# JT-EIII SERIES

## Vertical-Type
## Injection Molding Machines

JSW Hiroshima Plant

JSW

JSW Injection Molding
Machinery Division

# A New Stage is set to open...

## JSW's hi-tech integrity proven by this...
## High Performance
## Vertical-Type Injection Molding Machines.

With the latest technical experties of satisfied needs based on the built-up of experiences and know-how, JSW is proud enough to show its offspring to the world — Vertical-Type Injection Molding Machines. As the result of improvements on operation, stability with speed and preciseness, space saving, robot and other automatic equipment interfaces and many others, JSW Vertical-Type Molding Machines now have user-friendly versatility and high performance.
A new stage for the Injection Molding Machine is always set to open by JSW.


## JT-EIII SERIES

In terms of safety improvements, the single-acting type machine comes with three-way safety protection as standard: hydraulic, electric and mechanical.


## JT-REIII SERIES

Safety on the rotary-type machine is ensured by these three methods as standard: photocells electric and mechanical.
The table features reciprocating rotation up to 180°.

# Reliable Controller of Easy Handling and High Function.

## ■SYSCOM2000T (standard equipment)

A large TFT color LCD screen (10.4 inch) has been equipped.
This provides a clear picture for operator-friendly viewing.
The dialog-type operation means that conditions can be set easily, simply by touching the location that requires setting.

## ■High-touch Keyboard

Easy to handle design which arranged the mode selection keys on the illustrated machine of the operation panel.
Easy setting prevents erroneous handling.
(Storing 40 molds internally and on data card each.)

## ■Built-in Controller

The control panel of the SYSCOM 2000T controller is installed in the local control box on the stationary platen.
This eliminates unnecessary wasted space around the machine.
The operator is able to command all operations of the machine while standing by the panel.

## ■Print-out

With a printer connection, it is possible to keep records of molding coditions, measured data of various sorts and injection wave form.

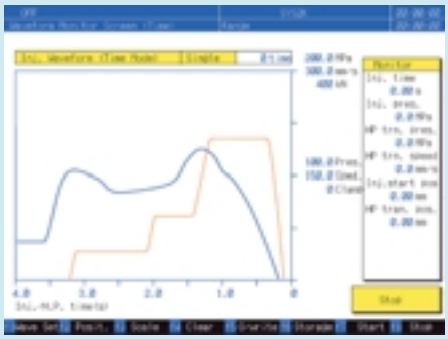
## ■Molding Condition Change (for Rotary type)

Two lower dies, delicately differs from each other in terms of their molding requirements.
To conform, the requirements for either die (INJECTION, HOLDING PRESSURE, SCREW ROTATION) are made settable, independently.

## SYSCOM2000T (Color LC Display)

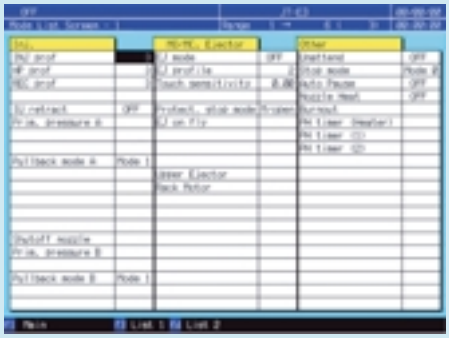
▲ Overall Set-up Screen

▲ Injection Parameters Set Screen
(Rotary type B mold settings)



▲ Wave Form Monitoring Screen

▲ Action Monitor Screen



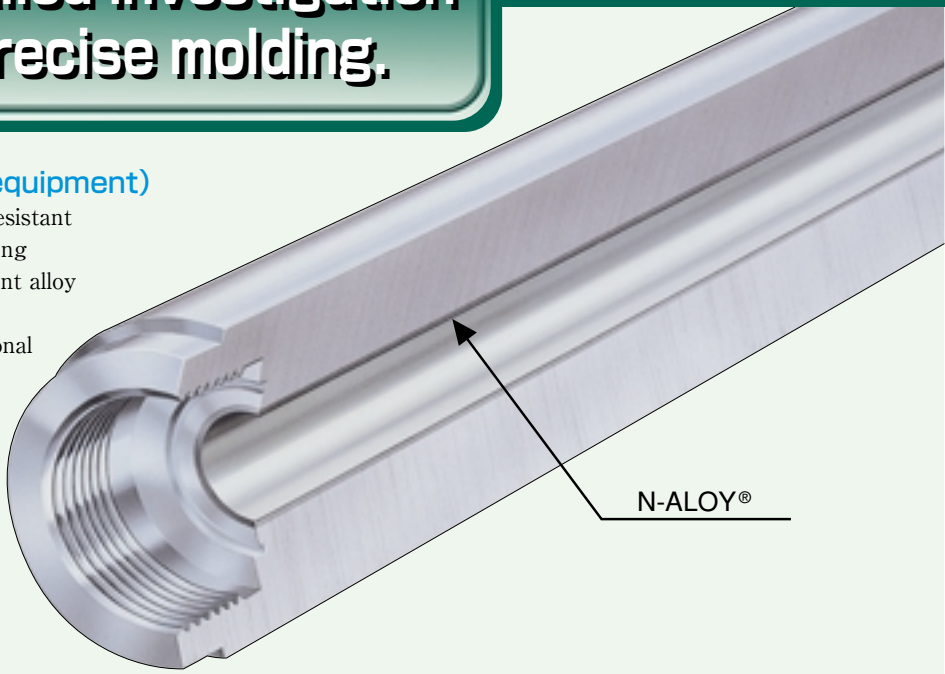
▲ Mode List Set Screen

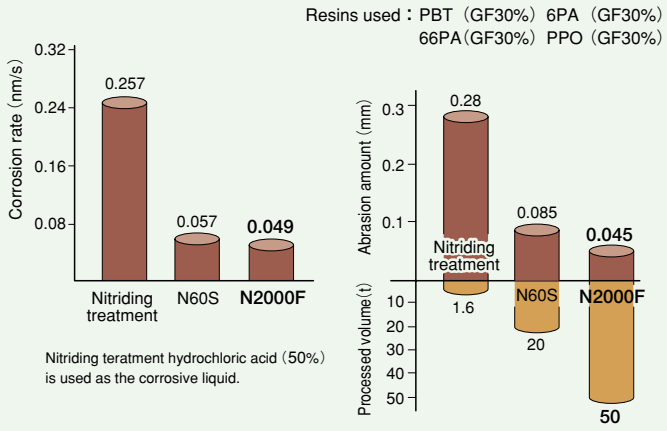
▲ Interlock Screen

# Thoroughly and detailed investigation realize stable high precise molding.

## ■N2000F Cylinder (standard equipment)

Newly developed high wear and corrosion-resistant bimetallic cylinder N-ALOY®N2000F is a lining material which is based on high nickel content alloy containing hard tungsten carbide through dispersion. As compared with the conventional N60S, it has higher resistance to abrasion and affords stable injection molding of glass fiber filled, flame retardant filled plastics and super engineering plastics, moreover extends the service life of the cylinder.




## ■Oil Temperature Stabilizer

The unit automatically controls the tank oil temperature as well as the return line from actuator and drain line from the pump by detecting the operating temperature of the oil and maintaning optimum condition, so molding stability can be improved. (Patent)

## ■ "IVS Control" Holding Pressure Changeover

Changeover to holding pressure is done by sensing the screw speed slowdown immediately before cavity filling. As compared with the conventional methods, fluctuations of shot weight are reduced by half, making the system quite suitable for precision molding.

## ■S50 Screw (standard equipment)

JSW's own High-hardness alloy. Having an outstanding high wear resistance, a fullflight S50 screw a new development realizing a fast cycle molding.

## ■HT Screw Head (standard equipment)

This HT screw head is useful for stabilizing parts weight. As compared with the conventional screw heads, the clearance between the cylinder and check ring is decreased to the minimum, so that the back flowing resin is decreased to the minimum.

## ■PID Temperature Control / Nozzle Temperature Control (SSR)

By the quick response to temperature changes, overshooting is reduced to ensure precise temperature control. As a SSR (solid state relay) is adopted for the nozzle section, deviations of actual temperatures from the setting are eliminated to provide stable temperatures at all time.

# Safety / Operationality upgrading.
# Energy / Space saving.
# These two tasks are made compatible.

## ■Mold Access in Three Directions

Furnished with a larger, fully openable safety door on each of the three sides, mold can be easily set mounted on either of the three sides : frontal (or operating), left and right. The better working efficiency is ensue. Connecting of auxiliary equipment becomes easier.
The table's rotation is a reciprocating rotation at 180°.

## ■Tip Nozzle (standard equipment)

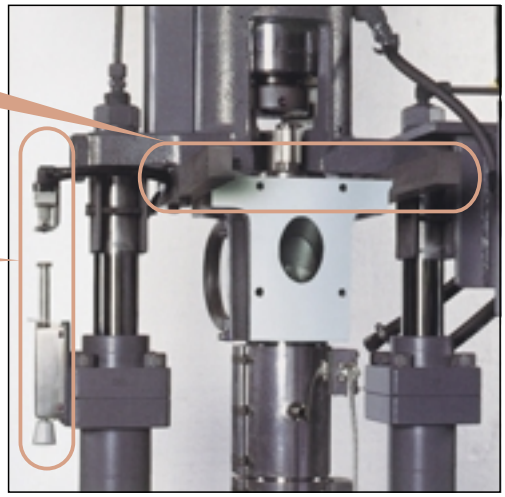
In contrast to the conventional open nozzle structure, this new type consists of a tip nozzle and an adaptor. The advantages are : an easy replacement of the tip nozzle and an enlargement of molding conditions.

## ■Screw Cylinder Slider

The screw cylinder can be mounted or removed by one person quickly and safely. (Patent)

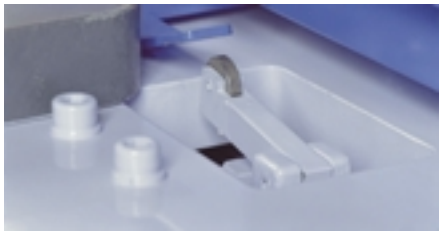
## ■Nozzle Touch Control

A nozzle touch level can be automatically set at a single touch. This eliminates any possible work at a high ground, and so in safety the position of the nozzle touch can be maintained. (Patent)



## ■Safety Door, Electric and Hydraulic with Mechanical Safety Device (Single acting type)

In addition to the electrical safety device, hydraulic safety device and mechanical safety device goes into action three together, in order to ensure safety of the operator.



## ■Safety Door, Electric, Photocell and Mechanical Safety Device (Rotary type)

In addition to the electrical safety device, photocell safety device and mechanical safety device goes into action three together, in order to ensure safety of the operator.

## Energy / Space saving

### ■Load-Match System

An injection molding machine's power consumption is approx. 90% attributable to its hydraulic pump. JSW has opted for a load-mach sysytem under which the built-in controlled variable will trigger off a minor feedback effect. Thus, there have achieved both the improved stability of pressure and velocity and the conservation of energies.

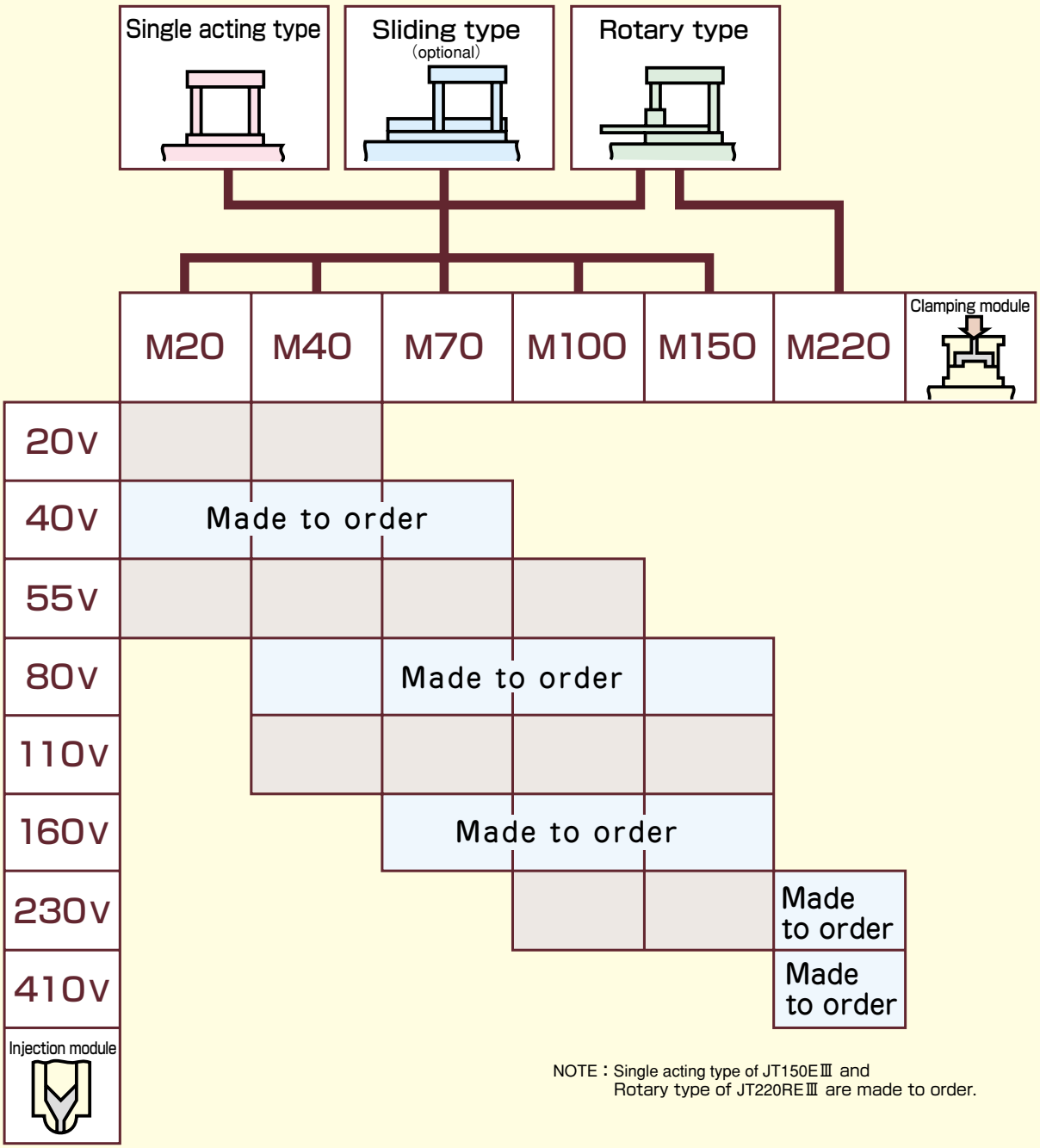
### ■Space Saving

By eliminating the conventional control panel's spread out, as well as by rearranging the hydraulic unit and other component devices, the largest possible space has benn assured. Compared with the conventional machine, the installation space has been reduced by 15%.

# A Wide Selection

## Block Systems

JT-EⅢ series has various modules ready for use. The size, shape, production run and mode of a molding part will select the most opportune specification and viable performance of an injection molding machine currently available, resulting in a precise, steady and enhanced molding production.




NOTE：Single acting type of JT150EⅢ and
Rotary type of JT220REⅢ are made to order.

## ■Injection Module

| Module # | | 20V | | | 40V (made to order) | | | 55V | | | 80V (made to order) | | | 110V | | | 160V (made to order) | | | 230V | | | 410V (made to order) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Screw code | | K | A | B | K | A | B | K | A | B | K | A | B | K | A | B | K | A | B | K | A | B | K | A | B |
| Screw diameter | mm | 18 | 20 | 22 | 22 | 25 | 28 | 25 | 28 | 32 | 28 | 32 | 35 | 32 | 35 | 40 | 35 | 40 | 45 | 40 | 45 | 50 | 46 | 53 | 58 |
| Injection pressure | MPa {kgf/cm²} | 228 {2320} | 184 {1880} | 152 {1555} | 238 {2430} | 184 {1880} | 147 {1500} | 228 {2330} | 182 {1860} | 139 {1420} | 241 {2460} | 185 {1890} | 155 {1580} | 218 {2220} | 182 {1860} | 139 {1420} | 237 {2420} | 181 {1850} | 143 {1460} | 228 {2320} | 179 {1830} | 145 {1480} | 237 {2420} | 178 {1820} | 149 {1520} |
| Theoretical injection capacity | cm³ | 16 | 20 | 25 | 28 | 37 | 46 | 44 | 55 | 72 | 61 | 80 | 96 | 88 | 106 | 138 | 125 | 163 | 206 | 182 | 230 | 285 | 307 | 407 | 488 |
| Injection rate | cm³/s | 35 | 43 | 53 | 48 | 62 | 78 | 50 | 63 | 82 | 66 | 87 | 104 | 74 | 88 | 115 | 87 (78) | 114 (102) | 144 (129) | 91 (81) | 115 (103) | 142 (127) | 138 (115) | 185 (154) | 222 (185) |
| Plasticizing rate | kg/h | 14 | 18 | 22 | 22 | 20 | 25 | 20 | 25 | 30 | 25 | 30 | 40 | 30 | 40 | 50 | 40 (30) | 50 (39) | 63 (48) | 50 (40) | 63 (50) | 73 (57) | 70 (58) | 100 (83) | 125 (104) |
| Screw speed | min⁻¹ | 50～550 | | | 50～515 | | | 25～315 | | | 25～300 | | | 25～290 | | | 25～260 (25～230) | | | 25～200 (25～180) | | | 25～220 (25～183) | | |
| Pump driving motor | kW | 5.5 | | | 7.5 | | | 7.5 | | | 11 | | | 11 | | | 15 | | | 15 | | | 22 | | |
| Heater wattage | kW | 2.8 | | | 4.1 | | | 5.0 | | | 6.4 | | | 7.6 | | | 9.8 | | | 12.0 | | | 13.1 | | |
| Cooling water consumption | m³/h | 0.3 | | | 0.3 | | | 0.3 | | | 0.4 | | | 0.4 | | | 0.4 | | | 0.4 | | | 1.2 | | |

NOTES：(1) Numerical values in （） as per 160V, 230V and 410V signify that they are applicable for 50Hz power source. The rest are forboth the 50Hz and 60Hz power source.
(2) The plasticizing rate is applicable for polystyrene.
(3) B size screw is optional.
(4) 40V, 80V, 160V and 410V made to order.
(5) 1MPa=10.2kgf/cm²

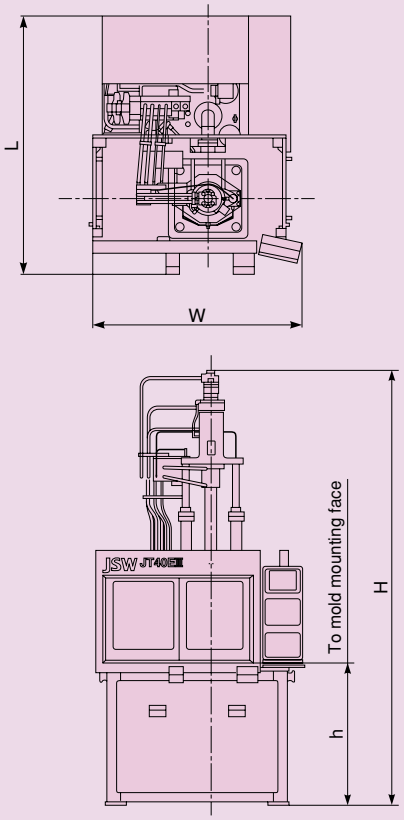
## ■Clamping Module

| Type | | Single acting type | | | | | Sliding type (optional) | | | | | Rotary type | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Module # | | M20 | M40 | M70 | M100 | M150 (made to order) | M20S | M40S | M70S | M100S | M150S | M20R | M40R | M70R | M100R | M150R | M220R (made to order) |
| Clamping force | kN {tf} | 196 {20} | 392 {40} | 686 {70} | 981 {100} | 1470 {150} | 196 {20} | 392 {40} | 686 {70} | 981 {100} | 1470 {150} | 196 {20} | 392 {40} | 686 {70} | 981 {100} | 1470 {150} | 2160 {220} |
| Mold opening force | kN {tf} | 35 {3.6} | 35 {3.6} | 60 {6.1} | 60 {6.1} | 60 {6.1} | 35 {3.6} | 35 {3.6} | 60 {6.1} | 60 {6.1} | 60 {6.1} | 35 {3.6} | 35 {3.6} | 60 {6.1} | 60 {6.1} | 60 {6.1} | 94 {9.6} |
| Daylight opening | mm | 420 | 470 | 550 | 630 | 730 | 350 | 400 | 480 | 560 | 660 | 370 | 400 | 500 | 550 | 600 | 700 |
| Opening stroke | mm | 250 | 270 | 300 | 330 | 380 | 250 | 270 | 300 | 330 | 380 | 200 | 200 | 250 | 250 | 250 | 350 |
| Min. mold height | mm | 170 | 200 | 250 | 300 | 350 | 100 | 130 | 180 | 230 | 280 | 170 | 200 | 250 | 300 | 350 | 350 |
| Mold size (Max.) or Distance between tie-bars | mm | 310×310 | 360×360 | 410×410 | 460×460 | 510×510 | 300×330 | 350×400 | 400×440 | 450×500 | 500×550 | 300×300 | 330×330 | 380×380 | 430×430 | 480×480 | 560×560 |
| Hydraulic ejector | | 5 points | | | | 5 points | 1 point | | | | | 1 point | | | | | 3 points |
| Ejector force | kN {tf} | 34 {3.5} | | | | 34 {3.5} | 18 {1.8} | | 26 {2.7} | | | 18 {1.8} | | 26 {2.7} | | | 42 {4.3} |
| Ejector storke | mm | 40 | | 60 | | 60 | 40 | | 60 | | | 40 | | 60 | | | 100 |
| Hydraulic oil reservoir | L | 170 | | | | 170 | 170 | | | | | 170 | | | | | 300 |

NOTES：(1) Sliding type is optional.
(2) Single acting type of JT150EⅢ and Rotary type of JT220REⅢ are made to order.
(3) 1kN=0.102tf

# Machine Dimensions

## Single acting type

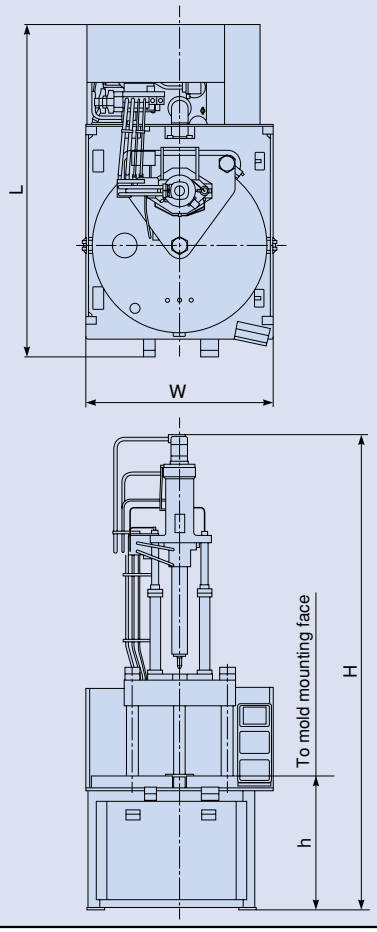



unit：m

| Model | | L | W | H MAX | H MIN | h | Machine weight (t) |
|---|---|---|---|---|---|---|---|
| JT20EⅢ- | 20V | 1.8 | 1.5 | 2.9 | 2.4 | 1.033 | 2.6 |
| | 40V※ | | | 3.0 | 2.5 | | 2.7 |
| | 55V | | | 3.1 | 2.6 | | 2.7 |
| JT40EⅢ- | 20V | 1.9 | 1.5 | 3.0 | 2.5 | 1.053 | 2.7 |
| | 40V※ | | | 3.1 | 2.6 | | 2.8 |
| | 55V | | | 3.2 | 2.7 | | 2.8 |
| | 80V※ | | | 3.4 | 2.8 | | 2.8 |
| | 110V | | | 3.5 | 2.9 | | 2.9 |
| JT70EⅢ- | 40V※ | 2.0 | 1.5 | 3.4 | 2.7 | 1.193 | 2.9 |
| | 55V | | | 3.5 | 2.9 | | 3.0 |
| | 80V※ | | | 3.6 | 3.0 | | 3.0 |
| | 110V | | | 3.7 | 3.1 | | 3.1 |
| | 160V※ | | | 3.9 | 3.3 | | 3.3 |
| JT100EⅢ- | 55V | 2.0 | 1.7 | 3.7 | 3.0 | 1.283 | 3.5 |
| | 80V※ | | | 3.8 | 3.1 | | 3.5 |
| | 110V | | | 3.9 | 3.2 | | 3.6 |
| | 160V※ | | | 4.1 | 3.4 | | 3.8 |
| | 230V | | | 4.2 | 3.6 | | 3.9 |
| JT150EⅢ- | 80V※ | 2.1 | 1.8 | 4.1 | 3.3 | 1.458 | 4.2 |
| | 110V | | | 4.2 | 3.5 | | 4.3 |
| | 160V※ | | | 4.4 | 3.6 | | 4.5 |
| | 230V | | | 4.5 | 3.8 | | 4.6 |

※Made to order

## Rotary type



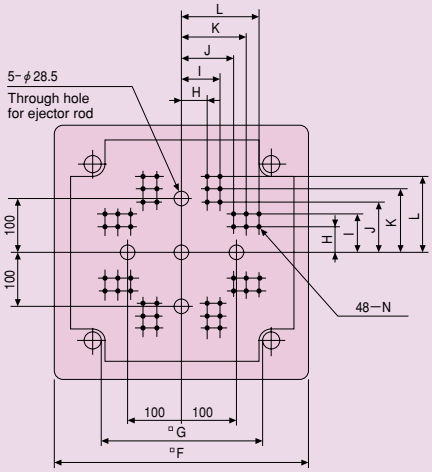

unit：m

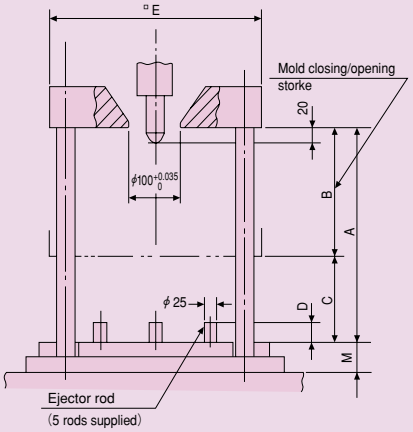
| Model | | L | W | H MAX | H MIN | h | Machine weight (t) |
|---|---|---|---|---|---|---|---|
| JT20REⅢ- | 20V | 2.4 | 1.4 | 2.8 | 2.4 | 0.953 | 3.3 |
| | 40V※ | | | 2.9 | 2.5 | | 3.4 |
| | 55V | | | 3.0 | 2.6 | | 3.4 |
| JT40REⅢ- | 20V | 2.5 | 1.4 | 2.6 | 2.4 | 0.953 | 3.5 |
| | 40V※ | | | 2.9 | 2.5 | | 3.6 |
| | 55V | | | 3.0 | 2.6 | | 3.6 |
| | 80V※ | | | 3.1 | 2.7 | | 3.6 |
| | 110V | | | 3.3 | 2.8 | | 3.7 |
| JT70REⅢ- | 40V※ | 2.7 | 1.4 | 3.1 | 2.7 | 1.053 | 4.0 |
| | 55V | | | 3.2 | 2.7 | | 4.1 |
| | 80V※ | | | 3.3 | 2.9 | | 4.1 |
| | 110V | | | 3.5 | 3.0 | | 4.2 |
| | 160V※ | | | 3.7 | 3.2 | | 4.4 |
| JT100REⅢ- | 55V | 2.8 | 1.5 | 3.4 | 2.8 | 1.088 | 4.8 |
| | 80V※ | | | 3.5 | 3.0 | | 4.8 |
| | 110V | | | 3.6 | 3.1 | | 4.9 |
| | 160V※ | | | 3.8 | 3.3 | | 5.1 |
| | 230V | | | 4.0 | 3.4 | | 5.2 |
| JT150REⅢ- | 80V※ | 3.0 | 1.6 | 3.7 | 3.1 | 1.148 | 5.8 |
| | 110V | | | 3.8 | 3.2 | | 5.9 |
| | 160V※ | | | 4.0 | 3.4 | | 6.1 |
| | 230V | | | 4.1 | 3.5 | | 6.2 |
| JT220REⅢ- | 230V※ | 3.4 | 1.7 | 4.4 | 3.7 | 1.378 | 7.8 |
| | 410V※ | | | 5.0 | 4.3 | | 8.0 |

※Made to order

# Mold Dimensions and Relative Equipment.

## Single acting type



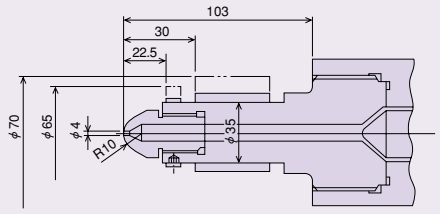




unit：mm

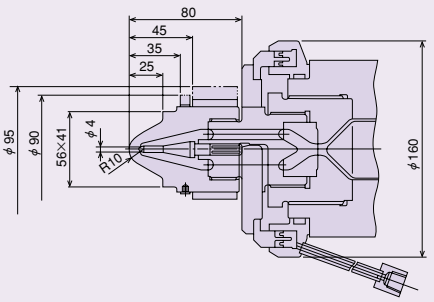
| Model | A | B | C | D | E | F | G | H | I | J | K | L | M | N |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| JT20EⅢ | 420 | 250 | 170 | 40 | 410 | 500 | 310 | 50 | 75 | 100 | 125 | 150 | 60 | M12×22 |
| JT40EⅢ | 470 | 270 | 200 | 40 | 480 | 570 | 360 | 75 | 100 | 125 | 150 | 175 | 60 | M16×27 |
| JT70EⅢ | 550 | 300 | 250 | 60 | 565 | 650 | 410 | 75 | 125 | 150 | 175 | 200 | 60 | M16×27 |
| JT100EⅢ | 630 | 330 | 300 | 60 | 635 | 720 | 460 | 100 | 150 | 175 | 200 | 225 | 60 | M16×27 |
| JT150EⅢ | 730 | 380 | 350 | 60 | 715 | 800 | 510 | 125 | 175 | 200 | 225 | 250 | 60 | M16×27 |

## Nozzle sizes

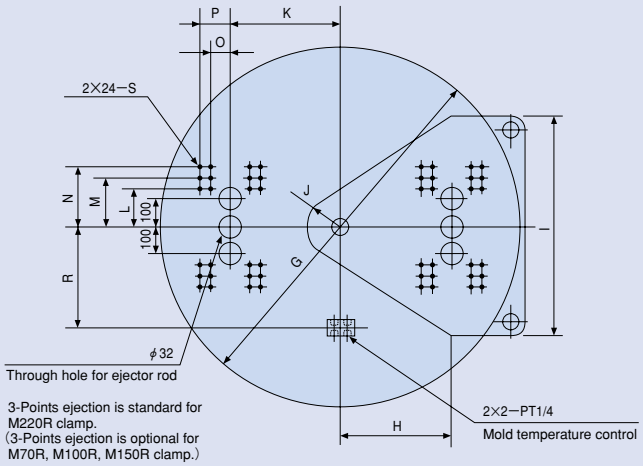
### SVO Nozzle

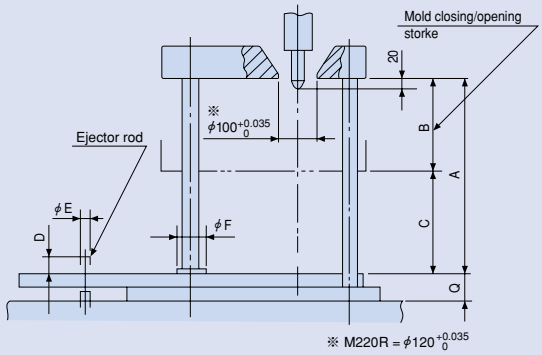



### Shut-off Nozzle (optional)




## Rotary type




unit：mm

| Model | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | Mold weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| JT20REⅢ | 370 | 200 | 170 | 40 | 20 | 160 | 910 | 265 | 570 | 85 | 280 | 100 | 125 | 150 | 50 | 75 | 95 | 235 | M12×22 | 150kg×2 |
| JT40REⅢ | 400 | 200 | 200 | 40 | 20 | 170 | 1030 | 305 | 650 | 90 | 320 | 125 | 150 | 175 | 75 | 100 | 95 | 265 | M16×27 | 225kg×2 |
| JT70REⅢ | 500 | 250 | 250 | 60 | 25 | 180 | 1160 | 340 | 745 | 100 | 360 | 150 | 175 | 200 | 75 | 125 | 95 | 315 | M16×27 | 300kg×2 |
| JT100REⅢ | 550 | 250 | 300 | 60 | 25 | 196 | 1310 | 380 | 835 | 105 | 405 | 175 | 200 | 225 | 100 | 150 | 95 | 355 | M16×27 | 400kg×2 |
| JT150REⅢ | 600 | 250 | 350 | 60 | 25 | 240 | 1490 | 440 | 945 | 110 | 465 | 200 | 225 | 250 | 125 | 175 | 105 | 345 | M16×27 | 500kg×2 |
| JT220REⅢ | 700 | 350 | 350 | 100 | 25 | 240 | 1540 | 265 | 940 | 105 | 435 | 200 | 225 | 250 | 125 | 175 | 110 | 360 | M16×27 | 690kg×2 |

# Standard Equipment
# Optional Equipment

## ■ Standard Equipment

| Unit item | | | |
|---|---|---|---|
| Injection and Plasticating Unit | Open nozzle (tip type) | | |
| | Wear and corrosion-resistant cylinder | | ① |
| | Wear and corrosion-resistant screw | | ① |
| | HT Screw head | | |
| | Screw cylinder slider ★ | | |
| | Cold start-up prevention | | |
| | Mold-Pause changeover function | | |
| | Automatic purging circuit | | |
| | Automatic setting of nozzle touch position ★ | | |
| | Nozzle transfer control timing select | | |
| | Suck back timing select | | |
| | Injection and rotation program control | Injection soeed | 1 - 6 steps (adjust.) |
| | | Injection pressure | |
| | | Holding pressure | |
| | | Screw speed | 1 - 3 steps (adjust.) |
| | | Screw back pressure | |
| | | Suck back | |
| | Transfer to holding pressure by sensing injection speed (IVS) | | |
| | Shift injection profile ★ | | |
| | Cylinder temperature remote setting (PID) | | |
| | Nozzle temperature control (SSR) | | |
| | Molding condition change (for Rotary type only) | | |
| Mold Clamping Unit | Self-lubricating tie-bar bushings | | |
| | Remote setting of mold open/close speed | | |
| | Remote setting of moving platen position | | |
| | Remote setting of ejector speed | | |
| | Remote setting of ejector position | | |
| | Remote setting of mold clamping force | | |
| | Clamping force holding circuit | | |
| | Mold protection device | | |
| | Mold thickness abnormal alarm (Min. thickness) | | |
| | Safety device | Electric/Mechanical | |
| | | Photocell (for Rotary type only) | |
| | | Hydraulic (for Single acting type only) | |
| | Remote setting of table rotation speed | | |
| | Automatic greasing of rotating mechanism (for Rotary type only) | | |
| Hydraulic Unit and Related Equipment | Load-match system | | |
| | Oil preheating circuit | | |
| | Oil temperature stabilizer/cooling circuit ★ | | |
| | Oil filter | | |
| | Oil temperature alarm/upper and lower limits | | |
| | Return filter clogging alarm | | |
| | Solenoid valves with indication lamp | | |
| | Mold cooling water closed circuit | | |

| Unit item | |
|---|---|
| Controller | SYSCOM controller display (touch panel TFT color LCD) |
| | Memory of molding conditions (internal memory 40 molds) |
| | Data card (40 molds/card) |
| | Printer output terminal ② |
| | Self-diagnostic function |
| | Overall set screen |
| | Molding support function (Basic system) |
| | Time clock |
| | Unmanned operation switch |
| Monitor | Cylinder temperature monitoring function |
| | Heater circuit break |
| | Injection pressure monitor (IPM) |
| | Injection wave form monitor |
| | Injection wave form memory |
| | Statistical graph display |
| | Table display |
| | Display of mold temperature ③ |
| | Abnormal alarm buzzer |
| | Production monitoring ④ |
| | Operating time display |
| | Action monitor |
| | Molding condition upper/lower limit ⑤ |
| | Maintenance ⑥ |
| | Alarm history |
| | Set value history |

★ : Patent

NOTES:
① Either of the A or K size are standard specification. (B size will be optional)
② The printer, printer cable, and receptacle are optional.
③ Sensor and cable are not included.
④ Setting of production quantity and advance notice are possible and completion time is displayed.
⑤ Monitoring functions of the following particulars are equipped as standard.
(Cycle time, Injection time, Rotation time, Cushion, Injection start point, Changeover Position to holding pressure, Injection pressure, Changeover pressure to holding, Mold opening-closing time, Screw back pressure.)
⑥ Maintenance service time and areas are displayed.

## ■ Optional Equipment

| | Item | Single acting | Rotary | Injection |
|---|---|---|---|---|
| 1 | B size screw cylinder | | | ○ |
| 2 | SVO long nozzle | | | ○ |
| 3 | High-melter MⅡ screw | | | ○ (1) |
| 4 | LCP screw (only for LCP resin use) | | | ○ (2) |
| 5 | Cylinder heat insulation cover | | | ○ |
| 6 | Shut-off nozzle (pneumatic) | | | ○ |
| 7 | Hopper flange temperature control | | | ○ |
| 8 | Accumulator injection | | | ○ |
| 9 | Injection rate increase | | | ○ |
| 10 | KC nozzle | | | ○ |
| 11 | Special screw head | | | ○ |
| 12 | Molding device for thermosetting resin | ○ (3) | ○ (3) | ○ (3) |
| 13 | Hopper | | | ○ |
| 14 | Daylight extension | ○ | ○ | |
| 15 | Ejector stroke extension | ○ | ○ | |
| 16 | Ejector for upper mold | ○ | ○ | |
| 17 | Ejector for 3-points ejection | | ○ (4) | |
| 18 | Mold platen heat insulation board | ○ | ○ | |
| 19 | Air jet | ○ | ○ | |
| 20 | Unscrewing motor control circuit | ○ | ○ | |
| 21 | Hydraulic core puller circuit | ○ | ○ (5) | |
| 22 | Pneumatic core puller circuit | ○ | ○ | |
| 23 | Dual fanction (Lower mold ejection during mold closing) | | ○ | |
| 24 | Dual fanction (Upper mold ejection during table rotation) | | ○ | |
| 25 | Oil low level alarm | ○ | ○ | |
| 26 | Suction filter clogging alarm | ○ | ○ | |
| 27 | Low pressure injection circuit | ○ | ○ | |
| 28 | Flow indicator for cooling water | ○ | ○ | |
| 29 | Mold temperature control piping | | ○ | |
| 30 | Cooling water cut off alarm | ○ | ○ | |
| 31 | Vibration proof rubbers | ○ | ○ | |
| 32 | Die clamper | ○ | ○ | |
| 33 | Mold quick set-up device | ○ | ○ | |
| 34 | Take-out robot mounting holes | ○ | ○ | |
| 35 | Easy die clamp | ○ | ○ | |
| 36 | Sliding type equipment | ○ | | |
| 37 | Mold positioning | ○ | ○ | |
| 38 | Single acting type 150t clamping unit | ○ | | |
| 39 | Anchor bolt | ○ | ○ | |
| 40 | Calendar timer | ○ | ○ | |

| | Item | Single acting | Rotary | Injection |
|---|---|---|---|---|
| 41 | Leakage breaker | ○ | ○ | |
| 42 | Mold temperature indicator | ○ | ○ | |
| 43 | Alarm light | ○ | ○ | |
| 44 | Mold heater circuit | ○ | ○ | |
| 45 | Take-out robot interface | ○ | ○ | |
| 46 | Spare plug receptacle | ○ | ○ | |
| 47 | Spear output signal circuit | ○ | ○ | |
| 48 | Communication function with host computer | ○ | ○ | |
| 49 | Printer (with printer cables) | ○ | ○ | |
| 50 | Printer cable (IBM compatible type) | ○ | ○ | |
| 51 | Data card (40 molds/card) | ○ | ○ | |

NOTES:
(1) Available for screw size lager than $\phi$ 35.
(2) Available for screw size $\phi$ 28 and smaller.
(3) Not applicable for M20(S,R) ,20V.
(4) Only for rotary type.
Not applicable for M20R and M40R.
(5) Not applicable for lower mold of M20R.