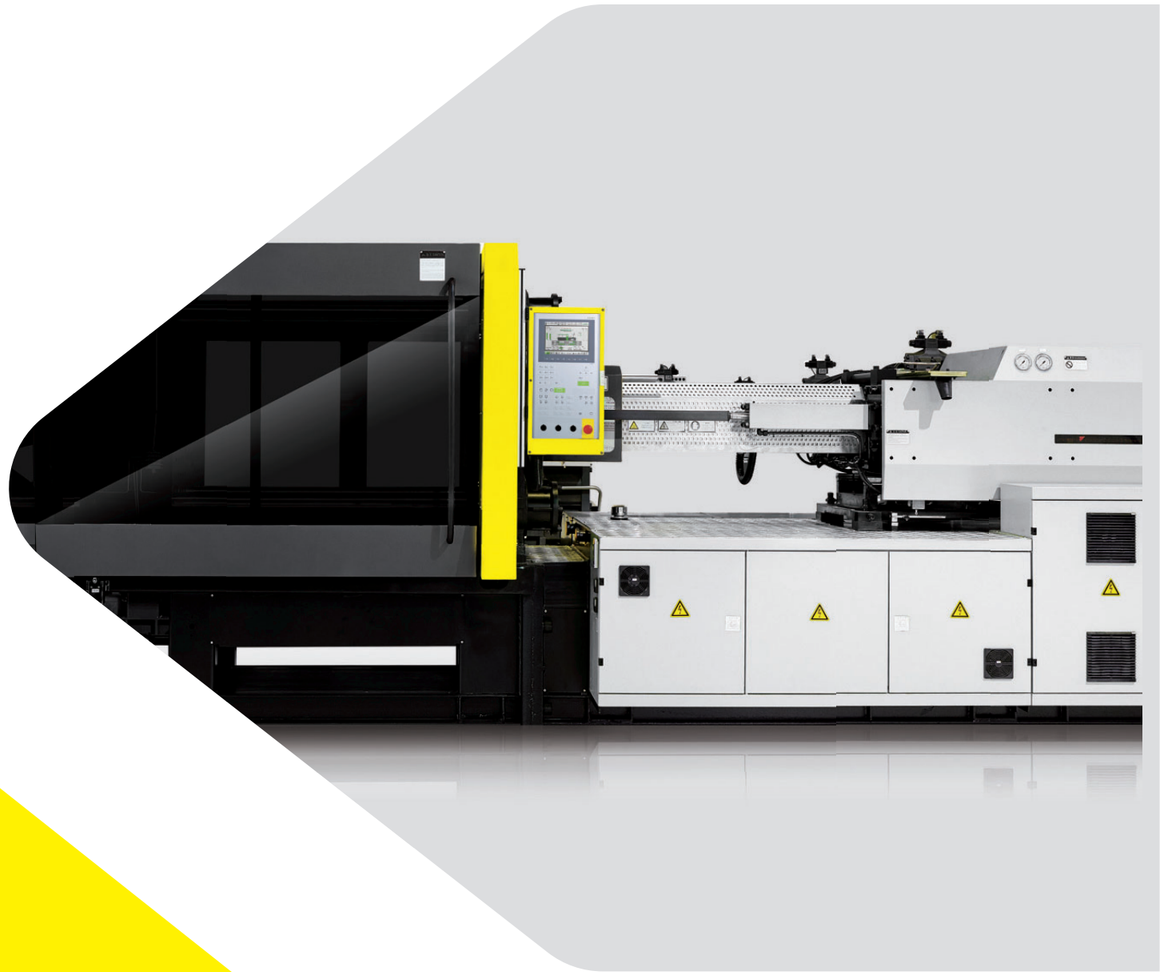
BORCHE



BS-III Servo Series

Classic & Intelligent IMM
With 20 Years' Concentration

Mar 2021

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Wechat

BORCHE BS-III

ONE MACHINE REALIZES DIVERSE DEMANDS

BS-III Servo Series are featured with adequate power system, high-precision control, stable performance, high versatility and three sizes of screw barrel, which satisfies different production requirement.

ADVANCED TECHNOLOGY REALIZES HIGH EFFICIENCY AND ENERGY SAVING

BS-III Servo Series adopt multi-pump control system, which cooperates with CAN BUS and runs flexibly with real-time production demands, can produce small size plastic parts by a single pump and produce big size plastic parts by multi-pump. Lower energy consumption as well as higher-efficient productivity provides a competent and economical solution to satisfy customer requirements.

BS-III Servo Series are accredited as China First Grade Energy Saving, in best application, our machine's energy consumption is 40% less than the national standard of 1st Grade energy saving. Compared with traditional hydraulic system, BS-III Servo Series can save 20%-80% energy. Servo motor proportionally delivers hydraulic oil based on actual needs, avoiding extra heating and temperature rise, ensures water saving.

Patent

Plastic injection molding machine
Patent No.:201130029746.2
Plastic injection molding machine supporting base (BS3-80)
Patent No.: 201230576854.6
One type special designed anti-abrasion strip
Patent No.: 201320520057.5
One type brake control of hydraulic circuit
Patent No.: 201511022175.3
One type slider foot and slider foot supported moving platen structure
Patent No.: 201620416972.3
One type new assembly structure for hydraulic pump of injection molding machine
Patent No.: 201620625514.0
Plastic injection molding machine nozzle protection cover
Patent No.: 201621127665.X
Injection molding machine with movable hopper
Patent No.: 201621259117.2

BS-III Three Main Features

High Versatility

BS-III Servo Series are featured with adequate power system, high-precision control, stable performance, high versatility and 3 sizes of screw barrel, which satisfies different production requirement.

Energy Efficiency and Environmental Protection

Advanced energy saving: 20%-80% energy saving compared with traditional hydraulic system.
Low noise and environmental protection: Low noise during machine operation;Servo motor proportionally delivers hydraulic oil based on actual needs, avoiding extra heating and temperaturerise, ensures water saving.

CALCULATION OF ENERGY SAVING EFFECT (EXAMPLE)

LOAD

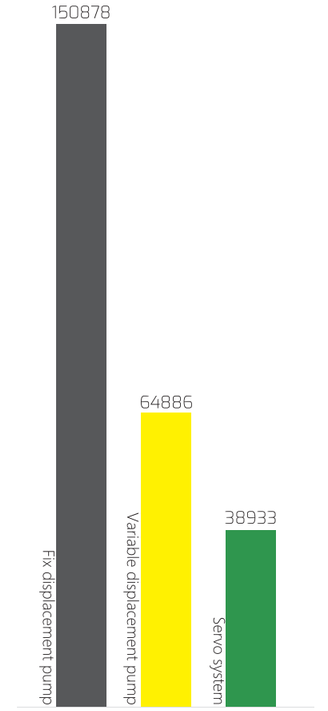
Movement	Time (Sec)	Flow (L/min)	Pressure (Mpa)
High speed mold close	1.0	80	5.0
Low speed mold close	1.0	10	1.0
Injection	2.0	80	10.0
Holding	4.0	5	17.5
Charging	4.0	50	10.0
Cooling	4.0	0	0
Low speed mold open	1.0	10	10.0
High speed mold open	1.0	80	5.0
Ejector forward	1.0	50	10.0
Ejector backward	1.0	50	10.0

- According to actual test, AC Servo Power Saving Injection Molding Machin can save 54.8%-80% power comparing with conventional fixed displacement pump injection molding machines.

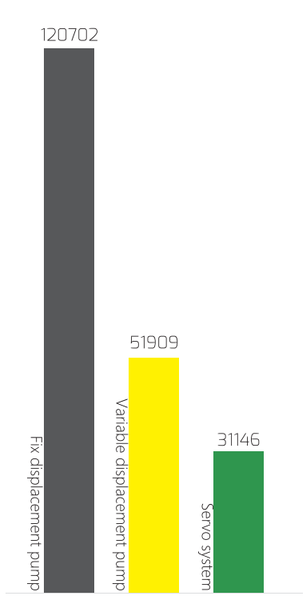
CALCULATION OF OTHER COST SAVING

Item	Type	RMB	Calculation Conditions
Low heating	Equipment saving	2200	200L~60L only for hydraulic oil
Low noise	Acoustic insulation cost	1500	Cost for acoustic insulation(acoustic material and labor cost)

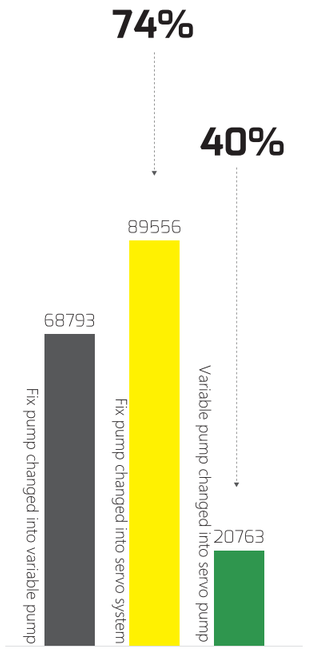
- Calculation conditions: BS120 365working days, 24 hours/day(8760 hours/year)
  Electricity charge at RMB 0.8/kwh, molding conditions as the table below



One-year power consumption



One-year electricity cost



One-year cost saved from less power consumption

BORCHE BS-III

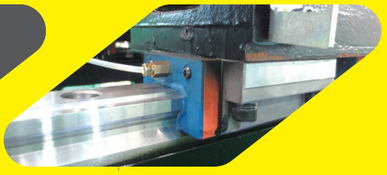
Advanced Technology

Automatic Control

Servo Series adopt Austria made KEBA controller

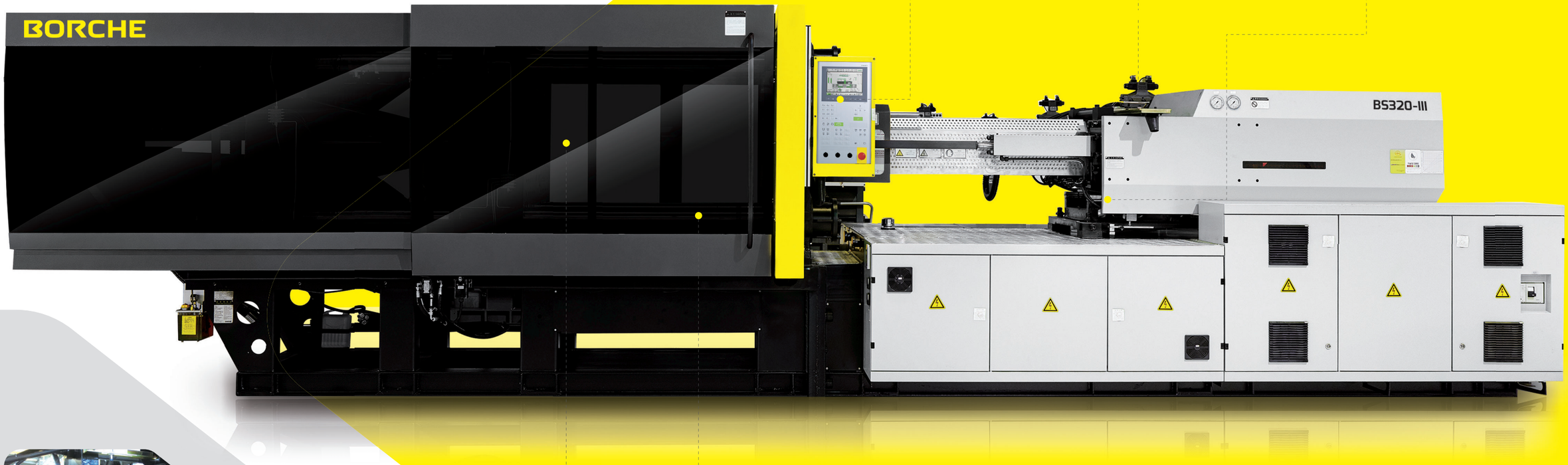
Movable Hopper Support

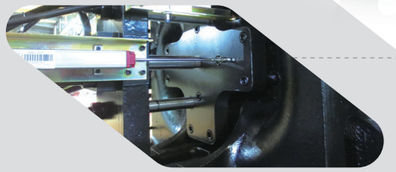
Machines up to 650T featured with movable hopper support（≥ 800T featured with feeding platform）.



Linear Guide Rail

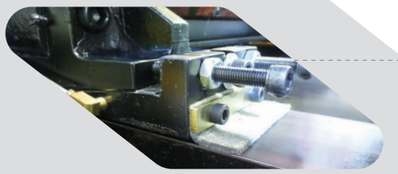
Fast and stable movement by using linear guide rail for injection unit and carriage cylinder.





Ejection Space

European technical standards are introduced to further improve platen rigidity, can satisfy requirements of high-strength, high-load and high-precision production. Ejection rod can be used for euromap mold.



Anti-Abrasion Strip

Standard featured with anti-abrasion strip, long life of guide rail, easier maintenance.

- Machine is designed in accordance with ergonomics to enable user-friendly operation.
- Integral optimism improves rigidity of machine structure.
- Open space below clamping unit enables three direction belt conveyer. Transparent front cover makes movement monitoring available.
- Humanized design of more than 20 nameplates reminds operator of keeping safety in mind always.
- Double-carriage cylinder is adopted to ensure stable injection.

Description

BORCHE

Description International Class NO.	UNIT	BS60-III 153/60	BS80-III 252/80	BS120-III 388/120	BS150-III 634/150	BS200-III 849/200	BS260-III 1367/260	BS320-III 2239/320	BS400-III 3266/400	BS500-III 3925/500	BS560-III 4156/560	BS650-III 4453/650	BS800-III 5700/800	BS1000-III 7550/1000	BS1300-III 11500/1300	BS1600-III 13500/1600	BS1800-III 16600/1800
INJECTION UNIT																	
Screw Diameter	mm	25 **28**	30 **35** 40	35 **40** 45	40 **45** 50	45 **50** 60	50 **60** 70	60 **70** 80	70 **80** 90	75 **85** 95	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	68 **86**	120 **163** 213	182 **238** 302	270 **341** 422	389 **481** 692	589 **848** 1154	989 **1346** 1759	1539 **2010** 2544	1877 **2411** 3012	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	60 **78**	113 **153** 199	171 **225** 283	254 **321** 397	365 **452** 650	552 **800** 1085	928 **1266** 1652	1446 **1890** 2366	1764 **2267** 2830	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	2.1 **2.8**	4 **5.4** 7	6 **8** 10	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	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	223 **178**	209 **154** 118	212 **162** 128	235 **185** 150	218 **176** 123	232 **161** 118	226 **166** 127	212 **162** 128	209 **163** 130	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 **22**	24 **20.5** 18	23.5 **20.5** 18	23 **20.5** 18.5	23 **21** 17	25 **21** 18	24.5 **21** 18.5	24 **21** 19	24 **21** 19	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	140	170	190	215	245	300	350	400	425	450	450	500	525	600	650	700
Screw Rotary Speed max	rpm	280	250	222	240	175	143	166	140	144	144	120	117	112	110	90	85
Nozzle Contact Force	KN	30	30	30	30	30	40	70	80	80	80	80	200	200	200	200	200
Nozzle Stroke	mm	205	250	250	250	280	350	360	395	450	450	510	560	560	750	750	920
CLAMPING UNIT																	
Clamping Force	KN	600	800	1200	1500	2000	2600	3200	4000	5000	5600	6500	8000	10000	13000	16000	18000
Opening Stroke	mm	270	320	340	410	465	520	580	655	755	820	880	1025	1150	1300	1550	1650
Platen Size	mmxmm	500x500	550x550	610x610	670x670	750x750	835x835	940x940	1060x1030	1175x1145	1250x1220	1310x1280	1470X1470	1680X1620	1760X1760	2140x2040	2220X2100
Space btw. Tie Bars	mmxmm	310x310	360x360	410x410	460x460	510x510	575X575	670x670	730x700	830x800	880x850	930x900	1010x1010	1160x1100	1250x1250	1480x1380	1600x1480
Daylight max	mm	570	680	790	910	1015	1120	1235	1375	1555	1670	1750	2000	2250	2550	2950	3150
Mold Thickness(min-max)	mm	130-300	130-360	145-450	160-500	180-550	195-600	220-655	245-720	265-800	300-850	300-870	380-975	450-1100	600-1250	700-1400	800-1500
Ejection Stroke	mm	80	100	100	130	150	180	180	205	250	280	280	300	350	380	380	380
Ejector Force	KN	28.5	28.5	34.4	41.6	49.5	77.3	77.3	111.3	111.3	137.4	137.4	275	275	303	303	303
Ejector Pin Hole	unit	4+1	4+1	4+1	4+1	4+1	8+4+1	8+4+1	8+4+1	8+4+1	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	14.5	14.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5	17.5
Pump Motor	KW	8.6	11	11	15	18.5	22	37	45	22+30	22+30	30x2	37x2	45x2	45+37x2	45x2+37	45X3
Heating Capacity	KW	4.8	6.5	8.8	9.6	10.4	16.2	18.5	24.5	31.7	31.7	33.5	40.9	47.1	55.2	78	78.5
No.of Heater Zones	unit	4	4	4	5	5	6	6	6	6	6	6	8	8	9	9	9
GENERAL UNIT																	
Oil Tank Capacity	L	160	160	170	230	260	320	520	1200	1300	1300	1300	1300	1300	1800	1800	2400
Machine Dimensions	mxmxm	3.74x1.35x1.75	4.22x1.38x1.71	4.5x1.43x1.75	4.85x1.48x1.94	5.46x1.69x1.98	6.33x1.78x2.03	7.03x1.89x2.12	8.2x2.18x2.24	8.92x2.18x2.24	9.2x2.18x2.21	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	2600	3990	4490	5260	5900	8600	10960	16300	19600	21800	26600	36320	42900	62000	87000	90600

The specification above is only for reference. Borche reserves the right of change in specification resulting from technical upgrading.

BS60-III

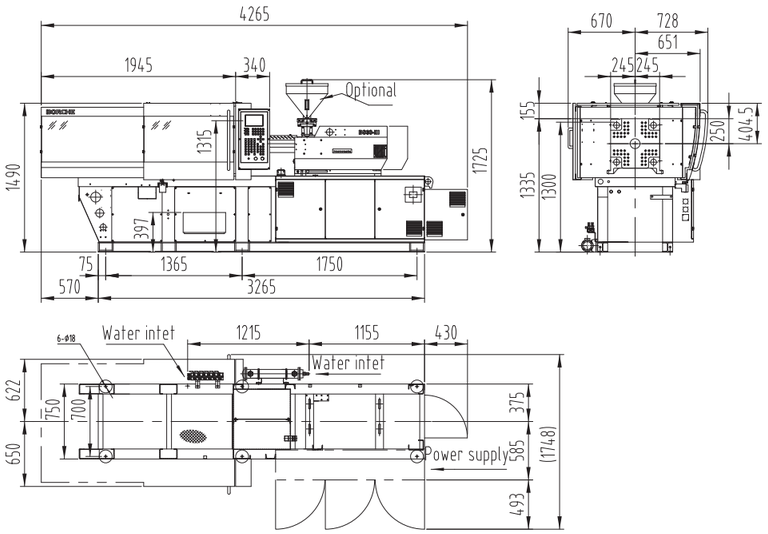
BORCHE

DESCRIPTION

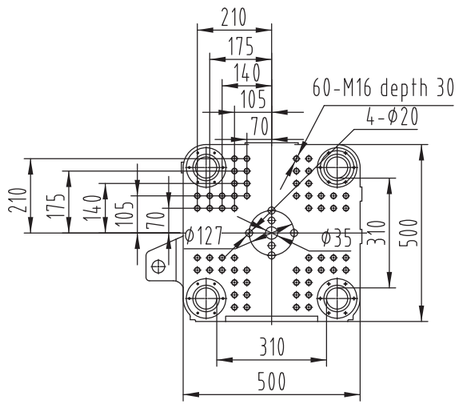
International Class NO. UNIT 153/60

INJECTION UNIT			
Screw Diameter	mm	25	**28**
Shot Volume	cm³	68	**86**
Shot Weight(PS)	g	60	**78**
Shot Weight(PS)	OZ	2. 1	**2.8**
Injection Pressure	MPa	223	**178**
Screw L/D Ratio	L/d	22	**22**
Injection Stroke	mm	140	
Screw Rotary Speed max	rpm	280	
Nozzle Contact Force	KN	30	
Nozzle Stroke	mm	205	
CLAMPING UNIT			
Clamping Force	KN	600	
Opening Stroke	mm	270	
Platen Size	mmxmm	500x500	
Space btw. Tie Bars	mmxmm	310x310	
Daylight max	mm	570	
Mold Thickness(min-max)	mm	130-300	
Ejection Stroke	mm	80	
Ejector Force	KN	28.5	
Ejector Pin Hole	unit	4+1	
POWER UNIT			
System Pressure	MPa	14.5	
Pump Motor	KW	8.6	
Heating Capacity	KW	4.8	
No.of Heater Zones	unit	4	
GENERAL UNIT			
Oil Tank Capacity	L	160	
Machine Dimensions	mxmxm	3.74x1.35x1.75	
Machine Weight	KG	2600	

Appearance and Installation Dimensions



Mold Platen Drawing



BS80-III

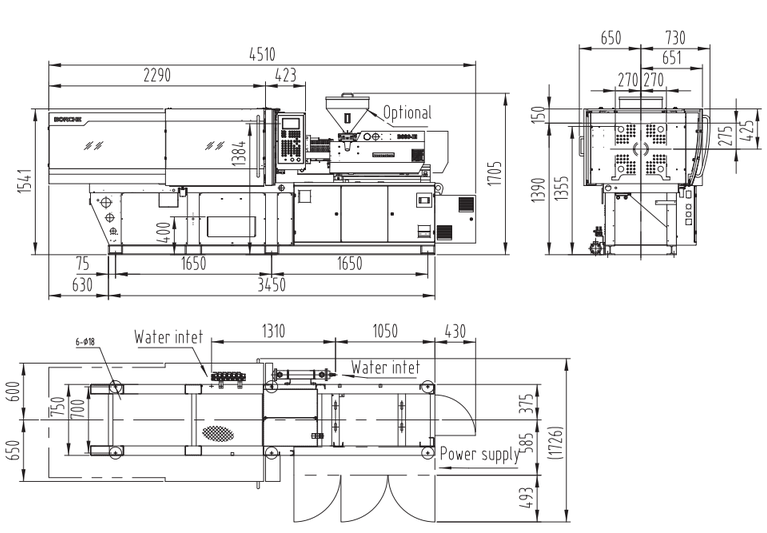
BORCHE

DESCRIPTION

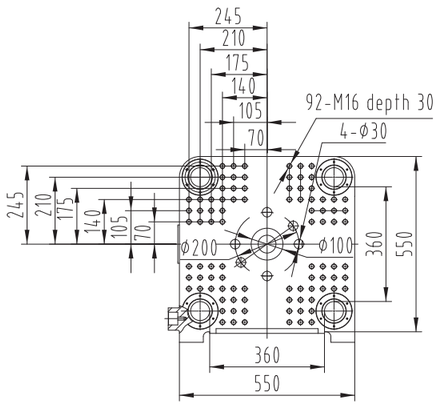
International Class NO. UNIT 252/80

INJECTION UNIT				
Screw Diameter	mm	30	**35**	40
Shot Volume	cm³	120	**163**	213
Shot Weight(PS)	g	113	**153**	199
Shot Weight(PS)	OZ	4	**5.4**	7
Injection Pressure	MPa	209	**154**	118
Screw L/D Ratio	L/d	24	**20.5**	18
Injection Stroke	mm	170		
Screw Rotary Speed max	rpm	250		
Nozzle Contact Force	KN	30		
Nozzle Stroke	mm	250		
CLAMPING UNIT				
Clamping Force	KN	800		
Opening Stroke	mm	320		
Platen Size	mmxmm	550x550		
Space btw. Tie Bars	mmxmm	360x360		
Daylight max	mm	680		
Mold Thickness(min-max)	mm	130-360		
Ejection Stroke	mm	100		
Ejector Force	KN	28.5		
Ejector Pin Hole	unit	4+1		
POWER UNIT				
System Pressure	MPa	14.5		
Pump Motor	KW	11		
Heating Capacity	KW	6.5		
No.of Heater Zones	unit	4		
GENERAL UNIT				
Oil Tank Capacity	L	160		
Machine Dimensions	mxmxm	4.22x1.38x1.71		
Machine Weight	KG	3990		

Appearance and Installation Dimensions



Mold Platen Drawing



BS120-III

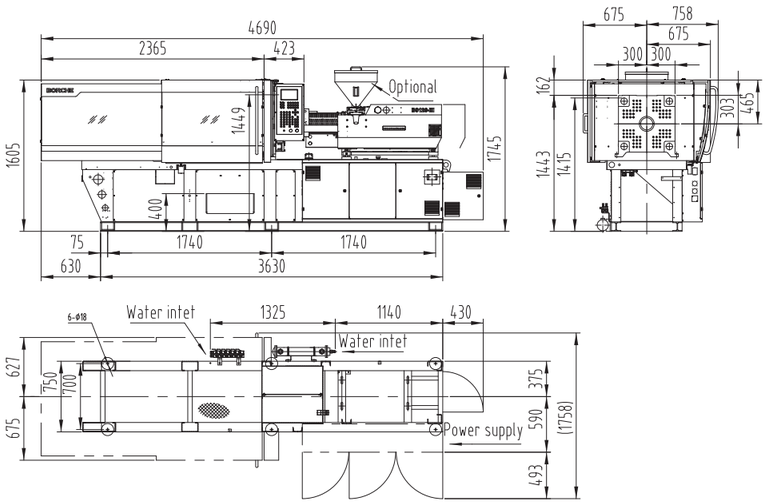
BORCHE

DESCRIPTION

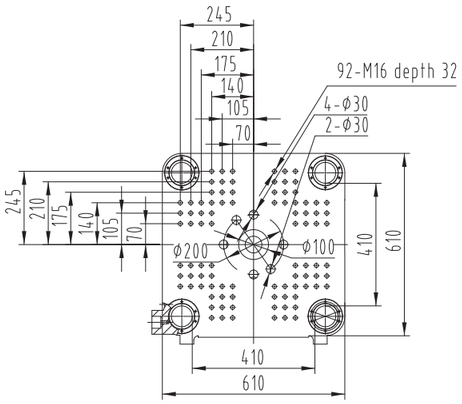
International Class NO. UNIT 388/120

INJECTION UNIT				
Screw Diameter	mm	35	**40**	45
Shot Volume	cm³	182	**238**	302
Shot Weight(PS)	g	171	**225**	283
Shot Weight(PS)	OZ	6	**8**	10
Injection Pressure	MPa	212	**162**	128
Screw L/D Ratio	L/d	23.5	**20.5**	18
Injection Stroke	mm		190	
Screw Rotary Speed max	rpm		222	
Nozzle Contact Force	KN		30	
Nozzle Stroke	mm		250	
CLAMPING UNIT				
Clamping Force	KN		1200	
Opening Stroke	mm		340	
Platen Size	mmxmm		610x610	
Space btw. Tie Bars	mmxmm		410x410	
Daylight max	mm		790	
Mold Thickness(min-max)	mm		145-450	
Ejection Stroke	mm		100	
Ejector Force	KN		34.4	
Ejector Pin Hole	unit		4+1	
POWER UNIT				
System Pressure	MPa		17.5	
Pump Motor	KW		11	
Heating Capacity	KW		8.8	
No.of Heater Zones	unit		4	
GENERAL UNIT				
Oil Tank Capacity	L		170	
Machine Dimensions	mxmxm		4.85x1.43x1.94	
Machine Weight	KG		4490	

Appearance and Installation Dimensions



Mold Platen Drawing



BS150-III

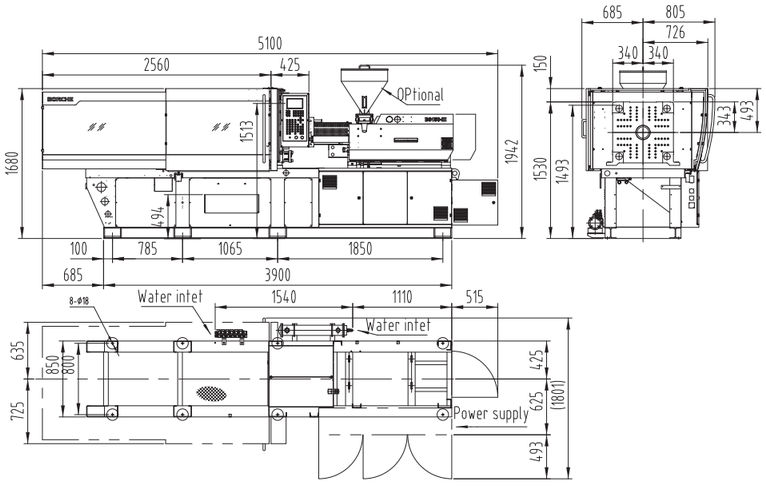
BORCHE

DESCRIPTION

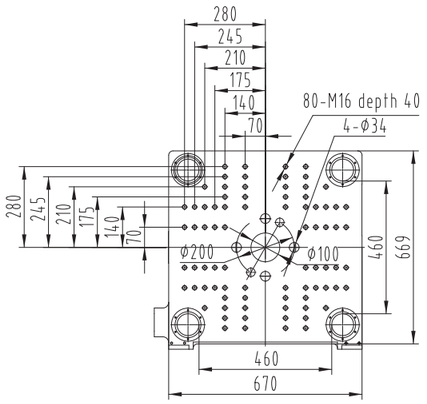
International Class NO. UNIT 634/150

INJECTION UNIT				
Screw Diameter	mm	40	**45**	50
Shot Volume	cm³	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	23	**20.5**	18.5
Injection Stroke	mm		215	
Screw Rotary Speed max	rpm		240	
Nozzle Contact Force	KN		30	
Nozzle Stroke	mm		250	
CLAMPING UNIT				
Clamping Force	KN		1500	
Opening Stroke	mm		410	
Platen Size	mmxmm		670x670	
Space btw. Tie Bars	mmxmm		460x460	
Daylight max	mm		910	
Mold Thickness(min-max)	mm		160-500	
Ejection Stroke	mm		130	
Ejector Force	KN		41.6	
Ejector Pin Hole	unit		4+1	
POWER UNIT				
System Pressure	MPa		17.5	
Pump Motor	KW		15	
Heating Capacity	KW		9.6	
No.of Heater Zones	unit		5	
GENERAL UNIT				
Oil Tank Capacity	L		230	
Machine Dimensions	mxmxm		4.85x1.48x1.94	
Machine Weight	KG		5260	

Appearance and Installation Dimensions



Mold Platen Drawing



BS200-III

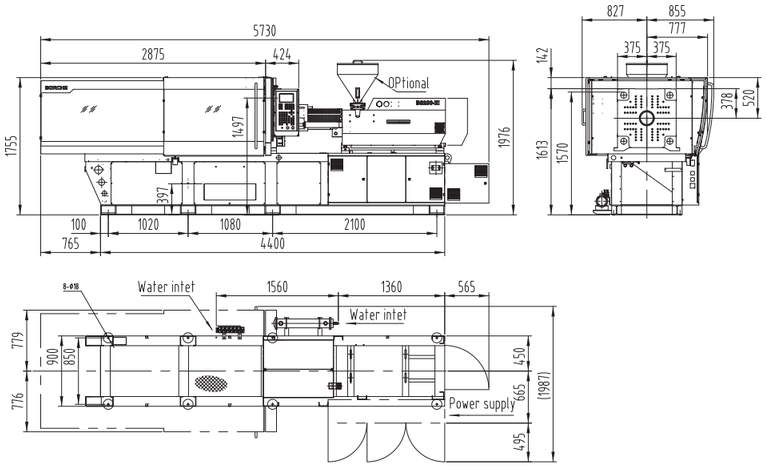
BORCHE

DESCRIPTION

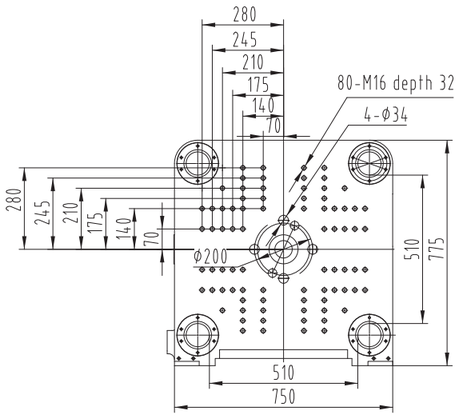
International Class NO. UNIT 849/200

INJECTION UNIT				
Screw Diameter	mm	45	**50**	60
Shot Volume	cm³	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	**21**	17
Injection Stroke	mm		245	
Screw Rotary Speed max	rpm		175	
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	
Daylight max	mm		1015	
Mold Thickness(min-max)	mm		180-550	
Ejection Stroke	mm		150	
Ejector Force	KN		49.5	
Ejector Pin Hole	unit		4+1	
POWER UNIT				
System Pressure	MPa		17.5	
Pump Motor	KW		18.5	
Heating Capacity	KW		10.4	
No.of Heater Zones	unit		5	
GENERAL UNIT				
Oil Tank Capacity	L		260	
Machine Dimensions	mxmxm		5.43x1.69x1.98	
Machine Weight	KG		5900	

Appearance and Installation Dimensions



Mold Platen Drawing



BS260-III

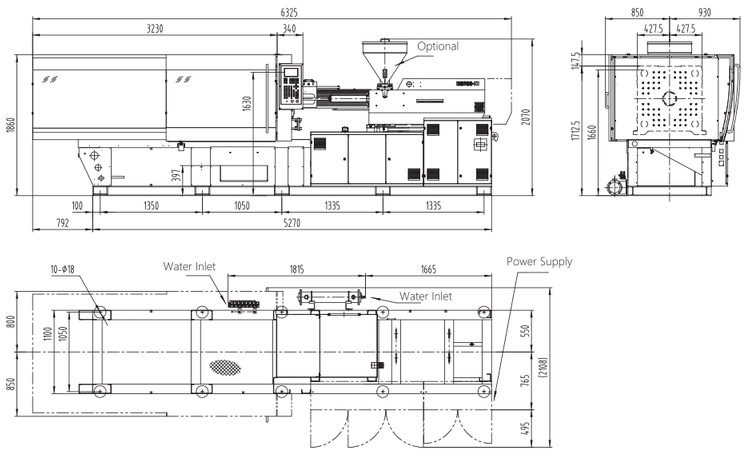
BORCHE

DESCRIPTION

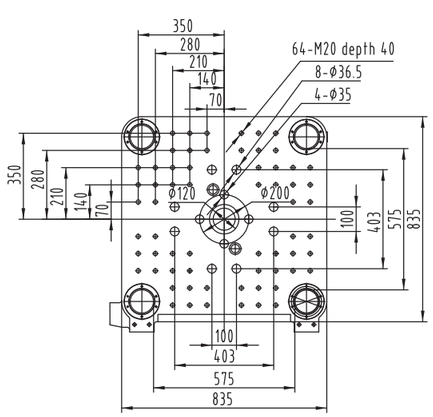
International Class NO. UNIT 1367/260

INJECTION UNIT				
Screw Diameter	mm	50	**60**	70
Shot Volume	cm³	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	**21**	18
Injection Stroke	mm		300	
Screw Rotary Speed max	rpm		143	
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	
Daylight max	mm		1120	
Mold Thickness(min-max)	mm		195-600	
Ejection Stroke	mm		180	
Ejector Force	KN		77.3	
Ejector Pin Hole	unit		8+4+1	
POWER UNIT				
System Pressure	MPa		17.5	
Pump Motor	KW		22	
Heating Capacity	KW		16.2	
No.of Heater Zones	unit		6	
GENERAL UNIT				
Oil Tank Capacity	L		320	
Machine Dimensions	mxmxm		6.33x1.78x2.03	
Machine Weight	KG		8600	

Appearance and Installation Dimensions



Mold Platen Drawing



BS320-III

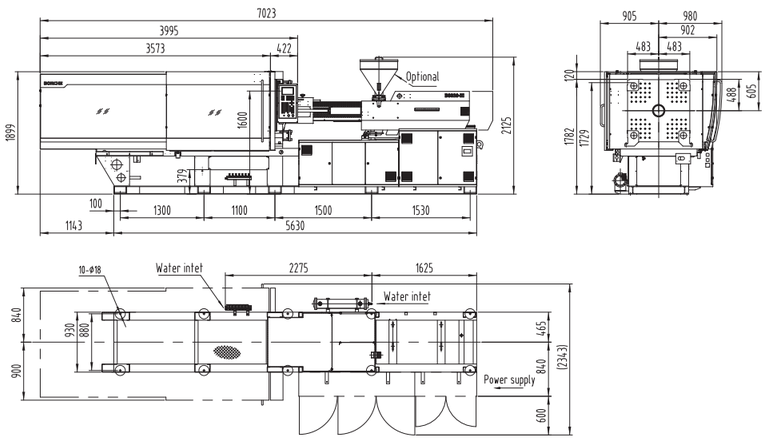
BORCHE

DESCRIPTION

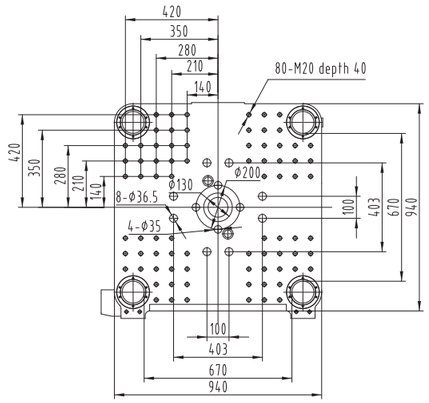
International Class NO. UNIT 2239/320

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	24.5	**21**	18.5
Injection Stroke	mm		350	
Screw Rotary Speed max	rpm		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	
Daylight max	mm		1235	
Mold Thickness(min-max)	mm		220-655	
Ejection Stroke	mm		180	
Ejector Force	KN		77.3	
Ejector Pin Hole	unit		8+4+1	
POWER UNIT				
System Pressure	MPa		17.5	
Pump Motor	KW		37	
Heating Capacity	KW		18.5	
No.of Heater Zones	unit		6	
GENERAL UNIT				
Oil Tank Capacity	L		520	
Machine Dimensions	mxmxm		7.03x1.89x2.12	
Machine Weight	KG		10960	

Appearance and Installation Dimensions



Mold Platen Drawing



BS400-III

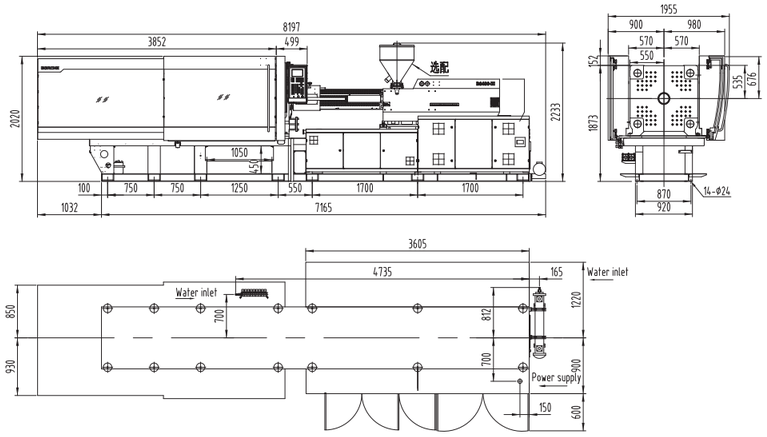
BORCHE

DESCRIPTION

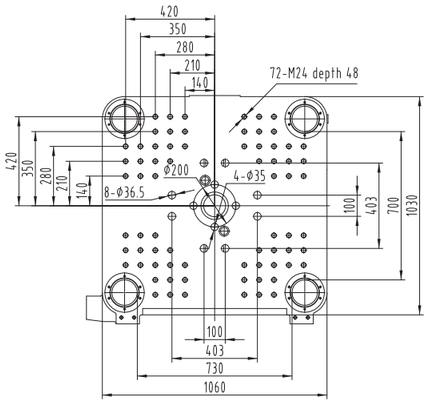
International Class NO. UNIT 3266/400

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	**21**	19
Injection Stroke	mm		400	
Screw Rotary Speed max	rpm		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	
Daylight max	mm		1375	
Mold Thickness(min-max)	mm		245-720	
Ejection Stroke	mm		205	
Ejector Force	KN		111.3	
Ejector Pin Hole	unit		8+4+1	
POWER UNIT				
System Pressure	MPa		17.5	
Pump Motor	KW		45	
Heating Capacity	KW		24.5	
No.of Heater Zones	unit		6	
GENERAL UNIT				
Oil Tank Capacity	L		1200	
Machine Dimensions	mxmxm		8.2x2.18x2.24	
Machine Weight	KG		16300	

Appearance and Installation Dimensions



Mold Platen Drawing



BS500-III

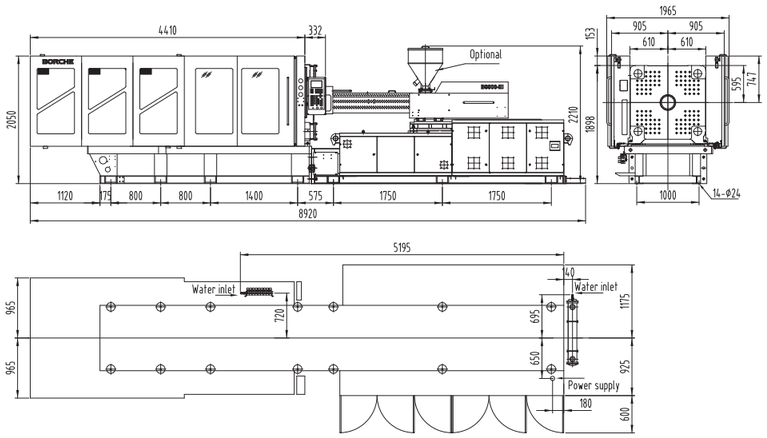
BORCHE

DESCRIPTION

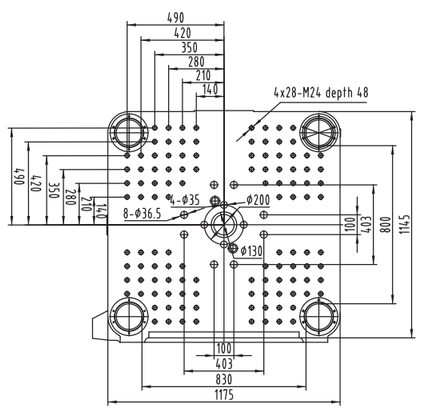
International Class NO. UNIT 3925/500

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	24	**21**	19
Injection Stroke	mm		425	
Screw Rotary Speed max	rpm		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	
Daylight max	mm		1555	
Mold Thickness(min-max)	mm		265-800	
Ejection Stroke	mm		250	
Ejector Force	KN		111.3	
Ejector Pin Hole	unit		8+4+1	
POWER UNIT				
System Pressure	MPa		17.5	
Pump Motor	KW		22+30	
Heating Capacity	KW		31.7	
No.of Heater Zones	unit		6	
GENERAL UNIT				
Oil Tank Capacity	L		1300	
Machine Dimensions	mxmxm		8.92x2.18x2.21	
Machine Weight	KG		19600	

Appearance and Installation Dimensions



Mold Platen Drawing



BS560-III

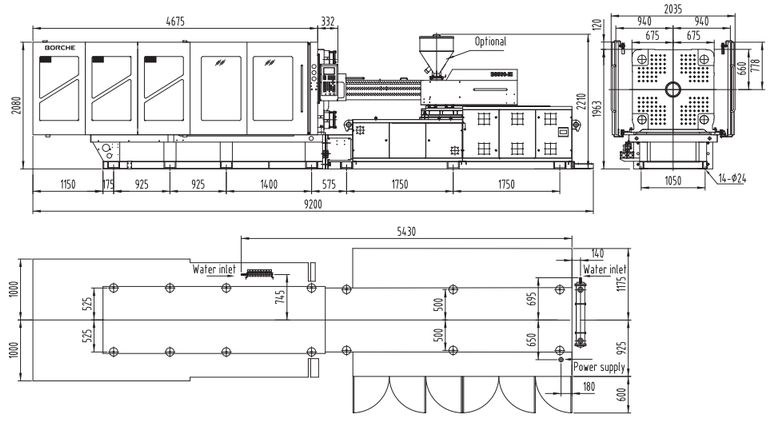
BORCHE

DESCRIPTION

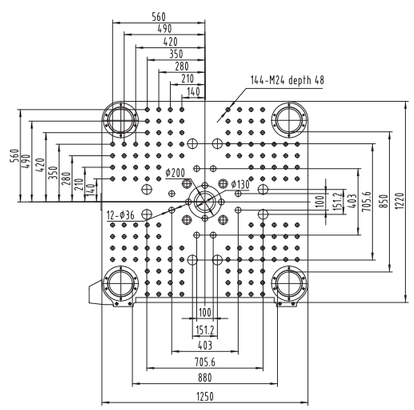
International Class NO. UNIT 4156/560

INJECTION UNIT				
Screw Diameter	mm	80	**85**	95
Shot Volume	cm^3	2262	**2554**	3190
Shot Weight(PS)	g	2058	**2323**	2902
Shot Weight(PS)	OZ	72.6	**81.9**	102.4
Injection Pressure	MPa	184	**163**	130
Screw L/D Ratio	L/d	22.3	**21**	19
Injection Stroke	mm		450	
Screw Rotary Speed max	rpm		144	
Nozzle Contact Force	KN		80	
Nozzle Stroke	mm		450	
CLAMPING UNIT				
Clamping Force	KN		5600	
Opening Stroke	mm		820	
Platen Size	mmxmm		1250x1220	
Space btw. Tie Bars	mmxmm		880x850	
Daylight max	mm		1670	
Mold Thickness(min-max)	mm		300-850	
Ejection Stroke	mm		280	
Ejector Force	KN		137.4	
Ejector Pin Hole	unit		8+8+4+1	
POWER UNIT				
System Pressure	MPa		17.5	
Pump Motor	KW		22+30	
Heating Capacity	KW		31.7	
No.of Heater Zones	unit		6	
GENERAL UNIT				
Oil Tank Capacity	L		1300	
Machine Dimensions	mxmxm		9.2x2.18x2.21	
Machine Weight	KG		21800	

Appearance and Installation Dimensions



Mold Platen Drawing



BS650-III

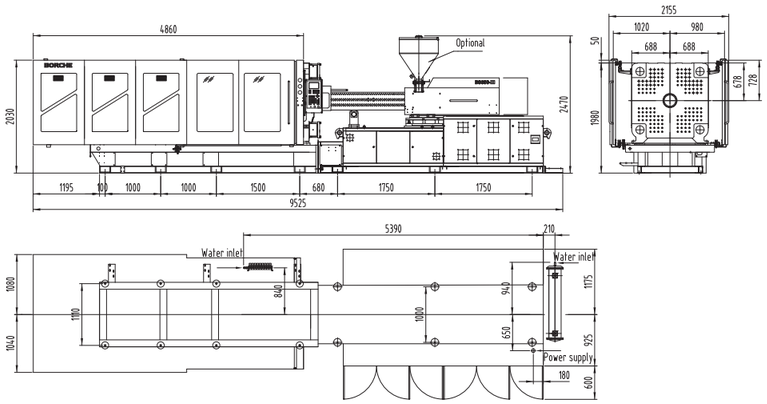
BORCHE

DESCRIPTION

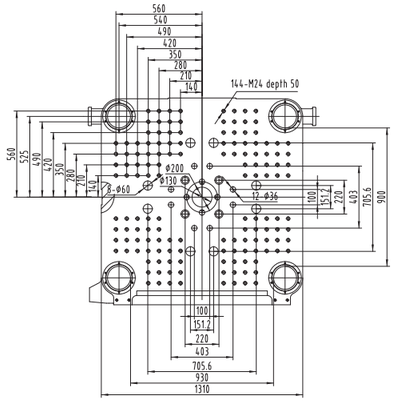
International Class NO. UNIT 4453/650

INJECTION UNIT				
Screw Diameter	mm	80	**90**	100
Shot Volume	cm^3	2261	**2862**	3534
Shot Weight(PS)	g	2125	**2690**	3321
Shot Weight(PS)	OZ	75.1	**95.1**	117.3
Injection Pressure	MPa	197	**156**	126
Screw L/D Ratio	L/d	23.5	**21**	19
Injection Stroke	mm		450	
Screw Rotary Speed max	rpm		120	
Nozzle Contact Force	KN		80	
Nozzle Stroke	mm		510	
CLAMPING UNIT				
Clamping Force	KN		6500	
Opening Stroke	mm		880	
Platen Size	mmxmm		1310x1280	
Space btw. Tie Bars	mmxmm		930x900	
Daylight max	mm		1750	
Mold Thickness(min-max)	mm		300-870	
Ejection Stroke	mm		280	
Ejector Force	KN		137.4	
Ejector Pin Hole	unit		8+8+4+1	
POWER UNIT				
System Pressure	MPa		17.5	
Pump Motor	KW		30x2	
Heating Capacity	KW		33.5	
No.of Heater Zones	unit		6	
GENERAL UNIT				
Oil Tank Capacity	L		1300	
Machine Dimensions	mxmxm		9.53x2.23x2.47	
Machine Weight	KG		26600	

Appearance and Installation Dimensions



Mold Platen Drawing



BS800-III

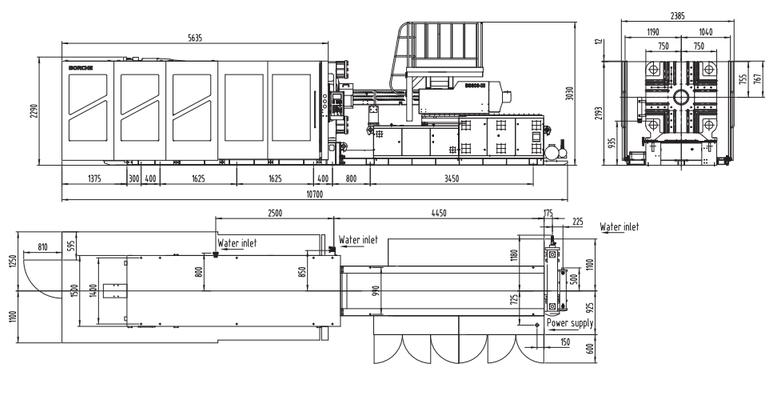
BORCHE

DESCRIPTION

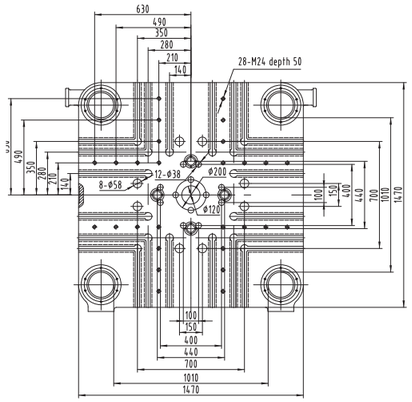
International Class NO. UNIT 5700/800

INJECTION UNIT				
Screw Diameter	mm	90	**100**	105
Shot Volume	cm^3	3181	**3927**	4329
Shot Weight(PS)	g	2987	**3687**	4065
Shot Weight(PS)	OZ	105.5	**130.3**	143.6
Injection Pressure	MPa	181	**147**	133
Screw L/D Ratio	L/d	25	**22.5**	21.4
Injection Stroke	mm		500	
Screw Rotary Speed max	rpm		117	
Nozzle Contact Force	KN		200	
Nozzle Stroke	mm		560	
CLAMPING UNIT				
Clamping Force	KN		8000	
Opening Stroke	mm		1025	
Platen Size	mmxmm		1470X1470	
Space btw. Tie Bars	mmxmm		1010x1010	
Daylight max	mm		2000	
Mold Thickness(min-max)	mm		380-975	
Ejection Stroke	mm		300	
Ejector Force	KN		275	
Ejector Pin Hole	unit		8+8+4+1	
POWER UNIT				
System Pressure	MPa		17.5	
Pump Motor	KW		37x2	
Heating Capacity	KW		40.9	
No.of Heater Zones	unit		8	
GENERAL UNIT				
Oil Tank Capacity	L		1300	
Machine Dimensions	mxmxm		10.7x2.39x3.03	
Machine Weight	KG		36320	

Appearance and Installation Dimensions



Mold Platen Drawing



BS1000-III

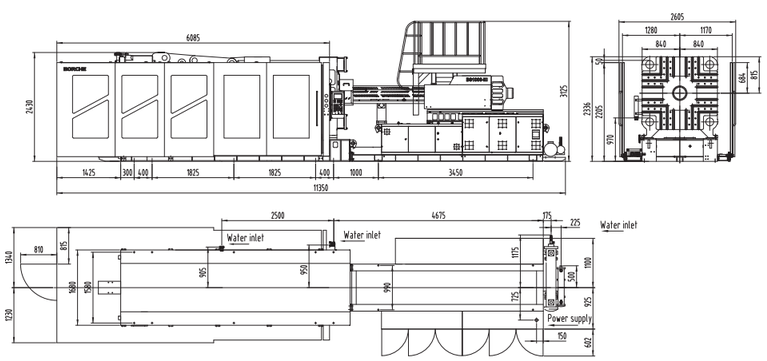
BORCHE

DESCRIPTION

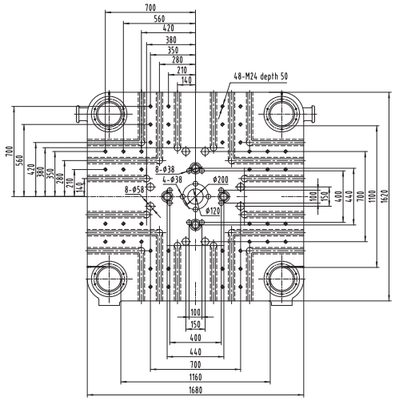
International Class NO. UNIT 7550/1000

INJECTION UNIT				
Screw Diameter	mm	100	**105**	115
Shot Volume	cm^3	4123	**4546**	5453
Shot Weight(PS)	g	3871	**4268**	5120
Shot Weight(PS)	OZ	136.8	**150.8**	181
Injection Pressure	MPa	180	**163**	136
Screw L/D Ratio	L/d	23	**22**	20
Injection Stroke	mm		525	
Screw Rotary Speed max	rpm		112	
Nozzle Contact Force	KN		200	
Nozzle Stroke	mm		560	
CLAMPING UNIT				
Clamping Force	KN		10000	
Opening Stroke	mm		1150	
Platen Size	mmxmm		1680X1620	
Space btw. Tie Bars	mmxmm		1160x1100	
Daylight max	mm		2250	
Mold Thickness(min-max)	mm		450-1100	
Ejection Stroke	mm		350	
Ejector Force	KN		275	
Ejector Pin Hole	unit		8+8+4+1	
POWER UNIT				
System Pressure	MPa		17.5	
Pump Motor	KW		45x2	
Heating Capacity	KW		47.1	
No.of Heater Zones	unit		8	
GENERAL UNIT				
Oil Tank Capacity	L		1300	
Machine Dimensions	mxmxm		11.35x2.61x3.13	
Machine Weight	KG		42900	

Appearance and Installation Dimensions



Mold Platen Drawing



BS1300-III

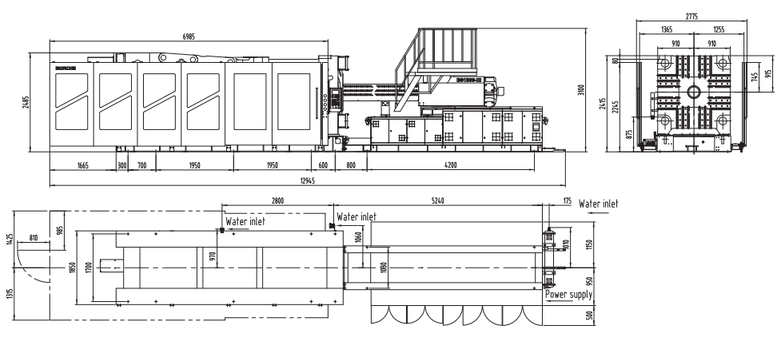
BORCHE

DESCRIPTION

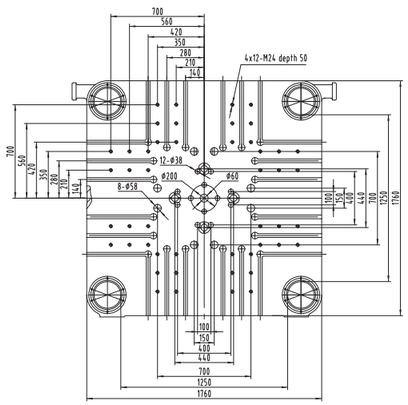
International Class NO. UNIT 11500/1300

INJECTION UNIT				
Screw Diameter	mm	105	**115**	130
Shot Volume	cm^3	5195	**6232**	7964
Shot Weight(PS)	g	4727	**5671**	7247
Shot Weight(PS)	OZ	167	**200**	256
Injection Pressure	MPa	222	**185**	145
Screw L/D Ratio	L/d	24	**22**	19.5
Injection Stroke	mm		600	
Screw Rotary Speed max	rpm		110	
Nozzle Contact Force	KN		200	
Nozzle Stroke	mm		750	
CLAMPING UNIT				
Clamping Force	KN		13000	
Opening Stroke	mm		1300	
Platen Size	mmxmm		1760X1760	
Space btw. Tie Bars	mmxmm		1250x1250	
Daylight max	mm		2550	
Mold Thickness(min-max)	mm		600-1250	
Ejection Stroke	mm		380	
Ejector Force	KN		303	
Ejector Pin Hole	unit		8+8+4+1	
POWER UNIT				
System Pressure	MPa		17.5	
Pump Motor	KW		45+37x2	
Heating Capacity	KW		55.2	
No.of Heater Zones	unit		9	
GENERAL UNIT				
Oil Tank Capacity	L		1800	
Machine Dimensions	mxmxm		12.95x2.78x3.1	
Machine Weight	KG		62000	

Appearance and Installation Dimensions



Mold Platen Drawing



BS1600-III

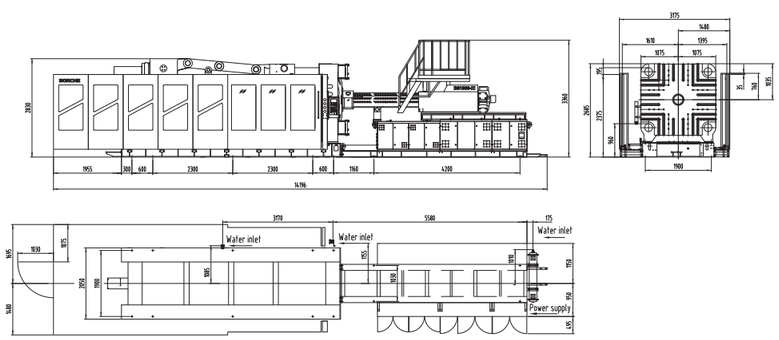
BORCHE

DESCRIPTION

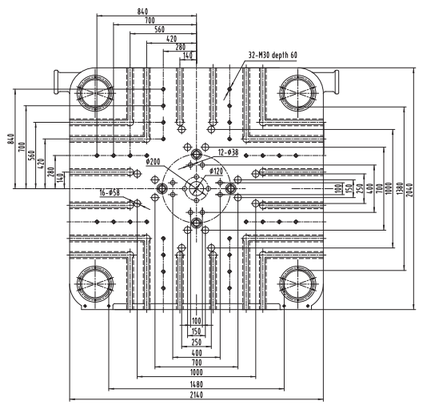
International Class NO. UNIT 13500/1600

INJECTION UNIT				
Screw Diameter	mm	115	**130**	140
Shot Volume	cm^3	6751	**8628**	10006
Shot Weight(PS)	g	6144	**7851**	9105
Shot Weight(PS)	OZ	216.7	**246.9**	321.2
Injection Pressure	MPa	200	**156**	135
Screw L/D Ratio	L/d	25	**22**	20.4
Injection Stroke	mm		650	
Screw Rotary Speed max	rpm		90	
Nozzle Contact Force	KN		200	
Nozzle Stroke	mm		750	
CLAMPING UNIT				
Clamping Force	KN		16000	
Opening Stroke	mm		1550	
Platen Size	mmxmm		2140x2040	
Space btw. Tie Bars	mmxmm		1480x1380	
Daylight max	mm		2950	
Mold Thickness(min-max)	mm		700-1400	
Ejection Stroke	mm		380	
Ejector Force	KN		303	
Ejector Pin Hole	unit		8+8+8+4+1	
POWER UNIT				
System Pressure	MPa		17.5	
Pump Motor	KW		45x2+37	
Heating Capacity	KW		78	
No.of Heater Zones	unit		9	
GENERAL UNIT				
Oil Tank Capacity	L		1800	
Machine Dimensions	mxmxm		14.2x3.18x3.36	
Machine Weight	KG		87000	

Appearance and Installation Dimensions



Mold Platen Drawing



BS1800-III

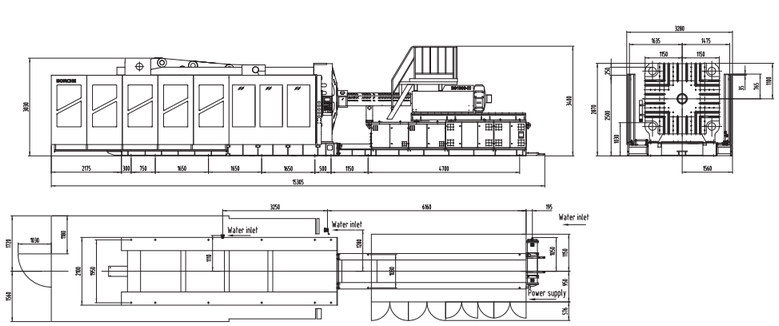
BORCHE

DESCRIPTION

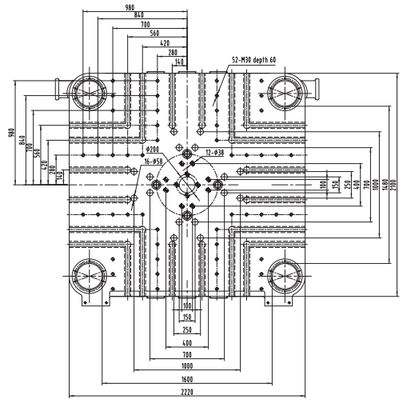
International Class NO. UNIT 16600/1800

INJECTION UNIT				
Screw Diameter	mm	130	**140**	150
Shot Volume	cm^3	9291	**10776**	12370
Shot Weight(PS)	g	8455	**9806**	11257
Shot Weight(PS)	OZ	298.2	**345.9**	397.1
Injection Pressure	MPa	191	**164**	143
Screw L/D Ratio	L/d	24	**22**	20
Injection Stroke	mm		700	
Screw Rotary Speed max	rpm		85	
Nozzle Contact Force	KN		200	
Nozzle Stroke	mm		920	
CLAMPING UNIT				
Clamping Force	KN		18000	
Opening Stroke	mm		1650	
Platen Size	mmxmm		2220X2100	
Space btw. Tie Bars	mmxmm		1600x1480	
Daylight max	mm		3150	
Mold Thickness(min-max)	mm		800-1500	
Ejection Stroke	mm		380	
Ejector Force	KN		303	
Ejector Pin Hole	unit		8+8+8+4+1	
POWER UNIT				
System Pressure	MPa		17.5	
Pump Motor	KW		45X3	
Heating Capacity	KW		78.5	
No.of Heater Zones	unit		9	
GENERAL UNIT				
Oil Tank Capacity	L		2400	
Machine Dimensions	mxmxm		15.3x3.28x3.4	
Machine Weight	KG		90600	

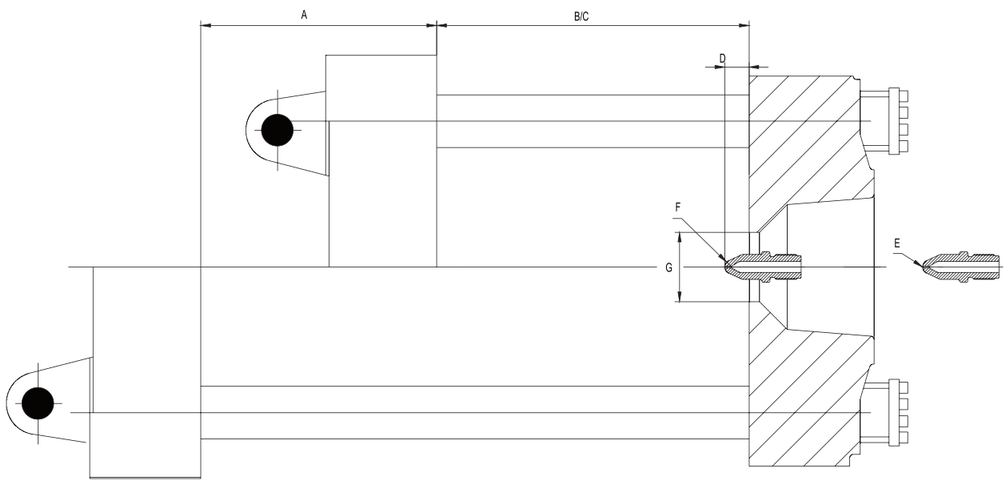
Appearance and Installation Dimensions



Mold Platen Drawing



Clamping Unit Dimension



Clamping Unit Schematic Drawing

	BS60-III	BS80-III	BS120-111	BS150-III	BS200-III	BS260-III	BS320-III	BS400-III	BS500-III	BS560-III	BS650-III	BS800-III	BS1000-III	BS1300III	BS1600-III	BS1800-III
A (Opening stroke)	270	320	340	410	465	520	580	655	755	820	880	1025	1150	1300	1550	1650
B (Max. mold thickness)	300	360	450	500	550	600	655	720	800	850	870	975	1100	1250	1400	1500
C (Min. mold thickness)	130	130	145	160	180	195	220	245	265	300	300	380	450	600	700	800
D (The distance of nozzle extension from fixed platen)	30	35	35	45	45	45	45	45	50	50	50	50	50	50	50	50
E (Dia. Of nozzle hole)	2.5	3	3	3	4	4	4	4	5	5	5	5	5	6	6	7
F (Radius of nozzle tip)	10	10	10	10	10	10	10	10	10	10	10	10	10	15	15	20
G (Dia. of locating ring)	100*	125	125	125	160	160	160	160	200	200	200	250	250	250	250	250

* : No locating ring available

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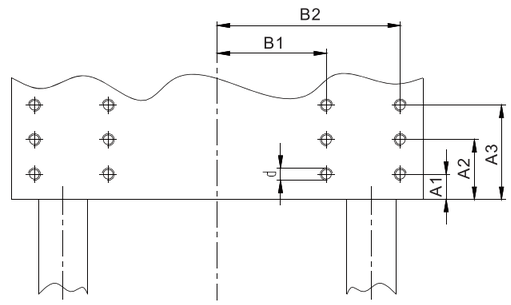
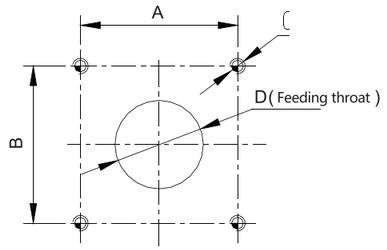


Robot Installation Dimension

	BS80-III	BS120-111	BS150-III	BS200-III	BS260-III	BS320-III	BS400-III	BS500-III	BS560-III	BS650-III	BS800-III	BS1000-III	BS1300III	BS1600-III	BS1800-III
A1	17.5	35	35	35	35	35	35	35	35	35	70	70	70	70	70
A2	52.5	105	105	105	175	175	175	175	175	175	175	175	175	175	210
A3	——	——	——	——	——	——	——	——	——	——	280	280	280	280	350
B1	140	140	175	175	210	280	350	350	350	420	420	420	560	560	700
B2	210	245	280	280	350	420	490	490	490	560	630	700	840	840	980
d	M12	M16	M16	M16	M20	M20	M20	M20	M20	M20	M24	M24	M24	M24	M24



Hopper Dryer Installation Dimension

	BS80-III	BS120-111	BS150-III	BS200-III	BS260-III	BS320-III	BS400-III	BS500-III	BS560-III	BS650-III	BS800-III	BS1000-III	BS1300III	BS1600-III	BS1800-III
A/mm	80	80	90	90	110	110	130	130	130	130	160	160	214	214	214
B/mm	80	80	95	95	110	110	130	130	130	130	160	160	214	214	214
C/mm	M8	M8	M8	M8	M10	M10	M10	M10	M10	M10	M12	M12	M16	M16	M16
D/mm	ø50	ø50	ø50	ø60	ø70	ø80	ø90	ø90	ø90	ø90	ø110	ø110	ø150	ø150	ø150

Features Configuration

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Standard Features

SAFETY UNIT		
1	New National Safety Standard	●
2	European technical standard totally enclosed cover	●
3	Double emergency button	●
4	Safety platform under mold area (≥800T)	●
		●

CLAMPING UNIT		
1	5 points double toggle structure	●
2	High strength chromeplated tie bar	●
3	Separate locating ring on fixed platen	●
4	Extra-large space for ejection operation	●
5	Anti-abrasion strip	●
6	Centralized Lubrication system with end position pressure monitoring	●
7	Low pressure mold protection system	●
8	Automatic clamping force adjustment function	●
9	Mold adjustment gear ring driven by hydraulic motor	●
10	Hydraulic multi ejection device	●
11	Automatic safety door (≥800T)	●
12	Robot interface	●

CONTROL UNIT		
1	Transducer	●
2	KEBA controller	●
3	Malfunction self-diagnosis system	●
4	Emergency stop both at operation and nonoperation side	●
5	Multi-language (Standard with Chinese and English)	●
6	SPC quality control	●
7	Auto purge function	●
8	Clocking heating function	●
9	Fuse protection for heater band power leakage	●
10	PID program for hearting	●
11	Data protect lock	●
12	Parameter quick settings	●

INJECTION UNIT		
1	Double carriage structure	●
2	Double injection cylinder	●
3	High abrasion resistance screw and barrel	●
4	Chrome plated screw (≤ 500T)	●
5	Nozzle center adjust device	●
6	Barrel protection cover	●
7	Injection unit adopts linear guide rail	●
8	Movable hopper support up to 650T	●
9	Feeding platform above 5700	●
10	Three size screw and barrel available	●
11	High-torque hydraulic motor drive screw	●
12	Screw speed testing device	●
13	Plasticizing Screw cold start protection	●
14	Screw leak protection when suck back	●
15	Five stages for injection control by pressure/speed	●
16	Three stages for holding control by pressure/speed	●
17	Three stages for plasticizing control by pressure/ speed can be adjusted	●

HYDRAULIC UNIT		
1	Servo control	●
2	Servo power saving system	●
3	Low pressure mold protection function	●
4	Boost clamping system	●
5	Oil level indicator and oil temperature detector	●
6	High efficiency oil cooler	●
7	Oil temperature alarm device	●
8	Plasticizing back pressure	●
9	Check filter on inlet (≥400T)	●
		●

INTERCONNECTED UNIT		
1	Temporary authorization of OPC-UA/DA	●
2	PlasCloud App, basic version	●
3	Machine Kanban: status, cycle and output,etc.	●
4	Remote view: process parameter, SPC, machine setting	●
5	Machine management: spot check, maintenance, repair	●
6	Report: daily report, monthly report	●

Features Configuration

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Optional Features

SAFETY UNIT		
1	CE safety standard	○
2	Main power switch with rotation handle	○
3	Mechanical safety lock device(≥260T)	○
4	Core pull with pressure relief function	○

CONTROL UNIT		
1	Voltage stabilizer	○
2	Hot runner control	○
3	Phase protection	○
4	Additional sockets	○
5	Power meter	○
6	Special adaptable voltage	○

INJECTION UNIT		
1	PC screw	○
2	Bi-metallic screw and barrel	○
3	PET machine	○
4	UPVC machine	○
5	Enlarged one stage injection unit	○
6	Decreased one stage injection unit	○
7	Extended nozzle	○
8	Shut off nozzle (Hydraulic/ Pneumatic)	○
9	Feeding throat temperature detect and control	○
10	Enlarge one stage hydraulic motor	○
11	Carriage transducer	○
12	Ceramic heater band	○
13	Infrared energy saving heater band	○
14	Manual centralized lubrication for injection unit	○
15	Stainless steel hopper	○

CLAMPING UNIT		
1	Multiple sets hydraulic core pull	○
2	Hydraulic unscrewing	○
3	T slot platen (≤800 T)	○
4	Multiple sets air blower	○
5	Enlarged mold thickness	○
6	Mechanical position control for mold open	○
7	Quick change of central ejector pin	○
8	Special size mold locating ring	○
9	Graphite copper bush on moving platen	○
10	Transducer on moving platen	○
11	Manual centralized lubrication for rear platen	○
12	4 in-4 out water regulator	○
13	Photo sensor	○
14	Extra water manifold	○
15	Alarm lights	○

HYDRAULIC UNIT		
1	Proportional back pressure (≤1000 T)	○
2	Close loop cooling system	○
3	Filter on cooler inlet	○
4	Enlarge one stage motor and pump	○
5	VDP system	○
6	Ejector on fly	○
7	Parallel charging	○
8	High pressure bypass oil filter (≤500 T)	○
9	High speed proportional valve for Injection	○
10	High speed proportional valve for clamping	○
11	Oil level low limit alarm	○
12	Pressure sensor for injection	○
13	Ball valve at suction port (≤320 T)	○
14	Enlarge one stage heat exchanger	○

Industry 4.0 for IMM

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Optional Functions Of Intelligent Manufacturing:	
1	With Industry 4.0 on IMM, three mold change ways can be realized with mold change platform: one-stop automatic mold change, semi-automatic mold change and manual mold change. IMM can automatically identify mold and acquire parameter of mold change, technique and peripherals. The hole of IMM should be tailored to suit that of the mold change platform and hydraulic clamp. IMM will evaluate the safety of above holes. Safety lock is active when matching signal received. IMM plays a responsible role in mold change platform and hydraulic clamp.
2	IMM controller can display all machines'(peripherals included)operation condition and malfunction alarm. There are eight malfunction alarm interfaces for following peripherals: one robot, two mould temperature controllers, one water cooler, one dryer and all-in-one compact dryer. The communication and alarm function of other peripherals are connected to IMM through external connection cabinet so that intelligent interconnection of IMM and peripherals is built.
3	Plug and play, intelligently inter-connected water cooler operated and controlled in IMM with close-loop connection Intelligent interconnection of IMM and chiller can be operated and controlled by IMM controller. Data is close-loop interconnection.
4	Intelligent interconnection of IMM and mould temperature controller can be operated and controlled by IMM controller. All data is close-loop interconnection.
5	Intelligent interconnection of IMM and all-in-one compact dryer can be operated and controlled by IMM controller. All data is close-loop interconnection.
6	Compression injection molding technique
7	High speed proportional valve for mold open and close and non-contact maglev linear transducer realize real-time monitor
8	Robot connects with IMM in real-time, which reduce the interference of robot, IMM and mold. Robot can be fixed on the top or side of fixed platen according to parts pick requirements
9	Automation system of IMM and peripherals interact with MES management system 1) Order Monitor 2) CProduction Status Display 3) Alarm Monitor 4) Technique Parameter Management 5) Equipment Management 6) Production Report
10	iPHM, IMM Prognoties and Health Management (Equipment Online Doctor) 1) Safe and reliable bidirectional terminal is equipped with built-in firewall and remote VPN connection; various networking is available. Cloud platform connects IMM controller in real-time 2) Data of equipment operation, malfunction alarm and worker operation is collected in real time.IMM data visualization on Cloud Platform is realized. 3) Self diagnose module of failure and performance based one the dynamic data, can reduce the malfunction rate, and improve the equipment performance. 4) Operation and maintenance system connects the on-line management platform of after-sales service. It realizes remote on-line program upgrading, and improves the maintenance efficiency and quality. 5) IMM condition and performance report can be checked through mobile terminal; After-sales service request can be reported via WeChat.
11	Mold Visual Monitor 1) Low pressure mold protection for higher precision and efficiency 2) CAccurate checkup 3) Self-adaption to exterior light change 4) Self-adaption to inaccurate mold open position 5) Real-time record
12	Visual Detective System for surface quality checking 1) Fast detection, detection precision reaches to 0.001mm 2) Defectives check of contamination, color difference, flake, and short injection. 3) Wide application
13	Vision-induced System 1) Accurate positioning 2) Sensitive identification 3) Wide application

Intelligent Unmanned IMM Factory

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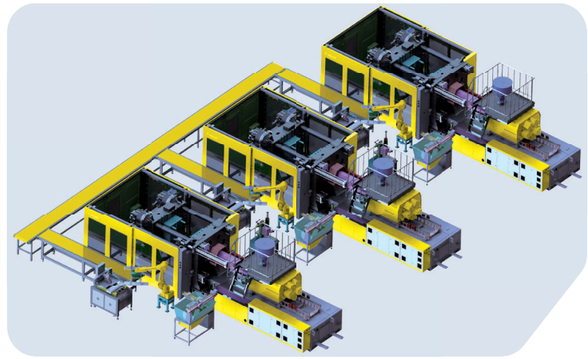
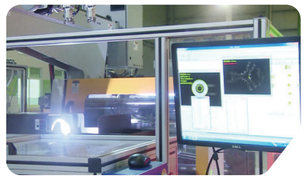
01 Factory Layout- Borche specializes in intelligent IMM factory design. Many intelligent factory cases carried out worldwide in IMM industry.

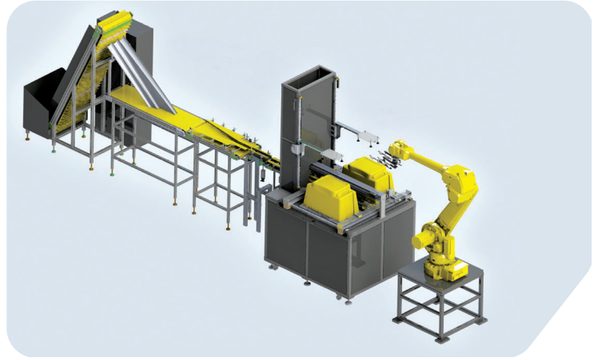


02 Flexible Automation -360° visual detection, robot operation, automatic assembling, parts insert, polishing and deburring...

Visual Detective System



Robot Application (part pick-up, casting insert, assembling, stacking, deburring, degating)



03 Intelligent Logistics- AGV, rolling line, automatic packing, wrapper.