THINK TECH FORWARD

Designed by YIZUMI, August 2024

YIZUMI

P-S3

250T-560T

P-S3 SERIES THIN-WALL
INJECTION MOLDING MACHINE

Yizumi Precision Molding Technology Co., Ltd.

Address: No.12 Shunchang Road, Shunde, Foshan, Guangdong 528300, China
TEL: 86-757-2921 9764 86-757-2921 9001(overseas) Email: imm@yizumi.com
www.yizumi.com

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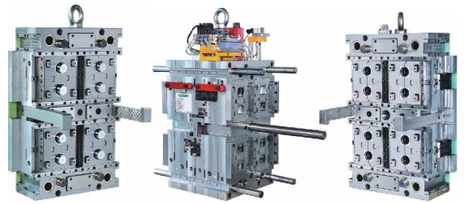
THINK TECH FORWARD

One-stop service
Address customer's pain points and solve the issues



Communication of Product Concept

Customers provide the concept of product requirements. The professionals from YIZUMI will assist customers in the design and development of the product to improve customers' production efficiency and product competitiveness.

Overall Planning

The professionals from YIZUMI will provide customers with capacity assessment, equipment and production line integration, manufacturing facility planning and other total solutions.

Connected Production

YIZUMI offers full-process control over in-plant wiring, equipment, mold, and automation from manufacturing to integration testing to eliminate integration risks. The system can be put into production as soon as it arrives.

YFO Exclusive Services

With the service concept throughout the entire process, YIZUMI is committed to reduce downtime by focusing on details. Improving the productivity of customers is our ultimate goal.

Overview Design of P-S3 Series Machine

Robust Toggles

The overall optimized design of toggle strength and rigidity greatly improves the stability of the clamping and effectively extends the service life of the machine.

Unique Large Beveled Crosshead Toggles Design

Large beveled structure can better transfer force from the tail toggle hole to the center of the platen to minimize the platen deformation, ensure the uniformity of force applied on the platens and mold, extend the service life, and make certain the quality of products.

Optimized Control Program

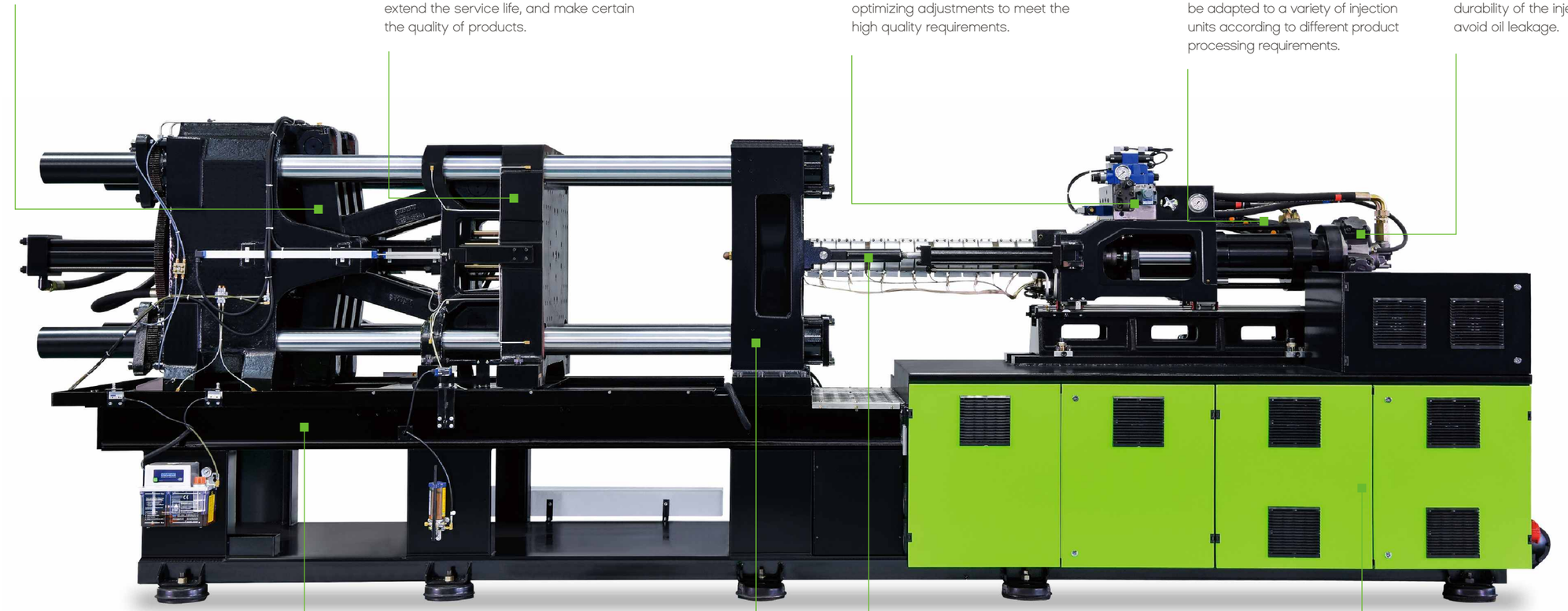
Selecting the high-quality hydraulic components to reduce response time, oil circuit impact, and overall machine noise. Machine will go through a number of tests and optimizing adjustments to meet the high quality requirements.

Single Cylinder Injection Unit

The compact single cylinder injection structure renders features such as small movement inertia, short acceleration time, and high repetitive accuracy of injection. It can be adapted to a variety of injection units according to different product processing requirements.

Optimized Cylinder Sealing Structure

Based on many years of manufacturing experience and the characteristics of oil circuit in high-speed single cylinder devices, the cylinder sealing structure is further optimized to ensure the durability of the injection unit and avoid oil leakage.



Highly-rigid Machine Frame

The Steel I-Beam type machine frame provides sufficient rigidity to ensure a smooth and vibration-free operation at high speed.

Highly-rigid and Low Deformation Platens

The adoption of reinforced platen design according to the characteristics of thin-walled packaging products. With perfect combination of strength and rigidity, while minimize the platen deformation, it maintains a flexible and smooth movement.

Horizontal Dual-carriage Design

The adoption of horizontal dual-carriage cylinder design effectively eliminates the turning torque of the injection mechanism and ensures a stable and reliable injection.

Efficient Power Output

Power output is optimized to realize the step distribution of 150-800mm/s injection speed.

Standard Features

Synchronous plasticizing

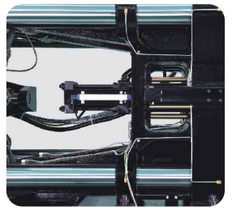
Synchronous plasticizing is the standard function for P-S3 series (P380S3 and above models), with shorter molding cycle. Driven by servo motor, it is more energy-efficient and environment-friendly.

Excellent control system

P-S3 Series adopts excellent control system, with greater power output, faster response speed and higher accuracy.

- Quick and stable mold opening, smooth mold closing with no impact, less wear and tear to machine;
- Mold opening repeatability is within ±0.5mm, with overshoot less than 2.0mm;
- Deviation of injection end position is less than 0.5mm;
- Deviation of material feeding position is less than 0.2mm;
- Temperature overshoot of first-time heating is less than 3°C, within ±1°C.

Optional Features

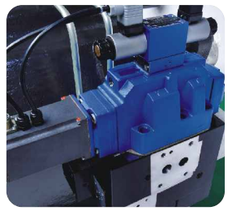


Ejector-on-Fly

Ejetor while mold opening to shorten the production cycle time.

Use of Appropriate Screw and Barrels

Select from a variety of professional screw and barrels according to the characteristics of different raw materials and production processes to ensure the plasticizing quality.

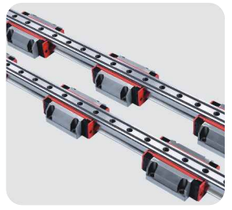


High-speed Mold Opening /Closing Proportional Valve

Further reduce the reaction time. Double the repetitive accuracy of mold opening ends and increase the operating speed of mold opening/closing by 15%-20%, suitable for the production of various precision thin-walled products.

Infrared Heater Band

The infrared heater band reduces the heat loss by 30%-68%.

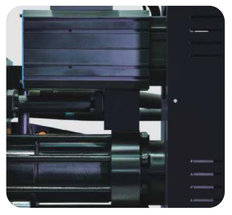


Linear Guide Rails

Reduce the friction from movable platen to further lower energy consumption, improve operating speed and shorten the production cycle time.

Servo Injection with Accumulator

Increase the injection speed up to 800mm/s and double the repetitive accuracy of injection. It is capable to produce thinner and more sophisticated products while shortening the injection time and improving the production efficiency.



Electric Dozing Motor

Reduce production cycle time through parallel operation. Driven by servo motor, the dozing motor has higher energy conversion efficiency and saves more energy.

Shut-off Nozzle

Choose the long-lasting precision shut-off nozzle. Effectively avoid nozzle drooling.

New Upgrade

Performance Upgrade

1 Max system pressure and injection speed

The system pressure and injection speed are upgraded to ensure the stable molding of thin-wall and multi-cavity products.

2 Clamping unit

The upgraded clamping unit can provide larger clamping force, more conducive to the molding of thin-wall and deep-cavity products.

3 Screw and barrel

Screw and barrel design upgraded, with increased length-diameter ratio of 24:1, for better plasticizing effect, more stable product size and higher flexibility.

Configuration Upgrade

P380S3 and above models are standard with hydraulic synchronous plasticizing, which shortens the product molding cycle.

Control System Upgrade

The P-S3 series is adopted with KEBA controller, high-response motor and professional servo drive.

- The upgraded system shows better performance, faster and more accurate.
- Low inertia motor (0 ~ 2000r/min) has shorter response time (25ms), and that of ordinary servo motor is 35-40ms.

KEBA Controller

High-response Motor

Professional Servo Drive

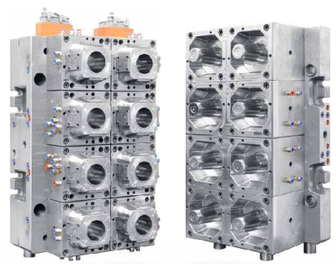
Machine Design Upgrade

Humanized machine design facilitates daily operation and maintenance

- Independent electric cabinet design is convenient for replacement as required, less influenced by frame delivery.
- Sheet metal with IU specification mark is added on the injection unit (near injection cylinder).
- Sheet-metal design of clamping unit and nozzle guard design is upgraded.
- New structure design of clamping unit with higher rigidity can offer larger clamping force, more evenly distributed.

Thin-wall mold

We can offer customized mold for thin wall injection molding according to customer specific requirements, to better meet diversified demand.



Applications

Food Packaging

Cover a wide range of packaging for various food, beverages, cheese, disposable take-out food containers, plastic cutlery, IML Packaging. Provide a variety of equipment and mold options. Offer production line turn-key delivery in collaboration with high-quality solution providers.

Disposable Medical Supplies

Injector, pipet tips, petri dish, and other products. Provide clean, efficient, and stable system solutions.

Various Types of Bottle Caps

Can make all kinds of bottle caps including beverage bottle seal caps, pull-off caps, folding caps, dustproof caps, etc. With the special kit for bottle cap machine to meet the requirements of precision bottle cap production.

Various Types of Thin-Wall Plastic Products

Such as 5L-20L industrial sealed barrels, all types of logistics cable ties, and multi-cavity silicon sealant barrels. For plastic products with high flow length ratio and light gram weight, it can effectively improve the productivity and product quality.

P-S3 Series serves at

伊利 ®

蒙牛 ®

雀巢 Nestlé

统一企业

东鹏特饮

BIGGY YOUR PROMOTIONAL & PACKAGING PARTNER

Life Story Store Your Moments

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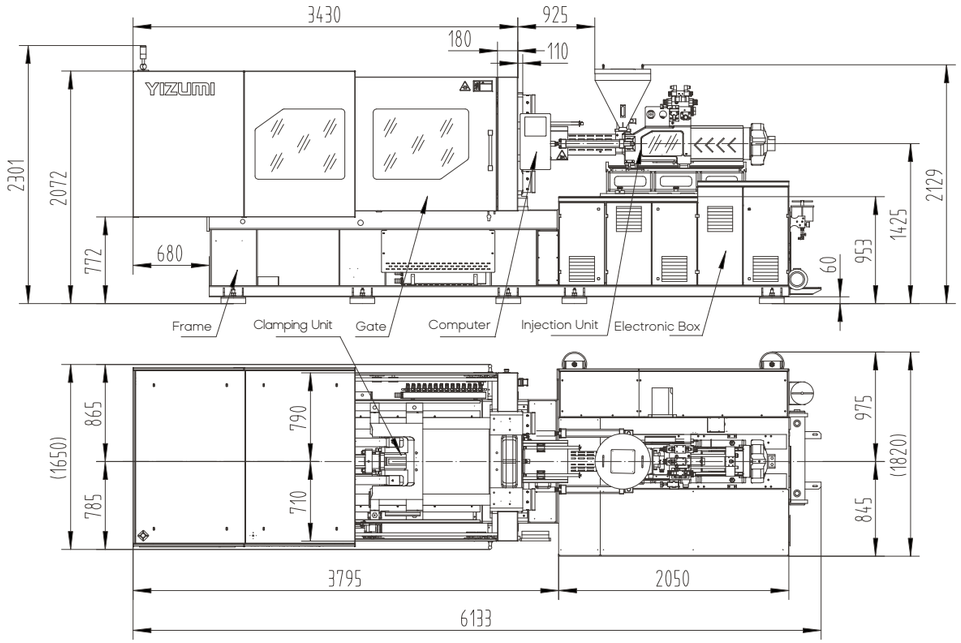
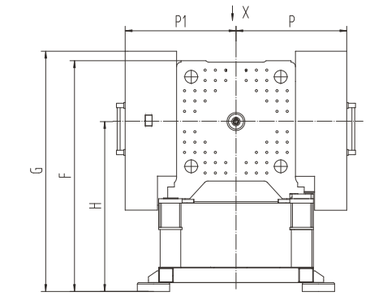
P250S3 High-speed Injection Molding Machine

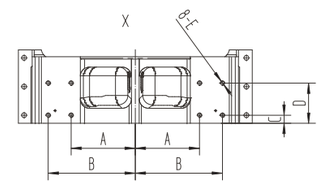
DESCRIPTION	UNIT	P250S3	
International specification		480/2500	
INJECTION UNIT			
Shot volume	cm^3	221	280
Shot weight (PS)	g	203	258
	oz	7.2	9.1
Screw diameter	mm	40	45
Injection pressure	MPa	216	171
Screw L:D ratio		24:1	
Max.injection speed	mm/s	320	
Screw stroke	mm	176	
Screw speed (stepless)	r/min	0-300	
CLAMPING UNIT			
Clamping force	kN	2500	
Opening stroke	mm	560	
Space between bars (W×H)	mmxmm	580x580	
Max. Daylight	mm	1160	
Mold thickness (Min.-Max.)	mm	220-600	
Hydraulic ejection storke	mm	180	
Ejector number		5	
Hydraulic ejection force	kN	77	
POWER UNIT			
Hydraulic system pressure	Mpa	19	
Pump motor	kW	40	
Heating capacity	kW	12	14
Number of temp control zones		5	
GENERAL UNIT			
Dry cycle time	s	2.2	
Oil tank capacity	l	430	
Machine dimensions (LxWxH)	mxmxm	6.2x1.8x2.2	
Machine weight	Ton	10.8	

P250S3 Layout Drawings

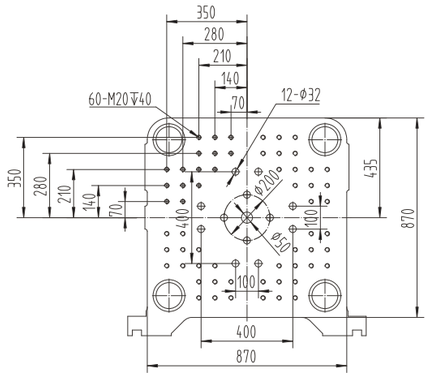


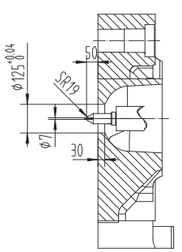
P250S3 Platen Dimension Drawings





Model	A	B	C	D	E
P250S3	280	380	35	175	M20↧40
	F	G	H	P1	P
	1880	2017	1425	790	710

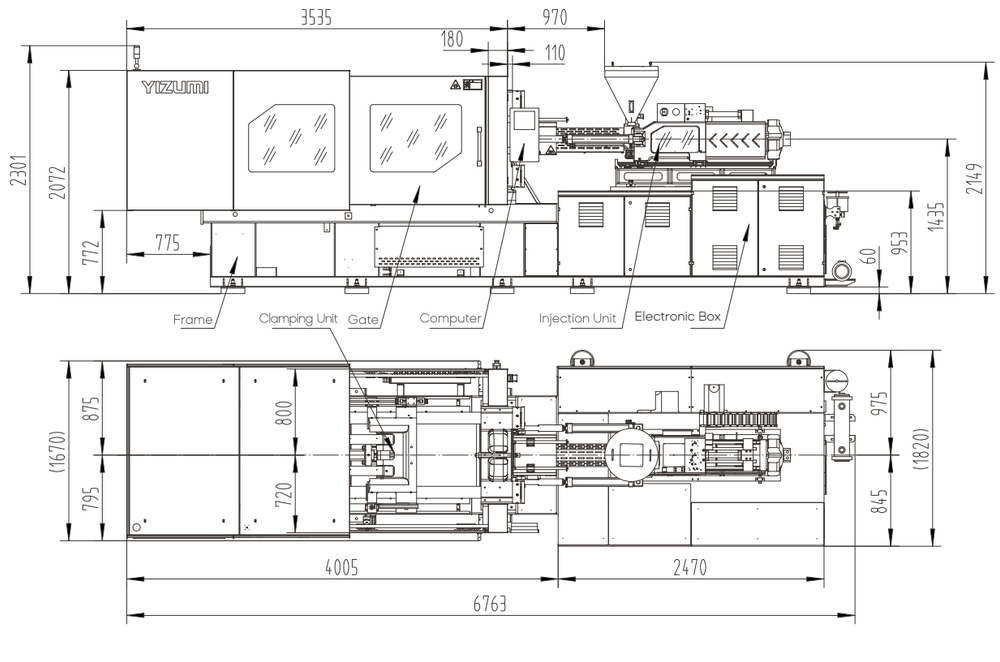




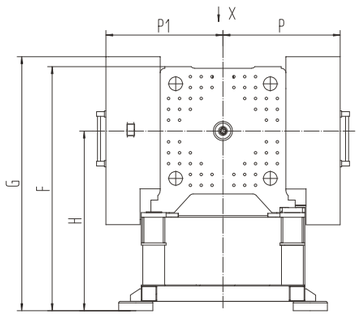
P280S3 High-speed Injection Molding Machine

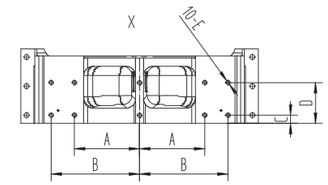
DESCRIPTION	UNIT	P280S3	
International specification		480/2800	
INJECTION UNIT			
Shot volume	cm^3	221	280
Shot weight (PS)	g	203	258
	oz	7.2	9.1
Screw diameter	mm	40	45
Injection pressure	MPa	216	171
Screw L:D ratio		24:1	
Max.injection speed	mm/s	410	
Screw stroke	mm	176	
Screw speed (stepless)	r/min	0-300	
CLAMPING UNIT			
Clamping force	kN	2800	
Opening stroke	mm	585	
Space between bars (W×H)	mmxmm	580x580	
Max. Daylight	mm	1185	
Mold thickness (Min.-Max.)	mm	220-600	
Hydraulic ejection storke	mm	150	
Ejector number		5	
Hydraulic ejection force	kN	77	
POWER UNIT			
Hydraulic system pressure	Mpa	19	
Pump motor	kW	51	
Heating capacity	kW	12	14
Number of temp control zones		5	
GENERAL UNIT			
Dry cycle time	s	2.2	
Oil tank capacity	l	430	
Machine dimensions (LxWxH)	mxmxm	6.8x1.8x2.2	
Machine weight	Ton	11.8	

P280S3 Layout Drawings

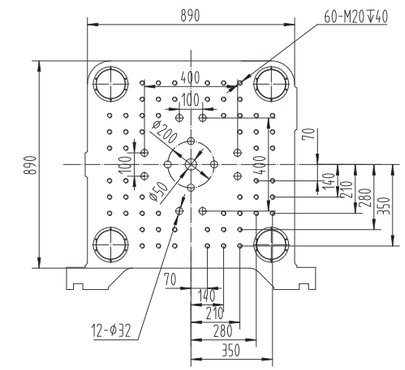


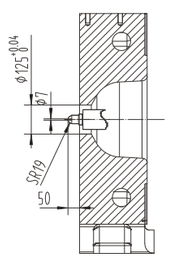
P280S3 Platen Dimension Drawings





Model	A	B	C	D	E
P280S3	280	380	35	175	M20↧40
	F	G	H	P1	P
	1890	2017	1435	800	720

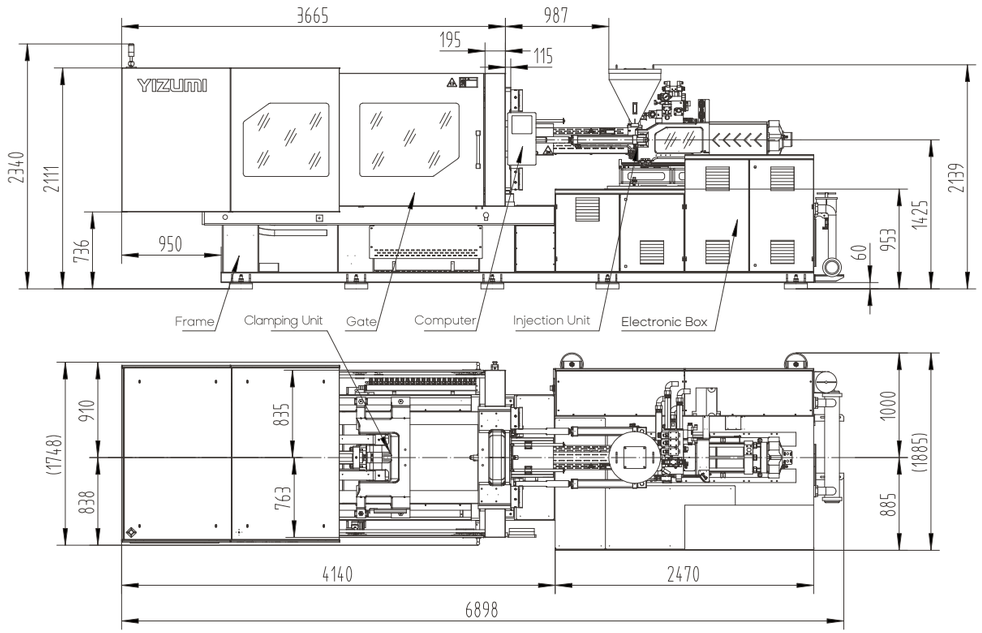




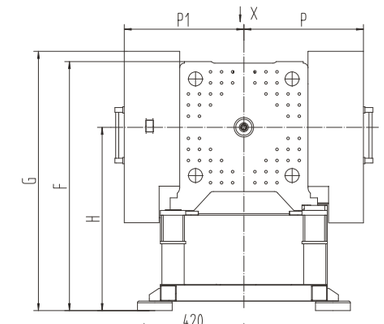
P350S3 High-speed Injection Molding Machine

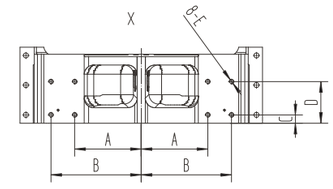
DESCRIPTION	UNIT		P350S3	
International specification			915/3500	
INJECTION UNIT				
Shot volume	cm^3	442	535	636
Shot weight (PS)	g	406	492	585
	oz	14.3	17.3	20.6
Screw diameter	mm	50	55	60
Injection pressure	MPa	207	171	144
Screw L:D ratio			24:1	
Max.injection speed	mm/s		350	
Screw stroke	mm		225	
Screw speed (stepless)	r/min		0-300	
CLAMPING UNIT				
Clamping force	kN		3500	
Opening stroke	mm		610	
Space between bars (W×H)	mmxmm		630x630	
Max. Daylight	mm		1260	
Mold thickness (Min.-Max.)	mm		250-650	
Hydraulic ejection storke	mm		180	
Ejector number			5	
Hydraulic ejection force	kN		77	
POWER UNIT				
Hydraulic system pressure	Mpa		19	
Pump motor	kW		40+31	
Heating capacity	kW	20	24	27
Number of temp control zones			5	
GENERAL UNIT				
Dry cycle time	s		2.4	
Oil tank capacity	l		600	
Machine dimensions (LxWxH)	mxmxm		6.9x1.9x2.3	
Machine weight	Ton		13.3	

P350S3 Layout Drawings

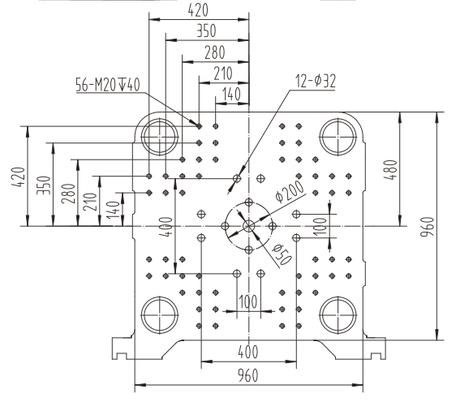


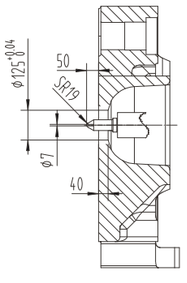
P350S3 Platen Dimension Drawings





Model	A	B	C	D	E
P350S3	300	420	35	175	M20↧40
	F	G	H	P1	P
	1925	2060	1425	835	763

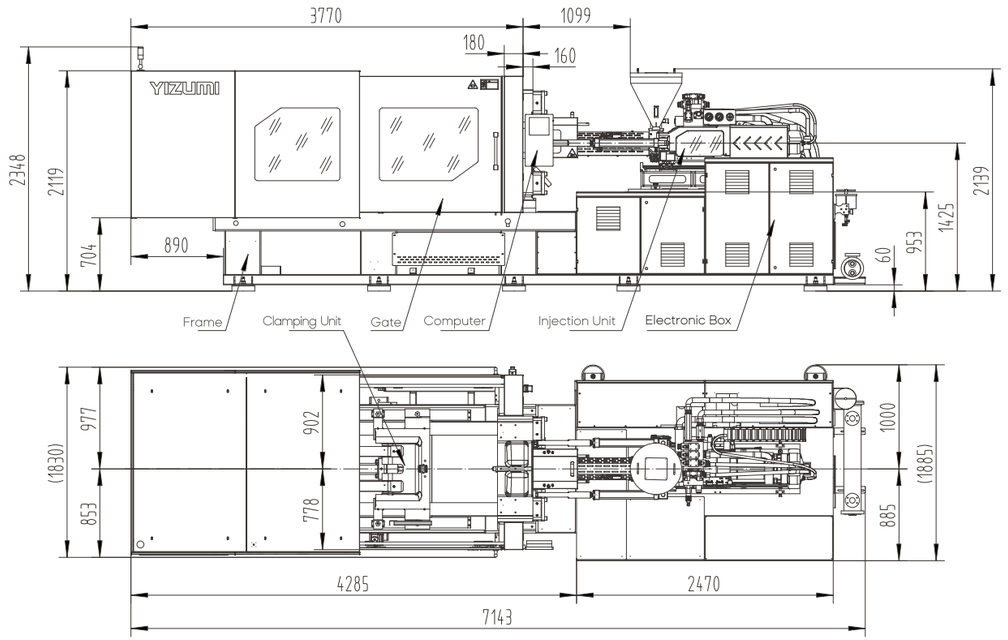




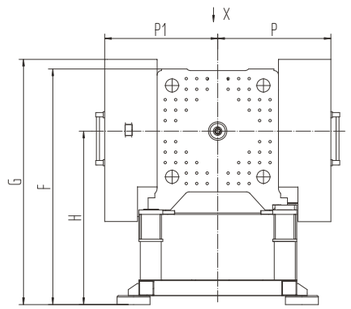
P380S3 High-speed Injection Molding Machine

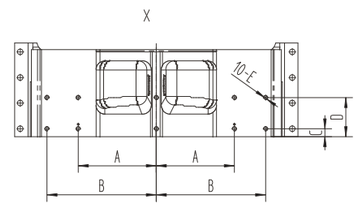
DESCRIPTION	UNIT		P380S3	
International specification			915/3800	
INJECTION UNIT				
Shot volume	cm^3	442	535	636
Shot weight (PS)	g	406	492	585
	oz	14.3	17.3	20.6
Screw diameter	mm	50	55	60
Injection pressure	MPa	207	171	144
Screw L:D ratio			24:1	
Max.injection speed	mm/s		430	
Screw stroke	mm		225	
Screw speed (stepless)	r/min		0-300	
CLAMPING UNIT				
Clamping force	kN		3800	
Opening stroke	mm		640	
Space between bars (W×H)	mmxmm		650x650	
Max. Daylight	mm		1290	
Mold thickness (Min.-Max.)	mm		250-650	
Hydraulic ejection storke	mm		150	
Ejector number			5	
Hydraulic ejection force	kN		77	
POWER UNIT				
Hydraulic system pressure	Mpa		19	
Pump motor	kW		40+40	
Heating capacity	kW	20	24	27
Number of temp control zones			5	
GENERAL UNIT				
Dry cycle time	s		2.5	
Oil tank capacity	l		600	
Machine dimensions (LxWxH)	mxmxm		7.1x1.9x2.3	
Machine weight	Ton		14.3	

P380S3 Layout Drawings

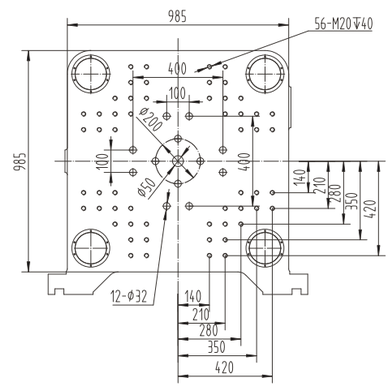


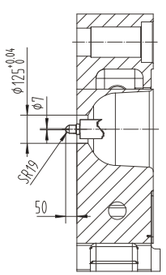
P380S3 Platen Dimension Drawings





Model	A	B	C	D	E
P380S3	300	420	35	175	M20↧40
	F	G	H	P1	P
	1937	2067	1425	902	778

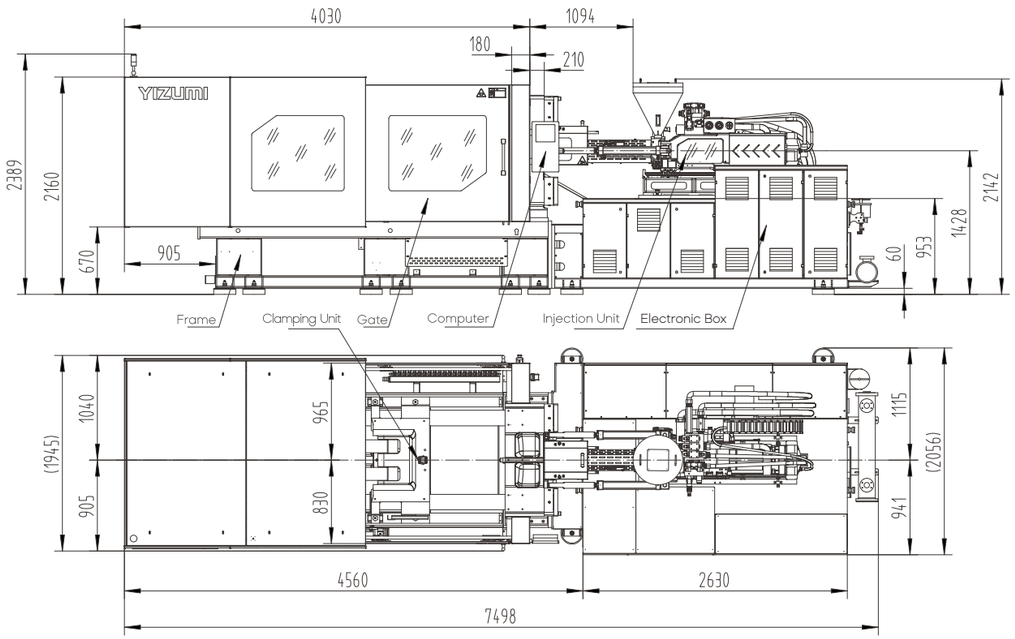




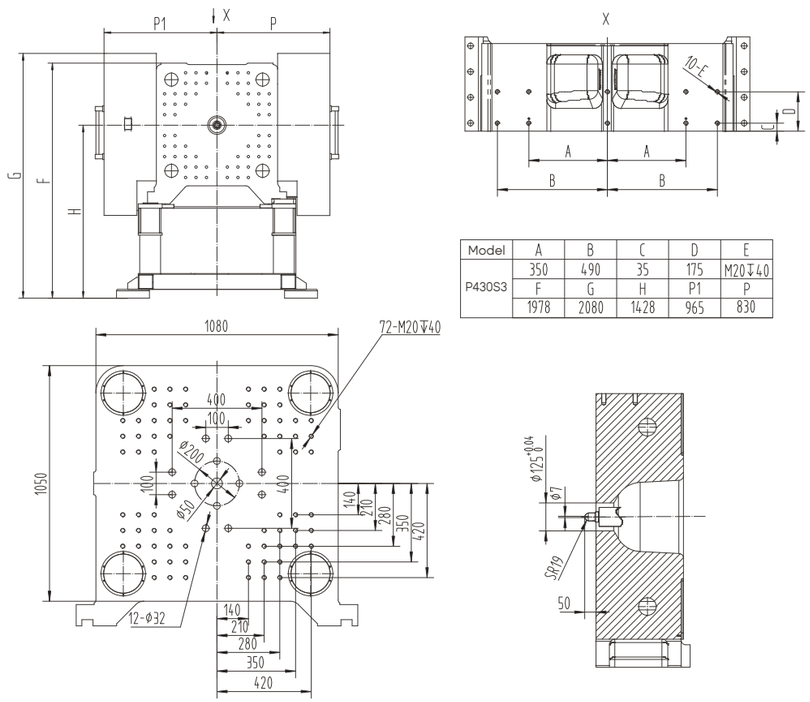
P430S3 High-speed Injection Molding Machine

DESCRIPTION	UNIT		P430S3	
International specification			915/4300	
INJECTION UNIT				
Shot volume	cm^3	442	535	636
Shot weight (PS)	g	406	492	585
	oz	14.3	17.3	20.6
Screw diameter	mm	50	55	60
Injection pressure	MPa	207	171	144
Screw L:D ratio			24:1	
Max.injection speed	mm/s		550	
Screw stroke	mm		225	
Screw speed (stepless)	r/min		0-300	
CLAMPING UNIT				
Clamping force	kN		4300	
Opening stroke	mm		650	
Space between bars (W×H)	mmxmm		680x650	
Max. Daylight	mm		1400	
Mold thickness (Min.-Max.)	mm		350-750	
Hydraulic ejection storke	mm		150	
Ejector number			5	
Hydraulic ejection force	kN		77	
POWER UNIT				
Hydraulic system pressure	Mpa		19	
Pump motor	kW		51+51	
Heating capacity	kW	20	24	27
Number of temp control zones			5	
GENERAL UNIT				
Dry cycle time	s		2.8	
Oil tank capacity	l		800	
Machine dimensions (LxWxH)	mxmxm		7.5x2.0x2.3	
Machine weight	Ton		19.3	

P430S3 Layout Drawings



P430S3 Platen Dimension Drawings

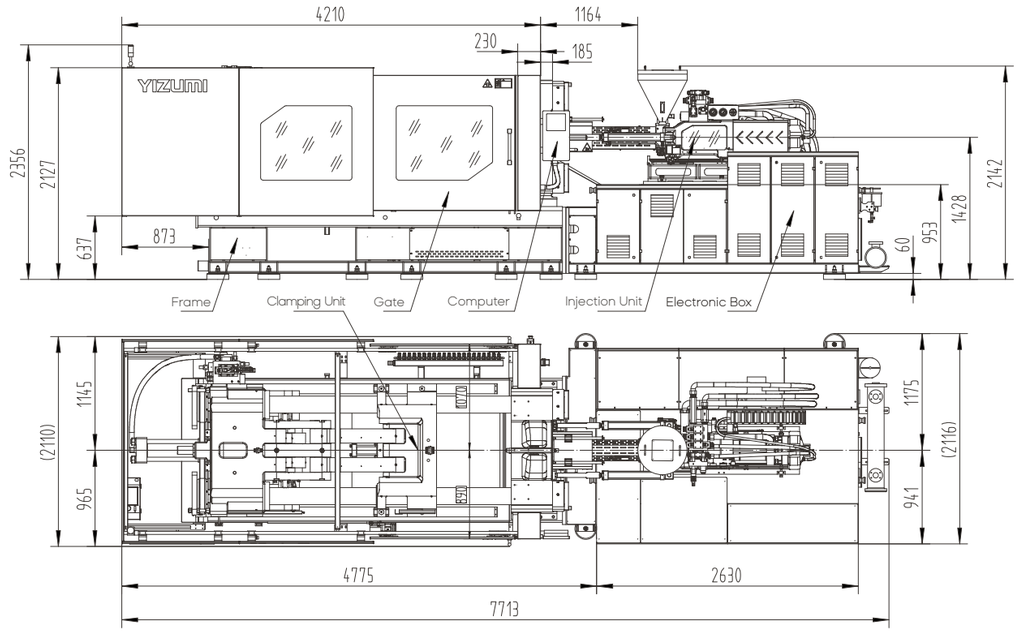


Model	A	B	C	D	E
P430S3	350	490	35	175	M20↧40
	F	G	H	P1	P
	1978	2080	1428	965	830

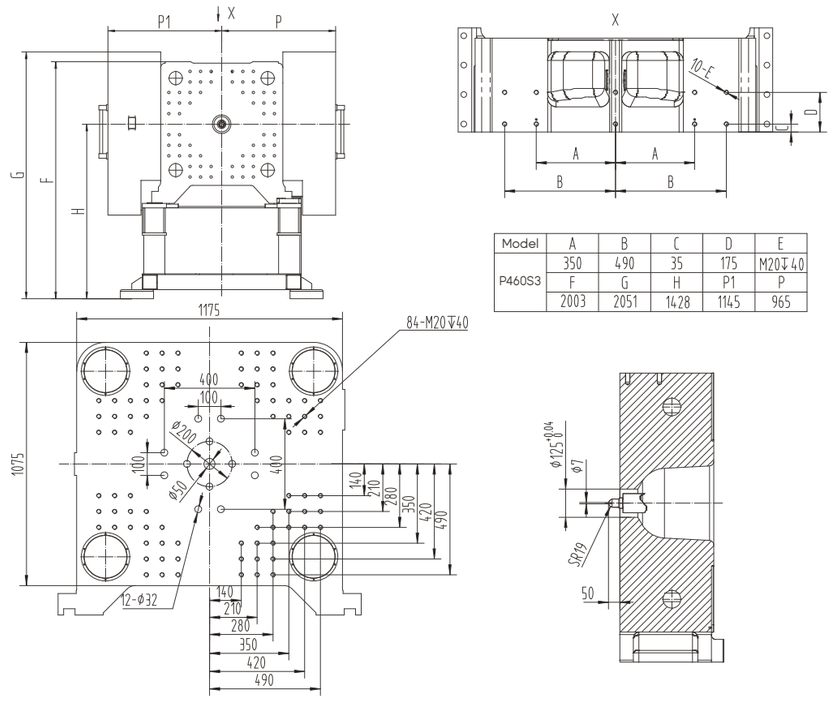
P460S3 High-speed Injection Molding Machine

DESCRIPTION	UNIT		P460S3	
International specification			915/4600	
INJECTION UNIT				
Shot volume	cm^3	442	535	636
Shot weight (PS)	g	406	492	585
	oz	14.3	17.3	20.6
Screw diameter	mm	50	55	60
Injection pressure	MPa	207	171	144
Screw L:D ratio			24:1	
Max.injection speed	mm/s		550	
Screw stroke	mm		225	
Screw speed (stepless)	r/min		0-300	
CLAMPING UNIT				
Clamping force	kN		4600	
Opening stroke	mm		660	
Space between bars (W×H)	mmxmm		750x650	
Max. Daylight	mm		1410	
Mold thickness (Min.-Max.)	mm		350-750	
Hydraulic ejection storke	mm		150	
Ejector number			5	
Hydraulic ejection force	kN		77	
POWER UNIT				
Hydraulic system pressure	Mpa		19	
Pump motor	kW		51+51	
Heating capacity	kW	20	24	27
Number of temp control zones			5	
GENERAL UNIT				
Dry cycle time	s		3	
Oil tank capacity	l		800	
Machine dimensions (LxWxH)	mxmxm		7.8x2.1x2.4	
Machine weight	Ton		22.7	

P460S3 Layout Drawings



P460S3 Platen Dimension Drawings

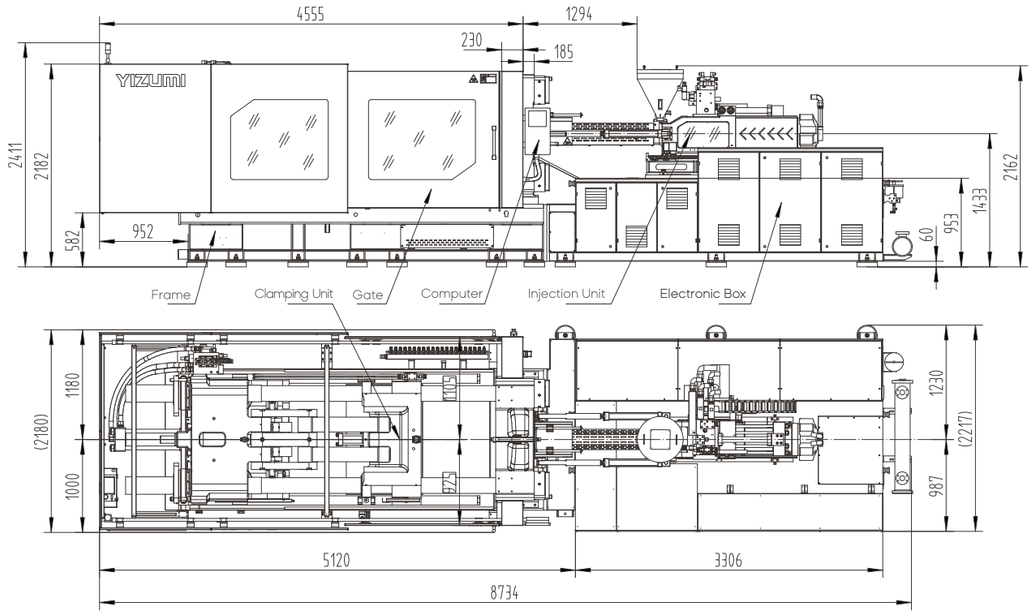


Model	A	B	C	D	E
P460S3	350	490	35	175	M20↧40
	F	G	H	P1	P
	2003	2051	1428	1145	965

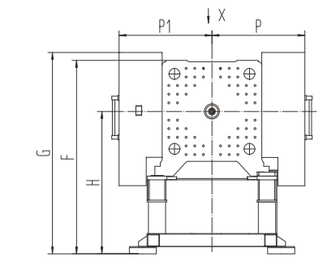
P560S3 High-speed Injection Molding Machine

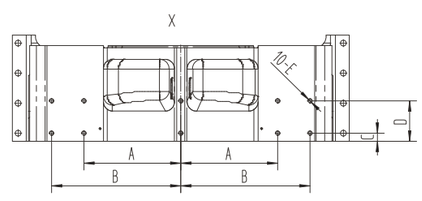
DESCRIPTION	UNIT		P560S3	
International specification			1610/5600	
INJECTION UNIT				
Shot volume	cm^3	763	896	1039
Shot weight (PS)	g	702	824	956
	oz	24.8	29.1	33.7
Screw diameter	mm	60	65	70
Injection pressure	MPa	211	180	155
Screw L:D ratio			24:1	
Max.injection speed	mm/s		490	
Screw stroke	mm		270	
Screw speed (stepless)	r/min		0-300	
CLAMPING UNIT				
Clamping force	kN		5600	
Opening stroke	mm		780	
Space between bars (W×H)	mmxmm		820x770	
Max. Daylight	mm		1580	
Mold thickness (Min.-Max.)	mm		350-800	
Hydraulic ejection storke	mm		160	
Ejector number			5	
Hydraulic ejection force	kN		111	
POWER UNIT				
Hydraulic system pressure	Mpa		19	
Pump motor	kW		51+51+34	
Heating capacity	kW	24	26.5	30
Number of temp control zones			5	
GENERAL UNIT				
Dry cycle time	s		3.5	
Oil tank capacity	l		1000	
Machine dimensions (LxWxH)	mxmxm		8.8x2.2x2.5	
Machine weight	Ton		26.7	

P560S3 Layout Drawings

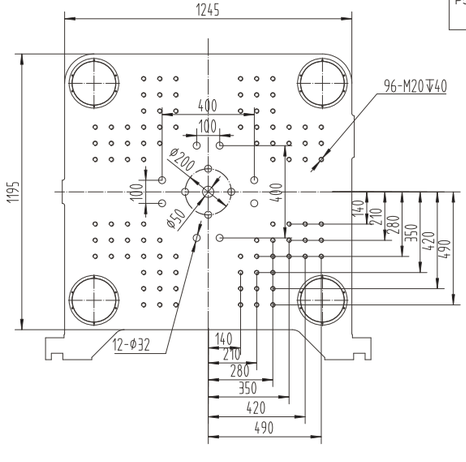


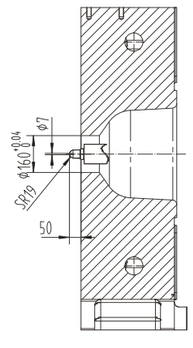
P560S3 Platen Dimension Drawings





Model	A	B	C	D	E
P560S3	420	560	35	175	M20↧40
	F	G	H	P1	P
	2068	2102	1433	1180	1000





Standard and Optional Features

Injection Unit	Standard	Optional
Nitrided alloy-steel screw and barrel	●	
Nozzle PID temperature control	●	
Double-cylinder	●	
Automatic material cleaning function	●	
Selectable suck-back before or after plasticizing	●	
Multi-stage barrel PID temperature control	●	
Purge guard (with safety switch)	●	
Precise transducer for injection / plasticizing stroke control	●	
Multi-stage injection speed / pressure / position control	●	
Multi-stage holding pressure speed / pressure / time control	●	
Multi-stage storage speed / pressure / position control	●	
Extended nozzle		○
Hard chrome plated screw component		○
Bi-metallic screw & barrel		○
Special screw set		○
Proportional back pressure control		○
Blowing device of barrel		○
Pneumatic/Hydraulic shut-off nozzle		○
Increased injection stroke		○

Hydraulic System	Standard	Optional
High-performance servo pump system	●	
Back pressure adjustment device of plasticizing	●	
High-precision by-pass oil filter	●	
Automatic system pressure and flow adjustment	●	
Imported hydraulic valve	●	
Imported hydraulic seal	●	
System pressure sensor	●	
Oil temperature detection and alarm	●	
Low-noise hydraulic system	●	
Hydraulic cooling device	●	
Hydraulic core pulling/ unscrewing device		○
Independent oil temperature control system		○
High-response servo injection system		○
High-response servo mold opening and closing system		○
Ejection during mold opening		○
Larger oil cooler		○
Larger oil pump and motor		○
Accumulator injection		○
Multiple sets of core puller		○
Proportional back pressure control		○

Clamping Unit	Standard	Optional
Precise transducer for clamping / ejector stroke control	●	
Clamping platens / toggles made of highly-rigid ductile iron	●	
Two-stage ejector forward or back control	●	
Low-pressure mold protection	●	
Multiple ejector function settings	●	
Hydraulic gear-type mold height adjustment device	●	
Hydraulic/electrical safety devices	●	
Wear-resistant supporting tracks for movable platen	●	
Automatic centralized lubrication system	●	
Boost mold closing function	●	
Increased mold thickness		○
Increased ejector stroke		○
Mechanical position limit device of mold-open		○
Heat insulating plate for mold		○
Special mold mounting hole		○
Movable platen with linear guide rail		○

Electrical Control System	Standard	Optional
Input/output inspection	●	
Automatic heat retaining and automatic heating setting	●	
Time / position / pressure controlled switchover from injection to holding	●	
Independent adjustment of slope	●	
Robot interface	●	
Molding data locking function	●	
Automatic clamping force adjustment	●	
LCD display screen	●	
Large memory for process parameters storage	●	
Plasticizing during mold opening (standard for P380S3 and above model)	●	
Multiple operating languages	●	
10 sets of independent air blowing with valve (5 sets standard for P350S3 and below model)	●	
Working light/ single or multi color alarm light		○
Single-phase / three-phase power socket		○
Air blow device		○
Electrical unscrewing unit		○
Special power supply voltage		○
Interface for electric unscrewing device		○
Hot runner interface		○
Machine overall energy consumption display		○
Electric plasticizing device		○
Infrared / ceramic heater band		○

Other	Standard	Optional
Operation manual	●	
Adjustable leveling pad	●	
A tool kit	●	
Filter element	●	
Standard hopper	●	
Mold temperature controller		○
Auto loader		○
Dehumidifier		○
Glass-tube water flowmeter		○
Dryer		○

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