

SPECIFICATIONS

C24158PT

SPECIFICATIONS

PLASTAR Si-1000-7

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APPROVED	CHECKED	DRAWN



PLASTAR Si-1000-7 Specifications

Injection	Screw diameter	mm	83	90	100	100	110	110	120
	Injection stroke	mm	420	450	450	500	500	500	550
	Theoretical injection capacity	cm ³	2272	2862	3534	3926	4751	4751	6220
	Injection unit	—	L750F			M750F		N1100F	
	Max. injection speed	mm/s	170			150		150	
	Injection rate	cm ³ /s	919	1081	1335	1178	1425	1425	1696
	Max. injection pressure	MPa	216	192	156	187	152	177	148
	Max. injection holding pressure	MPa	196	167	138	167	138	155	130
	Recovery rate (PS)	kg/h	337	450	612	576	756	614	780
	Screw revolution speed	min ⁻¹	170			160		130	
	Heater capacity	kW	38.8	49.4	53.4	53.4	61.4	61.4	72.1
	Nozzle pressing force	kN	39.0			39.0		58.8	
Clamping	Clamping system	—	Double Toggle						
	Clamping force	kN	9800						
	Clamping stroke	mm	1200						
	Min. mold height	mm	500						
	Max. mold height	mm	1200						
	Tie bar clearance (H × V)	mm	1320 x 1320						
	Die plate size (H × V)	mm	1750 x 1750						
	Ejector force	kN	245						
	Ejector stroke	mm	300						
Other	Machine dimensions (L)	mm	11467	11467	11467	11686	11918	12168	12470
	Machine dimensions (W × H)	mm	2691 × 2670			2691 × 2670		2691 × 2670	
	Power source	—	3-phase AC200V±10% 50Hz / AC200V±10% 60Hz / AC220V±10% 60Hz						
	Main breaker capacity	A	400 【225】			500 【250】		600 【350】	
	Total electric capacity	kVA	124			130		179	
	Incoming supply wire size	mm ²	325 【150】			400 【150】		250 × 2 【250】	
	Protective earthing wire size	mm ²	200 【100】			200 【100】		150 × 2 【150】	
	Air supply plumbing joint hose dia	mm	φ 8						
	Air supply pressure ※1	MPa	0.3						
	Machine weight	t	58.0 Inj : 13.0t Clamp : 45.0t			60.0 Inj : 15.0t Clamp : 45.0t		61.0 Inj : 16.0t Clamp : 45.0t	
	Noise (L _{pA})	dB	71.8 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. It is necessary air supply pressure level. Please supply it to become than a pressure level.

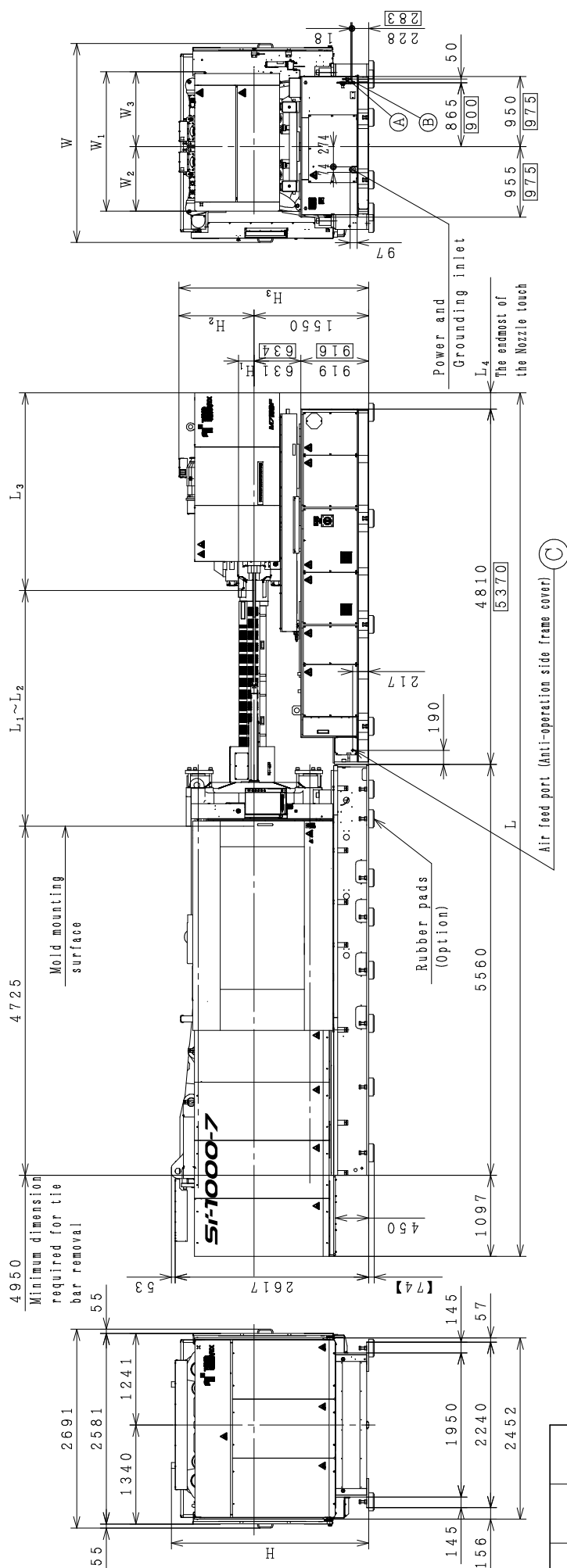
2 PLASTAR Si-7 Equipment

	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. (Bx. Hoses)
- ※ Similarly, connect the power supply inlet using a cable cable, etc too.
- ※ Overall machine height increases by approx. 74mm with rubber pads attached.

- Ⓐ Water for hopper throat IN:Rc3/8 (Location:Non-OP side)
(Normal water volume:5 to 10 l/min. with Y-type strainer)
- Ⓑ Water for hopper throat OUT:Rc3/8 (Location:Non-OP side)
- Ⓒ Applicable hose dia. : 8mm

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
L750F	φ83	11467	2691	2670	2686	2026	2430	-529	1764	800	964	210	983	2533
	φ90	11467	2691	2670	2962	2302	2430	-253	1764	800	964	210	983	2533
	φ100	11467	2691	2670	3189	2529	2430	-26	1764	800	964	210	983	2533
M750F	φ100	11686	2691	2670	3189	2529	2675	219	1888	874	1014	210	1018	2568
	φ110	11918	2691	2670	3421	2761	2675	451	1888	874	1014	210	1018	2568
	φ120	12470	2691	2670	3723	3063	2925	443	1884	790	1094	210	1015	2565
N1100F	φ110	12168	2691	2670	3421	2761	2925	141	1884	790	1094	210	1015	2565
	φ120	12470	2691	2670	3723	3063	2925	443	1884	790	1094	210	1015	2565
	φ130	13118	2691	2670	4025	3367	3225	443	1884	790	1094	210	1015	2565

Figures in [] show dimensions with options.
Figures in □ show dimensions with N1100F.

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PLASTAR Si-1000-7

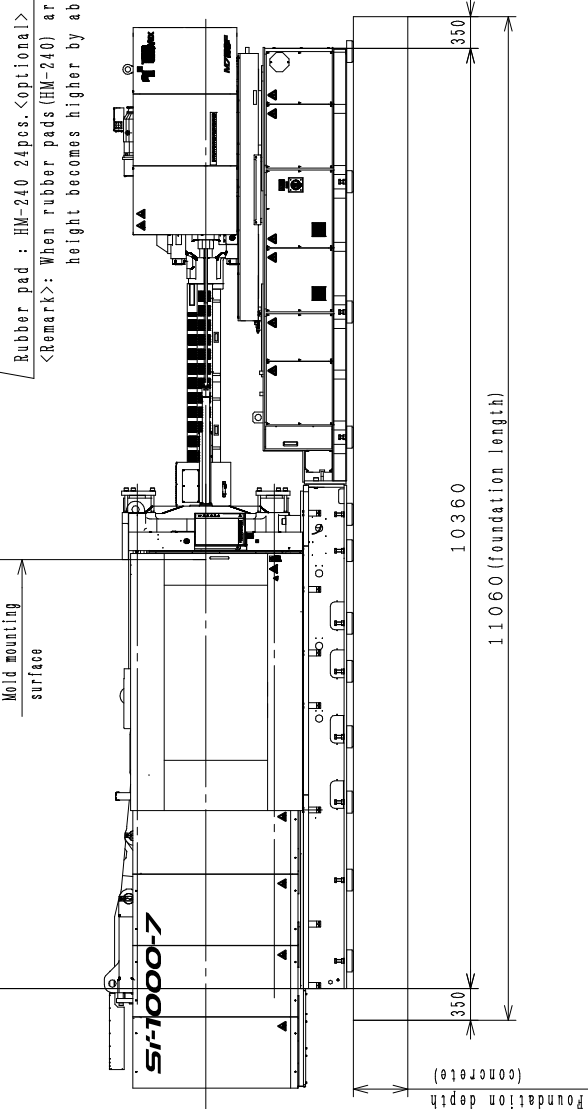
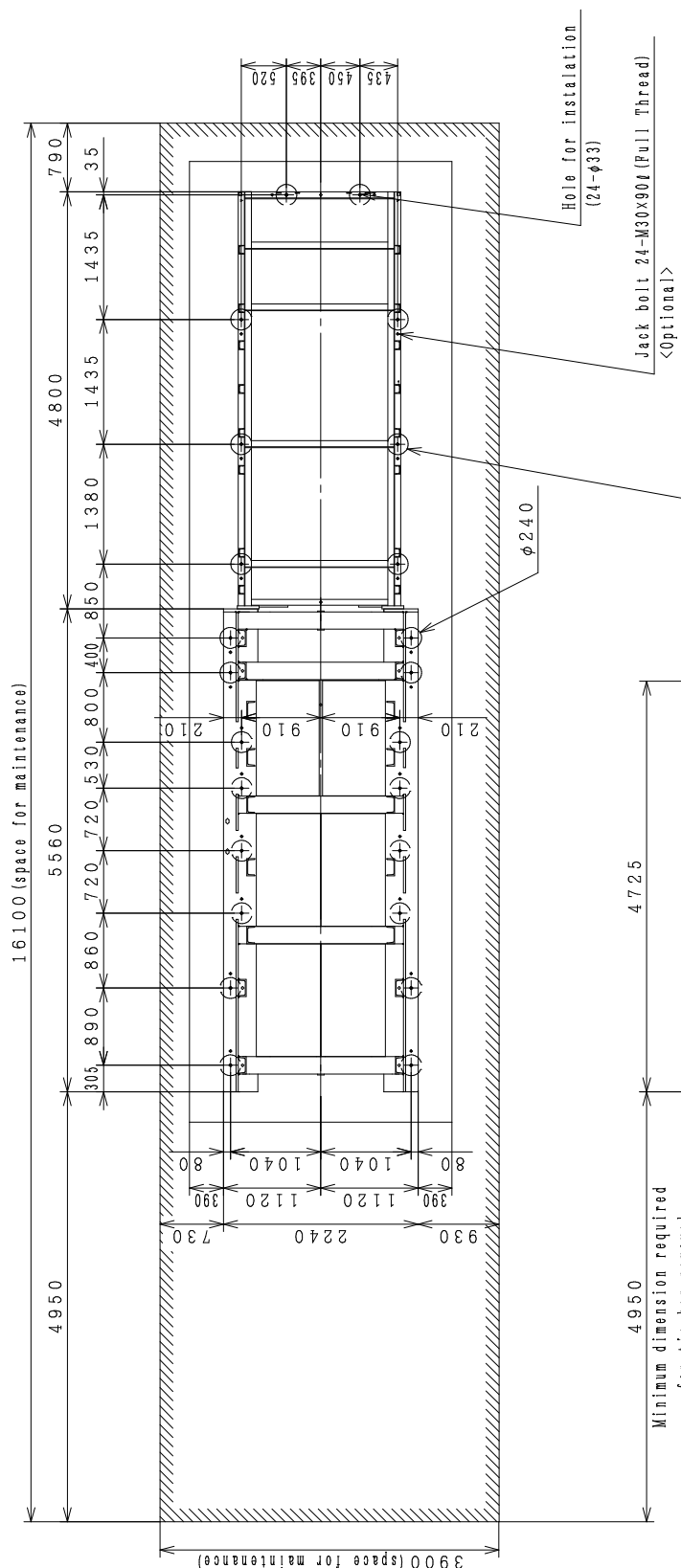
OUTSIDE VIEW

<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.

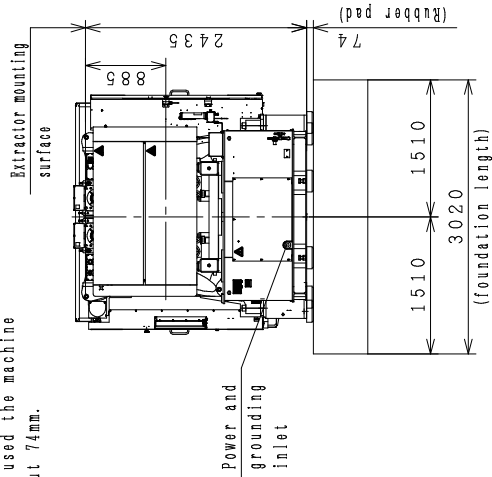


Rubber pad : HM-240 24pcs. <optional>
<Remark>: When rubber pads (HM-240) are used the machine height becomes higher by about 74mm.

Jack bolt 24-M30X904 (Pull Thread)
<Optional>

Hole for installation
(24-φ33)

φ240



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Si-1000-7/L, M unit

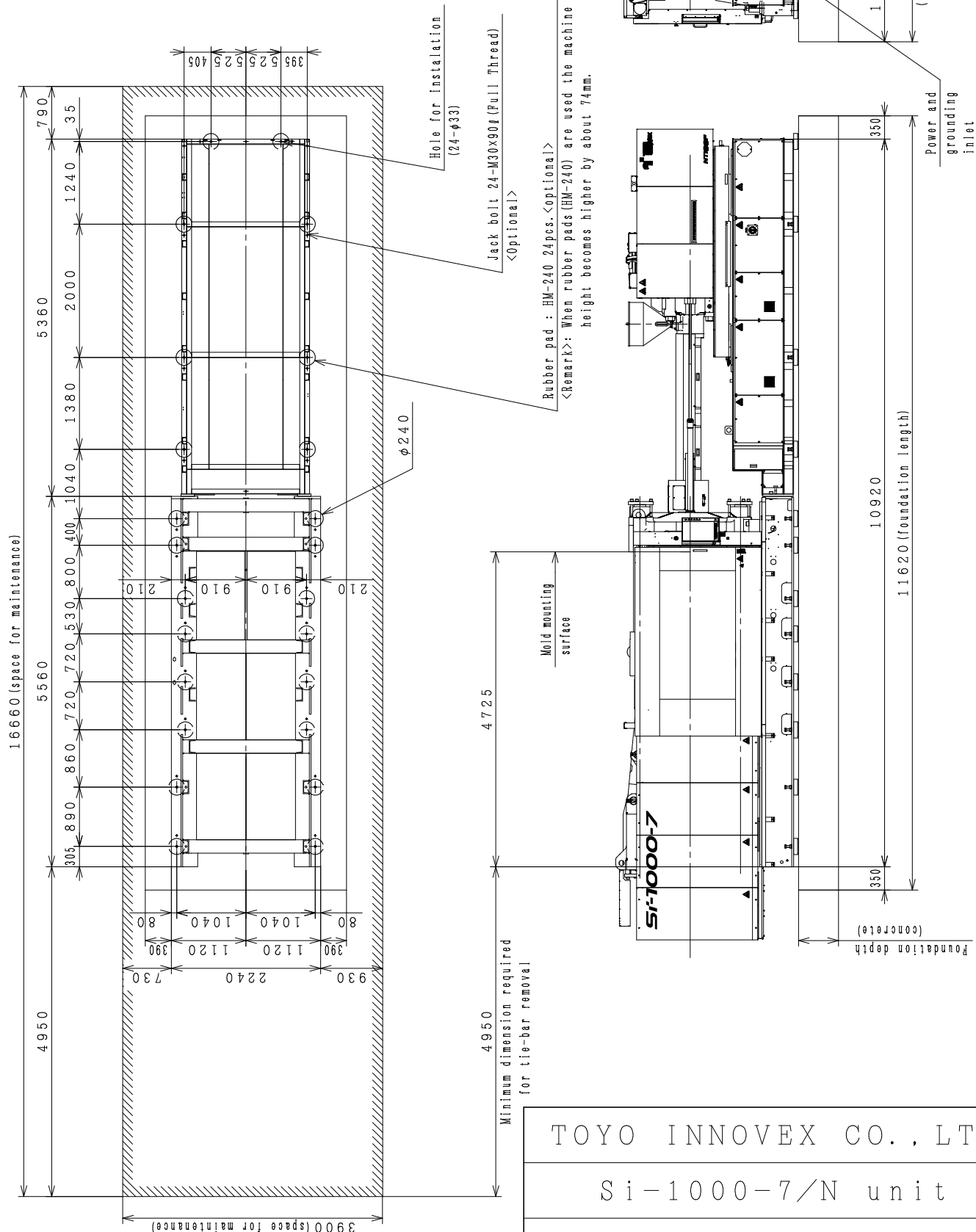
FOUNDATION DRAWING

<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>

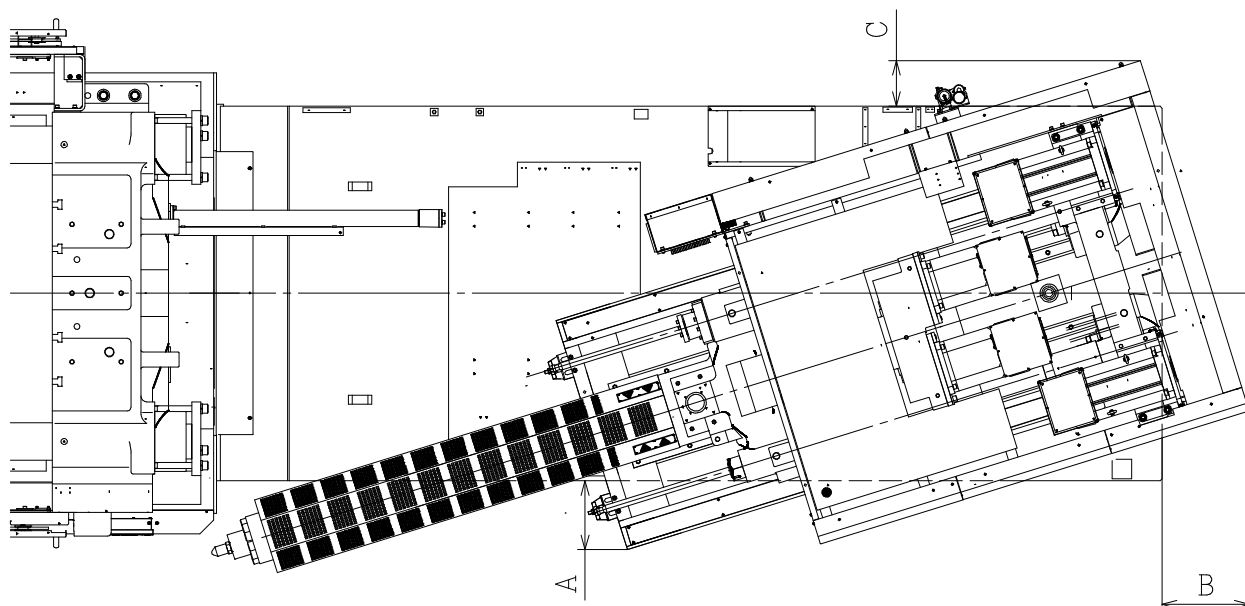
- 1) Recommended concrete mixture ratio
Cement:Sand:Gravel=1:2:4
- 2) The bearing capacity of the foundation ground must be 49kN/m^2 (5 ton/m²).
- 3) The depth of the foundation should be determined by the customer, taking into account the soil bearing capacity and ground conditions at the installation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



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Si-1000-7/N unit

FOUNDATION DRAWING

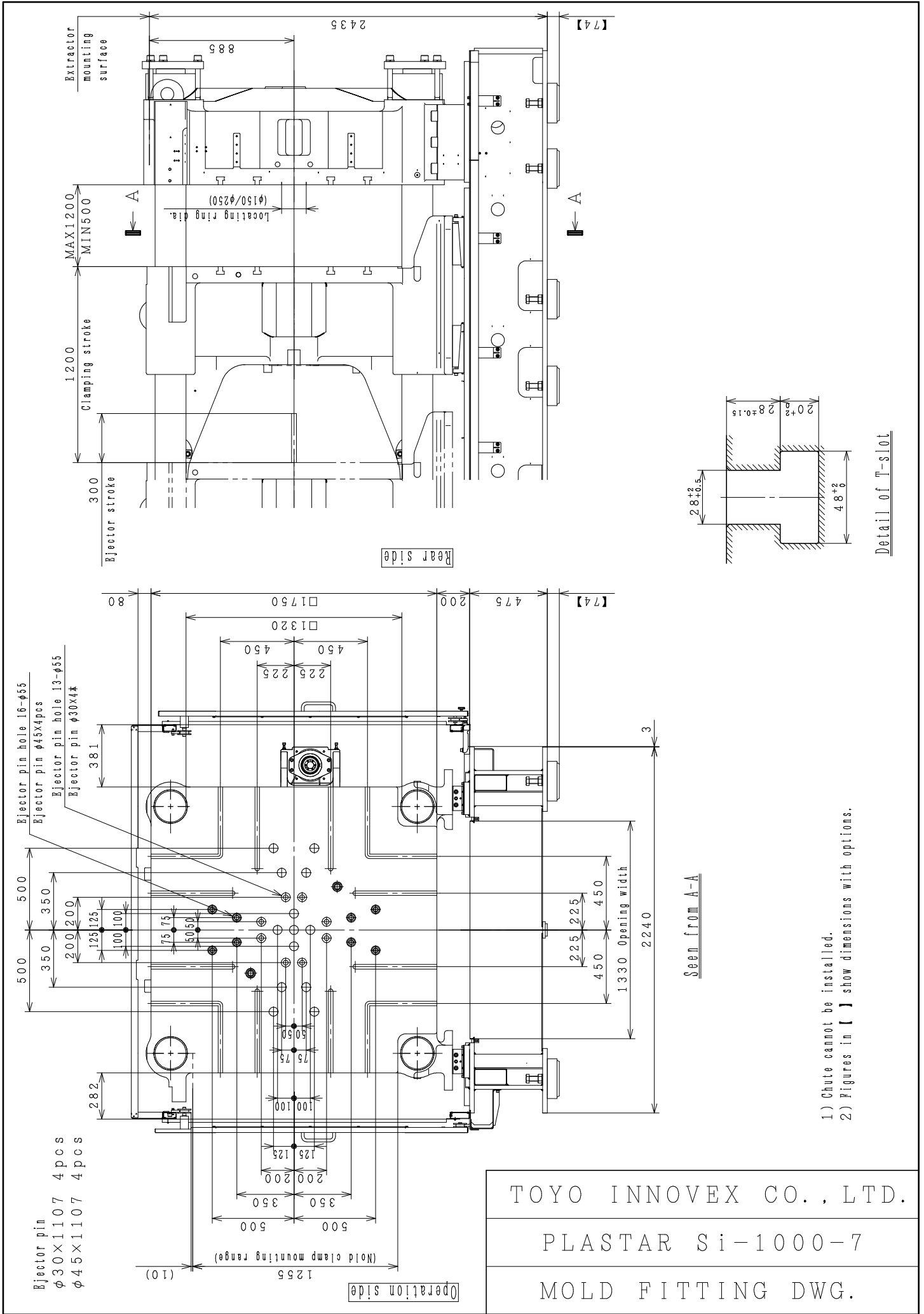


Injection unit	Screw diameter	A	B	C
L 7 5 0 F	$\phi 83$	276	-309	190
	$\phi 90$	276	-34	190
	$\phi 100$	276	194	190
M 7 5 0 F	$\phi 100$	350	456	237
	$\phi 110$	350	688	237
N 1 1 0 0 F	$\phi 110$	366	381	307
	$\phi 120$	366	683	307

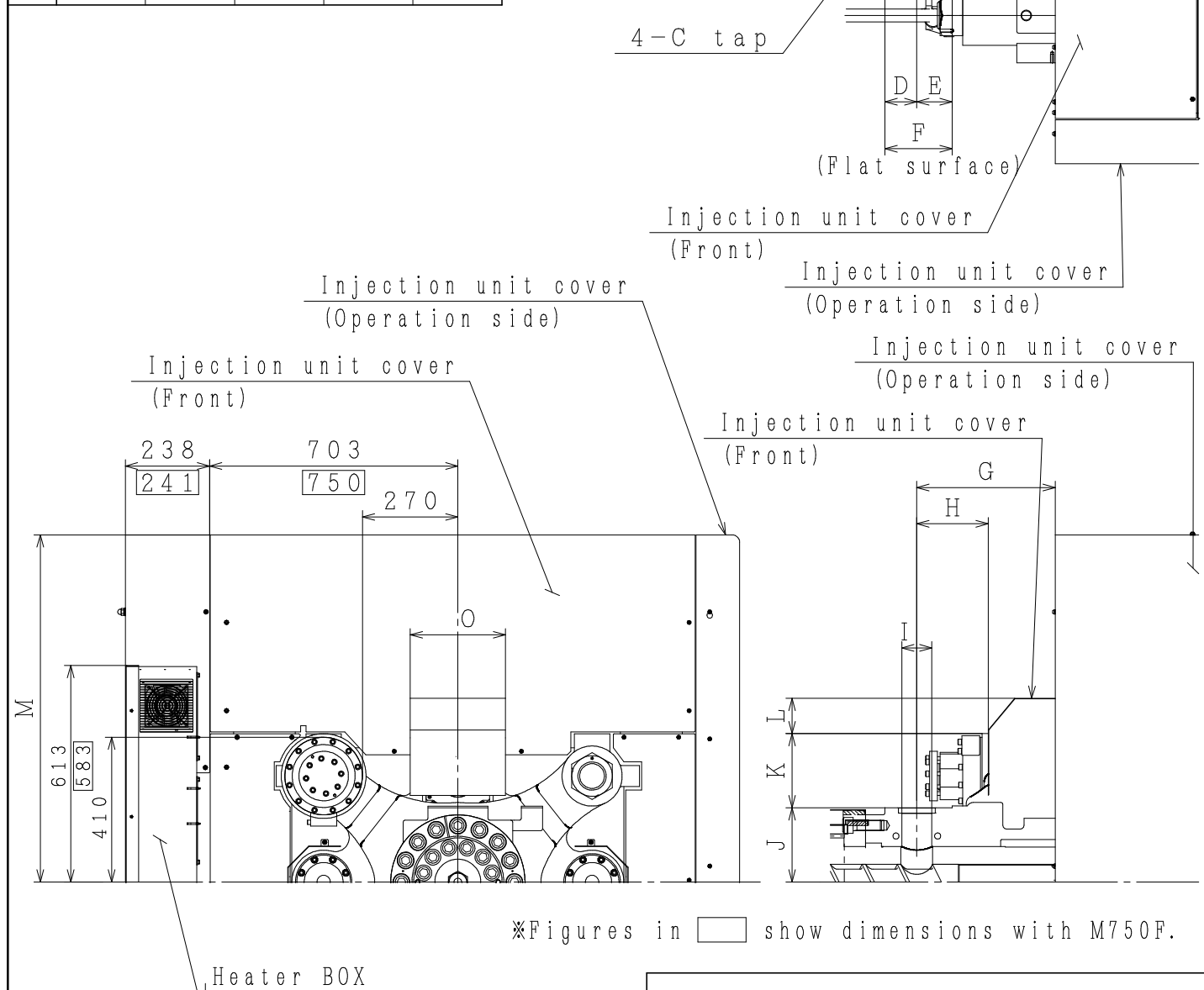
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PLASTAR Si-1000-7

INJECTION UNIT TURNING DWG.



	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

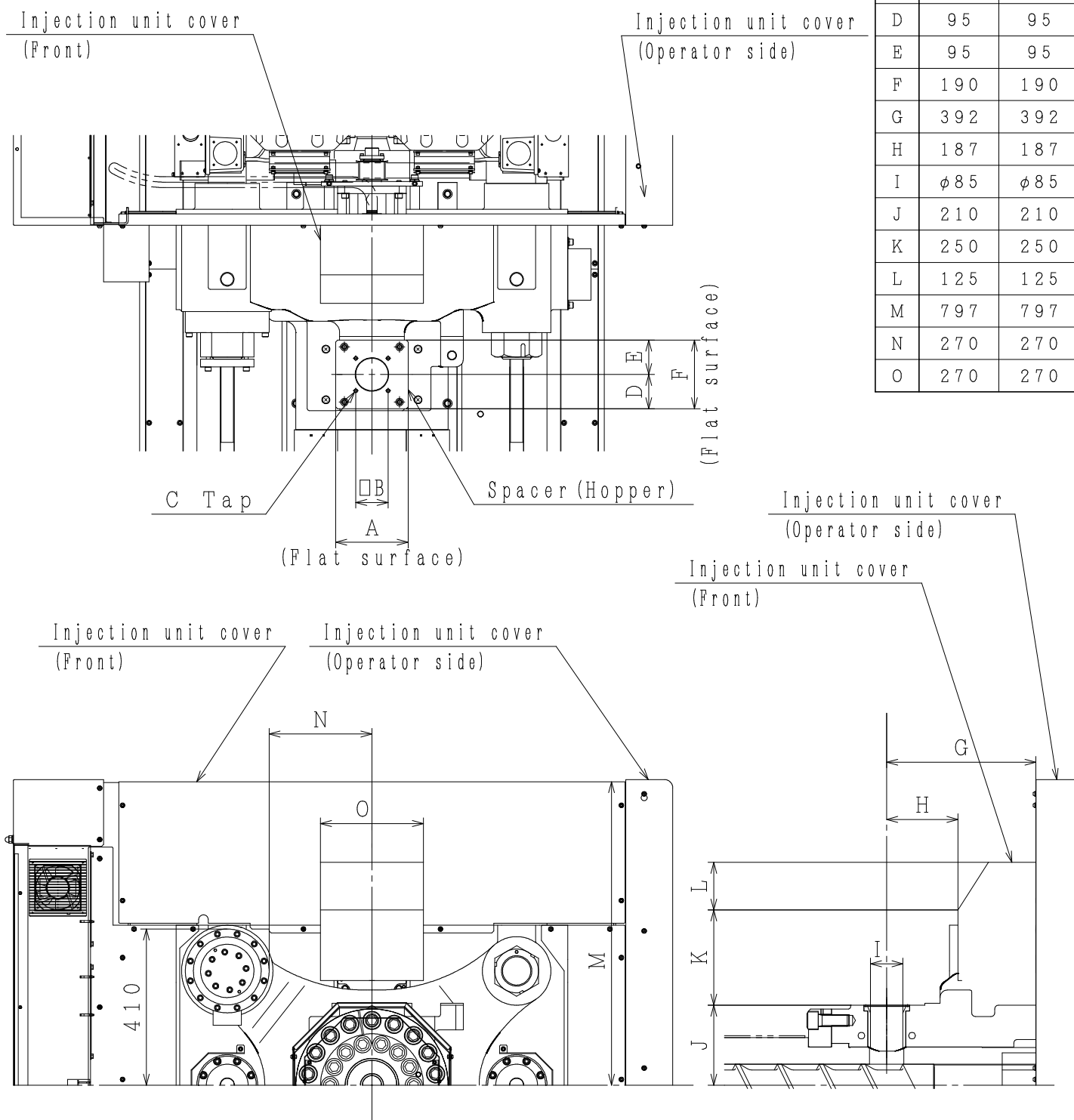


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PLASTAR Si-7 L、M unit

DETAIL DWG. OF HOPPER PART

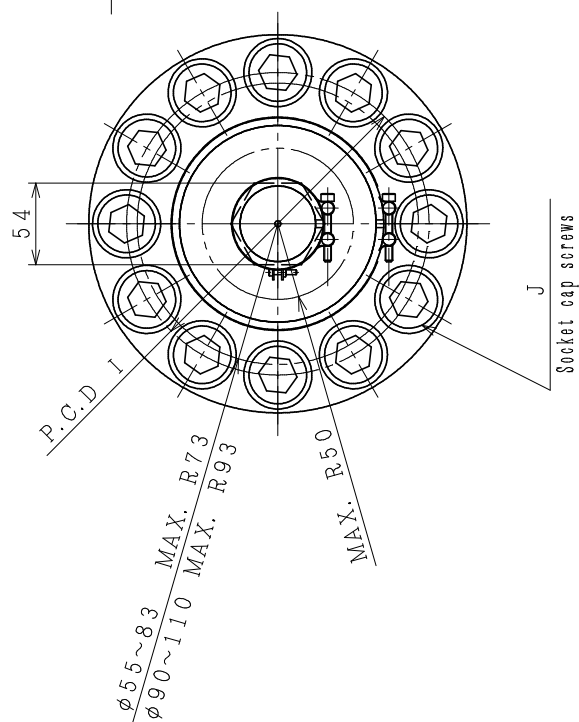
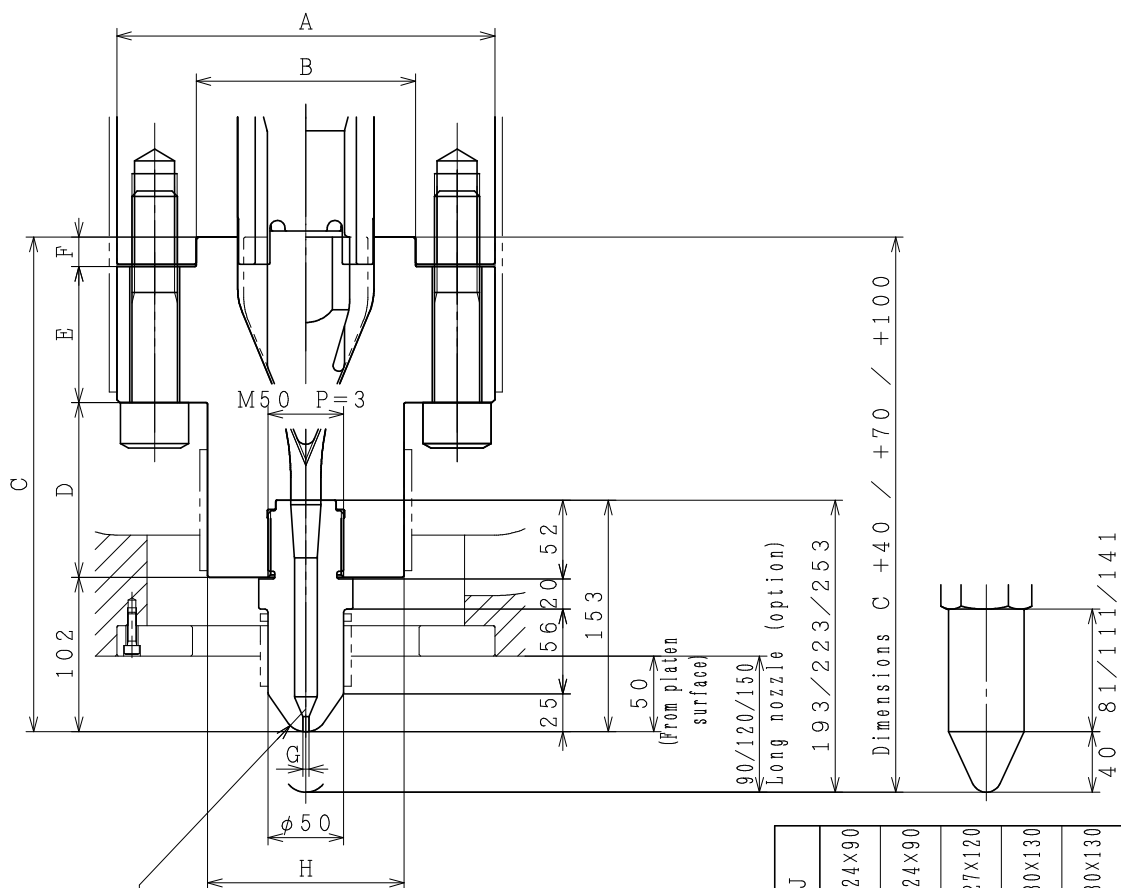
	N1100F	
	$\phi 110$	$\phi 120$
A	180	180
B	85	85
C	M10×150	M10×150
D	95	95
E	95	95
F	190	190
G	392	392
H	187	187
I	$\phi 85$	$\phi 85$
J	210	210
K	250	250
L	125	125
M	797	797
N	270	270
O	270	270



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PLASTAR Si-7 N unit

DETAIL DWG. OF HOPPER PART



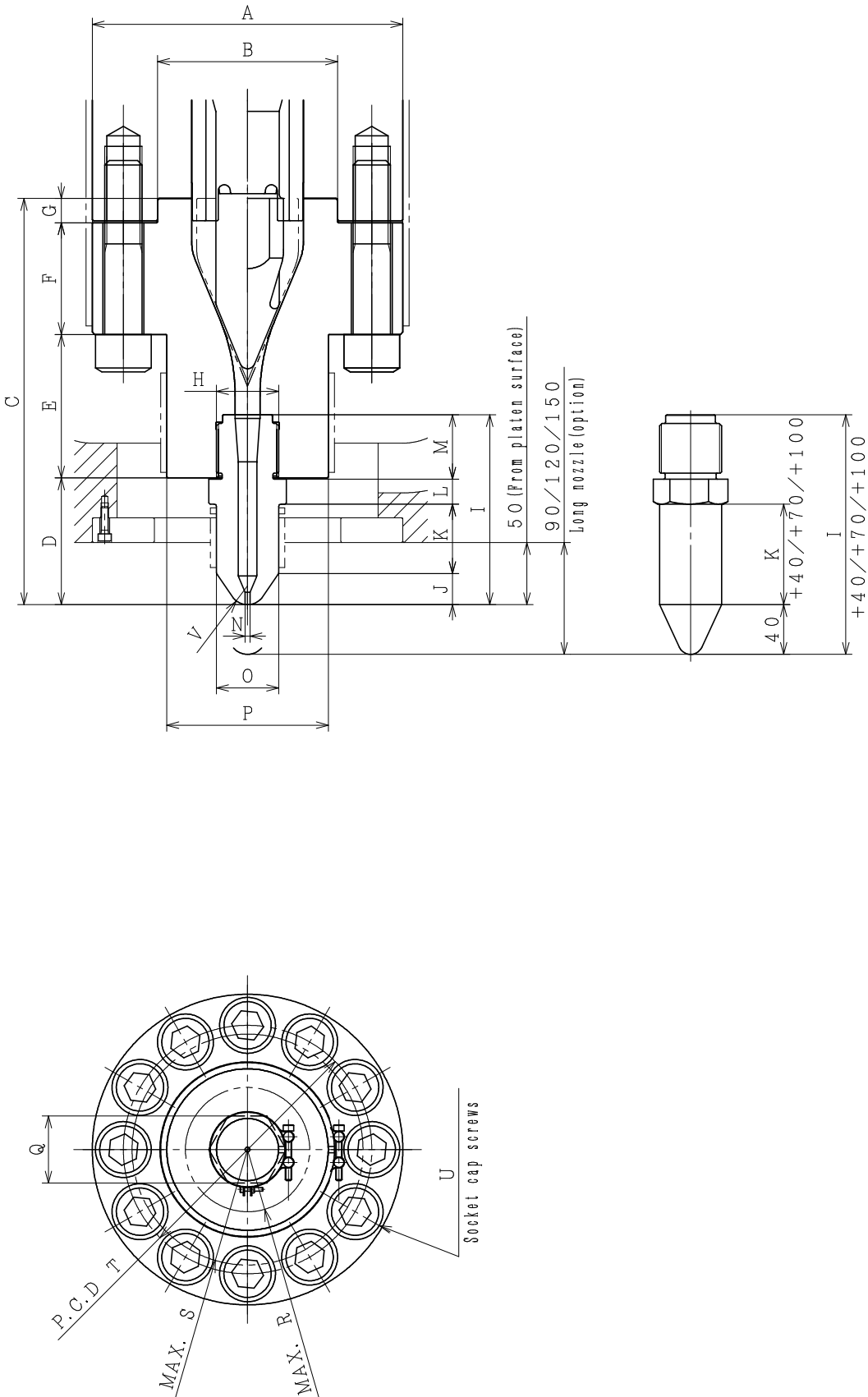
Injection unit (screw diameter)	A	B	C	D	E	F	G	H	I	J
J370F	φ 55	φ 160	φ 90	252	83.5	50	16.5	φ 3	φ 80	120
J450HF · JH600F	φ 60	φ 170	φ 95	252	83.5	50	16.5	φ 3	φ 80	125
J370F · J450HF	φ 68	φ 185	φ 100	282	93.5	70	16.5	φ 3	φ 90	142
JH600F · J450F · JH750F	φ 75	φ 200	φ 110	292	93.5	80	16.5	φ 4	φ 90	155
J450HF · JH600F · J450F	φ 83	φ 215	φ 110	292	93.5	80	16.5	φ 4	φ 90	155
JH750F · K600F · K750F	φ 90	φ 250	φ 145	327	115.5	90	19.5	φ 4	φ 130	200
K600F · K750F	φ 100	φ 250	φ 145	327	115.5	90	19.5	φ 4	φ 130	200
K600F · K750F	φ 110	φ 250	φ 150	329.5	118	90	19.5	φ 4	φ 130	200
L750F	φ 90	φ 250	φ 145	327	115.5	90	19.5	φ 4	φ 130	200
L750F · M750F	φ 100	φ 250	φ 145	327	115.5	90	19.5	φ 4	φ 130	200
M750F	φ 110	φ 250	φ 150	329.5	118	90	19.5	φ 4	φ 130	200

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

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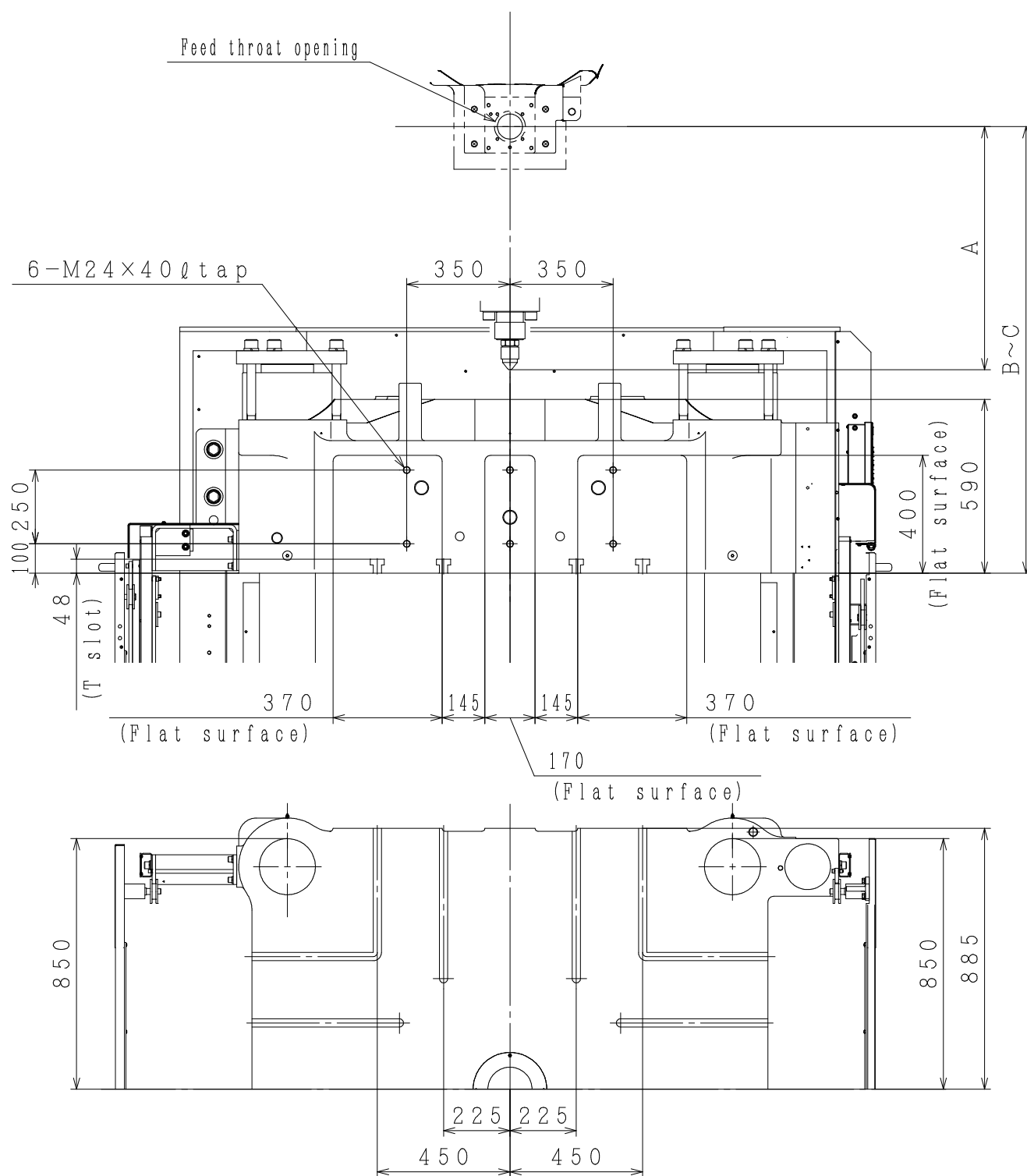
PLASTAR Si-7 (J~M unit)

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



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

Injection unit (screw diameter)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
N1100F	φ110	φ250	φ150	329.5 [389.5]	102 [142]	118 [155]	90 [125]	19.5 [24.5]	50 [65]	3 [4]	56 [98]	20 [25]	52 [69]	φ4 [φ5]	φ50 [φ60]	φ130 [φ130]	54 [60]	R50 [R55]	R93 [R93]	200 [215]	12-M30X140 [14-M30X160]	SR15 [SR15]
	φ120	φ265	φ160	405 [445]	155 [195]	118 [155]	112.5 [147.5]	19.5 [24.5]	4 [5]	30 [30]	98 [98]	25 [25]	69 [69]	φ5 [φ5]	φ60 [φ60]	φ130 [φ130]	60 [60]	R55 [R55]	R93 [R93]	215 [215]	14-M30X160 [14-M30X160]	SR15 [SR15]



	L750F			M750F		N1100F	
	φ83	φ90	φ100	φ100	φ110	φ110	φ120
A	2076	2352	2579	2579	2811	2811	3113
B	2026	2302	2529	2529	2761	2761	3063
C	2686	2962	3189	3189	3421	3421	3723

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PLASTAR Si-1000-7

EXTRACTOR FITTING RELATED DIMENSION