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BORCHE

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Mar 2021

BM Multi-shot Series

20 Years' Experience in Multi-component Application,
Wide Variety & Full Range

BORCHE BM

PIONEERING IN CHINA, LEADING IN IMM INDUSTRY

Thanks to many years' technical foundation, we are honored with 13 awards related to Multi-Shot IMM techniques as follows: the first Chinese ultra-large rotary platen, the first Chinese large size two-platen three-shot IMM, the first Chinese five-shot IMM, the first Chinese electrical "one unit-dual mold" system, first Chinese sandwich-injection molding system, etc.

DIVERSE SERIES, DESIRABLE QUALITY

Five models of multi-shot BM series includes MT、ML 、MV、MP、MK, meet the requirement from two-shot to five-shot injection molding. Borche BM Multi-shot series have the widest range in regarding of machine structure and machine models in IMM industry.

Improving for Further Excellency

Borch Machinery Co.,Ltd, focused on technology innovation and self-developed advanced multi-shot injection technology, can provide versatile multi-shot machines, including ML,MV,MK,MP and MT types. Clamping force ranges from 1200KN to 22000kN. Several different position of injection unit can be flexibly combined to realize up to four-shot solution. Modular designed RP rotary platen and TP indexing platen are freely collocated to suit different multi-shot application.

Borche BM series is widely applied in fields of automobile, electrical appliance, sanitary wares, food package, and has been well recognized as highly-productive machine with good price-quality ratio.

2008/1 First China-made sandwich injection molding system Model: BT260-4C

2007/3 First China-made four-shot machine Model:BT260-4C

2006/1 First China-made large rotary platen (height:1820mm weight:3.5 ton) Model:RP1540

2005/11 First China-made “three-shot in-mold assembly”mold, product: abacus

2005/6 First China-made “two-shot in-mold assembly”mold, product: mini abacus
First China-made three-shot machine with three axes injection units Model:BT150-022ML-023MV

2005/6 First China-made “V type” vertical injection unit mounted on the top of fixed platen. Injection unit model: 023MV

2004/6 First China-made two-shot machine with “L type”side injection unit Model: BT150-022ML with RP570 rotary platen

BORCHE BM

2019/4 BM1500-MT 2K cap machine

2018/12 BM1500-MT parallel injection car lamp machine

2017/8 BM1000-MT parallel injection car lamp machine

2016/9 BM500 balancing ring machine

2015/9 Two-shot machine BU2200-320ML with ultra-large rotary platen RP2340 (height:2780mm weight:8 ton) exported to the U.K.

2015/9 First China-made ultra-large rotary platen (height:2780mm weight:8 ton) Model:RP2340

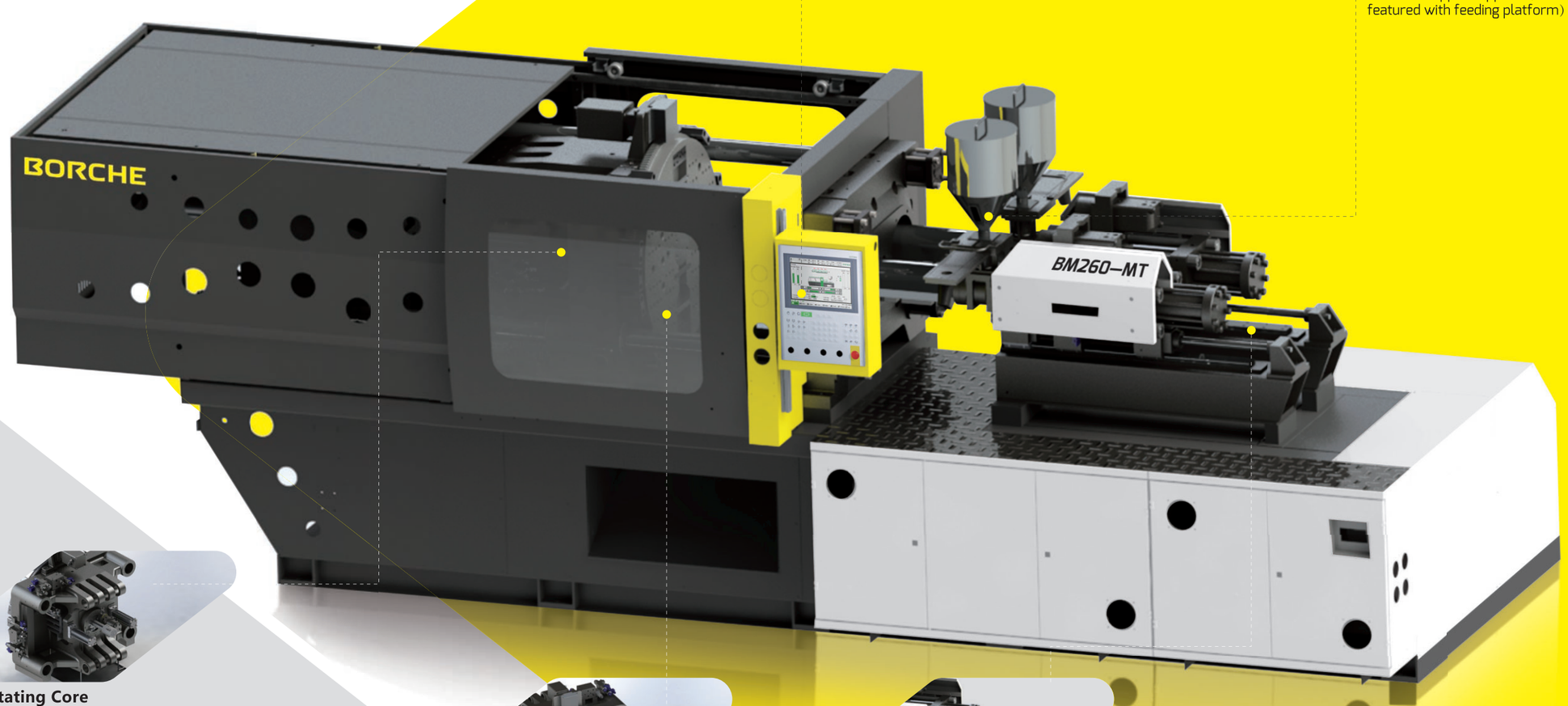
2012/12 First China-made two platen three-shot Model:BM1500-3C

2012/4 First China-made five-shot machine Model:BM260-5C

2011/5 First China-made “In-mold automatic assembly” four-shot

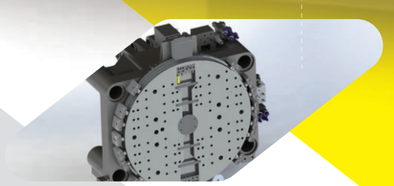
MT Series

MT Series is a newly-developed two-shot machine series with wider platen and parallel injection units. Two injection units can be freely selected from injection unit of MT series.



Rotating Core

Rotary platen and indexing unit can be compatibly transferred from each other with little parts replaced.

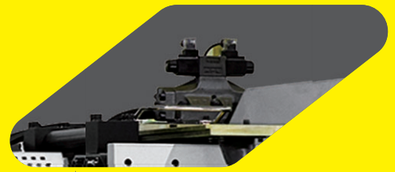


Rotary Platen

BORCHE BM

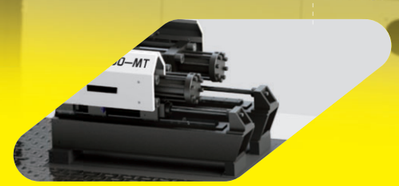
Automatic Control

Austria made KEBA controller model 2880



Movable Hopper Support

Machines up to 600T featured with movable hopper support（≥ 700T featured with feeding platform）.



Linear Guide Rail

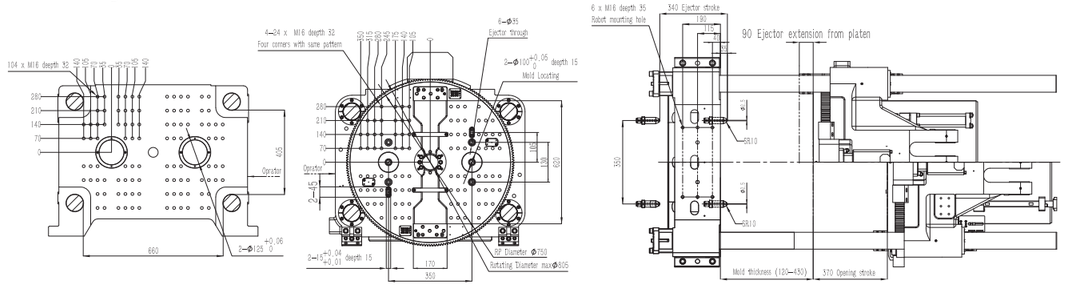
Linear guide rail adopted injection unit and built in carriage cylinder realize fast speed and stable movement.

BM140-MT

BM Series	UNIT	BM140-MT																					
		Combined solutions 1						Combined solutions 2						Combined solutions 3				Combined solutions 4					
INJECTION UNIT		MT335			MT200			MT200			MT200			MT200			MT100	MT100			MT100		
Screw Diameter	mm	30	35	40	26	28	30	26	28	30	26	28	30	26	28	30	22	26	22	26	22	26	
Shot Volume	cm^3	120	163	214	73	84	97	73	84	97	73	84	97	73	84	97	38	53	38	53	38	53	
Shot Weight(PS)	g	109	149	194	66	77	88	66	77	88	66	77	88	66	77	88	35	48	35	48	35	48	
Shot Weight(PS)	OZ	3.86	5.25	6.85	2.33	2.71	3.11	2.33	2.71	3.11	2.33	2.71	3.11	2.33	2.71	3.11	1.2	1.7	1.2	1.7	1.2	1.7	
Injection Pressure	Mpa	280	206	158	285	246	214	285	246	214	285	246	214	285	246	214	261	187	261	187	261	187	
Injection Speed	g/s	74	101	132	72	84	96	72	84	96	72	84	96	72	84	96	80	111	80	111	80	111	
Screw L/D Ratio	L/d	24	20.5	18	23	21.5	20	23	21.5	20	23	21.5	20	23	21.5	20	20	20	20	20	20	20	
Injection Stroke	mm	170			137			137			137			137			100		100		100		
Injection Speed max	mm/s	115			150			150			150			150			230		230		230		
Screw Rotary Speed max	rpm	175			170			170			170			170			200		200		200		
Distance btw Barrel	mm	350						350						350					350				
CLAMPING UNIT																							
Clamping Force	KN	1400																					
Opening Stroke	mm	370																					
Platen Size	mmxmm	900x645																					
Space btw.Tie Bars	mmxmm	660x405																					
Daylight Max	mm	800																					
Mold Thickness(min-max)	mm	120-430																					
Ejector Pin Holes	unit	3+3																					
Ejector Force	KN	22x2																					
Ejector Stroke	mm	90																					
RP Weight	T	1																					
PR Diameter	mm	750																					
POWER UNIT																							
System Pressure	MPa	17.5																					
Pump Motor	kw	11			11			11			11			11			11		11		11		
Heating Capacity	kw	8.9			6.5			6.5			6.5			6.5			5		5		5		
No. of Heater Zones	unit	4			4			4			4			4			4		4		4		
GENERAL UNIT																							
Oil Tank Capacity	L	350																					
Machine Dimensions(L*W*H)	mxmxm	5.2x1.6x1.7																					
Machine Weight(Without RP)	KG	5500																					

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

Mold Platen Drawing



BM180-MT

BORCHE

BM Series	UNIT	BM180-MT																					
		Combined solutions 1						Combined solutions 2						Combined solutions 3				Combined solutions 4					
INJECTION UNIT		MT335			MT335			MT335			MT200			MT200			MT200	MT200			MT100		
Screw Diameter	mm	30	35	40	30	35	40	30	35	40	26	28	30	26	28	30	26	28	30	26	28	30	
Shot Volume	cm^3	120	164	214	120	164	214	120	164	214	72.7	84.4	96.8	72.7	84.4	96.8	72.7	84.4	96.8	72.7	84.4	96.8	38	53
Shot Weight(PS)	g	109	149	194	109	149	194	109	149	194	66.2	76.8	88.1	66.2	76.8	88.1	66.2	76.8	88.1	66.2	76.8	88.1	35	48
Shot Weight(PS)	OZ	3.9	5.3	6.9	3.9	5.3	6.9	3.9	5.3	6.9	2.3	2.7	3.1	2.3	2.7	3.1	2.3	2.7	3.1	2.3	2.7	3.1	1.2	1.7
Injection Pressure	Mpa	280	205	157	280	205	157	280	205	157	285	246	214	285	246	214	285	246	214	285	246	214	261	187
Injection Speed	g/s	74	101	132	74	101	132	74	101	132	72	84	96	72	84	96	72	84	96	72	84	96	80	111
Screw L/D Ratio	L/d	24	20.5	18	24	20.5	18	24	20.5	18	23	21.5	20	23	21.5	20	23	21.5	20	23	21.5	20	20	20
Injection Stroke	mm	170			170			170			137			137			137			137		100	
Injection Speed max	mm/s	115			115			115			150			150			150			150		230	
Screw Rotary Speed max	rpm	175			175			175			170			170			170			170		200	
Distance btw Barrel	mm	420						420						420						420			
CLAMPING UNIT																							
Clamping Force	KN	1800																					
Opening Stroke	mm	370																					
Platen Size	mmxmm	950x675																					
Space btw.Tie Bars	mmxmm	705x425																					
Daylight Max	mm	830																					
Mold Thickness(min-max)	mm	160-460																					
Ejector Pin Holes	unit	3+3																					
Ejector Force	KN	33x2																					
Ejector Stroke	mm	100																					
RP Weight	T	1																					
PR Diameter	mm	800																					
POWER UNIT																							
System Pressure	MPa	17.5																					
Pump Motor	kw	11			11			11			11			11			11		11		11		
Heating Capacity	kw	8.9			8.9			8.9			6.5			6.5			6.5		6.5		5		
No. of Heater Zones	unit	4			4			4			4			4			4		4		4		
GENERAL UNIT																							
Oil Tank Capacity	L	450																					
Machine Dimensions(L*W*H)	mxmxm	5.8x2x2.1																					
Machine Weight(Without RP)	KG	7500																					

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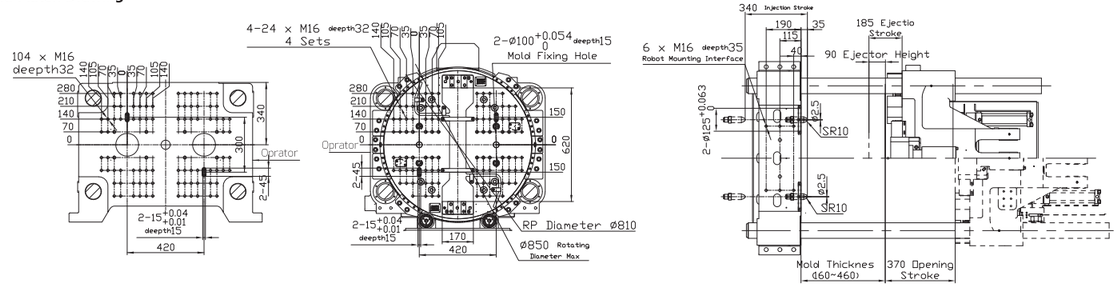
Mold Platen Drawing



BM260-MT

BM Series	UNIT	BM260-MT											
		Combined solutions 1			Combined solutions 2			Combined solutions 3			Combined solutions 4		
INJECTION UNIT		MT668			MT335			MT482			MT200		
Screw Diameter	mm	40	45	50	30	35	40	35	40	45	26	28	30
Shot Volume	cm^3	276	350	432	120	164	214	182	238	302	72.7	84.4	96.8
Shot Weight(PS)	g	252	318	393	109	149	194	165.6	216.6	275	66.2	76.8	88.1
Shot Weight(PS)	OZ	8.9	11.2	13.9	3.9	5.3	6.9	5.8	7.6	9.7	2.3	2.7	3.1
Injection Pressure	Mpa	249	197	160	280	205	157	264	202	160	285	246	214
Injection Speed	g/s	130	165	204	74	101	132	123	160	203	72	84	96
Screw L/D Ratio	L/d	23	21.5	20	24	20.5	18	23.5	20.5	18	23	21.5	20
Injection Stroke	mm	220			170			190			137		
Injection Speed max	mm/s	114			115			140			150		
Screw Rotary Speed max	rpm	245			175			240			170		
Distance btw Barrel	mm	500						500					
CLAMPING UNIT													
Clamping Force	KN	2600											
Opening Stroke	mm	520											
Platen Size	mmxmm	1185x840											
Space btw.Tie Bars	mmxmm	925x575											
Daylight Max	mm	1120											
Mold Thickness(min-max)	mm	200-600											
Ejector Pin Holes	unit	3+3											
Ejector Force	KN	33x2											
Ejector Stroke	mm	90											
RP Weight	T	1.5											
PR Diameter	mm	1000											
POWER UNIT													
System Pressure	MPa	17.5											
Pump Motor	kw	18.5		11		18.5		11		18.5		11	
Heating Capacity	kw	12.3		8.9		11.7		6.5		8.9		6.5	
No. of Heater Zones	unit	4		4		4		4		4		4	
GENERAL UNIT													
Oil Tank Capacity	L	450											
Machine Dimensions(L*W*H)	mxmxm	6.25x2x1.9											
Machine Weight(Without RP)	KG	11000											

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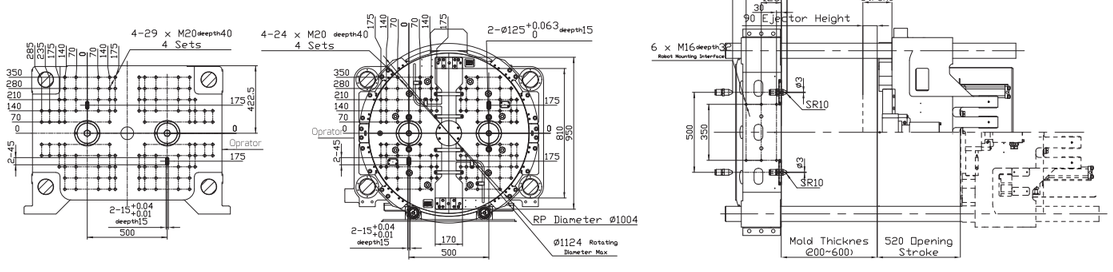
Mold Platen Drawing

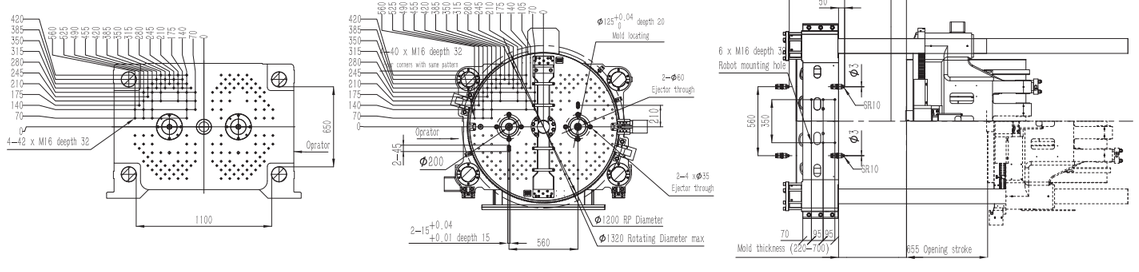


BM400-MT

BORCHE

BM Series	UNIT	BM400-MT											
		Combined solutions 1			Combined solutions 2			Combined solutions 3			Combined solutions 4		
INJECTION UNIT		MT1130			MT335			MT680			MT335		
Screw Diameter	mm	45	50	60	30	35	40	40	45	50	30	35	40
Shot Volume	cm^3	389	481	692	120	164	214	276	350	432	120	164	214
Shot Weight(PS)	g	354	437.7	629.7	109	149	194	252	318	393	109	149	194
Shot Weight(PS)	OZ	12.5	15.4	22.2	3.9	5.3	6.9	8.9	11.2	13.9	3.9	5.3	6.9
Injection Pressure	Mpa	290	235	163	280	205	157	249	197	160	280	205	157
Injection Speed	g/s	151	185	268	74	101	132	141	178	220	74	101	132
Screw L/D Ratio	L/d	23	21	17	24	20.5	18	23	21.5	20	24	20.5	18
Injection Stroke	mm	245			170			220			170		
Injection Speed max	mm/s	104			115			123			115		
Screw Rotary Speed max	rpm	235			175			265			175		
Distance btw Barrel	mm	560						560					
CLAMPING UNIT													
Clamping Force	KN	4000											
Opening Stroke	mm	655											
Platen Size	mmxmm	1480x1000											
Space btw.Tie Bars	mmxmm	1100x650											
Daylight Max	mm	1355											
Mold Thickness(min-max)	mm	220-700											
Ejector Pin Holes	unit	5+5											
Ejector Force	KN	62x2											
Ejector Stroke	mm	125											
RP Weight	T	2											
PR Diameter	mm	1200											
POWER UNIT													
System Pressure	MPa	17.5											
Pump Motor	kw	30		11		22		11		22		11	
Heating Capacity	kw	18.4		8.9		12.3		8.9		11.7		6.5	
No. of Heater Zones	unit	5		4		5		4		4		4	
GENERAL UNIT													
Oil Tank Capacity	L	750											
Machine Dimensions(L*W*H)	mxmxm	7.6x2.3x2.2											
Machine Weight(Without RP)	KG	18500											

Mold Platen Drawing



BM550-MT

BM Series	UNIT	BM550-MT																	
		Combined solutions 1						Combined solutions 2						Combined solutions 3					
INJECTION UNIT		MT2239			MT482			MT1380			MT482			MT1130			MT335		
Screw Diameter	mm	60	70	80	35	40	45	50	60	65	35	40	45	45	50	60	30	35	40
Shot Volume	cm^3	989	1346	1759	182	238	302	589	848	995	182	238	302	389	481	692	120	164	214
Shot Weight(PS)	g	900.0	1224.9	1600.7	165.6	216.6	274.8	536.0	771.7	905.5	165.6	216.6	274.8	354.0	437.7	629.7	109	149	194
Shot Weight(PS)	OZ	31.6	43.0	56.2	5.8	7.6	9.7	18.8	27.1	31.8	5.8	7.6	9.7	12.5	15.4	22.2	3.9	5.3	6.9
Injection Pressure	Mpa	240	176.7	135	264	202	159.9	235	163	139	264	202	159.9	290	235	163	280	205	157
Injection Speed	g/s	283	385	503	98	128	162	232	334	393	98	128	162	188	232	334	93	126	165
Screw L/D Ratio	L/d	24.5	21	18.5	23.5	20.5	18	25	21	18	23.5	20.5	18	23	21	17	24	20.5	18
Injection Stroke	mm	350			190			300			190			245			170		
Injection Speed max	mm/s	110			112			130			112			130			144		
Screw Rotary Speed max	rpm	185			240			210			240			245			200		
Distance btw Barrel	mm	630						630						630					
CLAMPING UNIT																			
Clamping Force	KN	5500																	
Opening Stroke	mm	710																	
Platen Size	mmxmm	1610x1065																	
Space btw.Tie Bars	mmxmm	1200x700																	
Daylight Max	mm	1510																	
Mold Thickness(min-max)	mm	320-800																	
Ejector Pin Holes	unit	5+5																	
Ejector Force	KN	110x2																	
Ejector Stroke	mm	150																	
RP Weight	T	3																	
PR Diameter	mm	1300																	
POWER UNIT																			
System Pressure	MPa	17.5																	
Pump Motor	kw	45			15			37			15			37			15		
Heating Capacity	kw	30.7			11.7			20.4			11.7			18.4			8.9		
No. of Heater Zones	unit	6			4			6			4			5			4		
GENERAL UNIT																			
Oil Tank Capacity	L	1000																	
Machine Dimensions(L*W*H)	mxmxm	8.5x2.5x2.4																	
Machine Weight(Without RP)	KG	28000																	

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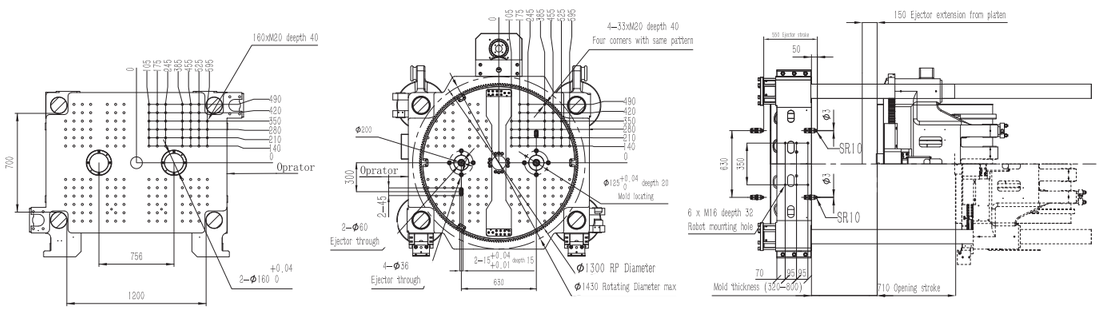
Mold Platen Drawing



BM600-MT

BORCHE

BM Series	UNIT	BM600-MT					
INJECTION UNIT	T	MT1380			MT482		
Screw Diameter	mm	50	60	65	35	40	45
Shot Volume	cm^3	589	848	995	182	238	302
Shot Weight(PS)	g	536.0	771.7	905.5	165.6	216.6	274.8
Shot Weight(PS)	OZ	18.8	27.1	31.8	5.8	7.6	9.6
Injection Pressure	MPa	235	163	139	264	162	159.9
Screw L/D Ratio	L/d	25	21	19.3	23.5	20.5	18
Injection Stroke	mm	300			190		
Screw Rotary Speed max	rpm	145			225		
Max Nozzle Contact Force	KN	70			30		
Carriage Stroke	mm	550			550		
Distance btw Barrel	mm	550/630/710					
CLAMPING UNIT							
Clamping Force	KN	6000					
Opening Stroke	mm	1450/850					
Platen Size	mmxmm	1610x1310					
Space btw. Tie Bars	mmxmm	1210x910					
Daylight max	mm	1750					
Mold Thickness(min-max)	mm	300-900					
Ejector Pin	Unit	5+5					
Ejector Force	KN	110x2					
Ejector Stroke	mm	300					
RP weight	T	4					
RP Diameter	mm	1400					
POWER UNIT							
System Pressure	MPa	17.5			17.5		
Pump Motor	KW	55			22		
Heating Capacity	KW	16.2			8.8		
No.of Heater Zones	unit	6			4		
GENERAL UNIT							
Oil Tank Capacity	L	900					
Machine Dimensions(LxWxH)	mxmxm	7.8x2.7x2.2					
Machine Weight(Without RP)	KG	30000					

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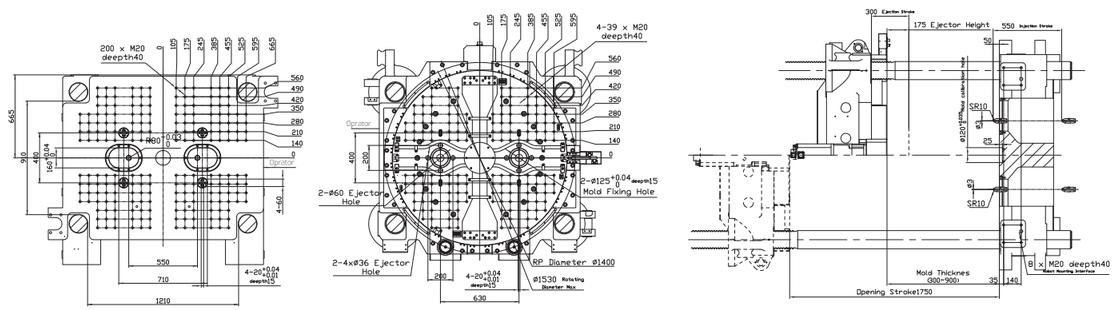
Mold Platen Drawing

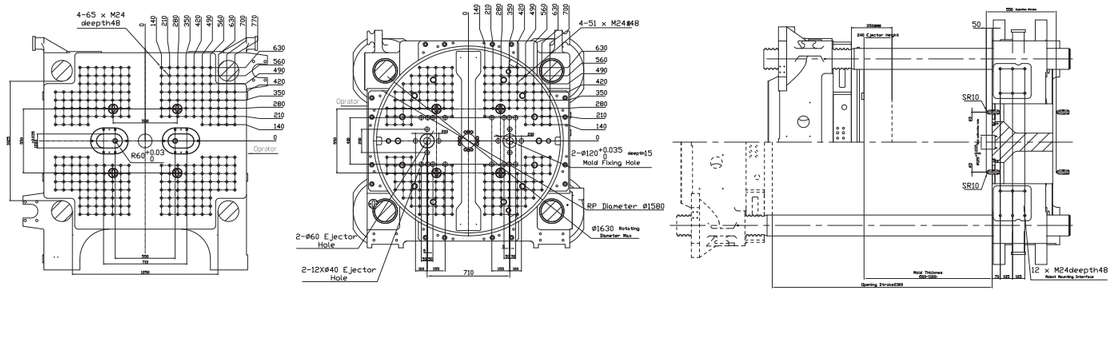


BM1000-MT

BM Series	UNIT	BM1000-MT					
INJECTION UNIT	**T**	**MT1380**			**MT1100**		
Screw Diameter	mm	50	60	65	45	50	60
Shot Volume	cm^3	589	848	995	389	481	692
Shot Weight(PS)	g	536.0	771.7	905.5	354.0	437.7	629.7
Shot Weight(PS)	OZ	18.8	27.1	31.8	12.4	15.4	22.1
Injection Pressure	MPa	235	163	139	290	235	163
Screw L/D Ratio	L/d	25	21	19.3	23	21	17
Injection Stroke	mm	300			245		
Screw Rotary Speed max	rpm	145			175		
Max Nozzle Contact Force	KN	70			70		
Carriage Stroke	mm	550			550		
Distance btw Barrel	mm	550/630/710					
CLAMPING UNIT							
Clamping Force	KN	10000					
Opening Stroke	mm	1800/1200					
Platen Size	mmxmm	1740x1515					
Space btw. Tie Bars	mmxmm	1250x1025					
Daylight max	mm	2300					
Mold Thickness(min-max)	mm	500-1100					
Ejector Pin	Unit	9+9					
Ejector Force	KN	110×2					
Ejector Stroke	mm	350					
RP weight	T	7.5					
RP Diameter	mm	1580					
POWER UNIT							
System Pressure	MPa	17.5			17.5		
Pump Motor	KW	37x2			37		
Heating Capacity	KW	16.2			10.4		
No.of Heater Zones	unit	6			4		
GENERAL UNIT							
Oil Tank Capacity	L	1300					
Machine Dimensions(LxWxH)	mxmxm	10.5x3.3x3.2					
Machine Weight(Without RP)	KG	45000					

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

Mold Platen Drawing



BM1500-MT

BORCHE

BM Series	UNIT	BM1500-MT					
INJECTION UNIT	**T**	**MT2239**			**MT1380**		
Screw Diameter	mm	60	70	80	50	60	65
Shot Volume	cm^3	989	1346	1759	589	848	995
Shot Weight(PS)	g	900.0	1224.9	1600.7	538.0	771.7	905.5
Shot Weight(PS)	OZ	31.6	43.0	56.2	18.8	27.1	31.8
Injection Pressure	MPa	240	176.7	135	235	163	139
Screw L/D Ratio	L/d	24.5	21	18.5	25	21	19.3
Injection Stroke	mm	350			300		
Screw Rotary Speed max	rpm	166			145		
Max Nozzle Contact Force	KN	70			70		
Carriage Stroke	mm	720			720		
Distance btw Barrel	mm	550/630/710					
CLAMPING UNIT							
Clamping Force	KN	15000					
Opening Stroke	mm	2400/1700					
Platen Size	mmxmm	2120x2120					
Space btw. Tie Bars	mmxmm	1480x1480					
Daylight max	mm	3100					
Mold Thickness(min-max)	mm	700-1400					
Ejector Pin	Unit	13+13					
Ejector Force	KN	210x2					
Ejector Stroke	mm	380					
RP weight	T	12					
RP Diameter	mm	2000					
POWER UNIT							
System Pressure	MPa	17.5			17.5		
Pump Motor	KW	45+37			45		
Heating Capacity	KW	16.2			10.4		
No.of Heater Zones	unit	6			4		
GENERAL UNIT							
Oil Tank Capacity	L	1800					
Machine Dimensions(LxWxH)	mxmxm	12.3x3.5x3.6					
Machine Weight(Without RP)	KG	63000					

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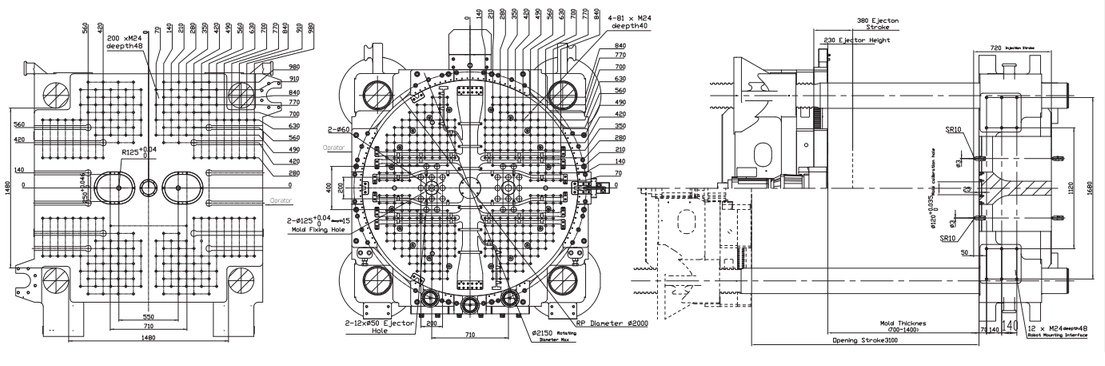
Mold Platen Drawing



ML Series

BM-ML two component machine is upgraded based on BS standard injection machine.

Taking BM150-022ML for example, the main and side injection units are equipped with ϕ40 and ϕ25 screws respectively. Mold thickness is increased from 500mm to 550mm while the clamping specification of the BS150-III remains unchanged. Different injection unit size can be changed as per customer's requirement.

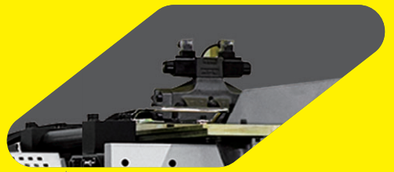
Basic Model

BM120-022ML
BM150-022ML
BM200-022ML
BM260-080ML
.....
BM2200-320ML

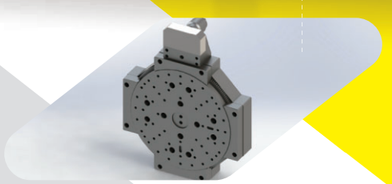
- Separate control of two injection units allows different injection sequences
- Separated rotary platen can be changed to TP indexing unit while needed

BORCHE BM

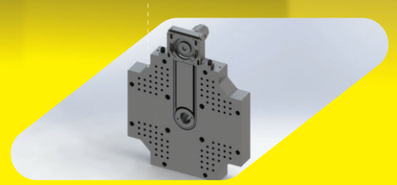
Automatic control
Austria made KEBA controller model 2880



Movable Hopper Support
Machines up to 600T featured with movable hopper support（≥ 700T featured with feeding platform）.



Rotary platen



TP indexing unit

ML Specification

BORCHE

BM Series	UNIT	BM120-ML											BM150-ML										BM200-ML										BM260-ML															
INJECTION UNIT	L	BM120-060ML					BM120-080ML						BM150-060ML					BM150-080ML						BM200-060ML					BM200-080ML						BM260-120ML						BM260-080ML						BM260-060ML			
		ML252			ML153		ML252			ML252			ML634			ML153		ML634			ML252			ML849			ML153		ML849			ML252			ML1367			ML388			MT1367			ML252			MT1367			ML153	
Screw Diamieter	mm	30	35	40	25	28	30	35	40	30	35	40	40	45	50	25	28	40	45	50	30	35	40	45	50	60	25	28	45	50	60	30	35	40	50	60	70	35	40	45	50	60	70	30	35	40	45	50	60	25	28
Shot Valume	cm^3	120	163	213	68	86	120	163	213	120	163	213	270	341	422	68	86	270	341	422	120	163	213	389	481	692	68	86	389	481	692	120	163	213	589	848	1154	182	238	302	589	848	1154	120	163	213	389	481	692	68	86
Shot Weight(PS)	g	113	153	199	60	78	113	153	199	113	153	199	254	321	397	60	78	254	321	397	113	153	199	365	452	650	60	78	365	452	650	113	153	199	552	800	1085	171	225	283	552	800	1085	113	153	199	365	452	650	60	78
Shot Weight(PS)	OZ	4.0	5.4	7.0	2.1	2.8	4.0	5.4	7.0	4.0	5.4	7.0	9.0	11.3	14.0	2.1	2.8	9.0	11.3	14.0	4.0	5.4	7.0	13	16	23	2.1	2.8	13	16	23	4.0	5.4	7.0	19.5	28.3	38.3	6.0	8.0	10.0	19.5	28.3	38.3	4.0	5.4	7.0	12.9	16.0	23.0	2.1	2.8
Injection Pressure	MPa	209	154	118	223	178	209	154	118	209	154	118	235	185	150	223	178	235	185	150	209	154	118	218	176	123	223	178	218	176	123	209	154	118	232	161	118	212	162	128	232	161	118	209	154	118	218	176	123	223	178
Screw L/D Ratio	L/d	24	20.5	18	24.6	22	24	20.5	18	24	20.5	18	23	20.5	18.5	24.6	22	23	20.5	18.5	24	20.5	18	23	21	17	24.6	22	23	21	17	24	20.5	18	25	21	18	23.5	20.5	18	25	21	18	24	20.5	18	23	21	17	24.6	22
Injection Stroke	mm	170			140		170			170			215			140		215			170			245			140		245			170			300			190			300			170			245			140	
Screw Rotary Speed max	rpm/min	250			280		250			250			240			280		240			250			175			280		175			250			145			225			145			250			175			280	
Nozzle Contact Force	KN	30			25		30			30			30			25		30			30			30			25		30			30			40			30			70			30			70			25	
Nozzle Stroke	mm	250			200		250			200			250			200		250			250			280			200		280			250			350			550			350			250			350			200	
CLAMPING UNIT																																																			
Clamping Force	KN	1200											1500											2000											2600																
Open Stroke	mm	340											410											465											520																
Platen size	mmxmm	610x610											670x670											750x750											835x835																
Space btw. Tie Bars	mmxmm	410x410											460x460											510x510											575x575																
Daylight max	mm	675											795											940											1150																
Mold Thinkness(min-max)	mm	135-335											135-385											180-480											230-630																
Ejector Pin	Unit	4+1											4+1											4+1											12+1																
Ejector Force	KN	34.4											41.6											50											77.3																
Ejector Stroke	mm	100.0											130.0											150											180.0																
Rp weight	t	0.6											0.6											0.8											1.0																
Rotary Platen Model		RP570											RP570											RP700											RP800																
RP Diameter	mm	500											500											600											700																
POWER UNIT																																																			
System Pressure	MPa	17.5	14.5	17.5	14.5	17.5	14.5	17.5	14.5	17.5	14.5	17.5	14.5	17.5	17.5	17.5	14.5	17.5	14.5																																		
Pump Motor	KW	11	8.6	11.0	11.0	15.0	8.6	15.0	11.0	18.5	8.6	45	11.0	22	11	22	11	22	8.6																																		
Heating Capacity	KW	6.5	4.8	6.5	6.5	9.6	4.8	9.6	6.5	10.4	4.8	16.2	6.5	16.2	8.8	16.2	6.5	16.2	4.8																																		
No.of Heater Zones	unit	4	4	4	4	5	4	5	4	5	4	6	4	6	4	6	4	6	4																																		
GENERAL UNIT																																																		
Oil Tank Capacity	L	200											290											340											550																
Machine Dimensions	mxmxm	4.7x2.4x1.5											5.1x2.5x1.6											5.7x2.7x1.7											6.7x2.8x1.9																
Machine Weight	KG	4500											5000											6500											12000																

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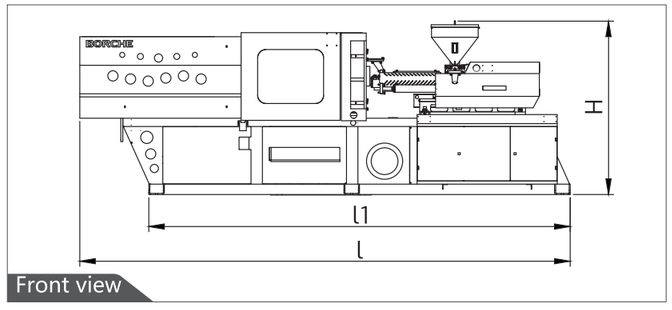
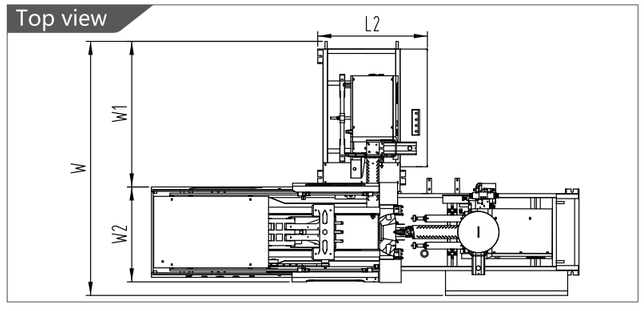
Dimensions / Model	L	L1	L2	H	H1	W	W1	W2
BM120-060ML	4725	4060	1080	1520	1110	2355	1455	1100
BM150-060ML	5070	4435	1080	1645	1197	2490	1480	1100
BM200-060ML	5660	4970	1080	1715	1245	2740	1680	1150
BM260-080ML	6635	5830	1100	1860	1360	2790	1690	1250
BM320-080ML	7310	6230	1100	1855	1289	2750	1820	1450
BM400-120ML	8286	7121	1180	1930	1332	2663	1723	1700





Appearance Dimension

ML Specification

BORCHE

BM Series	UNIT	BM320-ML																BM400-ML						BM400-ML												BM500-ML												BM600-ML					
INJECTION UNIT	L	BM320-120ML						BM320-080ML						BM320-060ML				BM400-150ML						BM400-120ML						BM400-080ML						BM500-150ML						BM500-120ML						BM600-150ML					
		ML2239			ML388			ML2239			ML252			ML2239			ML153	ML3266			ML634			ML3266			ML388			ML3266			ML252			ML3266			ML634			ML3266			ML388			ML4155			ML634		
Screw Diamieter	mm	60	70	80	35	40	45	60	70	80	30	35	40	60	70	80	25	28	70	80	90	40	45	50	70	80	90	35	40	45	70	80	90	30	35	40	70	80	90	40	45	50	70	80	90	35	40	45	80	85	95	40	45	50
Shot Valume	cm^3	989	1346	1759	182	238	302	989	1346	1759	120	163	213	989	1346	1759	68	86	1539	2010	2544	270	341	422	1539	2010	2544	182	238	302	1539	2010	2544	120	163	213	1539	2010	2544	270	341	422	1539	2010	2544	182	238	302	2262	2554	3190	270	341	422
Shot Weight(PS)	g	928	1266	1652	171	225	283	928	1266	1652	113	153	199	928	1266	1652	60	78	1446	1890	2366	254	321	397	1446	1890	2366	171	225	283	1446	1890	2366	113	153	199	1400	1829	2315	254	321	397	1400	1829	2315	171	225	283	2058	2324	2902	254	321	397
Shot Weight(PS)	OZ	32.8	44.7	58.4	6.0	8.0	10.0	32.8	44.7	58.4	4.0	5.4	7.0	32.8	44.7	58.4	2.1	2.8	51.1	66.8	82.5	9.0	11.3	14.0	51.1	66.8	82.5	6.0	8.0	10.0	51.1	66.8	82.5	4.0	5.4	7.0	49	65	82	9.0	11.3	14.0	49	65	82	6.0	8.0	10.0	184	82	102	9.0	11.3	14.0
Injection Pressure	MPa	226	166	127	212	162	128	226	166	127	209	154	118	226	166	127	223	178	212	162	128	235	185	150	212	162	128	212	162	128	212	162	128	209	154	118	212	162	128	235	185	150	212	162	128	212	162	128	22.3	163	130	235	185	150
Screw L/D Ratio	L/d	24.5	21	18.5	23.5	20.5	18	24.5	21	18.5	24	20.5	18	24.5	21	18.5	24.6	22	24	21	19	23	20.5	18.5	24	21	19	23.5	20.5	18	24	21	19	24	20.5	18	24	21	19	23	20.5	18.5	24	21	19	23.5	20.5	18		21	19	23	20.5	18.5
Injection Stroke	mm	350			190			350			170			350			140		400			215			400			190			400			170			400			215			400			190			450			215		
Screw Rotary Speed max	rpm/min	166			225			166			250			166			280		140			240			140			225			140			250			145			240			145			225			145			240		
Nozzle Contact Force	KN	70			30			70			30			70			25		80			30			80			30			80			30			80			30			80			30			80			30		
Nozzle Stroke	mm	360			250			360			250			360			200		395			250			395			250			395			250			450			450			450			450			510			450		
CLAMPING UNIT																																																						
Clamping Force	KN	3200																	4000						4000												5000												6000					
Open Stroke	mm	580																	655						655												1335/770												1450/880					
Platen size	mmxmm	940x940																	1060x1030						1060x1030												1210x1180												1310x1310					
Space btw. Tie Bars	mmxmm	670x670																	730x700						730x700												860x830												910x910					
Daylight max	mm	1310																	1405						1405												1600												1750					
Mold Thinkness(min-max)	mm	280-730																	280-750						280-750												265-830												300-870					
Ejector Pin	Unit	12+1																	12+1						12+1												4+8+4+1												8+8+4+1					
Ejector Force	KN	77.3																	111.3						111.3												110.0												135.0					
Ejector Stroke	mm	180.0																	205.0						205.0												250.0												280.0					
Rp weight	t	1.1																	2.0						2.0												3.0												4.0					
Rotary Platen Model		RP920																	RP1050						RP1050												RP1150												RP1360					
RP Diameter	mm	800																	900						900												1050												1200					
POWER UNIT																																																					
System Pressure	MPa	17.5		17.5		17.5		14.5		17.5		14.5		17.5		17.5			17.5						17.5			17.5			17.5			14.5			17.5			17.5			17.5			17.5			17.5					
Pump Motor	KW	37		11		37		11		37		8.6		45		15			45						11			45			11			45			30+22			15			30+22			11			30+30					
Heating Capacity	KW	18.5		8.8		18.5		6.5		18.5		4.8		24.5		9.6			24.5						8.8			24.5			6.5			25			9.6			25			8.8			32			9.6					
No.of Heater Zones	unit	6		4		6		4		6		4		6		5			6						4			6			4			6			5			6			4			6			5					
GENERAL UNIT																																																					
Oil Tank Capacity	L	785																	900						900												800/200												800/200					
Machine Dimensions	mxmxm	7.3x2.8x1.9																	8.3x2.9x2						8.3x2.9x2												7.3x3.2x2.2												7.5x3.4x2.2					
Machine Weight	KG	15000																	19000						19000												25000												25000					

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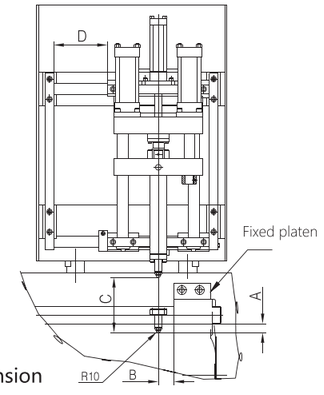
Model \ Dimensions	A	B	C	D
-060ML	40	70	250	235
-080ML	50	80	250	300
-120ML	50	80	250	300



Side Injection Unit Dimension

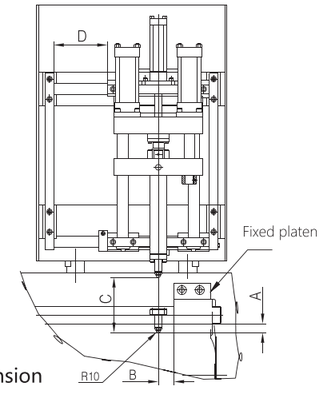
ML Specification

BORCHE

BM Series	UNIT	BM600-ML						BM800-ML												BM1000-ML						BM1000-ML												BM1200-ML											
INJECTION UNIT	L	BM600-120ML						BM800-150ML						BM800-120ML						BM1000-200ML						BM1000-150ML						BM1000-120ML						BM1200-200ML						BM1200-150ML					
		ML4155			ML388			ML5700			ML634			ML5700			ML388			ML7400			ML849			ML7400			ML634			ML7400			ML388			ML11500			ML849			ML11500			ML634		
Screw Diamieter	mm	80	85	95	35	40	45	90	100	105	40	45	50	90	100	105	35	40	45	100	105	115	45	50	60	100	105	115	40	45	50	100	105	115	35	40	45	105	115	130	45	50	60	105	115	130	40	45	50
Shot Valume	cm^3	2262	2554	3190	182	238	302	3181	3927	4329	270	341	422	3181	3927	4329	182	238	302	4123	4546	5453	389	481	692	4123	4546	5453	270	341	422	4123	4546	5453	182	238	302	5195	6232	7964	389	481	692	5195	6232	7964	270	341	422
Shot Weight(PS)	g	2058	2324	2902	171	225	283	2894	3573	3939	254	321	397	2894	3573	3939	171	225	283	3751	4136	4962	365	452	650	3751	4136	4962	254	321	397	3751	4136	4962	171	225	283	4727	5671	7247	365	452	650	4727	5671	7247	254	321	397
Shot Weight(PS)	OZ	73	82	102	6.0	8.0	10.0	102	126	139	9.0	11.3	14.0	102	126	139	6.0	8.0	10.0	132	146	175	13	16	23	132	146	175	9.0	11.3	14.0	132	146	175	6.0	8.0	10.0	167	200	256	13	16	23	167	200	256	9.0	11.3	14.0
Injection Pressure	MPa	184	163	130	212	162	128	181	147	133	235	185	150	181	147	133	212	162	128	180	163	136	218	176	123	180	163	136	235	185	150	180	163	136	212	162	128	222	185	145	218	176	123	222	185	145	235	185	150
Screw L/D Ratio	L/d	22.3	21	19	23.5	20.5	18	24	22	20	23	20.5	18.5	24	22	20	23.5	20.5	18	23	22	20	23	21	17	23	22	20	23	20.5	18.5	23	22	20	23.5	20.5	18	24	22	19.5	23	21	17	24	22	19.5	23	20.5	18.5
Injection Stroke	mm	450			190			500			215			500			190			525			245			525			215			525			190			600			245			600			215		
Screw Rotary Speed max	rpm/min	145			225			95			240			95			225			93			175			93			240			93			225			106			175			106			240		
Nozzle Contact Force	KN	80			30			200			30			200			30			200			30			200			30			200			30			200			30			200			30		
Nozzle Stroke	mm	510			450			560			450			560			450			600			450			600			450			600			450			750			450			750			450		
CLAMPING UNIT																																																	
Clamping Force	KN	6000						8000												10000						10000												12000											
Open Stroke	mm	1450/880						1600/100												1800/1200						1800/1200												2000/1400											
Platen size	mmxmm	1310x1310						1550x1450												1740x1515						1740x1515												1920x1820											
Space btw. Tie Bars	mmxmm	910x910						1110x1010												1250x1025						1250x1025												1300x1200											
Daylight max	mm	1750						2000												2300						2300												2600											
Mold Thinkness(min-max)	mm	300-870						400-1000												500-1100						500-1100												600-1200											
Ejector Pin	Unit	8+8+4+1						8+8+4+1												8+8+1						8+8+1												8+8+8+1											
Ejector Force	KN	135.0						210												210.0						210.0												300.0											
Ejector Stroke	mm	280.0						300												300.0						300.0												380.0											
Rp weight	t	4.0						5.0												7.0						7.0												7.0											
Rotary Platen Model		RP1360						RP1540												RP1720						RP1720												RP1720											
RP Diameter	mm	1200						1400												1580						1580												1580											
POWER UNIT																																																
System Pressure	MPa	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		17.5		17.5		17.5		17.5		17.5		17.5		17.5		17.5		17.5	
Pump Motor	KW	30+30		11		37+30		15.0		37+30		11		45x2		18.5		45x2		15.0		45x2		11.0		37x3		18.5		37x3		15.0		37x3		11.0											
Heating Capacity	KW	32		8.8		41		9.6		41		8.8		49		10.4		49		9.6		49		8.8		59		10.4		59		9.6		59		8.8											
No.of Heater Zones	unit	6		4		8		5		8		4		8		5		8		5		8		4		9		5		9		5		9		4											
GENERAL UNIT																																																
Oil Tank Capacity	L	800/200						1000/250												1300/550						1300/550												1800/550											
Machine Dimensions	mxmxm	7.5x3.4x2.2						10.5x4x3.1												10.8x5x3.2						10.8x5x3.2												11.9x5.5x3.2											
Machine Weight	KG	25000						43000												52000						52000												62000											

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

Model \ Dimensions	A	B	C	D
-060ML	40	70	250	235
-080ML	50	80	250	300
-120ML	50	80	250	300



Side Injection Unit Dimension

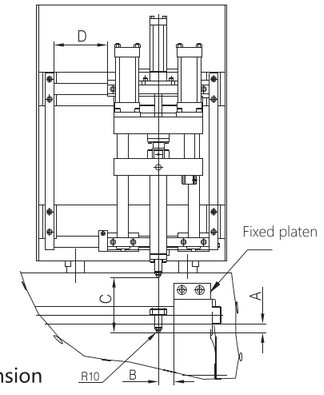
ML Specification

BORCHE

BM Series	UNIT	BM1500-ML																BM1800-ML						BM1800-ML												BM2200-ML																	
INJECTION UNIT	L	BM1500-320ML						BM1500-260ML						BM1500-200ML						BM1800-320ML						BM1800-260ML						BM1800-200ML						BM2200-400ML						BM2200-320ML						BM2200-260ML					
		ML3266			ML2239			ML3266			ML1367			ML3266			ML849			ML17650			ML2239			ML17650			ML1367			ML17650			ML849			ML29500			ML3266			ML29500			ML2239			ML29500			ML1367		
Screw Diamieter	mm	70	80	90	60	70	80	70	80	90	50	60	70	70	80	90	45	50	60	130	140	150	60	70	80	130	140	150	50	60	70	130	140	150	45	50	60	150	160	170	70	80	90	150	160	170	60	70	80	150	160	170	50	60	70
Shot Valume	cm^3	1539	2010	2544	989	1346	1759	1539	2010	2544	589	848	1154	1539	2010	2544	389	481	692	9291	10776	12370	989	1346	1759	9291	10776	12370	589	848	1154	9291	10776	12370	389	481	692	16611	18900	21336	1539	2010	2544	16611	18900	21336	989	1346	1759	16611	18900	21336	589	848	1154
Shot Weight(PS)	g	1446	1890	2366	928	1266	1652	1446	1890	2366	552	800	1085	1446	1890	2366	365	452	650	8455	9806	11257	928	1266	1652	8455	9806	11257	552	800	1085	8455	9806	11257	365	452	650	15116	17199	19416	1446	1890	2366	15116	17199	19416	928	1266	1652	15116	17199	19416	552	800	1085
Shot Weight(PS)	OZ	51.1	66.8	82.5	32.8	44.7	58.4	51.1	66.8	82.5	19.5	28.3	38.3	51.1	66.8	82.5	13	16	23	298	346	397	32.8	44.7	58.4	298	346	397	19.5	28.3	38.3	298	346	397	13	16	23	533	607	685	51.1	66.8	82.5	533	607	685	32.8	44.7	58.4	533	607	685	19.5	28.3	38.3
Injection Pressure	MPa	212	162	128	226	166	127	212	162	128	232	161	118	212	162	128	218	176	123	191	164	143	226	166	127	191	164	143	232	161	118	191	164	143	218	176	123	178	156	139	212	162	128	178	156	139	226	166	127	178	156	139	232	161	118
Screw L/D Ratio	L/d	24	21	19	24.5	21	18.5	24	21	19	25	21	18	24	21	19	23	21	17	24	22	20	24.5	21	18.5	24	22	20	25	21	18	24	22	20	23	21	17	23	21.5	20	24	21	19	23	21.5	20	24.5	21	18.5	23	21.5	20	25	21	18
Injection Stroke	mm	400			350			400			300			400			245			700			350			700			300			700			245			940			400			940			350			940			300		
Screw Rotary Speed max	rpm/min	140			166			140			145			140			175			81			166			81			145			81			175			71			140			71			166			71			145		
Nozzle Contact Force	KN	80			70			80			70			80			30			200			70			200			40			200			30			290			80			290			70			290			40		
Nozzle Stroke	mm	395			550			395			350			395			450			920			550			920			550			920			550			1065			550			1065			550			1065			550		
CLAMPING UNIT																																																								
Clamping Force	KN	15000																18000						18000														22000																	
Open Stroke	mm	2400/1700																2500/1700						2500/1700														2500/1900																	
Platen size	mmxmm	2120x2120																2400x2240						2400x2240														2620x2370																	
Space btw. Tie Bars	mmxmm	1480x1480																1650x1550						1650x1550														1850x1600																	
Daylight max	mm	3100																3200						3200														3600																	
Mold Thinkness(min-max)	mm	700-1400																700-1500						700-1500														800-1700																	
Ejector Pin	Unit	8+8+8+1																8+8+8+1						8+8+8+1														8+8+8+1																	
Ejector Force	KN	300.0																300.0						300.0														390.0																	
Ejector Stroke	mm	380.0																380.0						380.0														450.0																	
Rp weight	t	11.0																15.0						15.0														15.0																	
Rotary Platen Model		RP2190																RP2340						RP2340														RP2340																	
RP Diameter	mm	2000																2150						2150														2150																	
POWER UNIT																																																							
System Pressure	MPa	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		17.5		17.5		17.5		17.5		17.5		17.5		17.5		17.5		17.5		17.5		17.5		14.5	
Pump Motor	KW	45+37x2		37		45+37x2		22		45+37x2		18.5		45x3		37				45x3		22		45x3		18.5		45x3+30		45		45x3+30		37		45x3+30		22																	
Heating Capacity	KW	64		18.5		64		16.2		64		10.4		79		18.5				79		16.2		79		10.4		97		24.5		97		18.5		97		16.2																	
No.of Heater Zones	unit	8		6		8		6		8		5		8		6				8		6		8		5		9		6		9		6		9		6																	
GENERAL UNIT																																																						
Oil Tank Capacity	L	1900/630																2200/630						2200/630														2700/630																	
Machine Dimensions	mxmxm	12.1x6.1x3.4																12.9x6.7x3.4						12.9x6.7x3.4														15.8x6.7x3.4																	
Machine Weight	KG	75000																80000						80000														150000																	

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

Model \ Dimensions	A	B	C	D
-060ML	40	70	250	235
-080ML	50	80	250	300
-120ML	50	80	250	300



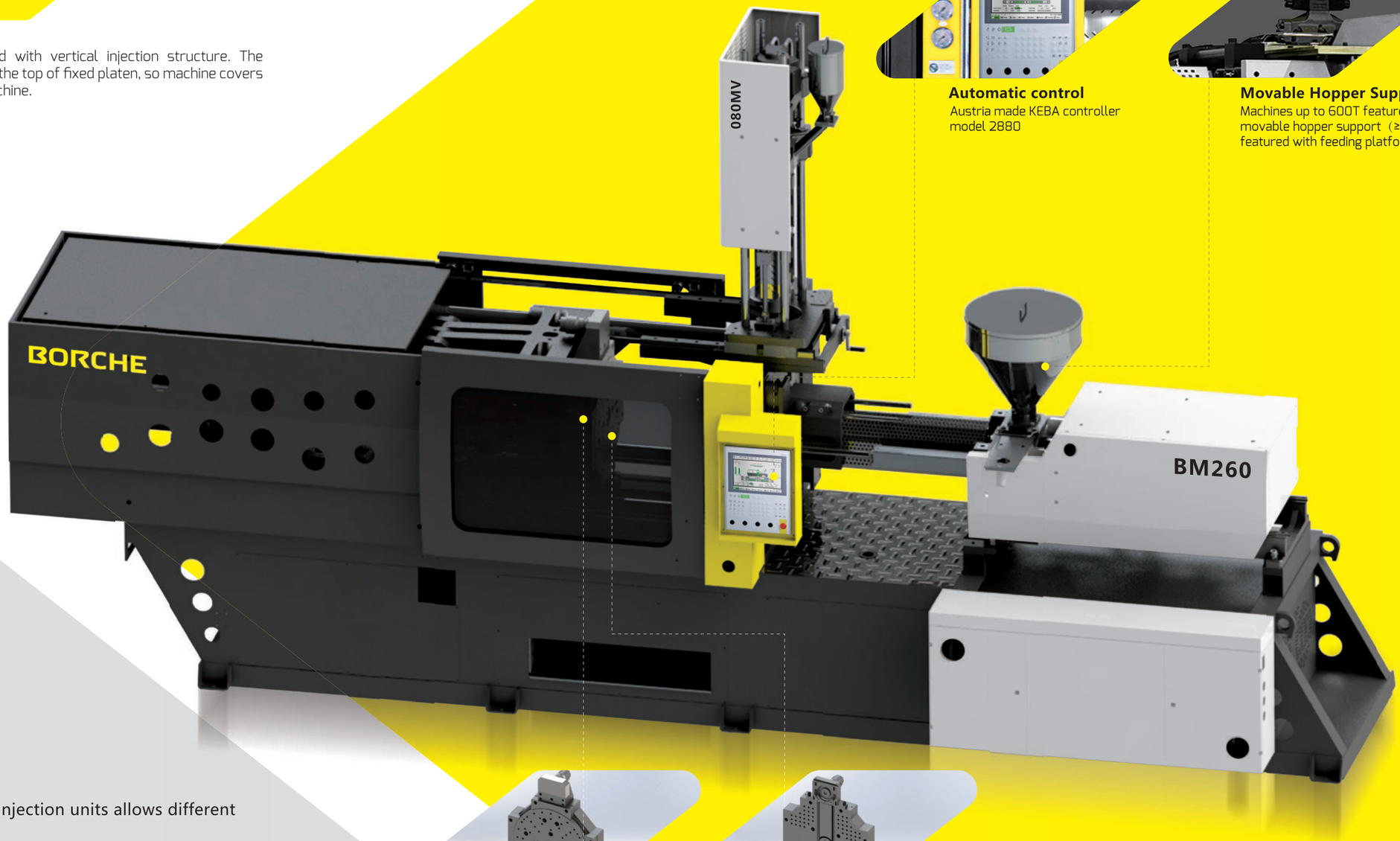
Side Injection Unit Dimension

MV Series

MV two-shot machine is designed with vertical injection structure. The injection unit mounted vertically on the top of fixed platen, so machine covers the same footprint of standard machine.

Basic Model

BM120-060MV
BM150-060MV
BM200-060MV
BM260-060MV

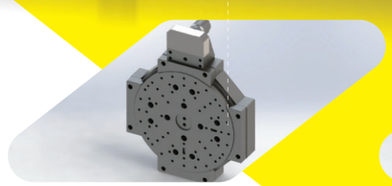


- Separate control of two injection units allows different injection sequences
- Separated rotary platen can be changed to TP indexing unit while needed

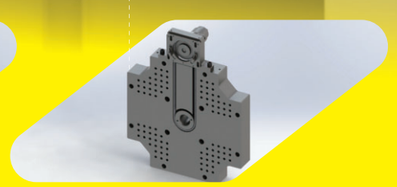
BORCHE BM

Automatic control
Austria made KEBA controller model 2880

Movable Hopper Support
Machines up to 600T featured with movable hopper support（≥ 700T featured with feeding platform）.



Rotary Platen



TP Indexing Unit

MV Spesification

BM Series	UNIT	BM120-MV										
INJECTION UNIT	V	BM120-060MV					BM120-080MV					
		MV252			MV153		MV252			MV252		
Screw Diamieter	mm	30	35	40	25	28	30	35	40	30	35	40
Shot Valume	cm^3	120	163	213	68	86	120	163	213	120	163	213
Shot Weight(PS)	g	113	153	199	60	78	113	153	199	113	153	199
Shot Weight(PS)	OZ	4.0	5.4	7.0	2.1	2.8	4.0	5.4	7.0	4.0	5.4	7.0
Injection Pressure	MPa	209	154	118	223	178	209	154	118	209	154	118
Screw L/D Ratio	L/d	24	20.5	18	24.6	22	24	20.5	18	24	20.5	18
Injection Stroke	mm	170			140		170			170		
Screw Rotary Speed max	rpm/min	250			280		250			250		
Nozzle Contact Force	KN	30			25		30			30		
Nozzle Stroke	mm	250			200		250			200		
CLAMPING UNIT												
Clamping Force	KN	1200										
Open Stroke	mm	340										
Platen size	mmxmm	610x610										
Space btw. Tie Bars	mmxmm	410x410										
Daylight max	mm	675										
Mold Thinkness(min-max)	mm	135-335										
Ejector Pin	Unit	4+1										
Ejector Force	KN	34.4										
Ejector Stroke	mm	100.0										
Rp weight	t	0.6										
Rotary Platen Model		RP570										
RP Diameter	mm	500										
POWER UNIT												
System Pressure	MPa	17.5			14.5		17.5			14.5		
Pump Motor	KW	11			8.6		11.0			11.0		
Heating Capacity	KW	6.5			4.8		6.5			6.5		
No.of Heater Zones	unit	4			4		4			4		
GENERAL UNIT												
Oil Tank Capacity	L	200										
Machine Dimensions	mxmxm	4.7x2.4x3.1										
Machine Weight	KG	4500										

BM Series	UNIT	BM150-MV										
INJECTION UNIT	V	BM150-060MV					BM150-080MV					
		MV634			MV153		MV634			MV252		
Screw Diamieter	mm	40	45	50	25	28	40	45	50	30	35	40
Shot Valume	cm^3	270	341	422	68	86	270	341	422	120	163	213
Shot Weight(PS)	g	254	321	397	60	78	254	321	397	113	153	199
Shot Weight(PS)	OZ	9.0	11.3	14.0	2.1	2.8	9.0	11.3	14.0	4.0	5.4	7.0
Injection Pressure	MPa	235	185	150	223	178	235	185	150	209	154	118
Screw L/D Ratio	L/d	23	20.5	18.5	24.6	22	23	20.5	18.5	24	20.5	18
Injection Stroke	mm	215			140		215			170		
Screw Rotary Speed max	rpm/min	240			280		240			250		
Nozzle Contact Force	KN	30			25		30			30		
Nozzle Stroke	mm	250			200		250			250		
CLAMPING UNIT												
Clamping Force	KN	1500										
Open Stroke	mm	410										
Platen size	mmxmm	670x670										
Space btw. Tie Bars	mmxmm	460x460										
Daylight max	mm	795										
Mold Thinkness(min-max)	mm	135-385										
Ejector Pin	Unit	4+1										
Ejector Force	KN	41.6										
Ejector Stroke	mm	130.0										
Rp weight	t	0.6										
Rotary Platen Model		RP570										
RP Diameter	mm	500										
POWER UNIT												
System Pressure	MPa	17.5			14.5		17.5			14.5		
Pump Motor	KW	15.0			8.6		15.0			11.0		
Heating Capacity	KW	9.6			4.8		9.6			6.5		
No.of Heater Zones	unit	5			4		5			4		
GENERAL UNIT												
Oil Tank Capacity	L	290										
Machine Dimensions	mxmxm	5.1x2.5x3.3										
Machine Weight	KG	5000										

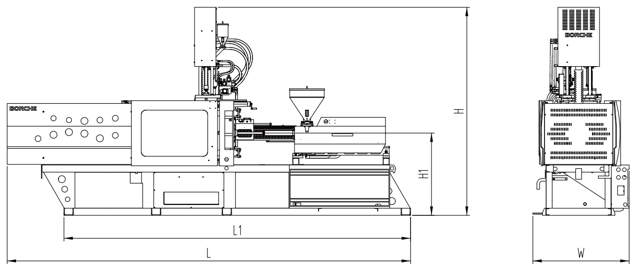
BM Series	UNIT	BM200-MV										
INJECTION UNIT	V	BM200-060MV					BM200-080MV					
		MV849			MV153		MV849			MV252		
Screw Diamieter	mm	45	50	60	25	28	45	50	60	30	35	40
Shot Valume	cm^3	389	481	692	68	86	389	481	692	120	163	213
Shot Weight(PS)	g	365	452	650	60	78	365	452	650	113	153	199
Shot Weight(PS)	OZ	13	16	23	2.1	2.8	13	16	23	4.0	5.4	7.0
Injection Pressure	MPa	218	176	123	223	178	218	176	123	209	154	118
Screw L/D Ratio	L/d	23	21	17	24.6	22	23	21	17	24	20.5	18
Injection Stroke	mm	245			140		245			170		
Screw Rotary Speed max	rpm/min	175			280		175			250		
Nozzle Contact Force	KN	30			25		30			30		
Nozzle Stroke	mm	280			200		280			250		
CLAMPING UNIT												
Clamping Force	KN	2000										
Open Stroke	mm	465										
Platen size	mmxmm	750x750										
Space btw. Tie Bars	mmxmm	510x510										
Daylight max	mm	940										
Mold Thinkness(min-max)	mm	180-480										
Ejector Pin	Unit	4+1										
Ejector Force	KN	50										
Ejector Stroke	mm	150										
Rp weight	t	0.8										
Rotary Platen Model		RP700										
RP Diameter	mm	600										
POWER UNIT												
System Pressure	MPa	17.5			14.5		17.5			14.5		
Pump Motor	KW	18.5			8.6		18.5			11.0		
Heating Capacity	KW	10.4			4.8		10.4			6.5		
No.of Heater Zones	unit	5			4		5			4		
GENERAL UNIT												
Oil Tank Capacity	L	340										
Machine Dimensions	mxmxm	5.7x2.7x1.7										
Machine Weight	KG	6500										

BM Series	UNIT	BM260-MV																
INJECTION UNIT	V	BM260-120MV						BM260-080MV						BM260-060MV				
		MV1367			MV388			MV1367			MV252			MV1367			MV153	
Screw Diamieter	mm	50	60	70	35	40	45	50	60	70	30	35	40	45	50	60	25	28
Shot Valume	cm^3	589	848	1154	182	238	302	589	848	1154	120	163	213	389	481	692	68	86
Shot Weight(PS)	g	552	800	1085	171	225	283	552	800	1085	113	153	199	365	452	650	60	78
Shot Weight(PS)	OZ	19.5	28.3	38.3	6.0	8.0	10.0	19.5	28.3	38.3	4.0	5.4	7.0	12.9	16.0	23.0	2.1	2.8
Injection Pressure	MPa	232	161	118	212	162	128	232	161	118	209	154	118	218	176	123	223	178
Screw L/D Ratio	L/d	25	21	18	23.5	20.5	18	25	21	18	24	20.5	18	23	21	17	24.6	22
Injection Stroke	mm	300			190			300			170			245			140	
Screw Rotary Speed max	rpm/min	145			225			145			250			175			280	
Nozzle Contact Force	KN	40			30			70			30			70			25	
Nozzle Stroke	mm	350			550			350			250			350			200	
CLAMPING UNIT																		
Clamping Force	KN	2600																
Open Stroke	mm	520																
Platen size	mmxmm	835x835																
Space btw. Tie Bars	mmxmm	575x575																
Daylight max	mm	1150																
Mold Thinkness(min-max)	mm	230-630																
Ejector Pin	Unit	12+1																
Ejector Force	KN	77.3																
Ejector Stroke	mm	180.0																
Rp weight	t	1.0																
Rotary Platen Model		RP800																
RP Diameter	mm	700																
POWER UNIT																		
System Pressure	MPa	17.5			17.5			17.5			14.5			17.5			14.5	
Pump Motor	KW	22			11			22			11			22			8.6	
Heating Capacity	KW	16.2			8.8			16.2			6.5			16.2			4.8	
No.of Heater Zones	unit	6			4			6			4			6			4	
GENERAL UNIT																		
Oil Tank Capacity	L	550																
Machine Dimensions	mxmxm	6.7x2.8x3.8																
Machine Weight	KG	12000																

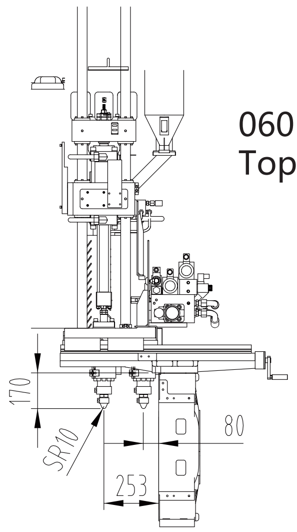
BM Series	UNIT	BM320-MV																
INJECTION UNIT	V	BM320-120MV						BM320-080MV						BM320-060MV				
		MV2239			MV388			MV2239			MV252			MV2239			MV153	
Screw Diamieter	mm	60	70	80	35	40	45	60	70	80	30	35	40	60	70	80	25	28
Shot Valume	cm^3	989	1346	1759	182	238	302	989	1346	1759	120	163	213	989	1346	1759	68	86
Shot Weight(PS)	g	928	1266	1652	171	225	283	928	1266	1652	113	153	199	928	1266	1652	60	78
Shot Weight(PS)	OZ	32.8	44.7	58.4	6.0	8.0	10.0	32.8	44.7	58.4	4.0	5.4	7.0	32.8	44.7	58.4	2.1	2.8
Injection Pressure	MPa	226	166	127	212	162	128	226	166	127	209	154	118	226	166	127	223	178
Screw L/D Ratio	L/d	24.5	21	18.5	23.5	20.5	18	24.5	21	18.5	24	20.5	18	24.5	21	18.5	24.6	22
Injection Stroke	mm	350			190			350			170			350			140	
Screw Rotary Speed max	rpm/min	166			225			166			250			166			280	
Nozzle Contact Force	KN	70			30			70			30			70			25	
Nozzle Stroke	mm	360			250			360			250			360			200	
CLAMPING UNIT																		
Clamping Force	KN	3200																
Open Stroke	mm	580																
Platen size	mmxmm	940x940																
Space btw. Tie Bars	mmxmm	670x670																
Daylight max	mm	1310																
Mold Thinkness(min-max)	mm	280-730																
Ejector Pin	Unit	12+1																
Ejector Force	KN	77.3																
Ejector Stroke	mm	180.0																
Rp weight	t	1.1																
Rotary Platen Model		RP920																
RP Diameter	mm	800																
POWER UNIT																		
System Pressure	MPa	17.5			17.5			17.5			14.5			17.5			14.5	
Pump Motor	KW	37			11			37			11			37			8.6	
Heating Capacity	KW	18.5			8.8			18.5			6.5			18.5			4.8	
No.of Heater Zones	unit	6			4			6			4			6			4	
GENERAL UNIT																		
Oil Tank Capacity	L	785																
Machine Dimensions	mxmxm	7.3x2.8x3.9																
Machine Weight	KG	15000																

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

Dimensions Model	L	L1	H	H1	W
BM120-060MV	4725	4060	2900	1110	950
BM150-060MV	5070	4435	3300	1197	1070
BM200-060MV	5660	4970	3600	1245	1120
BM260-060MV	6635	5830	3800	1360	1220

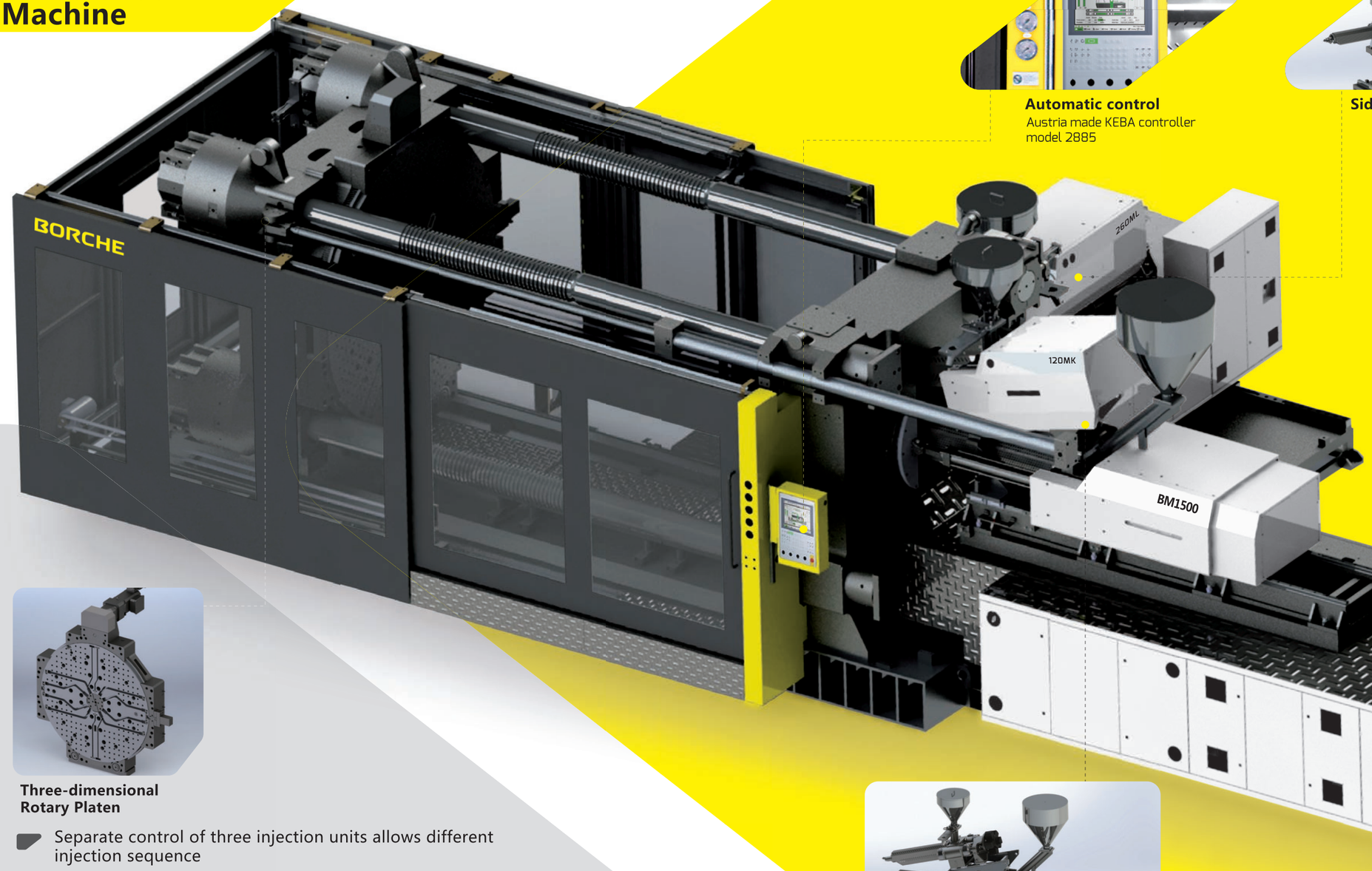


Appearance Dimension



060mv
Top Injection Unit Dimension

Three-shot Machine



Automatic control
Austria made KEBA controller model 2885

Side injection unit

Three-dimensional Rotary Platen

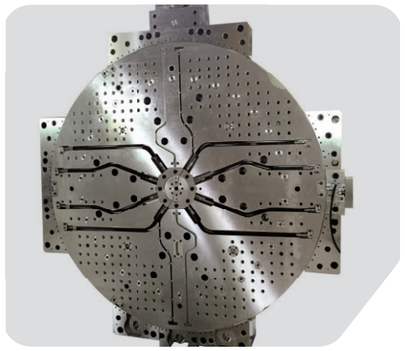
- Separate control of three injection units allows different injection sequence
- Three-dimensional rotary platen driven by servo hydraulic motor
- Borche self-developed three-shot co-injection program
- Customized four-shot and five-shot machines are available

Piggyback K type injection molding unit

Rotary Platen

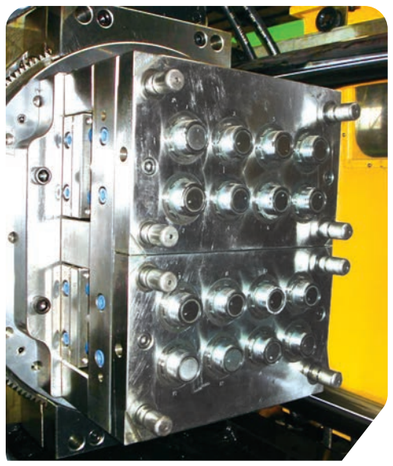
Side Injection Unit

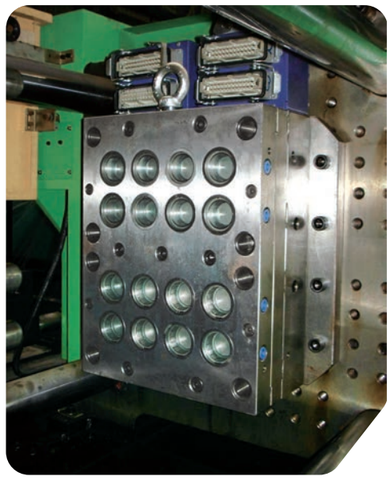
1. Latest water-running axis is designed with low pressure loss. As the seal of central axis adopts TRELLE BORG ring, it features better performance and longer life.
2. Hydraulic motor is standard feature; servo drive is available as option.
3. Friction factor can be lowered, thanks to rotary plate made of special wear-resistant material and patented circular bearing.
4. Specific supporter offsets the gap between bearings to prevent the rotary plate from drooping
5. Before the rotating of rotary plate, the base doesn’ t need to be lifted by mechanical device to remove the “friction” .
6. Equipped with high-pulse rotary encoder, rotary plate rotates at the angle of 0°~180°~0°,0°~120°~240°~0°,0°~240°~120°~0,which ensures its rotating accuracy. With pin positioning, its position accuracy is less than 0.02mm. The switch from “two-position” to “three-position” can be operated in computer.



Models:

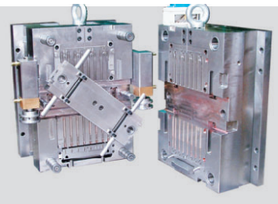
RP570 for BM 120 &BM150 machine
RP700 for BM200 machine
RP800 for BM260 machine
RP920 for BM320 machine
RP1050 for BM400 machine
RP1150 for BM500
RP1360 for BM600
RP1450 for BM700
RP1540 for BM800
RP1720 for BM1000&BM200
RP2190 for BM1500
RP2340 for BM1800& BM2200





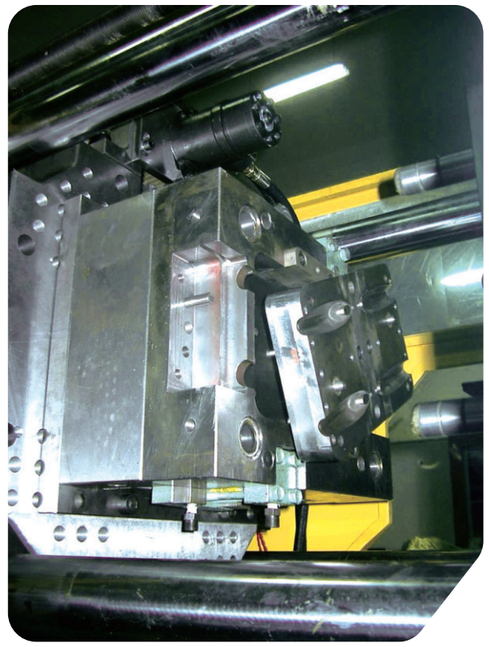
TP Indexing Unit

1. Central spindle connected to mold core enable mold core forward movement, and retract to original position after 180°rotation making ready for second shot.
2. Central spindle equips with two water channels providing cooling for mold core, its length can be modified according to customer’ s request.
3. Choice of three models compatible with injection molding machine from 120-320 tons, can be tailor-made in accordance with customer requirement.
4. AC servo motor system as an option can provide multi angle control at 90°,120°and 180°



Two-shot pen

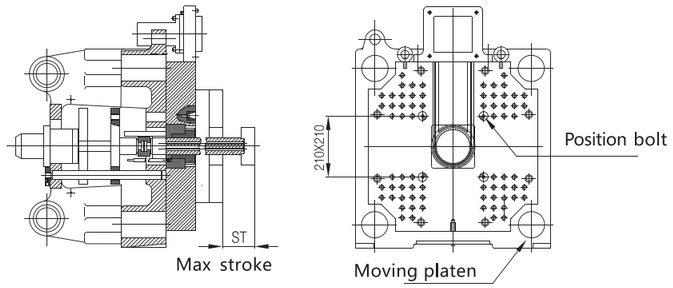
Indexing Shaft with Cooling System



Models:

TP580 for BM120 BM150
TP700 for BM200 BM260
TP900 for BM320

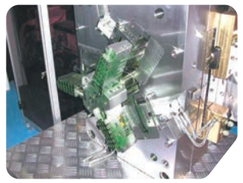
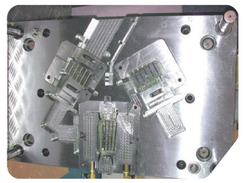
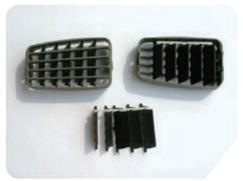
TP Indexing Unit



Stroke \ TP Mode	TP580		TP700	
Model	BM120	BM150	BM200	BM260
ST	90	130	150	180

TP Indexing Unit Dimension

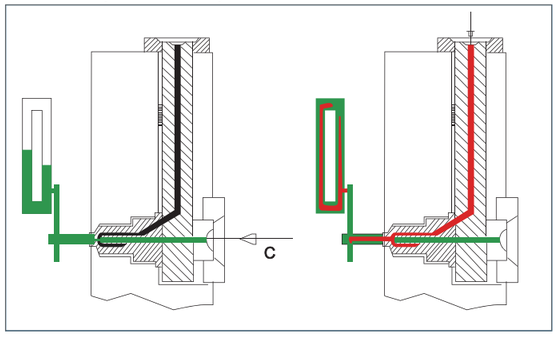
Three-shot machine with three shot indexing unit can realize parts moving and assembly inside the mold, which greatly improves quality and productivity.

TP Indexing Unit Sketch

The sandwich molding unit is mounted on the fixed platen of "L type" or "V type" two-shot machine. The mold with its conventional sprue system is installed in front of the unit. Sandwich and Color effects are created during interval injection molding by the flowing together of the two plastics.
Advantages: Recycle plastic or foaming plastic material can be used as core material to save cost.

Sandwich Injection Theory Sketch



Models:

SW-150N for 150T machine
SW-200N for 200T machine
SW-260N for 260T machine
SW-320N for 320T machine

Machine tonnage > 320T can be tailor-made in accordance with mold requirement.

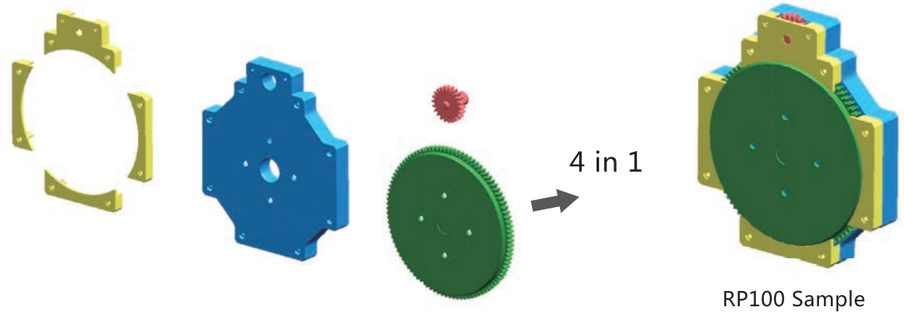
Multi-shot Injection + In-mold Automation

The prime requirement of "molding the future" is to process some of the secondary processing inside the mold. The implementation of the mold design, made plastic parts becomes the final product after leaving the cavity. This is not a traditional automation, but is the integration of modern injection molding machine and peripherals as well as advanced tooling, thus creates a modern intelligent plastic process.

The "innovative 4- shot Production Cell" includes "BM260-4C 4 color injection molding machine" , a "4 color in-mold assembly mold" . This system is to produce a "4 color PR100 rotary platen model" the turr table and the gear can rotate freely after taken out from mold.

This "multi-color injection + in-mold assembly process" is the first time operated in China. The "4 color in-mold assembly mold" itself is acted as a macro machine. Moving parts, hydraulic core pulling and position sensors are equipped inside the mold. The four-color injection molding machine supplies hydraulic power connects the sensor signals and controls the sequence action of the mold.

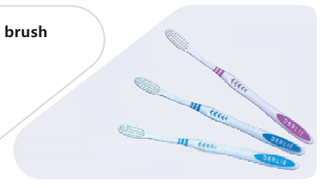
The four-color injection molding machine is starting injection respectively, molding seven pieces of parts in the mold cavities. These seven parts defined as the four stations, then carrying out a series of opening and closing of mold, plus core pulling activities. The four stations functioning in-mold assembly to complete 4 in 1 of the RP100 model.



RP100 Sample

Application

Personal care: Teeth brush
Model : BM260-080ML
Clamping force : 2600KN
Screw diameter : D50/D30
Number of cavity : 12+12
Material : PP+TPE
Production cycle : 50s



Automobile spare part: Taillight lampshade
Model : BM1500-260ML
Clamping force : 15000KN
Screw diameter : D80/D5
Number of cavity : 2+2
Material : PC+PC
Production cycle : 55s

Electric tool: Handle
Model : BM320-080ML
Clamping force : 3200KN
Screw diameter : D50/D30
Number of cavity : 2+2
Material : PA6+TPE
Production cycle : 53s

Electric outdoor fitness tool: Fitness handle
Model : BM260-080ML
Clamping force : 2600KN
Screw diameter : D50/D30
Number of cavity : 4+4
Material : PA66+TPE
Production cycle : 39s

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 (≥700T)	●

CLAMPING UNIT		
1	5 points-doubt toggle structure	●
2	Two platen clamping	●
3	Tie bar with high intensity chromeplate technics	●
4	Separate lock ring on fixed platenA	●
5	Extra-large space for ejection operation	●
6	Anti-abrasion strip	●
7	Centralized Lubrication system with end position pressure monitoring	●
8	Low pressure mold protection system	●
9	Automatic mold clamping force adjustment function	●
10	Mold adjustment gear ring driven by hydraulic motor	●
11	120-500T Hydraulic driving RP/TP (120-500T)	●
12	600-2200T Servo driving RP/TP(600-2200T)	●
13	Multi-hydraulic ejection device	●
14	Robot interface	●
15	Electric safety door (≥700T)	●

INJECTION UNIT		
1	Double carriage structure-right angle	●
2	Double injection cylinder-right angle	●
3	Single injection cylinder- parallel	●
4	High abrasion resistance screw and barrel	●
5	Nozzle center adjust device	●
6	Barrel protection cover	●
7	Injection unit adopts linear guide rail	●
8	Movable hopper up to 650T	●
9	Feeding platform above 1650T	●
10	Three size screw and barrel available	●
11	High-torque hydraulic motor drive screw	●
12	Screw speed testing device	●
13	Plasticizing Screw cold protection	●
14	Screw backward function	●
15	Ten stages injection control, pressure/speed can be adjusted	●
16	Ten stages pressure holding control, pressure/speed can be adjusted	●
17	Five stages plasticizing control, pressure/speed can be adjusted	●

HYDRALL LINIT		
1	Servo control	●
2	Servo power saving system	●
3	Low pressure mold protection function	●
4	Fast speed clamp locking system	●
5	Oil level indicator and oil temperature detector	●
6	High efficiency heat exchanger	●
7	Oil temperature alarm device	●
8	Plasticizing back pressure (≥500T)	●
9	Self-closed type absorb oil filter (≥400T)	●
10	Iron-separator	●
11	Two sets core puller both fix platen & moving platen	●

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	●
13	Robot interface	●

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 setup	●
5	Machine management: spot check, maintenance, repair	●
6	Report: daily report, monthly report	●

Features Configuration

BORCHE

Optional Features

SAFETY UNIT		
1	Main power with rotation handle	○
2	Mechanical safety lock device	○
3	Core pulling with pressure relief function	○

CLAMPING UNIT		
1	Multiple sets hydraulic core pulling	○
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 locking 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	RP/TP servo driving	○
16	Alarm lights	○

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

HYDRAULIC UNIT		
1	Proportional back pressure (≤1000T)	○
2	Close loop cooling system	○
3	Filter on heat exchanger inlet port	○
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 locking	○
11	Oil level low limit alarm	○
12	Pressure sensor for injection	○
13	Ball valve at suction port	○
14	Enlarge one stage heat exchanger	○

CONTROL UNIT		
1	Robot interface	○
2	Voltage stabilizer	○
3	Hot runner control	○
4	Phase protection	○
5	Multi sets sockets	○
6	Electricity meter	○
7	Special power voltage	○

Industry 4.0 for IMM

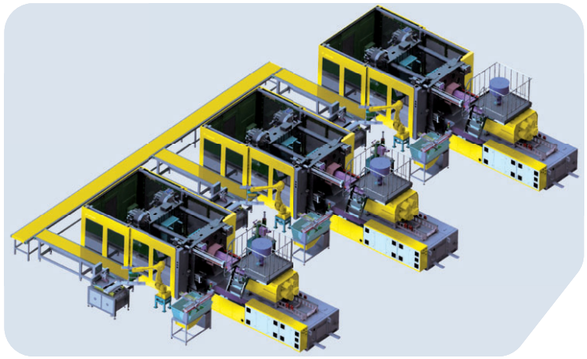
BORCHE

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

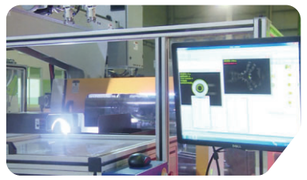
BORCHE

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

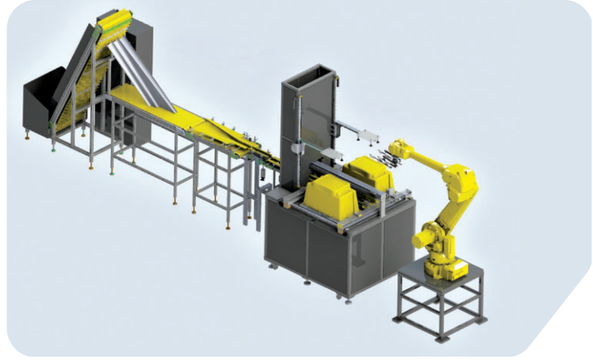


02 Flexible Automation -360° visual detection, robot operation, automatic assembling, parts insert, polishing and deburring...

Visual Detective System



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



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