

SPET-B

160T-650T

SPET-B SERIES
INJECTION MOLDING MACHINE
FOR BOTTLE

CREATING MORE VALUE TO PET CUSTOMERS



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[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

Core Value Propositions



Highly-efficient

Improved plasticizing capacity

- Increased screw speed improves plasticizing capacity by 5%-10%.
- 320T and above models are equipped with hydraulic circuit for high-speed clamping, improving dry cycle by more than 5% on average and shortening the production cycle.

Energy-saving

Standard feature of electric plasticizing, more energy-saving

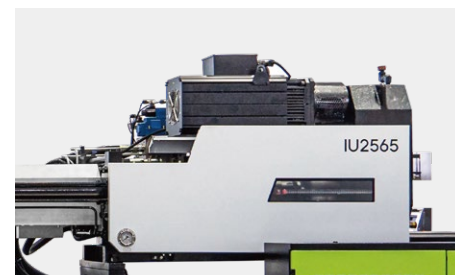
- Standard with electric plasticizing, saving 10-30% energy;
- Synchronized plasticizing reduces production cycle.

Standard feature of servo system

Standard with servo system, improving energy efficiency.

Green plasticizing

- Real-time intelligent adjustment of plasticizing screw speed during production enhances efficiency and reduces energy consumption.
- Plasticizing energy consumption of single mold can be reduced by nearly 10%.



Professional

PET plasticizing components

PET plasticizing components reduce plasticizing temperature and Acetaldehyde (AA).

Customized injection unit configurations: 529-18810g

Customized injection unit configurations based on product specifications.

Integrated cooling water circuit design

New integrated water circuit design reduces pressure loss in cooling pipes and facilitates connection.

Specialized clamping unit – better compatibility and load capacity

Increased distance between four tie bars and extended movable platen support, enhancing mold compatibility and support.

Stronger ejector force

Strong ejector force and optimization of hydraulic circuit improve response speed.

Special heating and insulation device

Special heater band and insulation device improves both plasticizing efficiency and energy utilization.



Main Configuration

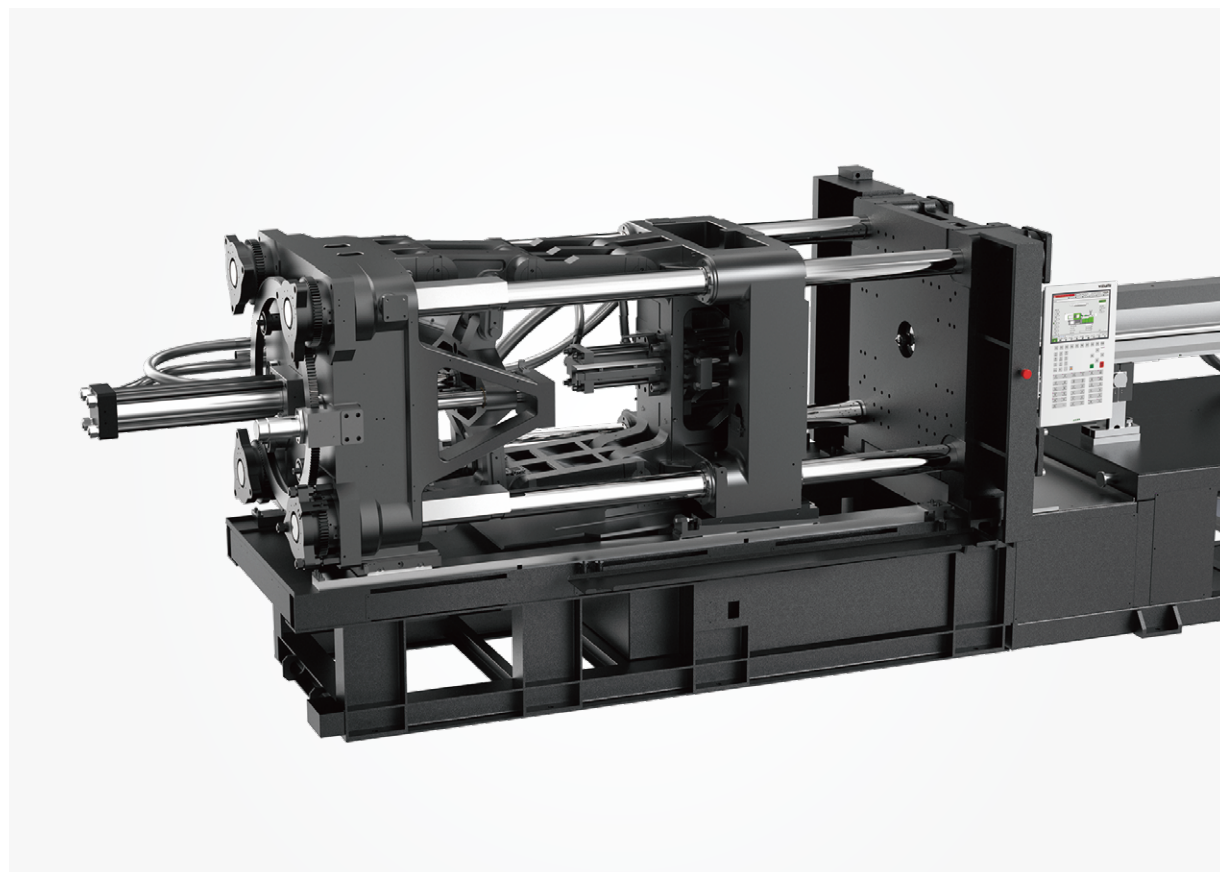
New-generation clamping unit

Strong central support to the movable platen structure

- Movable platen with strong central support minimizes platen deformation, achieving even distribution of clamping force.
- Lower clamping force to reduce deformation of mold cavity, improve product molding accuracy, and save energy.

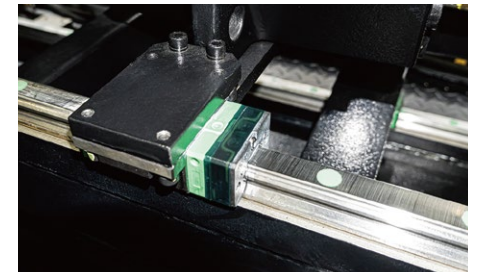
Highly rigid fixed platen and tail platen structure

Optimization of fixed platen and tail platen structure to enhance rigidity and reduce deformation.



New injection system

- The injection unit features dual linear guides with self-lubricating function, ensuring a clean and tidy operation.
- With oil change interval of over 5 years, it minimizes oil contamination in the workshop and the environment.



All-new hydraulic circuit design

- Optimized oil circuit design for lower pressure loss.
- More accurate mold-open positioning.



Upgraded control system

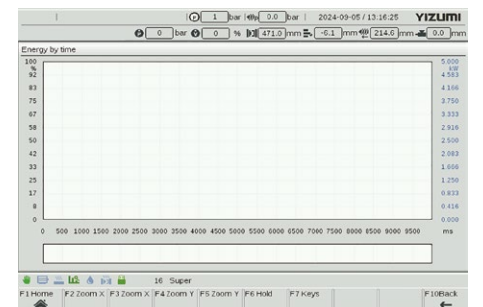
Upgraded control system with new 12-inch controller

- Expandable with multiple modules including AO, AI, DO, DI, and TM to meet more requirements.
- Real-time monitoring of signals from machine equipped sensors to coordinate corresponding movements for higher operating safety.
- Support common RS232/485 communication interface, CANOPEN, Ethernet port, temperature compensation sensor connector, and USB port.
- 15-stage linear control on speed offers more precise control. Accurate response to 1% flow. More user-friendly parameter adjustment.



Energy consumption management system (optional)

- Cumulative energy consumption monitoring display of total electricity usage from the start of operation until the present.
- Energy consumption display of previous production cycle.
- Instantaneous power display of real-time power consumption.



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SPET-B Series Injection Molding Machine

for Standard Water and Oil Preforms

Specifications

DESCRIPTION	UNIT	S160PET-B	S200PET-B		S260PET-B		S320PET-B				S380PET-B				S450PET-B				S500PET-B				S600PET-B		S650PET-B		
Injection model		IU640	IU945	IU1145	IU1340		IU1910	IU2560	IU3005	IU4315	IU2395	IU3120	IU4315	IU4775	IU3395	IU4315	IU4775	IU5785	IU4315	IU4775	IU5785	IU8985	IU5785	IU8985	IU13000	IU16990	
International size		639/1600	947/2000	1148/2000	1341/2600		1913/3200	2563/3200	3008/3200	4318/3200	2397/3800	3124/3800	4318/3800	4777/3800	3399/4500	4318/4500	4777/4500	5786/4500	4318/5000	4777/5000	5786/5000	8989/5000	5786/6000	8989/6000	13000/6500	16998/6500	
INJECTION UNIT																											
Theoretical shot volume	cm³	452.3	664.4	1035.0	962.4	1202.1	1338.2	2188.9	2958.1	3691.3	1828.7	2858.4	3691.3	4763.5	2459.5	3691.3	4763.5	5706.7	3691.3	4763.5	5706.7	8627.3	5706.7	8627.3	12382.4	16081.9	
Shot weight	g	529.1	777.4	1210.9	1126.0	1406.5	1565.7	2561.1	3461.0	4318.8	2139.6	3344.3	4318.8	5573.3	2877.7	4318.8	5573.3	6676.9	4318.8	5573.3	6676.9	10094.0	6676.9	10094.0	14487	18816	
	oz	18.7	27.5	42.8	39.8	49.7	55.3	90.5	122.3	152.6	75.6	118.2	152.6	196.9	101.7	152.6	196.9	235.9	152.6	196.9	235.9	356.7	235.9	356.7	511.9	664.9	
Screw diameter	mm	53	60	68	68	76	76	84	92	100	84	92	100	108	92	100	108	116	100	108	116	130	116	130	145	160	
Injection pressure	MPa	141.3	142.6	111.0	139.4	111.6	143.0	117.1	101.7	117.0	131.1	109.3	117.0	100.3	138.2	117.0	100.3	101.4	117.0	100.3	101.4	106.3	101.4	106.3	105.0	105.0	
Injection rate	g/s	261.9	334.8	430.1	455.6	569.1	580.5	709.1	815.9	886.8	633.2	759.6	897.4	1034.3	783.2	925.3	1079.3	1023.4	886.8	1034.3	1187.1	1248.9	1187.1	1490.9	1649.4	2062.8	
Screw L:D ratio		24:1	24:1	24:1	24:1	24:1	24:1	24:1	24:1	24:1	24:1	24:1	24:1	24:1	24:1	24:1	24:1	24:1	24:1	24:1	24:1	25:1	25:1	25:1	25:1	25:1	
Plasticizing effect (electric pre-plasticizing)	g/s	70	95	110	110	152	152	181	212	242	181	212	242	262	212	242	262	288	242	262	288	320	288	320	400	450	
Plasticizing effect (hydraulic pre-plasticizing)	g/s	58	86	85	95	104	141	152	176	210	152	176	210	218	201	210	218	181	210	218	208	214	208	214	/	/	
Max. injection speed	mm/s	101.5	101.2		107.2		109.4		104.9	96.5	97.7		96.5		101			82.8	97		96.0	80.4	96.0	80.4	85.4	87.7	
Screw stroke	mm	205	235	285	265		295	395	445	470	330	430	470	520	370	470	520	540	470	520	540	650	540	650	750	800	
Screw speed (electric pre-plasticizing)	r/min	0-200	0-175	0-175	0-175	0-155	0-155	0-135	0-130	0-120	0-135	0-130	0-120	0-110	0-130	0-120	0-110	0-100	0-120	0-110	0-100	0-100	0-100	0-100	0-90	0-75	
Screw speed (hydraulic pre-plasticizing)	r/min	0-147	0-164	0-119	0-142	0-105	0-139	0-108	0-97	0-96	0-108	0-97	0-96	0-82	0-122	0-96	0-82	0-63	0-96	0-82	0-73	0-67	0-73	0-67	/	/	
CLAMPING UNIT																											
Clamping force	kN	1600	2000		2600		3200				3800				4500				5000				6000		6500		
Opening stroke	mm	410	460		530		580				660				760				950				900		900		
Space between tie bars (W×H)	mmxmm	460×440	510×510		570×570		690×680				735×720				830×820				810×810				900×900		930×930		
Max. daylight	mm	870	980		1100		1240				1370				1540				1860				1800		1800		
Mold thickness (min.-max.)	mm	160-460	180-520		205-570		270-660				300-710				310-780				350-910				450-900		500-900		
Ejector stroke	mm	140	150		160		170				210				220				220				250		250		
Number of ejector pin holes		5	5		13		7				13				11				13				21		21		
Ejector force	kN	44	81		131		160				192				192				192				245		245		
POWER UNIT																											
Plasticizing motor	kW	24.4	24.4	34	34	41.1	41.4	47.7	57.8	76.4	55.5	66	76.4	76.4	66	76.4	76.4	88.4	76.4	76.4	88.4	117.5	88.4	117.5	169.1	195.8	
Max. power of pump motor	kW	25.2	29.3		35.2		51.3				66	55.5				66				66		66	76.4	66	76.4	98.4	
Heating capacity	kW	17.3	21.0	24.7	26.6	34.2	34.9	40.8	45.0	51.6	43.9	47.8	58.0	65.7	51.2	53.5	62.2	77.7	53.5	65.7	75.0	85.0	77.7	85.0	113.5	138.5	
Number of temp control zones		5	6		6		6				7	6		7		6	7	7	8	7	7	8	8	8	8	10	10
GENERAL																											
Dry cycle time	s	2	2.5		2.4		2.7				2.9				3.3				3.4				4.2		4.2	4.2	
Oil tank capacity	L	220	270		380		460		550		490		590		590				590		680		720		980	1200	
Machine dimensions (L×W×H)	mxmxm	5.53x1.25x2.07	6.05x1.32x2.17		6.87x1.45x2.02		7.36×2.06×2.22		8.2×2.06×2.22		8.13x2.13x2.25		9.1x2.13x2.25		8.91x2.33x2.3		9.75x2.33x2.3		9.46x2.31x2.38		10.6x2.31x2.38		10.2x2.59x2.46		10.9x2.72 x2.68	11.5x2.72 x2.68	
Machine weight	kg	4800	5700		7600		10700		11000		14500		14800		18500		18900		20400		20800		29300		30300	31200	

Note: 1. Theoretical shot volume = barrel sectional area × injection stroke; 2. Shot weight = theoretical shot volume × 1.17 (PET);
3. Due to improvement, specifications may be changed without prior notice.

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SPET-BH Series Injection Molding Machine
for High-Speed Water Preform

Specifications

DESCRIPTION	UNIT	S320PET-BH		S380PET-BH		S450PET-BH			S580PET-BH	
Injection model		IU1910	IU2395	IU2395	IU3395	IU3395	IU4445	IU5600	IU5600	IU6200
International size		1913/3200	2397/3200	2397/3800	3399/3800	3399/4500	4449/4500	5608/4500	5608/5800	6207/5800
INJECTION UNIT										
Theoretical shot volume	cm³	1634.8	2193.6	2193.6	2905.9	2905.9	4030.7	4649.9	4649.9	5840.0
Shot weight	g	1912.7	2566.6	2566.6	3399.9	3399.9	4715.9	5440.4	5440.4	6832.9
	oz	67.6	90.7	90.7	120.1	120.1	166.6	192.2	192.2	241.4
Screw diameter	mm	84	92	92	100	100	108	116	116	130
Injection pressure	MPa	117.1	109.3	109.3	117.0	117.0	110.4	120.6	120.6	106.3
Injection rate	g/s	847.8	949.5	1053.5	1028.7	1135.1	1203.2	1376.2	1436.0	1629.0
Screw L:D ratio		28:1	28:1	28:1	28:1	28:1	28:1	28:1	28:1	28:1
Plasticizing effect	g/s	175	210	210	240	240	260	280	300	320
Max. injection speed	mm/s	130.8	122.1	135.5	111.9	123.5	112.3	111.3	116.1	104.9
Screw stroke	mm	295	330	330	370	370	440	440	440	440
Screw speed (electric pre-plasticizing)	r/min	0-135	0-130	0-130	0-120	0-120	0-110	0-110	0-110	0-110
CLAMPING UNIT										
Clamping force	kN	3200		3800		4500			5800	
Opening stroke	mm	580		660		760			900	
Space between tie bars (W×H)	mmxmm	690×680		735×720		830×820			930x930	
Max. daylight	mm	1240		1370		1540		1640	1800	
Mold thickness (min.-max.)	mm	270-660		300-710		310-780		310-880	500-900	
Ejector stroke	mm	170		210		220			250	
Number of ejector pin holes		7		13		11			21	
Ejector force	kN	160		192		192			245	
POWER UNIT										
Plasticizing motor	kW	66	76.4	76.4	88.4	88.4	98.4	108.9	108.9	117.5
Max. power of pump motor	kW	66		66		76.4			76.4	
Heating capacity	kW	47.4	54.3	54.3	61.1	61.1	69	78.8	78.8	92.4
Number of temp control zones		7		7		8			8	
GENERAL										
Dry cycle time	s	2.5		2.6		2.9		2.9	3.9	
Oil tank capacity	L	570		640		760		950	960	
Machine dimensions (L×W×H)	mxmxm	8.65×2.13×2.25		9.54x2.33x2.3		9.89x2.33x2.3		10.2x2.33x2.3	11.6x2.72x2.68	
Machine weight	kg	11000		14800		18900		20200	30600	

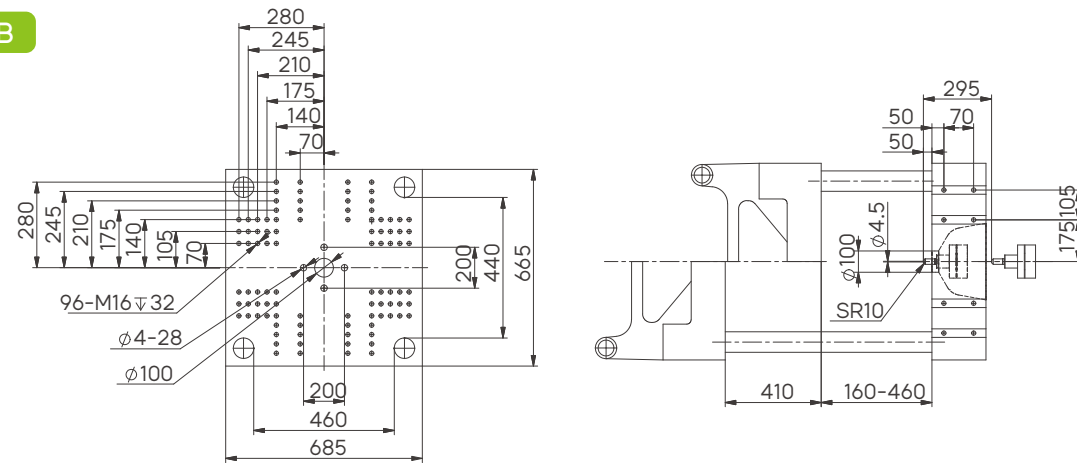
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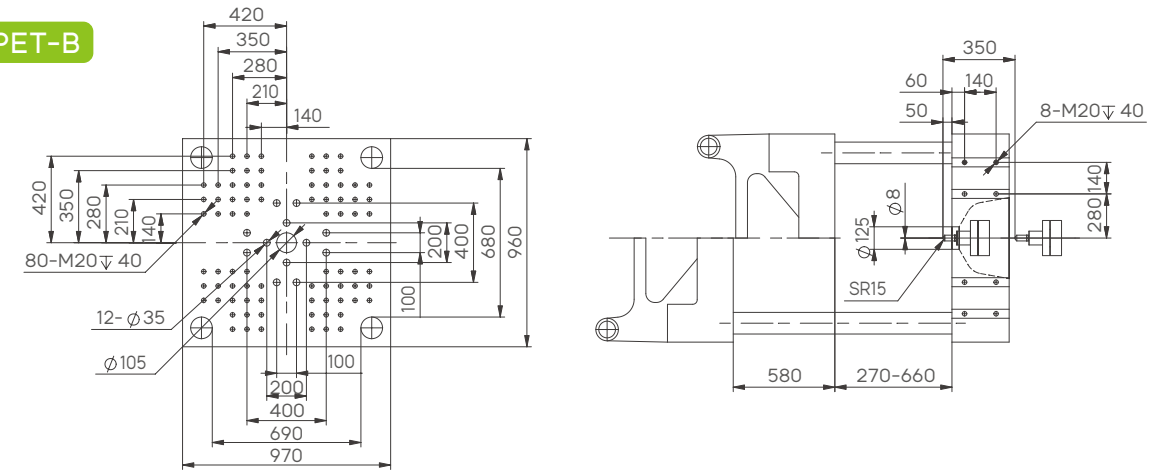
SPET-B Series Injection Molding Machine for Standard Water and Oil Preforms

Platen Dimensions

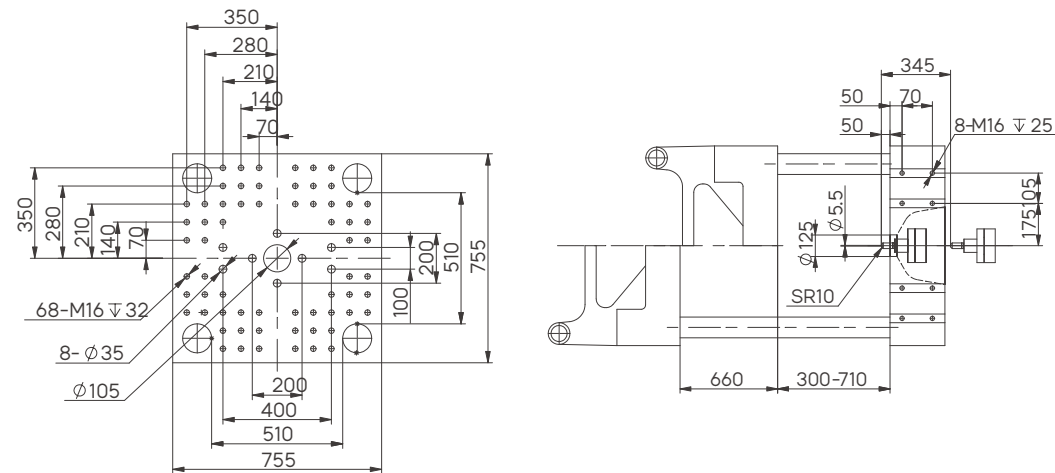
S160PET-B



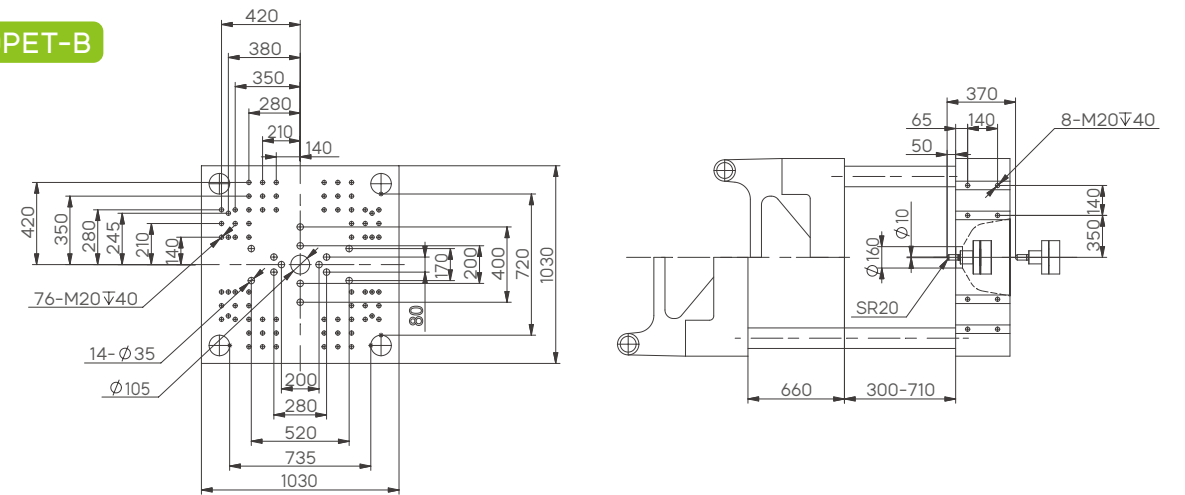
S320PET-B



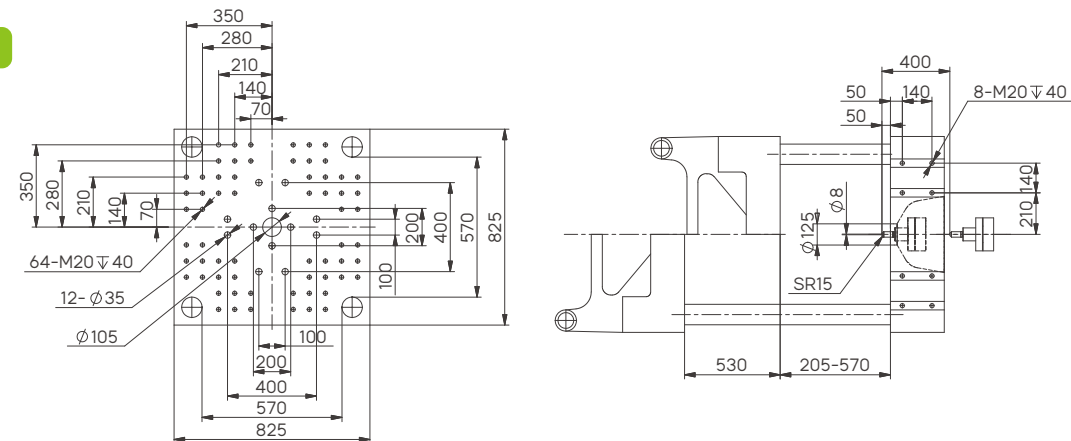
S200PET-B



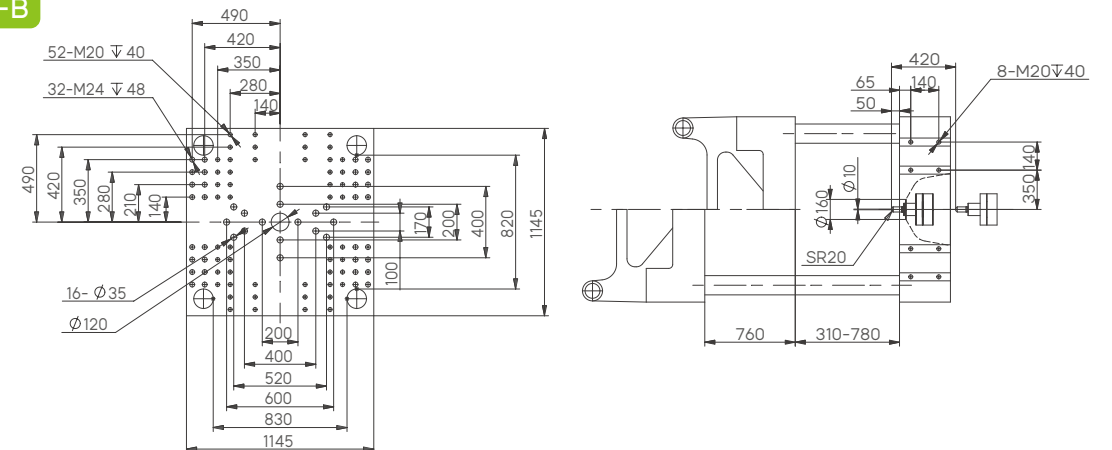
S380PET-B



S260PET-B



S450PET-B

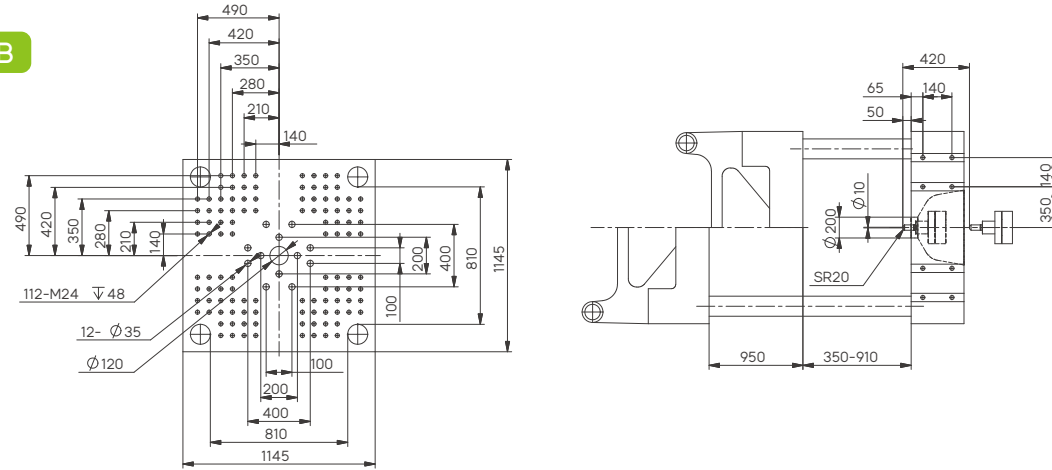


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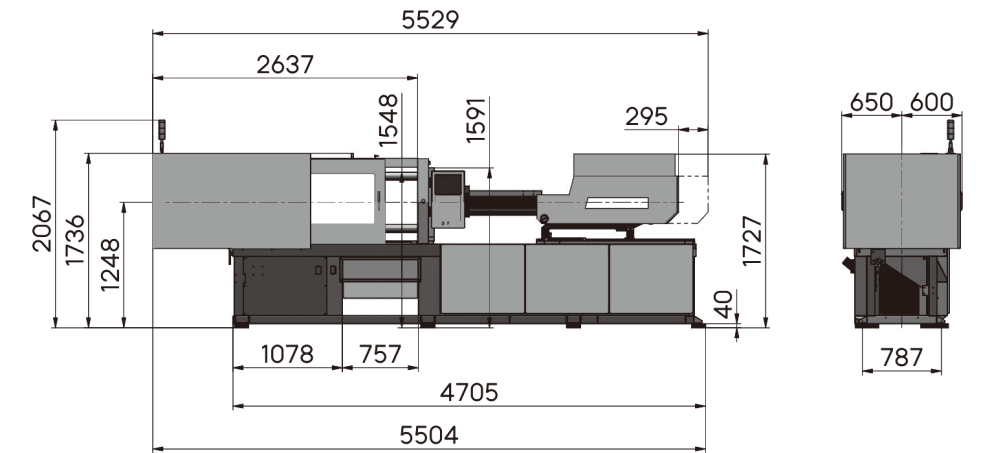
SPET-B Series Injection Molding Machine for Standard Water and Oil Preforms

Machine Dimensions

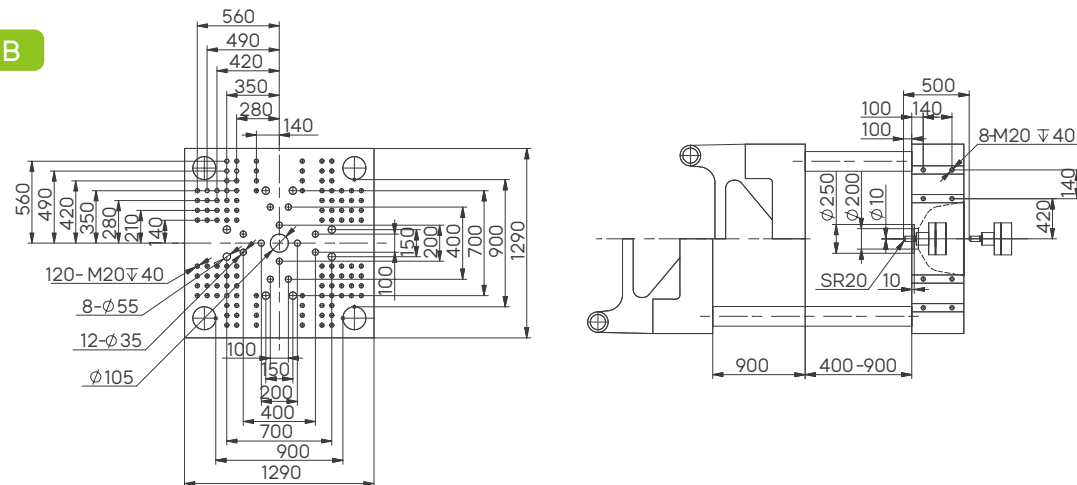
S500PET-B



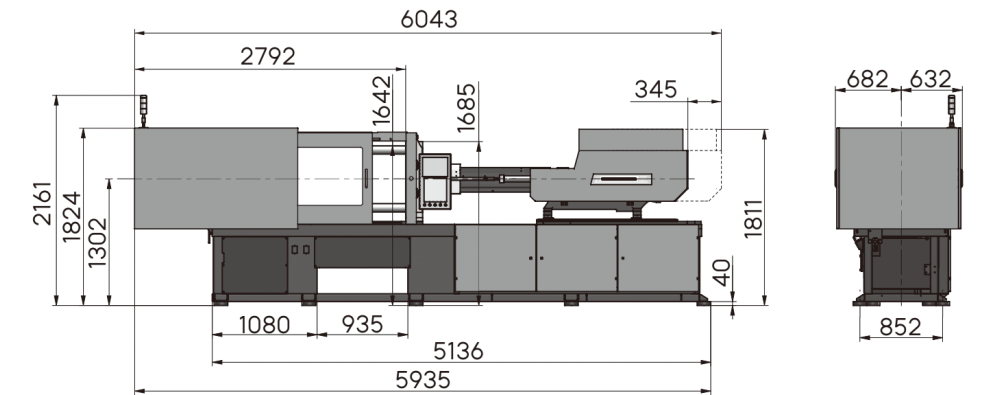
S160PET-B



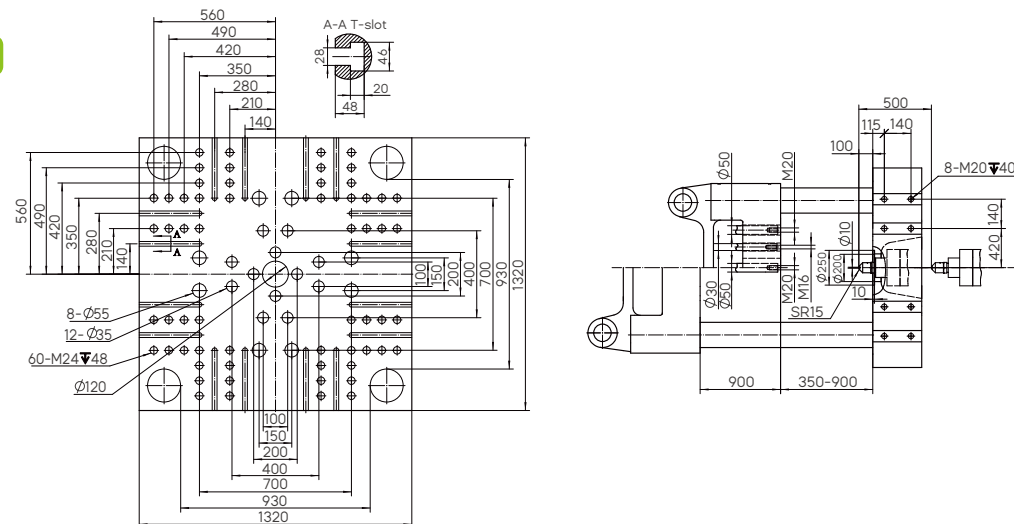
S600PET-B



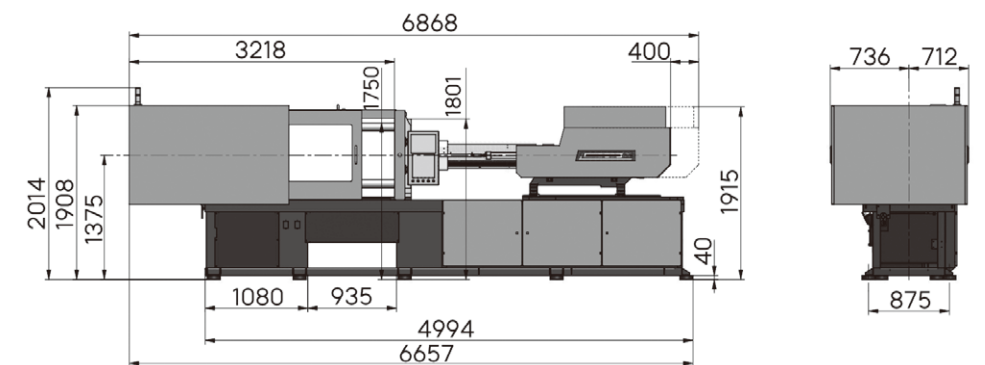
S200PET-B



S650PET-B



S260PET-B

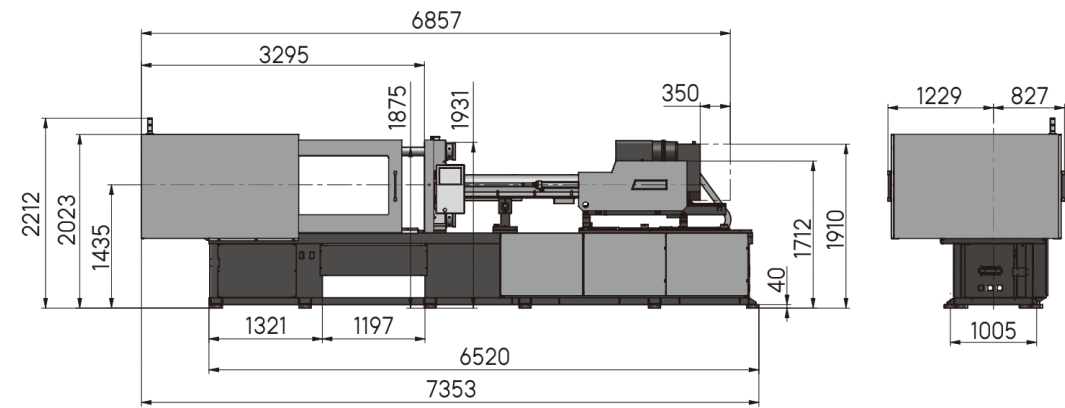


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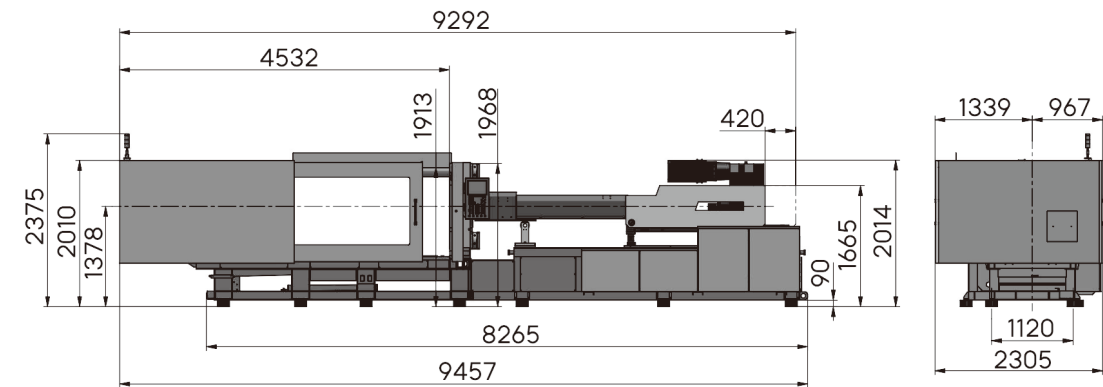
SPET-B Series Injection Molding Machine for Standard Water and Oil Preforms

Machine Dimensions

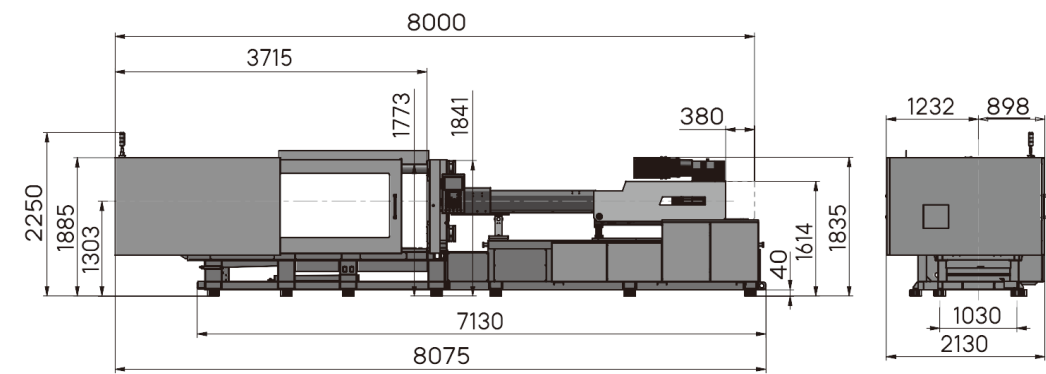
S320PET-B



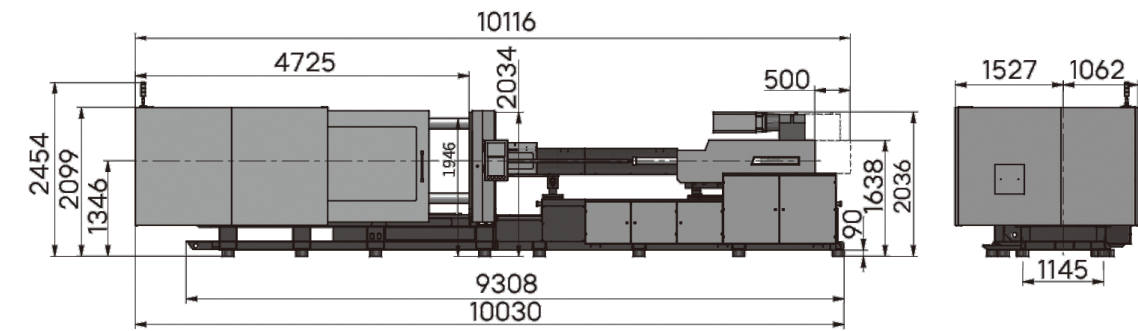
S500PET-B



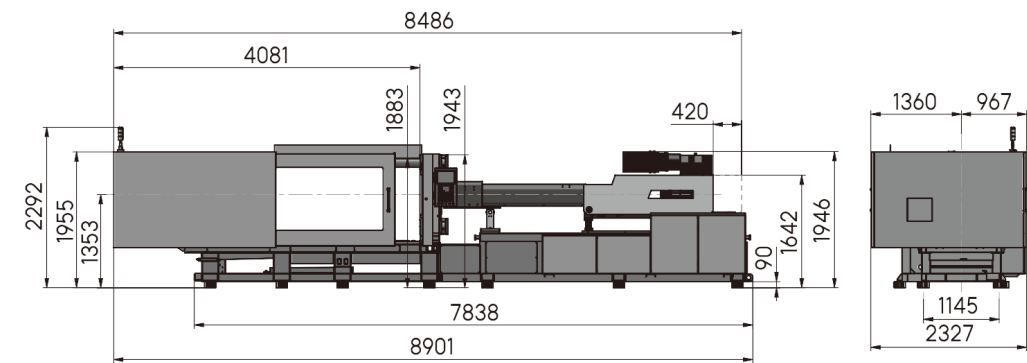
S380PET-B



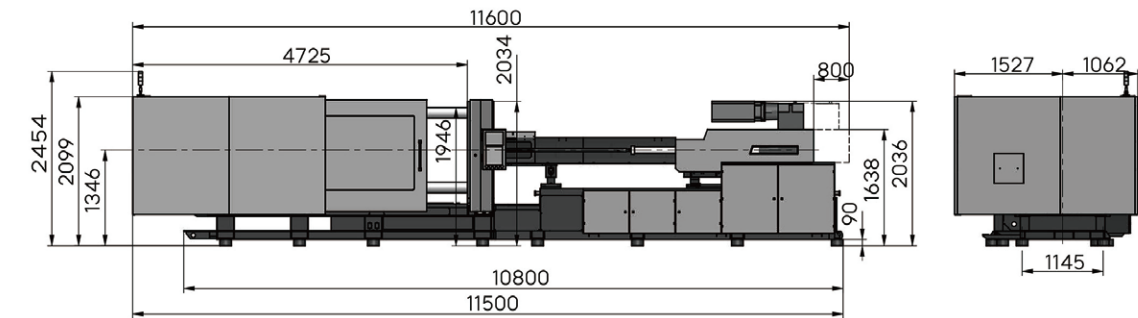
S600PET-B



S450PET-B



S650PET-B

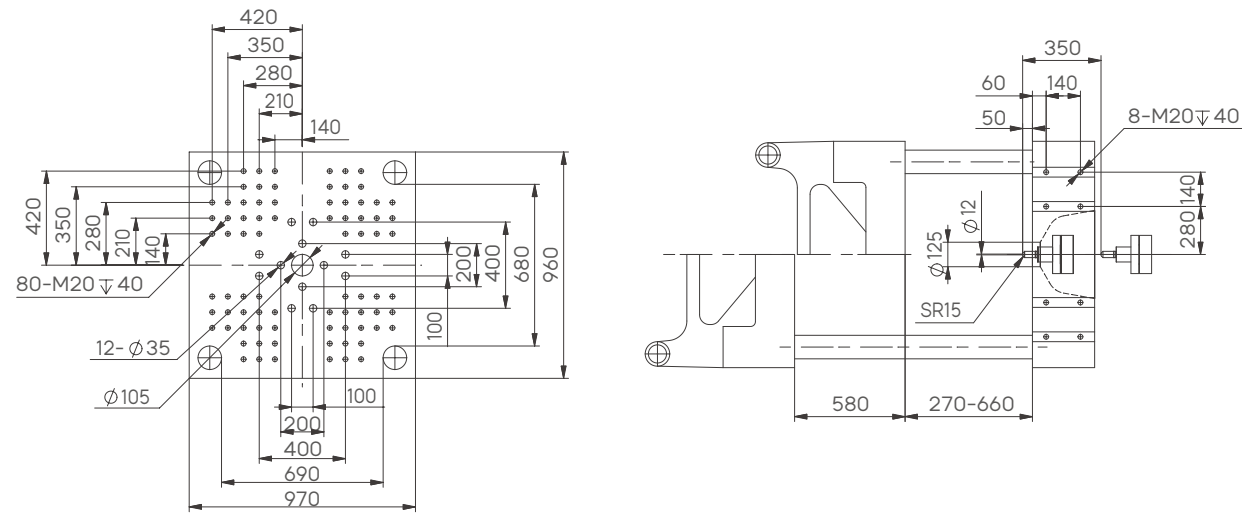


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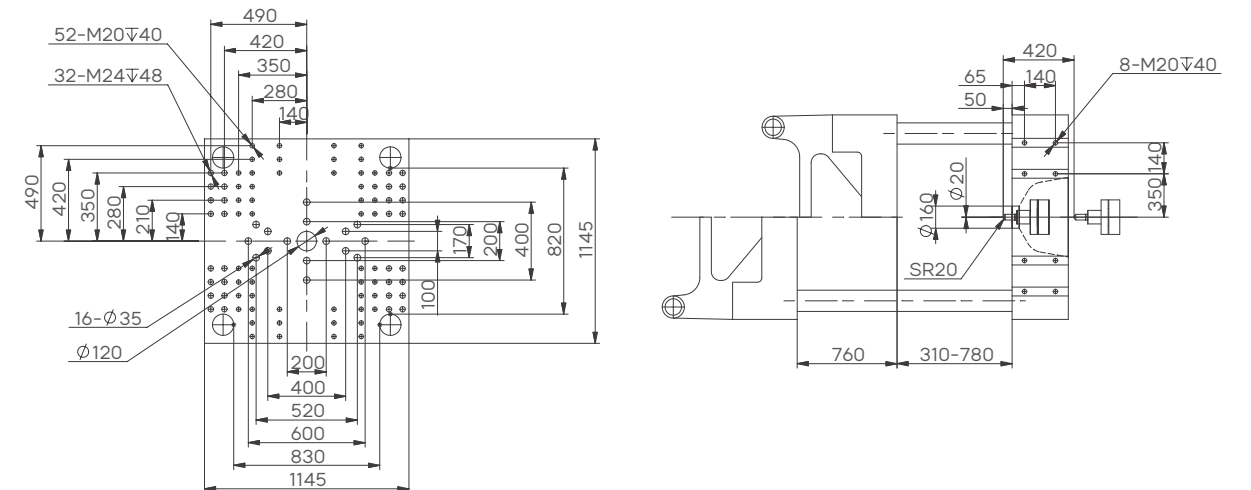
SPET-BH Series Injection Molding Machine for High-Speed Water Preform

Platen Dimensions

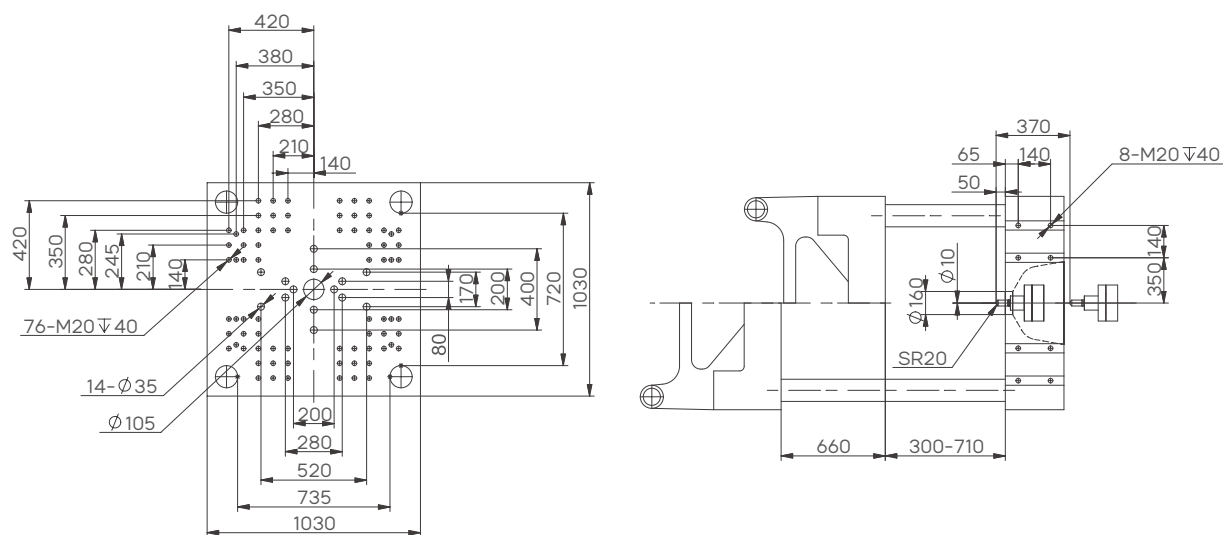
S320PET-BH



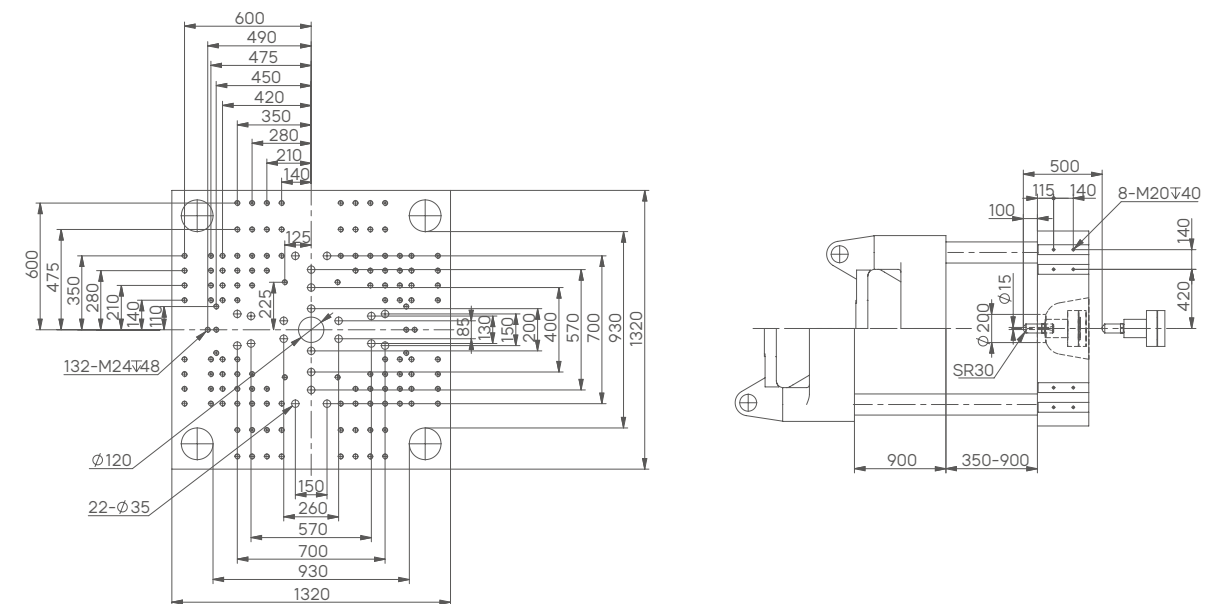
S450PET-BH



S380PET-BH



S580PET-BH

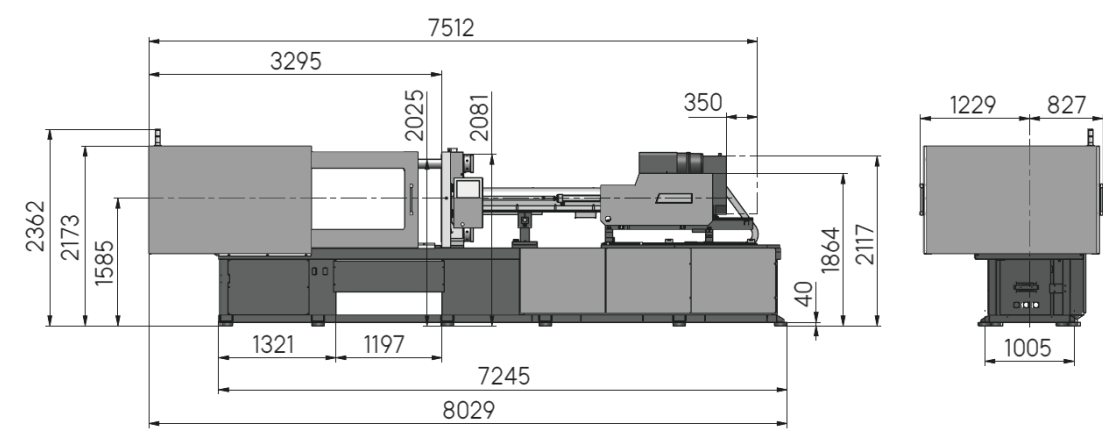


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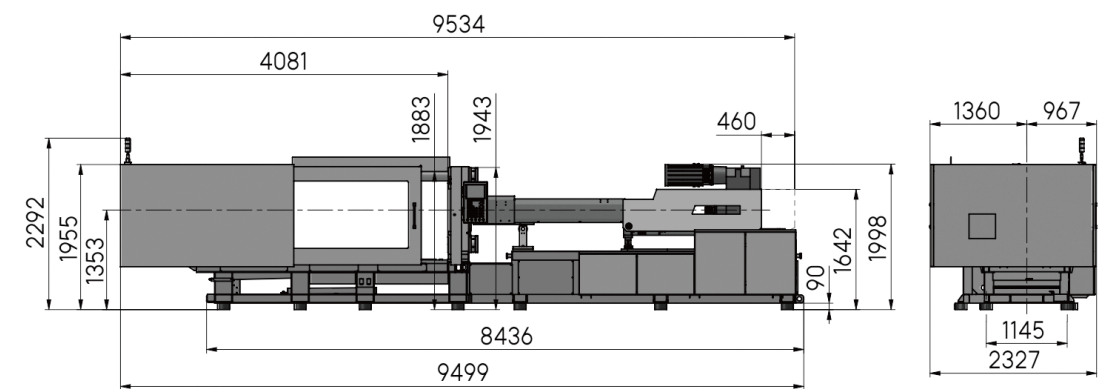
SPET-BH Series Injection Molding Machine
for High-Speed Water Preform

Machine Dimensions

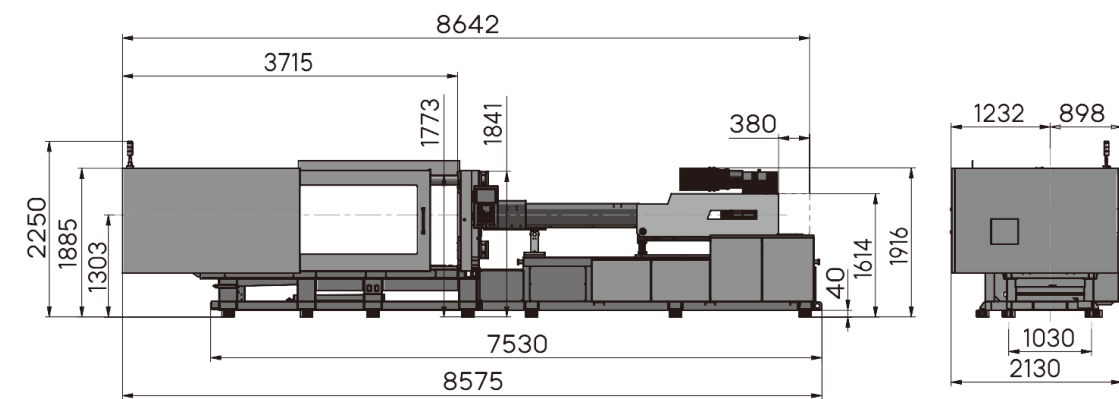
S320PET-BH



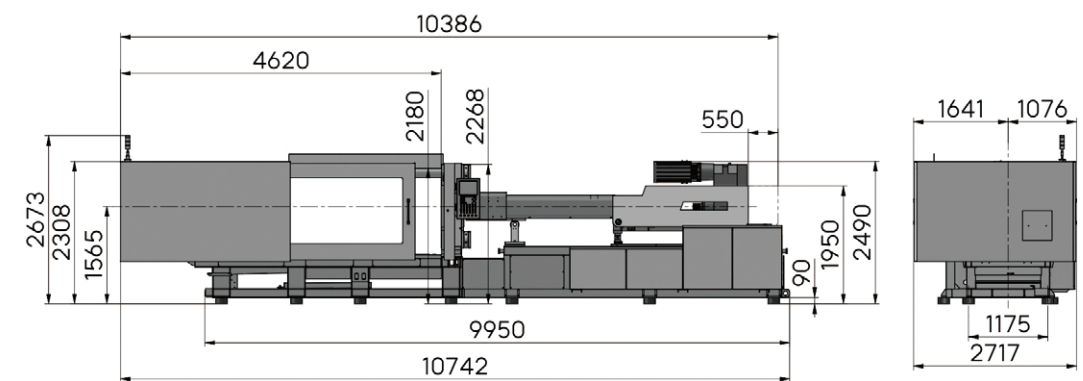
S450PET-BH



S380PET-BH



S580PET-BH



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Standard & Optional Features (S160-600PET-B/BH series)

	Standard	Optional
Injection Unit		
Alloy steel plasticizing screw and barrel for PET preforms	●	
Parallel double-cylinder injection system	●	
Synchronized plasticizing	●	
Dual linear guides injection unit	●	
Energy-saving groove design of barrel (patented design)	●	
Nozzle and multi-stage PID barrel temperature control (4-8 zones)	●	
Double-carriage cylinder	●	
Fully-closed heat retaining cover/purge guard (with electrical protection)	●	
Cold start protection	●	
Automatic purging	●	
Selectable suck-back before or after plasticizing	●	
Screw speed detection	●	
6-stage injection control (speed, pressure, position)	●	
5-stage holding pressure control (speed, pressure, position)	●	
4-stage plasticizing control (speed, pressure, position)	●	
Nozzle purge guard (with electrical detection)	●	
PET preform screw and barrel component (electroplated)		○
Spring shut-off nozzle		○
Ceramic heater band		○
Barrel heat-retaining energy-saving device (silicone heat preservation, infrared heating)		○
Low-speed high-torque enhanced hydraulic motor		○
Extended nozzle or special nozzle		○
Clamping Unit		
Precision transducer for clamping / ejector stroke control	●	
QT500-7A high-rigidity platen/toggle	●	
EUROMAP-based robot mounting holes	●	
Hydraulic mold height adjustment device	●	
Multiple ejector function settings	●	
Hydraulic / electrical safety devices	●	
Increased ejector force (200-600T)	●	
Automatic centralized lubrication system	●	
2-stage ejector forward/backward control	●	
Low-pressure mold protection	●	
Centralized water manifold (320-600T)	●	
High-rigidity platen with mounting holes	●	
Platen with T slots and mounting holes		○
Special water manifold		○
Special mold mounting hole		○
Auxiliary cylinder for stronger ejector force (320-450T)		○
Mechanical safety		○
Mold thermal insulation plate		○
Increased mold thickness		○
Interface for machine gate dehumidification device		○
Mold lifting device		○
Hydraulic System		
Servo system	●	
Plasticizing back pressure adjustment device	●	
Precision by-pass oil filter	●	

	Standard	Optional
Automatic correction of system pressure and flow	●	
High performance hydraulic control valve	●	
Imported branded hydraulic seal	●	
High-pressure oil cooling device	●	
Low-noise hydraulic system	●	
Closed-loop mold opening and closing proportional valve (320-600T)	●	
Hydraulic oil temperature detection and alarm		○
Hydraulic core pulling/unscrewing device		○
Enhanced 1-stage power		○
Independent oil temperature control		○
High-response servo system with accumulator		○
High-response mold opening and closing servo system		○
Synchronized ejection device		○
Nitrogen injection device		○
Variable displacement pump system		○
Control System		
Input/output inspection	●	
Automatic heat retaining and automatic heating setting	●	
Time / position / time + position controlled switchover from injection to holding	●	
Separate adjustment of motion slope	●	
Automatic clamping force adjustment	●	
12" color LCD display	●	
Memory for 120-set process parameters storage	●	
Multiple operating languages	●	
Two-color alarm light	●	
3-phase power socket (2x16A+2x32A)	●	
220V power socket (2 sets of 2-prong sockets below movable machine door of operating side)	●	
Hot runner interface		○
Air-assisted injection device		○
Tricolor alarm light		○
Air blow device		○
Interface for electric unscrewing interface		○
Change of power supply voltage		○
Mold needle valve control		○
General		
Operation manual	●	
Adjustable leveling pad	●	
A tool kit	●	
Filter	●	
Mold retaining plate	●	
Stainless steel hopper		○
Side-entry robot		○
Mold dehumidification device		○
Movable or rolling hopper		○
Mold temperature controller		○
Auto loader		○
Glass tube flowmeter		○
Dryer		○
Dehumidifier		○