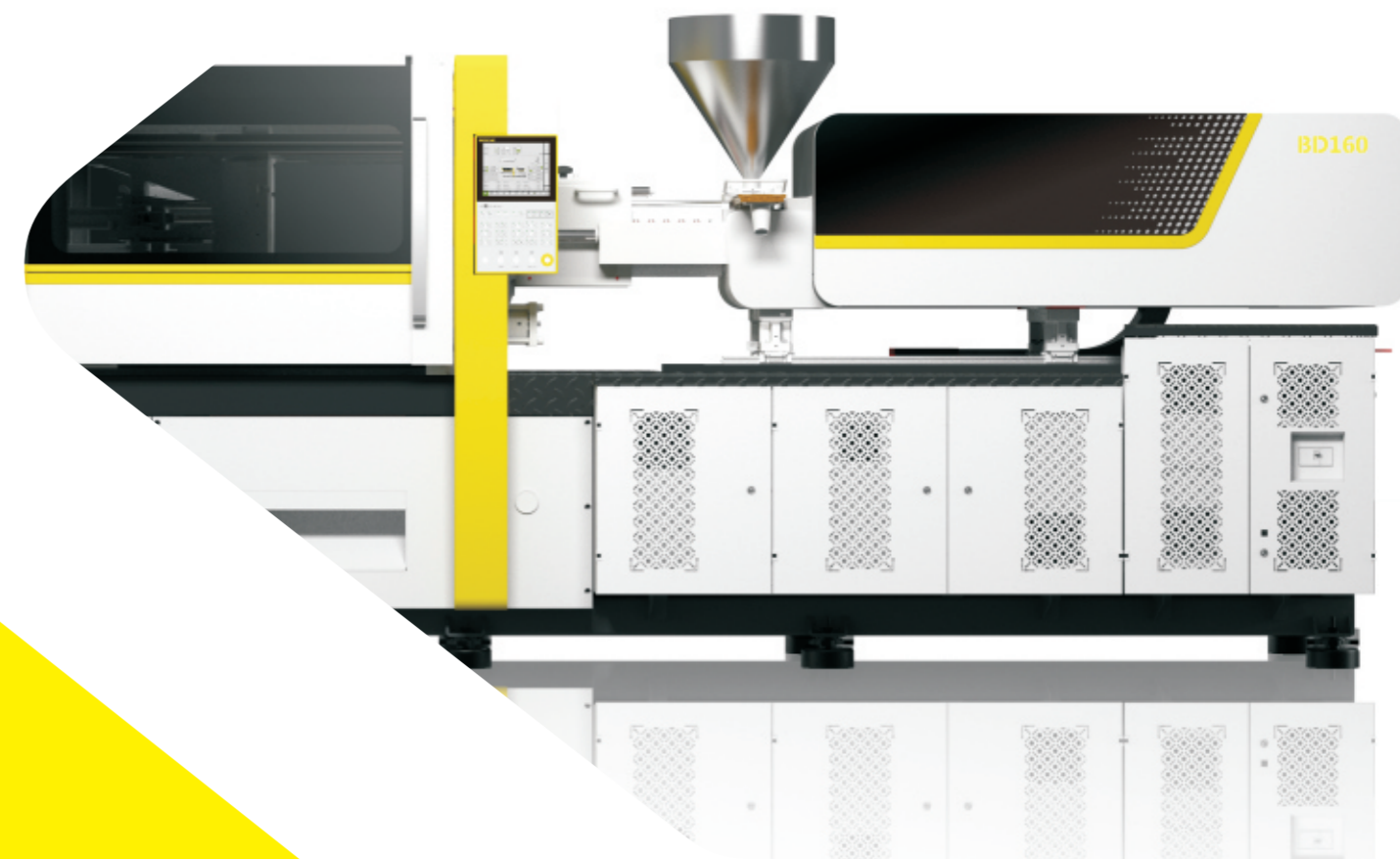


All data in this brochure are general information and shall not be regarded as contractual documents.
We reserve the right to make any change due to technical improvement without prior notice.

BORCHE



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Aug 2022



New Generation Electric Machine BD Series Direct Drive Technology

Achievement of 18 Years' Electric Machine Research
First Choice to Replace High-end Hydraulic Machine

BD

New Generation Electric Machine
Direct Drive Technology



Fast

Accuracy

Energy Saving

Aesthetic

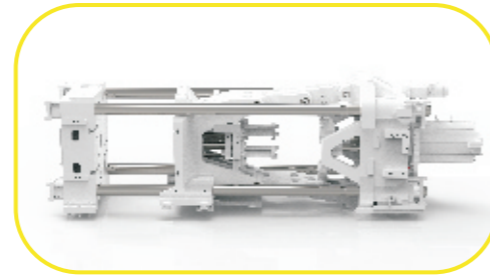
Fast Double Efficiency



Quick response: injection response time less than **50ms**



Overlapped movement: production time shortened by **30%**



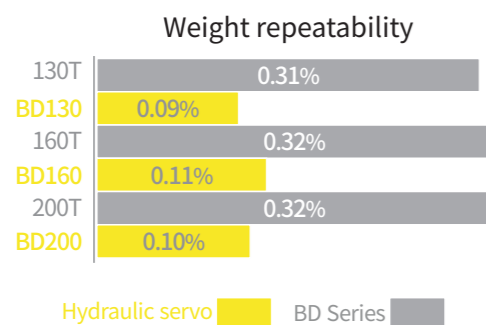
Fast mold open & close: **500mm/s**



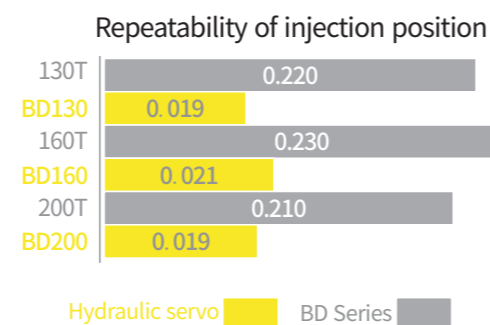
Fast cycle time: dry cycle decreased by **20%**

Accuracy Quality Guarantee

Repeatability precision of product weight increased by 3 times



Repeatability precision of injection position increased by 10 times



*The above parameters are obtained via internal test for reference only.

Energy Saving

Energy saving by 30%

Low water consumption

Raw material saving: low product defects

Low oil consumption, 80% less than hydraulic machine



节能型注塑机



国家塑料机械产品质量
监督检验中心认证

国家塑料机械产品质量
监督检验中心认证



节能型注塑机



Aesthetic

Brand new design, integration of aesthetics and ergonomics



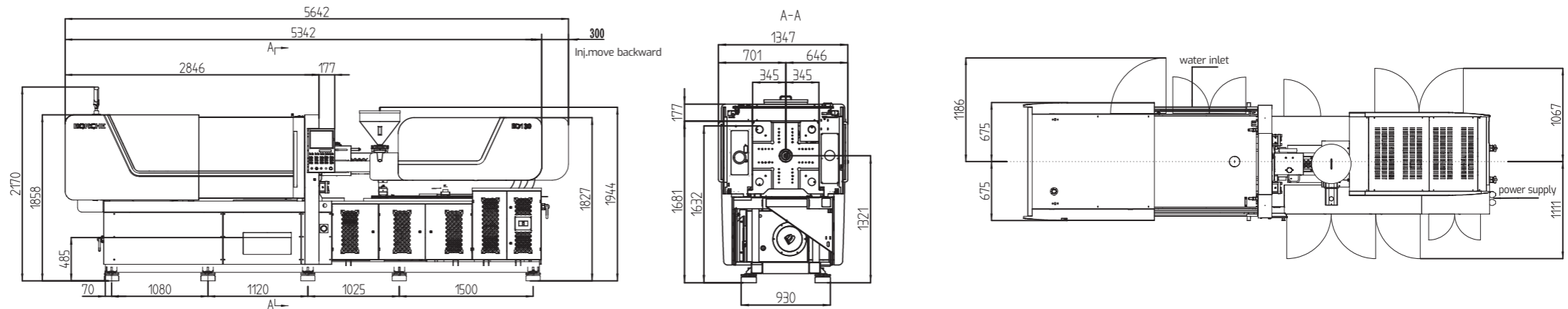
| Model | Unit | BD130 | | | | BD160 | | | | BD200 | | | | BD240 | | | | BD300 | | | | BD380 | | | | BD460 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----------------------------|-----------------|----------------|----------------|----------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------|-----------|------|-------|------|-----------|------|-------|------|-------|------|-------|------|-------|------|-------|------|-------|------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|------|------|------|------|-------|-------|
| International Class No. | | 330 | | 480 | | 330 | | 480 | | 690 | | 480 | | 690 | | 960 | | 690 | | 960 | | 1440 | | 960 | | 1440 | | 1940 | | 1440 | | 1940 | | 2430 | | 1940 | | 2430 | | | | | | | | | | | | | | | | | | | | |
| INJECTION UNIT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Screw Diameter | mm | 30 | 35 | 40 | 35 | 40 | 45 | 30 | 35 | 40 | 35 | 40 | 45 | 40 | 45 | 50 | 35 | 40 | 45 | 40 | 45 | 50 | 45 | 50 | 55 | 40 | 45 | 50 | 45 | 50 | 55 | 55 | 60 | 65 | 45 | 50 | 55 | 55 | 60 | 65 | 60 | 65 | 70 | 55 | 60 | 65 | 60 | 65 | 70 | 65 | 70 | 75 | 60 | 65 | 70 | 65 | 70 | 75 |
| Screw L/D Ratio | L/D | 24.0 | 20.5 | 18.0 | 23.5 | 20.5 | 18.0 | 24.0 | 20.5 | 18.0 | 23.5 | 20.5 | 18.0 | 23.0 | 21.0 | 17.0 | 23.5 | 20.5 | 18.0 | 23.0 | 21.0 | 17.0 | 23.0 | 21.0 | 17.0 | 23.0 | 21.0 | 17.0 | 22.7 | 21.0 | 22.7 | 23.0 | 21.0 | 17.0 | 22.7 | 21.0 | 22.7 | 24.5 | 22.7 | 21.0 | 22.7 | 21.0 | 22.7 | 24.5 | 22.7 | 21.0 | 22.6 | 21.0 | 19.6 | 24.5 | 22.7 | 21.0 | 22.6 | 21.0 | 19.6 | | | |
| Injection Stroke | mm | 170 | 170 | 170 | 190 | 190 | 190 | 170 | 170 | 170 | 190 | 190 | 190 | 215 | 215 | 215 | 190 | 190 | 190 | 215 | 215 | 215 | 245 | 245 | 245 | 215 | 215 | 215 | 245 | 245 | 245 | 300 | 300 | 300 | 245 | 245 | 245 | 300 | 300 | 300 | 325 | 325 | 325 | 300 | 300 | 300 | 325 | 325 | 325 | 350 | 350 | 350 | 325 | 325 | 325 | 350 | 350 | 350 |
| Shot Volume | cm ³ | 120 | 164 | 214 | 183 | 239 | 302 | 120 | 164 | 214 | 183 | 239 | 302 | 270 | 342 | 422 | 183 | 239 | 302 | 270 | 342 | 422 | 390 | 481 | 582 | 270 | 342 | 422 | 390 | 481 | 582 | 713 | 848 | 995 | 390 | 481 | 582 | 713 | 848 | 995 | 919 | 1078 | 1251 | 713 | 848 | 995 | 919 | 1078 | 1251 | 1161 | 1347 | 1546 | 919 | 1078 | 1251 | 1161 | 1347 | 1546 |
| Shot Weight(PS) | g | 109 | 149 | 194 | 166 | 217 | 275 | 109 | 149 | 194 | 166 | 217 | 275 | 246 | 311 | 384 | 166 | 217 | 275 | 246 | 311 | 384 | 355 | 438 | 530 | 246 | 311 | 384 | 355 | 438 | 530 | 649 | 772 | 906 | 355 | 438 | 530 | 649 | 772 | 906 | 836 | 981 | 1138 | 649 | 772 | 906 | 836 | 981 | 1138 | 1057 | 1226 | 1407 | 836 | 981 | 1138 | 1057 | 1226 | 1407 |
| Shot Weight(PS) | oz | 3.9 | 5.3 | 6.9 | 5.9 | 7.7 | 9.7 | 3.9 | 5.3 | 6.9 | 5.9 | 7.7 | 9.7 | 8.7 | 11.0 | 13.6 | 5.9 | 7.7 | 9.7 | 8.7 | 11.0 | 13.6 | 12.5 | 15.4 | 18.7 | 8.7 | 11.0 | 13.6 | 12.5 | 15.4 | 18.7 | 22.9 | 27.2 | 32.0 | 12.5 | 15.4 | 18.7 | 22.9 | 27.2 | 32.0 | 29.5 | 34.6 | 40.1 | 22.9 | 27.2 | 32.0 | 29.5 | 34.6 | 40.1 | 37.3 | 43.2 | 49.6 | 29.5 | 34.6 | 40.1 | 37.3 | 43.2 | 49.6 |
| Shot Rate(PS) | mm/s | 250 | | 250 | | 250 | | 250 | | 200 | | 250 | | 200 | | 200 | | 200 | | 200 | | 160 | | 200 | | 160 | | 160 | | 160 | | 160 | | 160 | | 160 | | 160 | | | | | | | | | | | | | | | | | | | | |
| Injection Pressure | Mpa | 272 | 200 | 153 | 261 | 200 | 158 | 272 | 200 | 153 | 261 | 200 | 158 | 253 | 200 | 162 | 261 | 200 | 158 | 253 | 200 | 162 | 247 | 200 | 165 | 253 | 200 | 162 | 247 | 200 | 165 | 202 | 170 | 145 | 247 | 200 | 165 | 202 | 170 | 145 | 211 | 180 | 155 | 202 | 170 | 145 | 211 | 180 | 155 | 209 | 180 | 157 | 211 | 180 | 155 | 209 | 180 | 157 |
| Holding Pressure | Mpa | 218 | 160 | 123 | 209 | 160 | 126 | 218 | 160 | 123 | 209 | 160 | 126 | 203 | 160 | 130 | 209 | 160 | 126 | 203 | 160 | 130 | 198 | 160 | 132 | 203 | 160 | 130 | 198 | 160 | 132 | 162 | 136 | 116 | 198 | 160 | 132 | 162 | 136 | 116 | 169 | 144 | 124 | 162 | 136 | 116 | 169 | 144 | 124 | 167 | 144 | 125 | 169 | 144 | 124 | 167 | 144 | 125 |
| Plasticizing Rate(PS) | g/s | 13.8 | 20.8 | 29.9 | 20.8 | 29.9 | 41.3 | 13.8 | 20.8 | 29.9 | 20.8 | 29.9 | 41.3 | 26.2 | 36.1 | 48.3 | 20.8 | 29.9 | 41.3 | 26.2 | 36.1 | 48.3 | 33.0 | 44.2 | 57.6 | 26.2 | 36.1 | 48.3 | 33.0 | 44.2 | 57.6 | 54.0 | 66.1 | 83.0 | 33.0 | 44.2 | 57.6 | 54.0 | 66.1 | 83.0 | 55.0 | 69.1 | 83.3 | 54.0 | 66.1 | 83.0 | 55.0 | 69.1 | 83.3 | 73.4 | 105.3 | 134.7 | 55.0 | 69.1 | 83.3 | 73.4 | 105.3 | 134.7 |
| Max. Injection Rotary Speed | rpm | 400 | | 400 | | 400 | | 400 | | 350 | | 400 | | 350 | | 320 | | 350 | | 320 | | 300 | | 320 | | 300 | | 250 | | 300 | | 250 | | 220 | | 250 | | 220 | | | | | | | | | | | | | | | | | | | | |
| Nozzle Contact Force | kN | 35 | | 35 | | 35 | | 35 | | 50 | | 35 | | 50 | | 65 | | 50 | | 65 | | 80 | | 65 | | 80 | | 80 | | 80 | | 80 | | 80 | | 80 | | 80 | | | | | | | | | | | | | | | | | | | | |
| CLAMPING UNIT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Clamping Force | kN | 1300 | | | | 1600 | | | | 2000 | | | | 2400 | | | | 3000 | | | | 3800 | | | | 4600 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Opening Stroke | mm | 380 | | | | 430 | | | | 510 | | | | 570 | | | | 630 | | | | 730 | | | | 820 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Platen Size | mmxmm | 690x690 | | | | 770x770 | | | | 840x840 | | | | 930x930 | | | | 1060x1060 | | | | 1190x1190 | | | | 1340x1340 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Space btw Tie Bars | mmxmm | 470x470 | | | | 530x530 | | | | 580x580 | | | | 630x630 | | | | 730x730 | | | | 830x830 | | | | 930x930 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Max. Daylight | mm | 860 | | | | 950 | | | | 1070 | | | | 1180 | | | | 1300 | | | | 1460 | | | | 1670 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Max. Mold Thickness | mm | 480 | | | | 520 | | | | 560 | | | | 610 | | | | 670 | | | | 730 | | | | 850 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Min. Mold Thickness | mm | 150 | | | | 180 | | | | 200 | | | | 220 | | | | 240 | | | | 250 | | | | 320 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ejection Stroke | mm | 110 | | | | 125 | | | | 150 | | | | 180 | | | | 180 | | | | 180 | | | | 180 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ejection Force | kN | 34.4 | | | | 42 | | | | 50 | | | | 77.3 | | | | 83 | | | | 100 | | | | 111 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ejector Pin | unit | 4+1 | | | | 4+4+1 | | | | 4+4+1 | | | | 8+4+1 | | | | 8+4+1 | | | | 4+8+4+1 | | | | 8+8+4+1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| POWER UNIT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| System Pressure | Mpa | 17.5 | | | | 17.5 | | | | 17.5 | | | | 17.5 | | | | 17.5 | | | | 17.5 | | | | 17.5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Electric Motor | kW | 32.5 | | 39.4 | | 36.5 | | 42.3 | | 48.2 | | 52.4 | | 58.2 | | 62.8 | | 58.2 | | 62.8 | | 85.6 | | 53.4 | | 76.2 | | 77.3 | | 80.2 | | 81.3 | | 83 | | 83 | | 89 | | | | | | | | | | | | | | | | | | | | |
| Heating Capacity | kW | 8.9 | | 11.8 | | 8.9 | | 11.8 | | 12.3 | | 11.8 | | 12.3 | | 18.4 | | 12.3 | | 18.4 | | 24.5 | | 18.4 | | 24.5 | | 34.3 | | 24.5 | | 34.3 | | 38.1 | | 34.3 | | 38.1 | | | | | | | | | | | | | | | | | | | | |
| No.of Heater Zones | unit | 4 | | 4 | | 4 | | 4 | | 5 | | 4 | | 5 | | 5 | | 5 | | 5 | | 6 | | 5 | | 6 | | 6 | | 6 | | 6 | | 6 | | 6 | | | | | | | | | | | | | | | | | | | | | | |
| GENERAL UNIT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Oil Tank Capacity | L | 100 | | 100 | | 100 | | 100 | | 100 | | 100 | | 100 | | 200 | | 200 | | 200 | | 200 | | 200 | | 200 | | 200 | | 200 | | 200 | | 200 | | 200 | | | | | | | | | | | | | | | | | | | | | | |
| Machine Dimensions | mxm | 5.64x1.36x2.17 | 6.03x1.36x2.17 | 5.76x1.49x2.32 | 5.9x1.49x2.32 | 6.33x1.49x2.32 | 6.23x1.53x2.41 | 6.61x1.53x2.41 | 7.03x1.53x2.41 | 6.86x1.66x2.52 | 7.28x1.66x2.52 | 7.48x1.66x2.52 | 7.03x1.78x2.55 | 7.24x1.78x2.55 | 7.62x1.77x2.55 | 7.69x1.97x2.61 | 8.13x1.97x2.60 | 8.61x1.97x2.60 | 9.27x2.03x2.66 | 9.75x2.03x2.66 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Machine Weight | kg | 5892 | | 5943 | | 6928 | | 6979 | | 7412 | | 8334 | | 8767 | | 8899 | | 10960 | | 11091 | | 11555 | | 14046 | | 14510 | | 15024 | | 18120 | | 18633 | | 19020 | | 21940 | | 22520 | | | | | | | | | | | | | | | | | | | | |

We reserve the right to make any change due to technical improvement without prior notice.

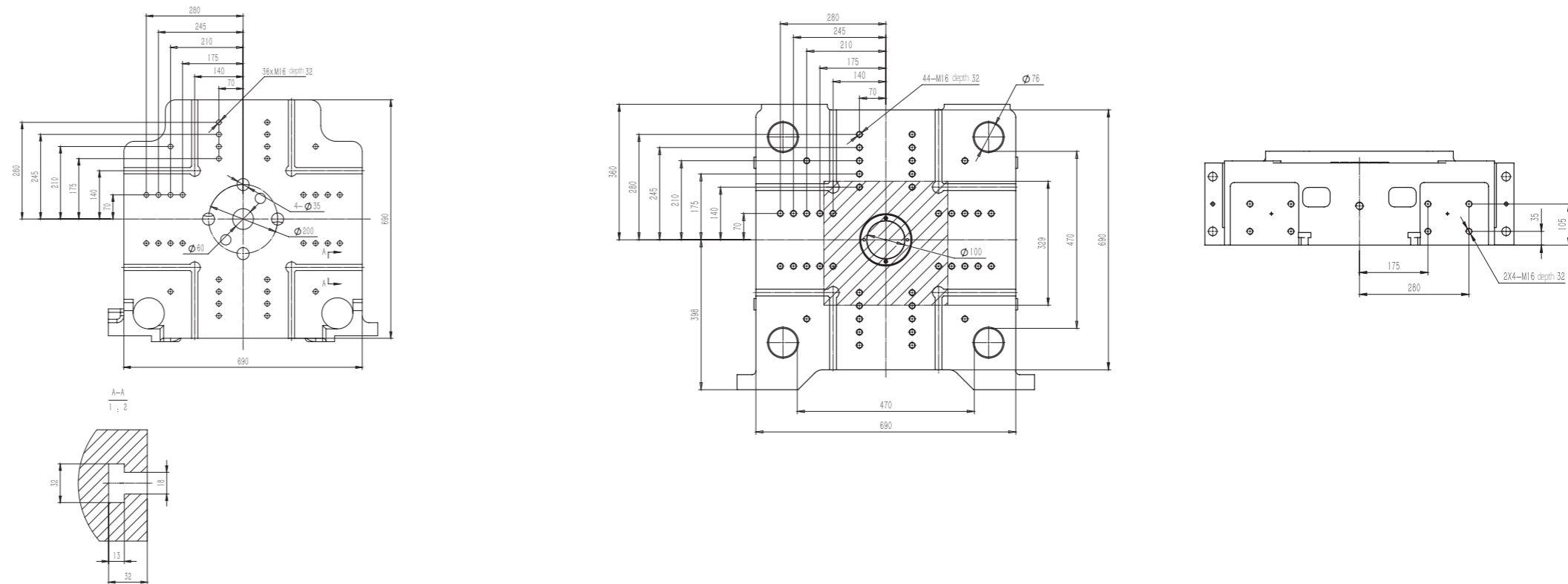
Specification

| Model | Unit | BD130 | |
|-----------------------------|-----------------|-------------------------------|-----|
| International Class No. | | 330 | 480 |
| INJECTION UNIT | | | |
| Screw Diameter | mm | 30 35 40 35 40 45 | |
| Screw L/D Ratio | L/D | 24.0 20.5 18.0 23.5 20.5 18.0 | |
| Injection Stroke | mm | 170 170 170 190 190 190 | |
| Shot Volume | cm ³ | 120 164 214 183 239 302 | |
| Shot Weight(PS) | g | 109 149 194 166 217 275 | |
| Shot Weight(PS) | oz | 3.9 5.3 6.9 5.9 7.7 9.7 | |
| Shot Rate(PS) | mm/s | 250 250 | |
| Injection Pressure | Mpa | 272 200 153 261 200 158 | |
| Holding Pressure | Mpa | 218 160 123 209 160 126 | |
| Plasticizing Rate(PS) | g/s | 13.8 20.8 29.9 20.8 29.9 41.3 | |
| Max. Injection Rotary Speed | rpm | 400 400 | |
| Nozzle Contact Force | kN | 35 35 | |
| CLAMPING UNIT | | | |
| Clamping Force | kN | 1300 | |
| Opening Stroke | mm | 380 | |
| Platen Size | mmxmm | 690x690 | |
| Space btw Tie Bars | mmxmm | 470x470 | |
| Max. Daylight | mm | 860 | |
| Max. Mold Thickness | mm | 480 | |
| Min. Mold Thickness | mm | 150 | |
| Ejection Stroke | mm | 110 | |
| Ejection Force | kN | 34.4 | |
| Ejector Pin | unit | 4+1 | |
| POWER UNIT | | | |
| System Pressure | Mpa | 17.5 | |
| Electric Motor | kW | 32.5 39.4 | |
| Heating Capacity | kW | 8.9 11.8 | |
| No.of Heater Zones | unit | 4 4 | |
| GENERAL UNIT | | | |
| Oil Tank Capacity | L | 100 100 | |
| Machine Dimensions | mxmxm | 5.64x1.36x2.17 6.03x1.36x2.17 | |
| Machine Weight | kg | 5892 5943 | |

Appearance and Installation Dimensions



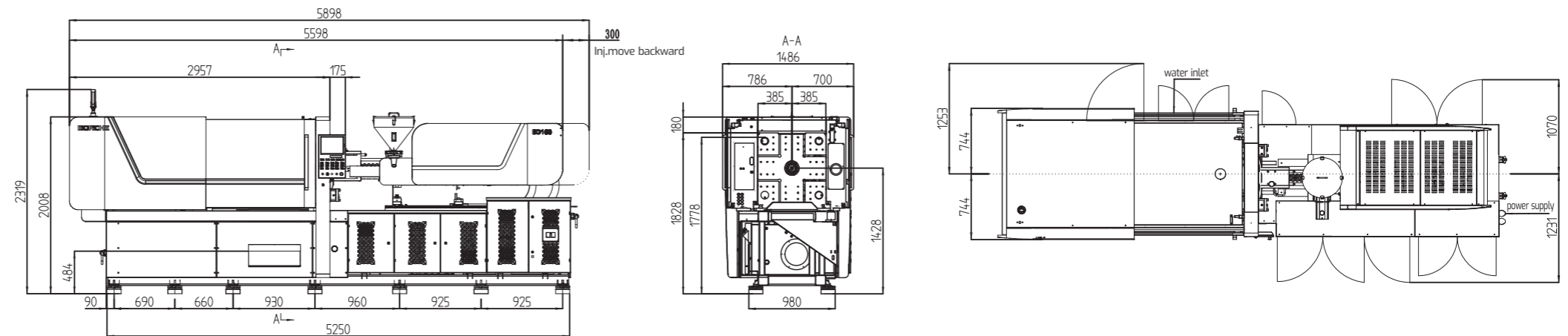
Mold Platen Drawing



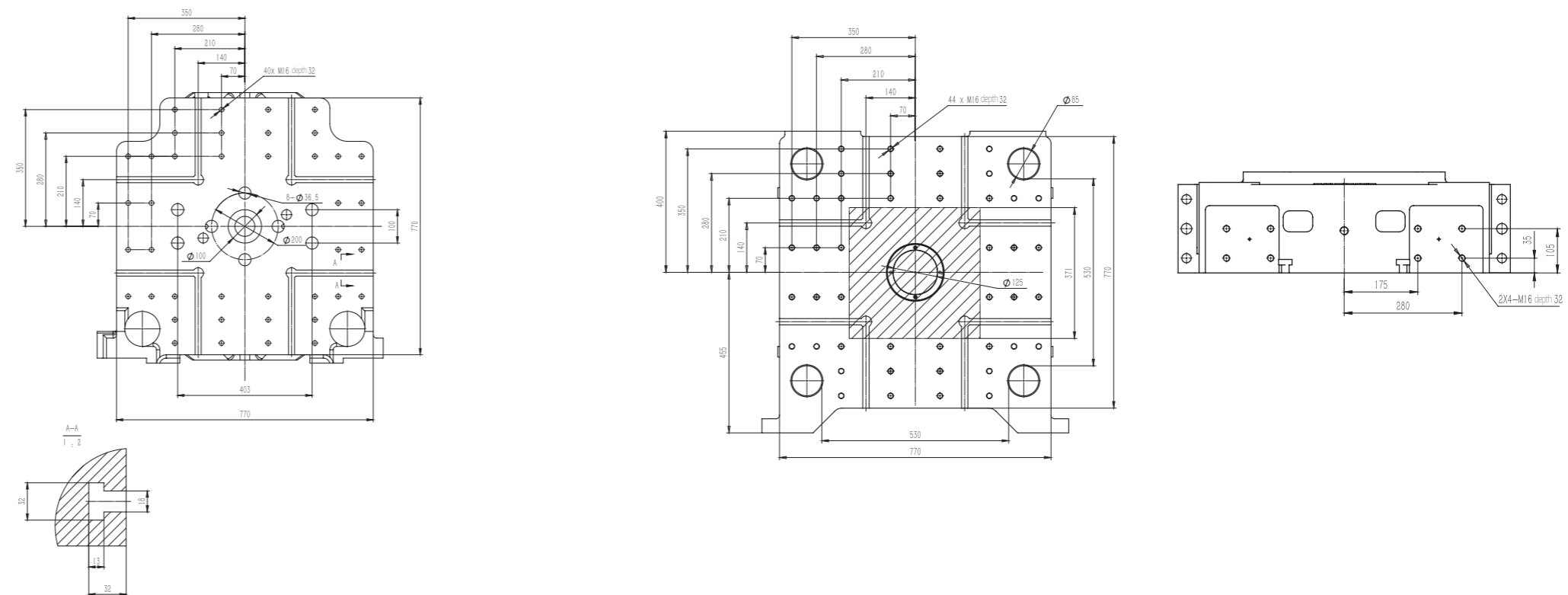
Specification

| Model | Unit | BD160 | | | | | | | | | |
|-----------------------------|-----------------|----------------|---------------|----------------|------|------|------|------|------|------|--|
| International Class No. | | 330 | 480 | 690 | | | | | | | |
| INJECTION UNIT | | | | | | | | | | | |
| Screw Diameter | mm | 30 | 35 | 40 | 35 | 40 | 45 | 40 | 45 | 50 | |
| Screw L/D Ratio | L/D | 24.0 | 20.5 | 18.0 | 23.5 | 20.5 | 18.0 | 23.0 | 21.0 | 17.0 | |
| Injection Stroke | mm | 170 | 170 | 170 | 190 | 190 | 190 | 215 | 215 | 215 | |
| Shot Volume | cm ³ | 120 | 164 | 214 | 183 | 239 | 302 | 270 | 342 | 422 | |
| Shot Weight(PS) | g | 109 | 149 | 194 | 166 | 217 | 275 | 246 | 311 | 384 | |
| Shot Weight(PS) | oz | 3.9 | 5.3 | 6.9 | 5.9 | 7.7 | 9.7 | 8.7 | 11.0 | 13.6 | |
| Shot Rate(PS) | mm/s | 250 | | 250 | | 200 | | | | | |
| Injection Pressure | Mpa | 272 | 200 | 153 | 261 | 200 | 158 | 253 | 200 | 162 | |
| Holding Pressure | Mpa | 218 | 160 | 123 | 209 | 160 | 126 | 203 | 160 | 130 | |
| Plasticizing Rate(PS) | g/s | 13.8 | 20.8 | 29.9 | 20.8 | 29.9 | 41.3 | 26.2 | 36.1 | 48.3 | |
| Max. Injection Rotary Speed | rpm | 400 | | 400 | | 350 | | | | | |
| Nozzle Contact Force | kN | 35 | | 35 | | 50 | | | | | |
| CLAMPING UNIT | | | | | | | | | | | |
| Clamping Force | kN | 1600 | | | | | | | | | |
| Opening Stroke | mm | 430 | | | | | | | | | |
| Platen Size | mmxmm | 770x770 | | | | | | | | | |
| Space btw Tie Bars | mmxmm | 530x530 | | | | | | | | | |
| Max. Daylight | mm | 950 | | | | | | | | | |
| Max. Mold Thickness | mm | 520 | | | | | | | | | |
| Min. Mold Thickness | mm | 180 | | | | | | | | | |
| Ejection Stroke | mm | 125 | | | | | | | | | |
| Ejection Force | kN | 42 | | | | | | | | | |
| Ejector Pin | unit | 4+4+1 | | | | | | | | | |
| POWER UNIT | | | | | | | | | | | |
| System Pressure | Mpa | 17.5 | | | | | | | | | |
| Electric Motor | kW | 36.5 | 42.3 | 48.2 | | | | | | | |
| Heating Capacity | kW | 8.9 | 11.8 | 12.3 | | | | | | | |
| No.of Heater Zones | unit | 4 | 4 | 5 | | | | | | | |
| GENERAL UNIT | | | | | | | | | | | |
| Oil Tank Capacity | L | 100 | 100 | 100 | | | | | | | |
| Machine Dimensions | mxmxm | 5.76x1.49x2.32 | 5.9x1.49x2.32 | 6.33x1.49x2.32 | | | | | | | |
| Machine Weight | kg | 6928 | 6979 | 7412 | | | | | | | |

Appearance and Installation Dimensions



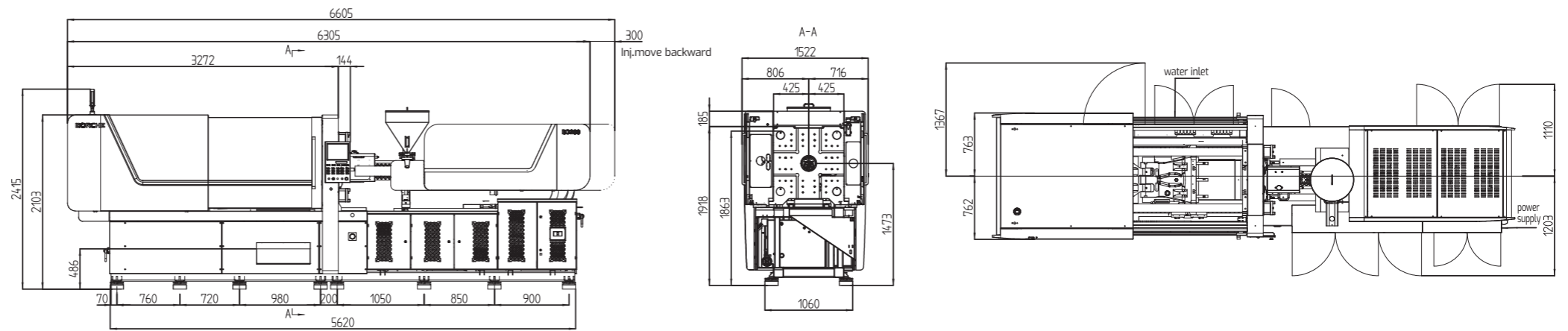
Mold Platen Drawing



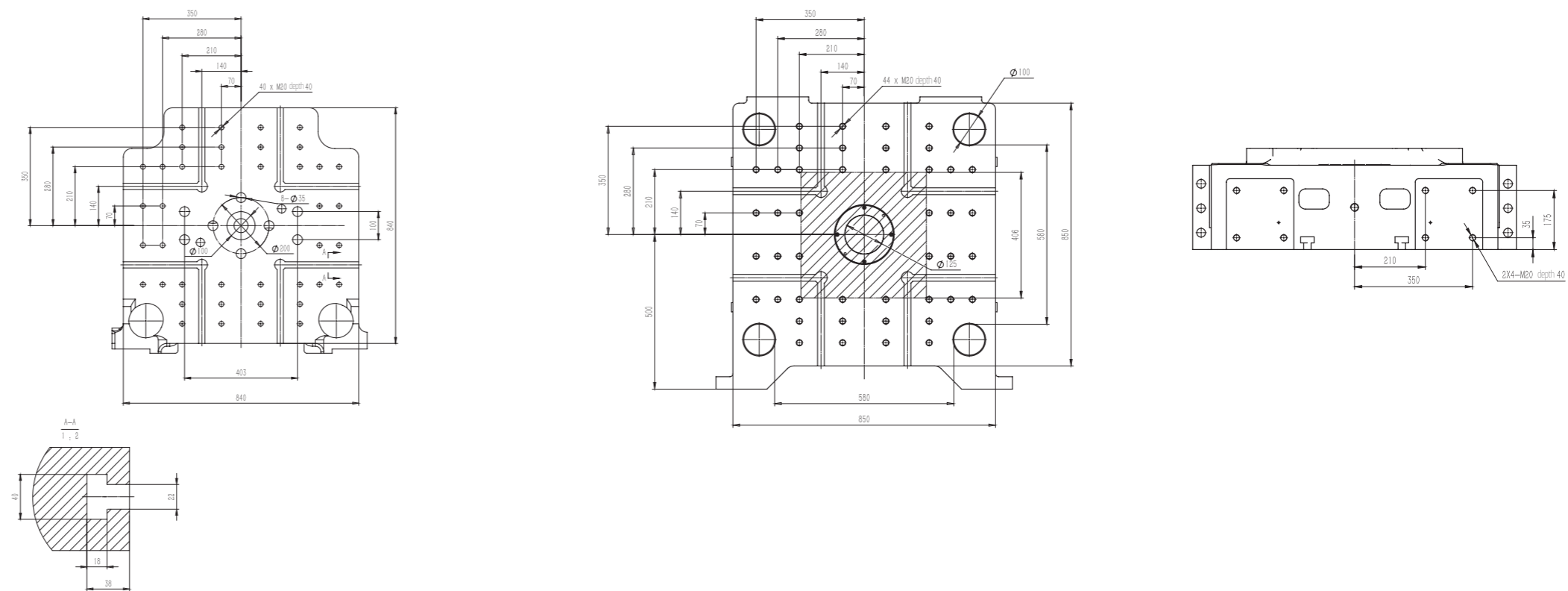
Specification

| Model | Unit | BD200 | | |
|-----------------------------|-----------------|--|-----|-----|
| International Class No. | | 480 | 690 | 960 |
| INJECTION UNIT | | | | |
| Screw Diameter | mm | 35 40 45 40 45 50 45 50 55 | | |
| Screw L/D Ratio | L/D | 23.5 20.5 18.0 23.0 21.0 17.0 23.0 21.0 17.0 | | |
| Injection Stroke | mm | 190 190 190 215 215 215 245 245 245 | | |
| Shot Volume | cm ³ | 183 239 302 270 342 422 390 481 582 | | |
| Shot Weight(PS) | g | 166 217 275 246 311 384 355 438 530 | | |
| Shot Weight(PS) | oz | 5.9 7.7 9.7 8.7 11.0 13.6 12.5 15.4 18.7 | | |
| Shot Rate(PS) | mm/s | 250 200 200 | | |
| Injection Pressure | Mpa | 261 200 158 253 200 162 247 200 165 | | |
| Holding Pressure | Mpa | 209 160 126 203 160 130 198 160 132 | | |
| Plasticizing Rate(PS) | g/s | 20.8 29.9 41.3 26.2 36.1 48.3 33.0 44.2 57.6 | | |
| Max. Injection Rotary Speed | rpm | 400 350 320 | | |
| Nozzle Contact Force | kN | 35 50 65 | | |
| CLAMPING UNIT | | | | |
| Clamping Force | kN | 2000 | | |
| Opening Stroke | mm | 510 | | |
| Platen Size | mmxmm | 840x840 | | |
| Space btw Tie Bars | mmxmm | 580x580 | | |
| Max. Daylight | mm | 1070 | | |
| Max. Mold Thickness | mm | 560 | | |
| Min. Mold Thickness | mm | 200 | | |
| Ejection Stroke | mm | 150 | | |
| Ejection Force | kN | 50 | | |
| Ejector Pin | unit | 4+4+1 | | |
| POWER UNIT | | | | |
| System Pressure | Mpa | 17.5 | | |
| Electric Motor | kW | 52.4 58.2 62.8 | | |
| Heating Capacity | kW | 11.8 12.3 18.4 | | |
| No. of Heater Zones | unit | 4 5 5 | | |
| GENERAL UNIT | | | | |
| Oil Tank Capacity | L | 100 100 100 | | |
| Machine Dimensions | mxm | 6.23x1.53x2.41 6.6x1.53x2.41 7.03x1.53x2.41 | | |
| Machine Weight | kg | 8334 8767 8899 | | |

Appearance and Installation Dimensions



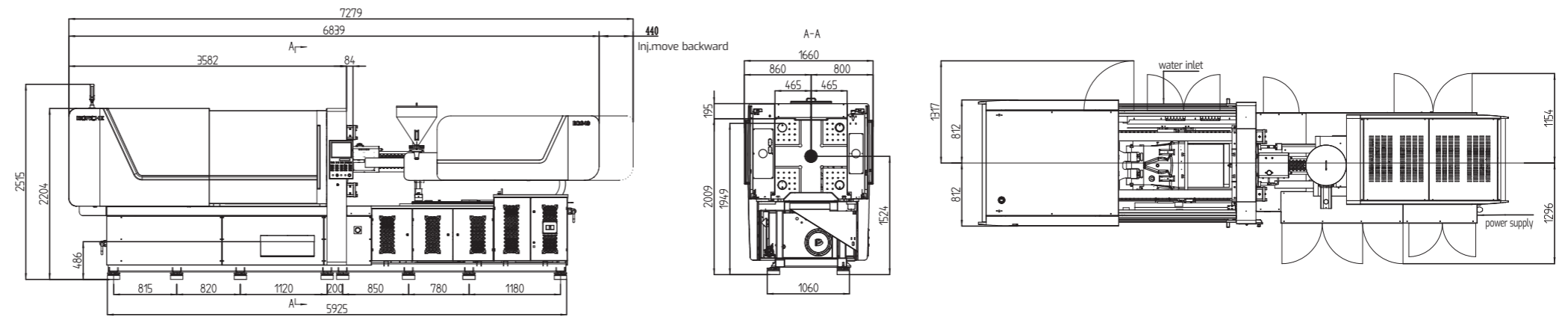
Mold Platen Drawing



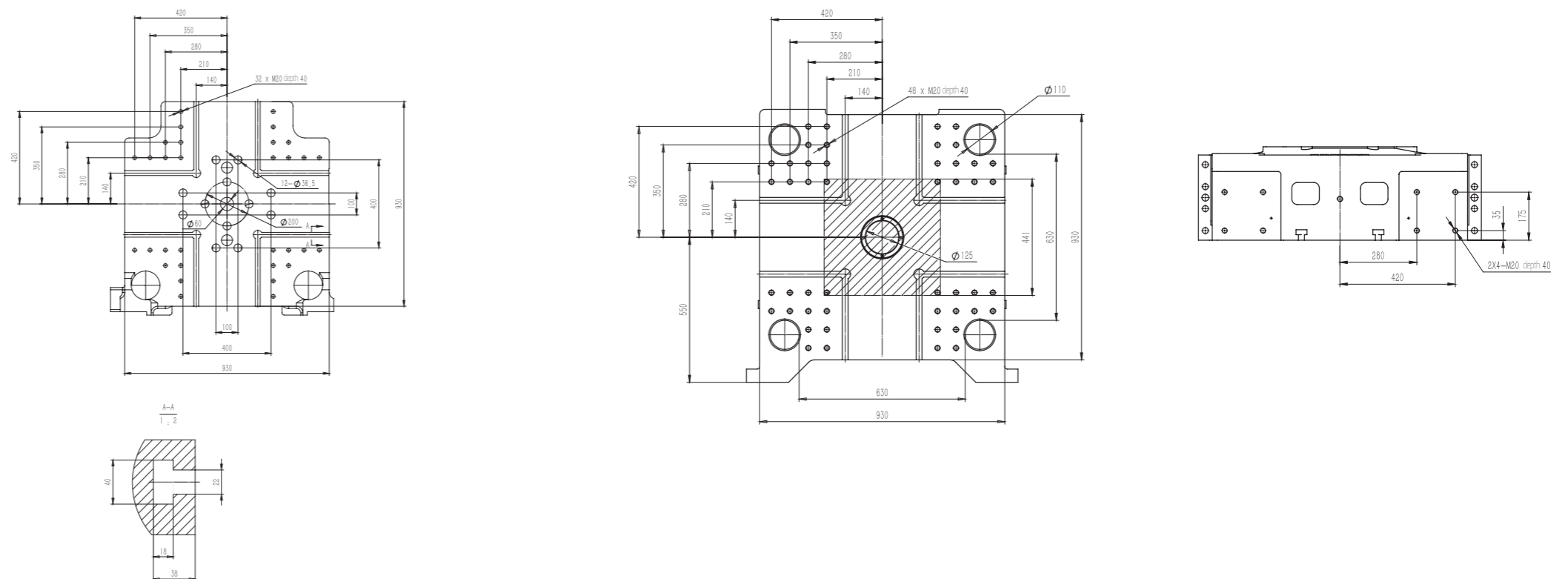
Specification

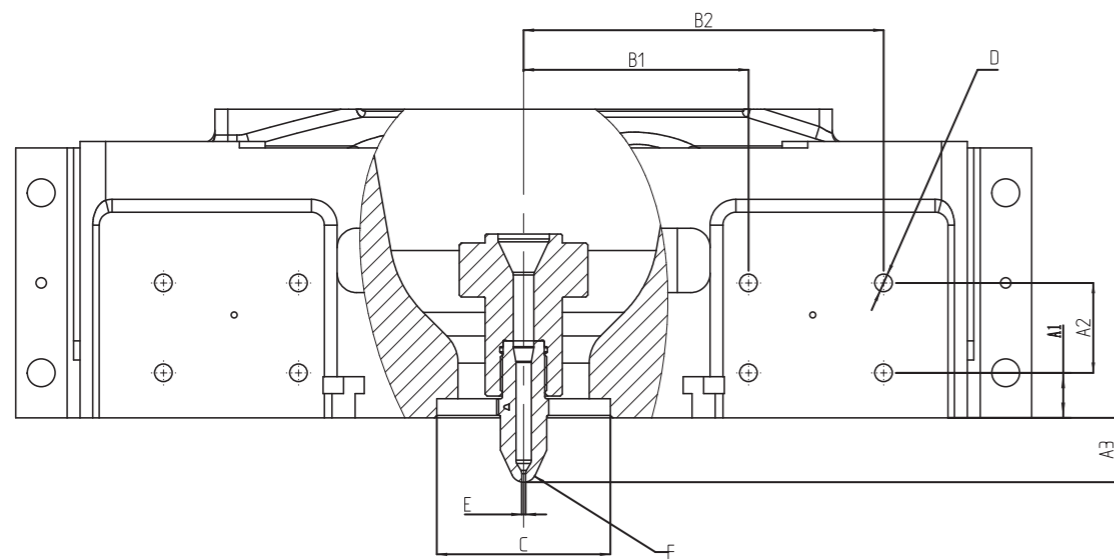
| Model | Unit | BD240 | | |
|-----------------------------|-----------------|--|-----|------|
| International Class No. | | 690 | 960 | 1440 |
| INJECTION UNIT | | | | |
| Screw Diameter | mm | 40 45 50 45 50 55 55 60 65 | | |
| Screw L/D Ratio | L/D | 23.0 21.0 17.0 23.0 21.0 17.0 22.7 21.0 22.7 | | |
| Injection Stroke | mm | 215 215 215 245 245 245 300 300 300 | | |
| Shot Volume | cm ³ | 270 342 422 390 481 582 713 848 995 | | |
| Shot Weight(PS) | g | 246 311 384 355 438 530 649 772 906 | | |
| Shot Weight(PS) | oz | 8.7 11.0 13.6 12.5 15.4 18.7 22.9 27.2 32.0 | | |
| Shot Rate(PS) | mm/s | 200 200 160 | | |
| Injection Pressure | Mpa | 253 200 162 247 200 165 202 170 145 | | |
| Holding Pressure | Mpa | 203 160 130 198 160 132 162 136 116 | | |
| Plasticizing Rate(PS) | g/s | 26.2 36.1 48.3 33.0 44.2 57.6 54.0 66.1 83.0 | | |
| Max. Injection Rotary Speed | rpm | 350 320 300 | | |
| Nozzle Contact Force | kN | 50 65 80 | | |
| CLAMPING UNIT | | | | |
| Clamping Force | kN | 2400 | | |
| Opening Stroke | mm | 570 | | |
| Platen Size | mmxmm | 930x930 | | |
| Space btw Tie Bars | mmxmm | 630x630 | | |
| Max. Daylight | mm | 1180 | | |
| Max. Mold Thickness | mm | 610 | | |
| Min. Mold Thickness | mm | 220 | | |
| Ejection Stroke | mm | 180 | | |
| Ejection Force | kN | 77.3 | | |
| Ejector Pin | unit | 8+4+1 | | |
| POWER UNIT | | | | |
| System Pressure | Mpa | 17.5 | | |
| Electric Motor | kW | 58.2 62.8 85.6 | | |
| Heating Capacity | kW | 12.3 18.4 24.5 | | |
| No. of Heater Zones | unit | 5 5 6 | | |
| GENERAL UNIT | | | | |
| Oil Tank Capacity | L | 200 200 200 | | |
| Machine Dimensions | mmxmm | 6.86x1.66x2.52 7.28x1.66x2.52 7.48x1.66x2.52 | | |
| Machine Weight | kg | 10960 11091 11555 | | |

Appearance and Installation Dimensions



Mold Platen Drawing





Robot Installation Dimensions

| BD Series | BD90 | BD130 | BD160 | BD200 | BD240 | BD300 | BD380 | BD460 |
|---------------------------------|------|-------|-------|-------|-------|-------|-------|-------|
| A1 | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| A2 | 70 | 70 | 70 | 140 | 140 | 140 | 140 | 140 |
| A3 (Nozzle extension distance) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| B1 | 175 | 175 | 175 | 210 | 280 | 350 | 350 | 420 |
| B2 | 280 | 280 | 280 | 350 | 420 | 490 | 490 | 560 |
| C (Mold positioning hole) | 160 | 135 | 160 | 190 | 160 | 190 | 190 | 190 |
| D | M16 | M16 | M16 | M20 | M20 | M20 | M20 | M20 |
| E (Nozzle hole diameter) | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
| F (Nozzle spherical surface SR) | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |

| SAFETY UNIT | |
|----------------|--|
| 1 | China new safety standard |
| 2 | Full guarding in accordance with the "European Machine Directive" |
| 3 | Mechanical safety bar |
| 4 | Standard electrical independent security module structure, and reached III - protection requirements |
| 5 | Electromagnetic safety door lock (operating side) |
| 6 | Double emergency button |
| 7 | Standard overload of hydraulic system pressure relief function |
| INJECTION UNIT | |
| 1 | Electric direct drive on injection, electric screw drive |
| 2 | High precision and quick response pressure sensor |
| 3 | Wear-resistant barrel |
| 4 | Chrom-plated screw |
| 5 | Open type nozzle |
| 6 | A/B/C size screw available |
| 7 | Hydraulic carriage |
| 8 | Injection unit movement control mode |
| 9 | Nozzle centering calibration |
| 10 | Linear guide for nozzle movement |
| 11 | Movable hopper device with slider |
| 12 | Ceramic heat band |
| 13 | Nozzle safety guard with electric lock |
| 14 | High pressure/temperature tube for cooling ring on hooper throat |
| 15 | Stainless steel material cleaning tray |
| 16 | Double insulation cover for barrel |
| 17 | Low pressure/speed movement control under setup mode |
| 18 | Prevent overfilling function |
| 19 | Injection curve monitoring function |
| 20 | Injection speed response adjustable |
| 21 | Injection pressure control mode (conventional, high response) |
| 22 | Multiple V/P switches via combination of position, pressure and time |
| 23 | Injection compression function |
| 24 | Parallel plasticizing function |
| 25 | Intrusion function |
| 26 | Auto purge function |
| 27 | Suck back function |
| 28 | PID temperature control on nozzle |
| 29 | PID temperature control on barrel |
| 30 | Screw cold start prevention |
| 31 | Timing heating function |
| 32 | Temperature optimization function |
| 33 | 6 stages control for injection, pressure /speed adjustable |
| 34 | 5 stages control for holding, pressure /speed adjustable |
| 35 | 5 stages control for plasticizing, back pressure /speed adjustable |
| 36 | 4 ways of nozzle backward |
| 37 | Temperature monitor of feeding zone |
| 38 | Temperature monitor of shaft bearing |
| 39 | Screw rotation speed setting and display |
| 40 | Injection pressure calibration function |
| 41 | Real-time display function of injection pressure |
| 42 | Real-time display function of plasticizing back pressure |
| 43 | 1 set valve gate signal on program |
| 44 | 1 set dosing signal on program |
| CLAMPING UNIT | |
| 1 | Electric direct drive mold movement |
| 2 | Balanced, double, five point toggle locking system |
| 3 | Mold platen with T-solt and mounting holes |
| 4 | Center-lock clamping unit |
| 5 | High rigidity fixed platen |
| 6 | Linear guide rail under moving platen |
| 7 | Independent location ring for fixing platen |
| 8 | Hard chrome plated tie bar |
| 9 | Dual ejector cylinders |
| 10 | Cooper bush guide for ejector platen |
| 11 | Quick change coupling for center platen |
| 12 | 3 modes for ejector control |
| 13 | Adjustable ejector backward confirmation switch |

| 14 | Centralized lubrication system with end sensor |
|----------------|--|
| 15 | Top cover on clamping area (≤200T) |
| 16 | Lubrication oil tray under moving platen |
| 17 | Robot mounting holes |
| 18 | Hydraulic mold adjustment |
| 19 | Mold adjustment with limit protection |
| 20 | Auto clamping force adjustment |
| 21 | Auto mold height adjustment |
| 22 | Pre - high pressure relief function |
| 23 | 5 stages of mold closing, pressure/speed adjustable |
| 24 | 5 stages of mold opening, pressure/speed adjustable |
| 25 | 3 stages of ejector control, pressure/speed adjustable |
| 26 | 2 sets air blow signal without valve |
| 27 | 2 sets core puller signal without valve |
| 28 | Mold ejector function |
| 29 | Adjustable mold area lighting function |
| 30 | Product drop chute (90T-240T) |
| 31 | Ejector during mold open |
| 32 | Low pressure mold safety protection |
| 33 | Empty recycling operation functions |
| 34 | Opening and Closing mode signal |
| 35 | Water distributor (90T-300T, 6 x D10 quick plug, 3/4" water connector) |
| 36 | Water distributor (380T-460T, 9 x D12 quick plug, 1" water connector) |
| HYDRAULIC UNIT | |
| 1 | Servo motor power with multi-term national patents |
| 2 | Real-time monitoring of hydraulic system |
| 3 | One-way direction valve for carriage |
| 4 | Hydraulic oil level indicator and low level alarm |
| 5 | Oil temperature monitor and alarm |
| 6 | Suction filter |
| 7 | Explosion-proof chain for high-press oil pipe |
| CONTROL UNIT | |
| 1 | 12 - inch intelligent controller |
| 2 | Internet connection port |
| 3 | Interconnection interfaces |
| 4 | Three color alarm light (red/yellow/green) |
| 5 | Alarm buzzer |
| 6 | 2 sets USB ports |
| 7 | Electric heating protection by fuse or auto switch |
| 8 | 5000 sets mould data (external USB drive extension) |
| 9 | Data protect lock |
| 10 | Real-time monitor on servo motor |
| 11 | Operation history record |
| 12 | Alarm record |
| 13 | Switch of international units |
| 14 | I/O status display function |
| 15 | Multi-language available(CN/EN standard) |
| 16 | Self-diagnosis system |
| 17 | PDP process data records |
| 18 | SPC quality control |
| 19 | Process parameter quick setting |
| 20 | User permission management function |
| 21 | Pre-check and real-time monitor of machine movement |
| 22 | Cycle time analysis function |
| 23 | Three modes available for touch screen button style |
| 24 | Real-time display of servo action curve of mold open and close |
| 25 | Parallel movement (mold and core) |
| 26 | Parallel movement (injection and core) |
| 27 | Plasticizing curve function |
| 28 | Real-time display of injection and plasticize curve |
| 29 | Auto purge function |
| 30 | Timer heating function |
| 31 | PID temperature control of barrel heating |
| 32 | Production count function |
| 33 | Dry cycle function |
| 34 | Switch off function |
| 35 | Robot interface (include defective products and mold open signal) |
| 36 | Mold eject and back protection signal interfaces |
| OTHER | |
| 1 | Borche standard VI color |
| 2 | *Power socket: 220V10Ax1 380V16Ax1 380V32Ax2* |
| 3 | Adjustable level pads |
| 4 | Tool box |
| 5 | Standard spare parts |

Optional Features

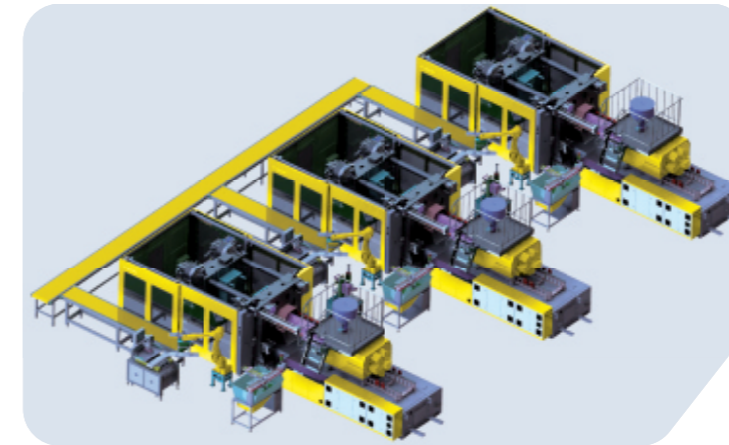
| SAFETY UNIT | |
|----------------|--|
| 1 | CE safety standard ● |
| INJECTION UNIT | |
| 1 | Bi-metal screw and barrel ● |
| 2 | PC screw ● |
| 3 | Extended nozzle ● |
| 4 | Self-seal shut-off nozzle (hydraulic/pneumatic) ● |
| 5 | Spring type shut-off nozzle ● |
| 6 | Temperature control of hopper feed throat ● |
| 7 | Carriage transducer ● |
| 8 | V/P switch over of mold pressure ● |
| 9 | Stainless hopper ● |
| CLAMPING UNIT | |
| 1 | Multiple sets of hydraulic core pulling ● |
| 2 | Multiple sets of pneumatic core pulling ● |
| 3 | Hydraulic unscrewing ● |
| 4 | Electric unscrewing ● |
| 5 | Multiple sets of air blast ● |
| 6 | Enlarged mold thickness ● |
| 7 | Mold locking ring with tailored size ● |
| 8 | Close loop control of mold clamping force ● |
| 9 | Photo sensor for product drop detector ● |
| 10 | Extra water manifold ● |
| 11 | Extra water distributor ● |
| 12 | Mold platen heat insulation board ● |
| 13 | Manual centralized lubrication for rear platen ● |
| CONTROL UNIT | |
| 1 | Hot runner control by program, comply with EU14 ● |
| 2 | Robot interface, comply with EU12/EU67 ● |
| 3 | Core pulling electric interface, comply with EU13 ● |
| 4 | Quick mold change electric interface, comply with EU70 ● |
| 5 | Gas-assist injection electric interface ● |
| 6 | Mold cavity pressure detect electric interface ● |
| 7 | Energy meter ● |
| 8 | Phase loss or phase failure protection for motor ● |
| 9 | Specified power and voltage ● |
| 10 | External voltage transformer ● |
| 11 | Heater band leakage detection ● |
| 12 | Four color alarm light ● |
| 13 | Extra sockets ● |
| 14 | Power stabilizer ● |
| 15 | UPS ● |

| INTELLIGENT EDGE TERMINAL (IMEC) | |
|----------------------------------|---|
| 1 | Temporary authorization of PlasCloud App, basic version ● |
| 2 | Machine Kanban: status, cycle time and output, etc. ● |
| 3 | HMI: M2M & M2H interconnection ● |
| 4 | Process control: real-time setting, history setting ● |
| 5 | Remote support: process parameter, parameter setting ● |
| 6 | Machine self-check ● |

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.

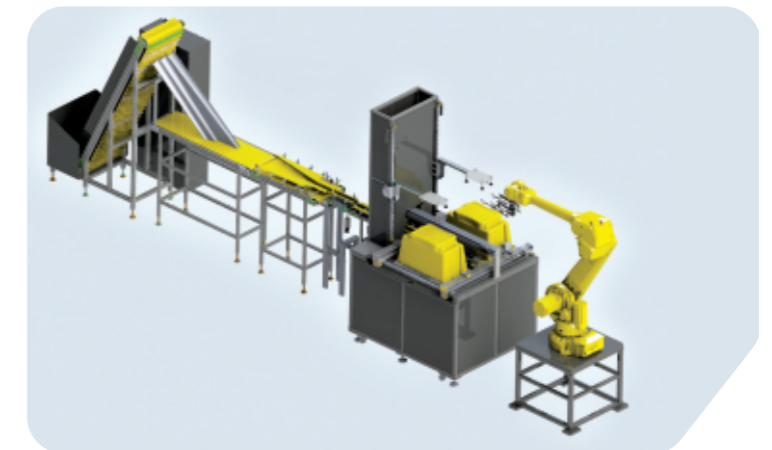


02 Flexible Automation -360° visual detection, robot operation, automatic assembling, parts insert, polishing and deburring...

Visual Detective System



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



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

