

SPECIFICATIONS

C24151PT

SPECIFICATIONS

PLASTAR Si-350-7

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TOYO INNOVEX Co., Ltd.

APPROVED	CHECKED	DRAWN



PLASTAR Si-350-7 Specifications

Injection	Screw diameter	mm	55	60	68	60	68	75
	Injection stroke	mm	220	270	270	270	306	306
	Theoretical injection capacity	cm ³	522	763	980	763	1111	1351
	Injection unit	—	J450HF			J450F		
	Max. injection speed	mm/s	200			180		
	Injection rate	cm ³ /s	475	565	726	508	653	795
	Max. injection pressure	MPa	236	201	157	219	170	140
	Max. injection holding pressure	MPa	206	177	138	196	147	118
	Injection unit	—	JH600F			JH750F		
	Max. injection speed	mm/s	300			300		
	Injection rate	cm ³ /s	712	848	1089	848	1089	1325
	Max. injection pressure	MPa	231	192	152	219	170	140
	Max. injection holding pressure	MPa	196	167	128	196	147	118
	Recovery rate (PS)	kg/h	220.7	244.0	337.1	205.6	277.5	386.0
	Screw revolution speed	min ⁻¹	300			260		
	Heater capacity	kW	16.7	19.5	24.8	19.5	24.8	31.2
	Nozzle pressing force	kN	39.0			39.0		
Clamping	Clamping system	—	Double toggle					
	Clamping force	kN	3430					
	Clamping stroke	mm	700					
	Min. mold height	mm	300					
	Max. mold height	mm	770					
	Tie bar clearance (H×V)	mm	810 x 810					
	Die plate size (H×V)	mm	1050 x 1050					
	Ejector force	kN	60					
	Ejector stroke	mm	150					
Other	Machine dimensions (L) 〈 〉 : JH600F 《 》 : JH750F	mm	7499 〈7659〉	7643 〈7803〉	7811 〈7971〉	7643 《7803》	7811 《7971》	8125 《8285》
	Machine dimensions (W×H)	mm	1890 × 2098			1890 × 2098		
	Power source	—	3-phase AC200V±10% 50Hz / AC200V±10% 60Hz / AC220V±10% 60Hz					
	Main breaker capacity	A	J450HF:225 【125】 JH600F:300 【200】			J450F:225 【125】 JH750F:400 【200】		
	Total electric capacity	kVA	J450HF:61 JH600F:87			J450F:66 JH750F:107		
	Incoming supply wire size	mm ²	J450HF:150 【60】 JH600F:200 【100】			J450F:150 【60】 JH750F:325 【100】		
	Protective earthing wire size	mm ²	J450HF:100 【38】 JH600F:100 【60】			J450F:100 【38】 JH750F:200 【60】		
	Machine weight	t	17.0			17.2		
	Noise (L _{PA})	dB	78.1 dB					

- Note**
- The information in this document is subject to change without any legal obligation on the part of the manufacture.
 - Specifications are expressed in SI units. (1MPa=10.2kgf/cm² 1kN=0.102tonf)
 - Max. injection pressure, max. injection holding pressure, and screw revolution speed shown above are the maximum allowable setting for the values.
 - There may be limitations of max. injection pressure, max. injection holding pressure, and screw revolution speed depending on the molding conditions, cycle, material (resin), etc.
 - The injection rate and the maximum injecting speed are calculated values. These values may be limited by set injecting pressures.
 - When the machine is attached with an option, the capacity of the breaker may be changed.
 - Figures in 【 】 are 400V class (a transformer (Option) is necessary for the machine) values.
 - Noise values determined according to the noise test code given in JIS B 6711:2021 (ISO 20430:2020). Values will be changed by the operating condition.
 - Incoming supply wire size is calculated on the condition that three insulated wires with a rated temperature of 60°C and ambient temperature is 30°C and metallic conduit work is made.
 - Protective earthing wire size is selected based on the incoming supply wire size.
 - The total electric capacity is calculated based on the maximum performance of the drive unit. The operating conditions of the injection unit may reduce the total electric capacity.

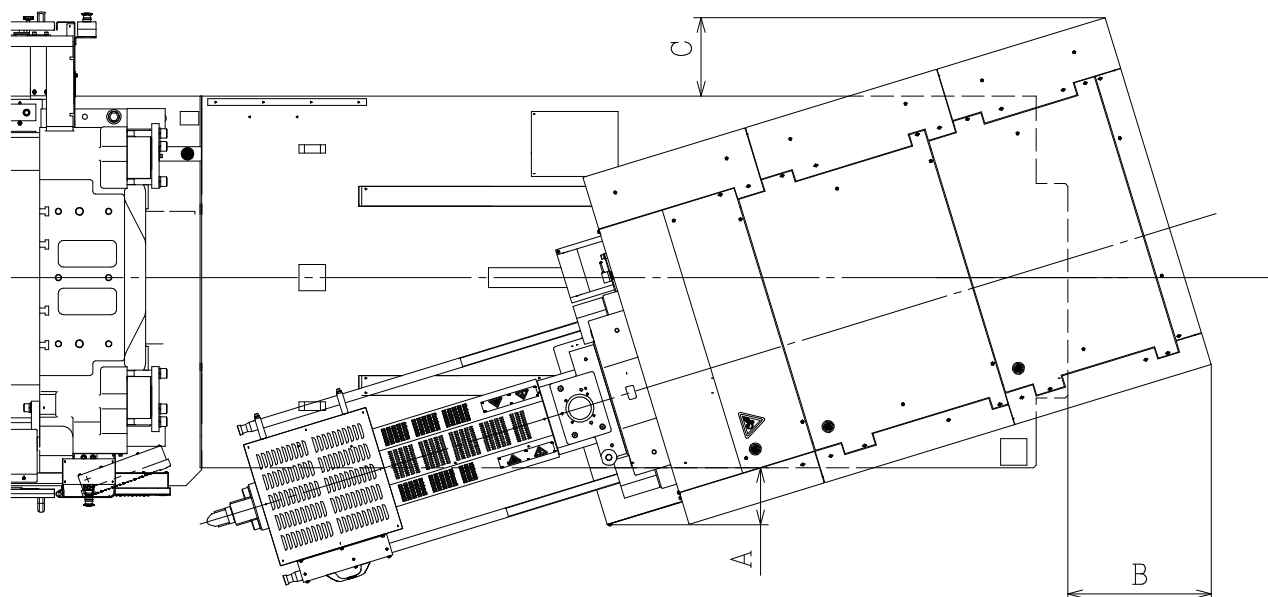
2 PLASTAR Si-7 Equipment

	Standard	Option
Injection / Plastication unit	•S-TMC system •Just pack injection control •V mode (response variable) Injection control •SRC-II metering system •SNF injection control •Closed-loop control for injection speed, position and pressure •Programmable injection control (2 to 7 steps) •Programmable metering control (1 to 3 steps) •Holding pressure changeover via position, time and pressure •Multistep, slope injection control (Speed/Pressure) •1st injection pressure overshoot suppression control •Back pressure overshoot suppression control •Suck-back system (Before and after metering) •Automatic purge system (Standard, TWAP, purge without screw forward/back, purge without back pressure control) •Hopper throat temperature control (PID) •No-back pressure metering in manual mode •Nozzle reciprocating function •Injection during high pressure clamping •Injection unit swiveling mechanism (with nozzle alignment mechanism) •No material warning function •Melt remaining monitor control •Load cell zero point monitor function (Zero adjustment function available) •6 zones heater control (4 zones/under $\phi 24$, 5 zones/$\phi 28 \sim 36$) •Heater SSR control •Heater temperature holding control •Purge cover (with interlock) •Wear-resistant screw and barrel (under $\phi 40$) •Heat-insulated heater cover	•SRC-III screw check triplet •Pneumatic shut-off nozzle •Different screw and barrel diameter •Wear-resistant screw and barrel (over $\phi 46$) •Unique design screw for specific materials •Long nozzle (Select the protrusion amount(mm) from below) - Si-50 to 130-7 : 85 / 120 - Si-180-7 or larger $\phi 28$ to $\phi 50$: 85 / 120 / 150 $\phi 55$ to $\phi 120$: 90 / 120 / 150 •Small diameter long nozzle (over $\phi 24$) •Separate type long nozzle (under $\phi 36$) •High temperature use band heater (up to 500°C) •Hopper (with shutter) 20L : $\phi 16$ to $\phi 28$ 40L : $\phi 32$ to $\phi 40$ 55L : $\phi 46$ to $\phi 55$ 125L : $\phi 60$ to $\phi 120$ •Hopper swiveling device •Hopper sliding device •Maintenance step for hopper area / Auxiliary step •2-zone temperature control for nozzle •Purged material receiver (with folded) •Clear cover for the checkup of the injection unit
Clamping unit	•Closed-loop control of speed and position for mold open and close •Closed-loop control of ejection speed and position •V mode (response variable) Mold open/close control •V mode (response variable) Ejector control •Programmable control of mold open (2 to 5 steps) •Programmable control of mold close (3 to 5 steps) •Programmable control of ejector (Forward : 1 to 3 steps / Backward : 1 to 2 steps) •2-step ejector •Mold exchanging mode (low pressure, low speed) •Automatic clamping force setup system •Low pressure mold protection system •HSP mold protection system •Ejector during mold opening (by position setting) •Movable plate supporting device (Si-50 to 450-7 : Linear guide/ Over Si-550-7 : low resistance guide) •Emergency stop switch (operator side and non-operator side) •Core-back molding control (3 steps) •Mold clamping force display (standard accuracy) •Automatic mold clamping force adjustment system •Ejector pull-back system •T slot platen : over Si-230-7 •Mold locating ring - Si-280-7 to 450-7 (100/120) - Si-550-7 to 700-7 (150/185) - Si-700-7W to 1300-7 (150/250)	•Air ejector (1 to 4 lines) •3-way valve for air ejector (1 to 4 lines) •Air-driven core system (1 to 4 lines) •Air-driven valve gate (1 to 4 lines) •Hydraulic core system (independent hydraulic unit) 2 lines : Si-50 to 1300-7 4 lines : Si-280 to 1300-7 •Mold ejector plate return detector (metal contacts / plug socket contacts) •Mold temperature display (2 channels; with magnet sensor) •Mold temperature control (2 channels; with magnet sensor) •Mold locating ring - Si-50-7 (60/100) - Si-80-7 to 230-7 (100/120) •Heat insulating board - General : Si-50 to 1300-7 - High precision : Si-50 to 350-7 •Unscrewing device with the servo motor (Si-50 to 230-7) •Ejector pull-back connecting rod and pin •Clamping force display (High precision) •Clear cover for the checkup of the clamping unit •Double roller type movable plate supporting device (Si-130 to 450-7) •Mechanical safety device (mold closing)
Note	•The standard band heater can be used for temperatures up to 350°C. For higher temperatures, use the high temperature band heater. •When a specially designed mold is used, consult us. •Some of the standard equipment controls require switching ON/OFF on the screen before use. Please refer to the operation manual for details.	



PLASTAR Si-7 Equipment (2)

	Standard	Option
Control	•SYSTEM800 SE control system with TFT liquid color display and full touch panel •Graphic display of injection, metering and waves •Digital setting of all setup parameters •Internal memory of 400 mold setups •Molding process parameter pre-view function •USB interface (2 ports) •Media play function •Files reference function •Hour meter (operating hour indication) •Power consumption display •Production control function (job completion ratio, prospective time of job completion, etc.) •Multiple counter (cycle NO., lot NO., repeating lot NO., warning bell, initial reject, continuous failures, operation NO. etc.) •Monitoring function (up to 32 items from 96 items position, speed, pressure, time, rotation speed etc.) •Statistical processing of monitored data •Monitoring graphic indication •Manned/Unmanned mode switching function •Alarm function (cycle time, monitoring data with up-down tolerance, heater and thermocouple disconnection, safety door etc.) •Machine conditions display (operation mode, completion of mold closed, ejector back position) •Maintenance function (1 cycle graphic, alarm history, grease supply notice, servo amplifier communication etc.) •Record of the setting value •Security function •Screw cold-start prevention system •Fine PID temperature control (with slope starting, step control function) •1 week automatic heater on/off calendar •Local language display (English, Chinese (Simplified/Traditional), Thai, Spanish, Korean, Hebrew) •Injection compression control (position control; 1 to 5 steps) •Injection compression control (clamp force control; 1 to 5 steps) •Gate cutting function •SMART MOLDING (molding condition setting navigation system) •Automatic melt viscosity control program (<i>meltcon</i>) •Check ring ware measuring function	•Indicator light in one color (red) •Indicator light in three colors (red, yellow, green, with mode select function) •Unscrewing motor connecting circuit (with socket) •100V power supply (2 sockets), supplied by customer •100V power supply (2 sockets), with 10A transformer •200V power supply (4 sockets, 30A 2 lines) •200V power supply (4 sockets, 30A 2 lines) with circuit protector •Vacuum device interface •Valve gate interface (Multi lines) •Conveyor starting interface •Automatic mold clamping device interface •Various signal output (4 items; non-voltage normally-open contacts) •Various analog signal output (8 items) •Various signal input (8 items) •Quality control system (A++) •Molding process parameter control software •Molding machine monitoring system (T-Station lite) •Local language display (Czech, French, Italian, Portuguese) •Compatibility with various voltage source (with transformer) •High temperature environment cooling system •Regenerate system •User identify system (Card reading) •Tool for check ring wear measuring function
Other	•Automatic grease lubricating device •USB memory (Our specification) (400 molding setups in case of stored molding parameter only) •Interface for take-out robot •Standard accessories (mold clamp, specialized tool, spare grease) •Global safety standard (JIS B 6711:2021 (ISO 20430:2020))	•Rubber pads •Cooling water flow gauge (Select type from below) - Water flow gauge on machine base : 4 lines/8 lines - Inlet with manual valve : 4 lines/8 lines - Inlet/Outlet with manual valve : 4 lines/8 lines •Tool (Wrench, hexagon wrench, screw driver) •Hand grease pump •Chute (under Si-350-7) •Reversible Chute (Under 100-7)
Note	•When a specially designed mold is used, consult us. •Some of the standard equipment controls require switching ON/OFF on the screen before use. Please refer to the operation manual for details.	



Injection unit	Screw diameter	A	B	C
J 450HF	φ 55	234	409	304
	φ 60	234	553	304
	φ 68	234	721	304
JH600F	φ 55	425	619	351
	φ 60	425	763	351
	φ 68	425	931	351
J 450F	φ 60	234	553	304
	φ 68	234	721	304
	φ 75	234	1035	304
JH750F	φ 60	425	763	351
	φ 68	425	931	351
	φ 75	425	1245	351

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PLASTAR Si-350-7

INJECTION UNIT TURNING DWG.

Ejector pin hole 4-ø38

Ejector pin $\phi 30 \times 4$ pcs

(Shared use with the Center)

Ejector pin hole Ø60

Ejector pin hole 12- ϕ 38

Ejector pin $\phi 30 \times 4$ pcs

Ejector pin

Ø 30 x 255-5 2 pcs

$\phi 30 \times 439$ 4 pcs

Toggle cover

100
 Rector stroke

Clamping stroke

MAX 770
MIN 300

MIN300

A

Extractor

mounting

surface

18.

U I J

Operations side

Rear side

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PLASTAR Si-350-7

MOLD FITTING DWG.

Seen from A-A

1) The chute is optional.

2) Figures in **[]** show dimensions with options.

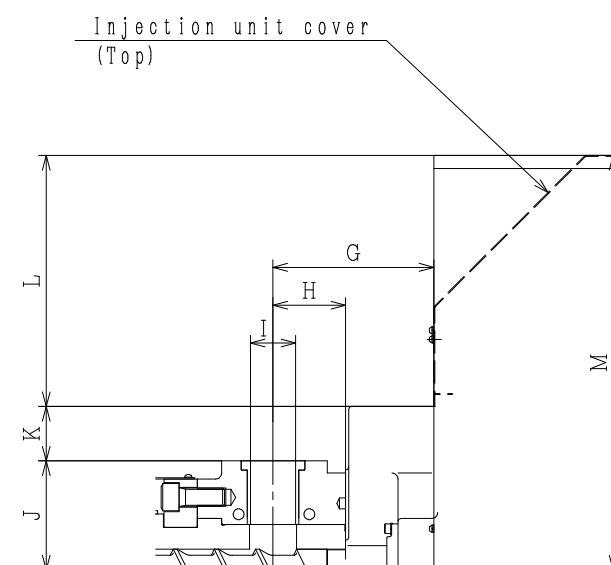
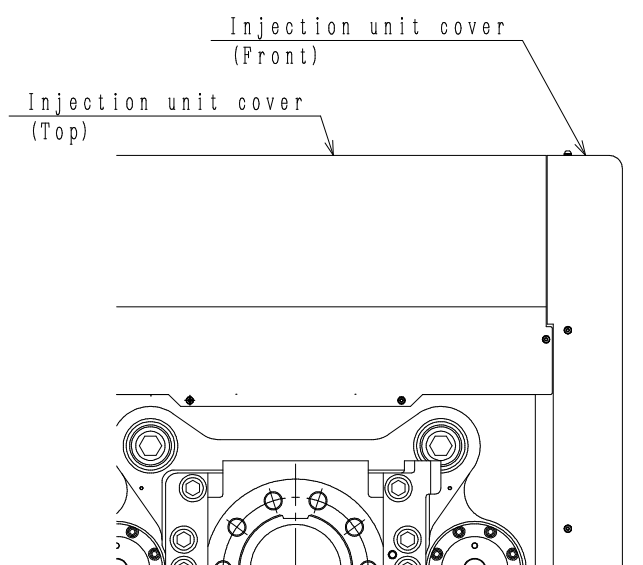
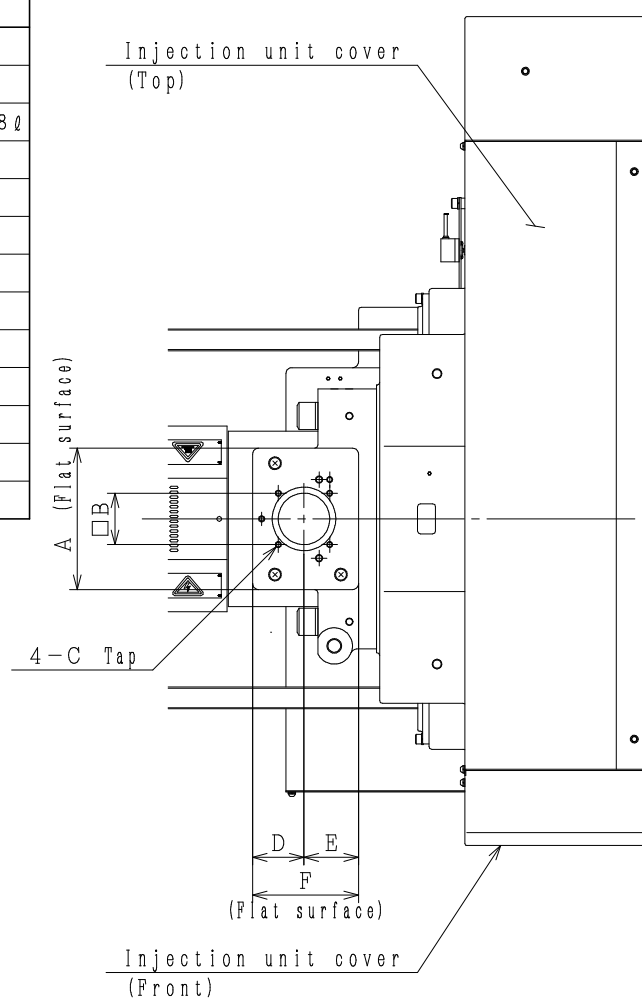
Detail of T-slot

Technical drawing of a stepped shaft. The shaft has a total length of 14 ± 0.2 mm. It features a central hole with a diameter of 20 ± 0.15 mm. The shaft has a central section with a diameter of 34 ± 0.2 mm and a shoulder with a diameter of 20 ± 0.15 mm. The distance from the left end to the start of the central section is 20 ± 0.15 mm. The distance from the end of the central section to the right end is 20 ± 0.15 mm. The drawing includes a center line and dimension lines with arrows.

	J370F		
	$\phi 50$	$\phi 55$	$\phi 60$
A	180	194	230
B	85	85	85
C	M10×18 ϕ	M10×18 ϕ	M10×18 ϕ
D	73	85	85
E	72	80	90
F	145	165	175
G	266.5	261	296
H	125.5	120	155
I	$\phi 75$	$\phi 75$	$\phi 75$
J	130	155	165
K	140	115	105
L	415	415	415
M	685	685	685

	J450HF·JH600F		
	$\phi 55$	$\phi 60$	$\phi 68$
A	194	230	234
B	85	85	85
C	M10×18 ϕ	M10×18 ϕ	M10×18 ϕ
D	85	85	85
E	80	90	90
F	165	175	175
G	261	296	266
H	120	155	125
I	$\phi 75$	$\phi 75$	$\phi 75$
J	155	165	180
K	115	105	90
L	415	415	415
M	685	685	685

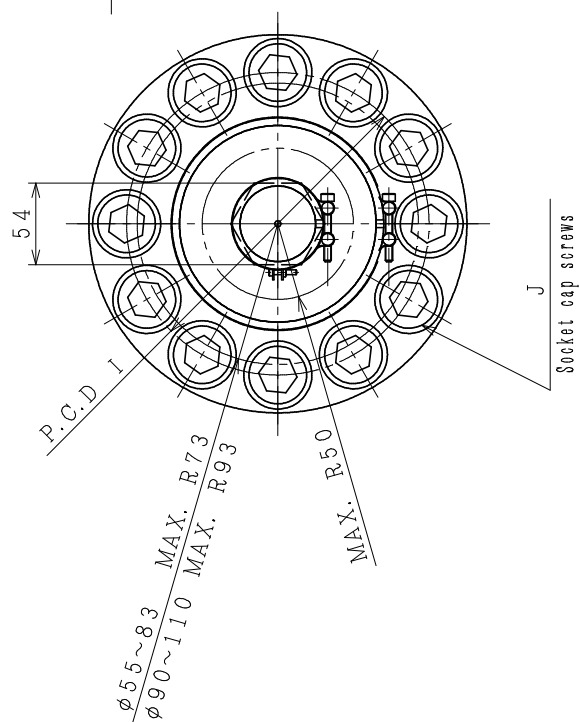
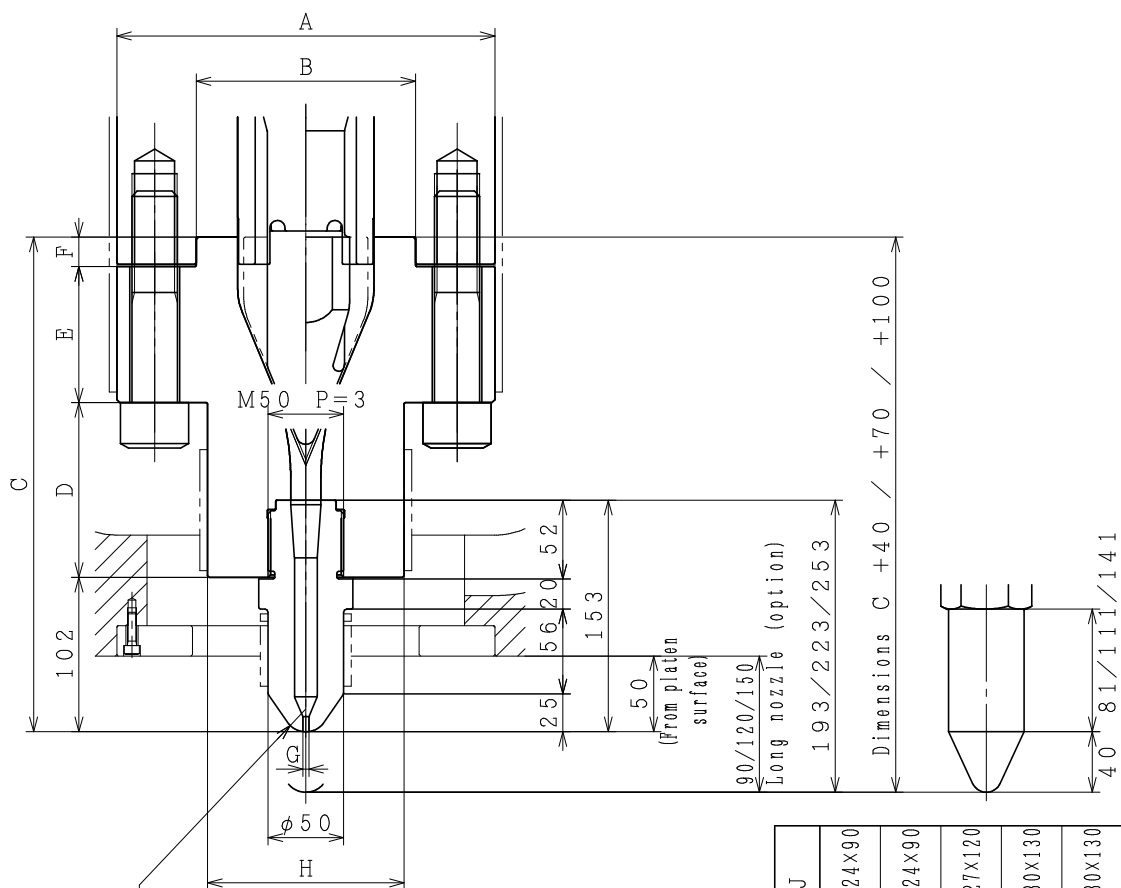
	J450F·JH750F		
	$\phi 60$	$\phi 68$	$\phi 75$
A	230	234	234
B	85	85	85
C	M10×18 ϕ	M10×18 ϕ	M10×18 ϕ
D	85	85	82
E	90	90	81
F	175	175	163
G	296	266	349
H	155	125	208
I	$\phi 75$	$\phi 75$	$\phi 75$
J	165	180	180
K	105	90	90
L	415	415	415
M	685	685	685



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PLASTAR Si-7 J unit

DETAIL DWG. OF HOPPER PART



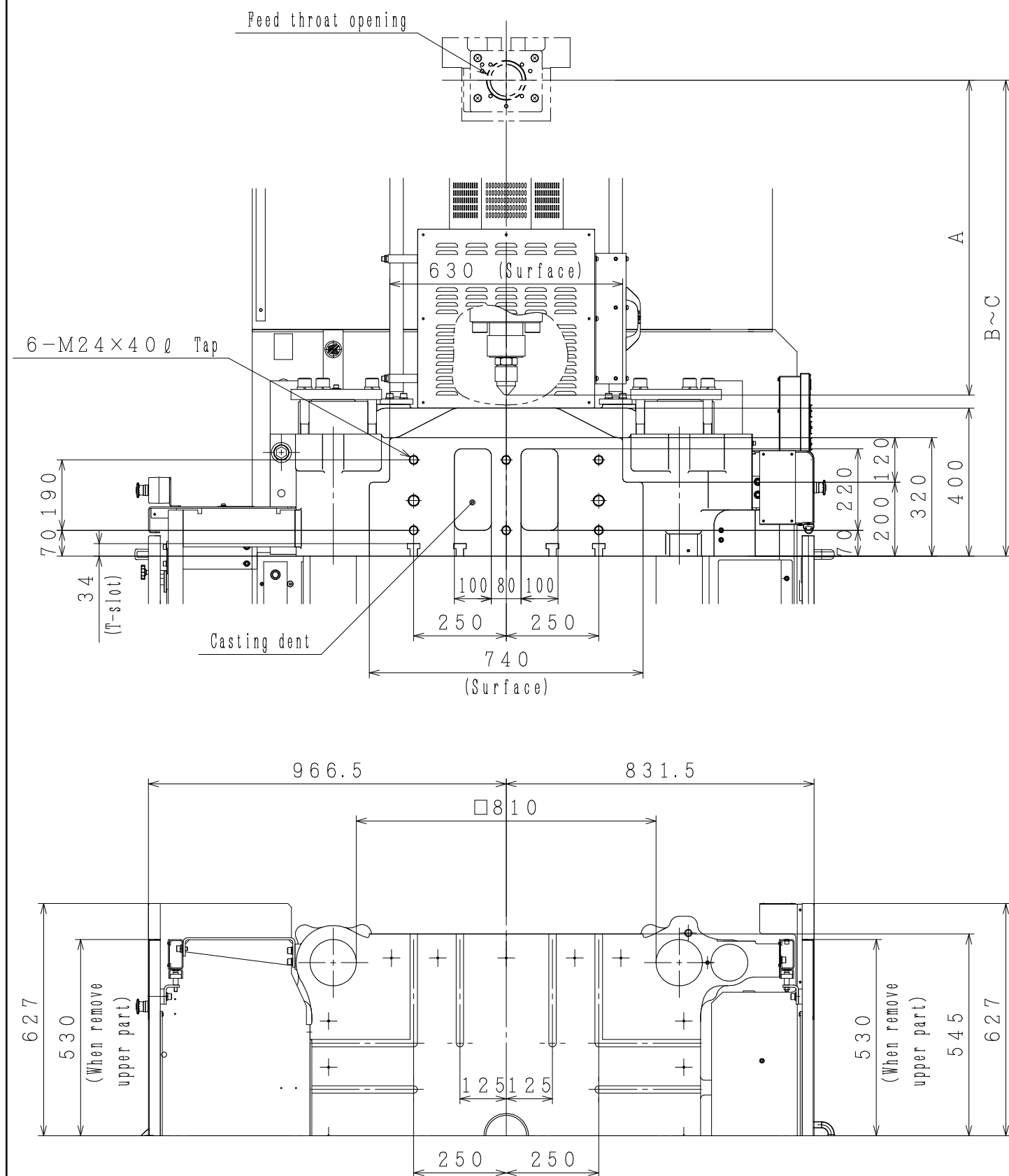
Injection unit (screw diameter)	A	B	C	D	E	F	G	H	I	J
J370F	φ55	φ160	φ90	252	83.5	50	16.5	φ3	φ80	120
J450HF·JH600F	φ60	φ170	φ95	252	83.5	50	16.5	φ3	φ80	125
J370F·J450HF	φ68	φ185	φ100	282	93.5	70	16.5	φ3	φ90	142
JH600F·J450F·JH750F	φ75	φ200	φ110	292	93.5	80	16.5	φ4	φ90	155
J450HF·JH600F·J450F	φ83	φ215	φ110	292	93.5	80	16.5	φ4	φ90	155
JH750F·K600F·K750F	φ90	φ250	φ145	327	115.5	90	19.5	φ4	φ130	200
K600F·K750F	φ100	φ250	φ145	327	115.5	90	19.5	φ4	φ130	200
K600F·K750F	φ110	φ250	φ150	329.5	118	90	19.5	φ4	φ130	200
L750F	φ90	φ250	φ145	327	115.5	90	19.5	φ4	φ130	200
L750F	φ100	φ250	φ145	327	115.5	90	19.5	φ4	φ130	200
L750F·M750F	φ110	φ250	φ150	329.5	118	90	19.5	φ4	φ130	200
M750F	φ110	φ250	φ150	329.5	118	90	19.5	φ4	φ130	200

The long nozzle (optional equipment) can be selected from three types of protrusion.

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PLASTAR Si-7 (J~M unit)

DETAIL DWG. OF NOZZLE (Separated (Bolt-fixed type))



	J450HF・JH600F			J450F・JH750F		
	φ55	φ60	φ68	φ60	φ68	φ75
A	1364	1473	1671	1473	1671	1902
B	1314	1423	1621	1423	1621	1852
C	1799	1908	2106	1908	2106	2337

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PLASTAR Si-350-7

EXTRACTOR FITTING RELATED DIMENSION