

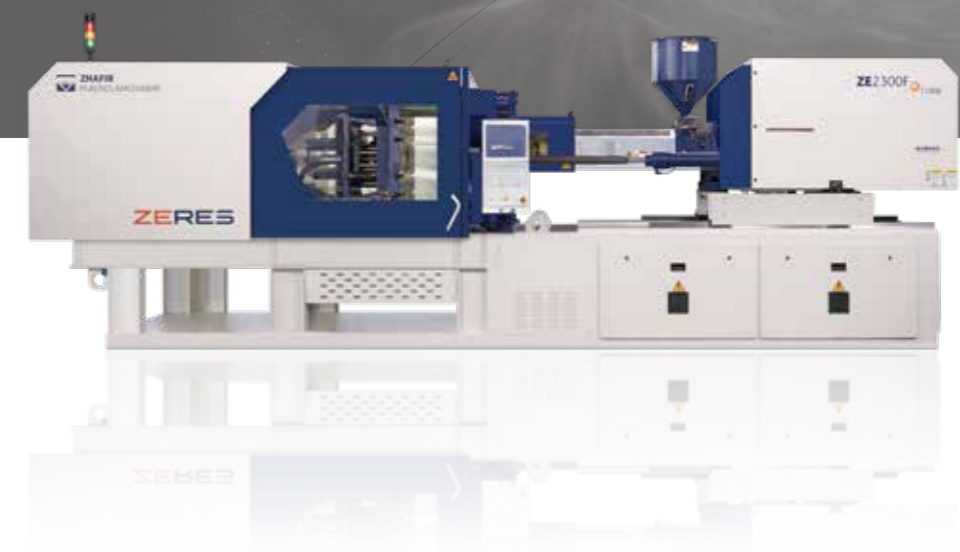
**ZHAFIR PLASTICS MACHINERY GmbH**

Jubatus-Allee 8-10  
92263 Ebermannsdorf  
Germany  
Tel. +49-9438-9412-0  
Fax. +49-9438-9412-150  
E-Mail: [contact@zhafir.com](mailto:contact@zhafir.com)  
[www.zhafir.com](http://www.zhafir.com)

**NINGBO ZHAFIR PLASTICS MACHINERY CO., LTD**

No. 98 Guanhai Road, Chunxiao, Beilun, Ningbo, China 315800  
Tel. +86-574-86182986  
Fax. +86-574-86182977  
E-Mail: [contact@mail.zhafir.cn](mailto:contact@mail.zhafir.cn)  
[www.zhafir.cn](http://www.zhafir.cn)

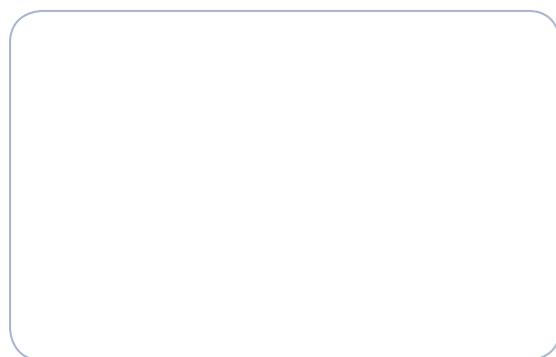
Zhafir **ZE-F** Series



Zhafir **ZE-F** Series

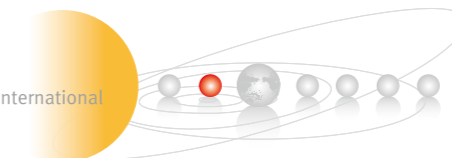
Fast cycling injection molding machine  
Technical specification  
**1500-4500kN**

Zhafir Partner:



ZE-20190117-IV

A Member of Haitian International



We Extend Advantage.

# Technical data ZE1500F

## CLAMPING UNIT

		ZE1500F
Clamping force	kN	1500
Toggle stroke	mm	420
Min. mold height	mm	180
Max. mold height	mm	520
Max. mold opening stroke	mm	940
Space between tie bars HxV	mm	520x520
Min. mold dimension	mm	335x335
Ejector stroke	mm	120
Ejector force	kN (tf)	34.3(3.5)
Mold platen dimension	HxV mm	770x770

	A	B	C(op)	A	B	C(op)	
Screw diameter	mm	36	40	45	40	45	50
Screw L/D ratio	L/D	25	25	25	25	25	25
Injection volume (theoretical)	cm <sup>3</sup>	173	213	270	252	319	395
Screw speed	rpm		400		350		
Plasticizing capacity (HDPE) ①	g/s	43	54	68.6	47.3	60	74.4
Plasticizing capacity (PP) ②	g/s	19.5	24.5	31	21.4	27	34
Nozzle contact force	kN (tf)		63.7		63.7		
Heating power	kW	17.5	19.9	21.7	20.7	24.9	26.3

## INJECTION UNIT

	430	640		
Injection speed	mm/s	200	160	
Max. injection rate	cm <sup>3</sup> /s	204	251	318
Injection pressure	MPa	247	200	158
Injection pressure	bar	2470	2000	1580

## INJECTION UNIT

	430h	640h		
Injection speed	mm/s	350	350	
Max. injection rate	cm <sup>3</sup> /s	356	440	557
Injection pressure	MPa	247	200	158
Injection pressure	bar	2470	2000	1580

## OTHERS

	430h:37/62 430:31/51	640h:46/77 640:33/56	
Connection power	kW/A	17.5	17.5
Pressure	MPa	45	45
Flow	l/min	93	93
Oil tank	l	25	25
Hopper capacity	l	5.64x1.45x2.14	5.79x1.45x2.14
Machine dimension	m	7.5	7.5
Machine weight	t		

Note :

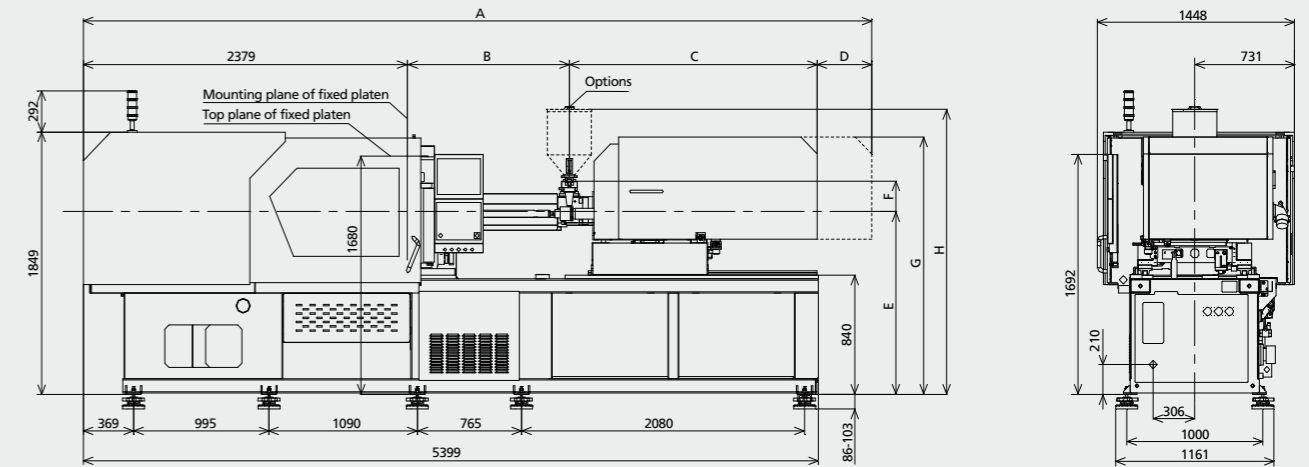
① Plasticizing capacity (HDPE): note: Euomap 19, with Zhafir standard heating power, HDPE MFI=4

② Plasticizing capacity (PP): note: Euomap 19, with Zhafir standard heating power, PP MFI=11

2 We reserve the right to make changes as a result of further technical advantages.

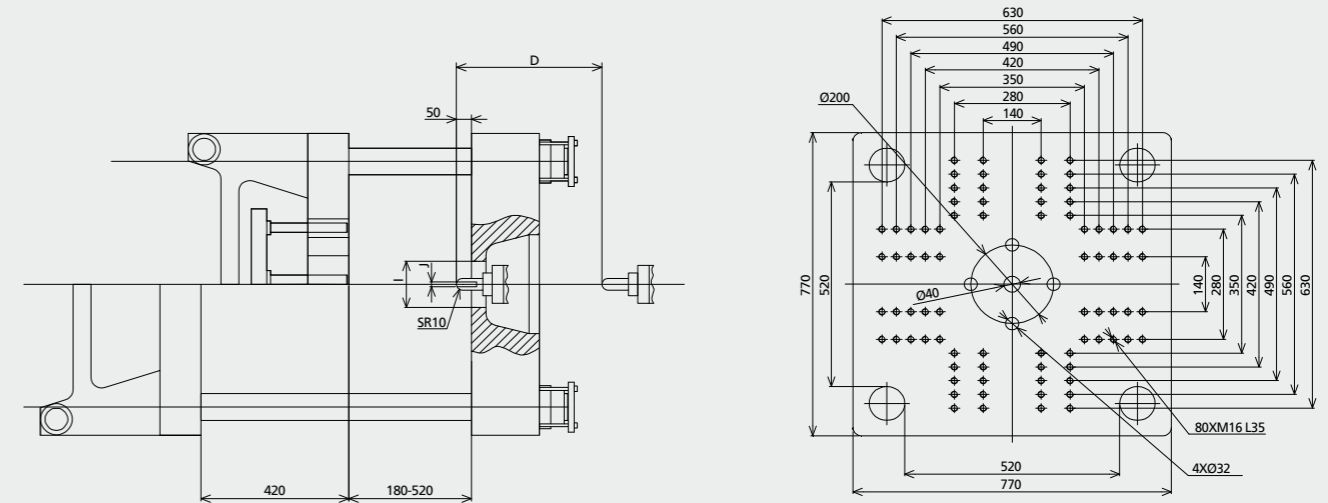
## Machine dimensions

unit: mm



## Platen dimensions

unit: mm

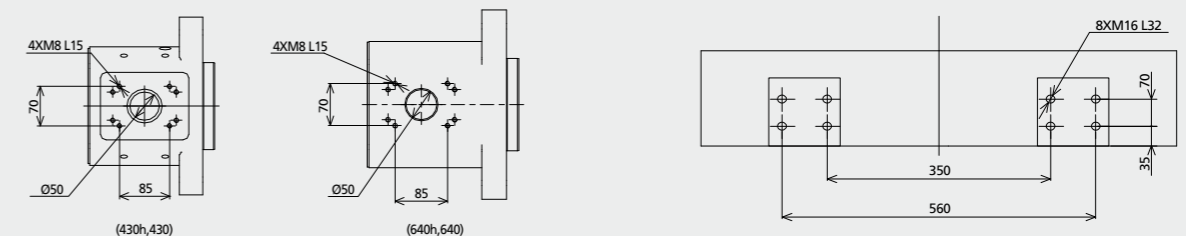


## Others dimensions

unit: mm

### Dimension for Hopper Installation

### Dimension for Robot Installation



# Technical data ZE1900F

## CLAMPING UNIT

		ZE1900F	
Clamping force	kN	1900	
Toggle stroke	mm	470	
Min. mold height	mm	200	
Max. mold height	mm	550	
Max. mold opening stroke	mm	1020	
Space between tie bars HxV	mm	570x570	
Min. mold dimension	mm	370x370	
Ejector stroke	mm	150	
Ejector force	kN (tf)	55(5.6)	
Mold platen dimension	HxV mm	840x840	

		A	B	C(op)	A	B	C(op)
Screw diameter	mm	40	45	50	45	50	55
Screw L/D ratio	L/D	25	25	25	25	25	25
Injection volume (theoretical)	cm <sup>3</sup>	252	319	395	334	412	499
Screw speed	rpm		350			320	
Plasticizing capacity (HDPE) ①	g/s	47.3	60	74.4	55	68	86
Plasticizing capacity (PP) ②	g/s	21.4	27	34	24.7	31	39
Nozzle contact force	kN (tf)		63.7			88.2	
Heating power	kW	20.7	24.9	26.3	27.1	32	34.1

## INJECTION UNIT

		640			830		
Injection speed	mm/s		160			160	
Max. injection rate	cm <sup>3</sup> /s	201	254	314	254	314	380
Injection pressure	MPa	253	200	162	247	200	165
Injection pressure	bar	2530	2000	1620	2470	2000	1650

## INJECTION UNIT

		640h			830h		
Injection speed	mm/s		350			350	
Max. injection rate	cm <sup>3</sup> /s	440	557	687	557	687	832
Injection pressure	MPa	253	200	162	247	200	165
Injection pressure	bar	2530	2000	1620	2470	2000	1650

## OTHERS

		640h:46/77 640:33/56		830h:56/95 830:42/70	
Connection power	kW/A				
Pressure	MPa	17.5		17.5	
Flow	l/min	74		74	
Oil tank	l	115		115	
Hopper capacity	l	25		50	
Machine dimension	m	6.13x1.56x2.24		6.42x1.56x2.24	
Machine weight	t	8.8		9.7	

Note :

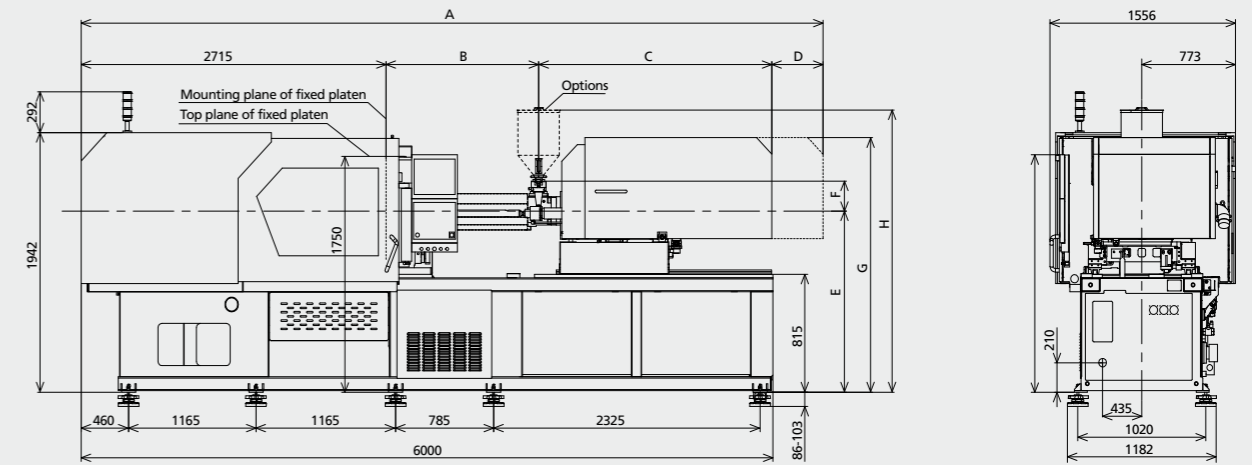
① Plasticizing capacity (HDPE): note: Euomap 19, with Zhafir standard heating power, HDPE MFI=4

② Plasticizing capacity (PP): note: Euomap 19, with Zhafir standard heating power, PP MFI=11

4 We reserve the right to make changes as a result of further technical advantages.

## Machine dimensions

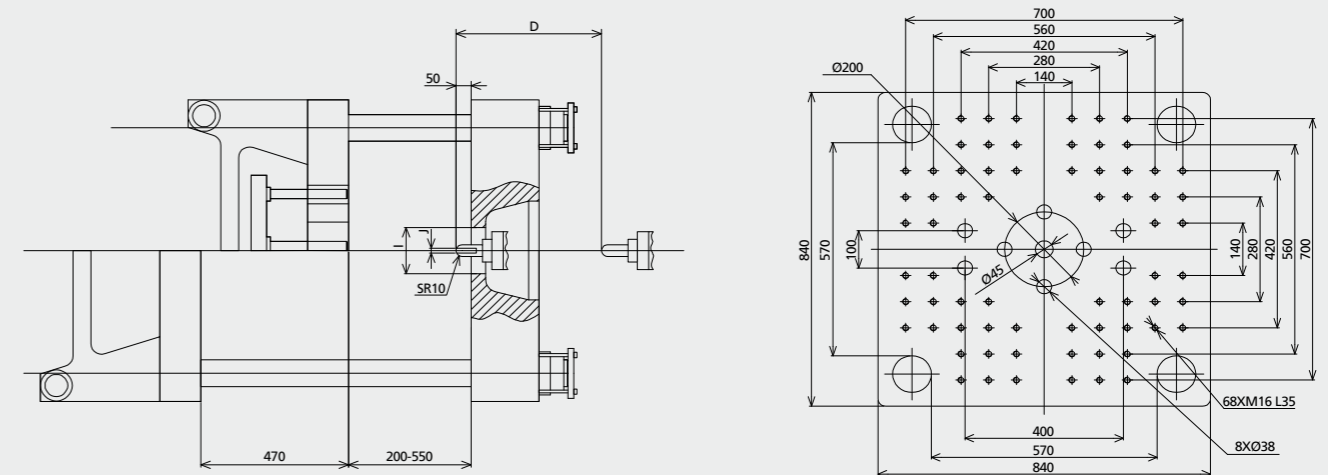
unit: mm



INJECTION UNIT	A	B	C	D	E	F	G	H	I	J
640h,640	6128	1191	1821	400	1325	214	1850	2046	Ø160	Ø4
830h,830	6414	1312	1958	430	1325	255	2019	2165	Ø160	Ø4

## Platen dimensions

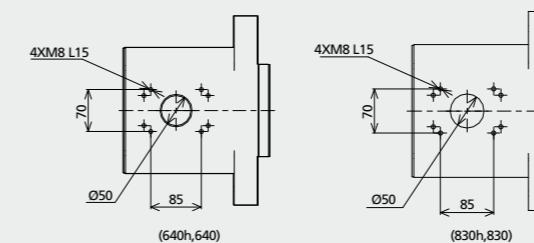
unit: mm



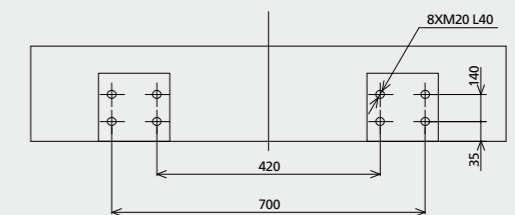
## Others dimensions

unit: mm

### Dimension for Hopper Installation



### Dimension for Robot Installation



# Technical data ZE2300F

## CLAMPING UNIT

		ZE2300F
Clamping force	kN	2300
Toggle stroke	mm	550
Min. mold height	mm	220
Max. mold height	mm	600
Max. mold opening stroke	mm	1150
Space between tie bars HxV	mm	620x620
Min. mold dimension	mm	400x400
Ejector stroke	mm	150
Ejector force	kN (tf)	55(5.6)
Mold platen dimension	HxV mm	920x920

		A	B	C(op)	A	B	C(op)
Screw diameter	mm	45	50	55	50	55	60
Screw L/D ratio	L/D	25	25	25	25	25	25
Injection volume (theoretical)	cm <sup>3</sup>	334	412	499	471	570	678
Screw speed	rpm		320			320	
Plasticizing capacity (HDPE) ①	g/s	55	68	86	68	86	117.3
Plasticizing capacity (PP) ②	g/s	24.7	31	39	31	39	50.7
Nozzle contact force	kN (tf)		88.2			88.2	
Heating power	kW	27.1	32	34.1	33.7	40.7	44.2

## INJECTION UNIT

		830	1100
Injection speed	mm/s	160	160
Max. injection rate	cm <sup>3</sup> /s	254	314
Injection pressure	MPa	247	200
Injection pressure	bar	2470	2000

## INJECTION UNIT

		830h	1100h
Injection speed	mm/s	350	350
Max. injection rate	cm <sup>3</sup> /s	557	687
Injection pressure	MPa	247	200
Injection pressure	bar	2470	2000

## OTHERS

		830h:56/95 830:42/70	1100h:70/117 1100:51/86
Connection power	kW/A		
Pressure	MPa	17.5	17.5
Flow	l/min	74	74
Oil tank	l	122	122
Hopper capacity	l	50	50
Machine dimension	m	6.70x1.73x2.30	6.89x1.73x2.30
Machine weight	t	12.2	13.0

Note :

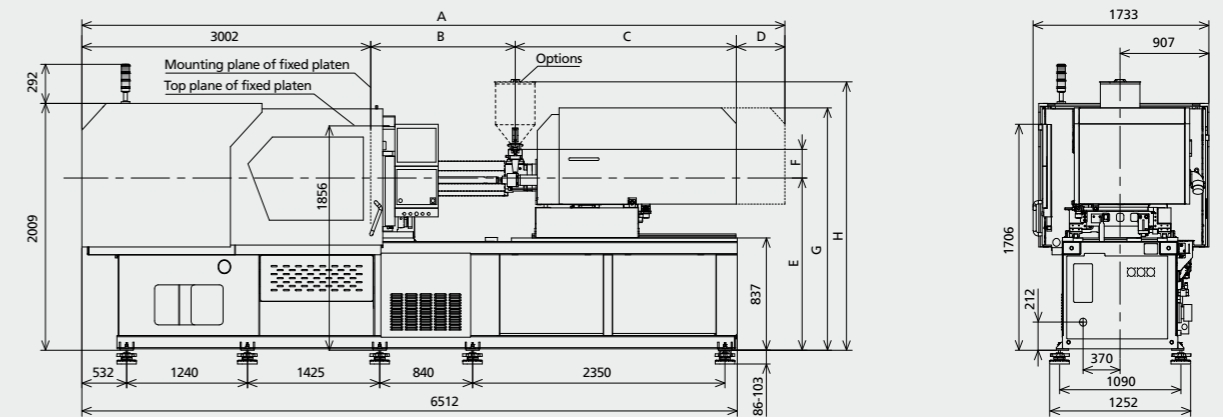
① Plasticizing capacity (HDPE): note: Euomap 19, with Zhafir standard heating power, HDPE MFI=4

② Plasticizing capacity (PP): note: Euomap 19, with Zhafir standard heating power, PP MFI=11

6 We reserve the right to make changes as a result of further technical advantages.

## Machine dimensions

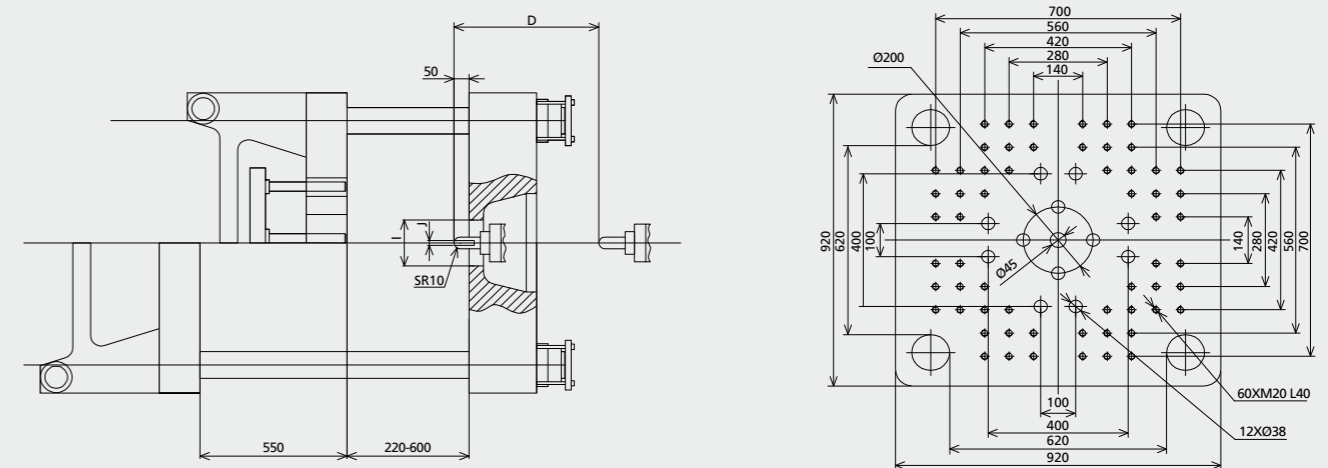
unit: mm



INJECTION UNIT	A	B	C	D	E	F	G	H	I	J
830h,830	6700	1310	1958	430	1387	255	2081	2227	Ø160	Ø4
1100h,1100	6892	1445	2015	430	1387	245	2081	2217	Ø160	Ø4

## Platen dimensions

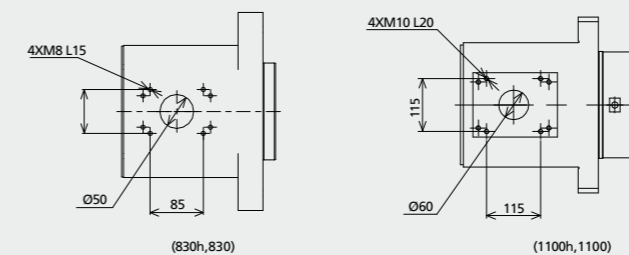
unit: mm



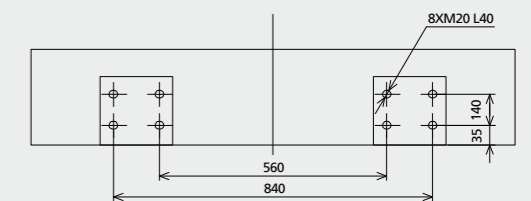
## Others dimensions

unit: mm

### Dimension for Hopper Installation



### Dimension for Robot Installation



# Technical data ZE3000F

## CLAMPING UNIT

		ZE3000F
Clamping force	kN	3000
Toggle stroke	mm	600
Min. mold height	mm	250
Max. mold height	mm	650
Max. mold opening stroke	mm	1250
Space between tie bars HxV	mm	670x670
Min. mold dimension	mm	435x435
Ejector stroke	mm	160
Ejector force	kN (tf)	68.6(7.0)
Mold platen dimension	HxV mm	1000x1000

		A	B	C(op)	A	B	C(op)
Screw diameter	mm	50	55	60	55	60	65
Screw L/D ratio	L/D	25	25	25	25	25	25
Injection volume (theoretical)	cm <sup>3</sup>	471	570	678	617	735	863
Screw speed	rpm		320			300	
Plasticizing capacity (HDPE) ①	g/s	68	86	117.3	80.6	110	144
Plasticizing capacity (PP) ②	g/s	31	39	50.7	36.6	47.5	60
Nozzle contact force	kN (tf)		88.2			88.2	
Heating power	kW	33.7	40.7	44.2	41.6	47.2	51.2

## INJECTION UNIT

		1100	1400
Injection speed	mm/s	160	160
Max. injection rate	cm <sup>3</sup> /s	314	380
Injection pressure	MPa	230	193
Injection pressure	bar	2300	1930

## INJECTION UNIT

		1100h	1400h
Injection speed	mm/s	350	350
Max. injection rate	cm <sup>3</sup> /s	687	832
Injection pressure	MPa	230	193
Injection pressure	bar	2300	1930

## OTHERS

		1100h:70/117 1100:51/86	1400h:77/130 1400:62/104
Connection power	kW/A		
Pressure	MPa	17.5	17.5
Flow	l/min	90	90
Oil tank	l	135	135
Hopper capacity	l	50	50
Machine dimension	m	7.48x1.93x2.38	7.80x1.93x2.38
Machine weight	t	15.2	16.3

Note :

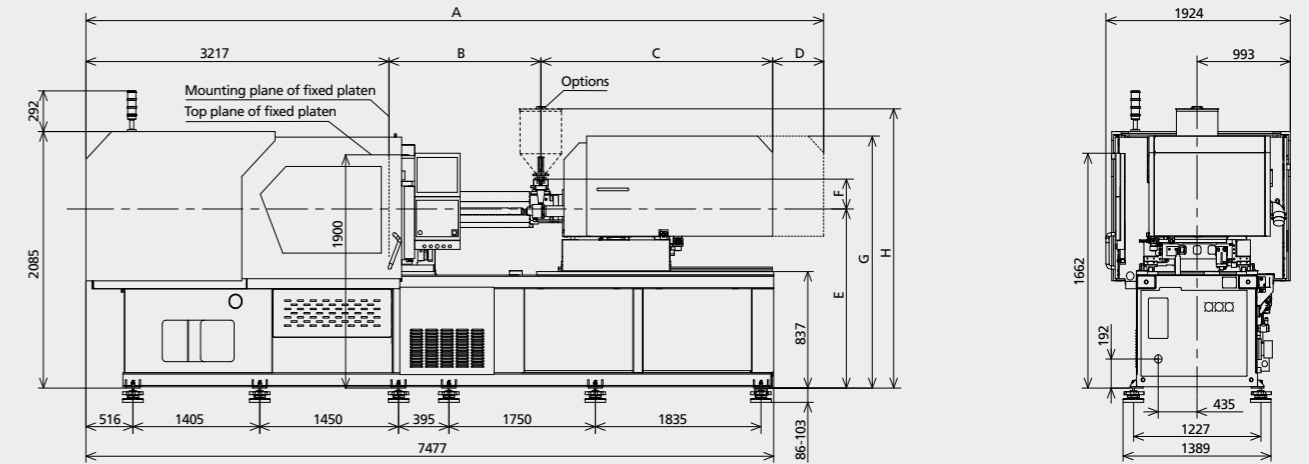
① Plasticizing capacity (HDPE): note: Euomap 19, with Zhafir standard heating power, HDPE MFI=4

② Plasticizing capacity (PP): note: Euomap 19, with Zhafir standard heating power, PP MFI=11

We reserve the right to make changes as a result of further technical advantages.

## Machine dimensions

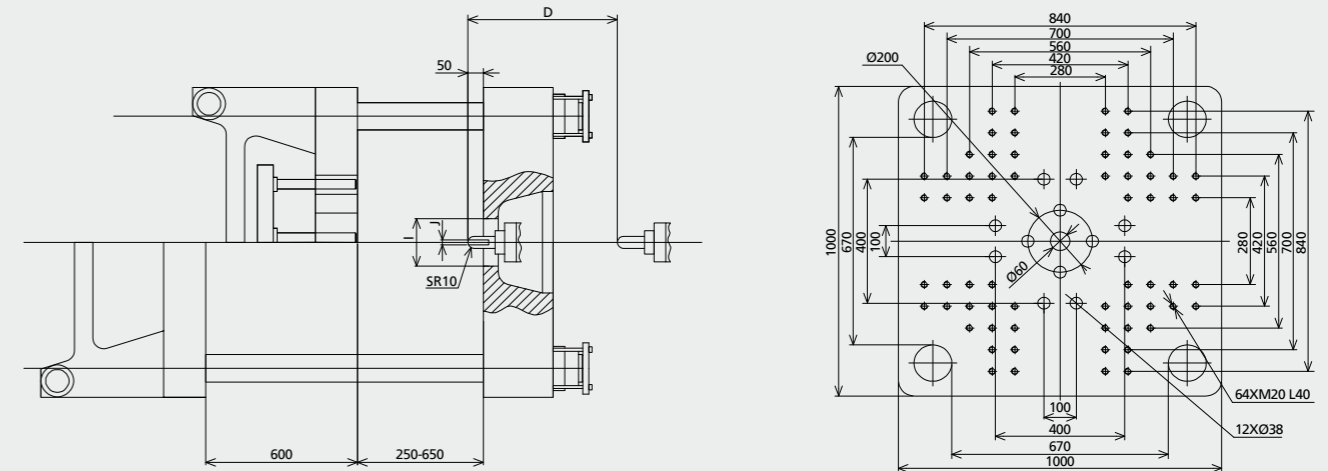
unit: mm



INJECTION UNIT	A	B	C	D	E	F	G	H	I	J
1100h,1100	7237	1445	2015	560	1390	245	2084	2220	Ø160	Ø4
1400h,1400	7803	1594	2382	610	1390	251	2095	2226	Ø160	Ø4

## Platen dimensions

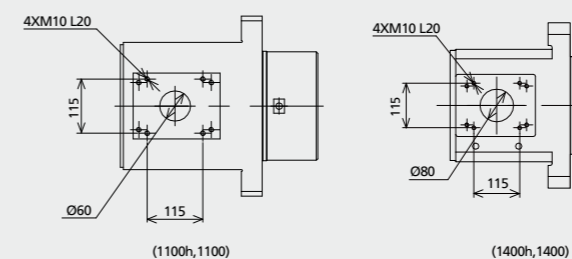
unit: mm



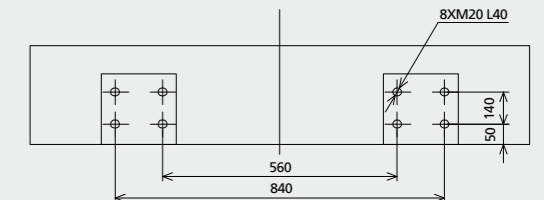
## Others dimensions

unit: mm

### Dimension for Hopper Installation



### Dimension for Robot Installation



# Technical data ZE3800F

## CLAMPING UNIT

		ZE3800F
Clamping force	kN	3800
Toggle stroke	mm	700
Min. mold height	mm	300
Max. mold height	mm	710
Max. mold opening stroke	mm	1410
Space between tie bars HxV	mm	770x770
Min. mold dimension	mm	500x500
Ejector stroke	mm	160
Ejector force	kN (tf)	68.6(7.0)
Mold platen dimension	HxV mm	1150x1150

		A	B	C(op)	A	B	C(op)
Screw diameter	mm	55	60	65	60	65	70
Screw L/D ratio	L/D	25	25	25	25	25	25
Injection volume (theoretical)	cm <sup>3</sup>	617	735	863	792	929	1078
Screw speed	rpm		300			250	
Plasticizing capacity (HDPE) ①	g/s	80.6	110	144	91.7	120	155
Plasticizing capacity (PP) ②	g/s	36.6	47.5	60	39.6	50	65
Nozzle contact force	kN (tf)		88.2			88.2	
Heating power	kW	41.6	47.2	51.2	45.6	51.2	55.2

## INJECTION UNIT

		1400	1700				
Injection speed	mm/s	160	160				
Max. injection rate	cm <sup>3</sup> /s	380	452	531	452	531	616
Injection pressure	MPa	230	193	164	230	196	169
Injection pressure	bar	2300	1930	1640	2300	1960	1690

## INJECTION UNIT

		1400h	1700h				
Injection speed	mm/s	350	350				
Max. injection rate	cm <sup>3</sup> /s	832	990	1161	990	1161	1347
Injection pressure	MPa	230	193	164	230	196	169
Injection pressure	bar	2300	1930	1640	2300	1960	1690

## OTHERS

		1400h:77/130 1400:62/104	1700h:93/156 1700:64/108
Connection power	kW/A		
Pressure	MPa	17.5	17.5
Flow	l/min	90	90
Oil tank	l	135	135
Hopper capacity	l	50	50
Machine dimension	m	8.03x2.08x2.45	8.20x2.08x2.45
Machine weight	t	19.6	19.7

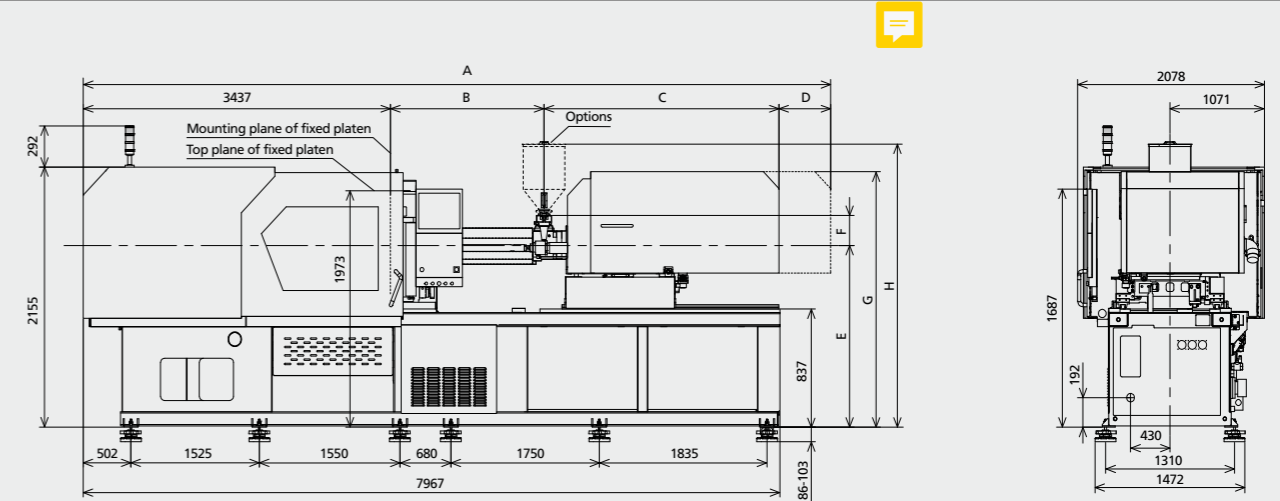
Note :

- ① Plasticizing capacity (HDPE): note: Euomap 19, with Zhafir standard heating power, HDPE MFI=4
- ② Plasticizing capacity (PP): note: Euomap 19, with Zhafir standard heating power, PP MFI=11

We reserve the right to make changes as a result of further technical advantages.

## Machine dimensions

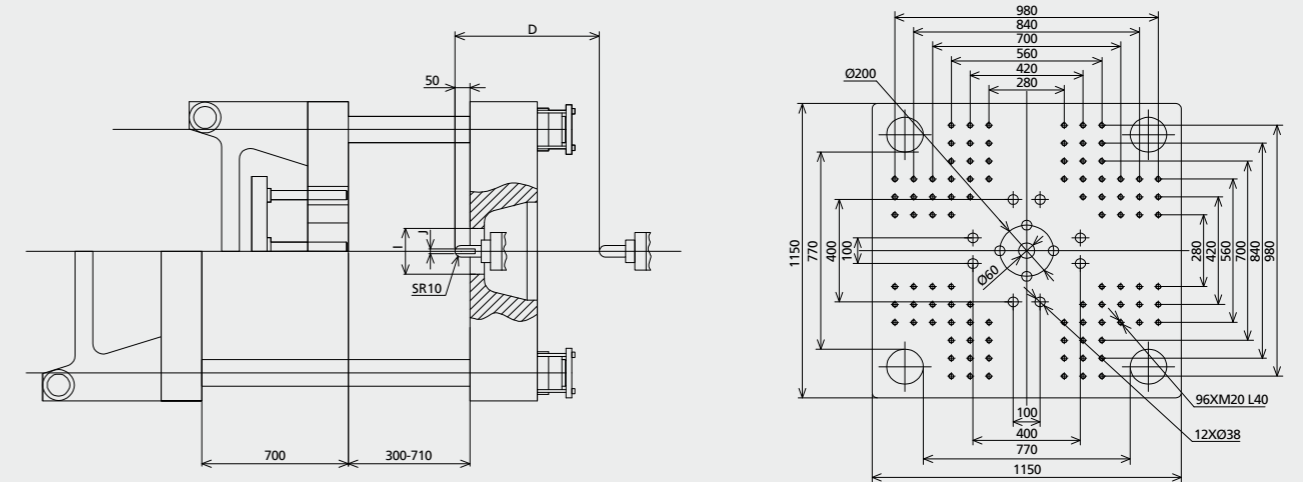
unit: mm



INJECTION UNIT	A	B	C	D	E	F	G	H	I	J
1400h,1400	8024	1595	2382	610	1390	251	2095	2226	Ø160	Ø4
1700h,1700	8196	1734	2415	610	1390	250	2095	2225	Ø160	Ø4

## Platen dimensions

unit: mm

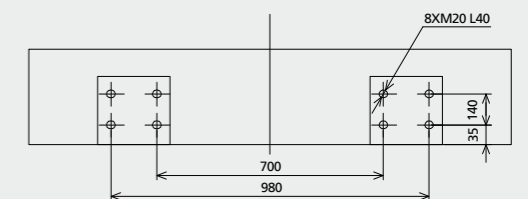
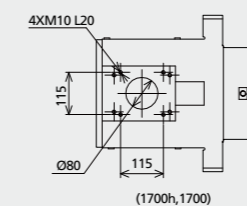
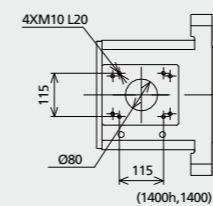


## Others dimensions

unit: mm

### Dimension for Hopper Installation

### Dimension for Robot Installation



# Technical data ZE4500F

## CLAMPING UNIT

		ZE4500F
Clamping force	kN	4500
Toggle stroke	mm	800
Min. mold height	mm	400
Max. mold height	mm	820
Max. mold opening stroke	mm	1620
Space between tie bars HxV	mm	820x820
Min. mold dimension	mm	540x540
Ejector stroke	mm	180
Ejector force	kN (tf)	98(10.0)
Mold platen dimension	HxV mm	1260x1260

		A	B	C(op)	A	B	C(op)
Screw diameter	mm	55	60	65	60	65	70
Screw L/D ratio	L/D	25	25	25	25	25	25
Injection volume (theoretical)	cm <sup>3</sup>	617	735	863	792	929	1078
Screw speed	rpm		300			250	
Plasticizing capacity (HDPE) ①	g/s	80.6	110	144	91.7	120	155
Plasticizing capacity (PP) ②	g/s	36.6	47.5	60	39.6	50	65
Nozzle contact force	kN (tf)		88.2			88.2	
Heating power	kW	41.6	47.2	51.2	45.6	51.2	55.2

## INJECTION UNIT

		1400	1700	
Injection speed	mm/s	160	160	
Max. injection rate	cm <sup>3</sup> /s	380	452	531
Injection pressure	MPa	230	193	164
Injection pressure	bar	2300	1930	1640

## INJECTION UNIT

		1400h	1700h	
Injection speed	mm/s	350	350	
Max. injection rate	cm <sup>3</sup> /s	832	990	1161
Injection pressure	MPa	230	193	164
Injection pressure	bar	2300	1930	1640

## OTHERS

		1400h:77/130 1400:62/104	1700h:93/156 1700:64/108
Connection power	kW/A		
Pressure	MPa	17.5	17.5
Flow	l/min	132	132
Oil tank	l	280	280
Hopper capacity	l	50	50
Machine dimension	m	9.04x2.25x2.40	9.04x2.25x2.40
Machine weight	t	27.5	27.5

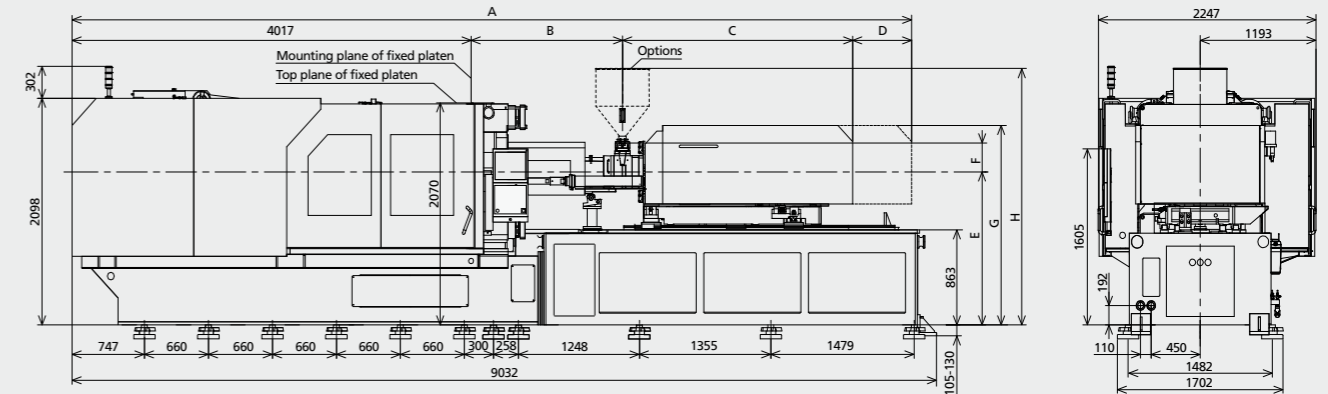
Note :

① Plasticizing capacity (HDPE): note: Euomap 19, with Zhafir standard heating power, HDPE MFI=4

② Plasticizing capacity (PP): note: Euomap 19, with Zhafir standard heating power, PP MFI=11

## Machine dimensions

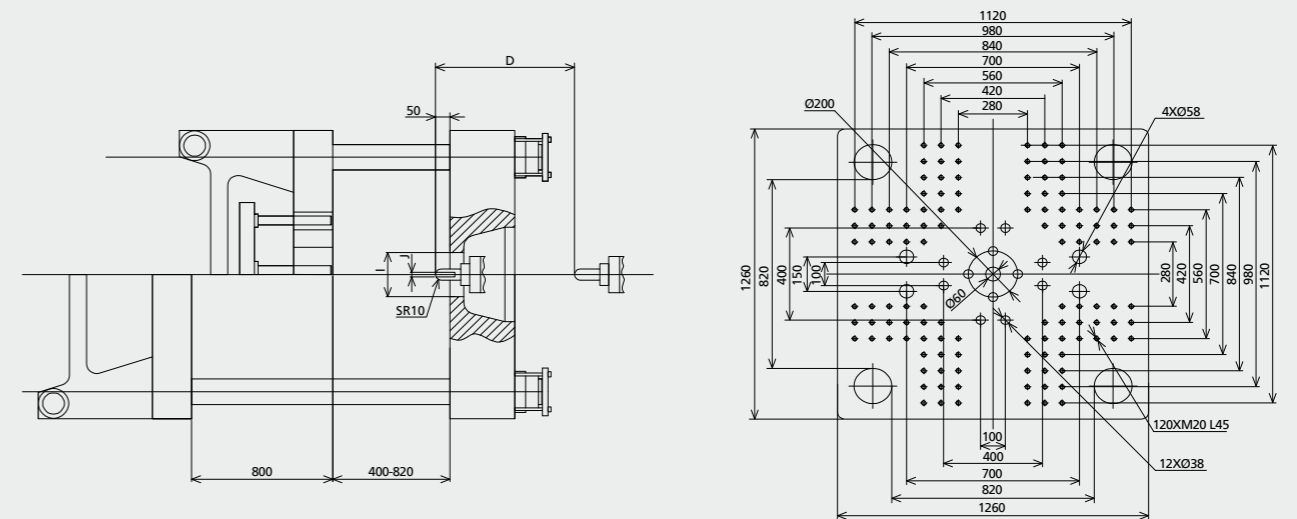
unit: mm



INJECTION UNIT	A	B	C	D	E	F	G	H	I	J
1400h,1400	8603	1594	2382	610	1430	251	2135	2266	Ø200	Ø4
1700h,1700	8776	1734	2415	610	1430	250	2135	2265	Ø200	Ø4

## Platen dimensions

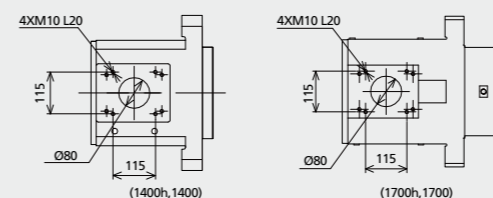
unit: mm



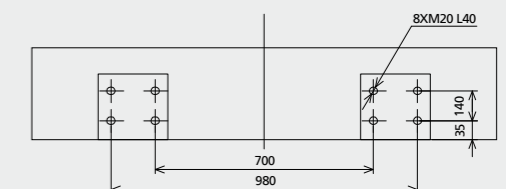
## Others dimensions

unit: mm

### Dimension for Hopper Installation



### Dimension for Robot Installation



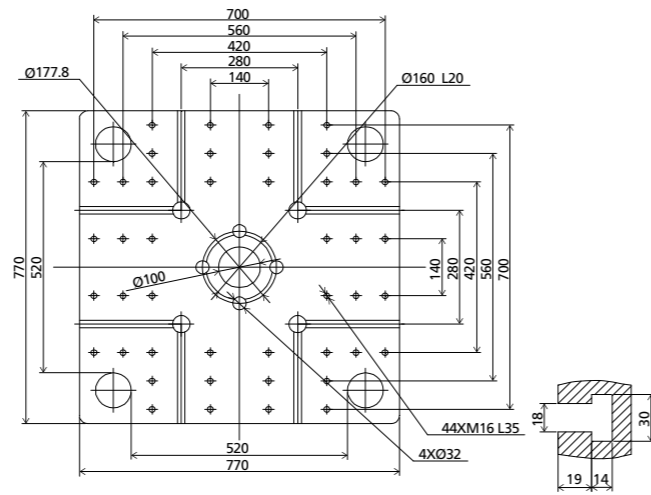
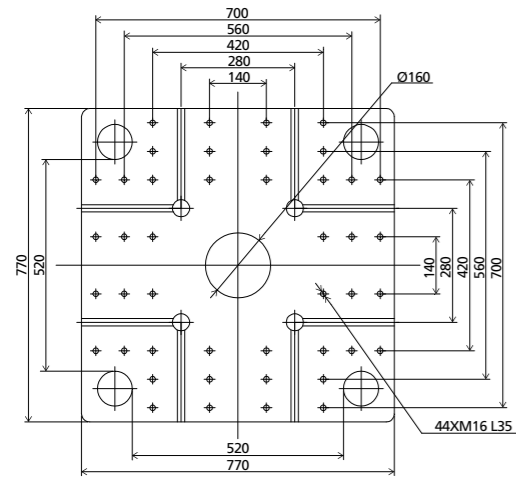
# Platen Layout ZE1500F

European version

unit: mm

Fixed platen

Movable platen



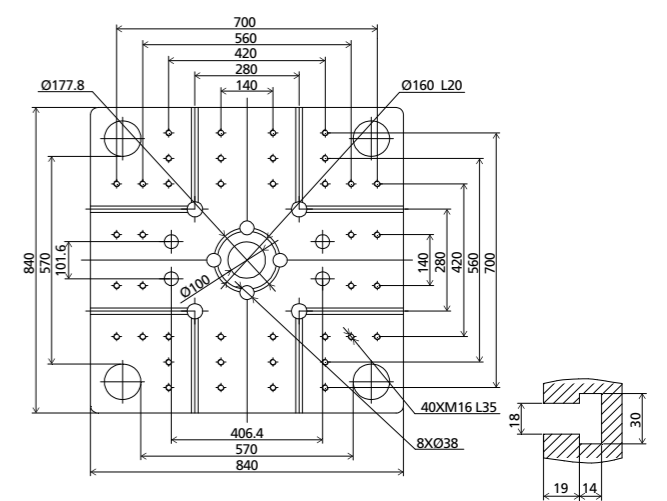
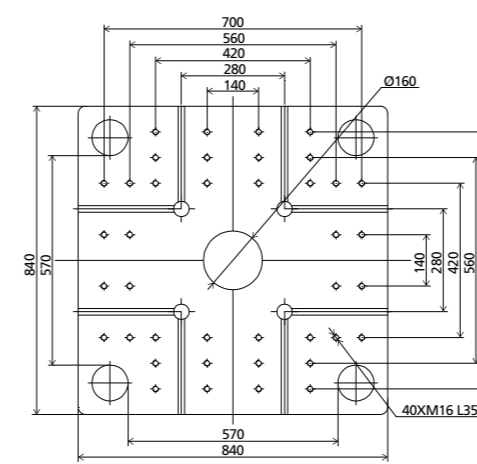
# Platen Layout ZE1900F

European version

unit: mm

Fixed platen

Movable platen

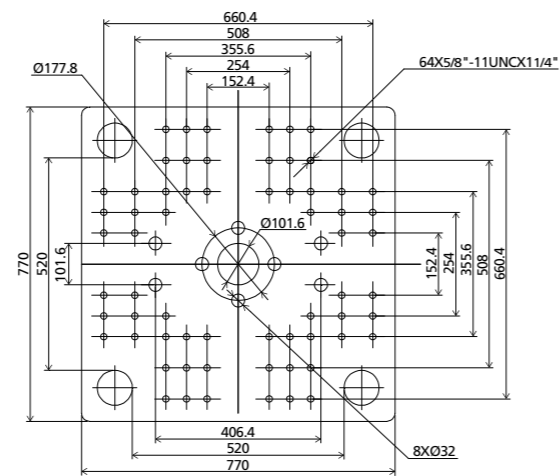
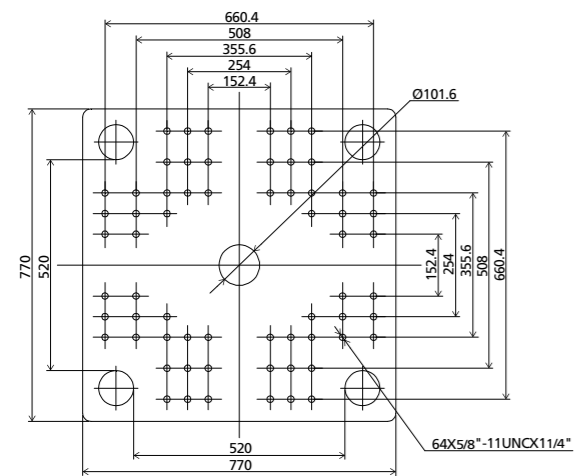


American version

unit: mm

Fixed platen

Movable platen

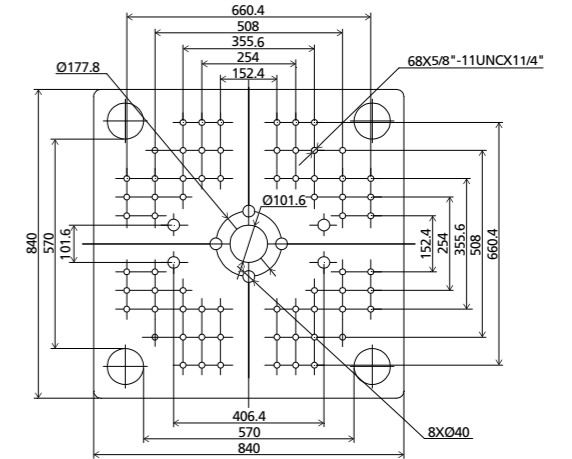
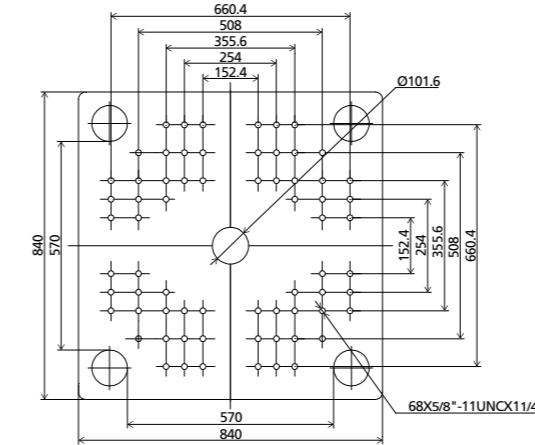


American version

unit: mm

Fixed platen

Movable platen

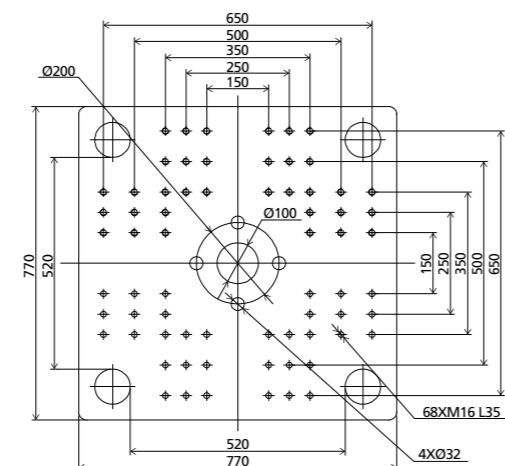
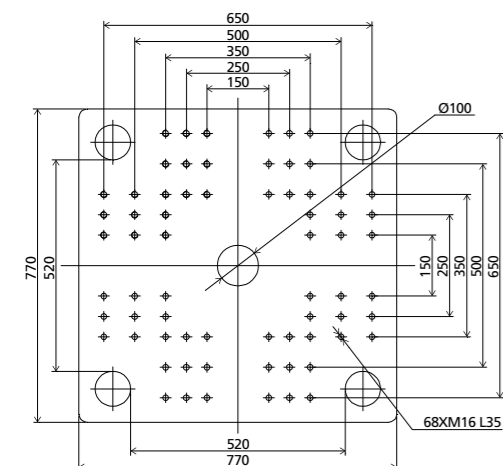


Japanese version

unit: mm

Fixed platen

Movable platen

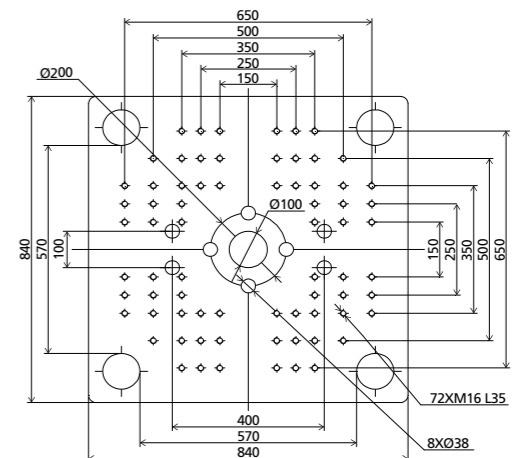
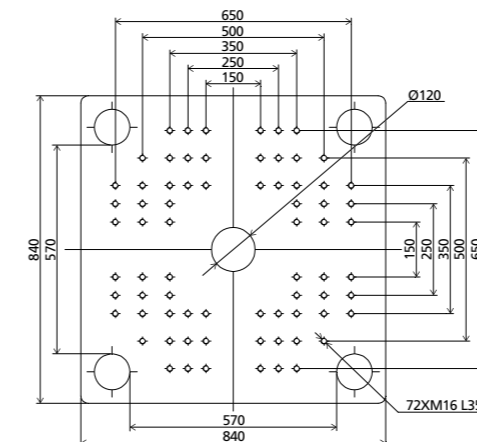


Japanese version

unit: mm

Fixed platen

Movable platen





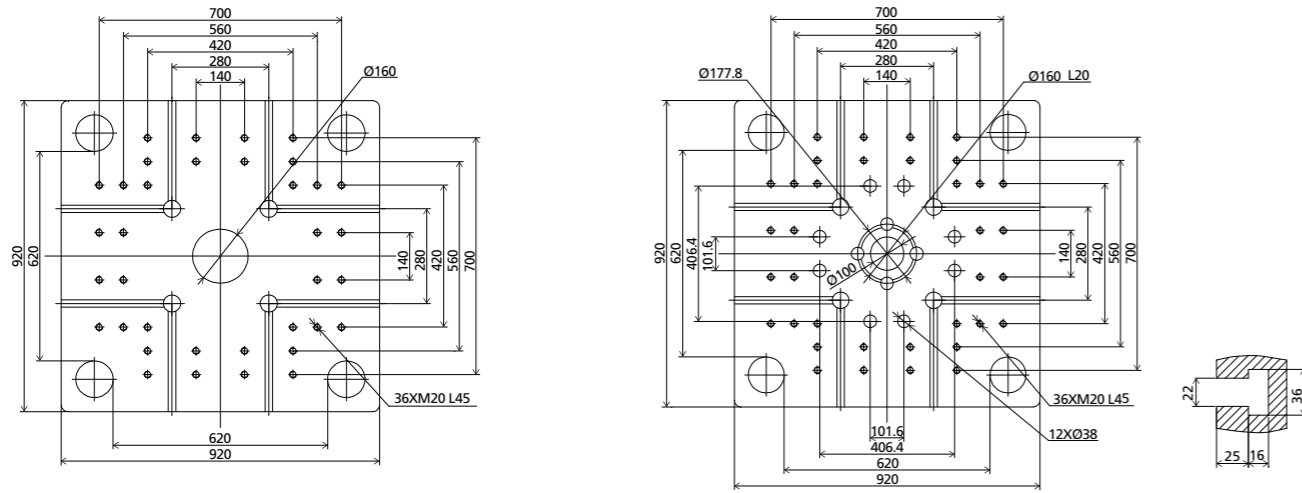
# Platen Layout ZE2300F

European version

unit: mm

Fixed platen

Movable platen

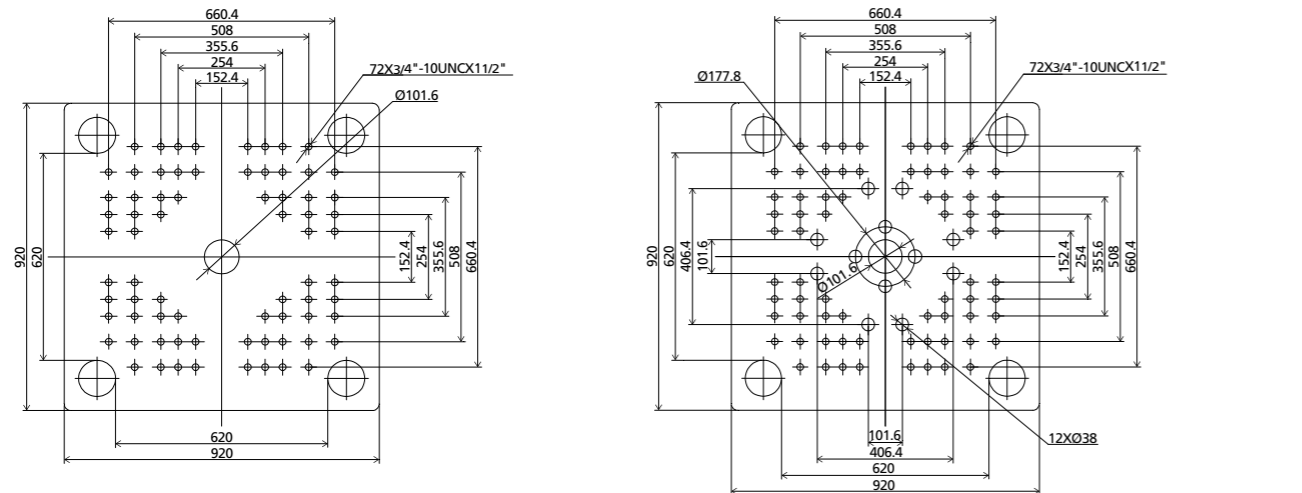


American version

unit: mm

Fixed platen

Movable platen

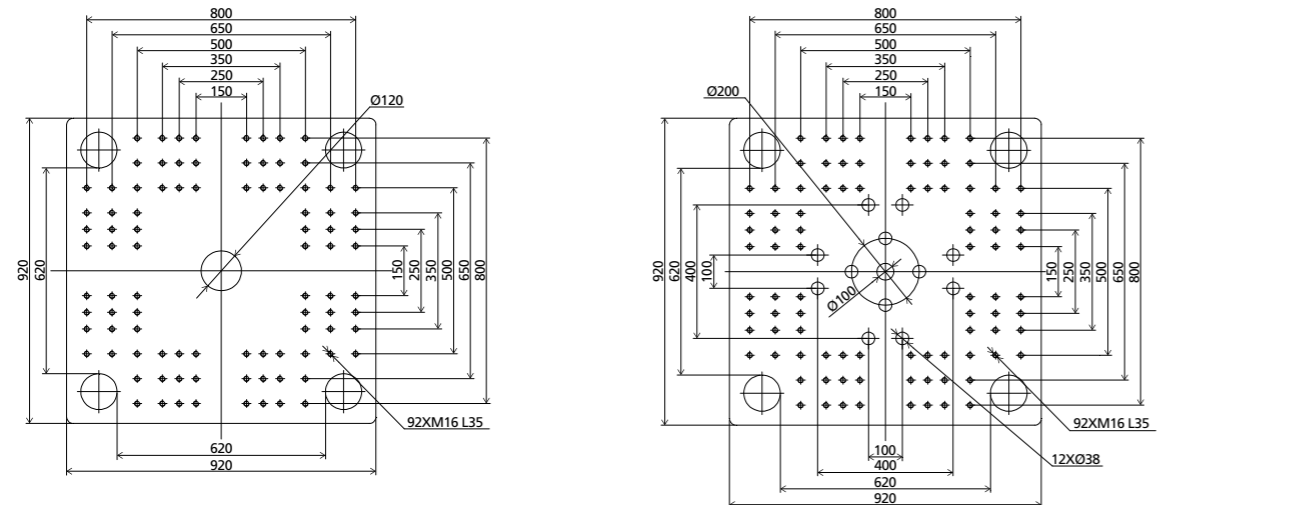


Japanese version

unit: mm

Fixed platen

Movable platen



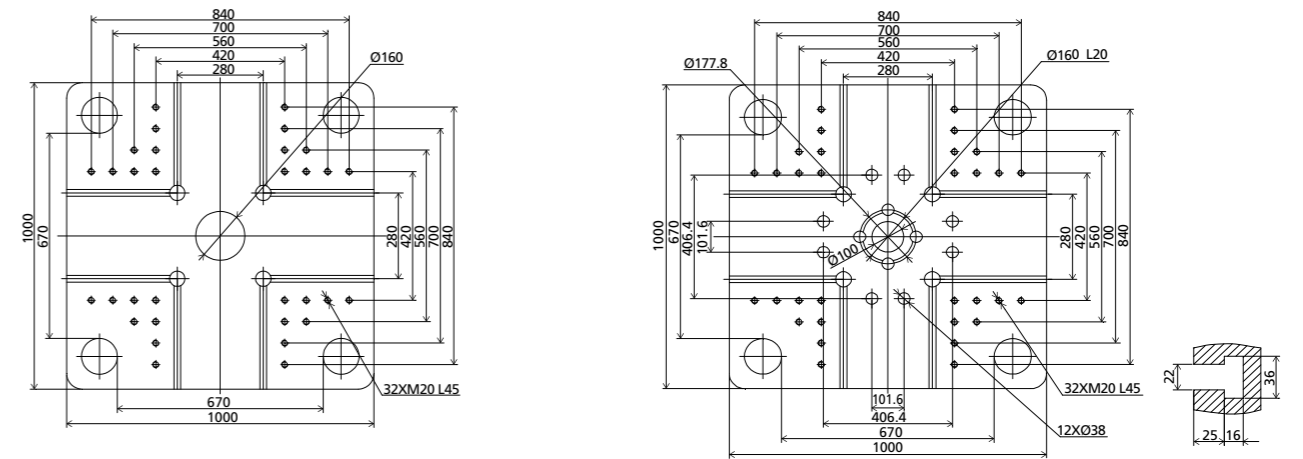
# Platen Layout ZE3000F

European version

unit: mm

Fixed platen

Movable platen

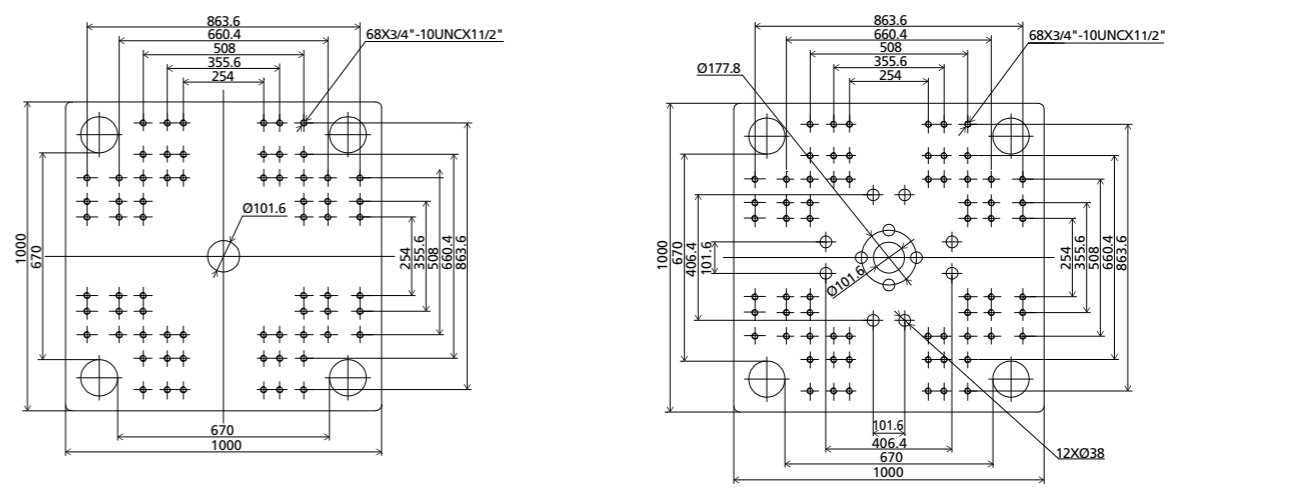


American version

unit: mm

Fixed platen

Movable platen

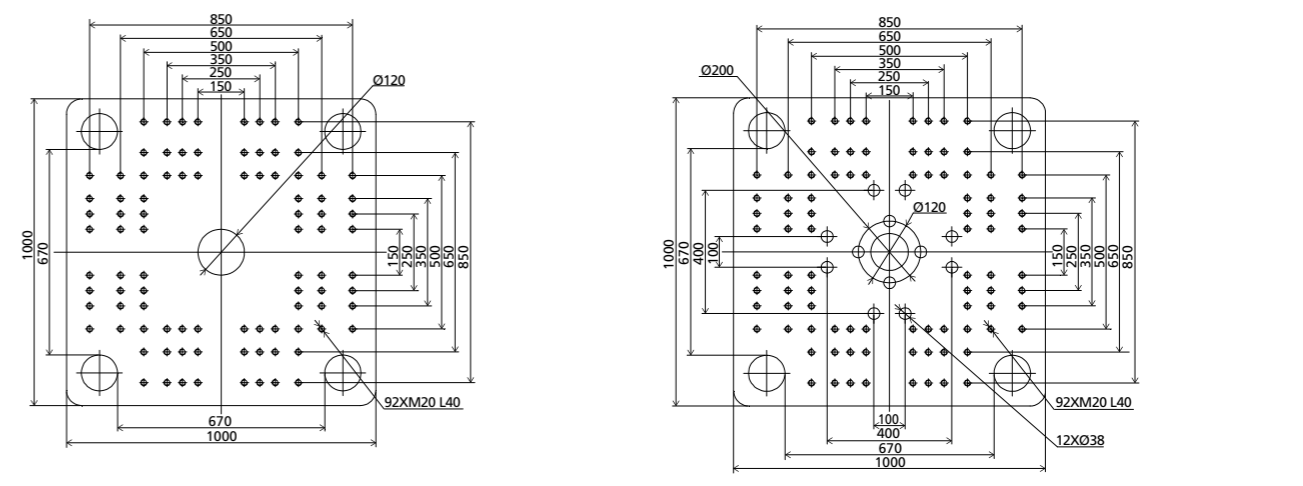


Japanese version

unit: mm

Fixed platen

Movable platen



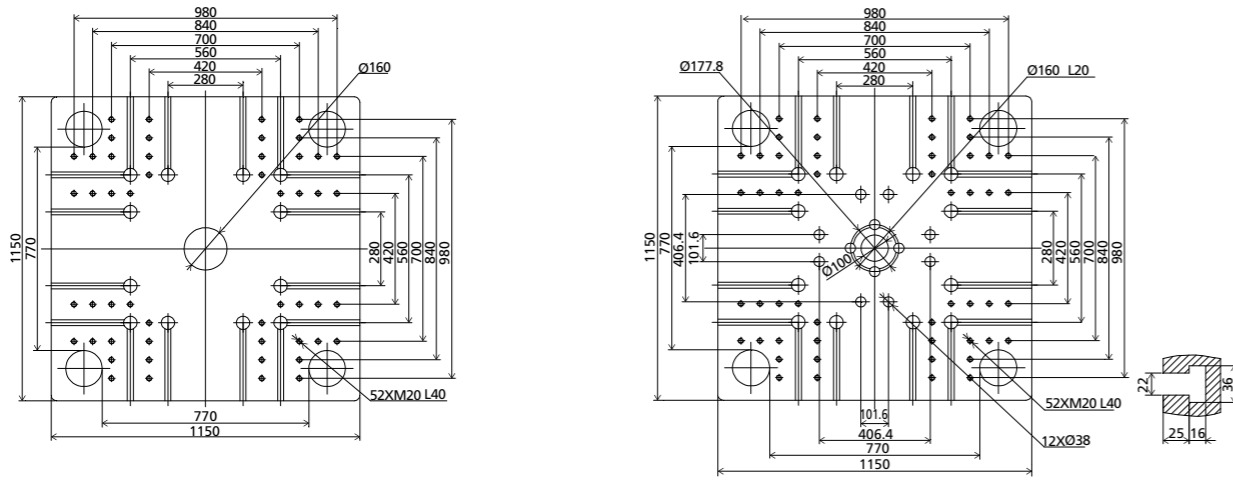
# Platen Layout ZE3800F

European version

unit: mm

Fixed platen

Movable platen

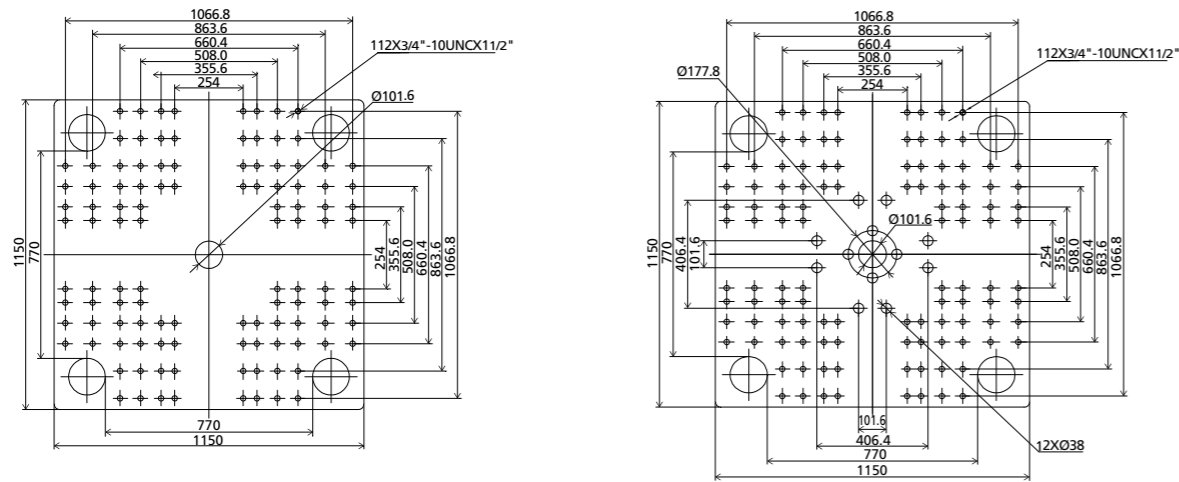


American version

unit: mm

Fixed platen

Movable platen

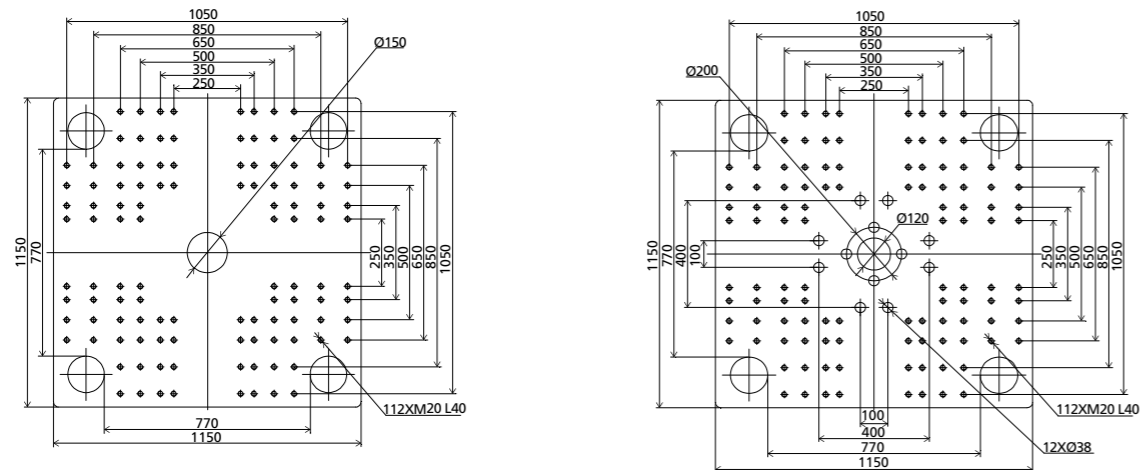


Japanese version

unit: mm

Fixed platen

Movable platen



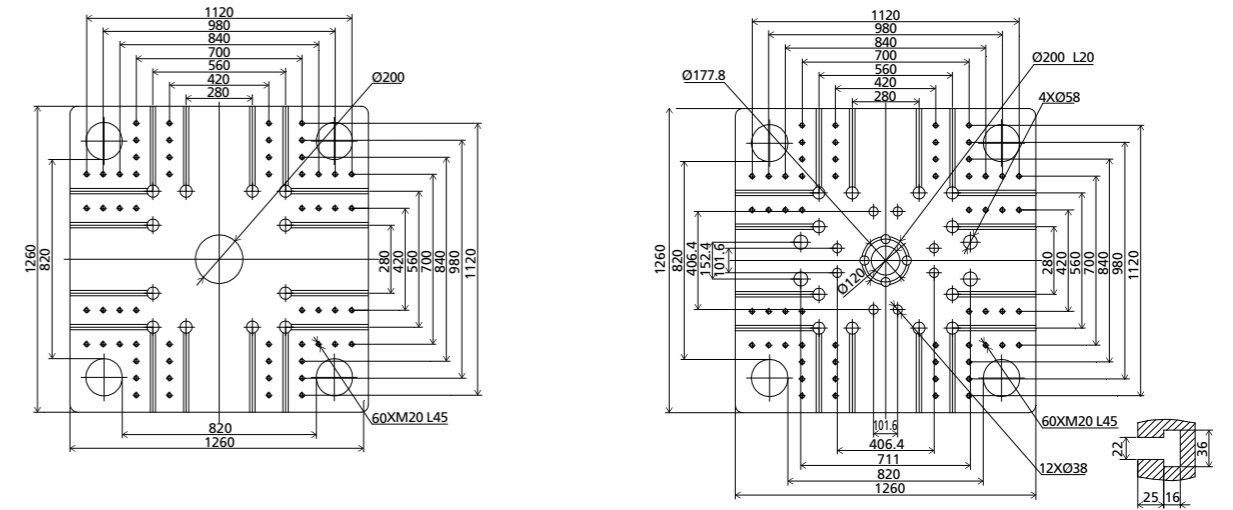
# Platen Layout ZE4500F

European version

unit: mm

Fixed platen

Movable platen

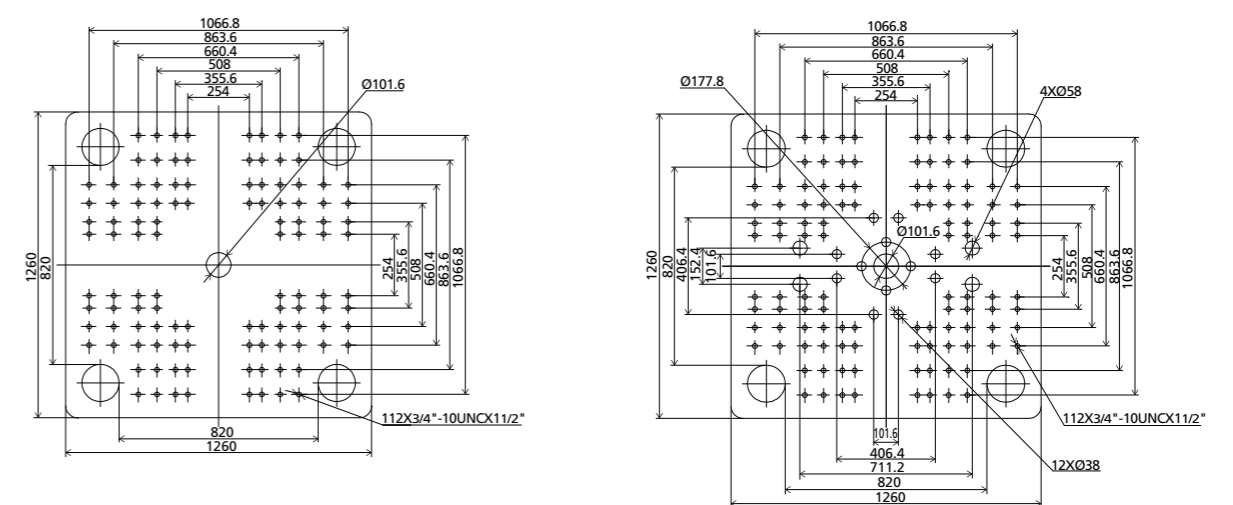


American version

unit: mm

Fixed platen

Movable platen

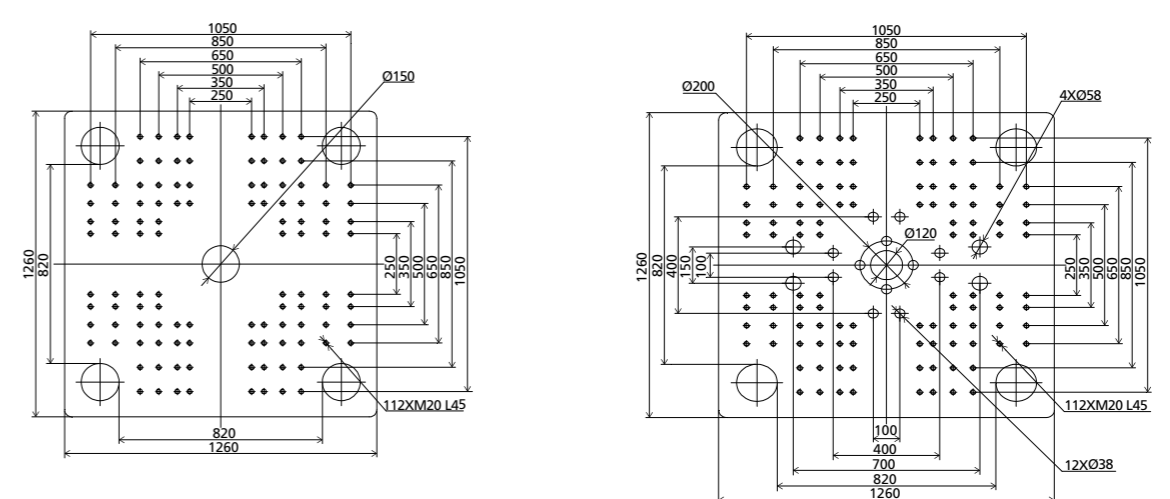


Japanese version

unit: mm

Fixed platen

Movable platen



# Standard Equipment List

## Injection Unit

- » Abrasion-resistant screw unit(open nozzle)
- » Nozzle safety guard
- » 6 Injection steps
- » 4 Pressure holding steps
- » 3 Dosing steps
- » 3 Back pressure steps
- » Screw suck back select(After holding/After dosing)
- » Screw suck back delay function
- » Injection delay function
- » Dosing delay function
- » Intrusion/filling by rotating screw
- » V/P switch over mode(position,time,pressure,speed)
- » Injection speed response mode select
- » Injection pressure segment control
- » Speed limit during holding pressure
- » Screw position setting(unit: 0.01mm)
- » Screw rotation speed setting
- » Holding pressure time setting
- » Mold open available during dosing
- » "Barrel heating closed-loop control (K/J type available)"
- » Barrel temperature holding function
- » Barrel temperature auto tuning function
- » Barrel pre-heating function
- » Barrel temperature synchronous control
- » Material overheating prevention function
- » Screw cold start prevention
- » Auto purge function

- » Screw rotation speed display
- » Setting for nozzle movement
- » Selection of nozzle retract (3 modes)
- » Nozzle contact device adjustable)
- » Nozzle centre adjustable
- » Feeding throat temperature closed-loop control
- » Injection unit swiveling device
- » Independent nozzle temperature control

## Clamping unit

- » 6 mold moving steps
- » Mold safety protection
- » Mold setup mode
- » Injection compression function
- » Clamping force pre-release during cooling
- » Injection during clamping(Pre-injection)
- » 2 Step mold close/clamp process
- » In mold cut function (ejector activate when mold closed)
- » Clamping safety device(Mechanical and Electrical)
- » Adjustable moving platen support
- » Clamping force setting
- » Ejector device
- » Ejector function deactivatable
- » 3 Ejector steps
- » Ejector forward delay function
- » Ejector vibration function
- » Ejector A/B function(2 steps ejector stroke)
- » Eject on the fly

- » Ejector plate return signal confirmation
- » Cooling water distributor(6 sets up to 1500kN, 8 sets for others)
- » In mold ejector pin protection interface
- » Mold installation mode (Low speed mold move)
- » Needle shut off nozzle interface (one spare electrical interface)
- » Emergency stop(Operating and Non-operating sides)
- » Robot mounting layout
- » Central lubrication system
- » S-curve flexible control for mold movement
- » Hydraulic core interface(programmable)

## Controller & Monitor

- » 15 inch TFT color touch screen
- » Mold profile data memory (up to 200 sets)
- » Alarm history
- » Data setting record
- » 3 USB R/W interface
- » Injection pressure speed curve display and record
- » Euromap 12 robot interface
- » Multi-language available(Chinese, German, English, Japanese etc.)
- » Metric/Imperial unit select
- » I/O monitor display
- » Printer interface(USB connector)
- » Production cycle monitor
- » Production profile monitor

- » Production data record(5000 cycles display, 100,000 cycles record)
- » Production data graphics
- » Quality parameters tolerance setting
- » Quality abnormal alarm
- » Cycle counter
- » Machine overview display
- » Main data setting fast access
- » Machine maintenance administration
- » Clamping force curve display
- » Barrel temperature monitor
- » Display cycle time sequence in each phase
- » 3 Color alarm lamp(red/yellow/green)
- » Alarm buzzer
- » Injection overflow prevention (HPM)
- » Display of actual performance data
- » Multi-action selectable during machine alarm

## Others

- » Standard Zhafir color
- » Adjustable machine pads
- » 3 Power sockets
- » Standard hopper
- » Mold clamper
- » T-screw nuts(for T-slot use)
- » Tools box
- » Spare parts

## Options List

### Injection Unit

- » Chrome-plating screw unit
- » Corrosion and abrasion resistant screw unit(color mixture)
- » High capacity nozzle heat band
- » Extended nozzle
- » V/P switch based on in-mold pressure
- » Piston shut off nozzle
- » Spring nozzle
- » Nozzle head customization
- » Stainless steel hopper

### Clamping unit

- » Air blow
- » Pneumatic ejector
- » Pneumatic core interface Programable)
- » Valve Gate control interface
- » Glass tube water flowmeter
- » Customized mold platen(T-slot,threaded holes)
- » Mold unscrew electrical interface
- » Mold height extension
- » Mold slide block protection interface
- » Eject compression function
- » Mold auto clamp device (Pneumatic/hydraulic)

- » Intergrated hot runner controller
- » Product drop plate
- » Automatic safety gate on operator side
- » Clamping force automatically controller
- » Quality flap
- » Product drop detector

### Controller & Monitor

- » Mold temperature display and control
- » Quality flap interface
- » Heating disconnect detection function
- » Additional cooling water distributor
- » External transformer
- » Euromap 67 robot interface
- » Gas-assisted injection interface
- » Magnetic platen interface
- » Mold cavity pressure detection interface

### Others

- » Infrared barrel heating band
- » Barrel heating insulation cover
- » CE certification
- » UL certification

### NOTE:

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