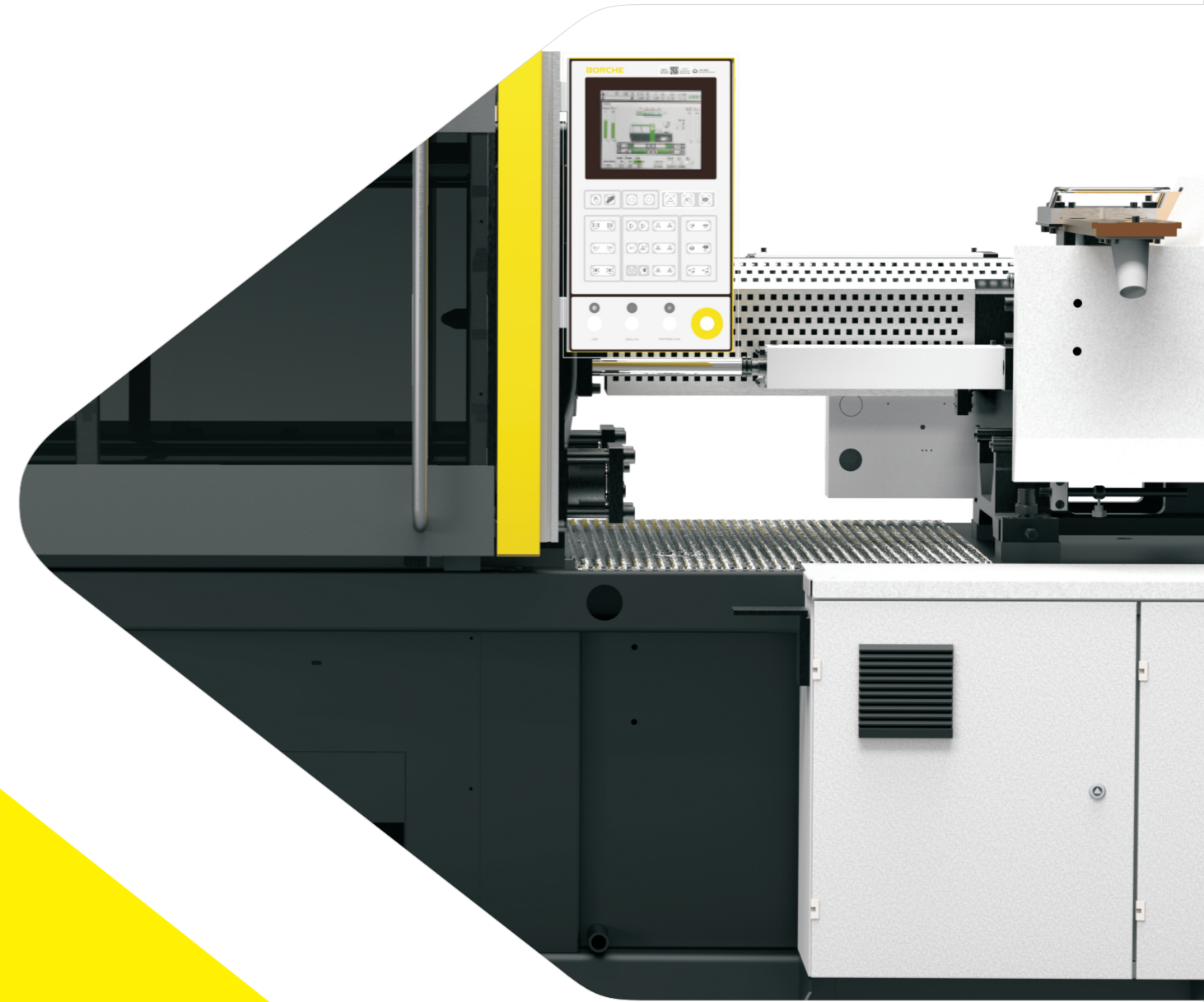


All data in this brochure are general information and shall not be regarded as contractual documents.
We reserve the right to make any change due to technical improvement without prior notice.

BORCHE



CT SERVICIO SA | CENTROTECNICA

C/ de la Llobatona 38
08840 Viladecans | Barcelona
T. +34 936 376

info@centrotecnica.es | www.centrotecnica.es

Mar 2023



Universal Type Interconnected IMM Bi-M Series

20 Years' Dedication to Upgrade a Classic Intelligent IMM

Bi-M



High Versatility

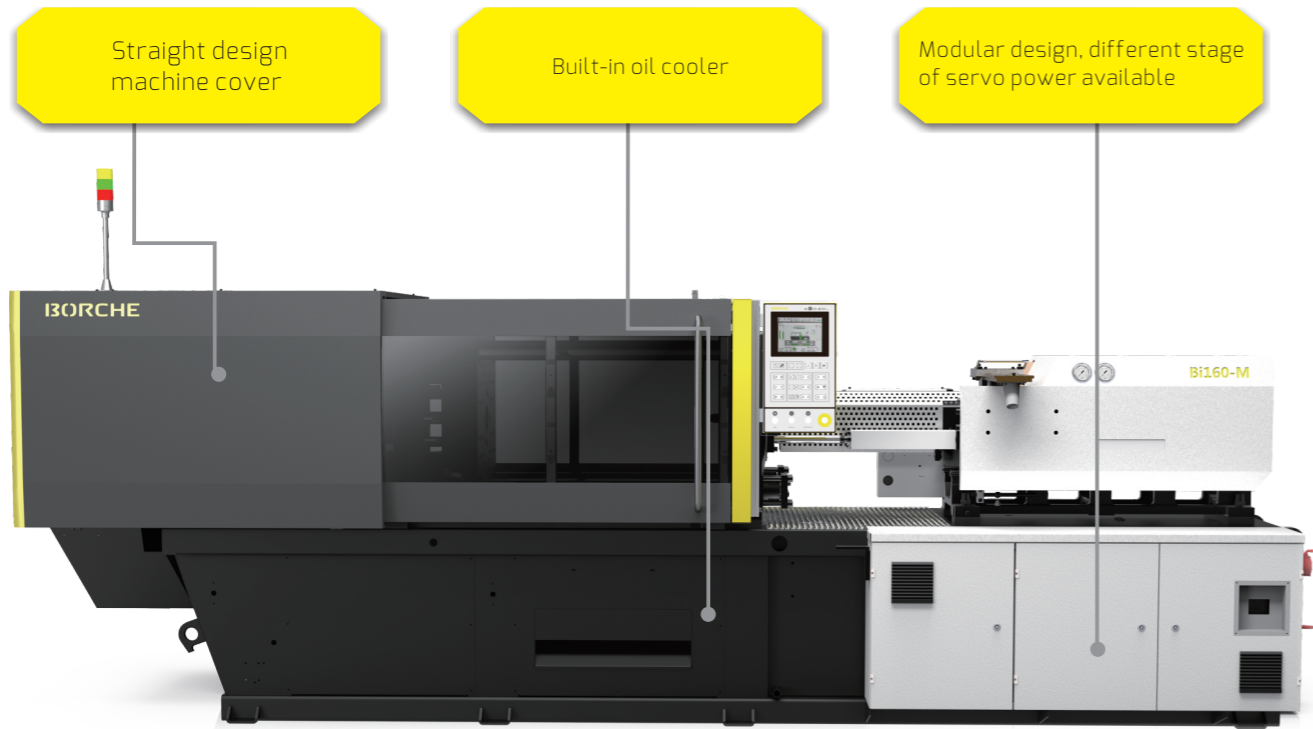
Modular Design

Interconnected

Upgraded Performance

High Versatility

Bi-M series originates from Borche 20 year's intelligent IMM technology and innovation. It has advantages of strong power, precise control, stable performance, high versatility to meet different production requirements.



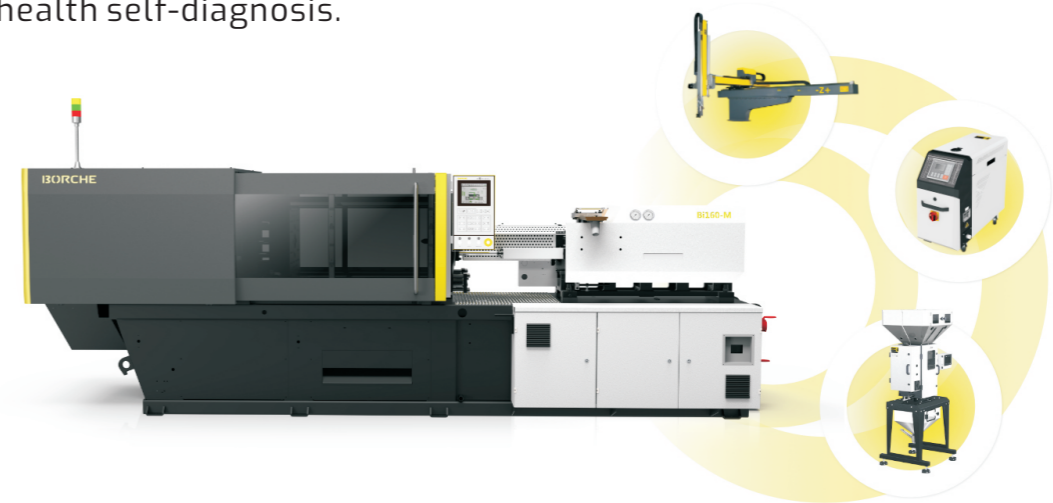
Modular Design

- ◆ Modular design to meet different needs flexibly
- ◆ Different size injection units to cover bigger range of injection volume
- ◆ Optional swing injection unit for easy maintenance of screw and barrel set
- ◆ Spare installation places for sockets

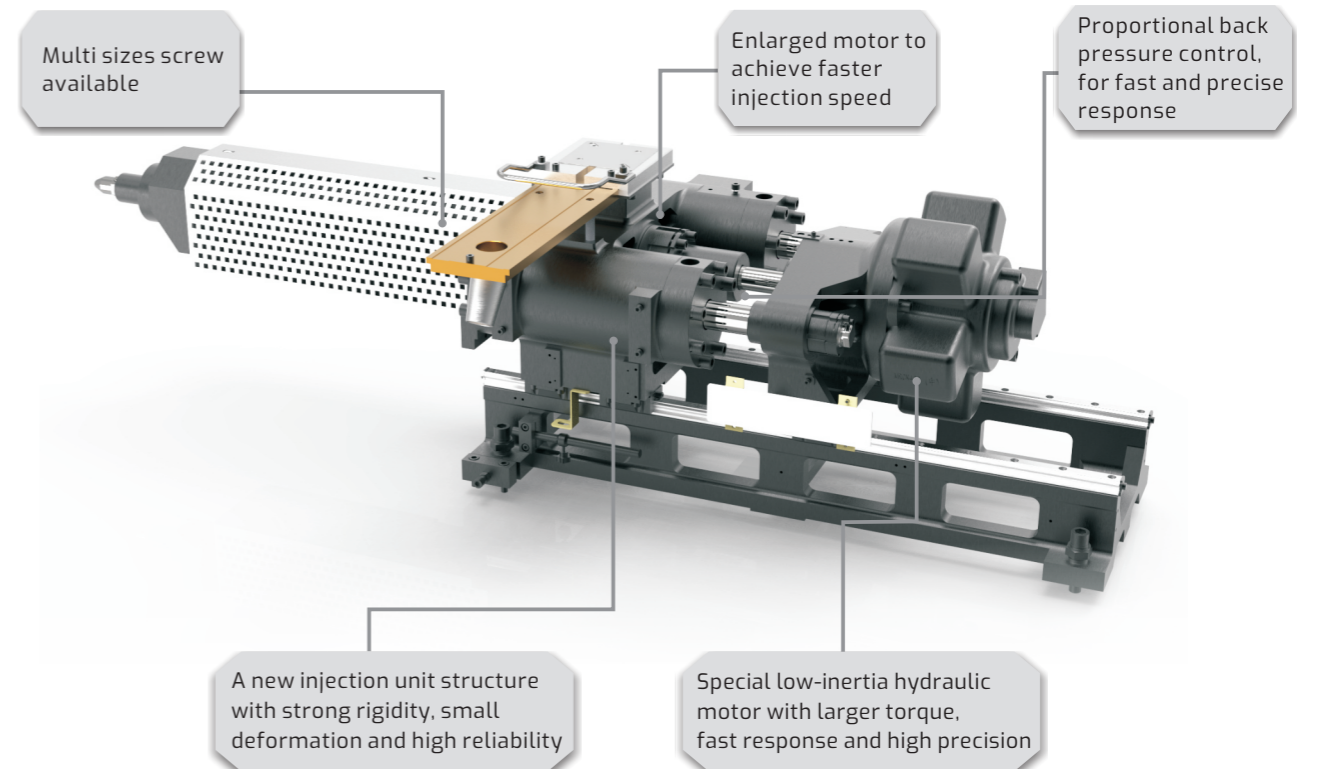
		1	2	3	4	5	6	7
		630	850	1360	2240	3260	3920	1830
Clamping Unit	160							
	200							
	260							
	320							
	400							
	500							

Interconnected

- ◆ Intelligent & professional control system with user-friendly operation page, compatible with international standard interface, to meet customers' needs of factory digitization.
- ◆ The built-in intelligent management system can monitor the working state of key parts of injection molding machine in real-time, and realize equipment health self-diagnosis.



Upgraded Performance



Model	unit	Bi160-M			Bi200-M			Bi260-M			Bi320-M			Bi400-M			Bi500-M		
International Class No.		630/160			850/200			1360/260			2240/320			3260/400			3920/500		
INJECTION UNIT																			
Screw Diameter	mm	40	45	50	45	50	60	50	60	70	60	70	80	70	80	90	75	85	95
Shot Volume	cm ³	270	341	422	389	481	692	589	848	1154	989	1346	1759	1539	2010	2544	1877	2411	3012
Shot Weight(PS)	g	254	321	397	365	452	650	552	800	1085	928	1266	1652	1446	1890	2366	1764	2267	2830
Shot Weight(PS)	OZ	9	11.3	14	12.9	16	23	19.5	28.3	38.3	32.8	44.7	58.4	51.1	66.8	82.5	62.3	80.1	100
Injection Pressure	MPa	235	185	150	218	176	123	232	161	118	226	166	127	212	162	128	209	163	130
Screw L/D Ratio	L/D	22.7	20.2	18	23	20.5	16.9	25.7	21.2	18.1	24.8	21.3	18.6	24.3	21.3	18.7	23.8	21	18.8
Injection Stroke	mm	215			245			300			350			400			425		
Injection Rotary Speed	rpm/min	250			185			180			166			140			144		
Nozzle Contact Force	kN	30			30			40			70			80			80		
Nozzle Stroke	mm	250			280			350			360			395			450		
CLAMPING UNIT																			
Clamping Force	kN	1600			2000			2600			3200			4000			5000		
Opening Stroke	mm	410			465			520			580			655			755		
Platen Size	mmxmm	670x670			750x750			835x835			940x940			1060x1030			1175x1145		
Space btw Tie Bars	mmxmm	460x460			510x510			575x575			670x670			730x700			830x800		
Max.Daylight	mm	910			1015			1120			1235			1375			1555		
Mold Thickness(min.-max.)	mm	160-500			180-550			195-600			220-655			245-720			265-800		
Ejector Stroke	mm	130			150			180			180			205			250		
Ejector Force	kN	41.6			49.5			77.3			77.3			111.3			111.3		
Ejector Pin	unit	4+1			4+1			8+4+1			8+4+1			8+4+1			8+4+1		
POWER UNIT																			
System Pressure	MPa	17.5			17.5			17.5			17.5			17.5			17.5		
Pump Motor	kW	22			30			37			45			55			30+37		
Heating Capacity	kW	9.6			10.4			16.2			18.5			24.5			31.7		
No.of Heater Zones	unit	5			5			6			6			6			6		
GENERAL UNIT																			
Oil Tank Capacity	L	200			270			340			530			610			690		
Machine Dimensions	mxxm	4.75x1.4x1.89			5.35x1.52x1.99			6.13x1.63x2.03			6.8x1.75x2.1			7.78x1.9x2.24			8.33x2.1x2.21		
Machine Weight	kg	4300			5900			8200			11000			15200			18000		

We reserve the right to make any change due to technical improvement without prior notice.

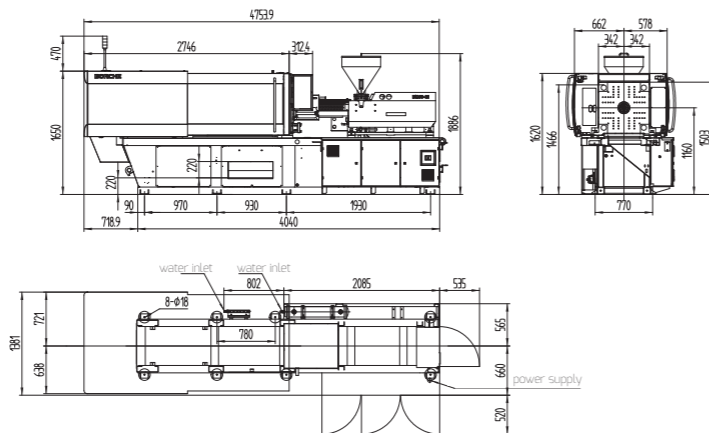
Model	unit	Bi560-M			Bi650-M			Bi800-M			Bi1000-M			Bi1300-M			Bi1600-M			Bi1800-M		
International Class No.		4156/560			4453/650			5700/800			7550/1000			11500/1300			13500/1600			16600/1800		
INJECTION UNIT																						
Screw Diameter	mm	80	85	95	80	90	100	90	100	105	100	105	115	105	115	130	115	130	140	130	140	150
Shot Volume	cm ³	2262	2554	3190	2261	2862	3534	3181	3927	4329	4123	4546	5453	5195	6232	7964	6751	8628	10006	9291	10776	12370
Shot Weight(PS)	g	2058	2323	2902	2125	2690	3321	2987	3687	4065	3871	4268	5120	4727	5671	7247	6144	7851	9105	8455	9806	11257
Shot Weight(PS)	OZ	72.6	81.9	102.4	75.1	95.1	117.3	105.5	130.3	143.6	136.8	150.8	181	167	200	256	216.7	246.9	321.2	298.2	345.9	397.1
Injection Pressure	MPa	184	163	130	197	156	126	181	147	133	180	163	136	222	185	145	200	156	135	191	164	143
Screw L/D Ratio	L/D	22.3	21	19	23.5	21	19	25	22.5	21.4	23	22	20	24	22	19.5	25	22	20.4	24	22	20
Injection Stroke	mm	450			450			500			525			600			650			700		
Injection Rotary Speed	rpm/min	144			120			117			112			110			90			85		
Nozzle Contact Force	kN	80			80			200			200			200			200			200		
Nozzle Stroke	mm	450			510			560			560			750			750			920		
CLAMPING UNIT																						
Clamping Force	kN	5600			6500			8000			10000			13000			16000			18000		
Opening Stroke	mm	820			880			1025			1150			1295			1550			1650		
Platen Size	mmxmm	1250x1220			1310x1280			1470x1470			1680x1620			1760x1760			2140x2040			2220x2100		
Space btw Tie Bars	mmxmm	880x850			930x900			1010x1010			1160x1100			1250x1250			1480x1380			1600x1480		
Max.Daylight	mm	1670			1750			2000			2250			2550			2950			3150		
Mold Thickness(min.-max.)	mm	300-850			300-870			380-975			450-1100			600-1250			700-1400			800-1500		
Ejector Stroke	mm	280			280			300			350			380			380			380		
Ejector Force	kN	137.4			137.4			275			275			303			303			303		
Ejector Pin	unit	8+8+4+1			8+8+4+1			8+8+4+1			8+8+4+1			8+8+4+1			8+8+8+4+1			8+8+8+4+1		
POWER UNIT																						
System Pressure	MPa	17.5			17.5			17.5			17.5			17.5			17.5			17.5		
Pump Motor	kW	30+37			37x2			45x2			55x2			55+45x2			55x2+45			55x3		
Heating Capacity	kW	31.7			33.5			40.9			47.1			55.2			78			78.5		
No.of Heater Zones	unit	6			6			8			8			9			9			9		
GENERAL UNIT																						
Oil Tank Capacity	L	850			870			910			1100			1500			1500			2000		
Machine Dimensions	m x m x m	9.09x2.18x2.21			9.53x2.23x2.47			10.7x2.39x3.03			11.35x2.61x3.13			12.95x2.78x3.1			14.2x3.18x3.36			15.3x3.28x3.4		
Machine Weight	kg	21000			24000			35500			42900			62000			87000			90600		

We reserve the right to make any change due to technical improvement without prior notice.

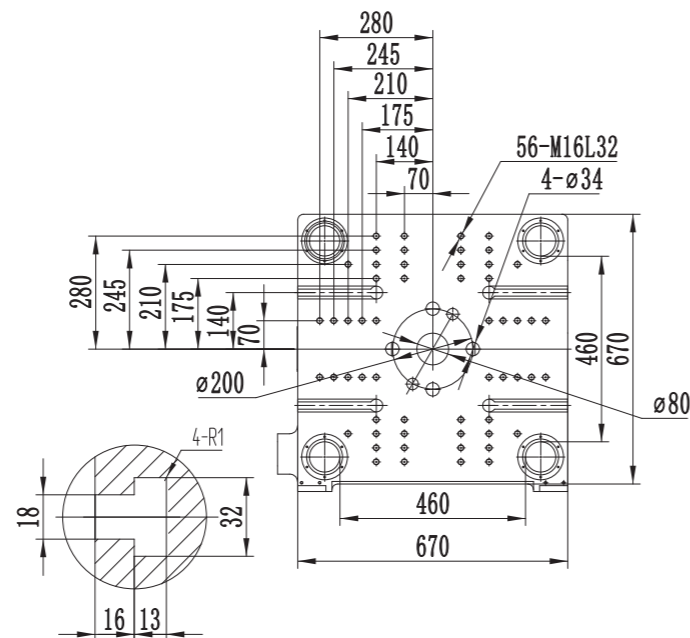
Specification

Model	Unit	Bi160-M		
International Class No.		630/160		
INJECTION UNIT				
Screw Diameter	mm	40	45	50
Shot Volume	cm ³	270	341	422
Shot Weight(PS)	g	254	321	397
Shot Weight(PS)	OZ	9	11.3	14
Injection Pressure	MPa	235	185	150
Screw L/D Ratio	L/D	22.7	20.2	18
Injection Stroke	mm	215		
Injection Rotary Speed	rpm/min	250		
Nozzle Contact Force	kN	30		
Nozzle Stroke	mm	250		
CLAMPING UNIT				
Clamping Force	kN	1600		
Opening Stroke	mm	410		
Platen Size	mmxmm	670x670		
Space btw Tie Bars	mmxmm	460x460		
Max.Daylight	mm	910		
Mold Thickness(min.-max.)	mm	160-500		
Ejector Stroke	mm	130		
Ejector Force	kN	41.6		
Ejector Pin	unit	4+1		
POWER UNIT				
System Pressure	MPa	17.5		
Pump Motor	kW	22		
Heating Capacity	kW	9.6		
No.of Heater Zones	unit	5		
GENERAL UNIT				
Oil Tank Capacity	L	200		
Machine Dimensions	mxxm	4.75x1.4x1.89		
Machine Weight	kg	4300		

Appearance and Installation Dimensions



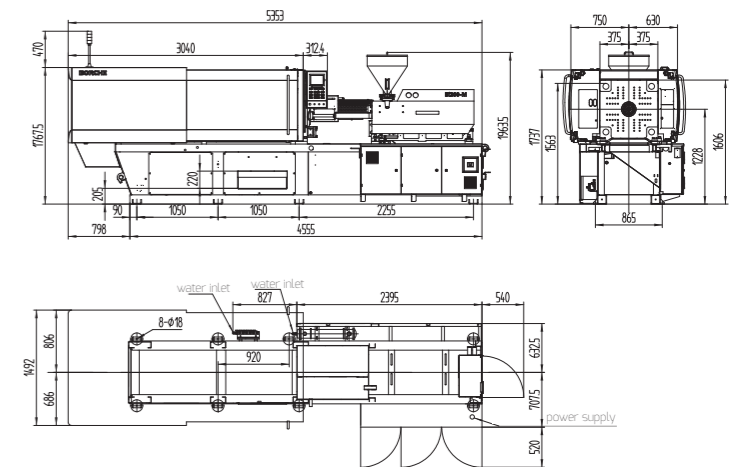
Mold Platen Drawing



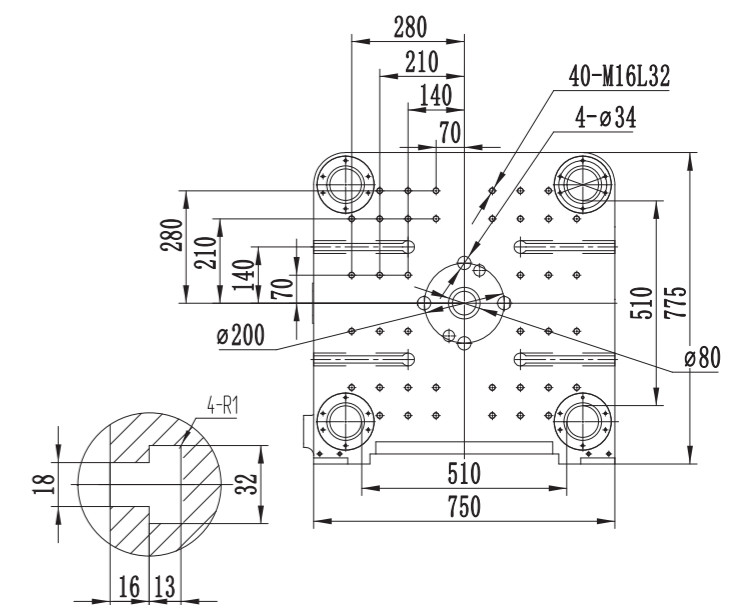
Specification

Model	Unit	Bi200-M		
International Class No.		850/200		
INJECTION UNIT				
Screw Diameter	mm	45	50	60
Shot Volume	cm ³	389	481	692
Shot Weight(PS)	g	365	452	650
Shot Weight(PS)	OZ	12.9	16	23
Injection Pressure	MPa	218	176	123
Screw L/D Ratio	L/D	23	20.5	16.9
Injection Stroke	mm	245		
Injection Rotary Speed	rpm/min	185		
Nozzle Contact Force	kN	30		
Nozzle Stroke	mm	280		
CLAMPING UNIT				
Clamping Force	kN	2000		
Opening Stroke	mm	465		
Platen Size	mmxmm	750x750		
Space btw Tie Bars	mmxmm	510x510		
Max.Daylight	mm	1015		
Mold Thickness(min.-max.)	mm	180-550		
Ejector Stroke	mm	150		
Ejector Force	kN	49.5		
Ejector Pin	unit	4+1		
POWER UNIT				
System Pressure	MPa	17.5		
Pump Motor	kW	30		
Heating Capacity	kW	10.4		
No.of Heater Zones	unit	5		
GENERAL UNIT				
Oil Tank Capacity	L	270		
Machine Dimensions	mxxm	5.35x1.52x1.99		
Machine Weight	kg	5900		

Appearance and Installation Dimensions



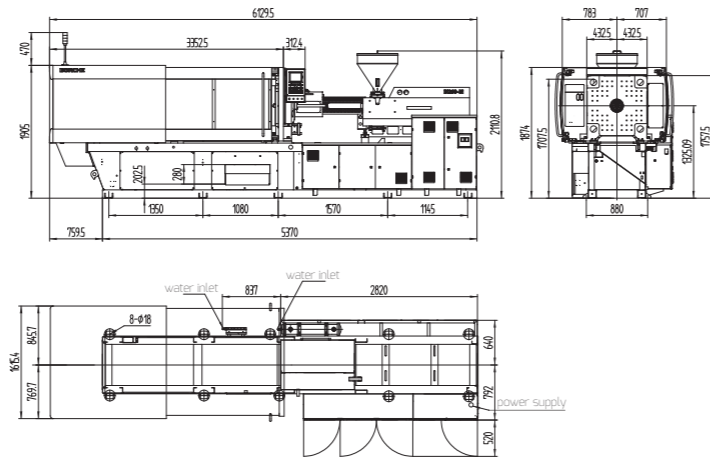
Mold Platen Drawing



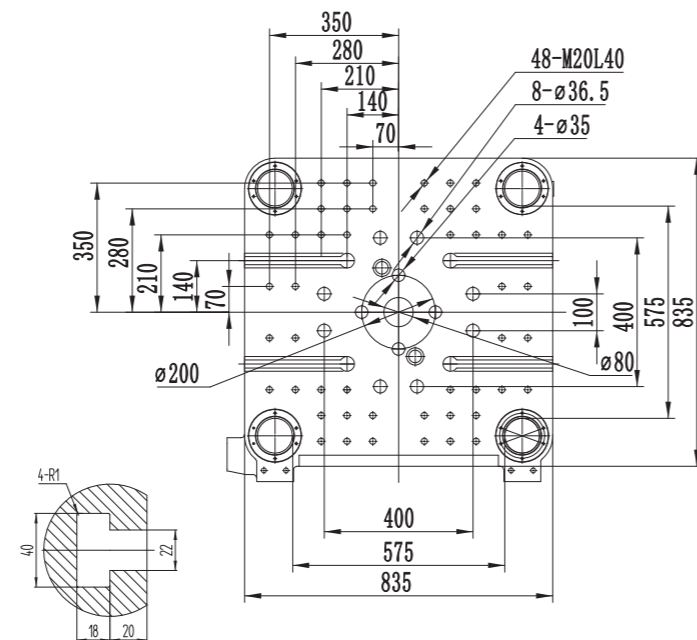
Specification

Model	Unit	Bi260-M		
International Class No.		1360/260		
INJECTION UNIT				
Screw Diameter	mm	50	60	70
Shot Volume	cm ³	589	848	1154
Shot Weight(PS)	g	552	800	1085
Shot Weight(PS)	OZ	19.5	28.3	38.3
Injection Pressure	MPa	232	161	118
Screw L/D Ratio	L/D	25.7	21.2	18.1
Injection Stroke	mm	300		
Injection Rotary Speed	rpm/min	180		
Nozzle Contact Force	kN	40		
Nozzle Stroke	mm	350		
CLAMPING UNIT				
Clamping Force	kN	2600		
Opening Stroke	mm	520		
Platen Size	mmxmm	835x835		
Space btw Tie Bars	mmxmm	575x575		
Max.Daylight	mm	1120		
Mold Thickness(min.-max.)	mm	195-600		
Ejector Stroke	mm	180		
Ejector Force	kN	77.3		
Ejector Pin	unit	8+4+1		
POWER UNIT				
System Pressure	MPa	17.5		
Pump Motor	kW	37		
Heating Capacity	kW	16.2		
No.of Heater Zones	unit	6		
GENERAL UNIT				
Oil Tank Capacity	L	340		
Machine Dimensions	m×m×m	6.13x1.63x2.03		
Machine Weight	kg	8200		

Appearance and Installation Dimensions



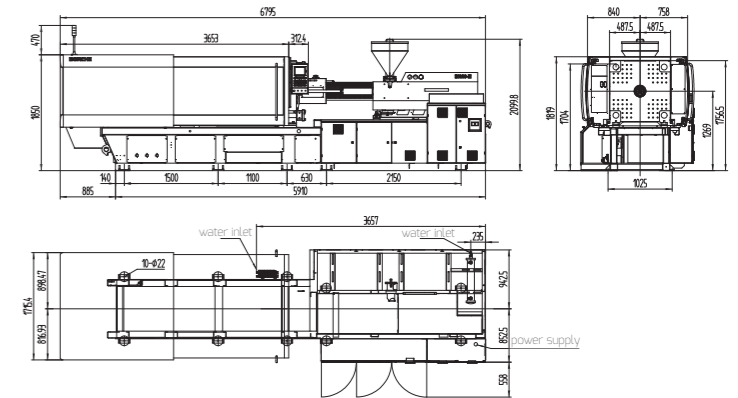
Mold Platen Drawing



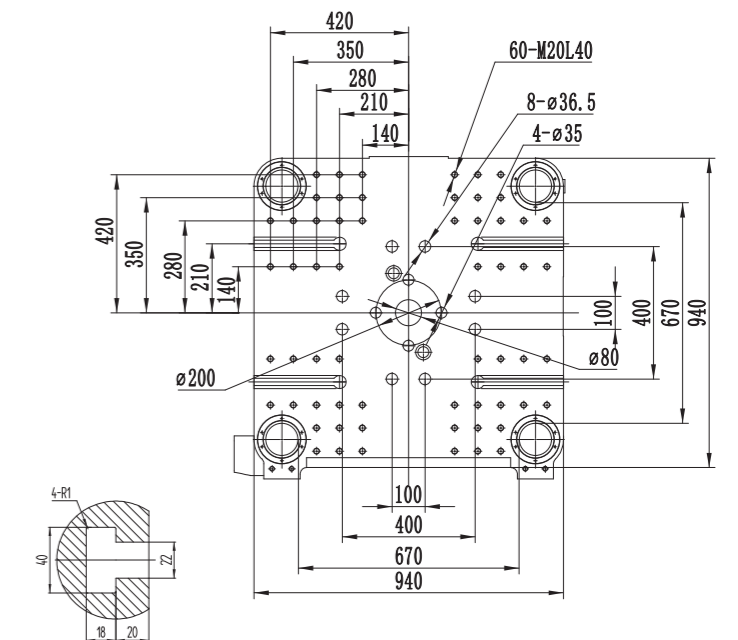
Specification

Model	Unit	Bi320-M		
International Class No.		2240/320		
INJECTION UNIT				
Screw Diameter	mm	60	70	80
Shot Volume	cm ³	989	1346	1759
Shot Weight(PS)	g	928	1266	1652
Shot Weight(PS)	OZ	32.8	44.7	58.4
Injection Pressure	MPa	226	166	127
Screw L/D Ratio	L/D	24.8	21.3	18.6
Injection Stroke	mm	350		
Injection Rotary Speed	rpm/min	166		
Nozzle Contact Force	kN	70		
Nozzle Stroke	mm	360		
CLAMPING UNIT				
Clamping Force	kN	3200		
Opening Stroke	mm	580		
Platen Size	mmxmm	940x940		
Space btw Tie Bars	mmxmm	670x670		
Max.Daylight	mm	1235		
Mold Thickness(min.-max.)	mm	220-655		
Ejector Stroke	mm	180		
Ejector Force	kN	77.3		
Ejector Pin	unit	8+4+1		
POWER UNIT				
System Pressure	MPa	17.5		
Pump Motor	kW	45		
Heating Capacity	kW	18.5		
No.of Heater Zones	unit	6		
GENERAL UNIT				
Oil Tank Capacity	L	530		
Machine Dimensions	m×m×m	6.8x1.75x2.1		
Machine Weight	kg	11000		

Appearance and Installation Dimensions



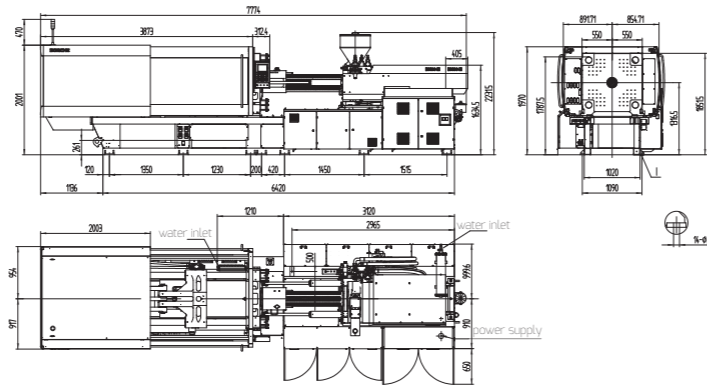
Mold Platen Drawing



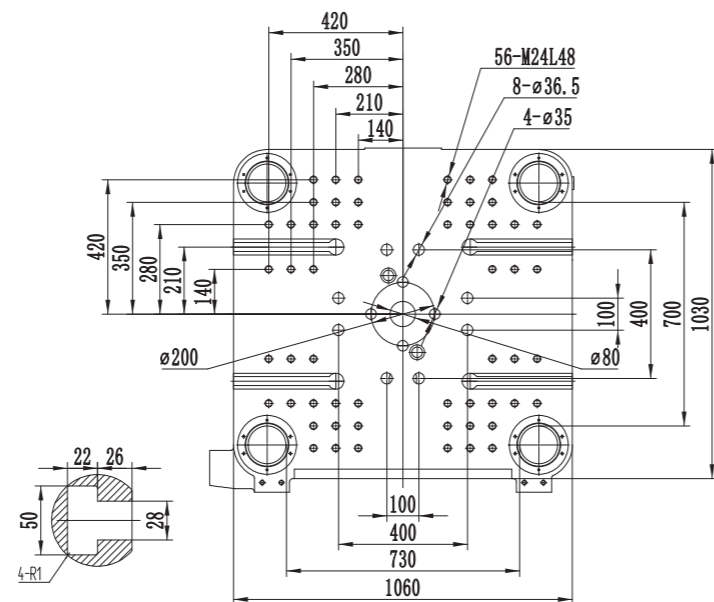
Specification

Model	Unit	Bi400-M		
International Class No.		3260/400		
INJECTION UNIT				
Screw Diameter	mm	70	80	90
Shot Volume	cm ³	1539	2010	2544
Shot Weight(PS)	g	1446	1890	2366
Shot Weight(PS)	OZ	51.1	66.8	82.5
Injection Pressure	MPa	212	162	128
Screw L/D Ratio	L/D	24.3	21.3	18.7
Injection Stroke	mm	400		
Injection Rotary Speed	rpm/min	140		
Nozzle Contact Force	kN	80		
Nozzle Stroke	mm	395		
CLAMPING UNIT				
Clamping Force	kN	4000		
Opening Stroke	mm	655		
Platen Size	mmxmm	1060x1030		
Space btw Tie Bars	mmxmm	730x700		
Max.Daylight	mm	1375		
Mold Thickness(min.-max.)	mm	245-720		
Ejector Stroke	mm	205		
Ejector Force	kN	111.3		
Ejector Pin	unit	8+4+1		
POWER UNIT				
System Pressure	MPa	17.5		
Pump Motor	kW	55		
Heating Capacity	kW	24.5		
No.of Heater Zones	unit	6		
GENERAL UNIT				
Oil Tank Capacity	L	610		
Machine Dimensions	mxxmxxm	7.78x1.9x2.24		
Machine Weight	kg	15200		

Appearance and Installation Dimensions



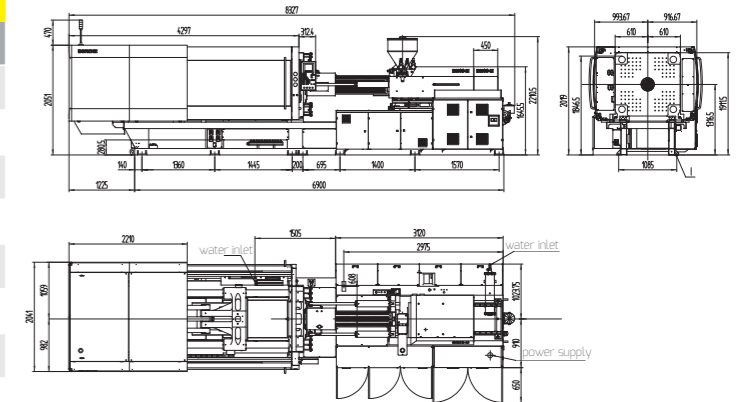
Mold Platen Drawing



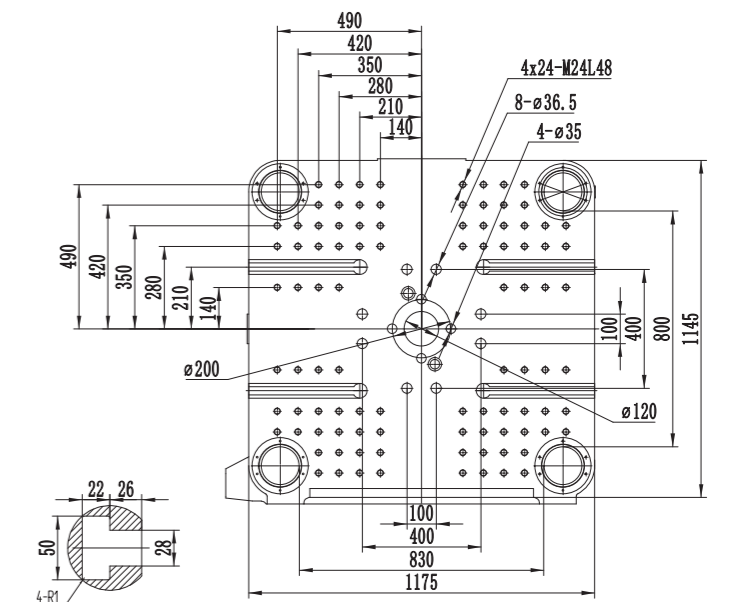
Specification

Model	Unit	Bi500-M		
International Class No.		3920/500		
INJECTION UNIT				
Screw Diameter	mm	75	85	95
Shot Volume	cm ³	1877	2411	3012
Shot Weight(PS)	g	1764	2267	2830
Shot Weight(PS)	OZ	62.3	80.1	100
Injection Pressure	MPa	209	163	130
Screw L/D Ratio	L/D	23.8	21	18.8
Injection Stroke	mm	425		
Injection Rotary Speed	rpm/min	144		
Nozzle Contact Force	kN	80		
Nozzle Stroke	mm	450		
CLAMPING UNIT				
Clamping Force	kN	5000		
Opening Stroke	mm	755		
Platen Size	mmxmm	1175x1145		
Space btw Tie Bars	mmxmm	830x800		
Max.Daylight	mm	1555		
Mold Thickness(min.-max.)	mm	265-800		
Ejector Stroke	mm	250		
Ejector Force	kN	111.3		
Ejector Pin	unit	8+4+1		
POWER UNIT				
System Pressure	MPa	17.5		
Pump Motor	kW	30+37		
Heating Capacity	kW	31.7		
No.of Heater Zones	unit	6		
GENERAL UNIT				
Oil Tank Capacity	L	690		
Machine Dimensions	mxxmxxm	8.33x2.1x2.21		
Machine Weight	kg	18000		

Appearance and Installation Dimensions



Mold Platen Drawing



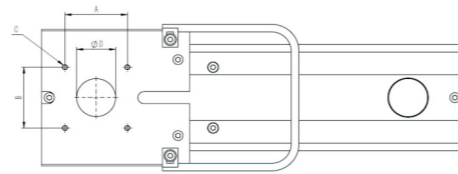
OTHER DIMENSION

BORCHE

STANDARD FEATURES

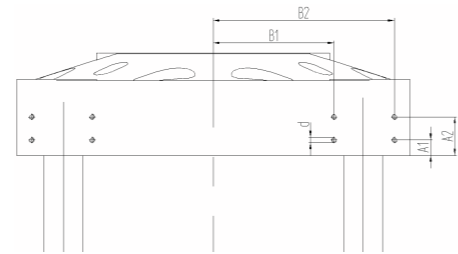
BORCHE

	Bi160-M	Bi200-M	Bi260-M	Bi320-M	Bi400-M	Bi500-M
A(mm)	90	90	110	110	130	130
B(mm)	95	95	110	110	130	130
C(mm)	M8	M8	M10	M10	M10	M10
D(mm)	50	60	70	70	90	90



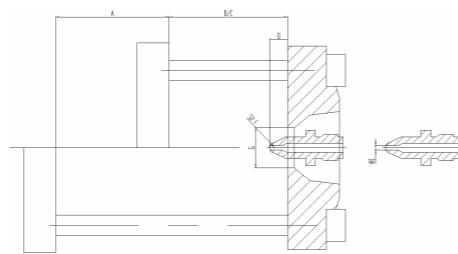
Hopper Dryer Installation Dimensions

	Bi160-M	Bi200-M	Bi260-M	Bi320-M	Bi400-M	Bi500-M
A1	35	35	35	35	35	35
A2	105	105	175	175	175	175
B1	175	175	210	280	350	350
B2	280	280	350	420	490	490
d	M16	M16	M20	M20	M20	M20



Robot Installation Dimensions

	Bi160-M	Bi200-M	Bi260-M	Bi320-M	Bi400-M	Bi500-M
A(template stroke)	410	465	520	580	655	755
B(maximum die thickness)	500	550	600	655	720	800
C(minimum die thickness)	160	180	195	220	245	265
D(nozzle extension distance)	45	45	45	45	45	50
E(diameter of nozzle hole)	3	3	3	3	5	5
F(nozzle spherical surface SR)	10	10	10	10	10	10
G(mold locating hole)	125	160	160	160	160	200



Clamping Unit Schematic Drawing

*No locating ring available

SAFETY UNIT	
1	China New Safety Standard
2	Full guarding in accordance with the "European Machine Directive"
3	Double emergency button
4	Mechanical safety lock(≤200 T)
INJECTION UNIT	
1	Twin carriage structure
2	Balancing twin injection cylinder
3	Wear resistant screw and barrel
4	Chrome plated screw
5	Nozzle centering calibration
6	A/B/C size screw available
7	Double insulation cover for barrel
8	Linear guide for injection and carriage movement
9	Movable sliding rail
10	Ceramic heater band
11	Nozzle safety guard with electric lock
12	High pressure/temperature tube for cooling ring of hooper throat
13	Nonslip embossed aluminum sheet
14	High torque hydraulic motor
15	Screw RPM sensor
16	Screw cold start protection
17	Suck back function
18	5 stages of injection, pressure/speed adjustable
19	3 stages of pressure holding, pressure/speed adjustable
20	3 stages of plasticizing, pressure/speed adjustable
CLAMPING UNIT	
1	Balanced, double, five points toggle locking system
2	Hard chrome plated tie bar
3	Mold platen with T-solt and mounting holes
4	Independent location ring for fixing platen
5	Abrasion resistance strip
6	Centralized lubrication system with end sensor
7	Low pressure mold safety protection
8	Auto clamping force adjustment
9	Mold adjustment by hydraulic motor
10	Multi-ejector function
11	Quick change coupling for center platen
12	Robot mounting hole(EU18)
13	Controller height adjustable
14	Product drop chute(≤260T)

CONTROL UNIT	
1	Controller
2	Internet connection port
3	Three color alarm light (red/yellow/green)
4	Data protect lock
5	Electric heating protection by fuse or auto switch
6	Real-time display of injection and plasticize curve
7	Real-time display of servo action curve of mold open and close
8	Injection pressure protection
9	Injection curve monitoring
10	Operation modification record
11	Alarm record
12	I/O status display function
13	Multi-language available(CN/EN standard)
14	Self-diagnosis system
15	SPC quality control
16	Process parameter quick setting
17	Robot interface(including defective product & opening mold signal)
18	Printer connection port(USB17)
19	Auto purge function
20	Timing heating function
HYDRAULIC UNIT	
1	Servo energy saving hydraulic system
2	Low pressure protection
3	Boost clamping
4	Oil level indicator and oil temperature detection
5	Efficient hydraulic oil cooler
6	Charging digital ratio back pressure
7	Oil seal device for oil suction port of oil pump
8	Mightiness iron remover
OTHER UNIT	
1	Borche standard VI color
2	Power socket
3	Adjustable level pads
4	Without hopper
5	With hopper slide
6	Tool box
7	Standard spare parts

OPTIONAL FEATURES

SAFETY UNIT	
1	CE Safety Standard
2	Main power switch with rotation handle
INJECTION UNIT	
1	Bi-metallic screw and barrel
2	PC screw
3	Extended nozzle
4	Self-seal shut-off nozzle (hydraulic/pneumatic)
5	Spring type shut-off nozzle
6	Ceramic heater band
7	Temperature control of hooper feed throat
8	Carriage transducer
9	V/P switch for mold pressure
10	Stainless hopper
CLAMPING UNIT	
1	Multiple sets of hydraulic core pulling
2	Multiple sets of pneumatic core pulling
3	Hydraulic unscrewing
4	Electric unscrewing
5	Multiple sets of air blast
6	Enlarged mold thickness
7	Mold locking ring with tailored size
8	Graphite copper bush on moving platen
9	Photo sensor for product drop detector(≤320T)
10	Water manifold
11	Water distributor
12	Mold platen heat insulation board
13	Manual centralized lubrication for rear platen

CONTROL UNIT	
1	Hot runner control by program, comply with EU14
2	Robot interface, comply with EU12/EU67
3	Core pulling electric interface, comply with EU13
4	UPS power supply
5	Pneumatic-injection electrical interface
6	Cavity pressure detection electrical interface
7	Energy meter
8	Phase loss or phase failure protection for motor
9	Specified power and voltage
10	External voltage transformer
11	Heater band leakage detection
12	Four color alarm light
13	Extra sockets
14	Power stabilizer
15	Mold ejector backward signal
INTELLIGENT EDGE TERMINAL(IMEC)	
1	Temporary authorization of PlasCloud App, basic version
2	Machine Kanban: status, cycle time and output, etc.
3	HMI: M2M & M2H interconnection
4	Process control: real-time setting, history setting
5	Remote support: process parameter, parameter setting
6	Machine health self-diagnosis
HYDRAULIC UNIT	
1	Independent oil temperature control
2	Filter on cooler inlet
3	Ejector during mold open
4	High pressure bypass oil filter
5	High speed proportional valve for Injection
6	High speed proportional valve for Clamping
7	Oil level low limit alarm
8	Pressure sensor fo Injection
9	Enlarged cooler
10	Enlarge one stage motor and pump