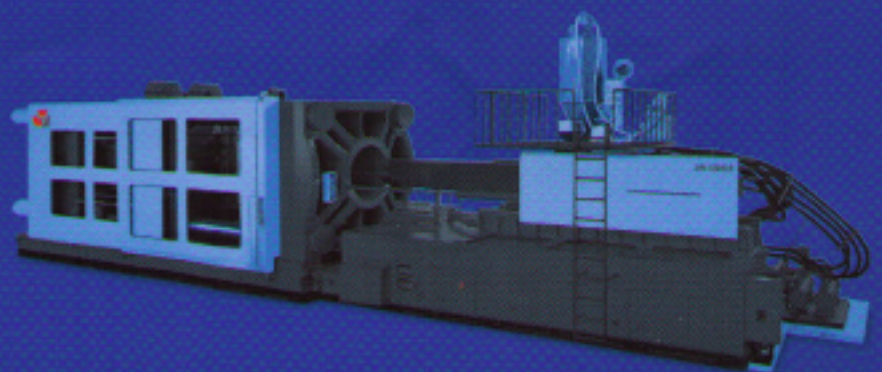


CF series

Center Force large tonnage
injection molding machine



CF series

For 600 tons to 6000 tons clamping force

• Compact clamping unit

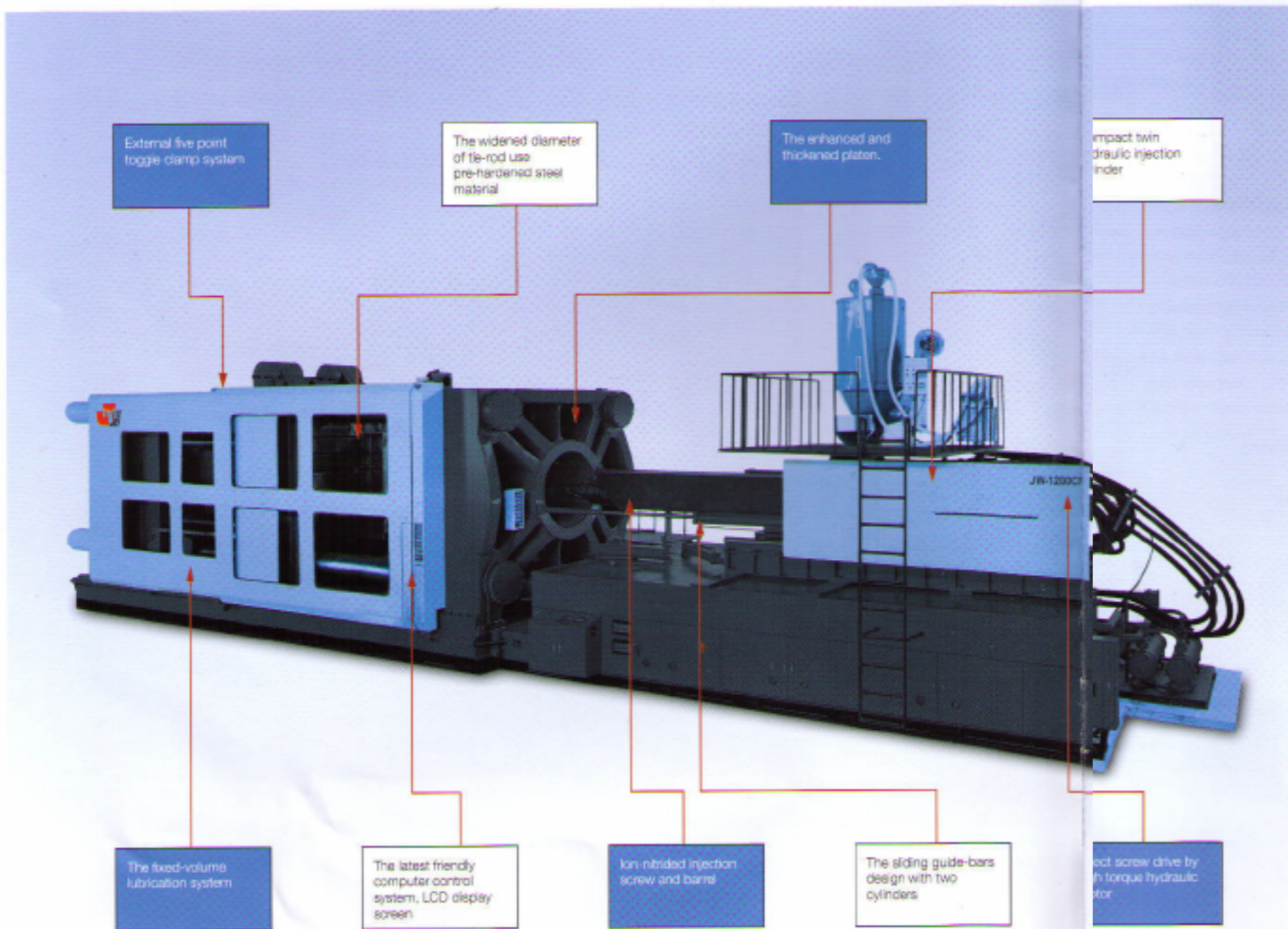
Jon Wai's CF series with large inner tie-rod distance and thickened platen can minimize the toggle pressure, lower deformation, and increase the structure rigidity and reliability.

• Versatile range of injection unit

The injection unit is of the direct in-line screw-driven type with a choice of different injection screws of high plasticizing capacity to best suit various production requirements.

The CF-series fit a center force and external acting five points double toggle clamping to give long efficiency and reliable movement. The design of this series is simple and easy-to-operate.

The CF Series offers demonstrable quality of energy efficiency, high productivity and cost effectiveness modular from end to end, CF Series machines provide a wide range of application.

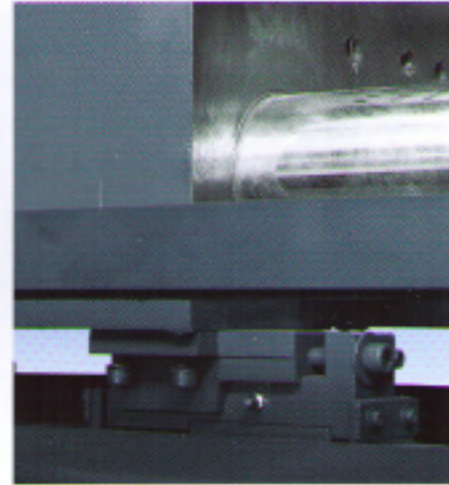


Clamping unit

The clamping unit:
Unique design for flexible manufacturing

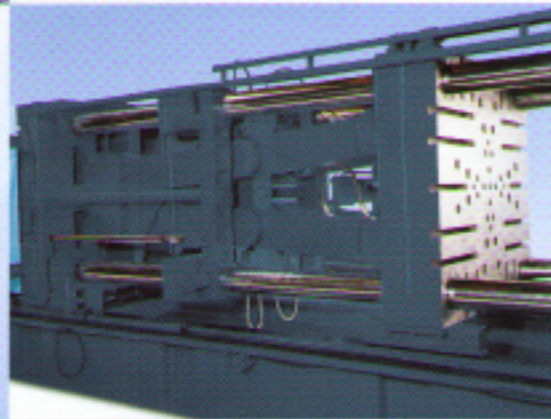
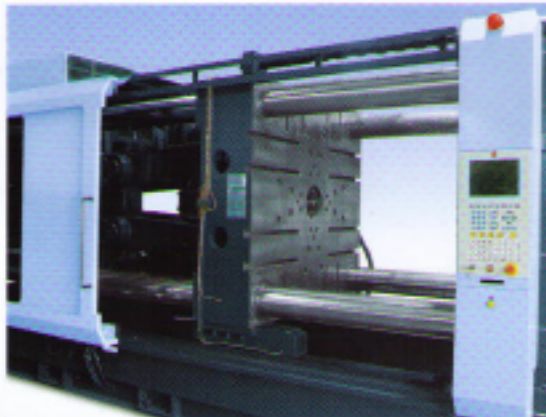
Feature of Clamping units

- Generous dimensions between tie bars to accommodate very large mold or the molds with core cylinders and sliders
- The toggle moves the platen very quick and quiet.
- The finite-element-analysis of the platen rigidity warrants a stiff frame as well as minimum platen deflection.
- External acting five points double toggle clamping to give long efficiency and reliability.
- The robust platen supports based on precision linear guiding provide best platen parallelism to the clamping unit.



Benefit

- High platen parallelism and no tilting or offset.
- No risk of contamination for the products.
- More space saving.
- Well designed safety housing.
- Ample space in the ejector area.
- Easy mold change.

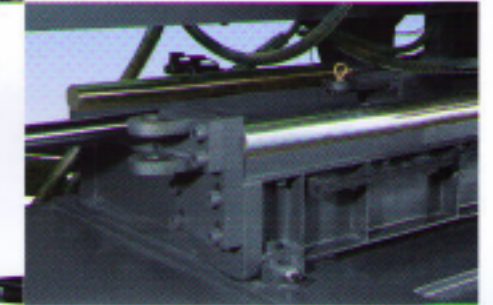
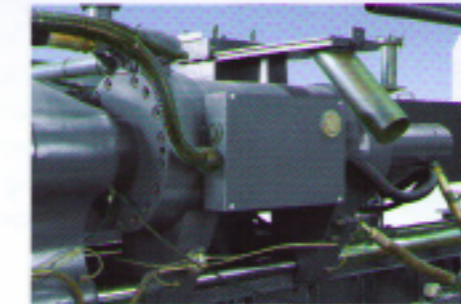
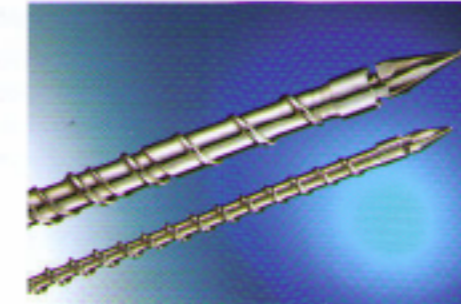


Injection Unit

The injection unit:
High efficiency and high performance

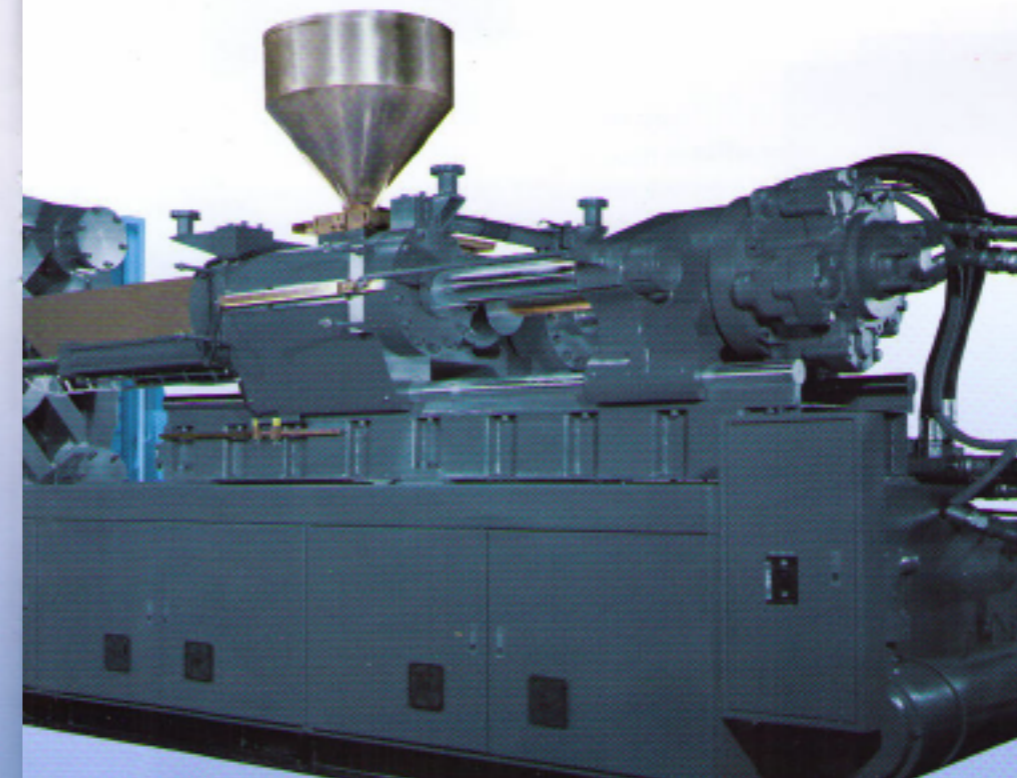
Feature of injection unit

- Ion-nitrided injection screw and barrel for the ultimate in wear resistance.
- Injection unit movement is done by two hydraulic cylinders linked to the front platen, this ensured the absolute alignment of nozzle.
- High injection pressure assure a further improvement in quality and stable precision molding.
- The direct screw drive with high torque ensures constant speed improving the plasticizing capacity.
- Injection unit swivel device.
- Multi-stage of proportional injection speed and pressure.
- Screw stroke position monitored by an optical encoder.



Benefit

- Plasticizing tailored to the application
- Low-maintenance, user-friendly design
- High-efficiency drive.
- Matching the screw to the material
- Quick-change system for the barrel.



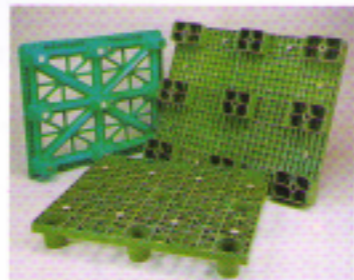
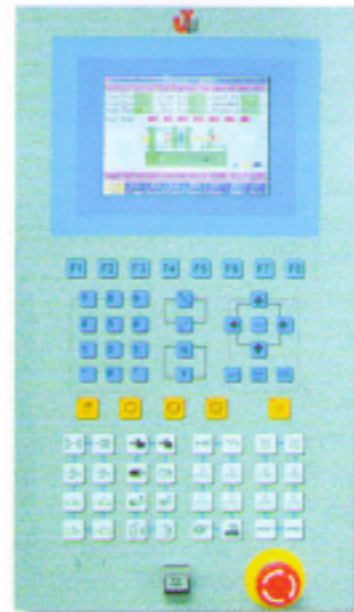
Microprocessor Controller

Features of Microprocessor Controller

The microprocessor controller greatly eases the task of setting molding conditions because the setting panel is consolidated into the control panel. The condition setting uses a beautifully sharp which features a multifunction page format that meets widely diversified needs. In addition to displaying actual values in graph form and various quality control function, the panels further enhance ease of operation through simple data input and window-like display of malfunction messages.

Feature of Microprocessor Control

- Mold clamping 4 zones each pressure speed control
- Injection 6 zones pressure speed control
- Hold pressure 4 zones pressure speed control
- Charge 3 zones pressure speed control
- 14 sections for machine action parameter span control
- 2 groups core pressure, speed & time, or 1 group unscrew, 1 group core action
- 3 types ejection action
- 1 zone oil temperature control, 7 zone barrel or mold temperature
- Auto lubrication control



Benefits

- Get a perfect view
- Future-proof operator panel
- Fully informed for total production transparency
- Display, stored, logged-comprehensive quality assurance
- Hierarchical access rights
- Multiple languages interchange



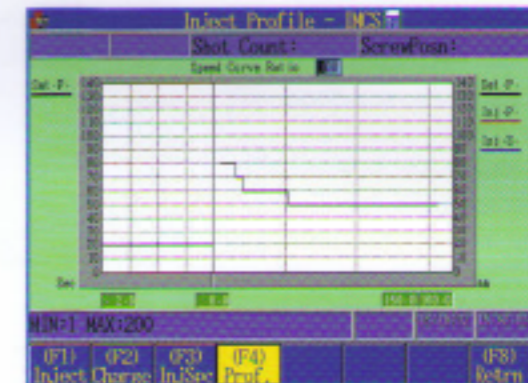
Injection Control Screen

Injection control consists of screw starting from shot size all the way through the holding pressure stage. Measurements of position, pressures are displayed on the screen. Velocity is derived from the position signal and is also displayed. Set points for pressure along with timer settings control the different stages of the injection cycle.



Injection speed and pressure waveform

Screen display of the speed and pressure for each shot is standard function. The injection process is shown live, which is useful in optimizing the injection condition setting. The added print function and internet connection function (optional) can easily give access to engineers to analyze and record.



Quality Control Screen

Monitor screen automatically record and provide the data of last 10 shots, such as total cycle time, injection time and charging time, etc. These statistical evaluation take place in "Process Parameter" or "Quality Control Chart". All data can be printed out via the RS-232 interface.

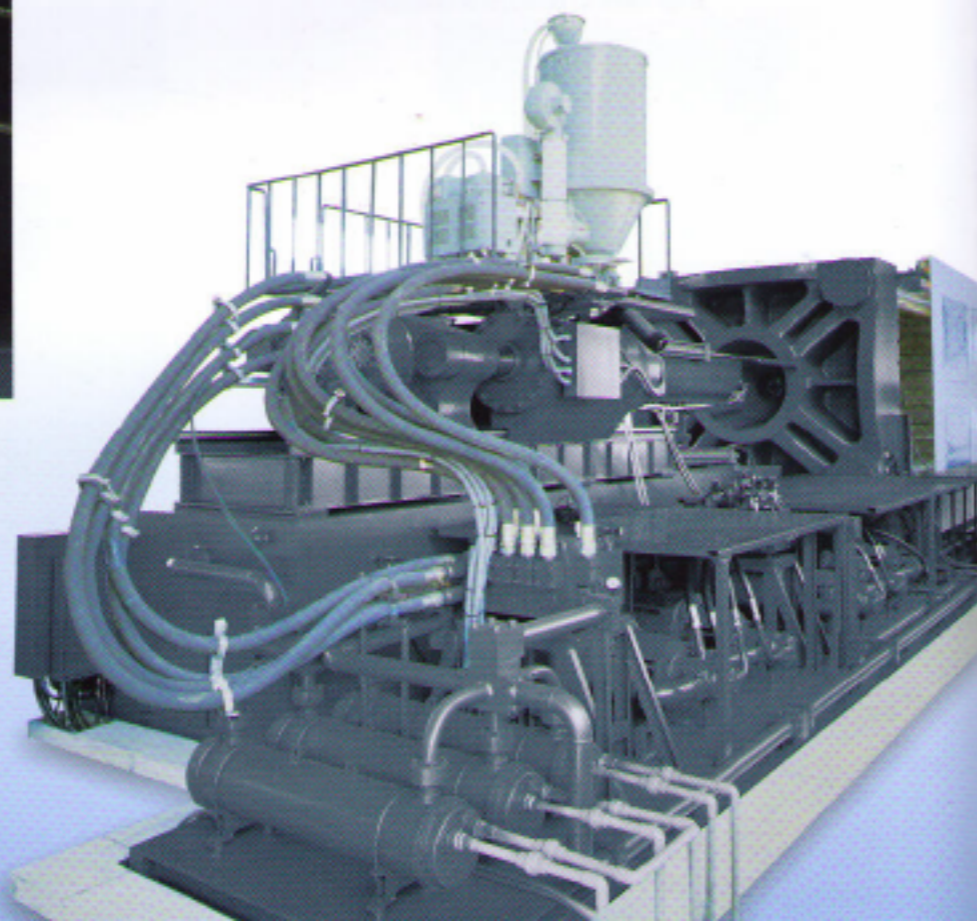
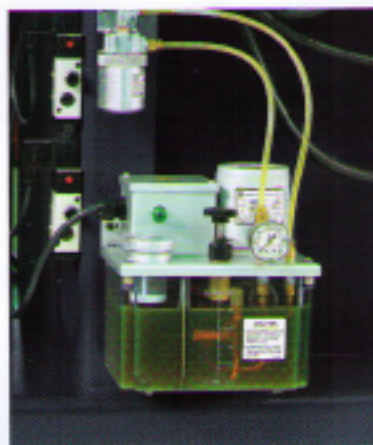
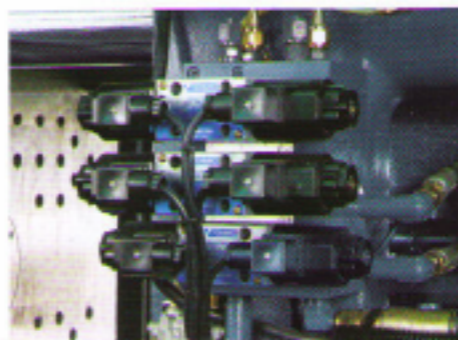
| No. | Shot Count | Cycle Time | Inj Time | Charging Time | Hold Time | Condition | Def. Free | Def. Free |
|-----|------------|------------|----------|---------------|-----------|-----------|-----------|-----------|
| 1 | 1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2 | 2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 3 | 3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 4 | 4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 5 | 5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 6 | 6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 7 | 7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 8 | 8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 9 | 9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10 | 10 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Hydraulic

The hydraulic unit:
High – precision, economical and quiet

Features of hydraulics

- Differential circuit added into clamping and injection action.
- High sensitive low pressure protection circuit design.
- High efficiency cooler stabilize the oil temperature.
- High efficiency energy-saving.
- High precision injection available.
- Hydraulic safety device with control system and mechanic parts.
- Multi-set control of back pressure proportion.
- Special designs of double-circuit and of compound action in circuit design for selection in variable products.



Standard and Optional Specification

| CLAMPING UNIT | |
|---|---|
| Digital setting for mold close/open | ■ |
| 4-stage mold close and 4 stage open pressure / speed and position control | ■ |
| High sensitive low pressure for mold protection device | ■ |
| Auto mold height adjustment device | ■ |
| Low pressure/speed for mold height adjustment | ■ |
| Potential meter for ejector | ■ |
| 2 pressure/speed for ejector forward | ■ |
| Delay time setting for ejector return device | ■ |
| Air ejector for stationary/movable platen | ■ |
| Photo cell sensor for product drop | ■ |
| Auto lubrication for toggle | ■ |
| 2 sets of hydraulic core puller | ■ |
| T-sbt for mold clamp | ■ |
| Heating insulator for mold platen | □ |
| INJECTION | |
| Open nozzle | ■ |
| Standard screw | ■ |
| Injection unit swivel device | ■ |
| 6-stage pressure/speed and 6 position 1 time for injection | ■ |
| 4-stage pressure/speed and 4 time for holding | ■ |
| 3-stage pressure/speed and position for charge | ■ |
| Safety door for injection unit | ■ |

| Screw cold start protect | ■ |
|--|---|
| Screw decompression selector (before/after charge) | ■ |
| Material purge guard in auto | ■ |
| Injection cushion error monitoring | ■ |
| Potential meter for injection | ■ |
| Hydraulic control shut off nozzle | □ |
| High mixer barrier screw | □ |
| Special screw for specific type resin | □ |
| HYDRAULIC SYSTEM | |
| Fixed-displacement pumps | ■ |
| Brake circuit for mold close/open | ■ |
| Hydraulic oil filter for suction (inside of tank) | ■ |
| Proportional direction control for injection | □ |
| Proportional direction control for mold close/open | □ |
| ACC for injection speed booster | □ |
| Variable-displacement pumps | □ |
| ELECTRIC CONTROL SYSTEM | |
| APC-6000 controller | ■ |
| LCD display | ■ |
| Parameter memory 200 sets | ■ |
| Alarm device | ■ |
| Setting error monitoring | ■ |
| MOOG Microset controller | □ |

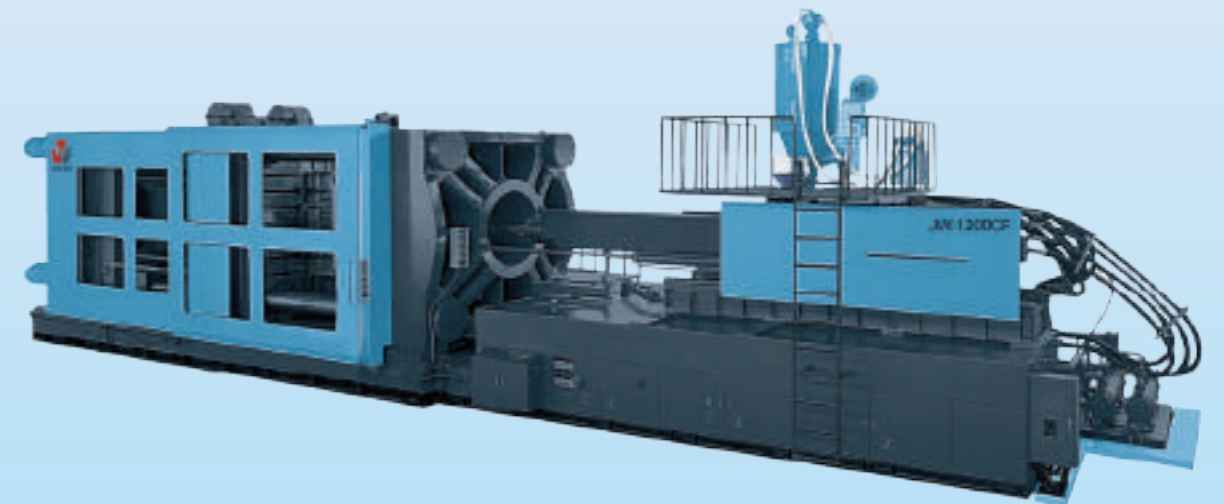
| OTHER EQUIPMENT | |
|---|---|
| Copper type water distributor for mold cooling | ■ |
| Accessories power source socket | ■ |
| Stainless hopper | ■ |
| Acrylic tube water distributor for mold cooling | □ |
| Independent mold temperature controller | □ |
| Hopper dryer | □ |
| Auto loader for plastic material | □ |

Standard equipment ■
Optional equipment □

CF

| MODELS | | JW-660CF | | | JW-750CF | | | JW-1000CF | | | JW-1200CF | | | JW-1450CF | | | JW-2000CFW | | | JW-2200CF | | |
|---------------------------|--------------------|--------------|------|------|-----------------|------|------|--------------|------|------|--------------|------|------|---------------|------|------|----------------|-------|-------|-----------------|-------|-------|
| SCREW DIMETER | mm | 85 | 95 | 105 | 95 | 100 | 105 | 100 | 110 | 120 | 110 | 120 | 130 | 120 | 130 | 140 | 130 | 140 | 150 | 150 | 160 | 170 |
| SHOT SIZE | gr | 2307 | 2882 | 3521 | 3007 | 3331 | 3673 | 3331 | 4031 | 4798 | 4367 | 5198 | 6101 | 6597 | 7743 | 8980 | 8799 | 10205 | 11715 | 13585 | 15455 | 17455 |
| INJECTION PRESSURE | kg/cm ² | 2133 | 1697 | 1389 | 1786 | 1612 | 1462 | 1951 | 1613 | 1355 | 1861 | 1564 | 1332 | 1788 | 1524 | 1314 | 1762 | 1520 | 1324 | 1681 | 1478 | 1309 |
| CLAMPING FORCE | ton | 660 | | | 750 | | | 1000 | | | 1200 | | | 1450 | | | 2000 | | | 2200 | | |
| CLAMP STROKE | mm | 860 | | | 1000 | | | 1200 | | | 1300 | | | 1500 | | | 1700 | | | 1800 | | |
| MOLD HEIGHT | mm | 400~1000 | | | 400~1050 | | | 500~1200 | | | 500~1300 | | | 500~1400 | | | 600~1600 | | | 700~1900 | | |
| DISTANCE BETWEEN TIE-RODS | mm | 880x880 | | | 960x960 | | | 1100x1000 | | | 1200x1100 | | | 1350x1200 | | | 1600x1350 | | | 1800 x 1600 | | |
| MOTOR RATED | HP | 80 | | | 100 | | | 120 | | | 135 | | | 160 | | | 200 | | | 225 | | |
| MACHINE DIMENSIONS | M | 11x2.47x2.36 | | | 11.62x2.57x2.41 | | | 13x2.76x2.55 | | | 13.4x2.8x2.6 | | | 15.3x3.06x2.7 | | | 16.88x3.72x3.4 | | | 18.62x4.03x3.55 | | |

| MODELS | | JW-2800CFW | | | JW-3300CFW | | | JW-4000CF | | | JW-5000CF | | | JW-6000CF | | |
|---------------------------|--------------------|--------------|-------|-------|----------------|-------|-------|--------------|-------|-------|--------------|-------|-------|--------------|-------|-------|
| SCREW DIMETER | mm | 150 | 160 | 170 | 150 | 160 | 170 | 190 | 210 | 230 | 240 | 250 | 260 | 240 | 250 | 260 |
| SHOT SIZE | gr | 13585 | 15455 | 17455 | 13585 | 15455 | 17455 | 33083 | 40414 | 48479 | 51988 | 56410 | 61013 | 51988 | 56410 | 61013 |
| INJECTION PRESSURE | kg/cm ² | 1681 | 1478 | 1309 | 1681 | 1478 | 1309 | 1904 | 1559 | 1300 | 1681 | 1550 | 1433 | 1681 | 1550 | 1433 |
| CLAMPING FORCE | ton | 2800 | | | 3300 | | | 4000 | | | 5000 | | | 6000 | | |
| CLAMP STROKE | mm | 1800 | | | 2200 | | | 2200 | | | 2200 | | | 2200 | | |
| MOLD HEIGHT | mm | 700~1900 | | | 700-2000 | | | 700-2000 | | | 900-2000 | | | 900-2000 | | |
| DISTANCE BETWEEN TIE-RODS | mm | 2000 x 1600 | | | 2100x1800 | | | 2100x1900 | | | 2500x2000 | | | 2500x2000 | | |
| MOTOR RATED | HP | 225 | | | 225 | | | 450 | | | 450 | | | 450 | | |
| MACHINE DIMENSIONS | M | 18.8x4.3x3.6 | | | 20.23x4.06x3.9 | | | 21.5x4.4x4.1 | | | 23.3x4.6x4.3 | | | 24.5x5.1x4.7 | | |





JONWAI

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