ml	8	P350H-IU1480-D60	6s	115,200
700ml	8	P420H-IU1480-D60	6s	115,200
1000ml	8	P420H-IU1480-D60	6s	115,200



APPLICATION CASE

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Labeled Bucket

Specifications	Cavity	IMM	Cycle	Daily output
1L	2	P280H-IU840-D45	6-7s	24,685-28,800
2.8L	2	P350H-1U1480-D60	9.5s	18,189
2.8L	4	P500H-IU2180-D70	10.5s	32,914
4L	2	P420H-U1480-D60	12s	14,400

Labeled Bucket Lid

Specifications	Cavity	IMM	Cycle	Daily output
1L	2	P160H-IU440-D40	6s	28,800
2.8L	2	P210H-IU640-D45	7s	24,685
4L	2	P280H-IU840-D50	8s	21,600



Silicone Cartridge

Specifications	Cavity	IMM	Cycle	Daily output
300ml	8	P350H-IU2180-D65	16s	43,200
300ml	8	P420H-IU2180-D65	22s	31,418
300ml	12	P500H-IU3300-D80	18s	57,600



Cosmetic Tube

Specifications	Cavity	IMM	Cycle	Daily output
Φ45x160mm	8	P350H-IU1480-D60	12s	57,600
Φ48x213mm	8	P350H-IU1480-D60	12s	57,600
Φ50x175mm	8	P350H-IU1480-D60	12s	57,600
Φ55x170mm	8	P350H-IU1480-D60	12s	57,600



APPLICATION CASE



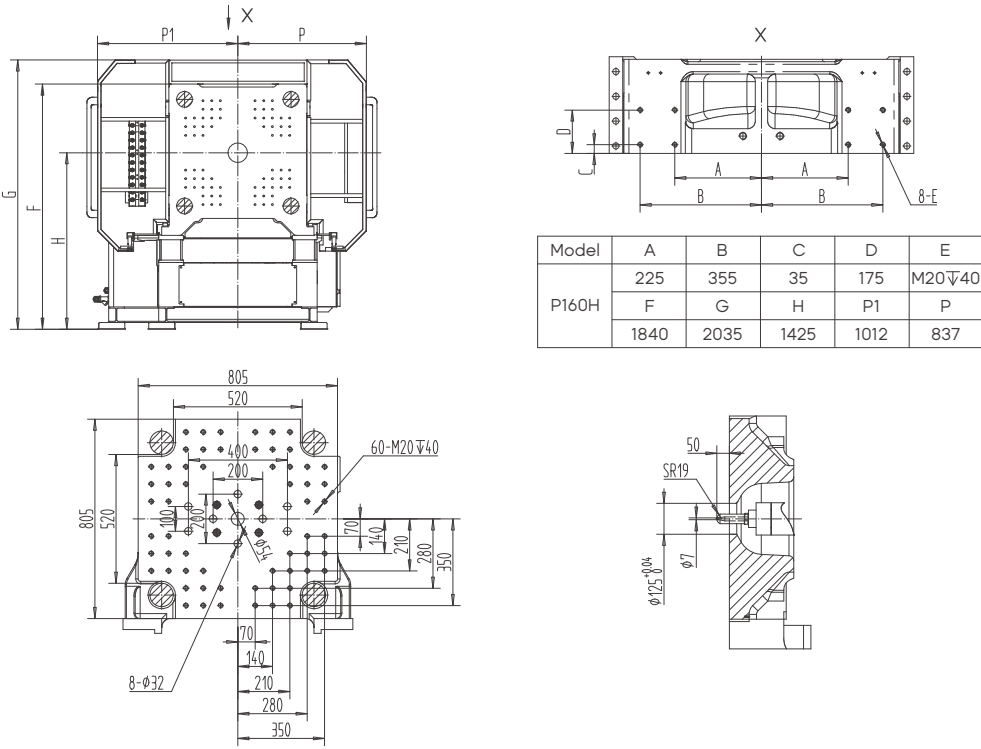
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P160H Specifications

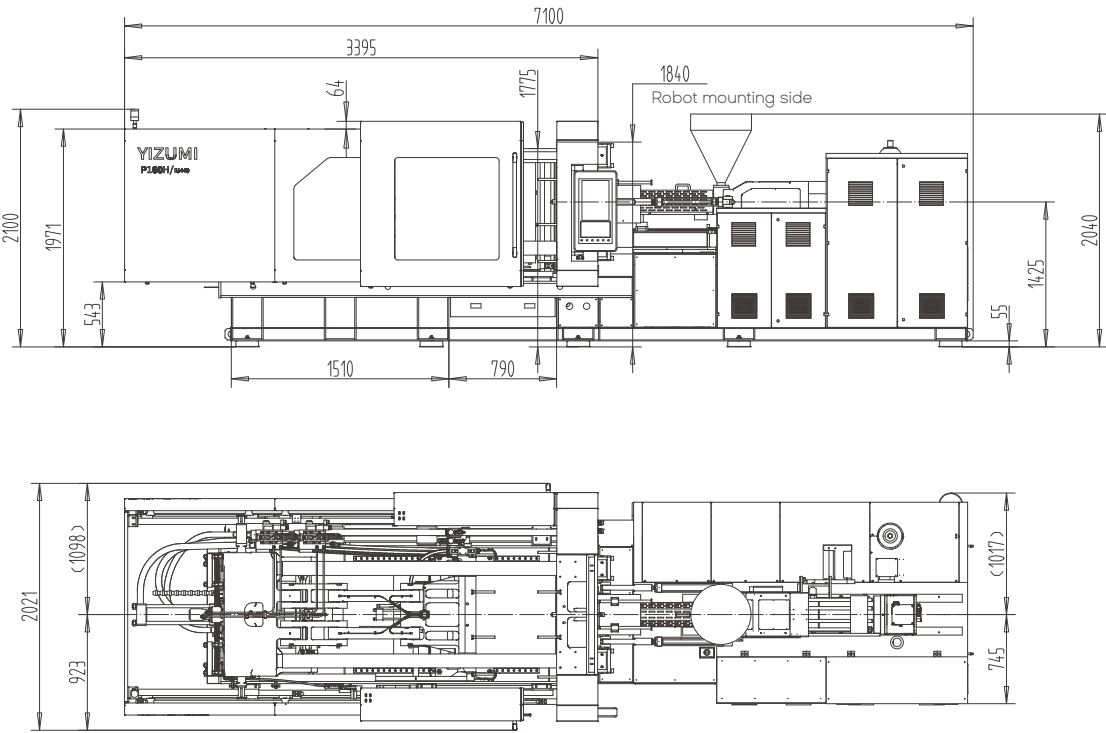
Description	UNIT	P160H					
International specifications		440/1600		640/1600		840/1600	
Injection Unit							
Theoretical shot volume	cm³	169	221	264	334	358	442
Shot weight	g	156	203	243	307	329	406
	oz	5.5	7.2	8.6	10.8	11.6	14.3
Screw diameter	mm	35	40	40	45	45	50
Injection pressure	MPa	268	205	253	200	242	196
Screw L:D ratio		22:1		22:1		22:1	
Injection speed with accumulator	mm/s	650		600		600	
Screw stroke	mm	176		210		225	
Screw speed	r/min	300		300		300	
Clamping Unit							
Clamping force/Locking force	kN	1600/1840					
Opening stroke	mm	500					
Space between tie bars (WxH)	mm×mm	520×520					
Max. daylight	mm	1085					
Mold thickness (min.-max.)	mm	275-585					
Ejector stroke	mm	160					
Ejector number		9					
Ejector force	kN	60					
Power Unit							
Max. system pressure	MPa	18					
Pump motor with accumulator	kW	45.2					
Electric screw drive	kW	22		22		31.4	
Heating power	kW	11	13	16.3	18.1	21.7	24
Number of temp. control zones		5					
General							
Dry cycle time (Euromap 6)	s-mm	1.25 - 364					
Dry cycle with unlocking time	s-mm	1.4 - 364					
Oil tank capacity	l	400					
Machine dimensions (L×W×H)	m×m×m	7.1×2.0×2.1					
Machine weight (without oil)	Ton	10.8		11		11.1	

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Platen Dimensions



Machine Dimensions

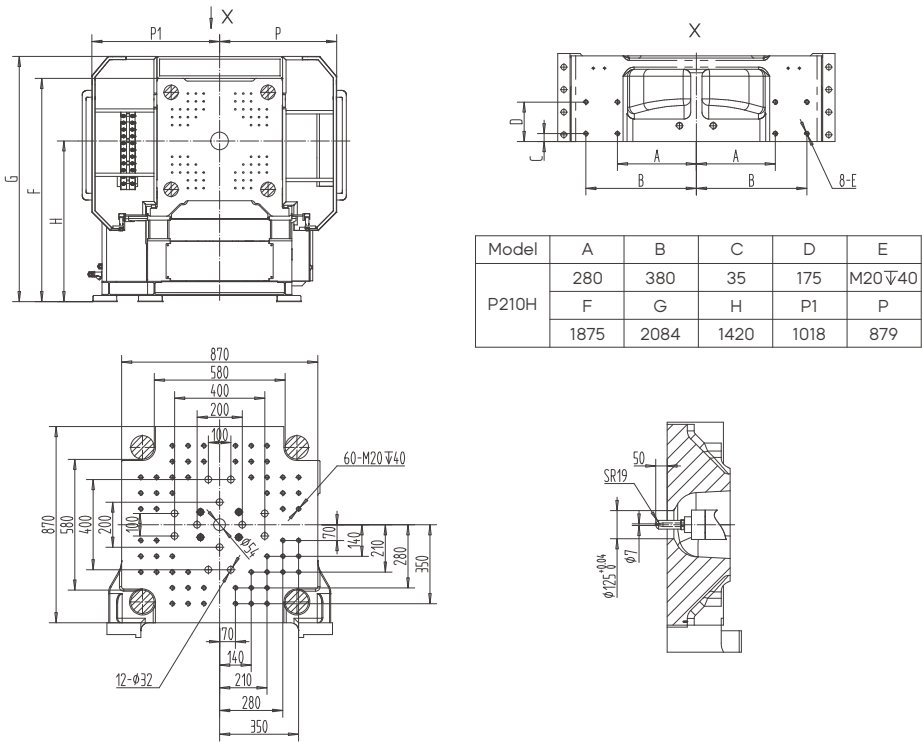


P210H Specifications

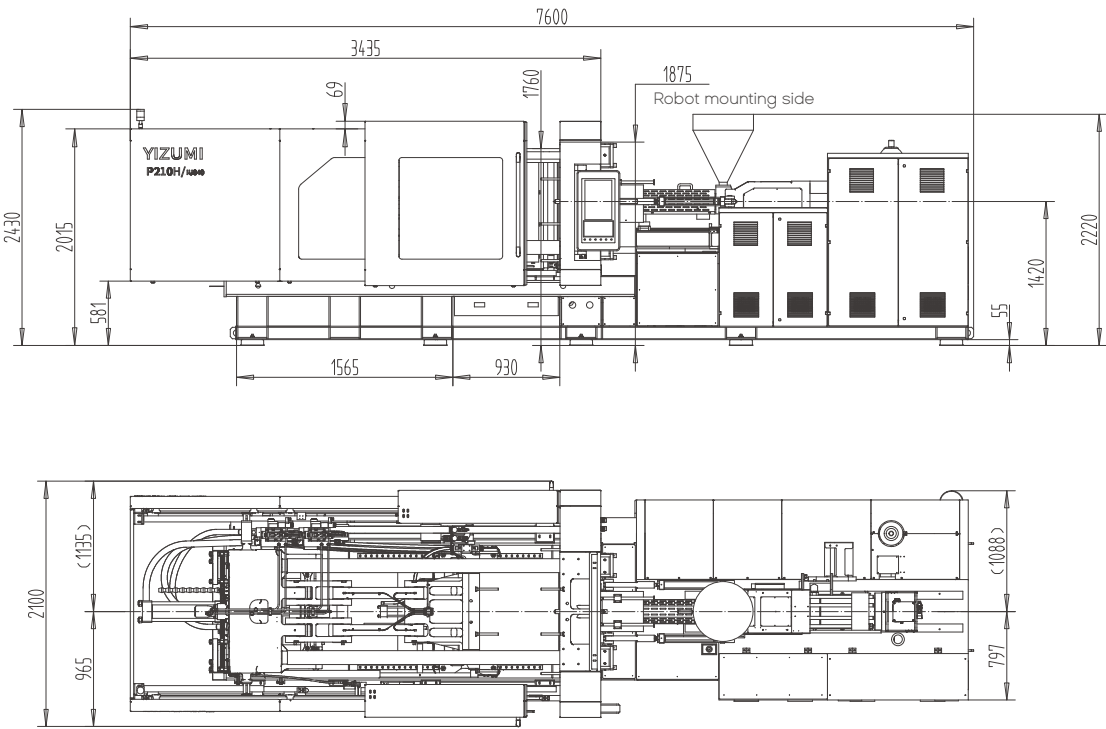
Description	UNIT	P210H					
International specifications		640/2100		840/2100		1480/2100	
Injection Unit							
Theoretical shot volume	cm³	264	334	358	442	530	763
Shot weight	g	243	307	329	406	488	702
	oz	8.6	10.8	11.6	14.3	17.2	24.8
Screw diameter	mm	40	45	45	50	50	60
Injection pressure	MPa	253	200	242	196	288	200
Screw L:D ratio		22:1		22:1		22:1	
Injection speed with accumulator	mm/s	600		600		600	
Screw stroke	mm	210		225		270	
Screw speed	r/min	300		300		300	
Clamping Unit							
Clamping force/Locking force	kN	2100/2415					
Opening stroke	mm	580					
Space between tie bars (WxH)	mm×mm	580×580					
Max. daylight	mm	1270					
Mold thickness (min.-max.)	mm	340-690					
Ejector stroke	mm	180					
Ejector number		13					
Ejector force	kN	80					
Power Unit							
Max. system pressure	MPa	18					
Pump motor with accumulator	kW	55					
Electric screw drive	kW	22		31.4		39.2	
Heating power	kW	16.3	18.1	21.7	24	24	29.3
Number of temp. control zones		5					
General							
Dry cycle time (Euromap 6)	s-mm	1.35 - 406					
Dry cycle with unlocking time	s-mm	1.5 - 406					
Oil tank capacity	l	450					
Machine dimensions (L×W×H)	m×m×m	7.6×2.1×2.4					
Machine weight (without oil)	Ton	12.4		12.5		12.8	

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Platen Dimensions



Machine Dimensions

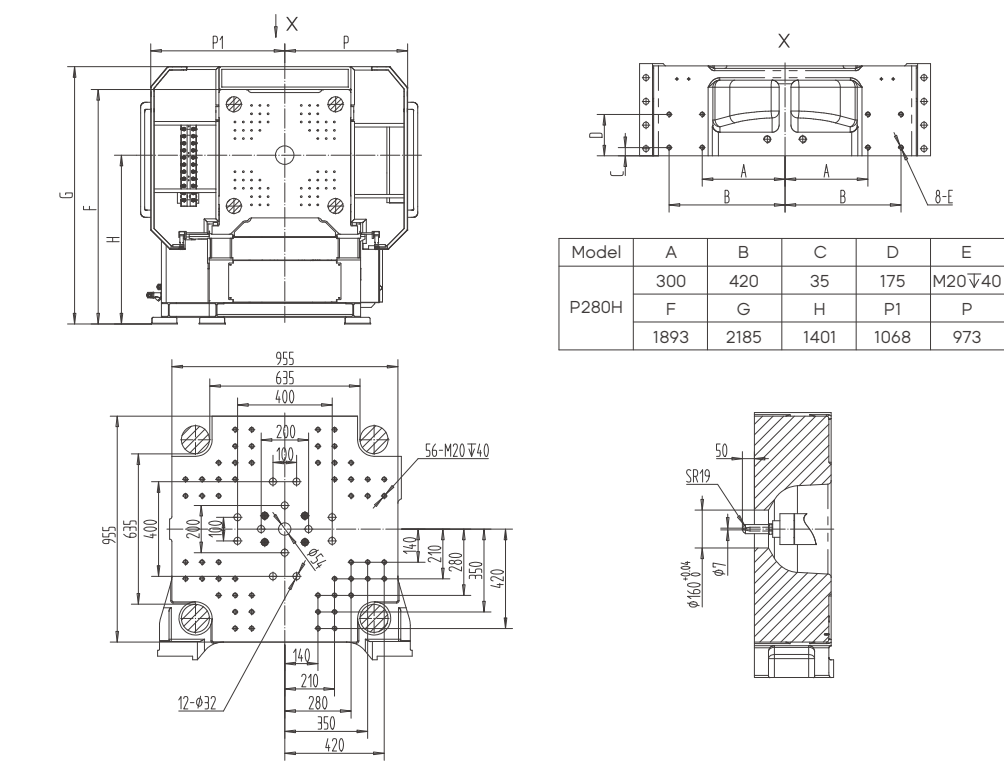


P280H Specifications

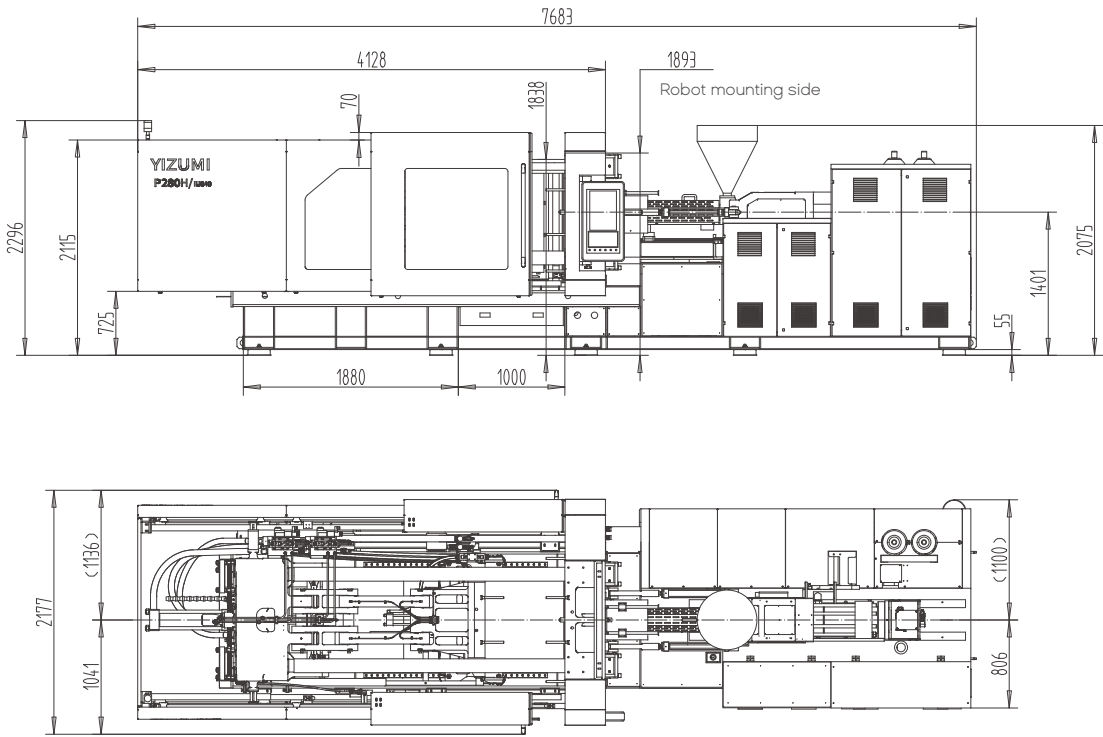
Description	UNIT	P280H					
International specifications		840/2800		1480/2800		2180/2800	
Injection Unit							
Theoretical shot volume	cm³	358	442	530	763	891	1212
Shot weight	g	329	406	488	702	819	1115
	oz	11.6	14.3	17.2	24.8	28.9	39.3
Screw diameter	mm	45	50	50	60	60	70
Injection pressure	MPa	242	196	288	200	253	186
Screw L:D ratio		22:1		22:1		22:1	
Injection speed with accumulator	mm/s	600		600		500	
Screw stroke	mm	225		270		315	
Screw speed	r/min	300		300		250	
Clamping Unit							
Clamping force/Locking force	kN	2800/3220					
Opening stroke	mm	680					
Space between tie bars (WxH)	mm×mm	635×635					
Max. daylight	mm	1400					
Mold thickness (min.-max.)	mm	330-720					
Ejector stroke	mm	200					
Ejector number		13					
Ejector force	kN	80					
Power Unit							
Max. system pressure	MPa	18					
Pump motor with accumulator	kW	55+33.9					
Electric screw drive	kW	31.4		39.2		50	
Heating power	kW	21.7	24	24	29.3	31.8	41.1
Number of temp. control zones		5					
General							
Dry cycle time (Euromap 6)	s-mm	1.7 - 444.5					
Dry cycle with unlocking time	s-mm	1.9 - 444.5					
Oil tank capacity	l	600					
Machine dimensions (L×W×H)	m×m×m	7.7×2.2×2.4					
Machine weight (without oil)	Ton	14.9		15.2		15.5	

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Platen Dimensions



Machine Dimensions

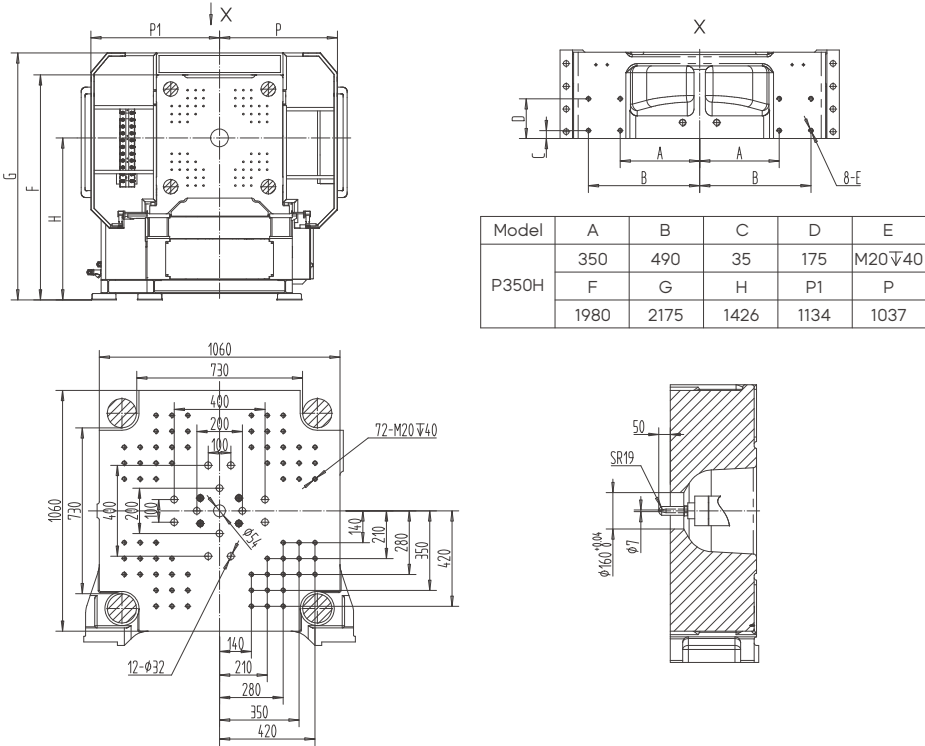


P350H Specifications

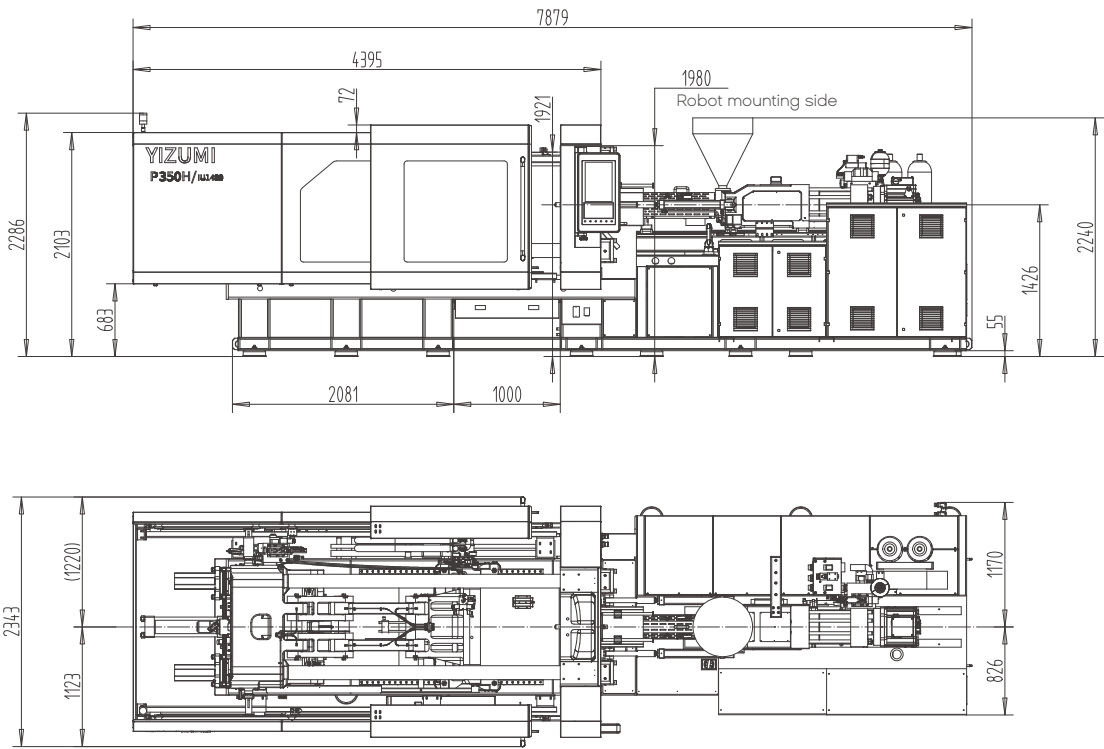
Description	UNIT	P350H					
International specifications		840/3500		1480/3500		2180/3500	
Injection Unit							
Theoretical shot volume	cm³	358	442	530	763	891	1212
Shot weight	g	329	406	488	702	819	1115
	oz	11.6	14.3	17.2	24.8	28.9	39.3
Screw diameter	mm	45	50	50	60	60	70
Injection pressure	MPa	242	196	288	200	253	186
Screw L:D ratio		22:1		22:1		22:1	
Injection speed with accumulator	mm/s	600		600		500	
Screw stroke	mm	225		270		315	
Screw speed	r/min	300		300		250	
Clamping Unit							
Clamping force/Locking force	kN	3500/4025					
Opening stroke	mm	735					
Space between tie bars (WxH)	mm×mm	730×730					
Max. daylight	mm	1485					
Mold thickness (min.-max.)	mm	350-750					
Ejector stroke	mm	200					
Ejector number		13					
Ejector force	kN	80					
Power Unit							
Max. system pressure	MPa	18					
Pump motor with accumulator	kW	55+33.9				55+45.2	
Electric screw drive	kW	31.4		39.2		50	
Heating power	kW	21.7	24	24	29.3	31.8	41.1
Number of temp. control zones		5					
General							
Dry cycle time (Euromap 6)	s-mm	1.8 - 511					
Dry cycle with unlocking time	s-mm	2.0 - 511					
Oil tank capacity	l	700					
Machine dimensions (L×W×H)	m×m×m	7.9×2.4×2.3					
Machine weight (without oil)	Ton	17.1		17.3		17.6	

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Platen Dimensions



Machine Dimensions

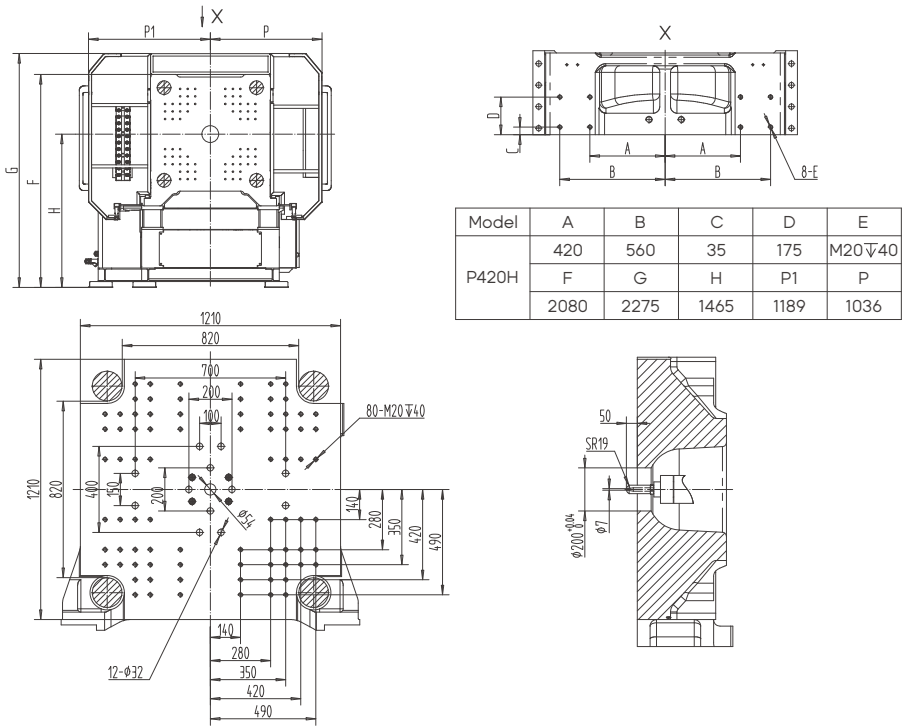


P420H Specifications

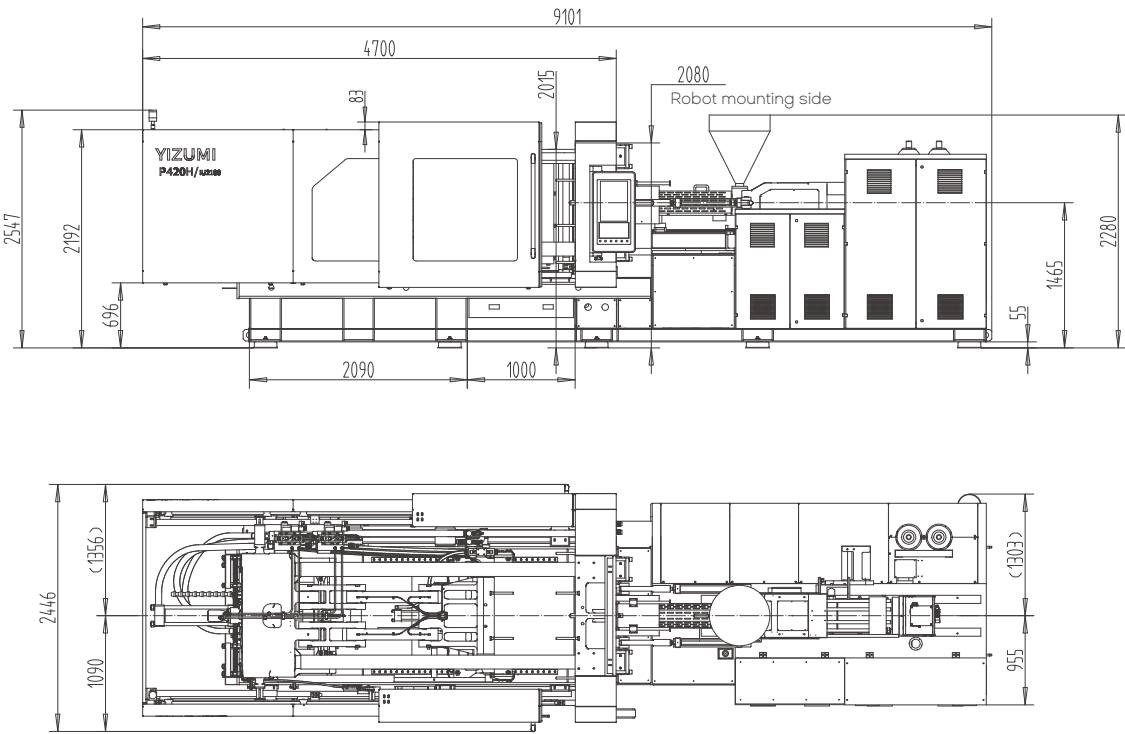
Description	UNIT	P420H					
International specifications		1480/4200		2180/4200		3300/4200	
Injection Unit							
Theoretical shot volume	cm³	530	763	891	1212	1366	1784
Shot weight	g	488	702	819	1115	1257	1642
	oz	17.2	24.8	28.9	39.3	44.3	57.9
Screw diameter	mm	50	60	60	70	70	80
Injection pressure	MPa	288	200	253	186	248	190
Screw L:D ratio		22:1		22:1		22:1	
Injection speed with accumulator	mm/s	600		500		500	
Screw stroke	mm	270		315		355	
Screw speed	r/min	300		250		220	
Clamping Unit							
Clamping force/Locking force	kN	4200/4830					
Opening stroke	mm	780					
Space between tie bars (WxH)	mm×mm	820×820					
Max. daylight	mm	1605					
Mold thickness (min.-max.)	mm	380-825					
Ejector stroke	mm	230					
Ejector number		13					
Ejector force	kN	102					
Power Unit							
Max. system pressure	MPa	18					
Pump motor with accumulator	kW	63+45.2					
Electric screw drive	kW	39.2		50		75	
Heating power	kW	24	29.3	31.8	41.1	45.6	48.1
Number of temp. control zones		5					
General							
Dry cycle time (Euromap 6)	s-mm	2.35 - 574					
Dry cycle with unlocking time	s-mm	2.6 - 574					
Oil tank capacity	l	750					
Machine dimensions (L×W×H)	m×m×m	9.1×2.4×2.6					
Machine weight (without oil)	Ton	22.7		23		23.6	

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Platen Dimensions



Machine Dimensions

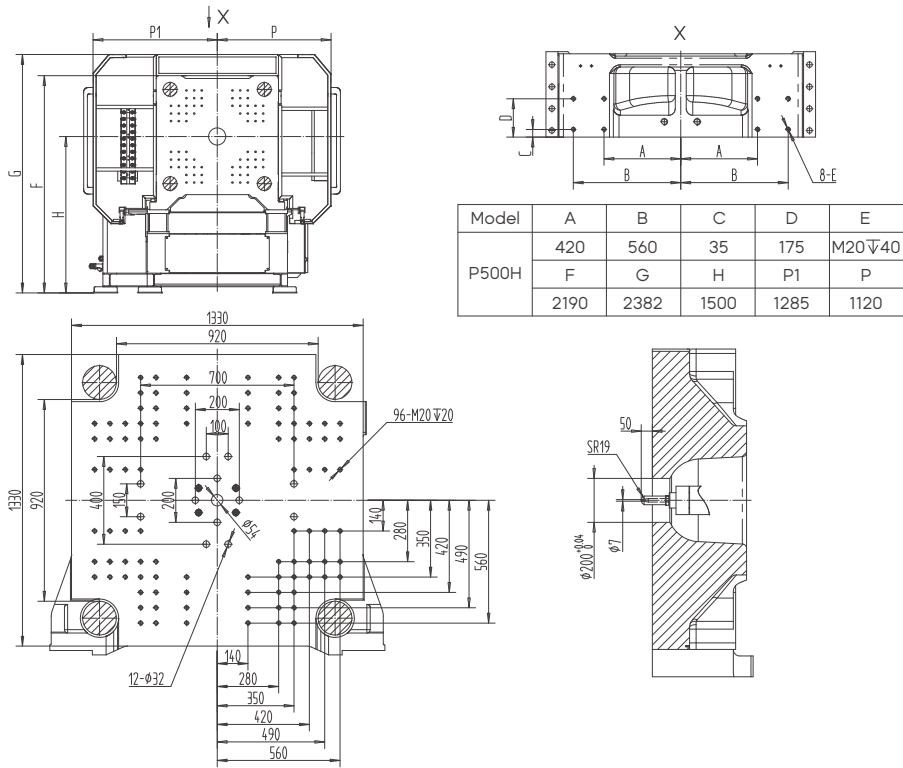


P500H Specifications

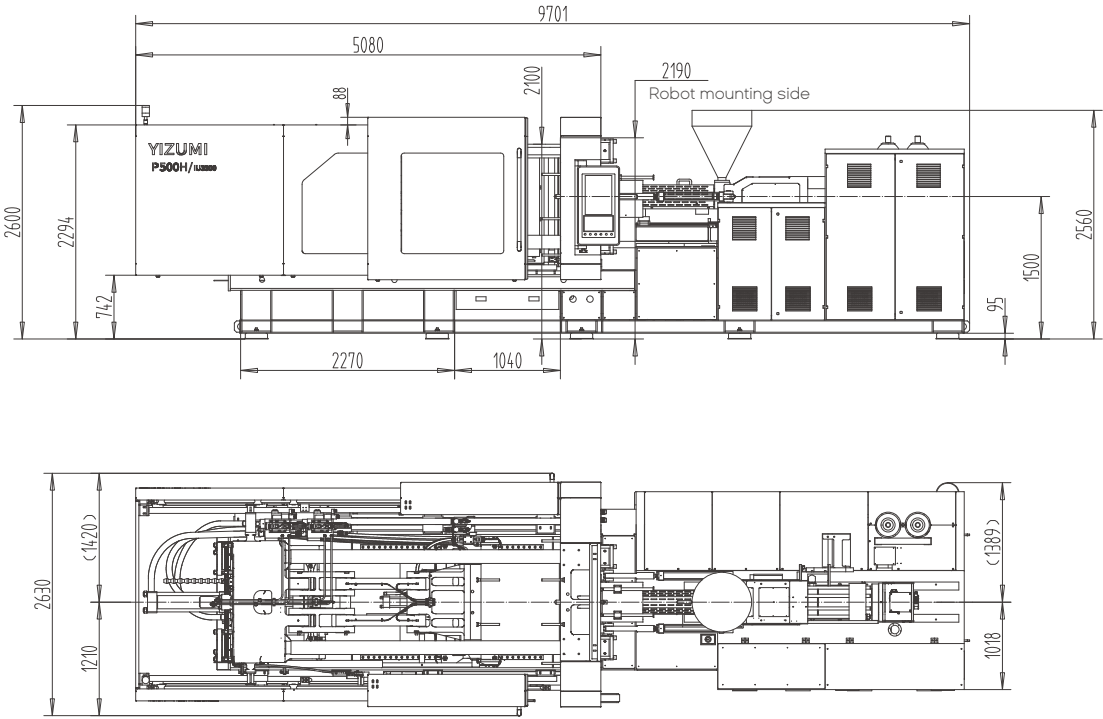
Description	UNIT	P500H								
International specifications		2180/5000			3300/5000			6480/5000		
Injection Unit										
Theoretical shot volume	cm³	891	1212	1583	1366	1784	2516	2388	3367	4514
Shot weight	g	819	1115	1457	1257	1642	2315	2197	3098	4153
	oz	28.9	39.3	51.4	44.3	57.9	81.7	77.5	109.3	146.5
Screw diameter	mm	60	70	80	70	80	95	80	95	110
Injection pressure	MPa	253	186	142	248	190	135	279	198	148
Screw L:D ratio		22:1			22:1			22:1		
Injection speed with accumulator	mm/s	500			500			320		
Screw stroke	mm	315			355			475		
Screw speed	r/min	250			220			200		
Clamping Unit										
Clamping force/Locking force	kN	5000/5750								
Opening stroke	mm	850								
Space between tie bars (WxH)	mm×mm	920×920								
Max. daylight	mm	1770								
Mold thickness (min.-max.)	mm	400-920								
Ejector stroke	mm	260								
Ejector number		13								
Ejector force	kN	102								
Power Unit										
Max. system pressure	MPa	18								
Pump motor with accumulator	kW	63+45.2						63+63		
Electric screw drive	kW	50			75			100		
Heating power	kW	31.8	41.1	46.7	45.6	48.1	58	59	70.2	81
Number of temp. control zones		5								
General										
Dry cycle time (Euromap 6)	s-mm	2.65 - 644								
Dry cycle with unlocking time	s-mm	2.9 - 644								
Oil tank capacity	l	820								
Machine dimensions (L×W×H)	m×m×m	9.7×2.6×2.6								
Machine weight (without oil)	Ton	28.2			28.8			30		

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Platen Dimensions



Machine Dimensions



Standard & Optional Features

	Standard	Optional
Injection/Plasticizing Unit		
Direct drive electric plasticizing	●	
Precise transducer for injection/plasticizing stroke control	●	
Nitrided high-plasticizing screw & barrel	●	
Single-injection device	●	
Double-carriage cylinder	●	
5-stage injection speed/pressure/position control	●	
3-stage holding pressure speed/pressure/time control	●	
3-stage plasticizing speed/back pressure/position control	●	
Optional suck-back before or after plasticizing	●	
Pre-injection delay function	●	
Pre-molding delay function	●	
Synchronized temperature rise	●	
Appointed temperature rise	●	
Remaining resin prevention	●	
Cold start protection	●	
Automatic purging	●	
Real-time display of plasticizing speed	●	
Real-time display of plasticizing back pressure	●	
Thermal insulation function	●	
Temperature optimization	●	
Nozzle purge guard (with electrical detection)	●	
Proportional back pressure control	●	
Aerogel heat insulation cover	●	
Infrared heater band		○
Extended nozzle		○
Dedicated screw & barrel component		○
Pneumatic/Hydraulic shut-off nozzle		○
Spring shut-off nozzle		○
Blowing device of barrel		○
Clamping Unit		
Precision transducer for clamping/ejector stroke control	●	
Clamping platens/toggles made of highly-rigid ductile iron	●	
Linear guides for movable platen	●	
Hydraulic mold height adjustment device	●	
Hydraulic/Electrical safety devices	●	
Differential fast mold closing device	●	
5-stage mold opening and closing program control	●	
Multi-stage ejector forward	●	
Ejector return delay monitoring function	●	
Automatic mold height adjustment	●	
Mold opening and closing, ejector curve functions	●	
Low pressure mold protection (Ai highly-sensitive mold protection)	●	
Low speed, low pressure mold opening/closing in mold adjustment mode	●	
Ejection inside the mold (gate cutting inside the mold)	●	
Ejector return signal confirmation function	●	
Multiple ejector function settings	●	

	Standard	Optional
Clamping Unit		
Ejector delay function	●	
Mold cooling water distributor	●	
Safety edges for machine gates	●	
Emergency stop function (operation side and non-operation side)	●	
Centralized lubrication system	●	
Opening and closing slope control (high, medium, and low modes)	●	
Air blow function with multiple electrical interfaces	●	
Mold opening and ejection synchronization	●	
Pull-back ejector system	●	
Increased mold thickness		○
Increased ejector force		○
Mechanical safety lock		○
Mold thermal insulation plate		○
Special mold mounting hole		○
Magnetic platen		○
Mold lifting device		○
Hydraulic System		
High-performance servo power system	●	
Plasticizing back pressure adjustment	●	
Automatic system pressure and flow adjustment	●	
High-performance hydraulic valve	●	
Brand-name sealing components	●	
System pressure sensor detection	●	
Low-noise hydraulic cooling device	●	
Hydraulic oil temperature monitoring with high/low temperature alarm	●	
Hydraulic oil cooling device	●	
Servo injection system with accumulator	●	
High-speed proportional valve for mold opening and closing	●	
Precise by-pass oil filter		○
Enlarged oil cooler		○
Enlarged oil pump and motor		○
Unscrewing device		○
Multiple sets of core pulling		○

● Standard ○ Optional

Standard & Optional Features

	Standard	Optional
Control System		
Highly sensitive 15 inch color touchscreen display	●	
Memory of molding conditions (over 500 items)	●	
1 set of standard USB interface on the operation panel	●	
Multiple language (Chinese and English)	●	
Real-time display of injection molding data (200 items displayed 5000 items saved)	●	
Operation modification record	●	
Alarm record	●	
Metric and English unit conversions	●	
I/O check display function	●	
Printer interface (USB17)	●	
Cycle time monitoring	●	
Production management	●	
PDP data and charts	●	
Injection quality check	●	
Cycle counter	●	
Molding temperature monitoring	●	
Tri-color alarm light	●	
Low-pressure mold protection curve checking	●	
Alarm buzzer	●	
Injection pressure protection	●	
Defect alert and handling	●	
Real-time display of injection and plasticizing servo motion curves	●	
Display of actual value	●	
Malfunction handling option selection	●	
Product quality monitoring	●	
Curves of mold opening/closing and ejector	●	
Injection processing curve monitoring	●	
Air blow device	●	
Electrical interface for EU12 robot	●	
Electrical interface for EU67 robot		○
Multiple operating languages		○
Heater break detection		○
External transformer		○
Electrical interface for cavity pressure detection		○
Display and control of mold temperature		○
OPC UA/DA		○

	Standard	Optional
General		
Operation manual	●	
Adjustable leveling pad	●	
A tool kit	●	
Mold clamp	●	
Hopper	●	
Accumulator charging and testing kit	●	
Additional mold cooling water circuit		○
Filter element		○
Hopper transition slider (with roller)		○
Mold temperature controller		○
Auto loader		○
Dehumidifier		○
Dryer		○
Glass-tube water flowmeter		○

● Standard ○ Optional

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