

SPECIFICATIONS

C16142P



SPECIFICATIONS

P L A S T A R S i - 1 3 0 0 - 6

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TOYO

MACHINERY & METAL

APPROVED	CHECKED	DRAWN
		Jul.25.2016 A.MATSUO



1 PLASTAR Si-1300-6 Specifications

	Screw diameter	mm	110	120
	Injection stroke	mm	500	550
	Theoretical injection capacity	cm ³	4752	6220
Injection	Standard		N1100CD	
	Injection unit	-		
	Injection rate	cm ³ /s	1425	1696
	Max. injection speed	mm/s	150	
	Max. injection pressure	MPa	171.5	143.0
	Max. injection holding pressure	MPa	154.8	129.3
	High-pressure			
	Injection unit	-		
	Injection rate	cm ³ /s		
	Max. injection speed	mm/s		
	Max. injection pressure	MPa		
	Max. injection holding pressure	MPa		
	High-speed			
	Injection unit	-		
	Injection rate	cm ³ /s		
	Max. injection speed	mm/s		
Max. injection pressure	MPa			
Max. injection holding pressure	MPa			
Ultrahigh-speed				
Injection unit	-			
Injection rate	cm ³ /s			
Max. injection speed	mm/s			
Max. injection pressure	MPa			
Max. injection holding pressure	MPa			
	Recovery rate(PS)	kg/h	614.0	780.0
	Screw revolution speed	min ⁻¹	130	
	Heater capacity	kW	61.40	72.10
	Nozzle pressing force	kN	58.8	
Clamping	Clamping system	-	Double Toggle	
	Clamping force	kN	12740	
	Clamping stroke	mm	1500	
	Min. mold height	mm	500	
	Max. mold height	mm	1300	
	Tie bar clearance (H×V)	mm	1400×1400	
	Die plate size (H×V)	mm	2000×2000	
	Ejector force	kN	300	
	Ejector stroke	mm	450	
Other	Mold height motor output	kW	2.2	
	Nozzle touch motor output	kW	5.5 (Servo Motor)	
	Machine dimension <L>	mm	13331	13633
	Machine dimensions <W×H>	mm	2926×2823	
	Power source	-	Three-phase AC200V/200, 220V±10% 50Hz/60Hz	
	Main breaker capacity	A	600	
	Total electric capacity	kVA	187	
	Cable size 200V Class【400V Class ※1】	mm ²	325【150】	
	Machine weight	t	86	
			[Injection:16t, Clamp:70t]	

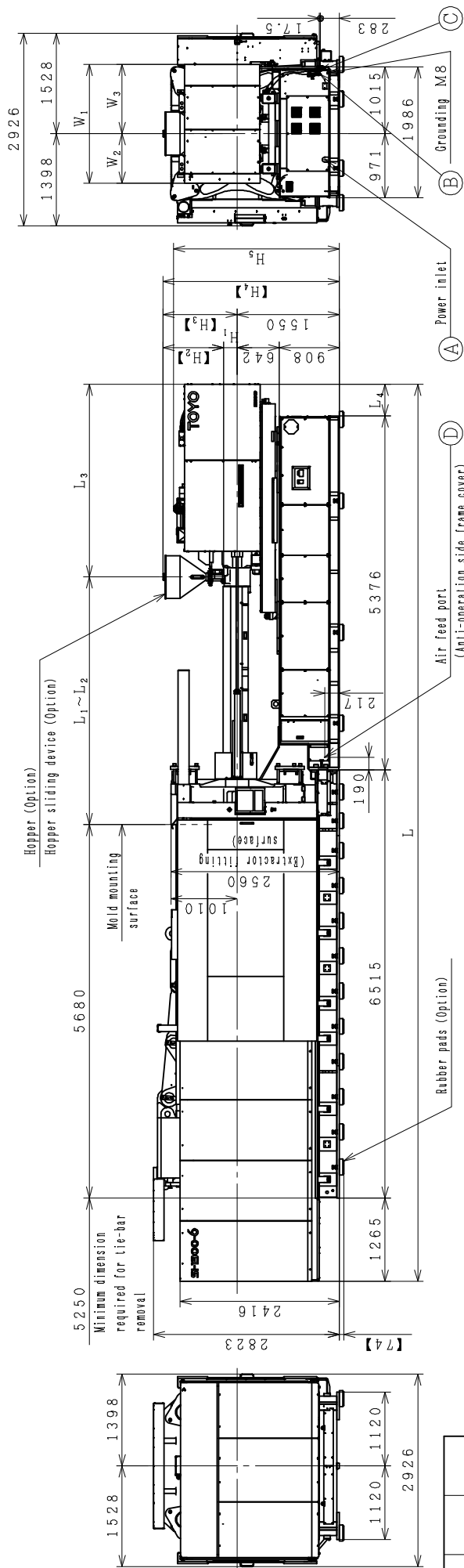
NOTES

- 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)
- Maximum injection and holding pressures are attainable maximum set values.
- Maximum injection and holding pressures may be limited by the molding conditions and the cycle time.
- Injection rate and the maximum injection speed are calculated values.
- The capacity of the breaker may be affected by certain options.
- The figures in [] are optional.

※1 A transformer(Optional) is necessary for the machine.

2 PLASTAR Si-6 Standard Features and Options

	Standard	Option												
Injection/Plastication unit	<ul style="list-style-type: none"> • Just pack injection control • V mode injection control (Injection response variable mode) • SRC-II metering system • SNF 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) • Suck-back system (Before and after metering,) • Auto 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 • Heater SSR control • Heater temperature holding control • Melt remaining monitor control • 5 zones heater control (4 zones heater only for $\phi 24$mm or thinner screw) • Purge cover (with interlock) • Wear-resistant (I) screw and barrel (for $\phi 40$mm or thinner screw) • Heat-insulated heater cover 	<ul style="list-style-type: none"> • SRC-III screw check triplet • Pneumatic shut-off nozzle • Different screw and barrel diameter • Wear-resistant screw and barrel ($\phi 46$mm or thicker) • Dedicated screw design for specific materials • Long nozzle • Thin type long nozzle ($\phi 28$mm or thinner) • Separated type nozzle ($\phi 36$mm or thinner) • High temperature use band heater (Up to 500°C) • Hopper (with shutter) <table style="margin-left: 20px;"> <tr> <td>202</td> <td>:</td> <td>$\phi 16 \sim \phi 28$</td> </tr> <tr> <td>402</td> <td>:</td> <td>$\phi 32 \sim \phi 40$</td> </tr> <tr> <td>552</td> <td>:</td> <td>$\phi 46 \sim \phi 55$</td> </tr> <tr> <td>1252</td> <td>:</td> <td>$\phi 60 \sim \phi 120$</td> </tr> </table> • Hopper swiveling device (for B to J injection unit) • Hopper sliding device (for K to N injection unit) • 2-zone temperature control for nozzle • Double nozzle touch mechanism (280-6 to 950-6) • Purged material receiver (with folded) • Transparent cover for the checkup (for B to H injection unit) 	202	:	$\phi 16 \sim \phi 28$	402	:	$\phi 32 \sim \phi 40$	552	:	$\phi 46 \sim \phi 55$	1252	:	$\phi 60 \sim \phi 120$
202	:	$\phi 16 \sim \phi 28$												
402	:	$\phi 32 \sim \phi 40$												
552	:	$\phi 46 \sim \phi 55$												
1252	:	$\phi 60 \sim \phi 120$												
Clamping unit	<ul style="list-style-type: none"> • Closed-loop control of speed and position for mold open and close • Closed-loop control of ejection speed and position • 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) • 2-step ejector • Mold exchanging mode (low pressure, low speed) • Automatic clamping force setup system • Low pressure mold protection system • Mold protection system (HSP mold protection system) • Ejector on the fly (by position setting) • Movable plate supporting device (Si-50 to 100-6 : linear guide/ Si-130~450-6 : double roller/ Si-680-6 or larger : low resistance guide) • Double safety (electric/mechanical) • Additional emergency stop (operator side and rear side) • Core-back molding control (3 steps) 	<ul style="list-style-type: none"> • Air blow (1 line, 2 lines) • 3 way valve for air blow (1 line, 2 lines) • Pneumatic core puller (1 to 4 lines) • Hydraulic core puller (1 to 4 lines; independent hydraulic unit) • Mold ejector plate return detector (metal plug type, H type) • Mold temperature display (2 channels; with magnet sensor) • Mold temperature control (2 channels; with magnet sensor) • Mold locating ring <table style="margin-left: 20px;"> <tr> <td>Si-50-6</td> <td></td> <td>(60/100)</td> </tr> <tr> <td>Si-80 to 230-6</td> <td></td> <td>(100/120)</td> </tr> </table> • Heat insulating board (General or high precision for Si-230-6 or smaller models only) • Mold height extension (for Si-280-6 to 950-6) • Ejector center pull-back system (Si-50 to 350-6) • Servo driven unscrewing device (Si-50-6 to Si-230-6) 	Si-50-6		(60/100)	Si-80 to 230-6		(100/120)						
Si-50-6		(60/100)												
Si-80 to 230-6		(100/120)												
Control	<ul style="list-style-type: none"> • SYSTEM600/700 control system with TFT liquid color display and full touch panel • Graphic display of injection, metering and waves (with memory function) • Digital setting of all setup parameters • Internal memory of 400 mold setups • USB interface (1 port) • Screw cold-start prevention system (with countdown time display) • Fine tuned PID temperature control (with slope starting, step control function) • 1 week automatic heater on/off calendar • Manned/Unmanned mode switching function • Hour meter (operating hour indication) • Monitoring function (up to 32 items from 96 items position, speed, pressure, time, rotation speed etc.) • Statistical processing of monitored data • Monitoring graphic indication • Alarm function (cycle time, monitoring data with up-down tolerance, heater and thermocouple disconnection, safety door etc.) • Multiple counter (cycle NO., lot NO., repeating lot NO., warning bell, initial reject, continuous failures, operation NO. etc.) • Machine conditions display (operation mode, completion of mold closed, ejector back position) • Production control (yield rate, prospective time of production end, operation rate etc.) • Local language display (English, Chinese (Simplified/Traditional), Thai, Spanish, Korean, Hebrew) • Maintenance function (1 cycle graphic, alarm history, grease supply notice, servo-amplifier communication etc.) • Changing record of the setting value (300 items) • Security function • Injection compression control (standard spec, 1 to 5 steps) • Gate cutting control • Power consumption display • SMART MOLDING (molding setting navigation, molding parameter diagnosis function) 	<ul style="list-style-type: none"> • 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 • Conveyor starting interface • Automatic mold clamping device interface • Various signal output (4 non-voltage normally-open contacts) • Monochrome printer • Quality control system (A++) • Mold parameter control software • Molding machine monitoring system (T-Station LITE) • Local language display (Czech, French, Italian, Portuguese) • Compatibility with various voltage source (with transformer) • Printer interface (molding setup, monitoring data, screen) • 100V power supply for printer (1 socket) 												
Others	<ul style="list-style-type: none"> • Automatic grease lubricating device • USB memory (Toyo specification) (400 molding setups in case of stored molding parameter only) • Unloader interface • Standard accessories (mold clamp, specialized tool, spare grease) 	<ul style="list-style-type: none"> • Automatic entire grease lubricating device • Rubber pads • Mold cooling water line • Cooling water flow gauge • Maintenance auxiliary step for hopper area • Tools (hand grease pump, spanner, hex. wrench, screwdriver) • Chute (Si-350-6 or smaller models only) • Defects sorting-out turn-around chute (Si-100-6 or smaller models only) 												
<p>[NOTE]</p> <ul style="list-style-type: none"> * Use high temperature use band heater in case barrel temperature is more than 350°C. * Consult with manufacturer in case of using special exclusive mold. 														

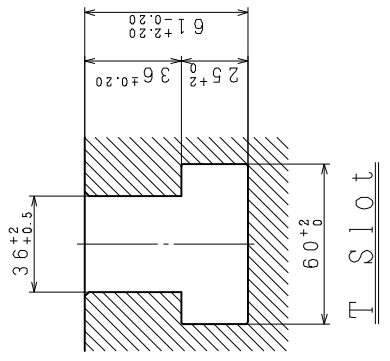
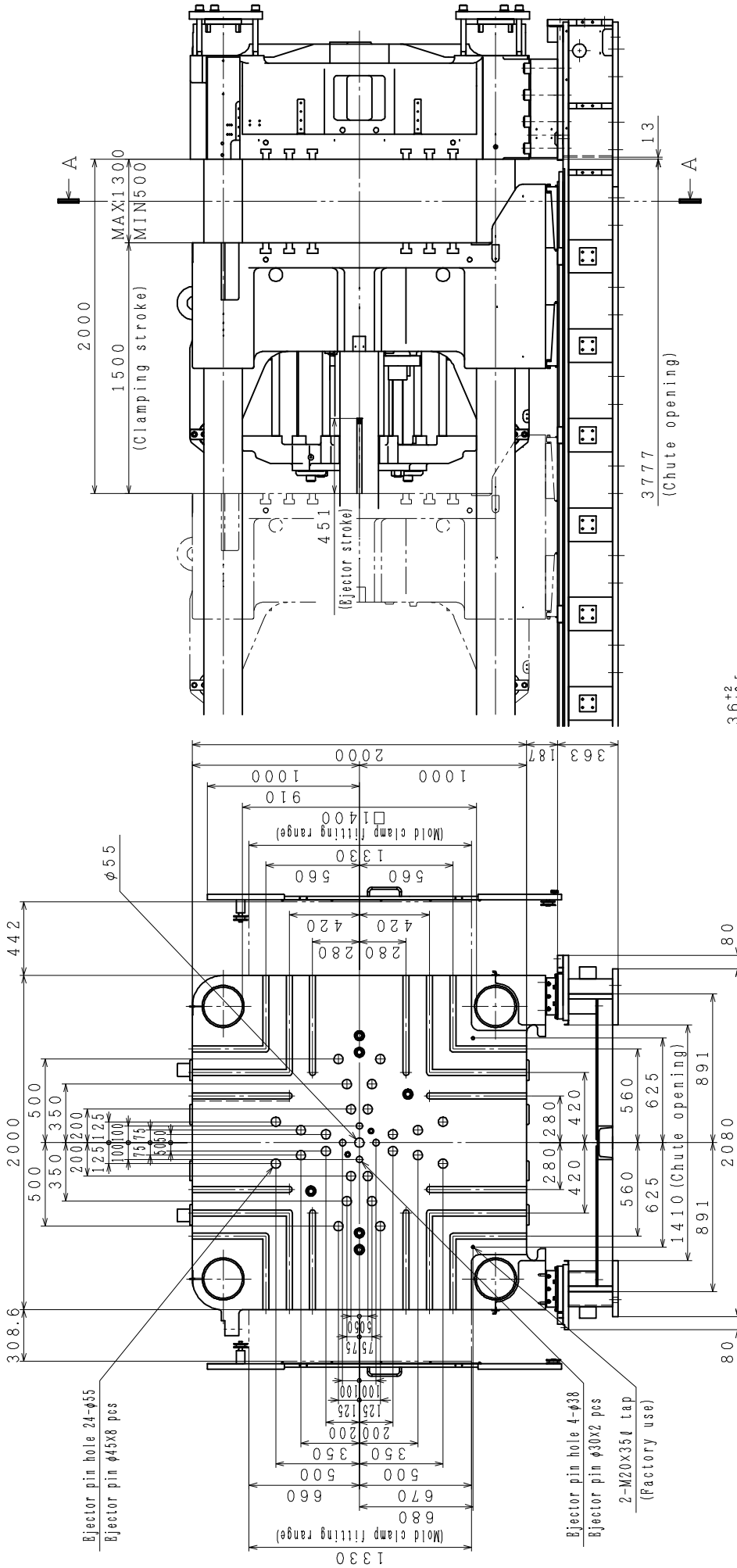


- Ⓐ Power inlet (φ80) . Breaker capacity (factory) 200V Class:600A / 400V Class:300A
- Ⓑ Water for hopper throat IN:Rc3/8 with Y-type strainer (Normal water volume:5 to 10 ℓ/min.)
- Ⓒ Water for hopper throat OUT:Rc3/8
- Ⓓ Air feed port joint for φ8 (Pressure:0.6 ~ 0.8 MPa)

Injection unit (screw diameter)	L	L ₁	L ₂	L ₃	L ₄	W ₁	W ₂	W ₃	H ₁	【H ₂ 】	【H ₃ 】	【H ₄ 】	H ₅
φ110	1333	346	276	292	175	180	75	105	210	916	1126	2676	2517
φ120	1363	376	306	292	477	180	75	105	210	916	1126	2676	2517

TOYO MACHINERY & METAL CO., LTD.
 Si-1300-6
 OUTSIDE VIEW

※Figures in 【 】 show dimensions with options.

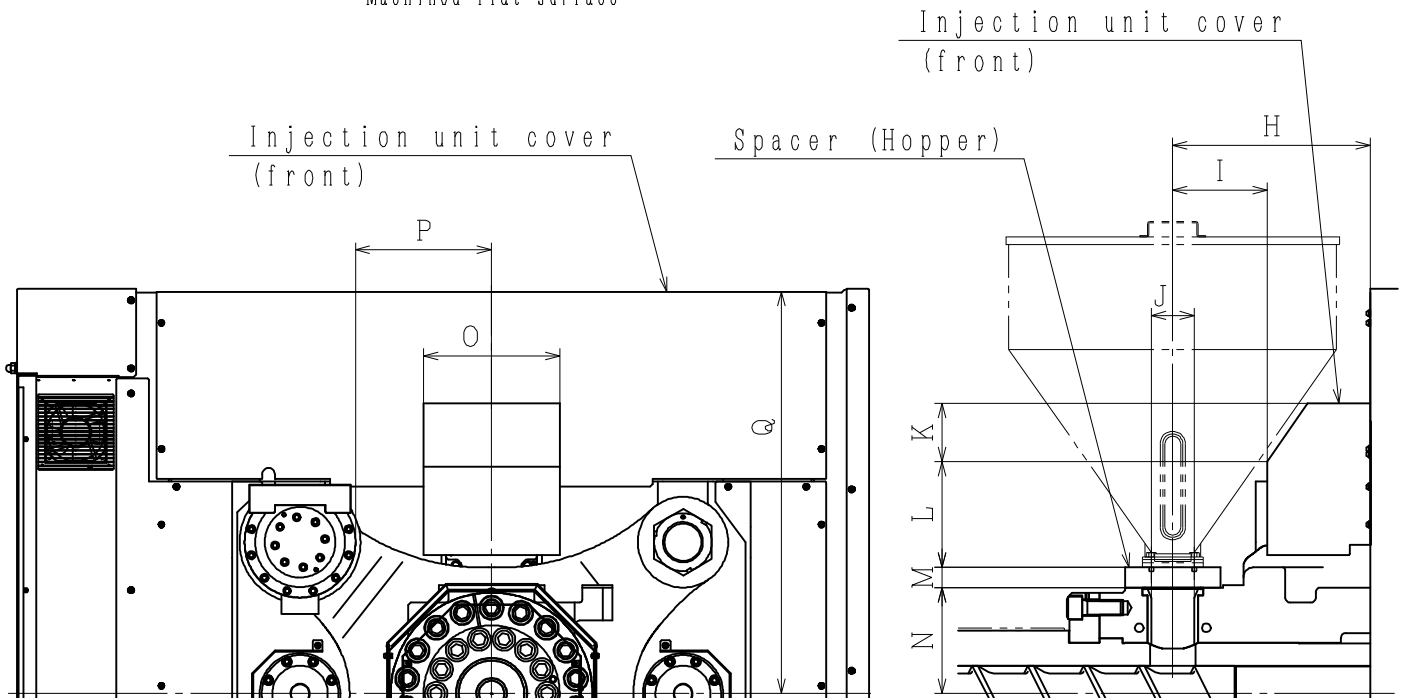
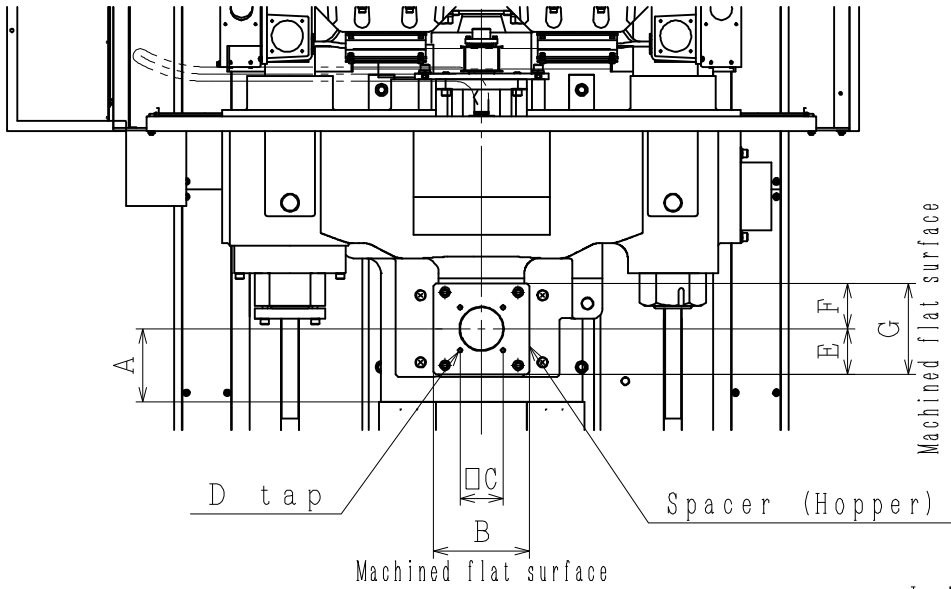


Seen from A-A

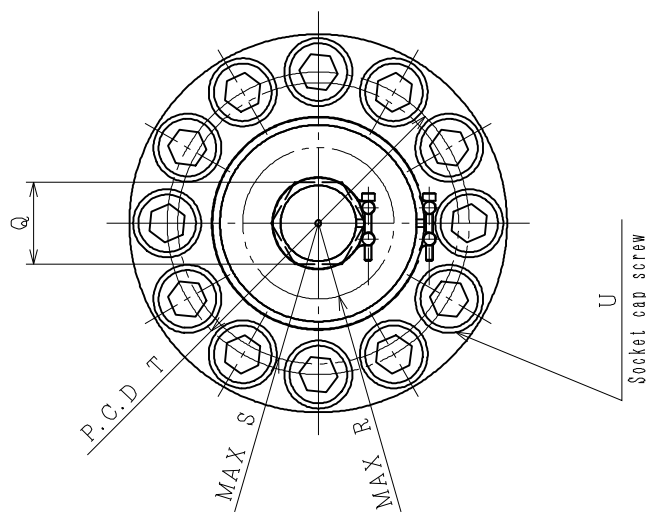
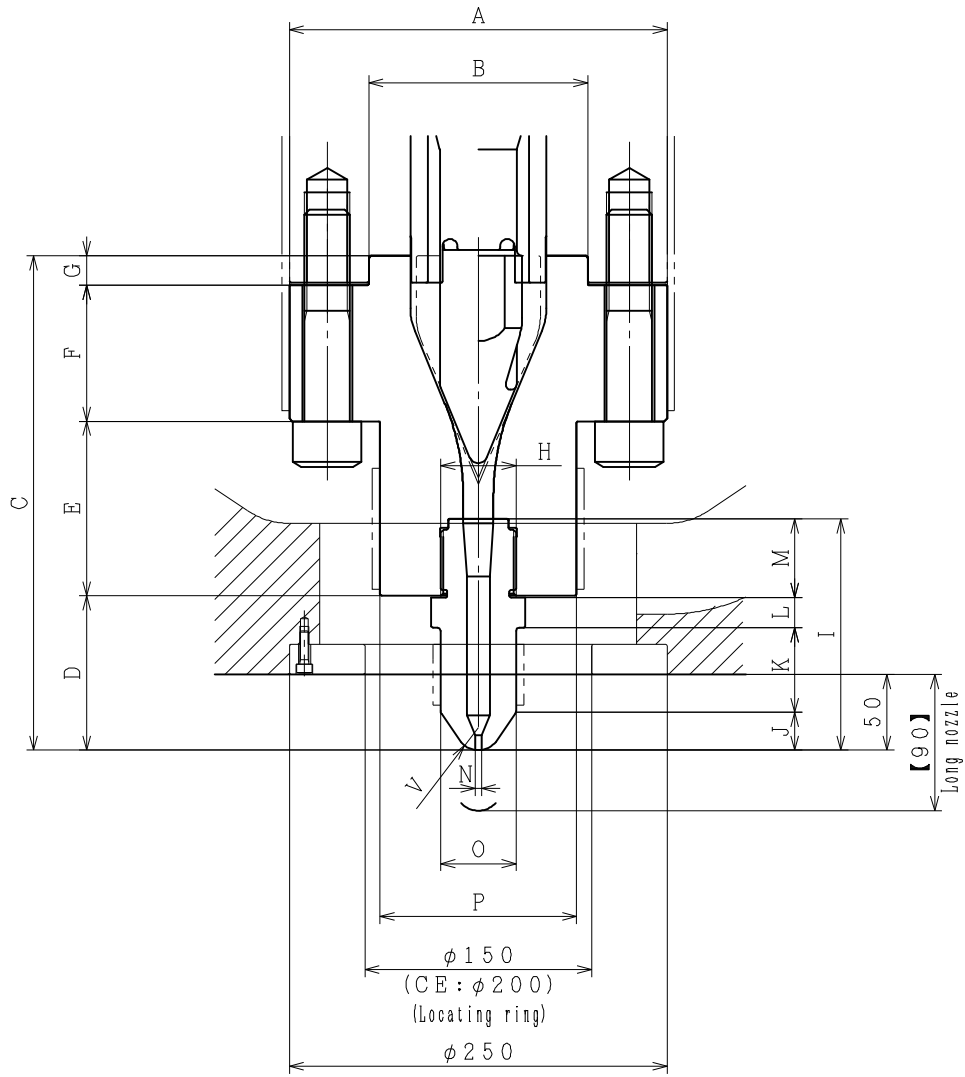
The chute can not be installed.

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Si-1300-6
MOLD FITTING DWG.

	N1100CD	
	φ110	φ120
A	145	145
B	190	190
C	85	85
D	M10×15 ϕ	M10×15 ϕ
E	90	90
F	90	90
G	180	180
H	391.9	391.9
I	186.9	186.9
J	φ85	φ85
K	115	115
L	210	210
M	40	40
N	210	210
O	270	270
P	270	270
Q	797	797



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 Si-1300-6
 DETAIL DWG. OF HOPPER PART



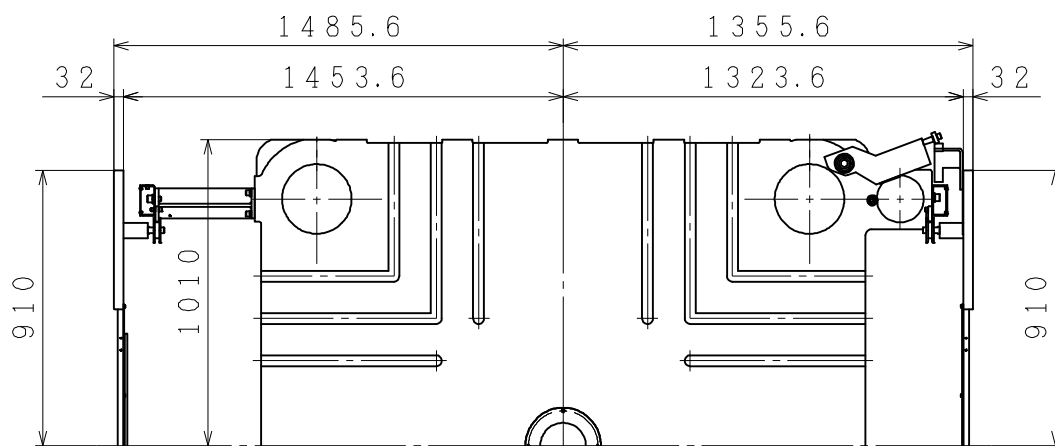
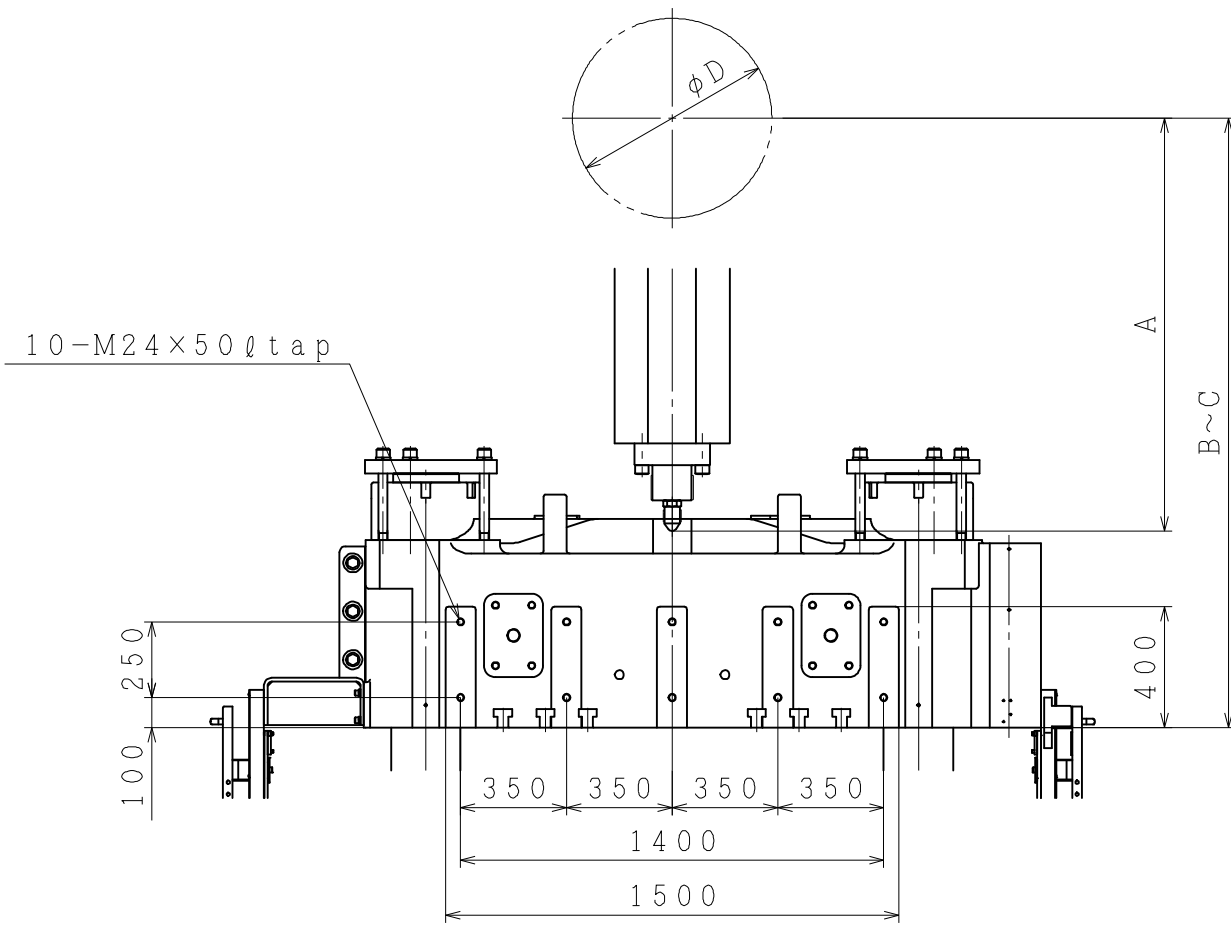
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
N1100CD	φ110	φ250	φ145	327	102	115.5	90	19.5	M50P=31	53	25	40	56	81	20	52	54	R50	R93	200	12-M30×140	SR15
	φ120	φ265	φ160	405	155	118	112.5	19.5	M65P=42	230	40	98	128	25	69	60	60	R55	R93	215	14-M30×160	SR15

※ Figures in 【】 show dimensions with options.

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Si-1300-6

DETAIL DWG. OF NOZZLE



	N1100CD	
	$\phi 110$	$\phi 120$
A	2811	3113
B	2761	3063
C	3461	3763
D	660	660

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Si-1300-6
EXTRACTOR FITTING RELATED DIMENSION