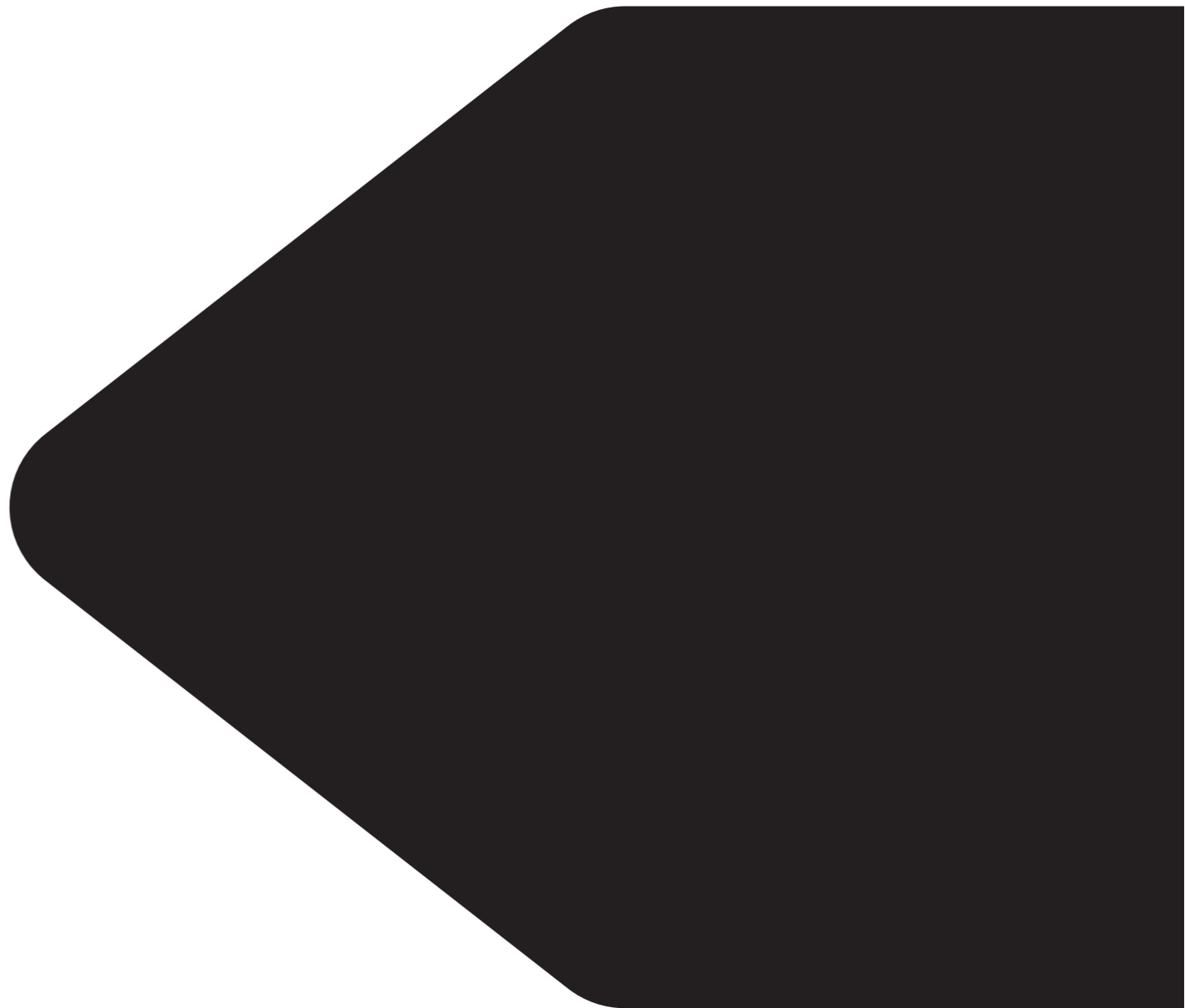


BORCHE

**BM Multi-component
Series**





Scanning QR code for E-catalogue

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BORCHE



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Website



Wechat

May 2017

BM Multi-component 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-component IMM techniques as follows: the first Chinese ultra-large rotary platen, the first Chinese large size two-platen three-component IMM, the first Chinese five-component IMM, the first Chinese electrical "one unit-dual mold" system, first Chinese sandwich-injection molding system, etc.

DIVERSE SERIES DESIRABLE QUALITY

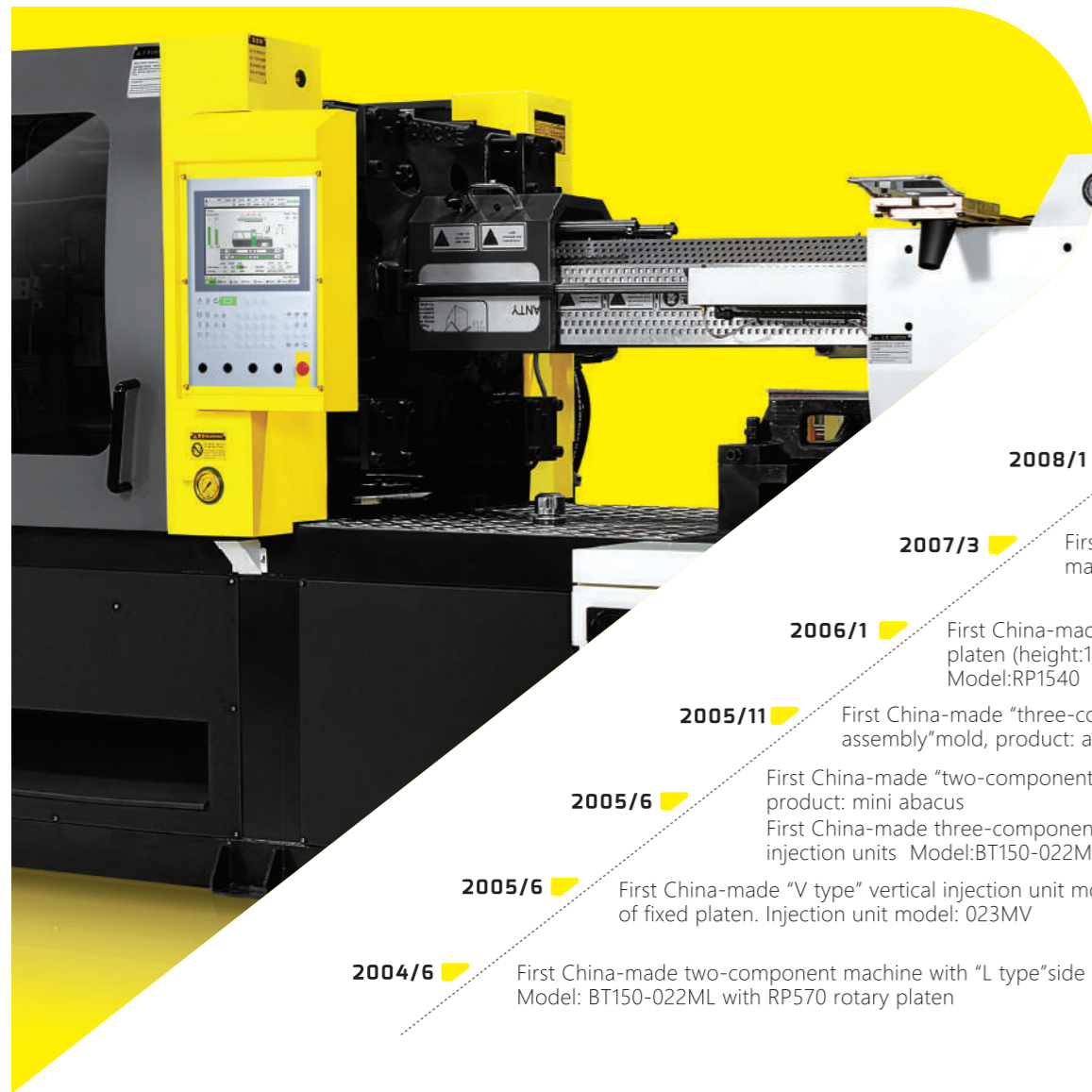
Five models of multi-component BM series includes MT、ML、MV、MP、MK, meet the requirement from two-component to five-component injection molding. Borche BM Multi-component series have the widest range in regarding of machine structure and machine models in IMM industry.

BORCHE BM

Improving for Further Excellency

Borch Machinery Co.,Ltd, focused on technology innovation and self-developed advanced multi-component injection technology, can provide versatile multi-component machines, including ML,MV,MK,MP and MT types. Clamping force ranges from 1200~22000kN. Several different position of injection unit can be flexibly combined to realize up to four components solution. Modular designed RP rotary platen and TP indexing platen are freely collocated to suit different multi-component 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-component 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-component in-mold assembly" mold, product: abacus
- 2005/6 First China-made "two-component in-mold assembly" mold, product: mini abacus
First China-made three-component 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-component machine with "L type" side injection unit Model: BT150-022ML with RP570 rotary platen

BORCHE BM

- 2015/9 Two-component 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 component Model:BM1500-3C
- 2012/4 First China-made five-component machine Model:BM260-5C
- 2011/5 First China-made "In-mold automatic assembly" four component
- 2009/3 First China-made Electro Tandem Mold System

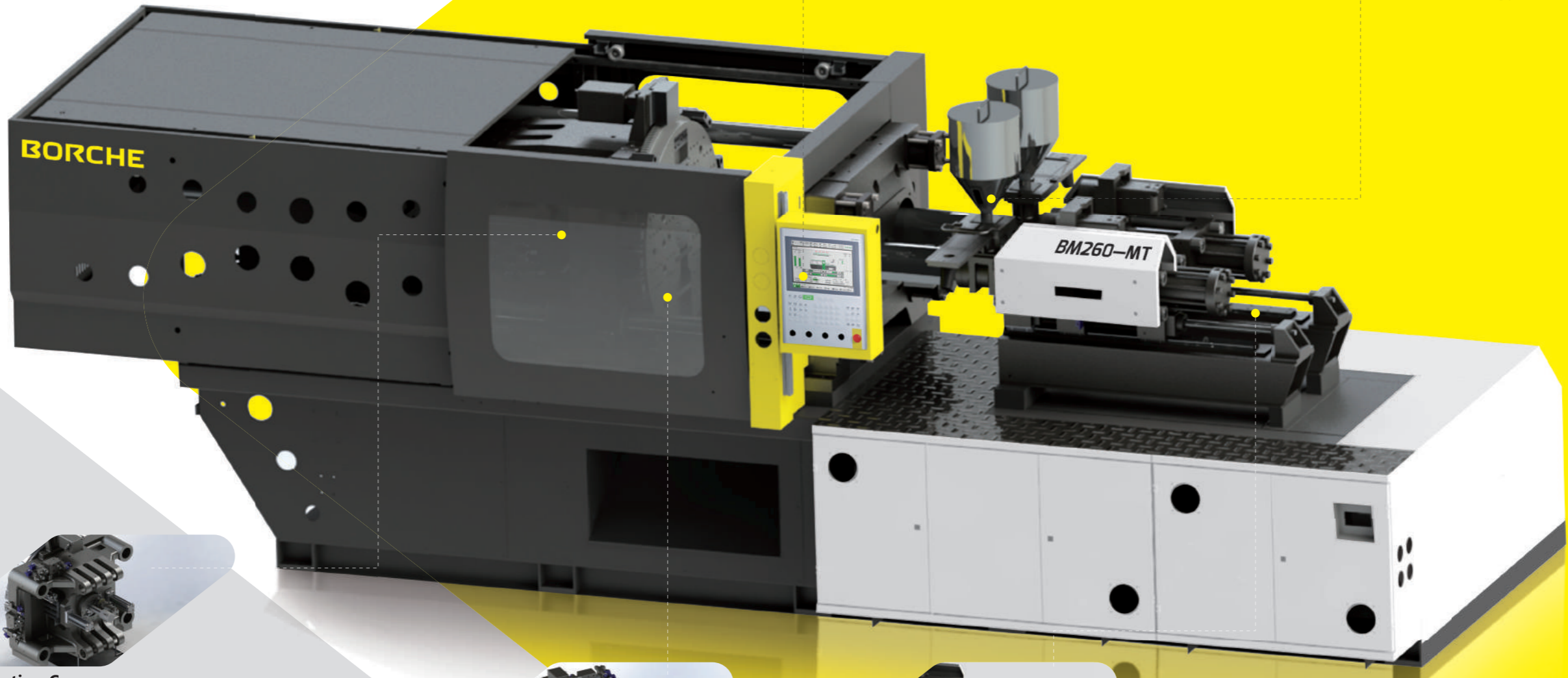


BORCHE BM

MT Series

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

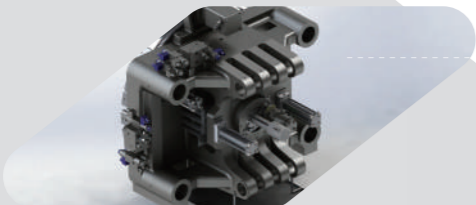
BORCHE BM



Automatic Control
Austria made KEBA controller model 2880

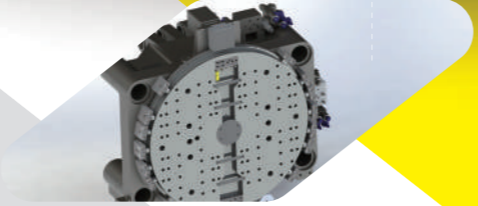


Movable Hopper Support
Machines up to 600T featured with movable hopper support ($\geq 700T$ featured with feeding platform) .



Rotating Core

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



Rotary Platen



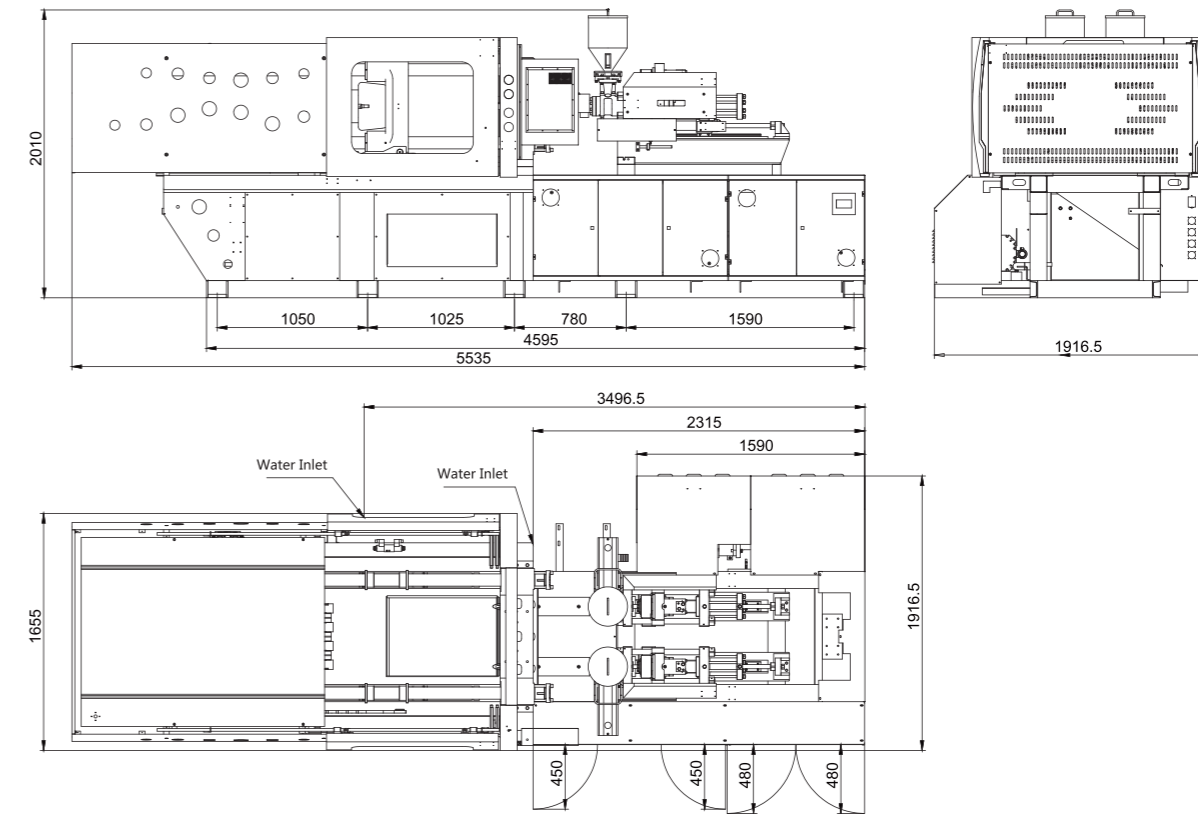
Linear Guide Rail

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

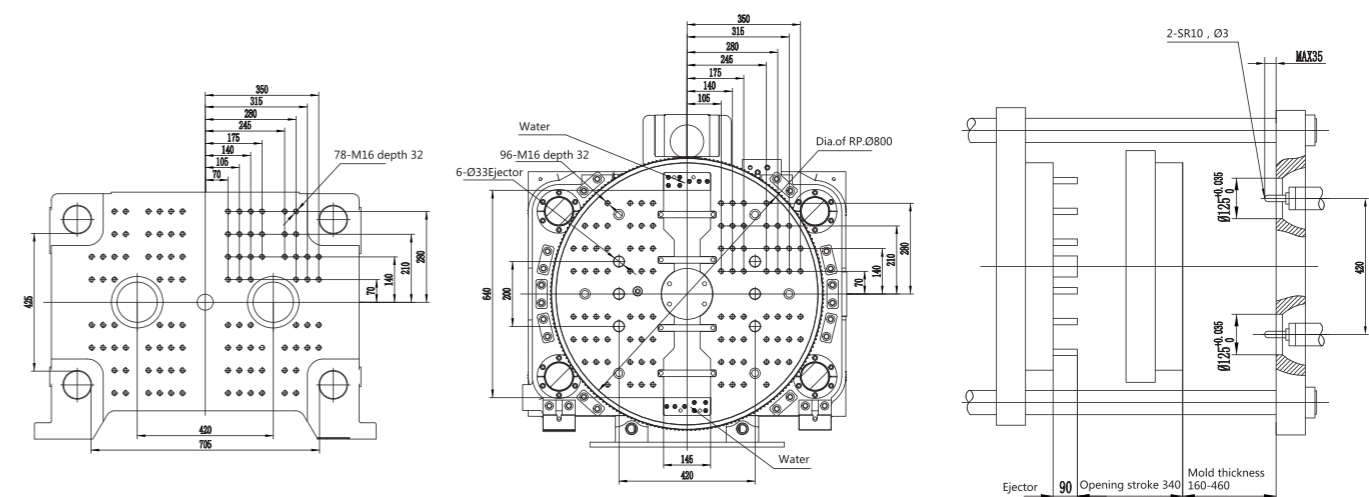
BM180-MT

BORCHE

Appearance and Installation Dimensions



Mold Platen Drawing



| DESCRIPTION | Unit | BM180-MT | | | | | | | | | | | |
|-------------------------------|-----------------|---------------------|------|------|-------|-------|-------|---------------------|------|------|-------|-------|-------|
| | | Main injection unit | | | | | | Side injection unit | | | | | |
| INJECTION UNIT | | | | | | | | | | | | | |
| Screw Diameter | mm | A | B | C | A | B | C | A | B | C | A | B | C |
| Short Volume | cm ³ | 26 | 28 | 30 | 30 | 35 | 40 | 26 | 28 | 30 | 30 | 35 | 40 |
| Shot Weight(PS) | g | 72.7 | 84.4 | 96.8 | 141.4 | 192.4 | 251.3 | 72.7 | 84.4 | 96.8 | 141.4 | 192.4 | 251.3 |
| Shot Weight(PS) | 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 | 66.2 | 76.8 | 88.1 | 128.6 | 175.1 | 228.7 | 66.2 | 76.8 | 88.1 | 128.6 | 175.1 | 228.7 |
| Screw L/D Ratio | L/D | 2.3 | 2.7 | 3.1 | 4.5 | 6.1 | 8 | 2.3 | 2.7 | 3.1 | 4.5 | 6.1 | 8 |
| Injection Stroke | mm | 285 | 246 | 214 | 304 | 223 | 171 | 285 | 246 | 214 | 304 | 223 | 171 |
| Screw Rotary Speed max | r/min | 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 | mxmxm | 5.8x2x2.1 | | | | | | | | | | | |
| Machine Weight (Without RP) | KG | 10000 | | | | | | | | | | | |

BORCHE BM

ML Series

BM-ML two component machine is upgraded based on B5 standard injection machine.

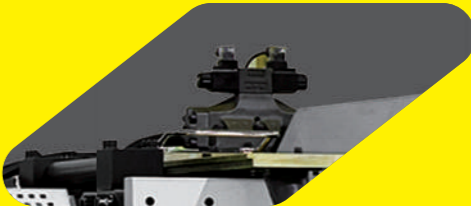
Taking BM150-022ML for example, the main and side injection units are equipped with $\phi 40$ and $\phi 25$ screws respectively. Mold thickness is increased from 500mm to 550mm while the clamping specification of the B5150-III remains unchanged. Different injection unit size can be changed as per customer's requirement.

Basic Model

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



Automatic control
Austria made KEBA controller model 2880

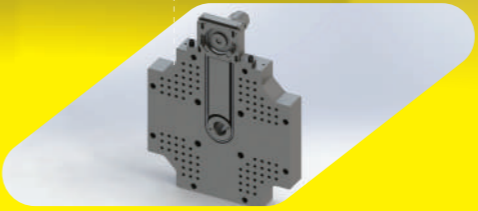


Movable Hopper Support
Machines up to 600T featured with movable hopper support ($\geq 700T$ featured with feeding platform) .

- 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

BORCHE BM

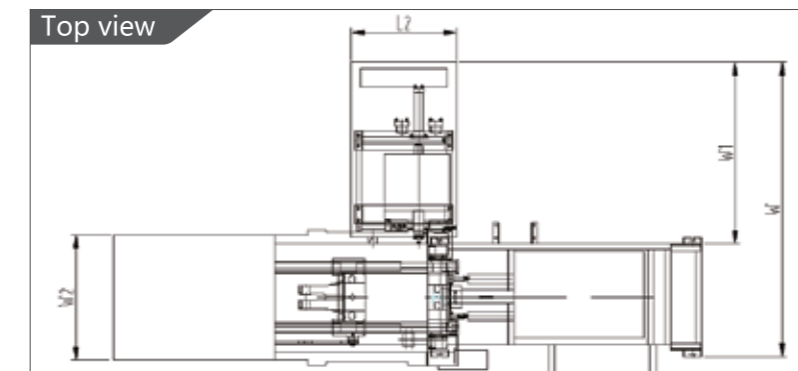
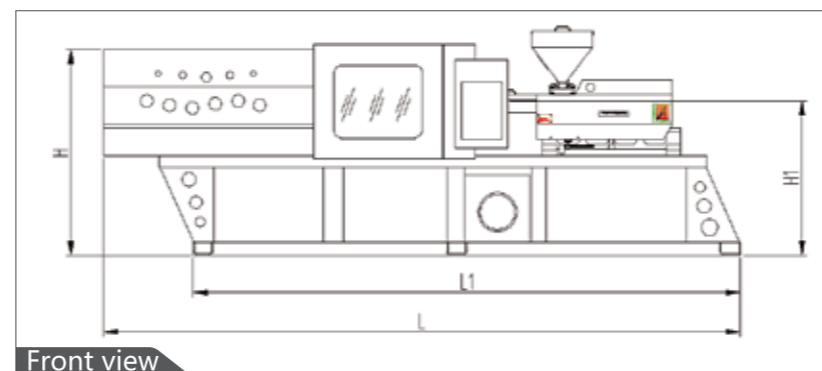
ML Specification

BORCHE

| 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 | cm ³ | 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 | | 400 | | 190 | | | | | | | | | | |
| Screw Rotary Speed max | rpm | 175 | | 280 | | 206 | | 280 | | 149 | | 280 | | 155 | | 178 | | 159 | | 178 | | 119 | | 184 | | | | | | | | | | |
| Nozzle Contact Force | KN | 30 | | 30 | | 30 | | 30 | | 30 | | 30 | | 40 | | 20 | | 70 | | 20 | | 80 | | 30 | | | | | | | | | | |
| Nozzle Stroke | mm | 250 | | 250 | | 250 | | 250 | | 280 | | 250 | | 350 | | 250 | | 360 | | 250 | | 395 | | 250 | | | | | | | | | | |
| CLAMPING UNIT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Clamping Force | KN | 1200 | | | | 1500 | | | | 2000 | | | | 2600 | | | | 3200 | | | | 4000 | | | | | | | | | | | | |
| Opening Stroke | mm | 340 | | | | 410 | | | | 465 | | | | 520 | | | | 580 | | | | 655 | | | | | | | | | | | | |
| Platen Size | mmxmm | 590X590 | | | | 670X670 | | | | 750X750 | | | | 835X835 | | | | 950X950 | | | | 1060X1030 | | | | | | | | | | | | |
| Space btw. Tie Bars | mmxmm | 410X410 | | | | 460X460 | | | | 510X510 | | | | 575X575 | | | | 670X670 | | | | 730X700 | | | | | | | | | | | | |
| Daylight max | mm | 840 | | | | 960 | | | | 1110 | | | | 1320 | | | | 1480 | | | | 1655 | | | | | | | | | | | | |
| Mold Thickness(min-max) | mm | 300-500 | | | | 300-550 | | | | 350-650 | | | | 400-800 | | | | 450-900 | | | | 500-1000 | | | | | | | | | | | | |
| Ejection Stroke | mm | 100 | | | | 130 | | | | 150 | | | | 180 | | | | 180 | | | | 205 | | | | | | | | | | | | |
| Ejector Force | KN | 34.4 | | | | 41.6 | | | | 49.5 | | | | 77.3 | | | | 77 | | | | 111.3 | | | | | | | | | | | | |
| Ejector Pin | | 4+1 | | | | 4+1 | | | | 4+1 | | | | 12+1 | | | | 8+1 | | | | 12+1 | | | | | | | | | | | | |
| Rotary Platen Model | | RP570 | | | | RP570 | | | | RP700 | | | | RP700 | | | | RP920 | | | | RP1050 | | | | | | | | | | | | |
| RP Diameter | mm | 500 | | | | 500 | | | | 600 | | | | 600 | | | | 800 | | | | 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 | | 14.5 | | 17.5 | | | | | | | | |
| Pump Motor | KW | 11 | | 8.6 | | 15 | | 8.6 | | 18.5 | | 8.6 | | 21 | | 11 | | 30 | | 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 | | | | | | | | | | |
| No. of Heater Zones | unit | 4 | | 4 | | 5 | | 4 | | 5 | | 4 | | 6 | | 4 | | 6 | | 4 | | 6 | | 4 | | | | | | | | | | |
| GENERAL UNIT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oil Tank Capacity | L | 200 | | | | 290 | | | | 340 | | | | 550 | | | | 785 | | | | 1200 | | | | | | | | | | | | |
| Machine Dimensions | mxmxm | 4.7X2.4X1.5 | | | | 5.1X2.5X1.6 | | | | 5.7X2.7X1.7 | | | | 6.7X2.8X1.9 | | | | 7.3X2.8X1.9 | | | | 8.3X2.7X2.0 | | | | | | | | | | | | |
| Machine Weight (Without RP) | Kg | 4500 | | | | 5000 | | | | 6500 | | | | 12000 | | | | 15000 | | | | 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

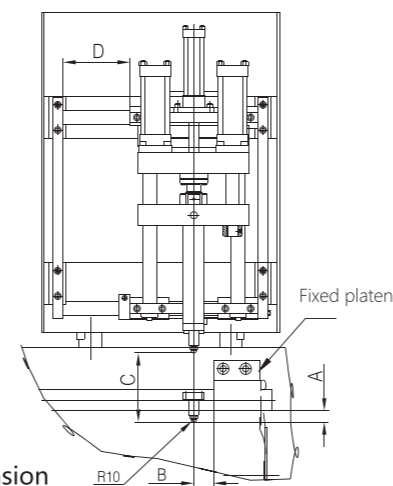
ML Specification

BORCHE

| 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 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | cm ³ | 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 | | 500 | | 190 | | 500 | | 525 | | 245 | | 600 | | 245 | | 650 | | 300 | | 700 | | 300 | | 940 | | 300 | | | | | | | | | | | | | |
| Screw Rotary Speed max | rpm | 119 | | 184 | | 128 | | 184 | | 100 | | 184 | | 100 | | 184 | | 100 | | 184 | | 100 | | 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 | | 200 | | 30 | | 200 | | 30 | | 200 | | 40 | | 200 | | 40 | | 290 | | 40 | | | | | | | | | | | | | |
| Nozzle Stroke | mm | 395 | | 250 | | 450 | | 250 | | 560 | | 250 | | 560 | | 250 | | 560 | | 250 | | 560 | | 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 | | | | | 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 | | 117.5 | | 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 | | 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 | | 16.2 | | | | | | | | | | | | | | | | | |
| No. of Heater Zones | unit | 6 | | 4 | | 6 | | 4 | | 8 | | 4 | | 8 | | 4 | | 8 | | 5 | | 8 | | 5 | | 8 | | 6 | | 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 | | | | 9.3X4.2X2.47 | | | | 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 | | | | | | | | | | | | | | | | | | |

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

| Model | Dimensions | A | B | C | D |
|--------|------------|----|----|-----|-----|
| -022ML | | 40 | 70 | 250 | 235 |
| -080ML | | 50 | 80 | 250 | 330 |
| -120ML | | 50 | 80 | 250 | 400 |



Side Injection Unit Dimension

BORCHE BM

MV Series

MV two-component 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

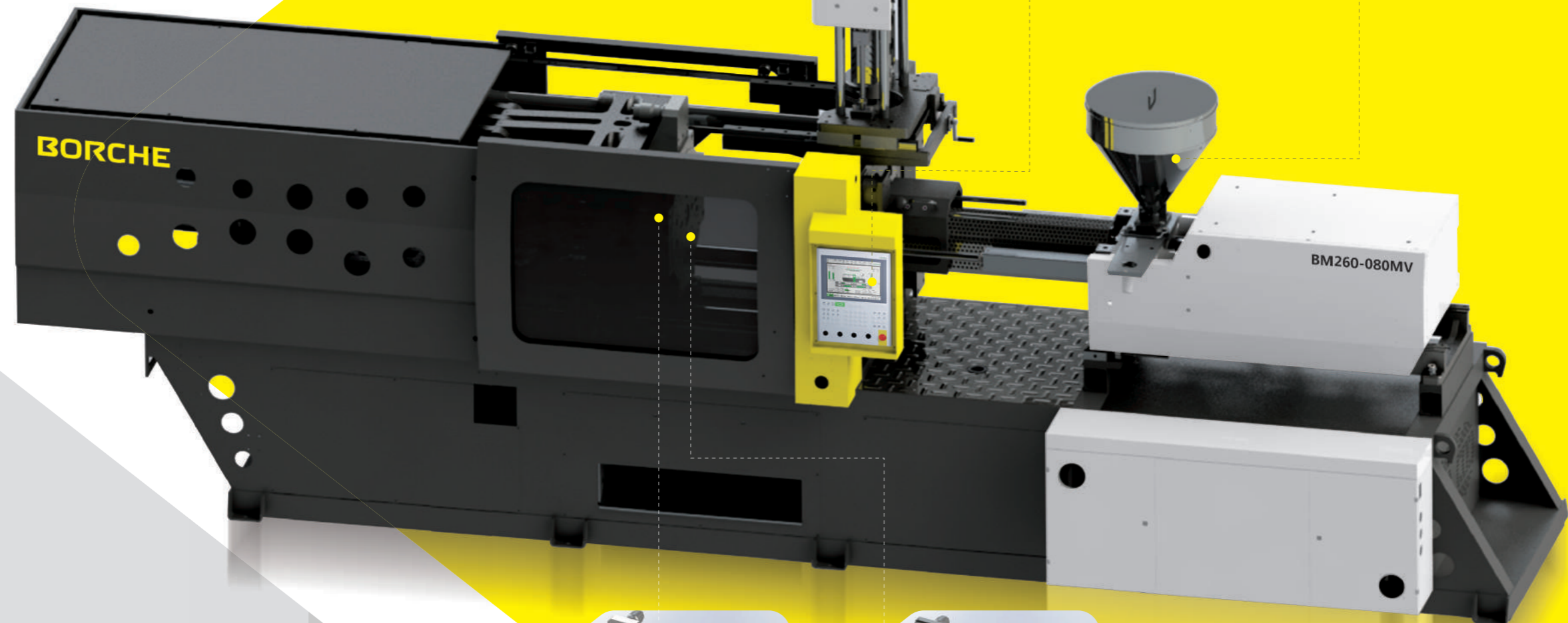
BORCHE BM



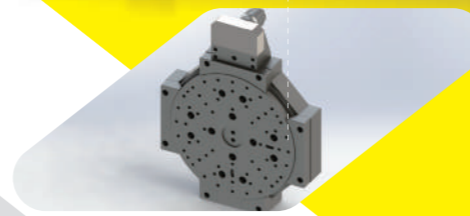
Automatic control
Austria made KEBA controller
model 2880



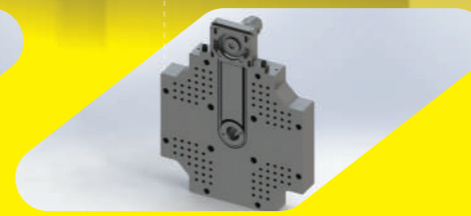
Movable Hopper Support
Machines up to 600T featured with
movable hopper support ($\geq 700T$
featured with feeding platform) .



- 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

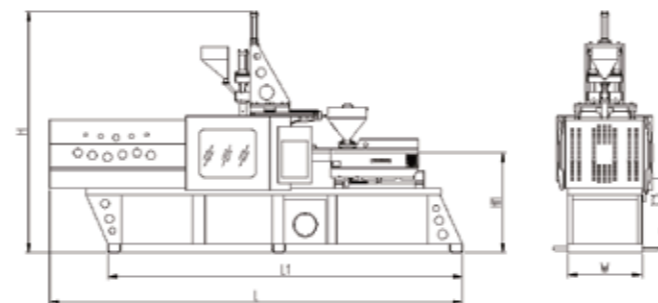
MV Spesification

BORCHE

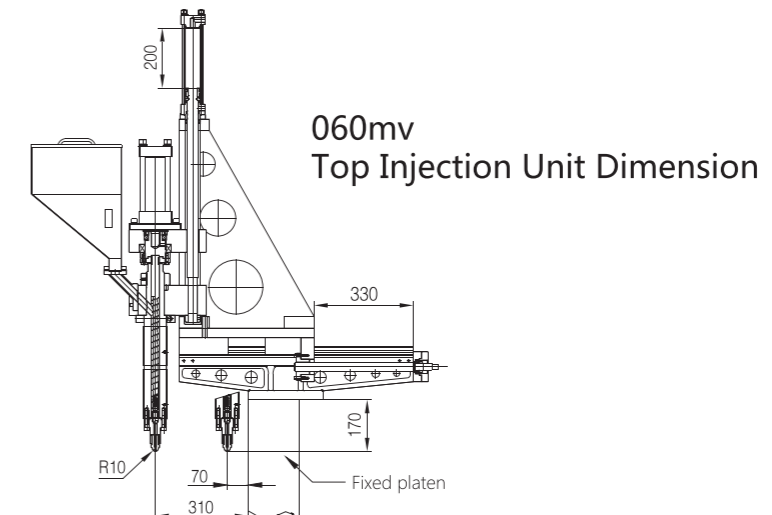
| DESCRIPTION | UNIT | BM120-060MV | | | | | BM150-060MV | | | | | BM200-060MV | | | | | BM260-060MV | | | | |
|-------------------------------|-----------------|---------------------|------|-----|---------------------|-----|---------------------|------|------|---------------------|-----|---------------------|-----|-----|---------------------|-----|---------------------|------|------|---------------------|-----|
| 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 | cm ³ | 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 | | | 250 | | 250 | | | 250 | | 280 | | | 250 | | 350 | | | 250 | |
| 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 | | | | |
| Ejecction 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 | | | | |
| Pump Motor | KW | 11 | | | | | 8.6 | | | | | 18.5 | | | | | 8.6 | | | | |
| Heating Capacity | KW | 8.86 | | | | | 4.8 | | | | | 9.655 | | | | | 4.8 | | | | |
| No.of Heater Zones | unit | 4 | | | | | 4 | | | | | 5 | | | | | 4 | | | | |
| GENERAL UNIT | | | | | | | | | | | | | | | | | | | | | |
| Oil Tank Capacity | L | 200 | | | | | 290 | | | | | 340 | | | | | 550 | | | | |
| Machine Dimensions | mxmxm | 4.7X2.4X2.9 | | | | | 5.1X2.5X3.3 | | | | | 5.7X2.7X3.6 | | | | | 6.7X2.8X3.8 | | | | |
| 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 | Dimensions | | | | |
|-------------|------------|------|------|------|------|
| | 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



BORCHE BM

MK Series

Piggyback K Type Injection Unit

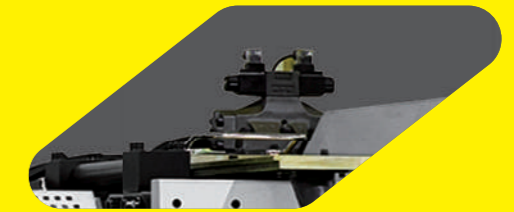
As the gap between two nozzles gets narrower, the space among four tie bars can be fully used, which facilitates to reduce mold size.

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

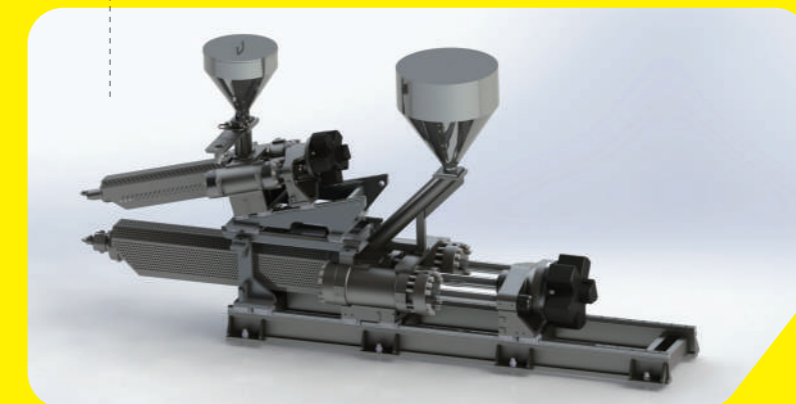
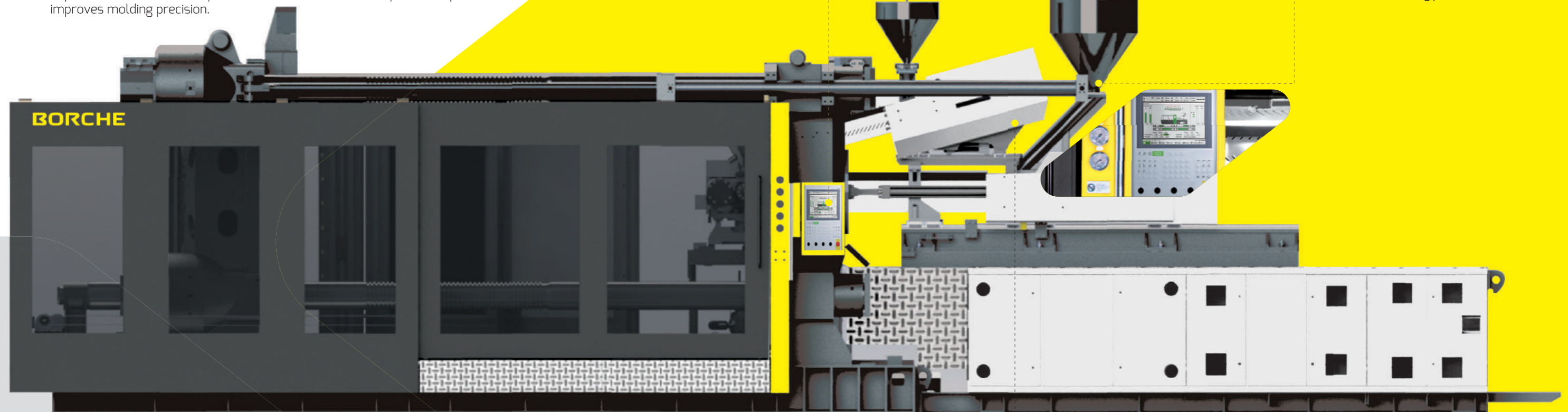
BORCHE BM



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) .



Piggyback K type injection unit

BORCHE BM

Three Component Machine



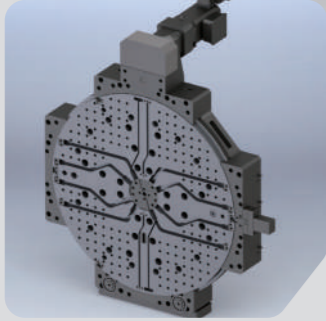
BORCHE BM



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-component co-injection program
- Customized four-component and five-component machines are available

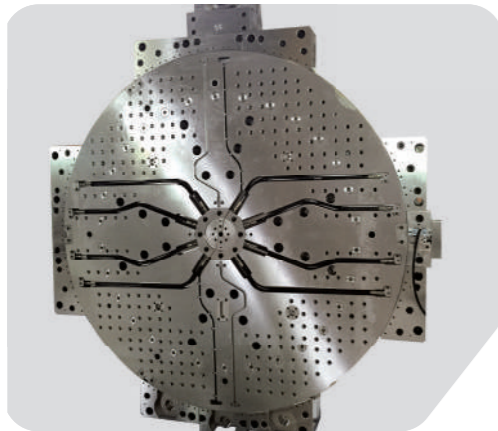


Piggyback K type injection molding unit

Rotary Platen

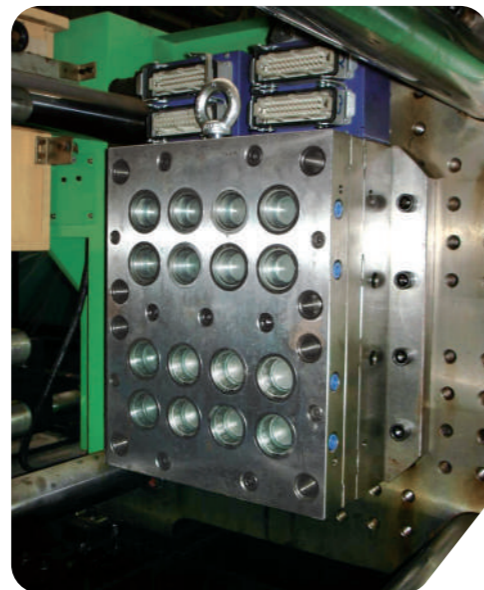
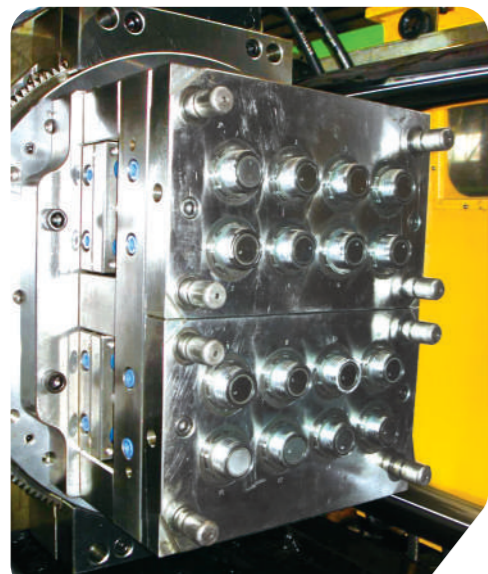
Side Injection Unit

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 $0^{\circ}\sim 180^{\circ}\sim 0^{\circ}$, $0^{\circ}\sim 120^{\circ}\sim 240^{\circ}\sim 0^{\circ}$, $0^{\circ}\sim 240^{\circ}\sim 120^{\circ}\sim 0^{\circ}$, 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.



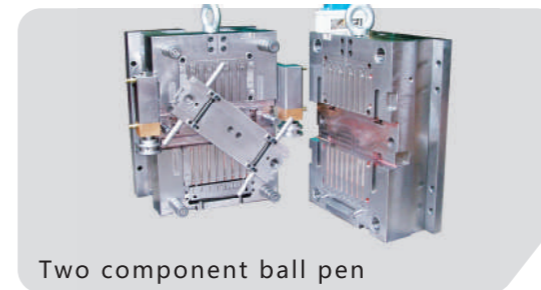
Models:

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

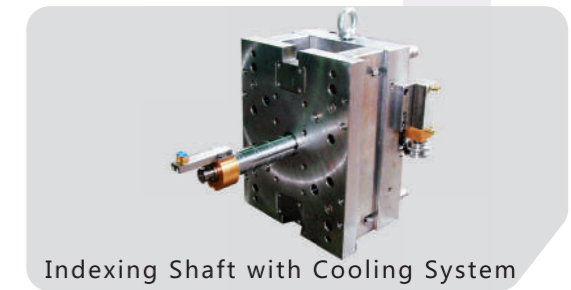


TP Indexing Unit

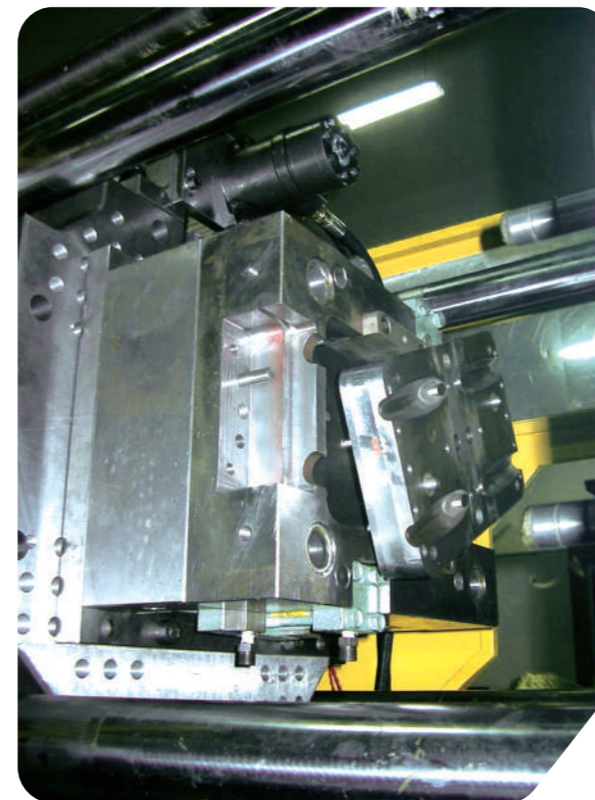
1. Central spindle connected to mold core enable mold core forward movement, and retract to original position after 180° rotation making ready for second shot.
2. Central spindle equips with two water channels providing cooling for mold core, its length can be modified according to customer's request.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



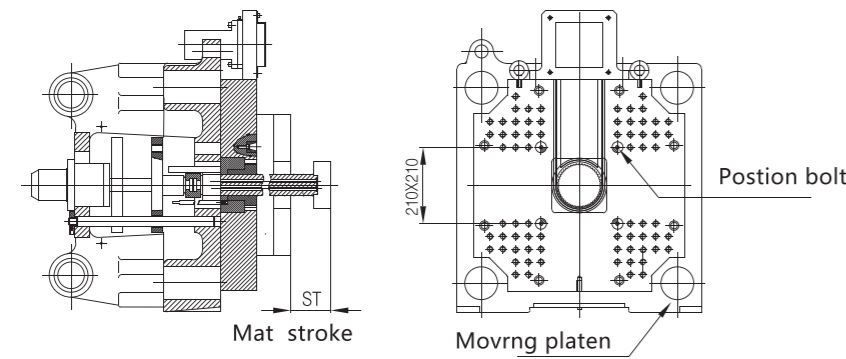
Indexing Shaft with Cooling System



Models:

TP580 for BM120 BM150
 TP700 for BM200 BM260
 TP900 for BM320

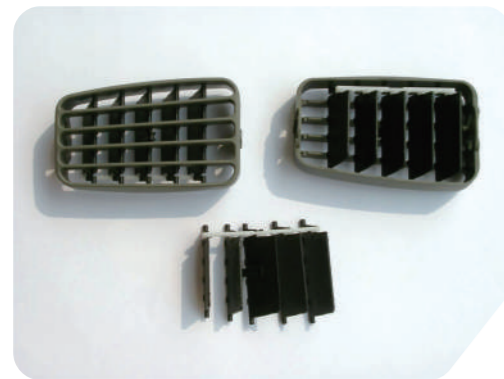
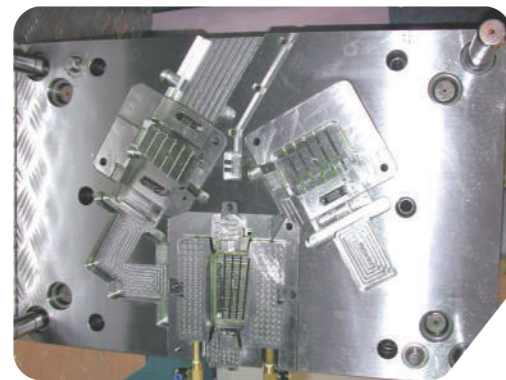
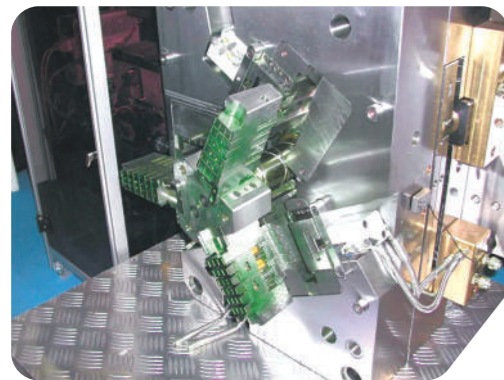
TP Indexing Unit



TP indexing Unit Dimension

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

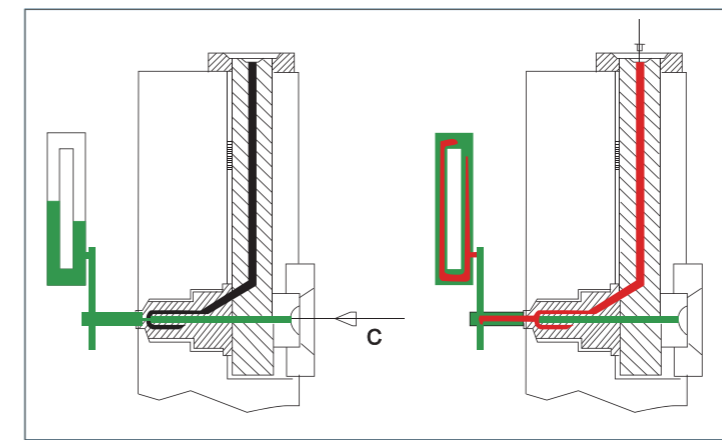
Three-component machine with three component indexing unit can realize parts moving and assembly inside the mold, which greatly improves quality and productivity.



TP Indexing Unit Sketch

The sandwich molding unit is mounted on the fixed platen of "L type" or "V type" two-component 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.

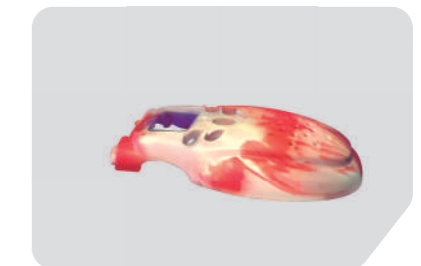
Sandwich Injection Theory Sketch



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.



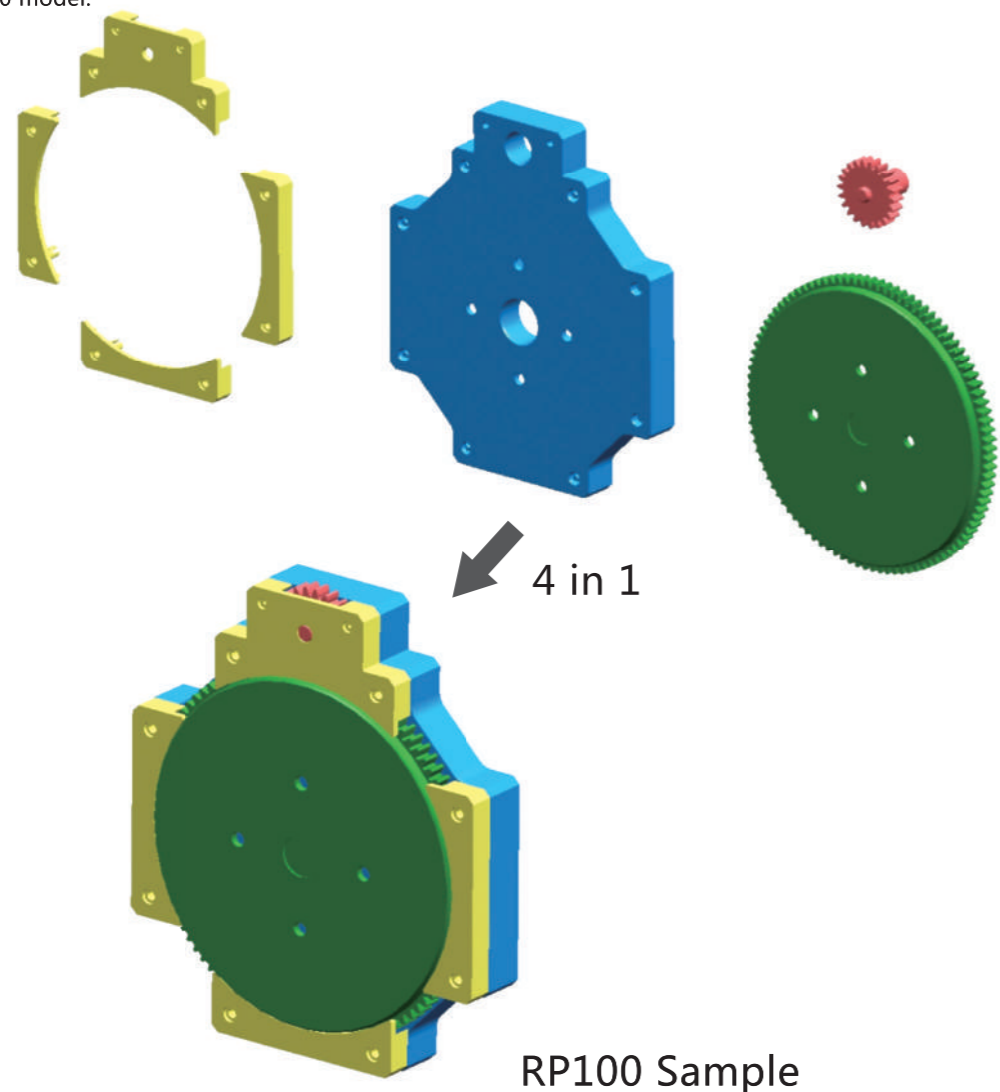
Multi-component Injection + In-mold Automation

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- component 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 turn 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.



Application

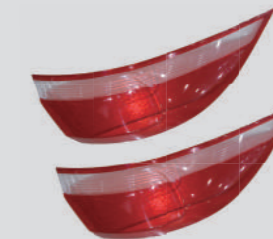
Personal care: Teeth brush

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 LIMIT

| | | |
|----|--|---|
| 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 | ○ |

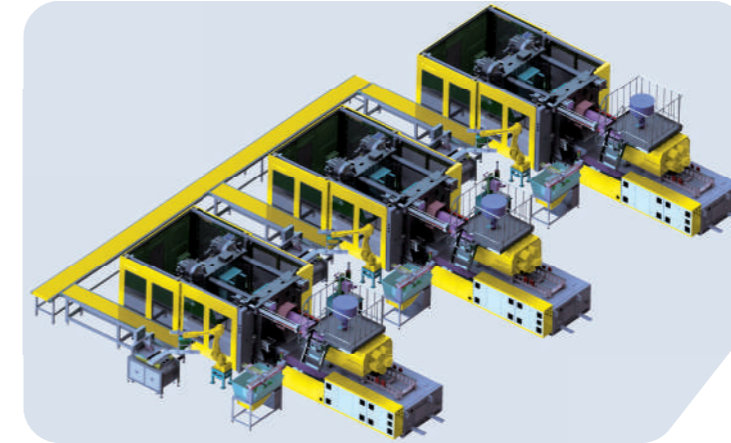
CONTROL UNIT

| | | |
|---|-----------------------|---|
| 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:

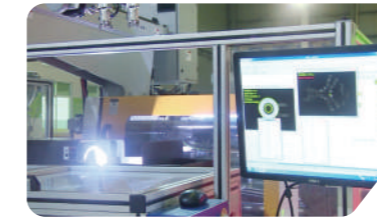
| | |
|----|--|
| 1 | With Industry 4.0 on IMM, three mold change ways can be realized with mold change platform: one-stop automatic mold change, semi-automatic mold change and manual mold change. IMM can automatically identify mold and acquire parameter of mold change, technique and peripherals. The 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 Prognosis 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- Borsche specializes in intelligent IMM factory design. Many intelligent factory cases carried out worldwide in IMM industry.

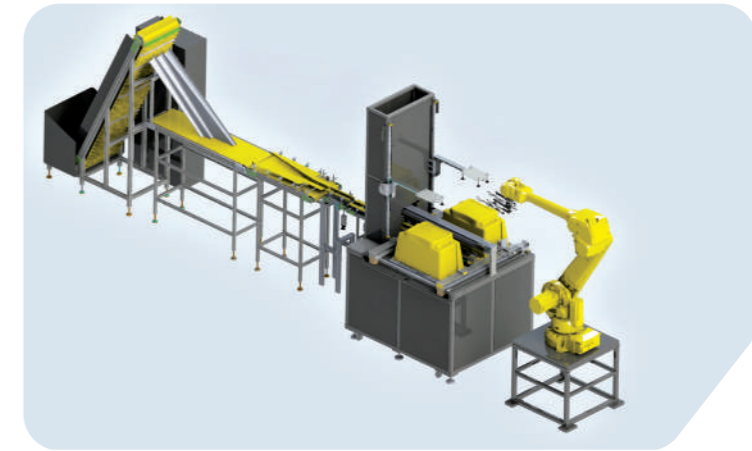


02 Flexible Automation -360° visual detection, robot operation, automatic assembling, parts insert, polishing and deburring...

Visual Detective System



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



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

