

SPECIFICATIONS
C24154PT

SPECIFICATIONS

PLASTAR Si-700-7

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TOYO INNOVEX Co., Ltd.

APPROVED	CHECKED	DRAWN



PLASTAR Si-700-7 Specifications

Injection	Screw diameter	mm	68	75	83	83	90	100	100	110
	Injection stroke	mm	306	375	375	420	450	450	500	500
	Theoretical injection capacity	cm ³	1111	1656	2028	2272	2862	3534	3926	4751
	Injection unit	－	K600F			L750F ※1			M750F	
	Max. injection speed	mm/s	180			170			150	
	Injection rate	cm ³ /s	653	795	973	919	1081	1335	1178	1425
	Max. injection pressure	MPa	221	182	150	216	192	156	187	152
	Max. injection holding pressure	MPa	196	157	128	196	167	138	167	138
	Injection unit	－	K750F			－			－	
	Max. injection speed	mm/s	250			－			－	
	Injection rate	cm ³ /s	907	1104	1352	－	－	－	－	－
	Max. injection pressure	MPa	221	182	150	－	－	－	－	－
	Max. injection holding pressure	MPa	196	157	128	－	－	－	－	－
	Recovery rate (PS)	kg/h	225	297	397	337	450	612	576	756
	Screw revolution speed	min ⁻¹	200			170			160	
	Heater capacity	kW	24.8	31.2	38.8	38.8	49.4	53.4	53.4	61.4
	Nozzle pressing force	kN	39.0			39.0			39.0	
Clamping	Clamping system	－	Double toggle							
	Clamping force	kN	6860							
	Clamping stroke	mm	900							
	Min. mold height	mm	400							
	Max. mold height	mm	900							
	Tie bar clearance (H×V)	mm	970 x 970							
	Die plate size (H×V)	mm	1320 x 1320							
	Ejector force	kN	117.6							
	Ejector stroke	mm	250							
	Other	Machine dimensions (L)	mm	9420	9420	9420	9556	9832	10059	10304
Machine dimensions (W×H)		mm	2162 × 2367			2162 × 2430			2162 × 2465	
Power source		－	3-phase AC200V±10% 50Hz / AC200V±10% 60Hz / AC220V±10% 60Hz							
Main breaker capacity		A	K600F:400 【200】 K750F:400 【225】			400 【225】			500 【250】	
Total electric capacity		kVA	K600F:98 K750F:113			124			130	
Incoming supply wire size		mm ²	K600F:325 【100】 K750F:325 【150】			325 【150】			400 【150】	
Protective earthing wire size		mm ²	K600F:200 【60】 K750F:200 【100】			200 【100】			200 【100】	
Machine weight		t	31.1 [Inj : 9.0t / Clamp : 22.1t]			33.6 [Inj : 11.5t / Clamp:22.1t]			35.6 Inj : 13.5t/Clamp : 22.1t	
Noise (L _{pA})		dB	77.2 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.

※1 The heat barrel (φ 83) for the L750F Injection unit is not compatible with that of the K600F.

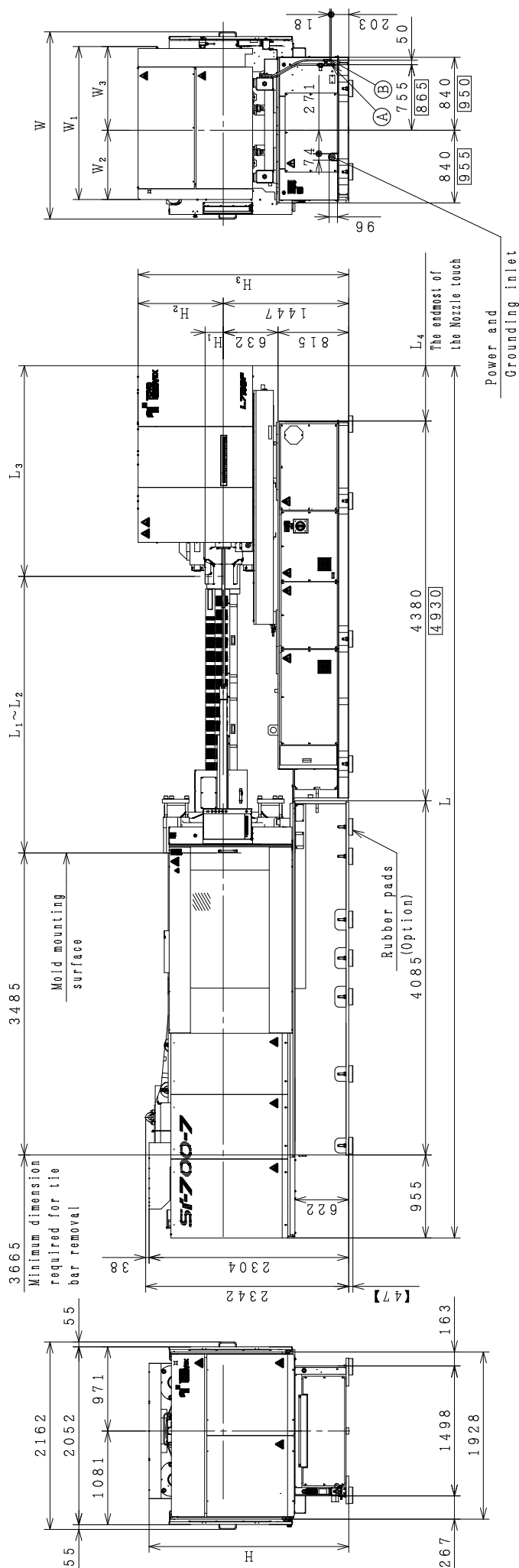
2 PLASTAR Si-7 Equipment

	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.	



Note

※ The primary piping connection for hopper throat should be made with flexible material. (Ex. Hoses)

※ Similarly, connect the power supply inlet using a cable, etc too.

※ Overall machine height increases by approx. 4mm with rubber pads attached.

Ⓐ Water for hopper throat IW-Rc3/8 (Location:Non-OP side)

(Normal water volume:5 to 10 t/min. with Y-type strainer)

Ⓑ Water for hopper throat OUF-Rc3/8 (Location:Non-OP side)

Injection unit (Screw diameter)		L	W	H	L ₁	L ₂	L ₃	L ₄	W ₁	W ₂	W ₃	H ₁	H ₂	H ₃
K600F K750F	φ68	9420	2162	2367	2211	1621	2108	-661	1510	680	830	180	920	2367
	φ75	9420	2162	2367	2442	1852	2108	-430	1510	680	830	180	920	2367
	φ83	9420	2162	2367	2616	2026	2108	-256	1510	680	830	180	920	2367
L750F	φ83	9556	2162	2430	2686	2026	2430	136	1764	800	964	210	983	2430
	φ90	9832	2162	2430	2962	2302	2430	412	1764	800	964	210	983	2430
	φ100	10059	2162	2430	3189	2529	2430	639	1764	800	964	210	983	2430
M750F	φ100	10304	2162	2465	3189	2529	2675	334	1888	874	1014	210	1018	2465
	φ110	10536	2162	2465	3421	2761	2675	566	1888	874	1014	210	1018	2465

Figures in [] show dimensions with options.
Figures in □ show dimensions with M750F.

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PLASTAR Si-700-7

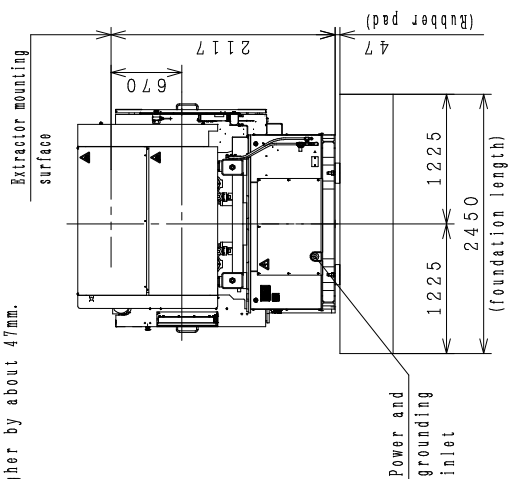
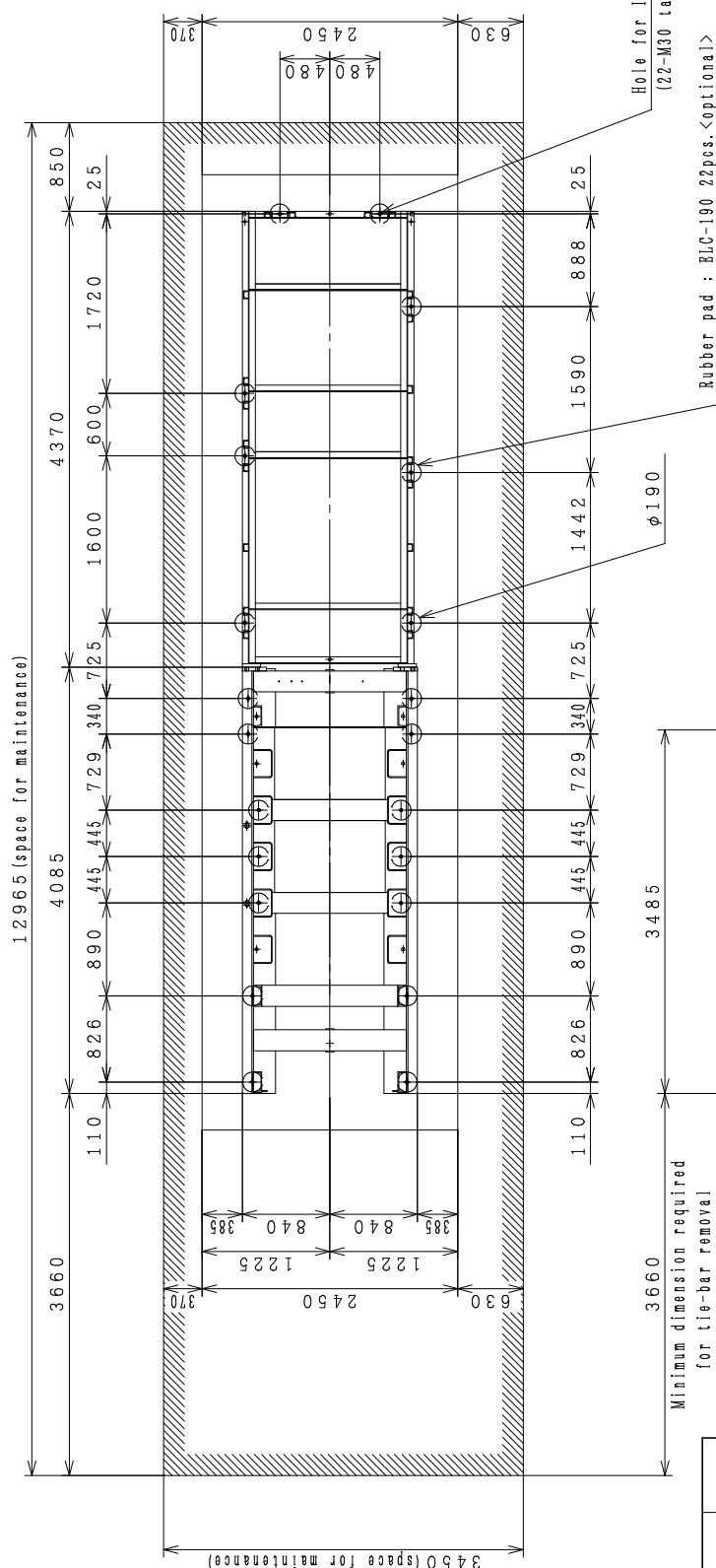
OUTSIDE VIEW

<Note>

- 1) Detail information about foundation is available upon request, if any.
- 2) If it wish to use foundation bolts (optional), please request a separate specification drawing.

<For foundation>

- 1) Recommended concrete mixture ratio
Cement:Sand:Gravel=1:2:4
- 2) The bearing capacity of the foundation ground must be 49kN/m^2 (5 ton/m²).
- 3) The depth of the foundation should be determined by the customer, taking into account the soil bearing capacity and ground conditions at the installation location.



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PLASTAR Si-700-7/K, L unit

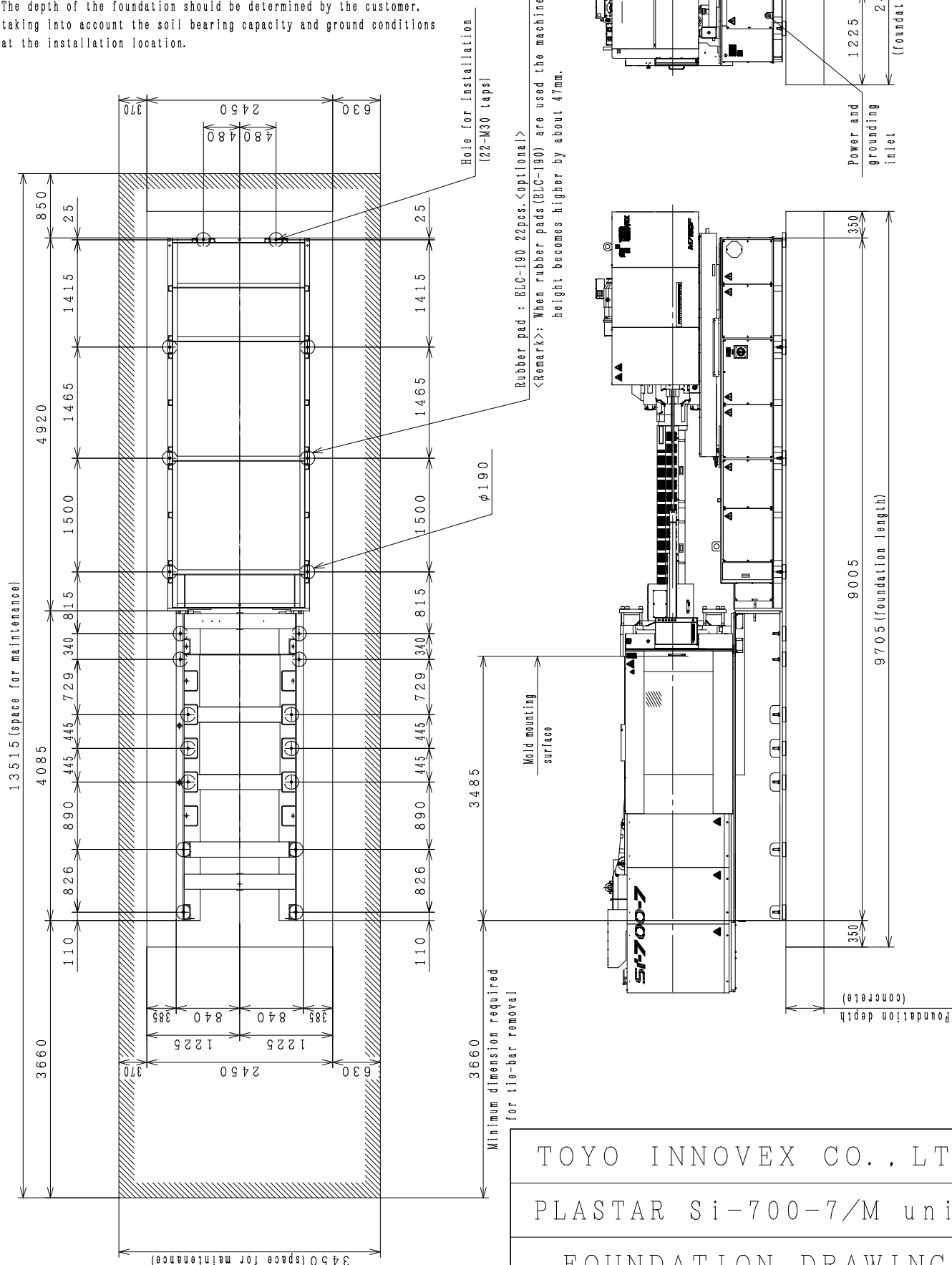
FOUNDATION DRAWING

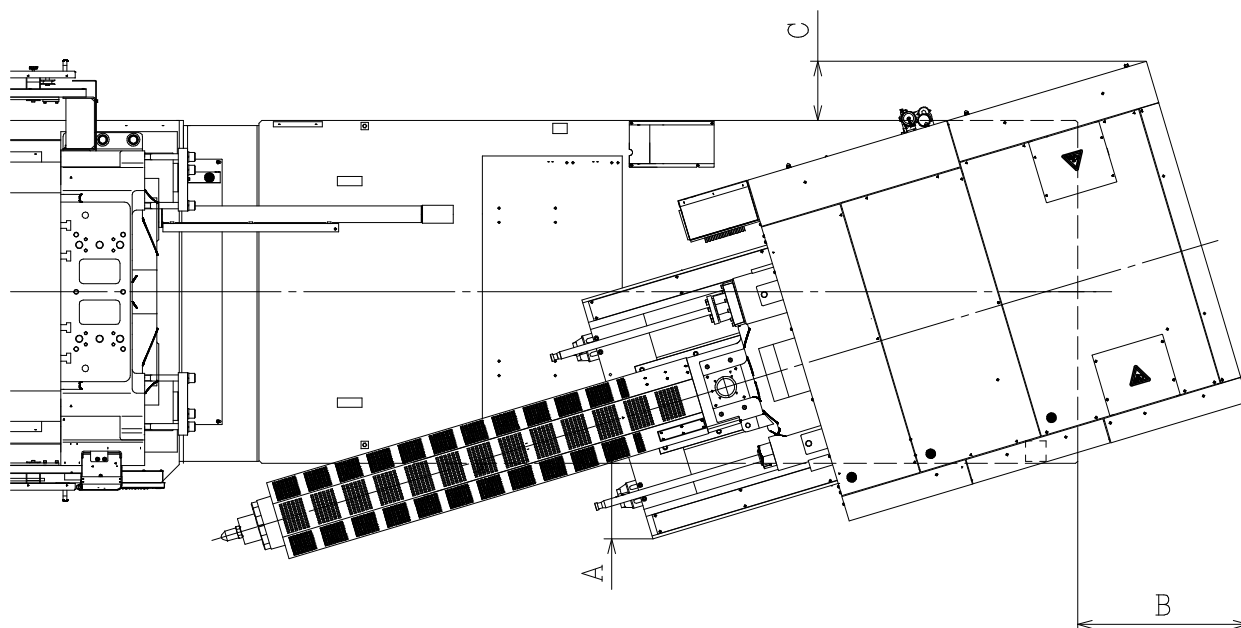
<Note>

- 1) Detail information about foundation is available upon request, if any.
- 2) If it wish to use foundation bolts (optional), please request a separate specification drawing.

<For foundation>

- 1) Recommended concrete mixture ratio
Cement:Sand:Gravel=1:2:4
- 2) The bearing capacity of the foundation ground must be 49kN/m^2 (5 ton/m²).
- 3) The depth of the foundation should be determined by the customer, taking into account the soil bearing capacity and ground conditions at the installation location.





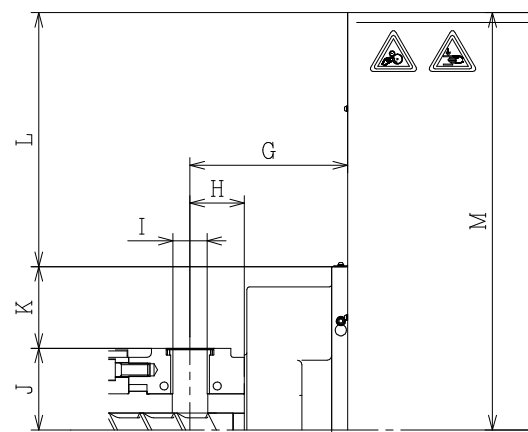
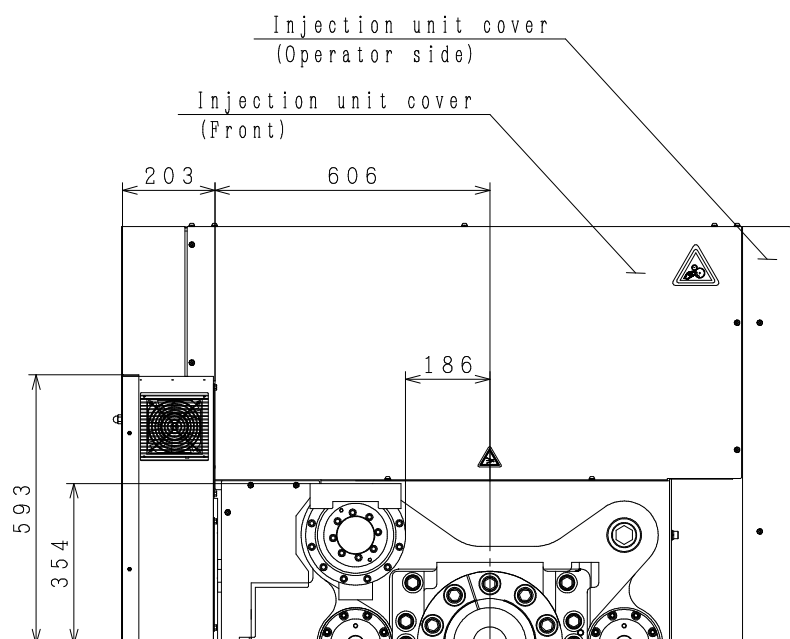
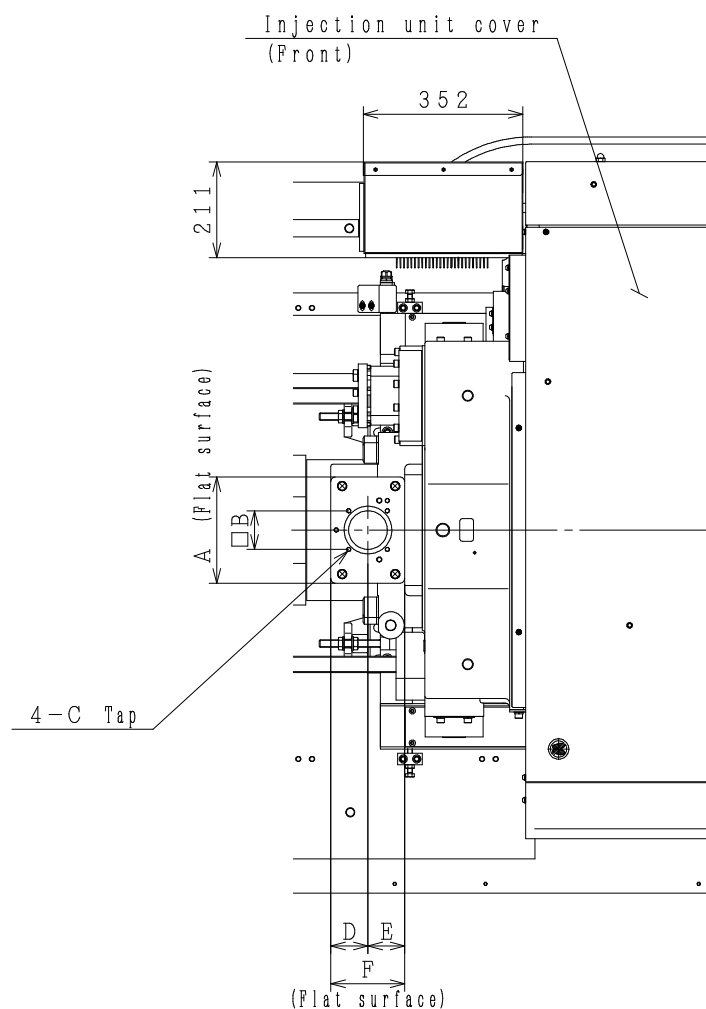
Injection unit	Screw diameter	A	B	C
K600F K750F	φ68	267	-474	181
	φ75	267	-243	181
	φ83	267	-69	181
L750F	φ83	370	350	295
	φ90	370	626	295
	φ100	370	853	295
M750F	φ100	350	571	237
	φ110	350	803	237

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PLASTAR Si-700-7

INJECTION UNIT TURNING DWG.

	K600F・K750F		
	$\phi 68$	$\phi 75$	$\phi 83$
A	234	234	234
B	85	85	85
C	M10×180	M10×180	M10×180
D	85	82	82
E	90	81	81
F	175	163	163
G	347.5	347.5	347.5
H	125	125	125
I	$\phi 75$	$\phi 75$	$\phi 75$
J	180	180	180
K	180	180	180
L	560	560	560
M	920	920	920

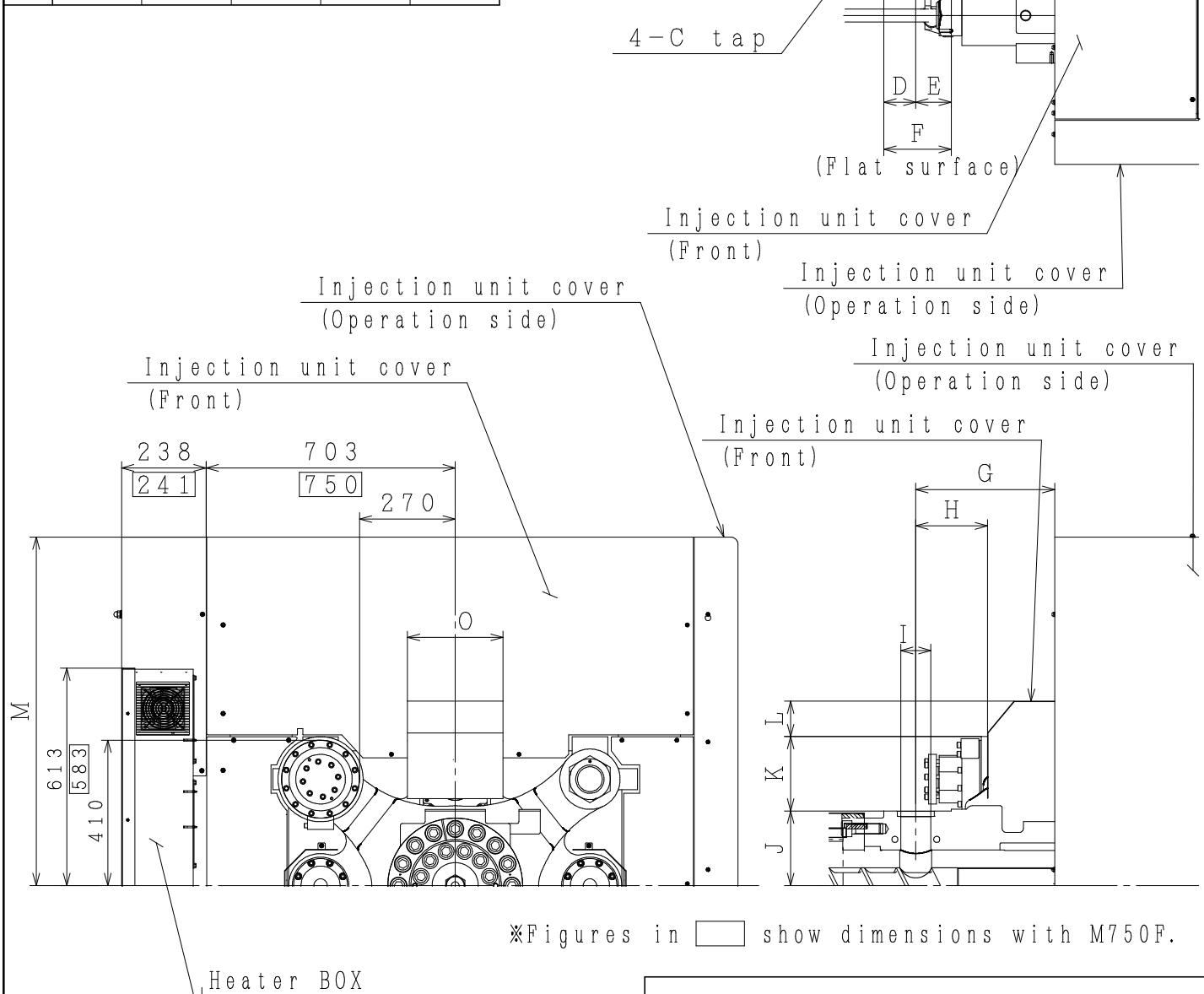


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PLASTAR Si-7 K unit

DETAIL DWG. OF HOPPER PART

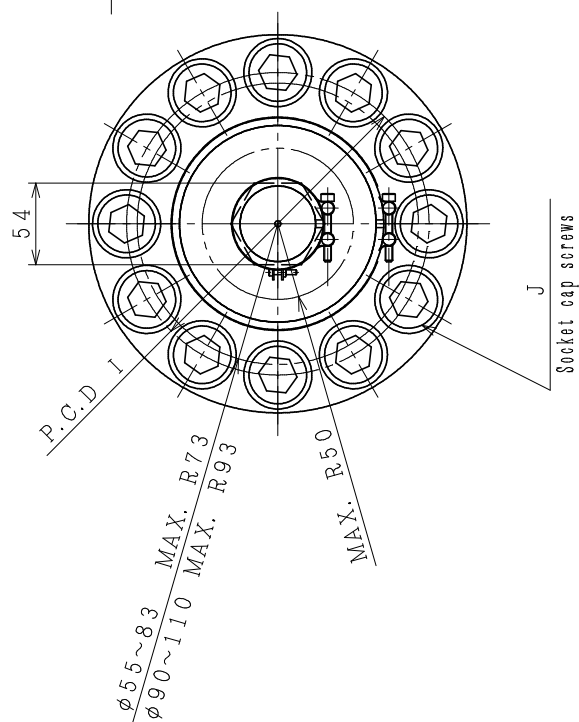
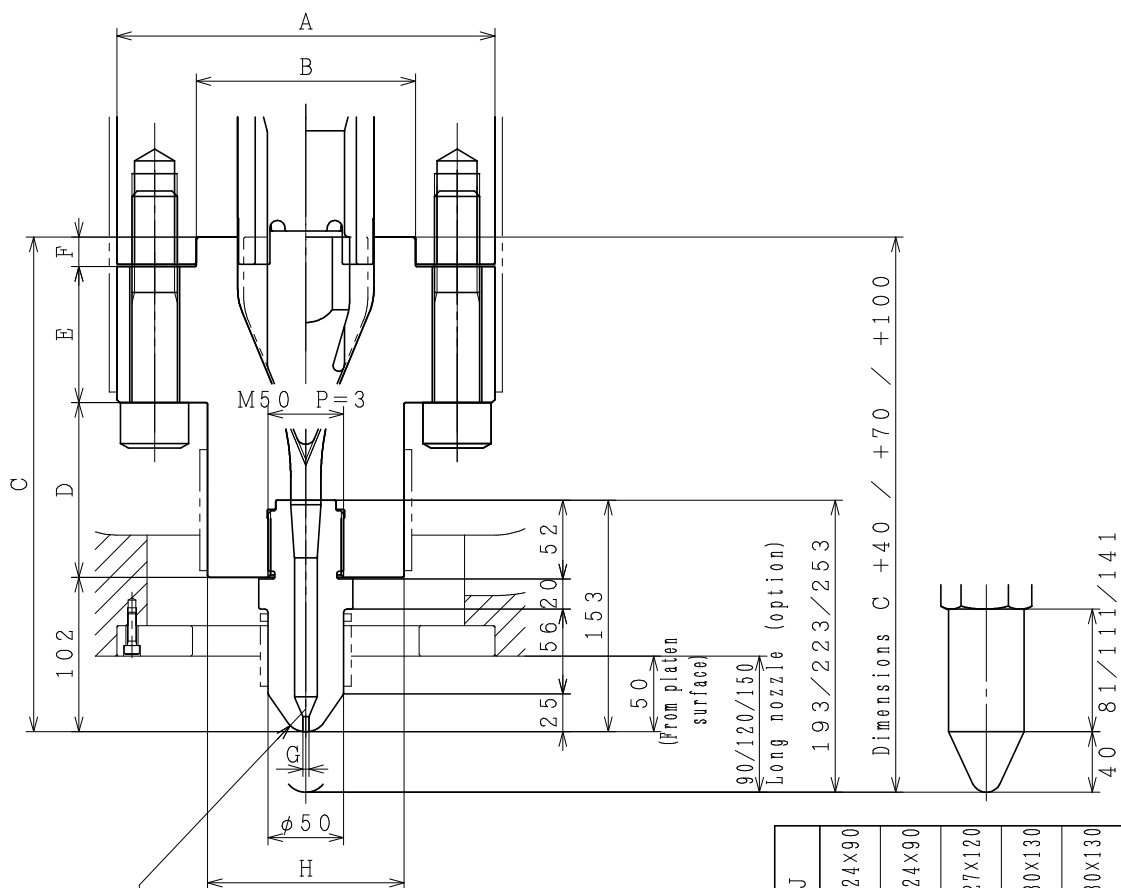
	L750F			M750F	
	φ83	φ90	φ100	φ100	φ110
A	170	170	170	170	170
B	85	85	85	85	85
C	M10×15	M10×15	M10×15	M10×15	M10×15
D	90	90	90	90	90
E	100	100	100	100	100
F	190	190	190	190	190
G	392	392	392	392	392
H	202	202	202	202	202
I	φ75	φ85	φ85	φ85	φ85
J	210	210	210	210	210
K	210	210	210	210	210
L	100	100	100	140	140
M	983	983	983	803	803
O	270	270	270	270	270



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PLASTAR Si-7 L、M unit

DETAIL DWG. OF HOPPER PART



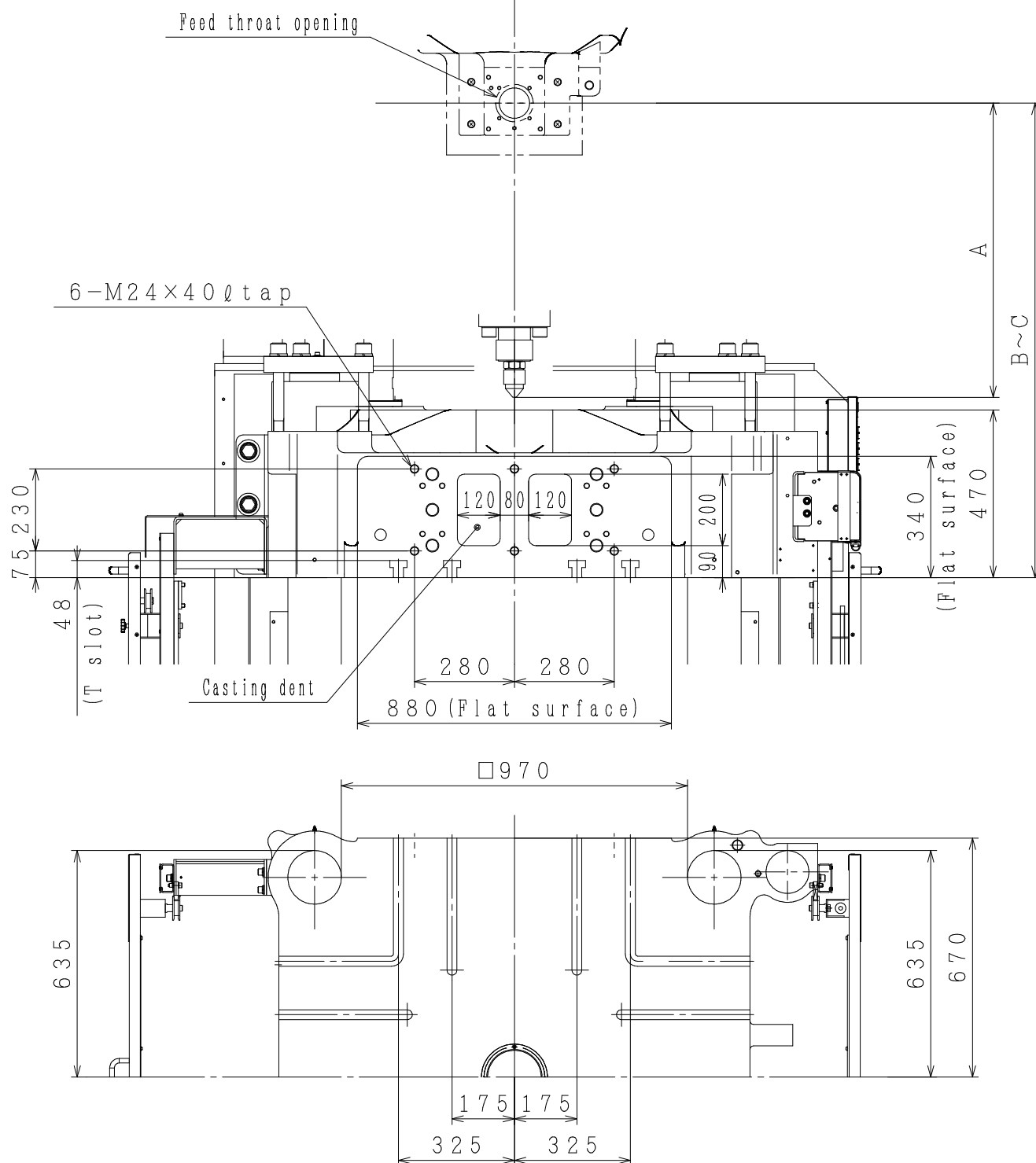
Injection unit (screw diameter)	A	B	C	D	E	F	G	H	I	J	
J370F											
J450HF·JH600F	φ55	φ160	φ90	252	83.5	50	16.5	φ3	φ80	120	10-M24×90
J370F·J450HF											
JH600F·J450F·JH750F	φ60	φ170	φ95	252	83.5	50	16.5	φ3	φ80	125	10-M24×90
J450HF·JH600F·J450F											
JH750F·K600F·K750F	φ68	φ185	φ100	282	93.5	70	16.5	φ3	φ90	142	10-M27×120
J450F·JH750F											
K600F·K750F	φ75	φ200	φ110	292	93.5	80	16.5	φ4	φ90	155	10-M30×130
K600F·K750F											
L750F	φ83	φ215	φ110	292	93.5	80	16.5	φ4	φ90	155	10-M30×130
L750F											
L750F	φ90	φ250	φ145	327	115.5	90	19.5	φ4	φ130	200	12-M30×140
L750F·M750F											
L750F·M750F	φ100	φ250	φ145	327	115.5	90	19.5	φ4	φ130	200	12-M30×140
M750F											
M750F	φ110	φ250	φ150	329.5	118	90	19.5	φ4	φ130	200	12-M30×140

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))



	K600F・K750F			L750F			M750F	
	φ68	φ75	φ83	φ83	φ90	φ100	φ100	φ110
A	1671	1902	2076	2076	2352	2579	2579	2811
B	1621	1852	2026	2026	2302	2529	2529	2761
C	2211	2442	2616	2686	2962	3189	3189	3421

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PLASTAR Si-700-7

EXTRACTOR FITTING RELATED DIMENSION