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Brand New Interconnected Bi Series

Interconnected • Stable • Precise

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Website



Wechat

Feb 2020

Modular Design

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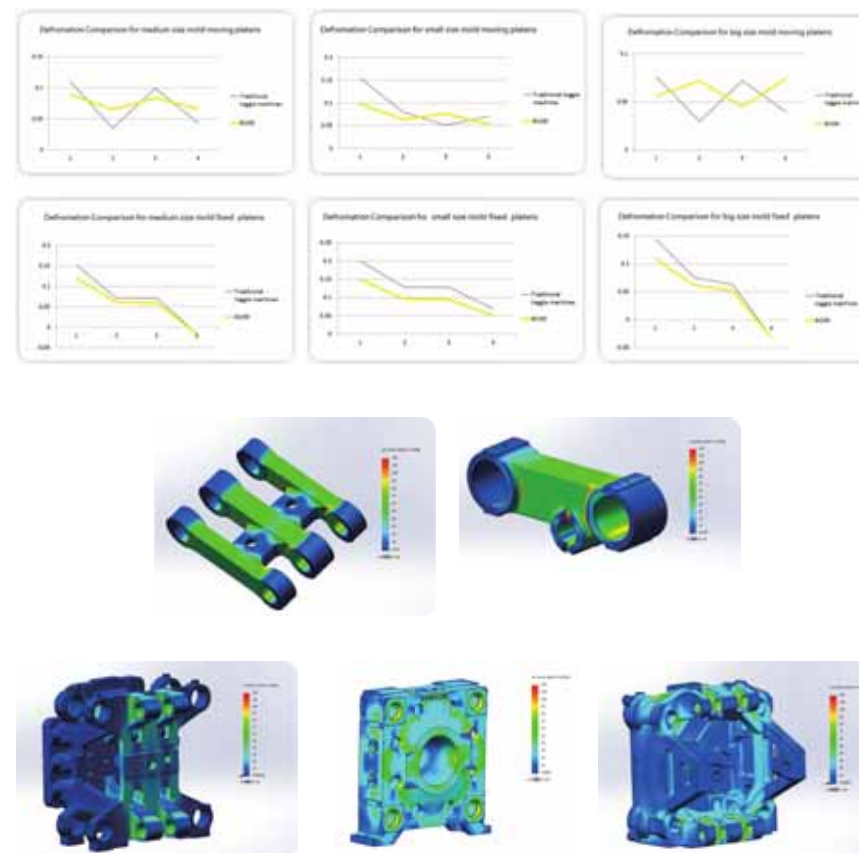
Machine with modular design, meet different needs flexibly;
Optional injection units to cover bigger range of injection volume;
Both standard power system and optional enlarged one stage power system are available;

Optional swing injection unit, for easier screw and barrel maintenance;
Spare installation places for sockets.

Improved Rigidity

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Optimized clamping structure to strengthen clamping unit integral rigidity.



BORCHE Bi

Advantage

1 Interconnected

2 Modular design

3 Rigidity enhancement

4 Performance upgrade



Technology patent certification

One type double layer movable platen structure
One type injection molding machine frame base
One type adjustable computer operating box structure
Injection molding machine and its machine toggle clamping mechanism
One type fixed platen of injection molding machine
One type anti oil leakage structure for mold adjustment hydraulic system
One type gap adjustment mechanism of injection molding machine

Patent No.: 201621204053.6
Patent No.: 201621302443.7
Patent No.: 201721251433.X
Patent No.: 201721926907.6
Patent No.: 201720275764.0
Patent No.: 201820099568.7
Patent No.: 201820098030.4



Interconnected



Real-time monitor

Abnormity alarm

Process control

Equipment management

Quality control

PlasCloud
SAAS
PAAS
IAAS

Bi series is able to connect peripheral equipment, and realize two-way data communication, which integrates the information of peripheral equipment into machine controller.

The machine is equipped with different interface for data collection and communication, uploading machine real status, technical parameters, and status of peripheral equipment to PlasCloud platform.

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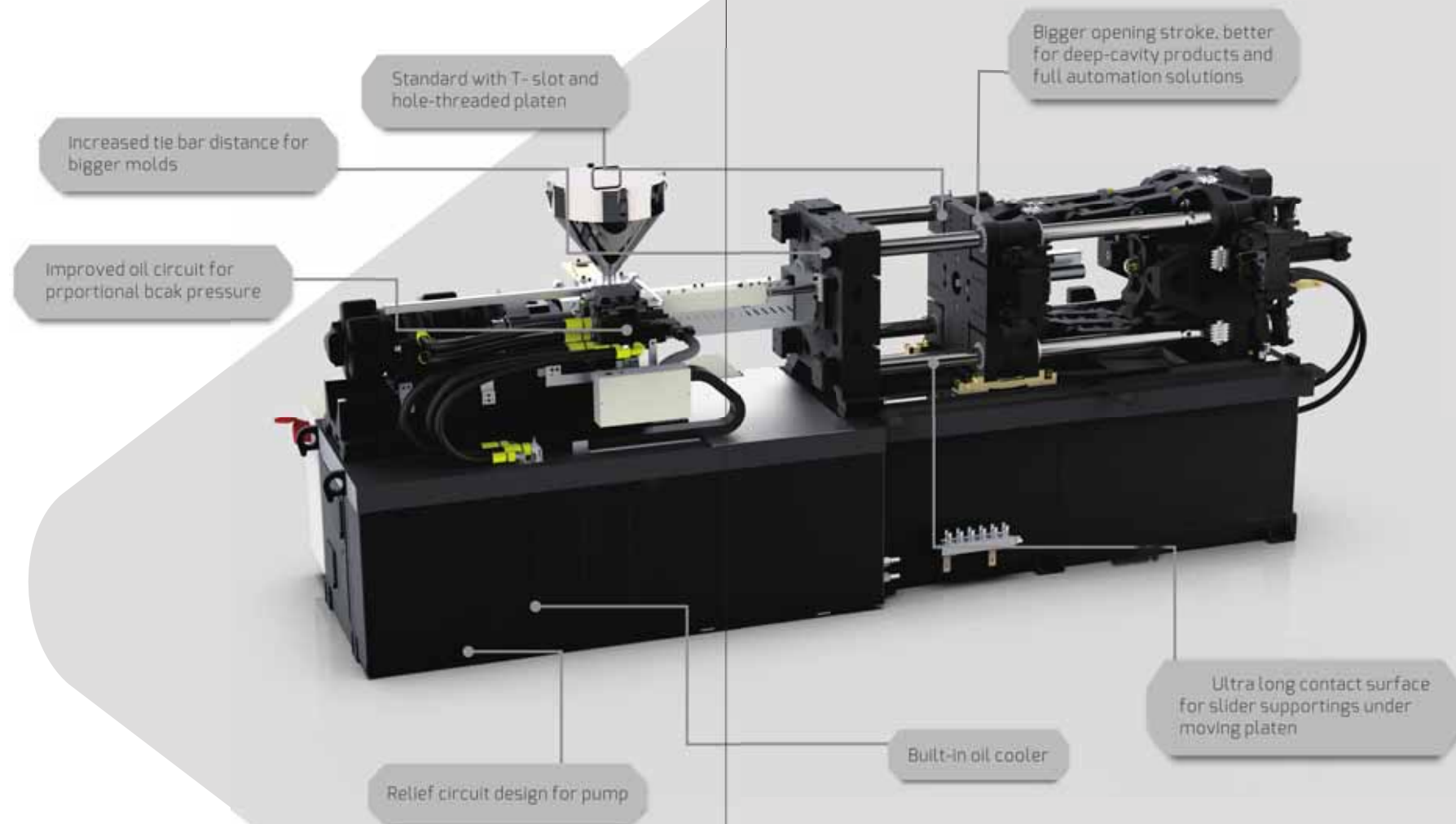
Peripheral equipment interface



Bi series is equipped with various sensors and interfaces. More can be updated.

Upgraded Performance

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Description

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Description International Class NO.	UNIT	B190 255/90			B130 390/130			B160 630/160			B1200 850/200			B1260 1360/260			B1320 2240/320			B1400 3260/400			B1500 3920/500		
INJECTION UNIT																									
Screw Diameter	mm	30	35	40	35	40	45	40	45	50	45	50	60	50	60	70	60	70	80	70	80	90	75	85	95
Shot Volume	cm³	120	163	213	182	238	302	270	341	422	389	481	692	589	848	1154	989	1346	1759	1539	2010	2544	1877	2411	3012
Shot Weight(PS)	g	113	153	199	171	225	283	254	321	397	365	452	650	552	800	1085	928	1266	1652	1446	1890	2366	1764	2267	2830
Shot Weight(PS)	OZ	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
Injection Pressure	Mpa	209	154	118	212	162	128	235	185	150	218	176	123	232	161	118	226	166	127	212	162	128	209	163	130
Screw L/D Ration	L/D	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
Injection Stroke	mm	170			190			215			245			300			350			400			425		
Injection Rotary Speed Max	rpm	265			240			265			190			185			185			165			165		
Nozzle Contact Force	KN	30			30			30			30			40			70			80			80		
Nozzle Stroke	mm	250			250			295			325			375			390			405			450		
CLAMPING UNIT																									
Clamping Force	KN	900			1300			1600			2000			2600			3200			4000			5000		
Opening Stroke	mm	330			370			430			510			550			650			710			820		
Platen Size	mm x mm	560 x 560			625 x 625			690 x 690			770 x 770			850 x 850			990 x 990			1080 x 1080			1240 x 1240		
Space btw. Tie Bars	mm x mm	360 x 360			410 x 410			470 x 470			530 x 530			580 x 580			680 x 680			730 x 730			840 x 840		
Daylight max	mm	730			820			950			1060			1160			1330			1440			1670		
Mo[d-Thickness(min-max)	mm	130-400			145-450			160-520			180-550			200-610			250-680			260-730			300-850		
Ejection Stroke	mm	100			120			140			150			180			180			205			250		
Ejector Force	KN	34.4			34.4			42			49.5			77.3			77.3			111.3			111.3		
Ejector Pin	unit	4+1			4+1			4+1			4+4+1			8+4+1			8+4+1			8+4+1			8+4+1		
POWER UNIT																									
System Pressure	Mpa	14.5			17.5			17.5			17.5			17.5			17.5			17.5			17.5		
Pump Motor	KW	11			15			18.5			22			30			45			30+22			37+22		
Heating Capacity	KW	6.5			8.8			9.6			10.4			16.2			18.5			24.5			31.7		
No.of Heater Zones	unit	4			4			5			5			6			6			6			6		
GENERAL UNIT																									
Oil Tank Capacity	L	160			200			230			270			340			530			610			690		
Machine Dimensions	m x m x m	4.25 x 1.29 x 1.75			4.55 x 1.29 x 1.75			5.02 x 1.38 x 1.94			5.65 x 1.62 x 2			6.37 x 1.67 x 2.1			7.14 x 1.88 x 2.13			7.93 x 2 x 2.13			8.52 x 2.15 x 2.21		
Machine Weight	KG	3500			4000			5000			7000			8700			12000			17000			20000		

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

Bi90

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DESCRIPTION

International Class NO. UNIT Bi90

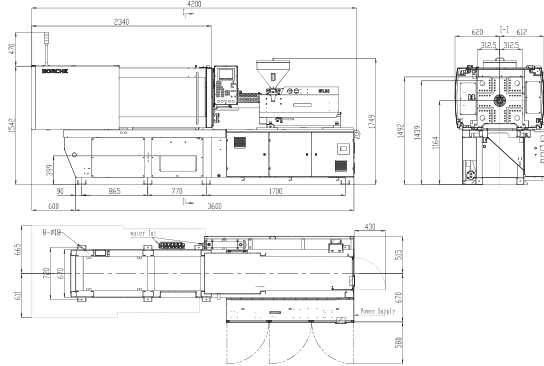
INJECTION UNIT		255/90			
Screw Diameter	mm	30	35	40	
Shot Volume	cm ³	120	163	213	
Shot weight(PS)	g	113	153	199	
Shot weight(PS)	OZ	4	5.4	7	
Injection Pressure	Mpa	209	154	118	
Screw L/D Ratio	L/d	24	20.5	18	
Injection stroke	mm	170			
Screw Rotary Speed max	rpm	265			
Nozzle Contact Force	KN	30			
Nozzle Stroke	mm	250			

CLAMPING UNIT					
Clamping Force	KN	900			
Opening Stroke	mm	330			
Platen Size	mmxmm	560 x 560			
Space btw. Tie Bars	mmxmm	360 x 360			
Daylight max	mm	730			
Mold Thickness(min-max)	mm	130-400			
Ejection Stroke	mm	100			
Ejector Force	KN	34.4			
Ejector Pin	unit	4+1			

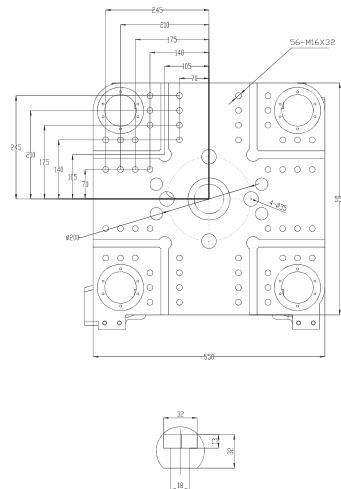
POWER UNIT					
System Pressure	Mpa	14.5			
Pump Motor	KW	11			
Heating Capacity	KW	6.5			
No.of Heater Zones	unit	4			

GENERAL UNIT					
Oil Tank Capacity	L	160			
Machine Dimensions	mmxmm	4.25 x 1.29 x 1.75			
Machine weight	KG	3500			

Appearance and Installation Dimensions



Mold Platen Drawing



Bi130

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DESCRIPTION

International Class NO. UNIT Bi130

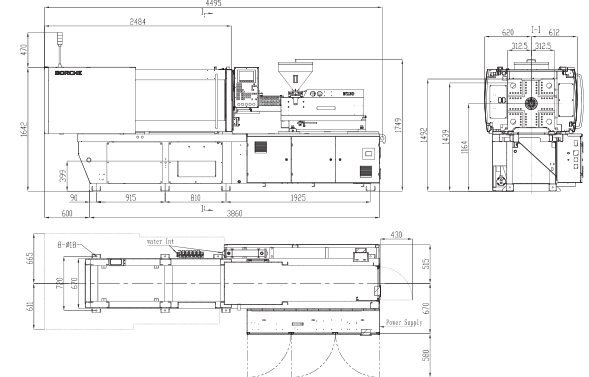
INJECTION UNIT		190/390			
Screw Diameter	mm	35	40	45	
Shot Volume	cm ³	182	238	302	
Shot weight(PS)	g	171	225	283	
Shot weight(PS)	OZ	6	8	10	
Injection Pressure	Mpa	212	162	128	
Screw L/D Ratio	L/d	23.5	20.5	18	
Injection stroke	mm	190			
Screw Rotary Speed max	rpm	240			
Nozzle Contact Force	KN	30			
Nozzle Stroke	mm	250			

CLAMPING UNIT					
Clamping Force	KN	1300			
Opening Stroke	mm	370			
Platen Size	mmxmm	625 x 625			
Space btw. Tie Bars	mmxmm	410 x 410			
Daylight max	mm	820			
Mold Thickness(min-max)	mm	145-450			
Ejection Stroke	mm	120			
Ejector Force	KN	34.4			
Ejector Pin	unit	4+1			

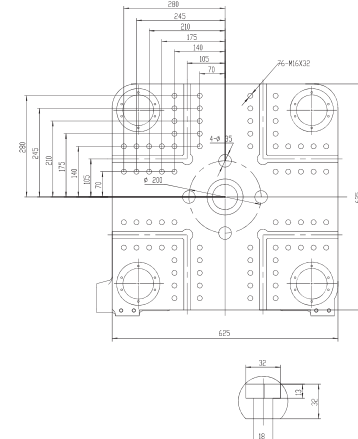
POWER UNIT					
System Pressure	Mpa	17.5			
Pump Motor	KW	15			
Heating Capacity	KW	8.8			
No.of Heater Zones	unit	4			

GENERAL UNIT					
Oil Tank Capacity	L	200			
Machine Dimensions	mmxmm	4.55 x 1.29 x 1.75			
Machine weight	KG	4000			

Appearance and Installation Dimensions



Mold Platen Drawing



Bi160

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DESCRIPTION

International Class NO. UNIT Bi160

INJECTION UNIT		630/160			
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	23	20.5	18.5	
Injection stroke	mm	215			
Screw Rotary Speed max	rpm	265			
Nozzle Contact Force	KN	30			
Nozzle Stroke	mm	295			

CLAMPING UNIT

Clamping Force	KN	1600
Opening Stroke	mm	430
Platen Size	mmxmm	690 x 690
Space btw. Tie Bars	mmxmm	470 x 470
Daylight max	mm	950
Mold Thickness(min-max)	mm	160-520
Ejection Stroke	mm	140
Ejector Force	KN	42
Ejector Pin	unit	4+1

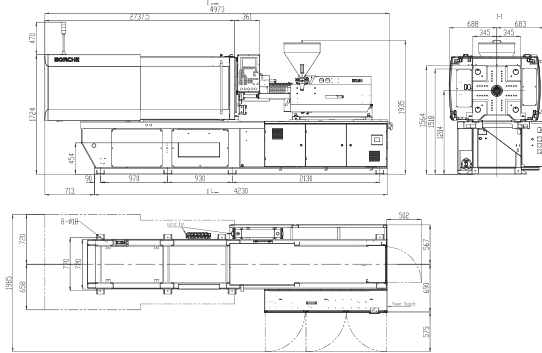
POWER UNIT

System Pressure	Mpa	17.5
Pump Motor	KW	18.5
Heating Capacity	KW	9.6
No. of Heater Zones	unit	5

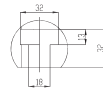
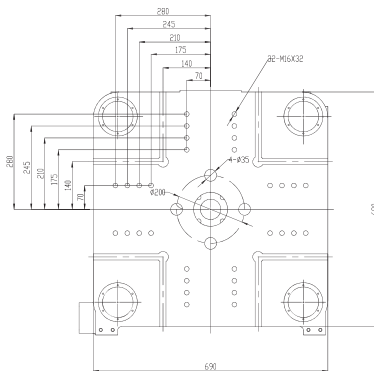
GENERAL UNIT

Oil Tank Capacity	L	230
Machine Dimensions	mxm	5.02 x 1.38 x 1.94
Machine weight	KG	5000

Appearance and Installation Dimensions



Mold Platen Drawing



Bi200

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DESCRIPTION

International Class NO. UNIT Bi200

INJECTION UNIT		850/200			
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	21	17	
Injection stroke	mm	245			
Screw Rotary Speed max	rpm	190			
Nozzle Contact Force	KN	30			
Nozzle Stroke	mm	325			

CLAMPING UNIT

Clamping Force	KN	2000
Opening Stroke	mm	510
Platen Size	mmxmm	770 x 770
Space btw. Tie Bars	mmxmm	530 x 530
Daylight max	mm	1060
Mold Thickness(min-max)	mm	180-550
Ejection Stroke	mm	150
Ejector Force	KN	49.5
Ejector Pin	unit	4+4+1

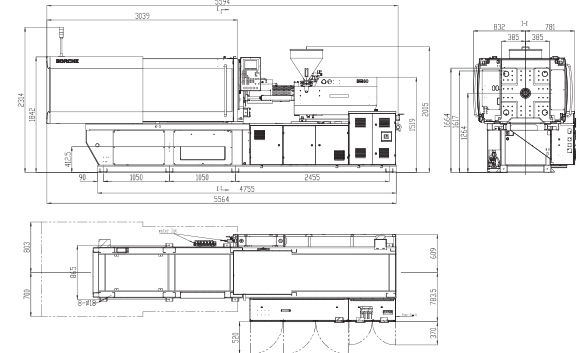
POWER UNIT

System Pressure	Mpa	17.5
Pump Motor	KW	22
Heating Capacity	KW	10.4
No. of Heater Zones	unit	5

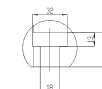
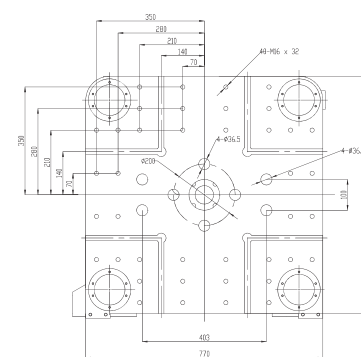
GENERAL UNIT

Oil Tank Capacity	L	270
Machine Dimensions	mxm	5.65 x 1.62 x 2
Machine weight	KG	7000

Appearance and Installation Dimensions



Mold Platen Drawing



Bi260

BORCHE

DESCRIPTION

International Class NO. UNIT Bi260

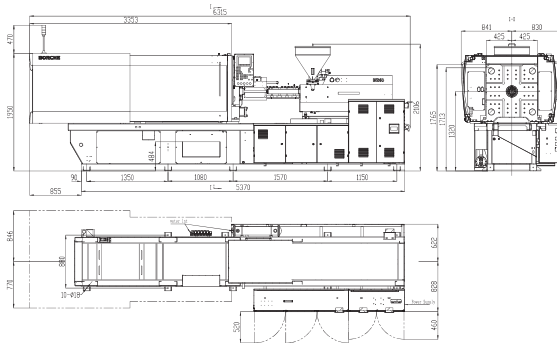
INJECTION UNIT		1360/260			
Screw Diameter	mm	50	60	70	
Shot Volume	cm ³	589	848	1154	
Shot weight(PS)	g	552	800	1085	
Shot weight(PS)	OZ	19.5	28.3	38.3	
Injection Pressure	Mpa	232	161	118	
Screw L/D Ratio	L/d	25	21	18	
Injection stroke	mm	300			
Screw Rotary Speed max	rpm	185			
Nozzle Contact Force	KN	40			
Nozzle Stroke	mm	375			

CLAMPING UNIT					
Clamping Force	KN	2600			
Opening Stroke	mm	550			
Platen Size	mmxmm	850 x 850			
Space btw. Tie Bars	mmxmm	580 x 580			
Daylight max	mm	1160			
Mold Thickness(min-max)	mm	200-610			
Ejection Stroke	mm	180			
Ejector Force	KN	77.3			
Ejector Pin	unit	8+4+1			

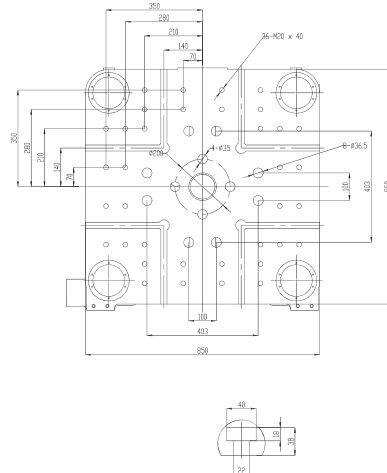
POWER UNIT					
System Pressure	Mpa	17.5			
Pump Motor	KW	30			
Heating Capacity	KW	16.2			
No. of Heater Zones	unit	6			

GENERAL UNIT					
Oil Tank Capacity	L	340			
Machine Dimensions	mmxmm	6.37 x 1.67 x 2.1			
Machine weight	KG	8700			

Appearance and Installation Dimensions



Mold Platen Drawing



Bi320

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DESCRIPTION

International Class NO. UNIT Bi320

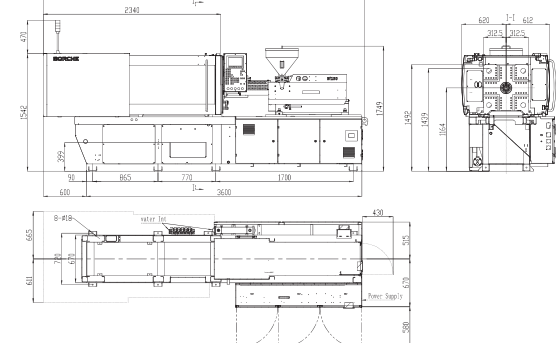
INJECTION UNIT		2240/320			
Screw Diameter	mm	60	70	80	
Shot Volume	cm ³	989	1346	1759	
Shot weight(PS)	g	928	1266	1652	
Shot weight(PS)	OZ	32.8	44.7	58.4	
Injection Pressure	Mpa	226	166	127	
Screw L/D Ratio	L/d	24.5	21	18.5	
Injection stroke	mm	350			
Screw Rotary Speed max	rpm	185			
Nozzle Contact Force	KN	70			
Nozzle Stroke	mm	390			

CLAMPING UNIT					
Clamping Force	KN	3200			
Opening Stroke	mm	650			
Platen Size	mmxmm	990 x 990			
Space btw. Tie Bars	mmxmm	680 x 680			
Daylight max	mm	1330			
Mold Thickness(min-max)	mm	260-680			
Ejection Stroke	mm	180			
Ejector Force	KN	77.3			
Ejector Pin	unit	8+4+1			

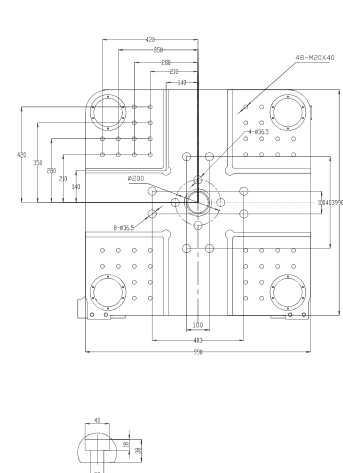
POWER UNIT					
System Pressure	Mpa	17.5			
Pump Motor	KW	45			
Heating Capacity	KW	18.5			
No. of Heater Zones	unit	6			

GENERAL UNIT					
Oil Tank Capacity	L	530			
Machine Dimensions	mmxmm	7.14 x 1.88 x 2.13			
Machine weight	KG	12000			

Appearance and Installation Dimensions



Mold Platen Drawing



Clamping Unit Dimension

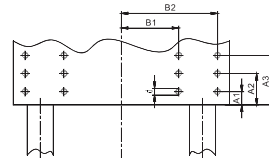
	Bi90	Bi130	Bi160	Bi200	Bi260	Bi320	Bi400	Bi500
A1	17.5	35	35	35	35	35	35	35
A2	52.5	105	105	105	175	175	175	175
A3	—	—	—	—	—	—	—	—
B1	140	140	175	175	210	280	350	350
B2	210	245	280	280	350	420	490	490
d	M12	M16	M16	M16	M20	M20	M20	M20

	Bi90	Bi130	Bi160	Bi200	Bi260	Bi320	Bi400	Bi500
A/mm	80	80	90	90	110	110	130	130
B/mm	80	80	95	95	110	110	130	130
C/mm	M8	M8	M8	M8	M10	M10	M10	M10
D/mm	50	50	50	60	70	80	90	90

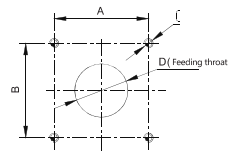
	Bi90	Bi130	Bi160	Bi200	Bi260	Bi320	Bi400	Bi500
A (Opening stroke)	330	370	430	510	550	650	710	820
B (Max mold thickness)	400	450	520	550	340	680	730	850
C (Max mold thickness)	130	145	160	180	200	250	260	300
D (The distance of nozzle extension inside fixed platen)	35	35	45	45	45	45	45	50
E (Dia of nozzle hole)	3	3	3	4	4	4	4	5
F (Radius of nozzle sphere)	10	10	10	10	10	10	10	10
G Dia of locating ring	100	125	125	125	160	160	160	160

* : No locating ring available

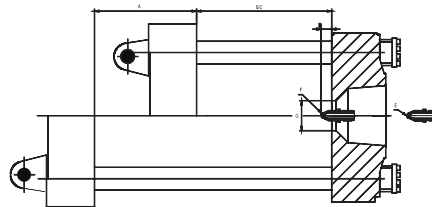
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Robot Installation Dimension



Hopper Dryer Installation Dimension



Clamping Unit Schematic Drawing

Features Configuration

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Standard Features

SAFETY UNIT	
1	hydraulic safety lock, China New standard
2	full covered design
3	double emergency button
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	electric lock on nozzle cover
7	protection cover on heater band
8	liner guide for injection and carriage
9	3 sizes of screw/barrel available (ABC)
10	leakage protection when suckback
11	screw RPM sensor
12	screw cold start protection
13	high torque hydraulic motor
14	6 stages of injection, pressure/speed adjustable
15	6 stages of pressure holding, pressure/speed adjustable
16	5 stages of plasticizing, pressure/speed adjustable
17	temperature sensor on hopper throat
18	temp. sensor on transmission shaft
19	high pressure/temperature tube for cooling ring on hopper throat
20	nonslip embossed aluminum sheet
21	4 ways of carriage backward
CLAMPING UNIT	
1	2 points double toggle design
2	T-slot together with mounting hole
3	independent location ring for fixing platen
4	strong chrome plated tiebar
5	with robot mounting hole
6	5 stages of closing, pressure/speed adjustable
7	5 stages of opening, pressure/speed adjustable
8	toggle auto grease with end sensor
9	with topcover on clamping area (≤260T)
10	adjustable mounting feet for moving platen
11	abrasion resistance strip
12	multi ejection function
13	with adjustable ejector backward confirmation switch
14	four ejector guiding pin
15	with oil collector on moving platen
16	clamping force auto adjustment
17	integrated oil sunk with outlet
18	mold adjustment by hydraulic motor driven gear
19	controller height adjustable
20	with hopper (≤260T)

HYDRAULIC UNIT	
1	servo motor power
2	low pressure protection
3	digital back pressure
4	pump with oil release function
5	shock release function for ejector
6	one way valve for carriage
7	boost clamping
8	temperature sensor on servo motor
9	oil level indicator and alarm
10	efficient hydraulic oil cooler
11	oil temp. sensor
12	inlet oil net filter (≤260T)
13	with inlet ball valve (≤260T)
14	inbuilt oil return filter
15	self close inlet oil filter (≥320T)
16	filter cartridge block alarm (≥320T)
17	bypass oil filter (≥320T)
18	anti-explosion high pressure tube
CONTROL UNIT	
1	Keba controller
2	internet connection port
3	multi language available
4	self diagnosis system
5	with SPC function
6	process parameter quick setting
7	robot interface
8	auto purge
9	timer heating function
10	electric heating protection by fuse or auto switch
11	PID programmable barrel heating
12	precise position sensor
13	with 2G CF card, capable for 200 sets of parameter
14	parameter lock
15	Solid relay temperature setting
OTHER UNIT	
1	Borche standard VI
2	backup socket
3	adjustable level pad
4	without hopper
5	with hopper slide
6	with standard tool kit
7	with standard spare parts set

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 Prognoses 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

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



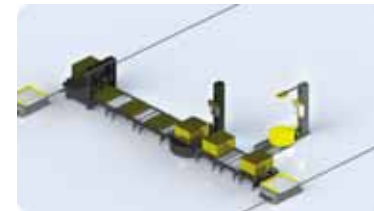
- 02** Flexible Automation -360° visual detection, robot operation, automatic assembling, parts insert, polishing and deburring...

Visual Detective System

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



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



Benelux distributor:

