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BORCHE

BE All Electric Series

All Electric • Intelligent

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BE All Electric Series

Intelligent interconnection and easier production

BE All Electric series machine, patented with several intelligent softwares, makes easier and stable production. The intelligent injection molding turnkey solution covers all requirements from automation work unit to centralized control.

Stability and high efficiency

High precision servo system ensures fast and accurate operation response. BE all electric machine adopts servo power and ball screw supporting bear as the shaft to realize injection movement, avoiding oil temperature effect on the process parameters. Individual drive for clamping, injection, plasticizing, and ejection movement can realize multi-parallel movements easily and shorten the cycle time.

BE All Electric Machine

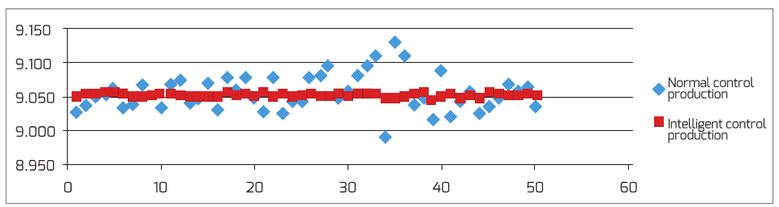
Borche BE all electric machine is developed on the basis of Borche many years research of servo technology and also integrated with European and Japanese machine advantages. BE all electric machine is designed to present better performance with high precise, effectiveness, special processing and power saving, etc. BE machine covers middle and small models, can offer different injection unit solutions according to products requirement. BE all electric machine can be widely used in communication, instrument and apparatus, electronics, medical and food package field.
Adopting of intelligent control system, BE all electric machine ensures automation solutions of precise control, flexible program setting, effective production and energy saving.

China Machinery Engineering Industry Science and Technology Awards

Machine Features

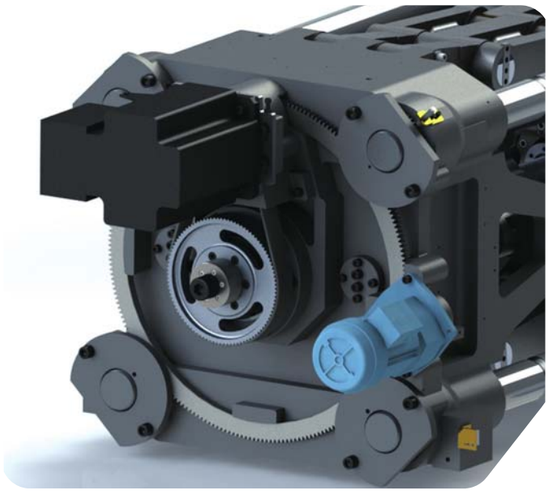
01 Intelligent Control Production

Adopting of multiple dynamic close-loop control technology and self-learning & self-adjusting control algorithms, the intelligent control function can dynamically adjust injection end position in accordance with actual production environment and material status. In this way, product weight repeatability≤0.1% can be realized easily. (Patent No.:201615R345870)



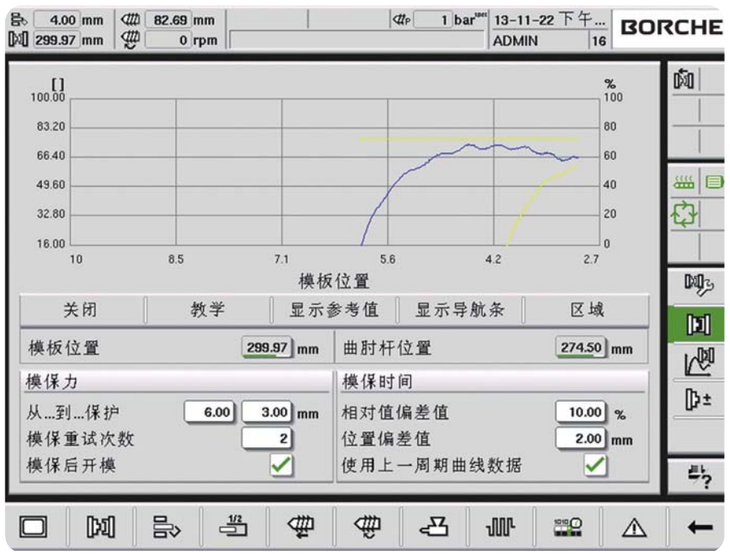
Intelligent control of clamping force

Automatic mold adjusting function can dynamically respond as per mold real time status, so as to make sure the stable condition of clamping force during continuous production.



Intelligent control of mold protection

Time, positon and force real-time analysis of mold movement, the intelligent control function can help flexibly protect mold during high speed mold close. (Patent No.: 201615R345866)



Intelligent optimization system for energy requirement

By dynamically monitoring of each movements and energy requirements status, the intelligent optimization system can self-adjust energy consumption and improve conversion efficiency and performance, avoiding harmonic pollution to power system and higher consumption.

Borche BE all electric machine cut down electricity bill

Product	Clamping force	Pump	Value (KWH)	Model	Value (KWH)	Energy requirement deduction	1 Year (RMB)	10 Year (RMB)
Home appliances	80T	VDP	6.98	BE90	3.12	55.3%	36685	366854.4
Watch wrist	80T	Servo	2.44		1.64	32.8%	7603.2	76032
Connector	80T	Servo	4.44		3.12	29.7%	12545	125452.8
Wheel gear	100T	VDP	4.73	BE120	2.04	56.9%	25566	255657.6
Cover	130T	VDP	6.77		2.78	58.9%	37921	379209.6
OA parts	130T	VDP	5.33		3.55	33.4%	16917	169171.2
Socket cover	150T	VDP	6.77	BE150	4	40.9%	26326	263260.8
Toy parts	150T	Servo	3.44		2.77	19.5%	6367.8	63676.8
Mobile phone cover	150T	Servo	3.62		2.8	22.7%	7793.3	77932.8

Machine Features

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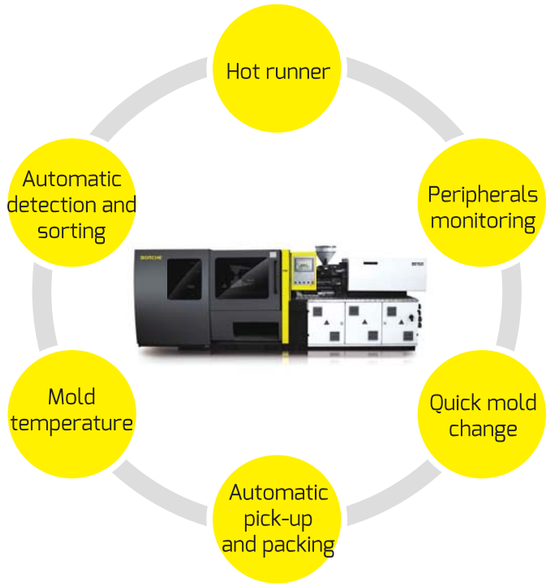
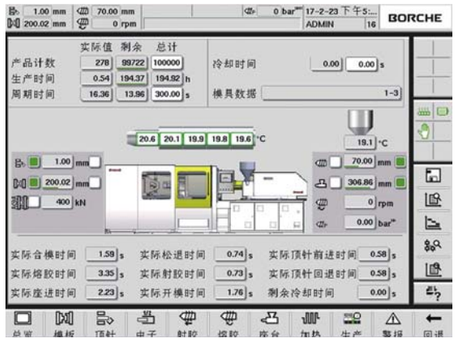
02 Interconnection

The intelligent interconnection function integrates injection molding machine and peripherals as well as processing parameters, adjust and control the operation dynamically based on mold data.
Injection molding settings can be efficiently and synchronously switched during quick mold change.
The intelligent interconnection can improve efficiency, avoiding man-made errors and misses.



Easier operation

One-click access, easier operation.
For example:



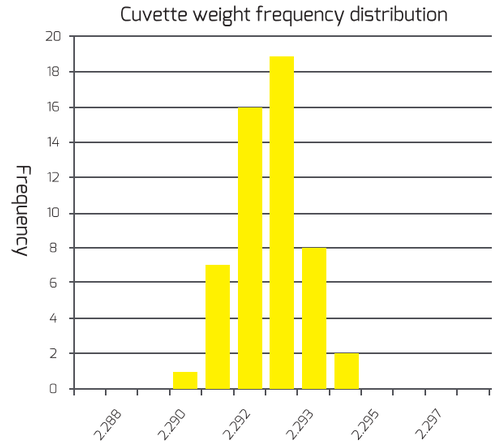
IMM Prognostic and Health Management System

The iPHM system realizes injection molding machine online monitoring, remote upgrading, malfunction forecast and diagnosis, device health assessment and reporting of equipment operation and application.

03 Stability · High Efficiency

Stability

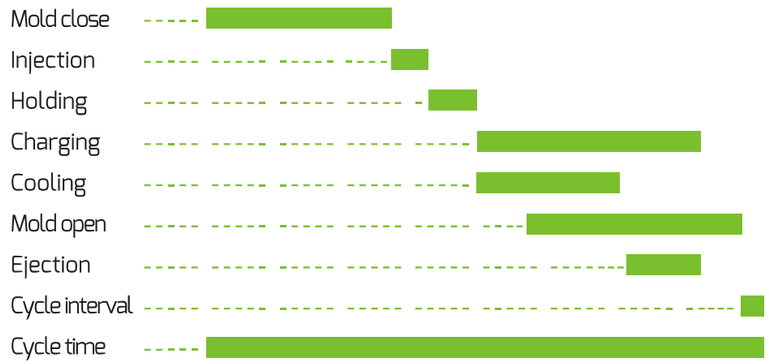
Movement repeatability is the basic standard of all electric machine. Perfect combination of mechanical design and control technology of BE machine ensures precise movement. Stability of the all-electric machine also guarantees the quality of the product. Cuvette weight stability data can be seen in following frequency distribution histogram.



High Efficiency

Individual drive for clamping, injection, plasticizing, and ejection movement can realize multi-parallel movements easily and shorten the cycle time.

Fast speed and high efficiency



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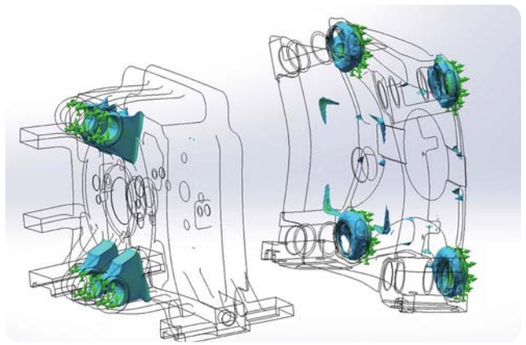
04 High Performance-price Ratio

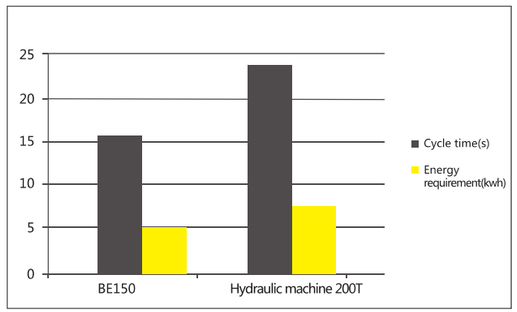
Long lasting clamping unit

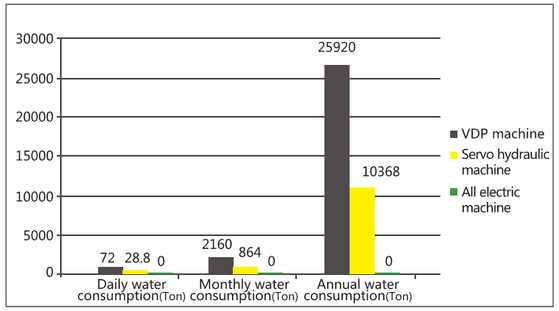
Linear guide rails replace tie bars and work as the guiding support for the moving platen. New structure not only saves energy but also extends clamping unit life. The platen deformation reduced by up to 20% assures longer life of tie bars and higher precision of product.



Low running cost

The advantages of high efficient machine operation, great energy saving and stable product quality make a greater benefit from the low cost production.

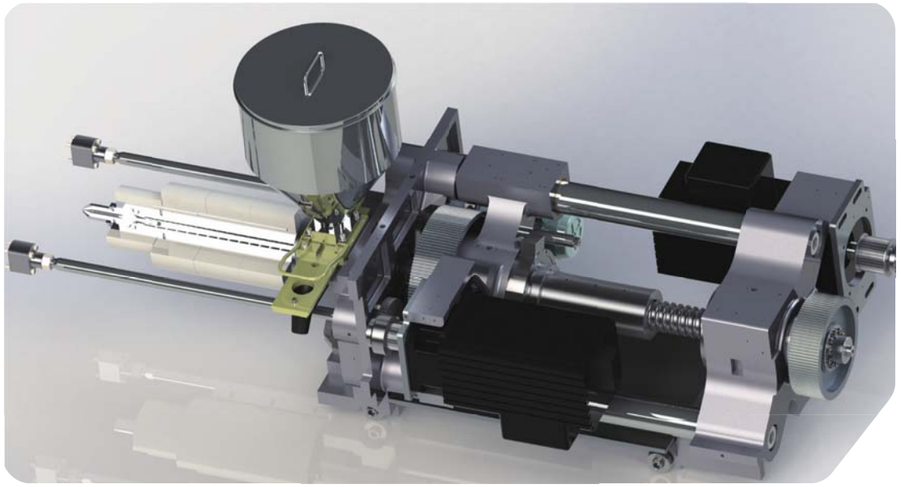




05 High Flexibility

Modular designed clamping unit, injection unit and intelligent control system can be flexibly applied to different machines. Each injection unit provides three types of screw and barrel assembly which are suitable to all machine series.

Clamping Force	Injection Unit								
KN	H80	H140	H180	H290	H330	H450	H640	H860	H1140
300	√	√							
600	√	√	√						
900			√	√					
1200			√	√	√				
1500				√	√	√			
2000					√	√	√		
2600						√	√	√	
3200							√	√	
4000							√	√	√



Application

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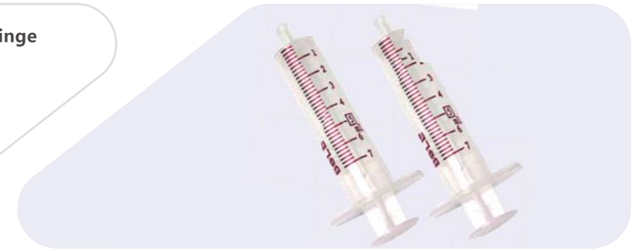
Medical Apparatus: Medical Syringe

Machine Model : BE120/H290
Clamping Force : 1200KN
Screw Dia : 36mm
Injection Speed : 350mm/s
Weight Repeatability : 0.06%
Mold Cavity: 24
Unit Weight : 1g
Dimension : D9*57
Material : PE



- High requirement for cleanness
- High requirement for product dimension precision
- Productivity improved by up to 40%

Food Package: Ice Cream Container

Machine Model : BE150/H330
Clamping Force : 1500KN
Screw Dia. : 40mm
Injection Speed : 300mm/s
Weight Repeatability : 0.05%
Mold Cavity: 4
Unit Weight : 9g
Thickness : 0.5mm
Material : PP

- High requirement for control accuracy and position repeatability
- Productivity improved by up to 35%
- Lower requirement for clamping force

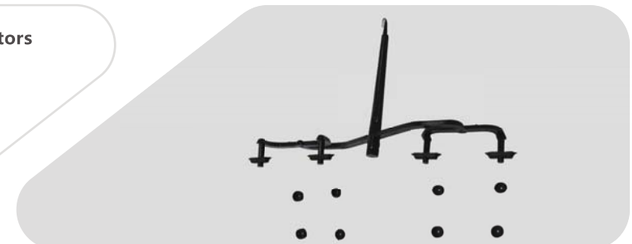
Medical Apparatus: Cuvette

Machine Model : BE120/H290
Clamping Force : 1200KN
Screw Dia : 28mm
Injection Speed : 55mm/s
Mold Cavity: 4
Unit Weight : 2.292g
Material : COP

- High requirement for cleanness
- High requirement for Translucency
- High requirement for surface roughness

Electronic Component: Connectors

Machine Model : BE90/H180
Clamping Force : 900KN
Screw Dia. : 24mm
Injection Speed : 350mm/s
Mold Cavity : 8
Unit Weight : 0.07g
Weight : 1.331g
Material : PC+ABS



- High requirement for control accuracy
- Cannot mold with hydraulic machine

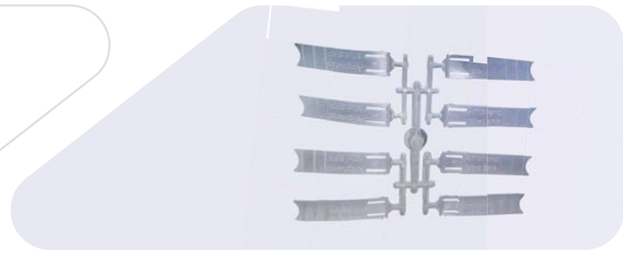
Toys: Toys body

Machine Model : BE120/H290
Clamping Force : 1200KN
Screw Dia. : 28mm
Injection Speed : 350mm/s
Mold Cavity: 1
Unit Weight : 16.5g
Material : ABS

- Productivity improved by up to 35%
- Unit product energy requirement reduced by up to 55%

Industrial Package: Tag

Machine Model : BE90/H180
Clamping Force : 900KN
Screw Dia. : 28mm
Injection Speed : 300mm/s
Weight Repeatability : 0.04%
Mold Cavity: 8
Unit Weight : 0.1g
Total Weight : 3.167g
Thickness : 0.25mm
Material : PP



- High requirement for injection speed (Thin wall product)
- Productivity improved by up to 40%
- Difficult to mold with hydraulic machine

Description

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Clamping Model / Injection Model	UNIT	BE30 H80			BE60 H140			BE90 H180			BE120 H290			BE150 H330			BE200 H450			BE260 H640			BE320 H860			BE400 H1140		
INJECTION UNIT																												
Screw Diameter	mm	18	22	26	20	24	28	24	28	32	28	32	36	32	36	40	36	40	45	40	45	50	45	50	55	50	55	60
Screw L/D Ratio		19	19	18	20	20	17	20	20	17.4	21	21	18.6	22.5	20	18	22.2	20	18	22.5	20	18	22.2	20	18	22	20	18.3
Injection Stroke	mm	100	100	100	110	110	110	130	130	130	140	140	140	160	160	160	180	180	180	200	200	200	220	220	220	240	240	240
Short Volume	cm3	25	38	53	35	50	68	59	80	105	86	113	143	129	163	201	183	226	286	251	318	393	350	432	523	471	570	679
Shot Weight(PS)	g	23	35	48	32	46	62	54	73	96	79	103	131	118	149	184	167	207	262	230	291	359	320	395	477	430	521	620
Injection Rate	cm3/s	127	190	265	157	226	308	158	216	281	216	281	356	241	305	377	305	377	477	377	477	589	477	589	713	589	713	848
Injection Speed	mm/s	500			500			350			350			300			300			300			300			300		
Injection Pressure	MPa	1280	220	158	300	280	206	299	220	168	330	253	200	253	200	162	247	200	158	253	200	162	247	200	165	242	200	168
	Kgf/cm2	2857	2245	1607	3061	2857	2099	3056	2245	1719	3372	2582	2040	2583	2041	1653	2520	2041	1612	2583	2041	1653	2520	2041	1687	2469	2041	1715
Holding Pressure	MPa	269	180	129	259	180	132	218	160	123	209	160	126	203	160	130	198	160	126	203	160	130	198	160	132	194	160	134
	Kgf/cm2	2745	1837	1316	2643	1837	1347	2224	1633	1255	2133	1633	1286	2071	1633	1327	2020	1633	1286	2071	1633	1327	2020	1633	1347	1980	1633	1367
Nozzle Stroke	mm	290			300			320			350			350			400			420			450			560		
Srew Rotary Speed	rpm	400			400			400			400			400			400			350			330			330		
Plasticizing Rate(PS)	g/s	5	8	11	6	9	13	9	13	16	13	16	21	16	21	26	22	30	42	27	39	50	36	47	62	47	62	73
Nozzle Contact Force	KN	9.8			14.7			19.6			24.5			29.4			39.3			49.0			54.0			58.8		
No. of Heater Zones	unit	4+1			4+1			4+1			4+1			4+1			4+1			5+1			4+1			4+1		
Heater Capacity	KW	3.8			5.4	6.75	6.75	5.8	8.1	8.1	7.2			8.1	8.6	11.1	9.5			12			13.5			16.7		
CLAMPING UNIT																												
Clamping Force	KN	300			600			900			1200			1500			2000			2600			3200			4000		
Opening Stroke	mm	235			260			300			360			420			500			600			700			800		
Platen Size	mm*mm	450*400			520*480			615*570			670*620			720*670			890*840			980*920			1100*1040			1210*1150		
Mold Size Min.	mm*mm	225*200			260*225			300*260			330*300			365*330			400*365			435*400			500*470			570*540		
Space btw. Tie Bars	mm	320*280			370*320			420*370			470*420			520*470			620*570			670*620			770*720			870*820		
Daylight max.	mm	555			610			680			820			940			1100			1250			1400			1600		
Mold Thickness Min.	mm	120			150			160			180			180			200			220			250			300		
Mold Thickness Max.	mm	320			350			380			460			520			600			650			700			800		
Ejecction Stroke	mm	45			60			80			100			120			130			150			150			180		
Ejector Force	KN	9.8			19.6			19.6			29.4			34.3			49.0			59.0			59.0			79.0		
No.of Ejector		4+1			4+1			4+1			4+1			4+1			4+1+4			4+1+8			4+1+8			4+1+8		
GENERAL UNIT																												
Pump Motor	KW	25KW			25KW			25KW			31KW			37KW			43KW			57KW			70KW			80KW		
Hopper Capacity	L	15			15			15			25			25			25			50			50			50		
Machine Dimensions	m	3.59*1.27*1.73			4.20*1.07*1.84			4.26*1.28*1.89			4.5*1.38*1.94			4.95*1.58*1.94			6.00*1.70*1.89			6.32*1.70*2.24			6.80*2.10*2.24			7.40*2.30*2.50		
Machine Weight	Kg	3000			4000			4500			5000			6000			7500			9500			12000			13500		

The specification above is only for reference. No further notice of any change in specification resulting from technical upgrading.

BE90

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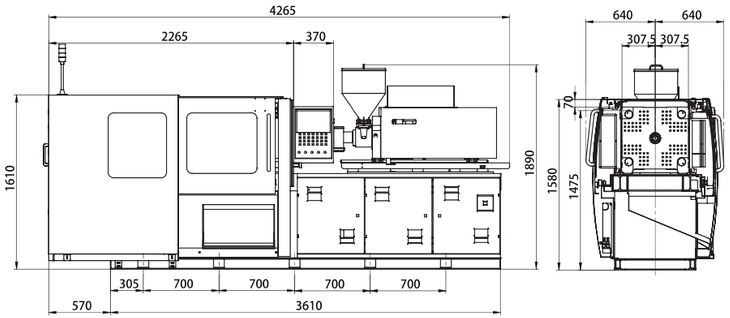
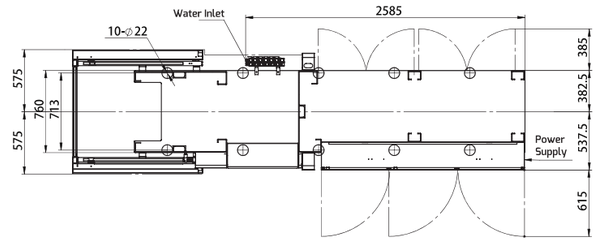
DESCRIPTION

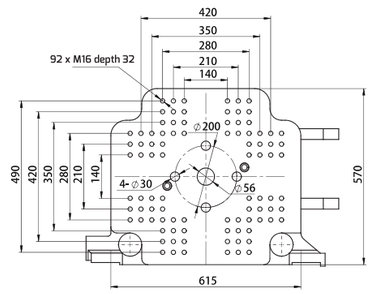
INJECTION UNIT	UNIT	H180		
Screw Diameter	mm	24	28	32
Screw L/D Ratio		20	20	17.4
Injection Stroke	mm	130	130	130
Short Volume	cm3	59	80	105
Shot Weight(PS)	g	54	73	96
Injection Rate	cm3/s	158	216	281
Injection Speed	mm/s		350	
Injection Pressure	MPa	299	220	168
	Kgf/cm2	3056	2245	1719
Holding Pressure	MPa	218	160	123
	Kgf/cm2	2224	1633	1255
Nozzle Stroke	mm		320	
Srew Rotary Speed	rpm		400	
Plasticizing Rate(PS)	g/s	9	13	16
Nozzle Contact Force	KN		19.6	
No. of Heater Zones	Zone		4+1	
Heater Capacity	KW	5.8	8.1	8.1
CLAMPING UNIT		**BE90**		
Clamping Force	KN		900	
Opening Stroke	mm		300	
Platen Size	mm*mm		615*570	
Mold Size Min.	mm*mm		300*260	
Space btw. Tie Bars	mm		420*370	
Daylight max.	mm		680	
Mold Thickness Min.	mm		160	
Mold Thickness Max.	mm		380	
Ejecction Stroke	mm		80	
Ejector Force	KN		19.6	
No.of Ejector			4+1	
GENERAL UNIT				
Pump Motor	KW		25KW	
Hopper Capacity	L		15	
Machine Dimensions	m		4.26*1.28*1.89	
Machine Weight	Kg		4500	

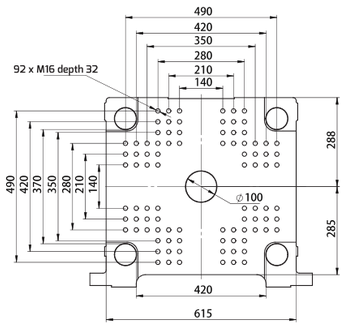
Appearance and Installation Dimensions





Mold Platen Drawing





BE120

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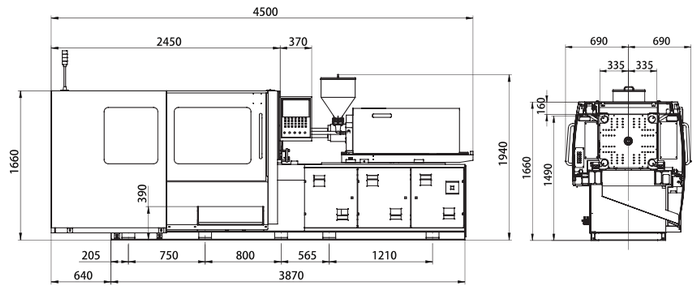
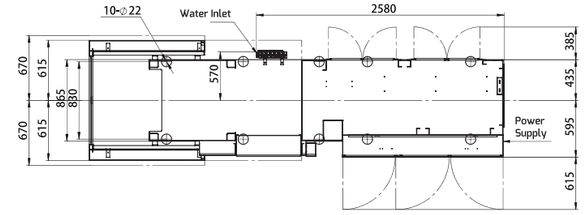
DESCRIPTION

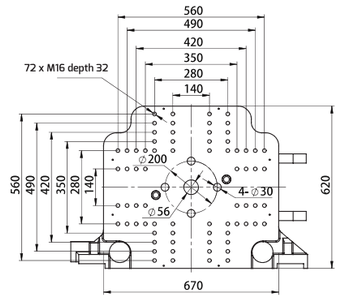
INJECTION UNIT	UNIT	H290		
Screw Diameter	mm	28	32	36
Screw L/D Ratio		21	21	18.6
Injection Stroke	mm	140	140	140
Short Volume	cm3	86	113	143
Shot Weight(PS)	g	79	103	131
Injection Rate	cm3/s	216	281	356
Injection Speed	mm/s		350	
Injection Pressure	MPa	330	253	200
	Kgf/cm2	3372	2582	2040
Holding Pressure	MPa	209	160	126
	Kgf/cm2	2133	1633	1286
Nozzle Stroke	mm		350	
Srew Rotary Speed	rpm		400	
Plasticizing Rate(PS)	g/s	13	16	21
Nozzle Contact Force	KN		24.5	
No. of Heater Zones	Zone		4+1	
Heater Capacity	KW		7.2	
CLAMPING UNIT		**BE120**		
Clamping Force	KN		1200	
Opening Stroke	mm		360	
Platen Size	mm*mm		670*620	
Mold Size Min.	mm*mm		330*300	
Space btw. Tie Bars	mm		470*420	
Daylight max.	mm		820	
Mold Thickness Min.	mm		180	
Mold Thickness Max.	mm		460	
Ejecction Stroke	mm		100	
Ejector Force	KN		29.4	
No.of Ejector			4+1	
GENERAL UNIT				
Pump Motor	KW		31KW	
Hopper Capacity	L		25	
Machine Dimensions	m		4.5*1.38*1.94	
Machine Weight	Kg		5000	

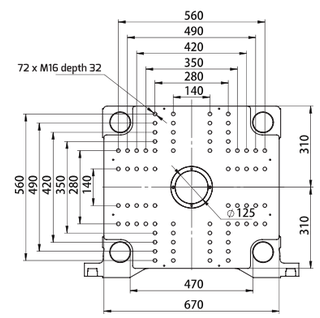
Appearance and Installation Dimensions





Mold Platen Drawing

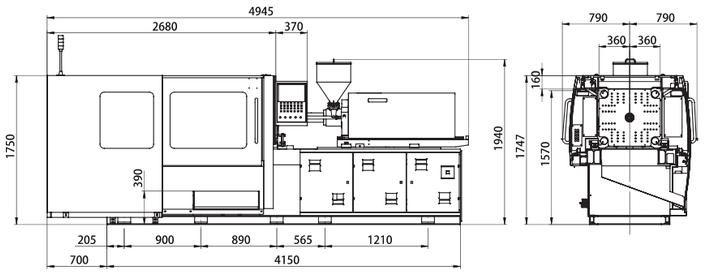




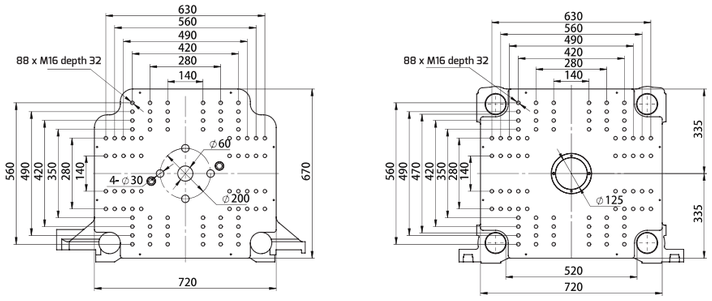
DESCRIPTION

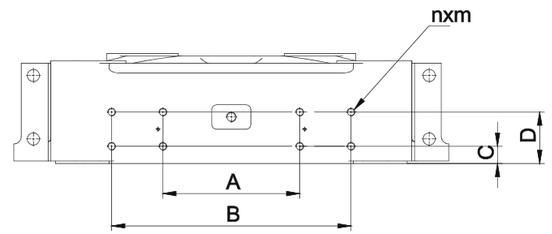
INJECTION UNIT	UNIT	H330		
Screw Diameter	mm	32	36	40
Screw L/D Ratio		22.5	20	18
Injection Stroke	mm	160	160	160
Short Volume	cm3	129	163	201
Shot Weight(PS)	g	118	149	184
Injection Rate	cm3/s	241	305	377
Injection Speed	mm/s		300	
Injection Pressure	MPa	253	200	162
	Kgf/cm2	2583	2041	1653
Holding Pressure	MPa	203	160	130
	Kgf/cm2	2071	1633	1327
Nozzle Stroke	mm		350	
Srew Rotary Speed	rpm		400	
Plasticizing Rate(PS)	g/s	16	21	26
Nozzle Contact Force	KN		29.4	
No. of Heater Zones	Zone		4+1	
Heater Capacity	KW	8.1	8.6	11.1
CLAMPING UNIT		**BE150**		
Clamping Force	KN	1500		
Opening Stroke	mm	420		
Platen Size	mm*mm	720*670		
Mold Size Min.	mm*mm	365*330		
Space btw. Tie Bars	mm	520*470		
Daylight max.	mm	940		
Mold Thickness Min.	mm	180		
Mold Thickness Max.	mm	520		
Ejecction Stroke	mm	120		
Ejector Force	KN	34.3		
No.of Ejector		4+1		
GENERAL UNIT				
Pump Motor	KW	37KW		
Hopper Capacity	L	25		
Machine Dimensions	m	4.95*1.58*1.94		
Machine Weight	Kg	6000		

Appearance and Installation Dimensions



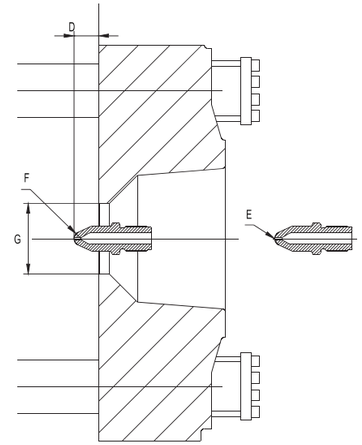
Mold Platen Drawing





(Robot Installation Dimension)

Machine Model	BE30	BE60	BE90	BE120	BE150	BE200	BE260	BE320	BE400
A(mm)	200	240	280	280	280	420	420	560	560
B(mm)	280	350	420	490	490	700	700	940	940
C(mm)	17.5	17.5	17.5	35	35	35	35	50	50
D(mm)	52.5	52.5	52.5	105	105	175	175	220	220
n (Nos.)	8	8	8	8	8	8	8	8	8
m	M12	M12	M12	M16	M16	M20	M20	M24	M24



(Locating Ring and Nozzle Drawing)

Machine Model	BE30	BE60	BE90	BE120	BE150	BE200	BE260	BE320	BE400
D. The distance of nozzle extension inside fixed platen	30	30	35	35	45	45	45	45	45
E. Dia. Of nozzle hole	2.5	2.5	3	3	3	4	4	4	4
F. Radius of nozzle sphere	10	10	10	10	10	10	10	10	10
G. Dia. of locating ring	100	100	100	100	100	160	160	160	160

Features Configuration

BORCHE

Standard Features

SAFETY UNIT		
1	New National Safety Standard	•
2	European technical standard totally enclosed cover(≥260T)	•
3	Double emergency button	•
4	Mechanical safety lock device	•
5	Electromagnetic safety lock device	•

CLAMPING UNIT		
1	5 points-doubt toggle structure	•
2	Tie bar with high intensity chromeplate technics	•
3	Separate lock ring on fixed platen	•
4	Extra-large space for ejection operation	•
5	Linear guider rail	•
6	Low pressure mold protection system	•
7	Automatic mold clamping force adjustment function	•
8	Robot installation hole	•
9	Compression injection	•
10	Injection during mold close	•
11	Second mold close	•
12	Ejection inside mold	•
13	Ejection during mold open	•
14	5 stage control for mold opening and close	•
15	Mold adjusting function	•
16	3 stage control for ejection sequence	•

INJECTION UNIT		
1	Standard Nozzle	•
2	High abrasion resistance screw and barrel	•
3	Three size screw and barrel available	•
4	Screw backward function	•
5	Five stages for injection control (Can set from 1 stage to 5 stage)	•
6	Five stages for pressure holding control (Can set from 1 stage to 5 stage)	•
7	Five stages for plasticizing control (Can set from 1 stage to3 stage)	•
8	Five stages for back pressure control (Can set from 1 stage to 3 stage)	•
9	Injection speed and pressure setting	•
10	Screw speed setting	•
11	Pressure hold setting	•
12	Screw suck back delay setting	•
13	Injection delay setting	•
14	Plasticizing delay setting	•
15	Cooling material injection	•
16	Plasticizing before injection	•
17	Plasticizing during mold open	•
18	V-P shift	•
19	Multi-stage control for injection pressure	•

INJECTION UNIT		
20	Auto purge function	•
21	Feeding throat cooling system	•
22	Hopper support	•
23	Cooling time countdown display	•
24	Screw position display	•
25	Heater band temperature deviation display	•
26	Feeding throat material temperature display	•
27	Injection unit moving control	•
28	Injection limit switch protection	•
29	Swirling injection unit	•
30	Nanoinfrared heater bands	•
31	Individual nozzle control	•
32	Plasticizing Screw cold protection	•
33	Heater band temperature automatic adjusting	•
34	Heater band heating and preservation function shift	•

CONTROL UNIT		
1	Touch screen	•
2	Malfunction self-diagnosis system	•
3	Multi-language (Standard with Chinese and English)	•
4	SPC quality control	•
5	Auto purge function	•
6	Clocking heating function	•
7	Fuse protection for heater band power leakage	•
8	PID program for hearting	•
9	Data protect lock	•
10	Parameter quick settings	•
11	Robot interface	•
12	EU12 interface	•
13	USB working available	•
14	Injection pressure and speed curve display	•
15	Metric and Imperial exchange	•
16	I/O monitoring display	•
17	Servo motor monitoring display	•
18	Printing circuit	•
19	Movement sequence display	•
20	Production counting function	•
21	Actual value display	•
22	Alarm monitoring	•
23	Malfunction self-diagnosis system	•
24	Alarm recorder display	•
25	Operating amending recorder	•
26	Automatic stop after production finish	•
27	Multi-level uses management system	•

CONTROL UNIT		
28	Operating management system	•
29	Cycle display	•
30	Mold data saving up to 200 sets	•
31	Molding data figure	•
32	Shots counter	•
33	Machine monitoring display	•
34	Power consumption analysis	•

OTHERS		
1	Borche standard color	•
2	Centralized automatic grease lubrication	•
3	Reserved socket(3 phase AC380/2 sets, single phase AC220/2sets)	•
4	Adjustable anti-vibration pad	•
5	Movable hopper supporting	•
6	Tool Box	•
7	Standard spare parts	•

Optional Features

SAFETY UNIT		
1	CE safety standard	○
2	Main power with rotation handle	○

CLAMPING UNIT		
1	Hydraulic function	○
2	Hydraulic core pulling	○
3	Pneumatic core pulling	○
4	Hydraulic unscrewing	○
5	Unscrewing control circuit	○
6	T slot platen	○
7	Multiple sets air blower	○
8	Enlarged mold thickness	○
9	Quick change of central ejector pin	○
10	Ejection device with brake system	○
11	Special size mold locking ring	○
12	Photo sensor	○
13	Magnetic platen	○
14	Close loop clamping force control	○
15	Extra water manifold	○

INJECTION UNIT		
1	Bi-metallic screw	○
2	Chrome plated screw	○
3	PC screw	○
4	Bi-metallic screw and barrel	○
5	Mold pressure V/P Shift	○
6	Extended nozzle	○
7	Shut off nozzle (Hydraulic/ Pneumatic)	○
8	Spring Nozzle	○
9	Stainless steel hopper	○

CONTROL UNIT		
1	Hot runner control	○
2	Multi sets sockets	○
3	Special power voltage	○
4	External voltage transformer	○
5	EU67 robot interface	○
6	Gas aid injection interface	○
7	Magnetic platen interface	○
8	Mold cavity pressure testing interface	○
9	4-color alarm light	○

OTHERS		
1	Extra power sockets	○

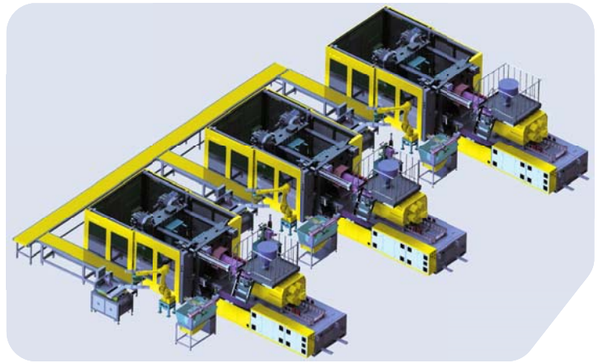
Industry 4.0 for IMM

Optional Functions Of Intelligent Manufacturing:	
1	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.
2	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.
3	Intelligent interconnection of IMM and mould temperature controller can be operated and controlled by IMM controller. All data is close-loop interconnection.
4	Intelligent interconnection of IMM and all-in-one compact dryer can be operated and controlled by IMM controller. All data is close-loop interconnection.
5	Compression injection molding technique
6	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
7	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
8	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.
9	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
10	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
11	Vision-induced System 1) Accurate positioning 2) Sensitive identification 3) Wide application

Intelligent Unmanned IMM Factory

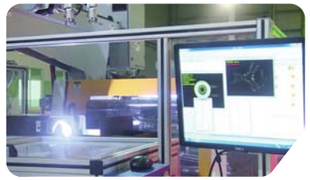
BORCHE

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

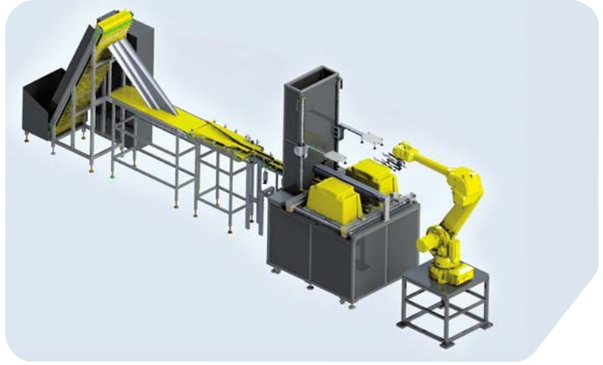


02 Flexible Automation -360° visual detection, robot operation, automatic assembling, parts insert, polishing and deburring...

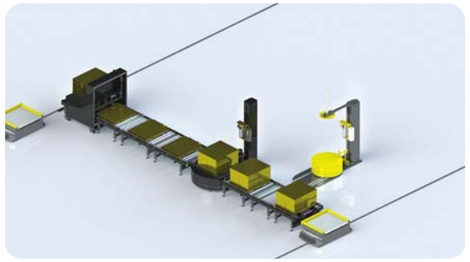
Visual Detective System



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



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



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