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BORCHE



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Website



Wechat

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BM Multi-shot Series

Leading • Diversity

BORCHE BM

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. Borsche 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

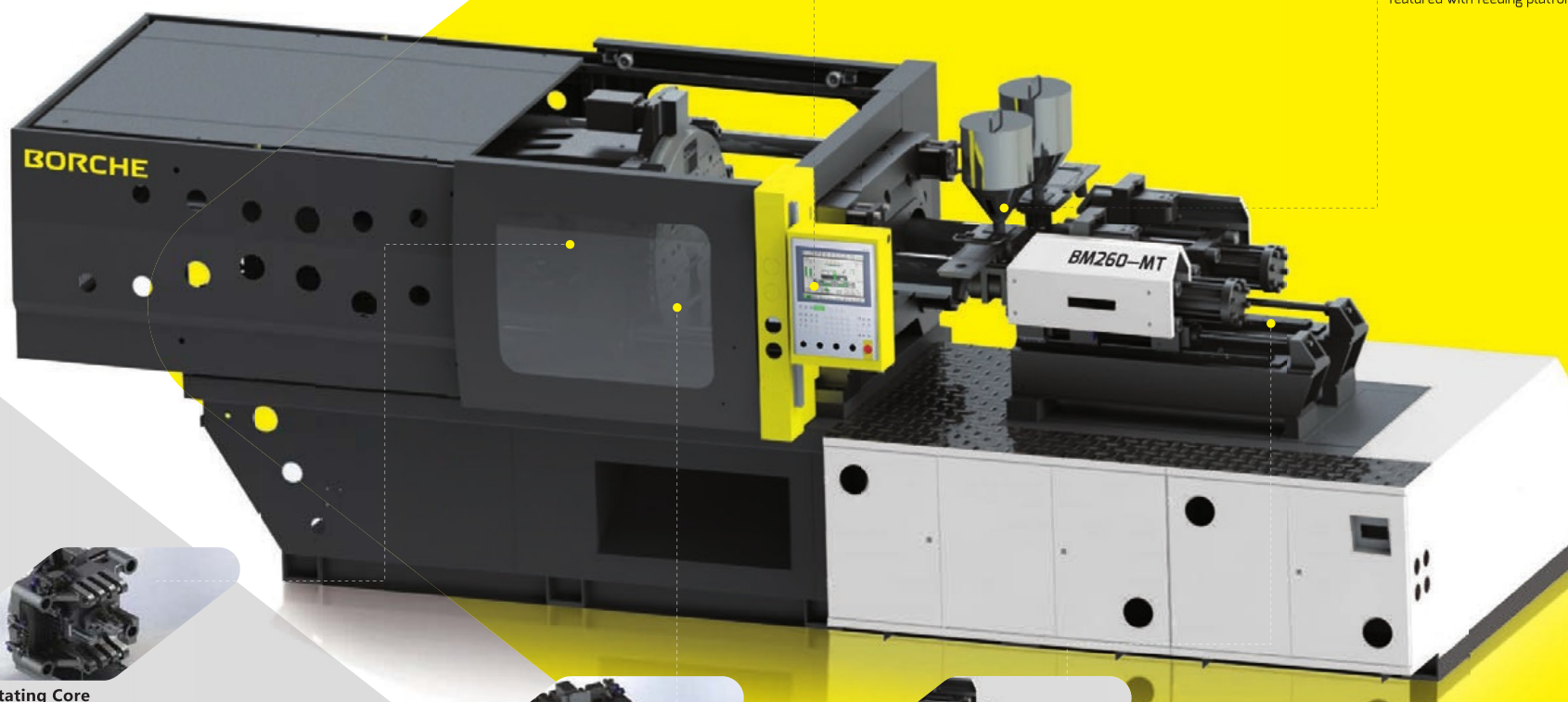
- 2015/9 Two-shot machine BU2200-320ML with ultra-large rotary platen RP2340 (height:2780mm weight:8 ton) exported to the U.K.
- 2015/9 First China-made ultra-large rotary platen (height:2780mm weight:8 ton) Model:RP2340
- 2012/12 First China-made two platen three-shot Model:BM1500-3C
- 2012/4 First China-made five-shot machine Model:BM260-5C
- 2011/5 First China-made "In-mold automatic assembly" four-shot
- 2009/3 First China-made Electro Tandem Mold System



BORCHE BM

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



Linear Guide Rail

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



Automatic Control

Austria made KEBA controller model 2880



Movable Hopper Support

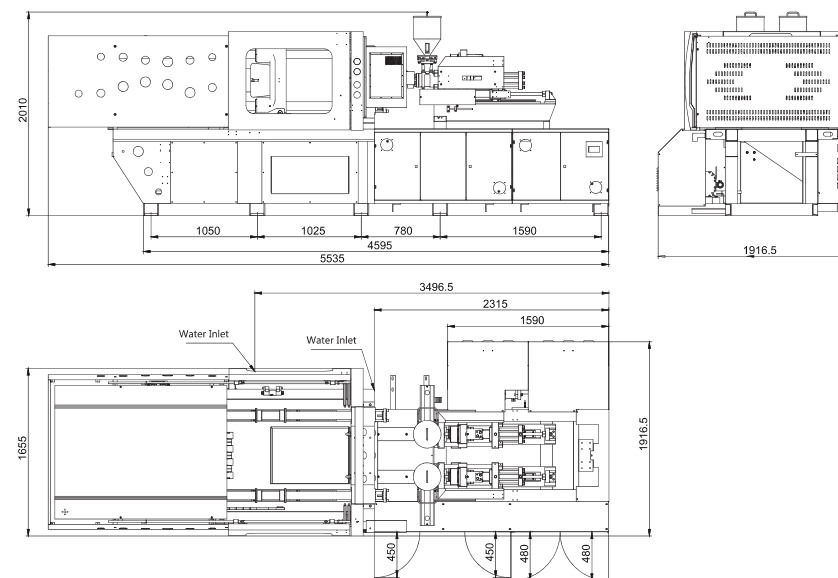
Machines up to 600T featured with movable hopper support ($\geq 700T$ featured with feeding platform).

BM180-MT

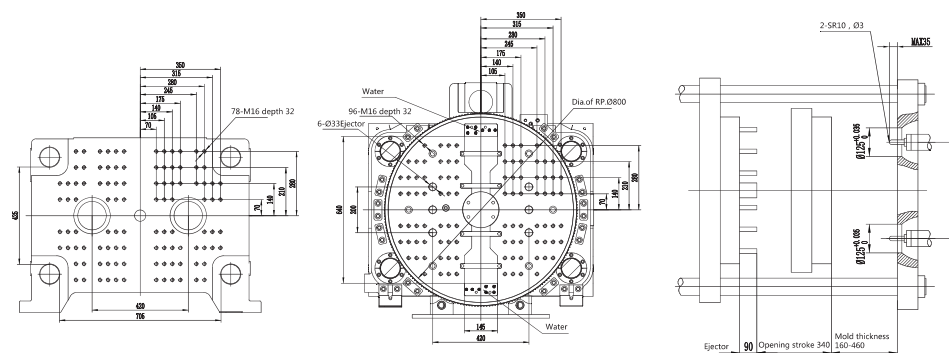
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Description	Unit	BM180-MT											
		Main injection unit						Side injection unit					
Injection Unit													
Screw Diameter	mm	26	28	30	30	35	40	26	28	30	30	35	40
Short Volume	cm³	72.7	84.4	96.8	1414	192.4	251.3	72.7	84.4	96.8	1414	192.4	251.3
Shot Weight(P5)	g	66.2	76.8	88.1	128.6	175.1	228.7	66.2	76.8	88.1	128.6	175.1	228.7
Shot Weight(P5)	OZ	2.3	2.7	3.1	4.5	6.1	8	2.3	2.7	3.1	4.5	6.1	8
Injection Pressure	Mpa	285	246	214	304	223	171	285	246	214	304	223	171
Screw L/D Ratio	L/D	23	21.5	20	24	20.5	18	23	21.5	20	24	20.5	18
Injection Stroke	mm	137			200			137			200		
Screw Rotary Speed max	r/min	220			200			220			200		
Barrel Center Distance	mm	420											
Clamping Unit													
Clamping Force	KN	1800											
Opening Stroke	mm	340											
Space btw. Tie Bars	mmxmm	705x425											
Opening Stroke	mm	800											
Mold Thickness(min-max)	mm	160-460											
Ejector Force	KN	20X2											
Ejection Stroke	mm	100											
RP Diameter	mm	750											
No.of Molds		2											
Power Unit													
System Pressure	Mpa	17.5			17.5			17.5			17.5		
Pump Motor	KW	11			18.5			11			18.5		
Pump Motor	L/min	69			92			69			92		
Heating Capacity	KW	4.75			6.5			4.75			6.5		
No.of Heater Zones	unit	4			4			4			4		
General Unit													
Oil Tank Capacity	L	260											
Machine Dimensions	mxmxmxm	5.8x2x2.1											
Machine Weight (With out RP.)	KG	10000											

Appearance and Installation Dimensions



Mold Platen Drawing

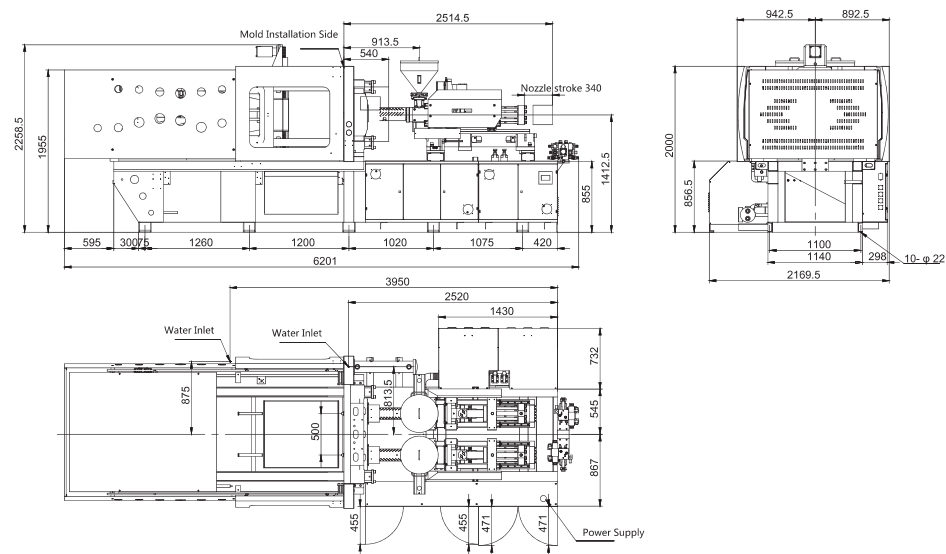


BM260-MT

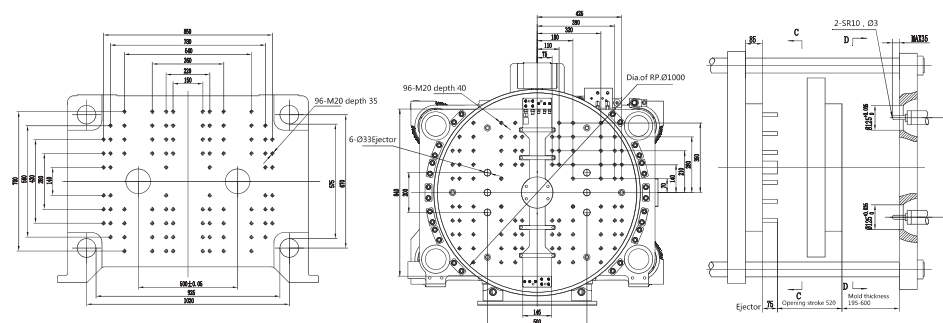
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Description	Unit	BM260-MT															
		Main injection unit							Side injection unit								
Injection Unit		A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	
Screw Diameter	mm	26	28	30	30	35	40	40	45	50	26	28	30	30	35	40	
Short Volume	cm³	72.7	84.4	96.8	141.4	192.4	251.3	282.7	357.8	441.8	72.7	84.4	96.8	141.4	192.4	251.3	
Shot Weight(PS)	g	66.2	76.8	88.1	128.6	175.1	228.7	257.3	325.6	402.0	66.2	76.8	88.1	128.6	175.1	228.7	
Injection Pressure	OZ	2.3	2.7	3.1	4.5	6.1	8.0	9.0	11.4	14.1	2.3	2.7	3.1	4.5	6.1	8.0	
Injection Pressure	MPa	285	246	214	304	223	171	298	235	190	285	246	214	304	223	171	
Screw L/D Ratio	L/D	23	21.5	20	24	20.5	18	23	20.5	18.5	23	21.5	20	24	20.5	18	
Injection Stroke	mm	137		200			225			137		200					
Screw Rotary Speed max	r/min	220				200			200			220				200	
Barrel Center Distance	mm	500															
Clamping Unit																	
Clamping Force	KN	2600															
Opening Stroke	mm	520															
Space btw. Tie Bars	mm	925x575															
Opening Stroke	mm	1120															
Mold Thickness(min-max)	mm	200-600															
Ejector Force	KN	33X2															
Ejection Stroke	mm	100															
RP Diameter	mm	1000															
No.of Molds	mm	2															
Power Unit																	
System Pressure	MPa	17.5				17.5			17.5			17.5			17.5		
Pump Motor	KW	15				18.5			30			15			18.5		
Pump Motor	L/min	69				92			140			69			92		
Heating Capacity	KW	4.75				6.5			9.6			4.75			6.5		
No.of Heater Zones	unit	4				4			5			4			4		
General Unit																	
Oil Tank Capacity	L	500															
Machine Dimensions	m³m³m	6.25X2.2x2.3															
Machine Weight (Without RP)	KG	13000															

Appearance and Installation Dimensions



Mold Platen Drawing



BORCHE BM

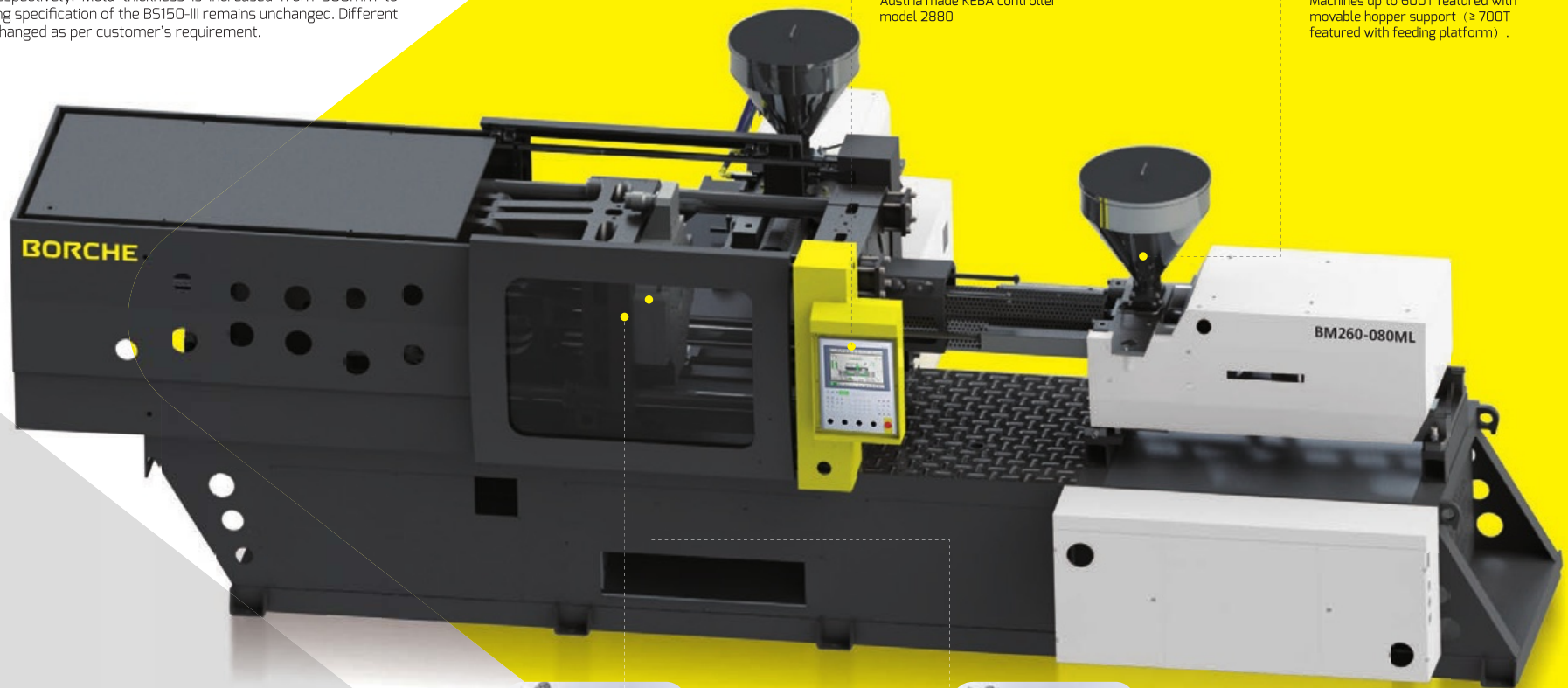
ML Series

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 $\phi 40$ and $\phi 25$ 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



Automatic control
Austria made KEBA controller
model 2880

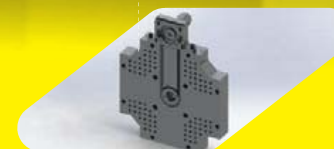


Movable Hopper Support
Machines up to 600T featured with
movable hopper support (≥ 700T
featured with feeding platform) .

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



Rotary platen

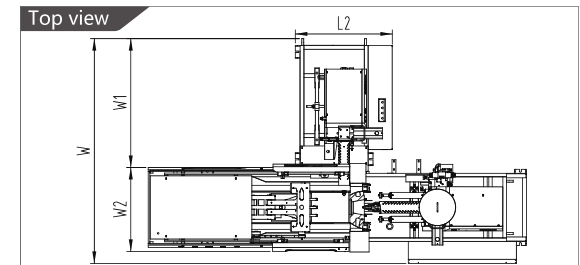
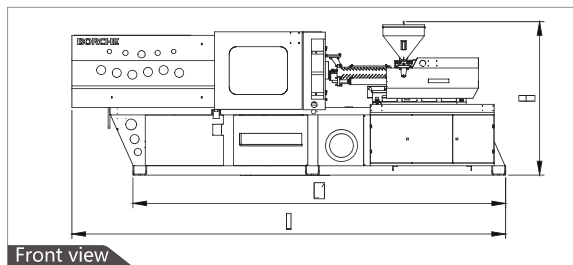


TP indexing unit

DESCRIPTION	UNIT	BM120-060ML				BM150-060ML				BM200-060ML				BM260-080ML				BM320-080ML				BM400-20ML												
INJECTION UNIT		Main Injection Unit		Side Injection Unit		Main Injection Unit		Side Injection Unit		Main Injection Unit		Side Injection Unit		Main Injection Unit		Side Injection Unit		Main Injection Unit		Side Injection Unit		Main Injection Unit		Side Injection Unit										
Screw Diameter	mm	30	35	40	25	28	40	45	50	25	28	45	50	60	25	28	50	60	70	30	35	40	60	70	80	30	35	40	70	80	90	35	40	45
Short Volume	cm³	120	163	213	68	86	270	341	422	68	86	389	481	692	68	86	589	848	1154	120	163	212	989	1346	1759	120	163	212	1539	2010	2544	182	238	302
Shot Weight(PS)	g	113	153	199	60	78	254	321	397	60	78	365	452	650	60	78	552	800	1085	113	153	199	928	1266	1652	113	153	199	1446	1890	2366	171	225	283
Shot Weight(PS)	oz	4	5.4	7	2.1	2.8	9	11.3	14	2.1	2.8	12.9	16	23	2.1	2.8	19.5	28.3	38.3	4	5.4	7	32.8	44.7	58.4	4	5.4	7	51.1	66.8	82.5	6	8	10
Injection Pressure	Mpa	209	154	118	223	178	235	185	150	223	178	218	176	123	223	178	232	161	118	209	154	118	226	166	127	209	154	118	212	162	128	212	162	128
Screw L/D Ratio	L/D	24	20.5	18	22	22	23	20.5	18.5	22	22	23	21	17	22	22	25	21	18	24	20.5	18	24.5	21	18.5	24	20.5	18	24	21	19	23.5	20.5	18
Injection Stroke	mm	170		140		215		140		245		140		300		170		350		170		350		170		400		190						
Screw Rotary Speed max	rpm	175		280		206		280		149		280		155		178		159		178		159		178		119		184						
Nozzle Contact Force	KN	30		30		30		30		30		30		40		20		70		20		70		20		80		30						
Nozzle Stroke	mm	250		250		250		250		250		250		350		250		360		250		360		250		395		250						
CLAMPING UNIT																																		
Clamping Force	KN	1200				1500				2000				2600				3200				4000				4000								
Opening Stroke	mm	340				410				465				520				580				655				655								
Platen Size	mmxmm	590X590				670X670				750X750				835X835				950X950				1060X1030				1060X1030								
Space btw. Tie Bars	mmxmm	410X410				460X460				510X510				575X575				670X670				730X700				730X700								
Daylight max	mm	840				960				1110				1320				1480				1655				1655								
Mold Thickness(min-max)	mm	300-500				300-550				350-650				400-800				450-900				500-1000				500-1000								
Ejection Stroke	mm	100				130				150				180				180				205				205								
Ejector Force	KN	34.4				41.6				49.5				77.3				77				111.3				111.3								
Ejector Pin		4+1				4+1				4+1				12+1				8+1				12+1				12+1								
Rotary Platen Model		RP570				RP570				RP700				RP700				RP920				RP1050				RP1050								
RP Diameter	mm	500				500				600				600				800				900				900								
POWER UNIT																																		
System Pressure	MPa	17.5		14.5		17.5		14.5		17.5		14.5		17.5		14		17.5		14		17.5		14		17.5		17.5						
Pump Motor	KW	11		8.6		15		8.6		18.5		8.6		21		11		30		11		37		11		37		11						
Heating Capacity	KW	8.86		4.8		9.655		4.8		10.435		4.8		16.2		6.5		18.3		6.5		24.48		8.86		24.48		8.86						
No.of Heater Zones	unit	4		4		5		4		5		4		6		4		6		4		6		4		6		4						
GENERAL UNIT																																		
Oil Tank Capacity	L	200				290				340				550				785				1200				1200								
Machine Dimensions	mmxmm	47X24X1.5				51X2.5X1.6				57X2.7X1.7				67X2.8X1.9				73X2.8X1.9				83X2.7X2.0				83X2.7X2.0								
Machine Weight (Without RP)	Kg	4500				5000				6500				12000				15000				19000				19000								

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

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

DESCRIPTION	UNIT	BM500-120ML						BM600-120ML						BM700-120ML						BM800-120ML						BM1000-200ML						BM1200-200ML						BM1500-260ML						BM1800-260ML						M2200-260ML														
INJECTION UNIT		Main Injection Unit			Side Injection Unit			Main Injection Unit			Side Injection Unit			Main Injection Unit			Side Injection Unit			Main Injection Unit			Side Injection Unit			Main Injection Unit			Side Injection Unit			Main Injection Unit			Side Injection Unit			Main Injection Unit			Side Injection Unit																							
Screw Diameter	mm	70	80	90	35	40	45	80	85	95	35	40	45	90	100	105	35	40	45	90	100	105	35	40	45	100	105	115	45	50	60	105	115	130	45	50	60	115	130	140	50	60	70	130	140	150	50	60	70	150	160	170	50	60	70									
Short Volume	cm³	1539	2010	2544	182	238	302	2262	2554	3190	182	238	302	3181	3927	4329	182	238	302	3181	3927	4329	182	238	302	4123	4546	5453	389	481	692	5195	6232	7964	389	481	692	6751	8628	10006	589	848	1154	9291	10776	12370	589	848	1154	16611	18900	21336	589	848	1154									
Shot Weight(PS)	g	1446	1890	2366	171	225	283	2058	2323	2902	171	225	283	2987	3687	4065	171	225	283	2987	3687	4065	171	225	283	3871	4268	5120	365	452	650	4727	5671	7247	365	452	650	5144	7851	9105	552	800	1085	8455	9806	11257	552	800	1085	15116	17198	19416	552	800	1085									
Shot Weight(PS)	oz	51.1	66.8	82.5	6	8	10	72.6	81.9	102.4	6	8	10	105.5	130.3	143.6	6	8	10	105.5	130.3	143.6	6	8	10	136.8	150.8	181	12.9	16	23	167	200	256	12.9	16	23	216.7	246.9	321.2	19.5	28.3	38.3	298.2	345.9	397.1	19.5	28.3	38.3	533	607	685	19.5	28.3	38.3									
Injection Pressure	Mpa	212	162	128	212	162	128	184	163	130	212	162	128	181	147	133	212	162	128	181	147	133	212	162	128	180	163	136	218	176	123	222	185	145	218	176	123	200	156	135	232	161	118	191	164	143	232	161	118	178	156	139	232	161	118									
Screw L/D Ratio	L/D	24	21	19	23.5	20.5	18	22.3	21	19	23.5	20.5	18	24	22	20	23.5	20.5	18	24	22	20	23.5	20.5	18	23	22	20	23	21	17	24	22	19.5	23	21	17	25	22	20.4	25	21	18	24	22	20	25	21	18	23	21.5	20	25	21	18									
Injection Stroke	mm	400			190			450			190			500			190			500			190			525			245			600			245			650			300			700			300			940			300											
Screw Rotary Speed max	rpm	119			184			128			184			100			184			100			184			91			141			90			141			90			155			80			155			71			155											
Nozzle Contact Force	KN	80			30			80			30			200			30			200			30			200			30			200			40			200			40			290			40																	
Nozzle Stroke	mm	395			250			450			250			560			250			560			250			560			350			750			350			750			400			920			400			1065			400											
CLAMPING UNIT																																																																
Clamping Force	KN	5000						6000						7000						8000						10000						1200						16000						18000						22000														
Opening Stroke	mm	1335						1450						1500						1600						1800						2000						2400						2500						2800														
Platen Size	mmxmm	1130X1070						1210X1210						1410X1260						1360X1360						1740X1515						1720X1620						1950X1950						2170X2070						2420X2170														
Space btw. Tie Bars	mmxmm	860X830						910X910						1060X910						1010X1010						1250X1025						1300X1200						1480X1480						1650X1550						1850X1600														
Daylight max	mm	1900						2050						2150						2300						2600						2900						3400						3500						3900														
Mold Thickness(min-max)	mm	565-1130						600-1170						650-1200						700-1300						800-1400						900-1500						1000-1700						1000-1800						1100-2000														
Ejection Stroke	mm	250						280						300						300						350						380						380						380						450														
Ejector Force	KN	111.3						137.4						210						210						210						300						300						300						390														
Ejector Pin		4+8+4+1						8+8+4+1						8+8+4+1						8+8+4+1						8+8+1						8+8+8+1						8+8+8+1						8+8+8+1																				
Rotary Platen Model		RP1150						RP1360						RP1450						RP1540						RP1720						RP1720						RP2190						RP2190						RP2190														
RP Diameter	mm	1050						1200						1300						1400						1580						1580						2000						2000						2000														
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		
Pump Motor	KW	37+15			11			30+30			11			37+30			11			37+30			11			45+45			18.5			37+37+37			18.5			45+37+37			22			45+45+45			22			45+45+45+30			22											
Heating Capacity	KW	25			8.86			32			8.86			40.9			8.86			40.9			8.86			49			10.4			59			10.4			64			16.2			79			16.2			97			16.2											
No. of Heater Zones	unit	6			4			6			4			8			4			8			4			8			5			8			5			8			6			8			6			9			6											
GENERAL UNIT																																																																
Oil Tank Capacity	L	900						1000						1400						1400						1500						2000						2000						2500						3000														
Machine Dimensions	mxmxm	7.3X3.0X2.21						7.5X3.4X2.21						9X3.4X2.47						10.9X3.6X3.03						10.5X4.9X3.13						11.9X5.4X3.13						12.1X6.1X3.36						12.9X6.7X3.4						15.8X6.7X3.4														
Machine Weight (Without RP)	Kg	25000						30000						38000						42000						51000						61000						75000						100000						100000														

BORCHE BM

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

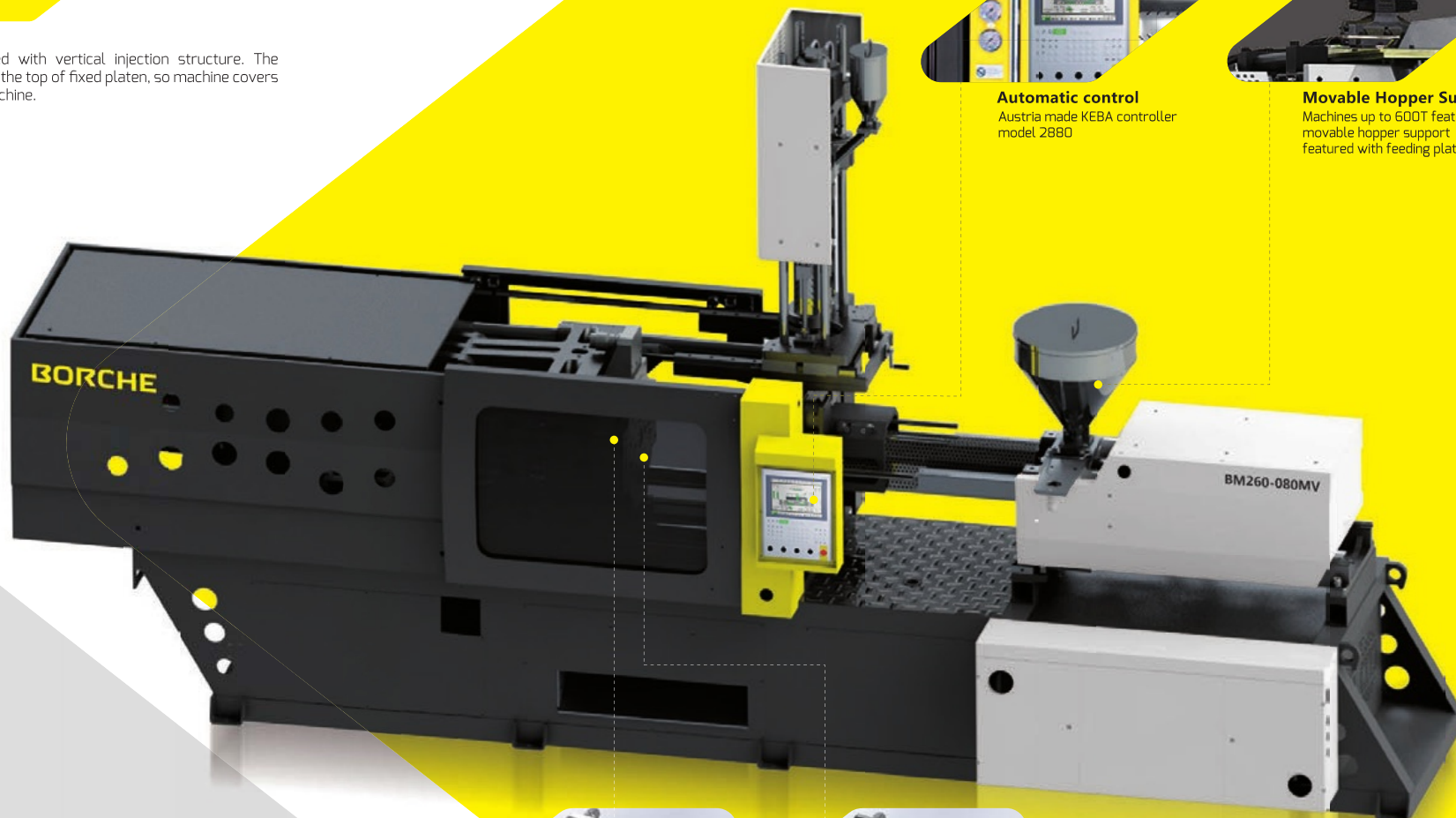
BORCHE BM



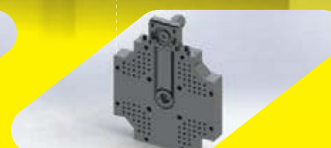
Automatic control
Austria made KEBA controller
model 2880



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



Rotary Platen

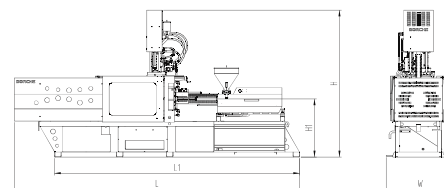


TP Indexing Unit

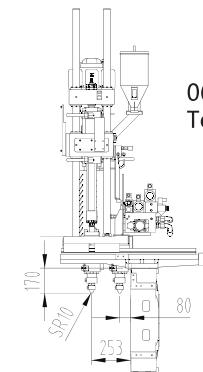
DESCRIPTION	UNIT	BM120-060MV					BM150-060MV					BM200-060MV					BM260-060MV				
INJECTION UNIT		Main injection unit			Side injection unit		Main injection unit			Side injection unit		Main injection unit			Side injection unit		Main injection unit			Side injection unit	
Screw Diameter	mm	30	35	40	25	28	40	45	50	25	28	45	50	60	25	28	50	60	70	25	28
Short Volume	cm³	120	163	213	68	86	270	341	422	68	86	389	481	692	68	86	589	848	1154	68	86
Shot Weight(PS)	g	113	153	199	60	78	254	321	397	60	78	365	452	650	60	78	552	800	1085	60	78
Shot Weight(PS)	OZ	4	5.4	7	2.1	2.8	9	11.3	14	2.1	2.8	12.9	16	23	2.1	2.8	19.5	28.3	38.3	2.1	2.8
Injection Pressure	Mpa	209	154	118	223	178	235	185	150	223	178	218	176	123	223	178	232	161	118	223	178
Screw L/D Ratio	L/D	24	20.5	18	22	22	23	20.5	18.5	22	22	23	21	17	22	22	25	21	18	22	22
Injection Stroke	mm	170			140		215			140		245			140		300			140	
Screw Rotary Speed max	rpm	175			280		206			280		149			280		155			280	
Nozzle Contact Force	KN	30			30		30			30		30			30		40			30	
Nozzle Stroke	mm	250			200		250			200		280			200		350			200	
CLAMPING UNIT																					
Clamping ForceA	KN	1200					1500					2000					2600				
Opening Stroke	mm	340					410					465					520				
Platen Size	mmxmm	590X590					670X670					750X750					835X835				
Space btw. Tie Bars	mmxmm	410X410					460X460					510X510					575X575				
Opening Stroke	mm	840					960					1110					1320				
Mold Thickness(min-max)	mm	300-500					300-550					350-650					400-800				
Ejection Stroke	mm	100					130					150					180				
Ejector Force	KN	34.4					41.6					49.5					77.3				
Ejector Pin		4+1					4+1					4+1					12+1				
Rotary Platen Model		RP570					RP570					RP700					RP700				
RP Diameter	mm	500					500					600					600				
POWER UNIT																					
System Pressure	Mpa	17.5			14.5		17.5			14.5		17.5			14.5		17.5			14.5	
Pump Motor	KW	11			8.6		15			8.6		18.5			8.6		21			8.6	
Heating Capacity	KW	8.86			4.8		9.655			4.8		10.435			4.8		16.2			4.8	
No.of Heater Zones	unit	4			4		5			4		5			4		6			4	
GENERAL UNIT																					
Oil Tank Capacity	L	200					290					340					550				
Machine Dimensions	mmxmm	47X2.4X2.9					51X2.5X3.3					57X2.7X3.6					67X2.8X3.8				
Machine Weight (Without RP)	KG	4500					5000					6500					12000				

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

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

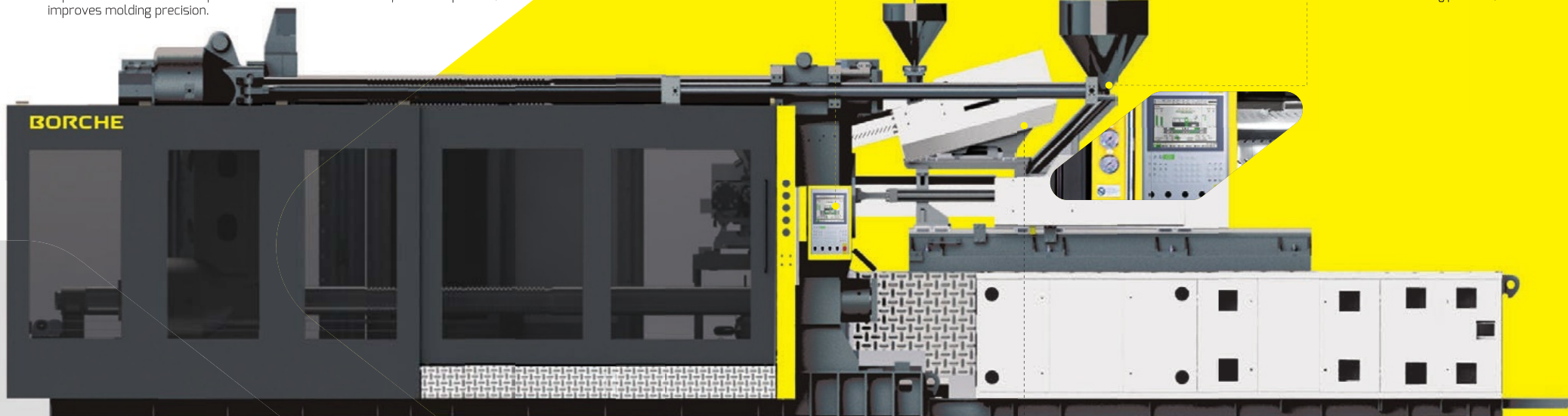
BORCHE BM

MK Series

Piggyback K Type Injection Unit

As the gap between two nozzles gets narrower, the space among four tie bars can be fully used, which facilitates to reduce mold size.

Separate control of two injection units allows different injection sequences, improves molding precision.



Automatic control
Austria made KEBA controller
model 2880



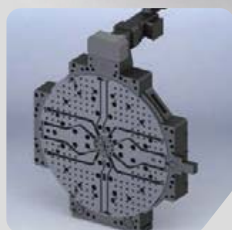
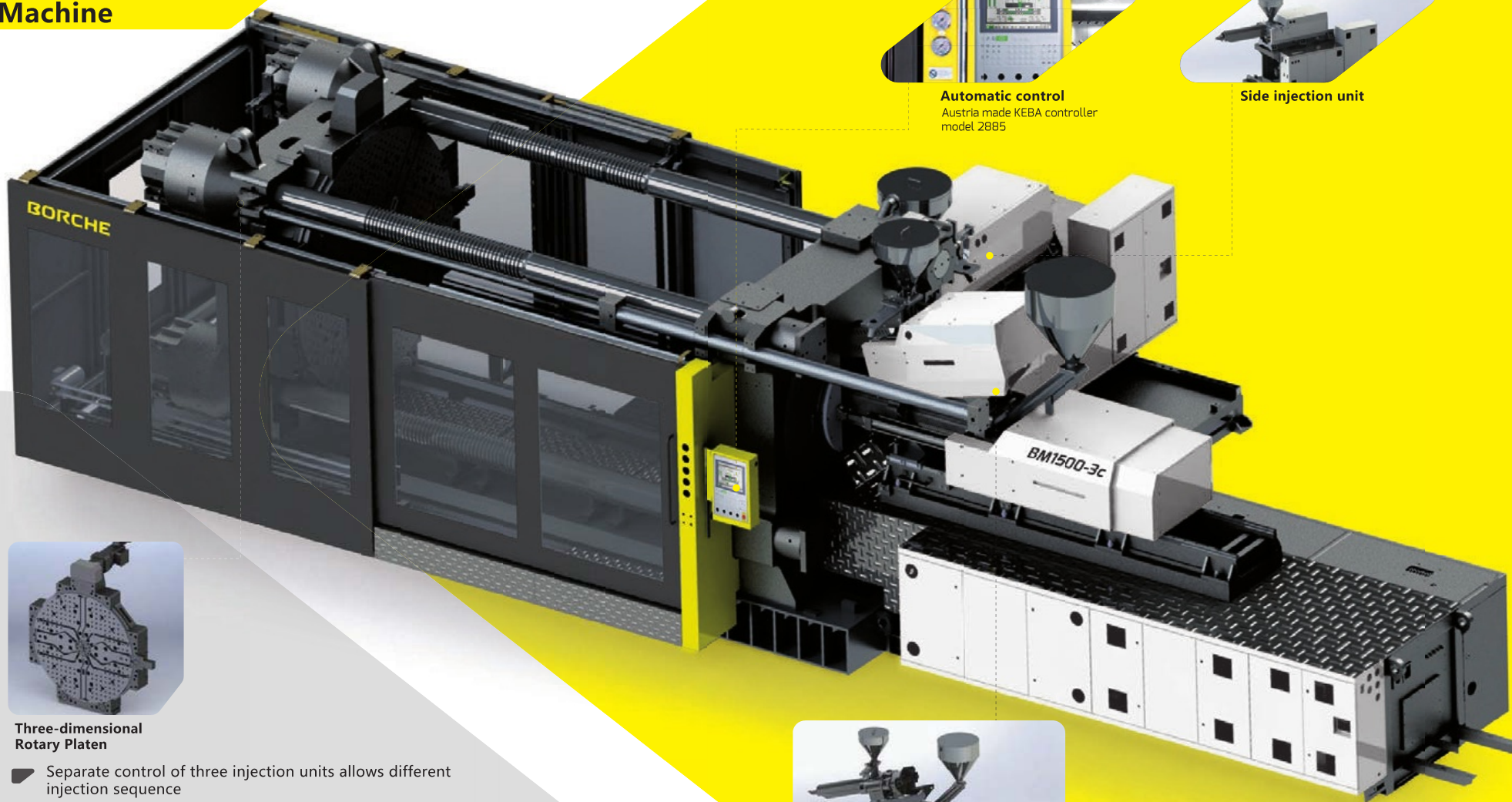
Movable Hopper Support
Machines up to 600T featured with
movable hopper support ($\geq 700T$
featured with feeding platform).



Piggyback K type injection unit

BORCHE BM

Three-shot Machine



Three-dimensional Rotary Platen

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

BORCHE BM



Automatic control
Austria made KEBA controller
model 2885



Side injection unit

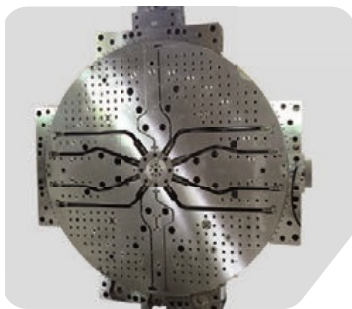


Piggyback K type injection
molding unit

Rotary Platen

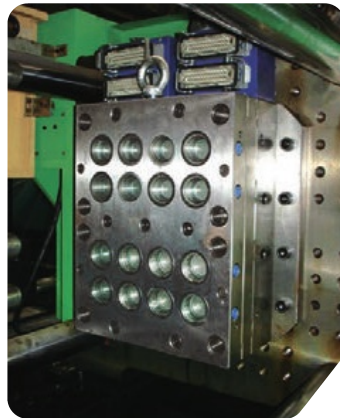
Side Injection Unit

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 $0^{\circ}\sim 180^{\circ}\sim 0^{\circ}$, $0^{\circ}\sim 120^{\circ}\sim 240^{\circ}\sim 0^{\circ}$, $0^{\circ}\sim 240^{\circ}\sim 120^{\circ}\sim 0^{\circ}$, 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 BM 200 & BM260 ton 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&BM1800
 RP2340 for BM2200



TP Indexing Unit

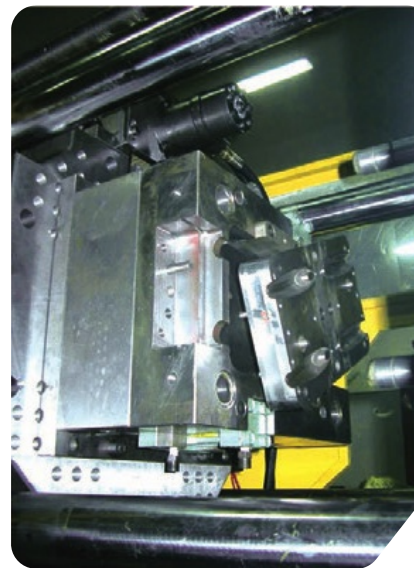
1. Central spindle connected to mold core enable mold core forward movement, and retract to original position after 180° rotation making ready for second shot.
2. Central spindle equips with two water channels providing cooling for mold core, its length can be modified according to customer's request.
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



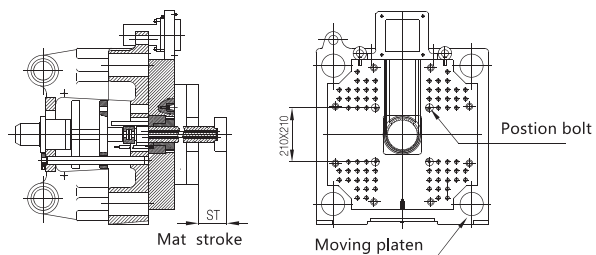
Indexing Shaft with Cooling System



Models:

TP580 for BM120 BM150
 TP700 for BM200 BM260
 TP900 for BM320

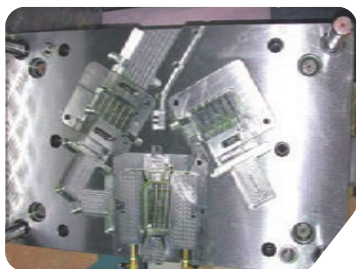
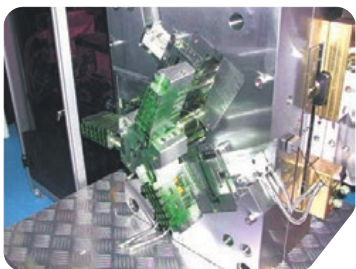
TP Indexing Unit



TP Indexing Unit Dimension

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

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

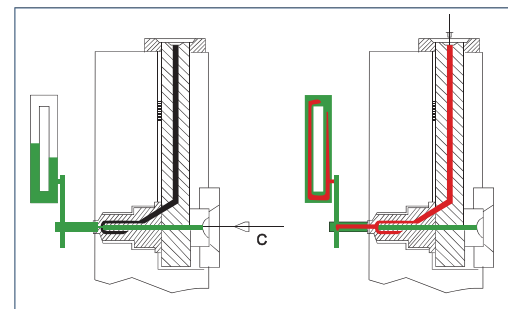


TP Indexing Unit Sketch

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.



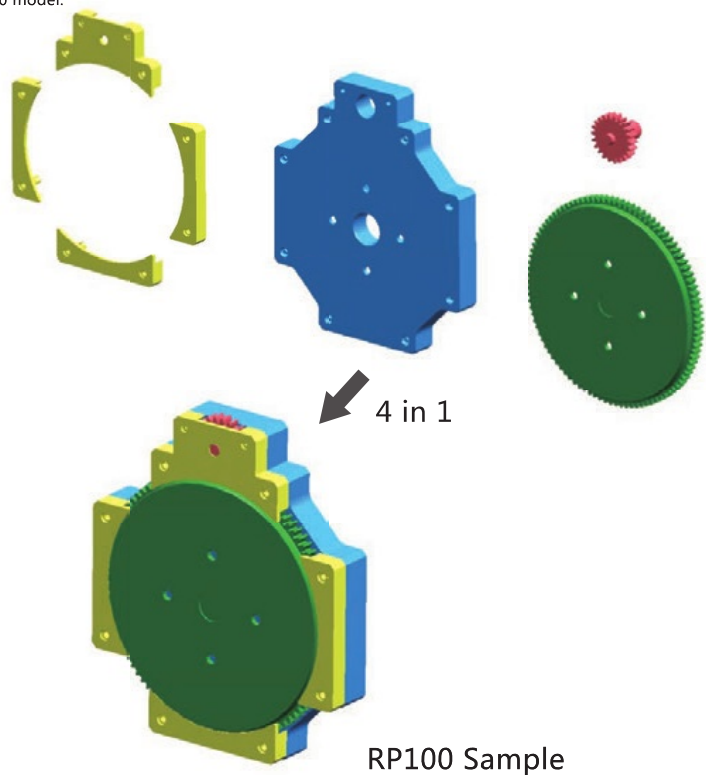
Multi-shot Injection + In-mold Automation

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 RP100 rotary platen model" the turntable 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.



Application

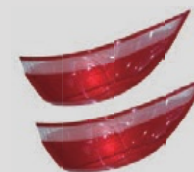
Personal care: Teeth brush

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

BORCHE

Standard Features

SAFETY UNIT		
1	New National Safety Standard (≥260T)	●
2	European technical standard totally enclosed cover(≥260T)	●
3	Double emergency button	●
4	Safety platform under mold area (≥800T)	●
5	Mechanical safety lock device(≤200T)	●

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	Robot interface	●

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 800T	●
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	Five stages injection control, pressure/speed can be adjusted	●
16	Three stages pressure holding control, pressure/speed can be adjusted	●
17	Three stages plasticizing control, pressure/speed can be adjusted	●

HYDRALL LINIT		
1	Servo control 400T-2200T	●
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	●
9	Self-closed type absorb oil filter (≥400T)	●
10	Iron-separator	●

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 heating	●
11	Data protect lock	●
12	Parameter quick settings	●
13	Robot interface	●

Features Configuration

BORCHE

Optional Features

SAFETY UNIT		
1	CE safety standard	
2	Main power with rotation handle	○
3	Mechanical safety lock device(≥260T)	○
4	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	○

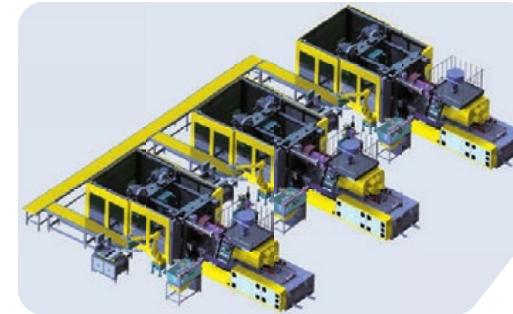
HYDRAULIC UNIT		
1	Proportional back pressure (≤1000T)	
2	Close loop cooling system	○
3	Filter on heat exchanger inlet port	○
4	Enlarge one stage motor and pump	○
5	VDP system	○
6	Ejector on fly	○
7	Parallel charging	○
8	High pressure bypass oil filter (≤500 T)	○
9	High speed proportional valve for Injection	○
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	○

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

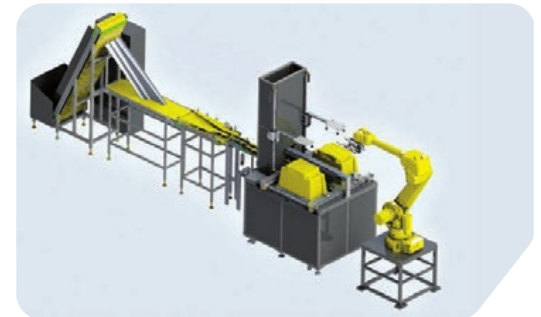


- 02** Flexible Automation -360° visual detection, robot operation, automatic assembling, parts insert, polishing and deburring...

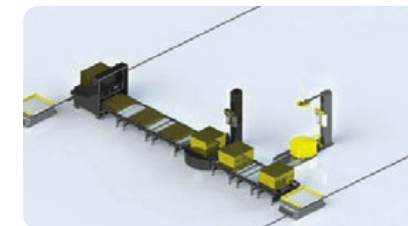
Visual Detective System



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



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





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