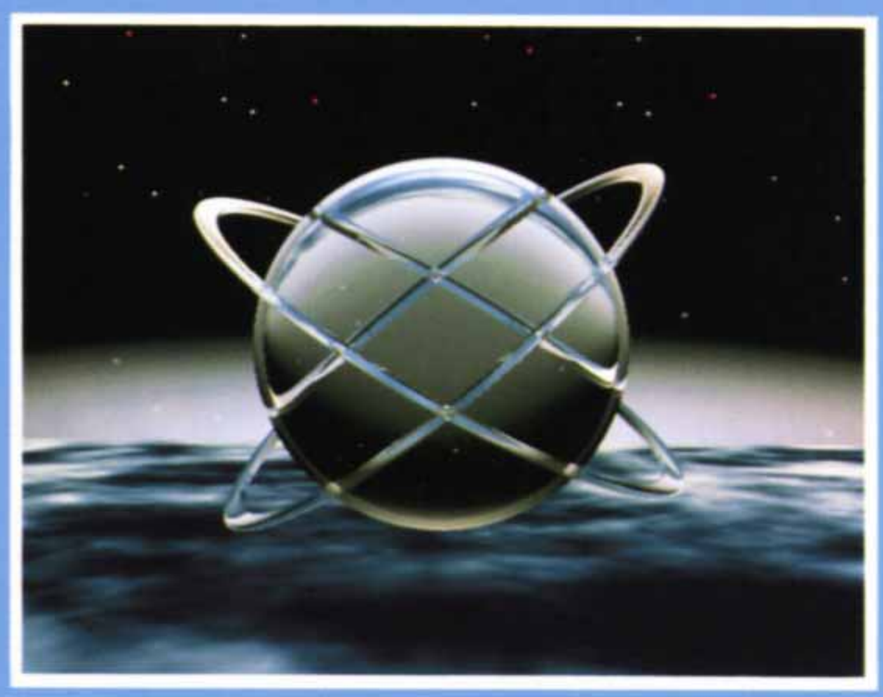
J-EIII SERIES



Large Size
Injection Molding Machines

JSW Hiroshima Plant

JSW

JSW Hiroshima Plant

Producing Assured Quality With An Eye To The Future

JSW: The Ultimate Interface Between Man, Machine and Materials

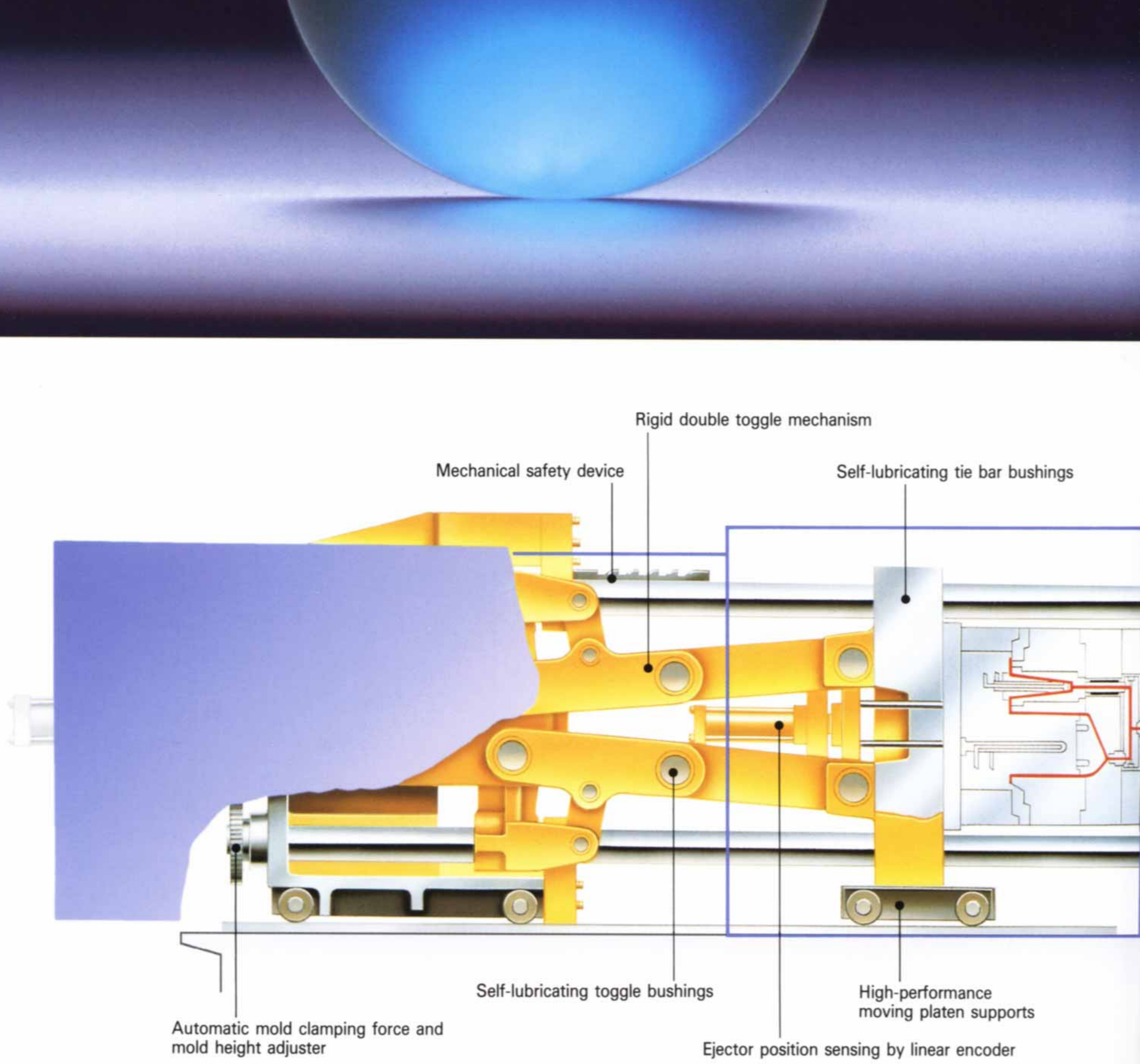
In this high-tech society, plastics keep meeting and fulfilling the demands of an ever-expanding range of applications. Electric appliances, automotive, and electronics are three of the many technologically-advanced industries that can benefit from the new JSW J-EIII Series of Injection Molding Machines.

By adopting the latest technical expertise (based upon a vast build-up of experience working with satisfied customers), the new JSW J-EIII Series comes with exciting new advanced functional and operational features.

These are the prestige machines. The J-EIII Series utilizes new technologies developed one after another, that enable the transformation and ever-expanding potentiality of plastics into a realistic form.

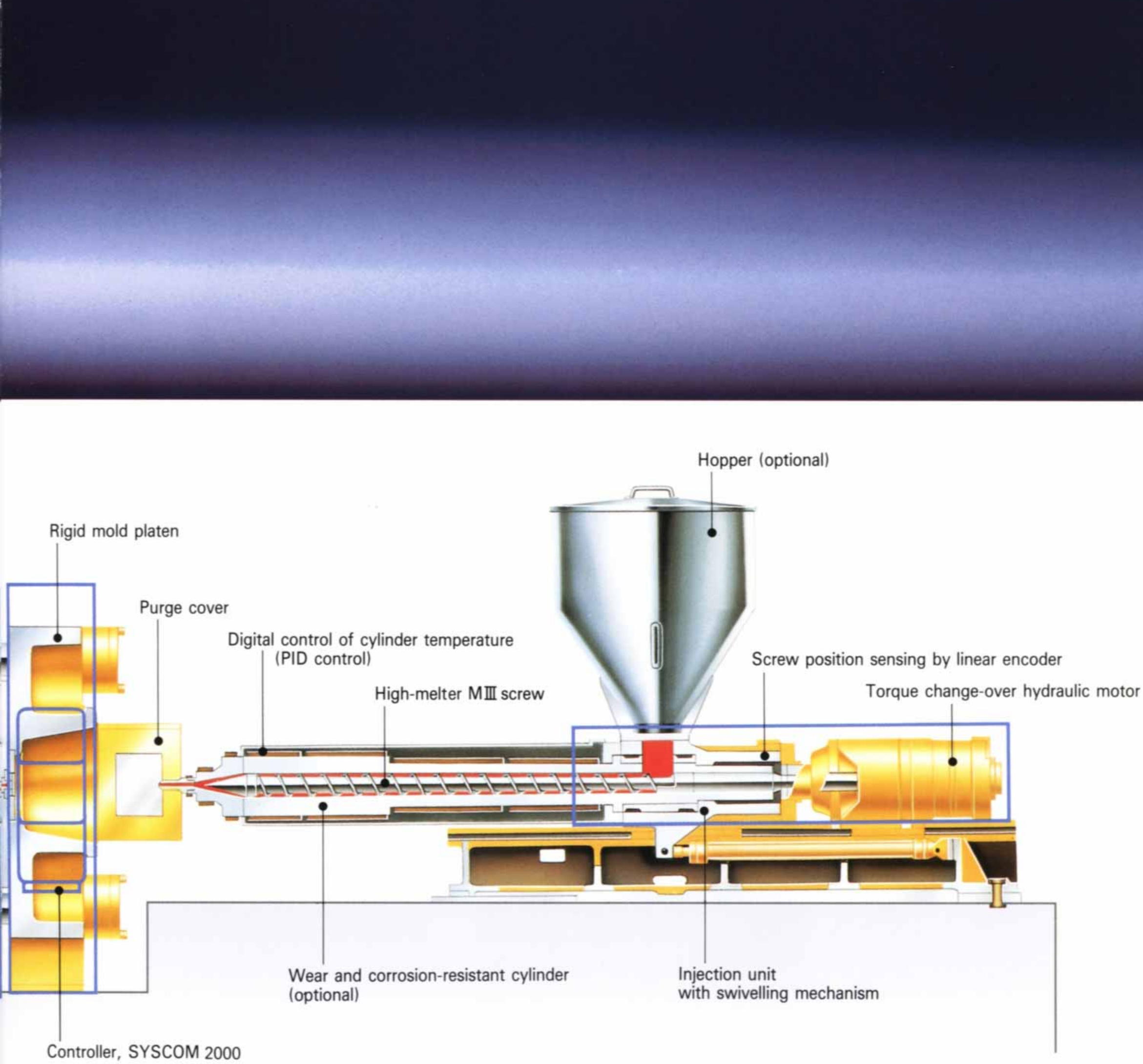
HIGH-GRADE MACHINES

BALANCE AND HIG



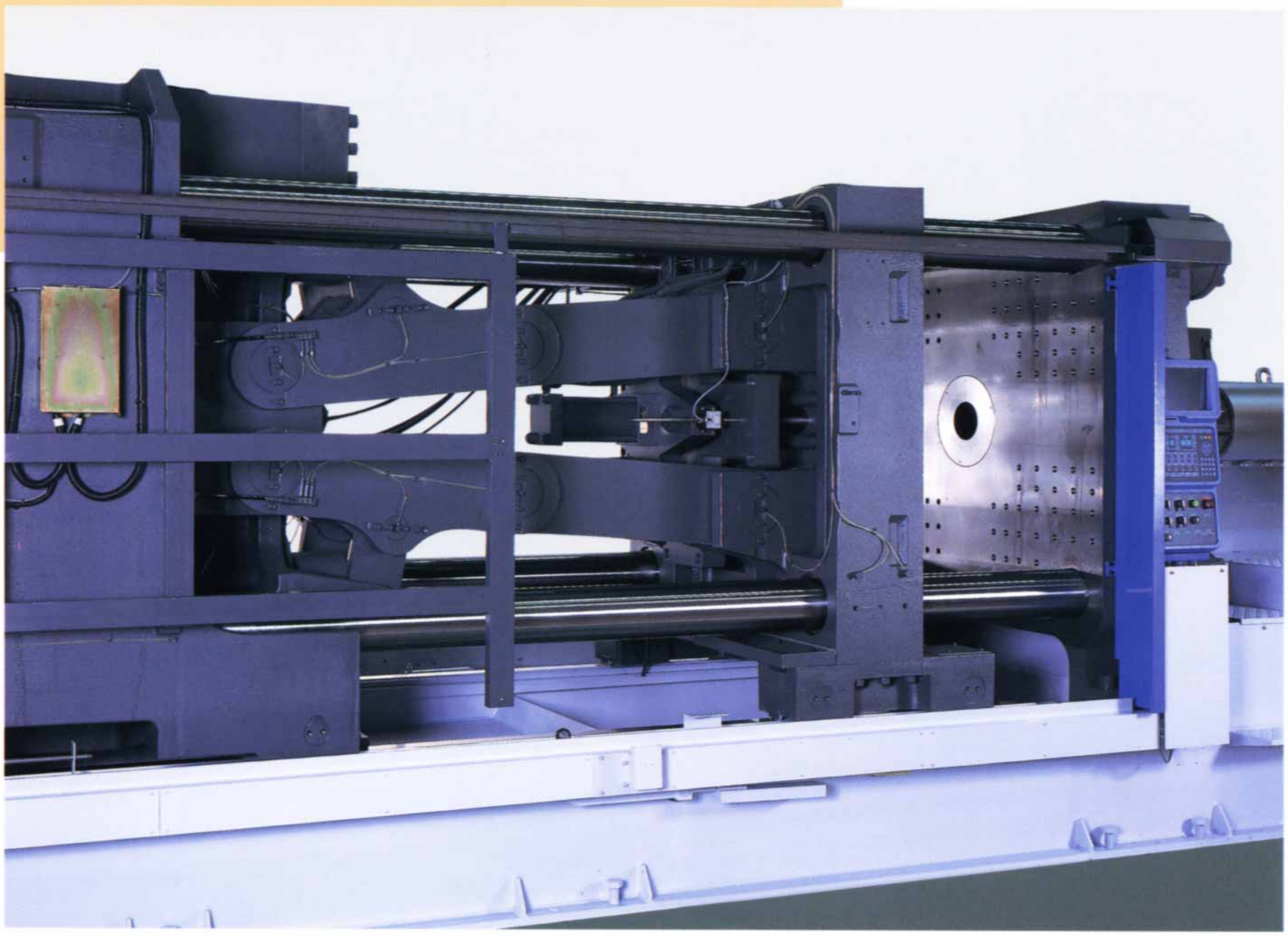
H-POWER MACHINE

The J-EIII Series - Forged From The Tireless Pursuit of Technology Serving High-Performance and Function.



High Precision Mold Clamping Unit, A Powerful Backup For Stable Molding

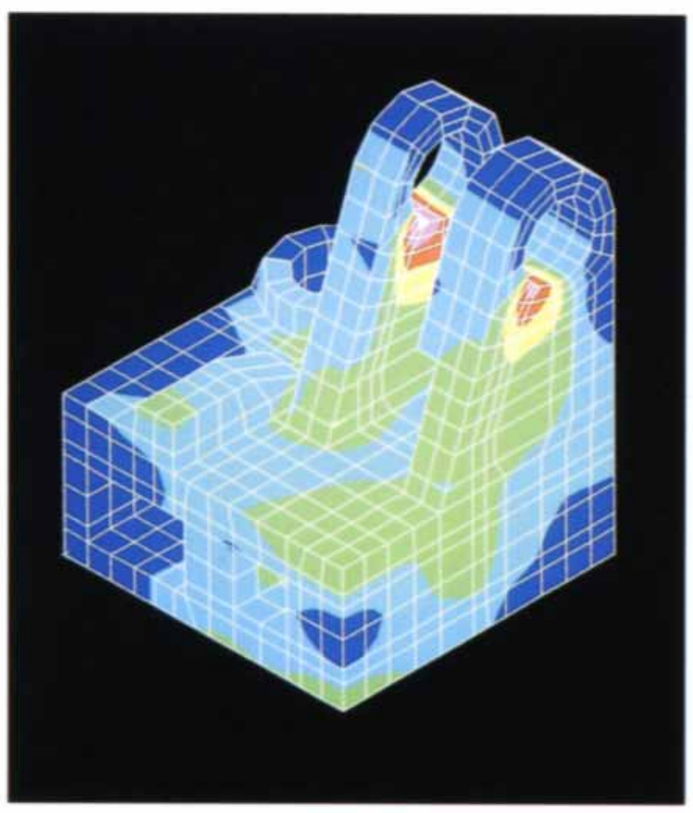
Stable Molding Operation is Realized by Remote Setting to Make The Machine Adaptable for FA Systems. Durability, Maintenance-Convenience and Safety.

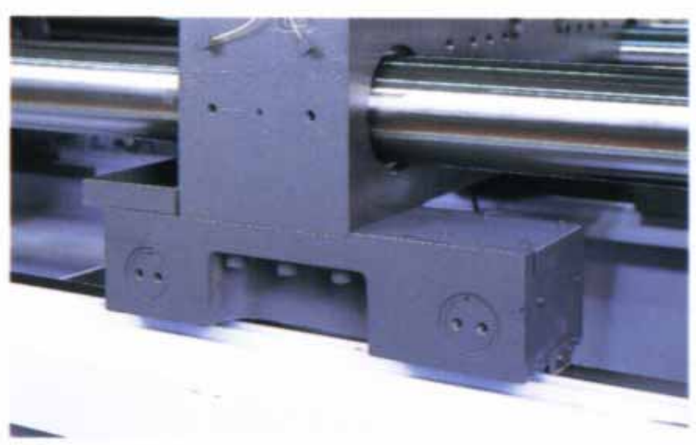


E X C E L L E N T

■ Rigid Mold Platen

The computer-analyzed mold platens have optimum rigidity that matches current needs in precision molding. This minimizes mold deflection caused by clamping force and cavity pressure.



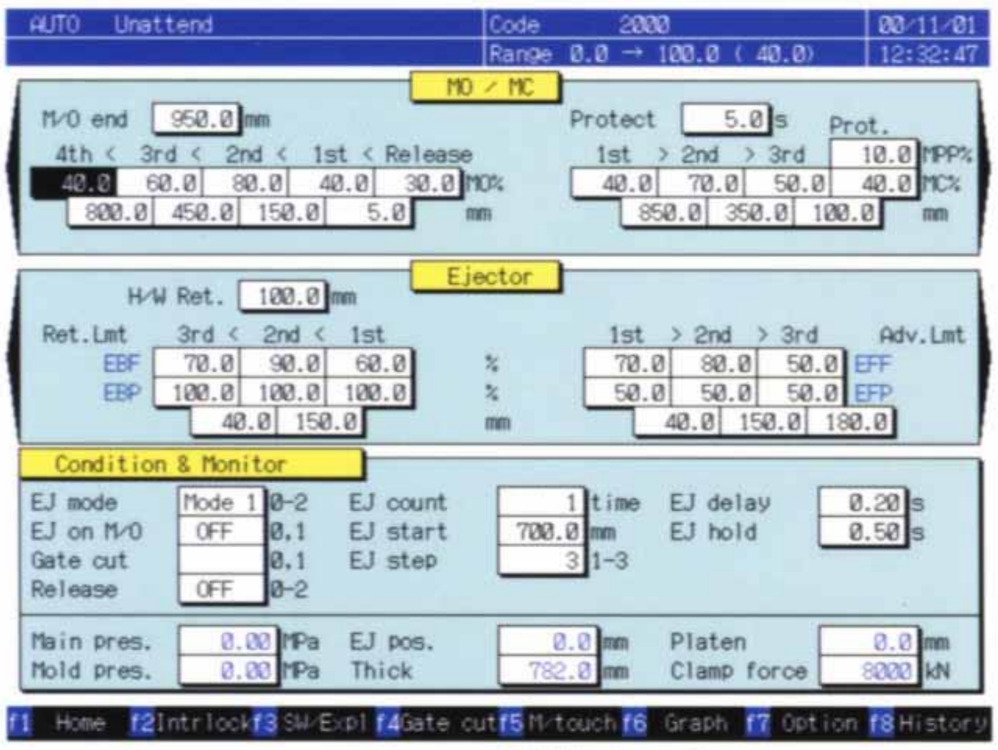


■ Moving Platen Supports

(Two Roller System)

Moving platen tie-bar guide and maintenance-free mold platen support system. This ensures high parallel accuracy of mold platens and durability, even when heavy molds are mounted.

J-EIII SERIES



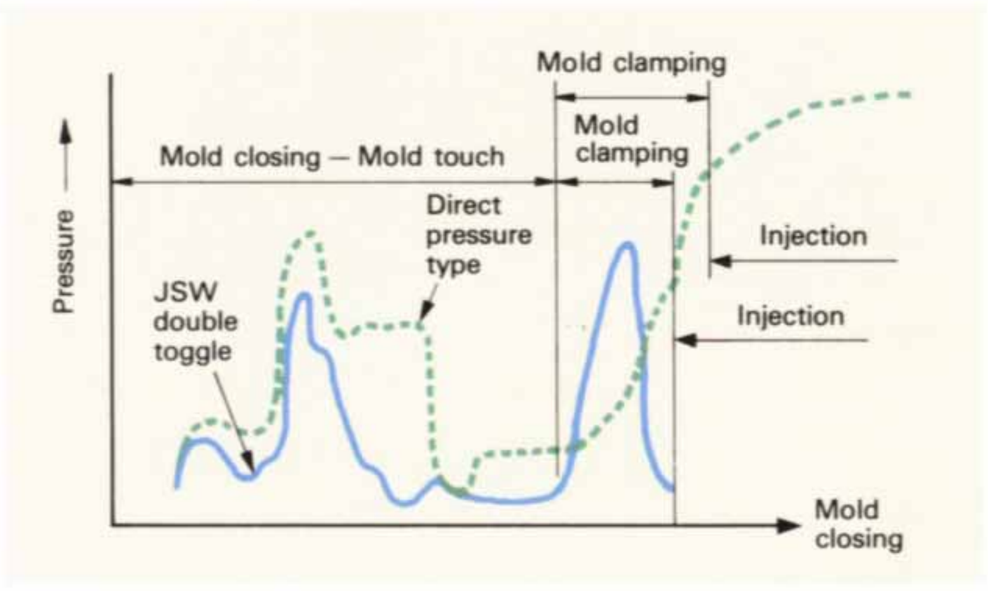
•Mold close & open set screen

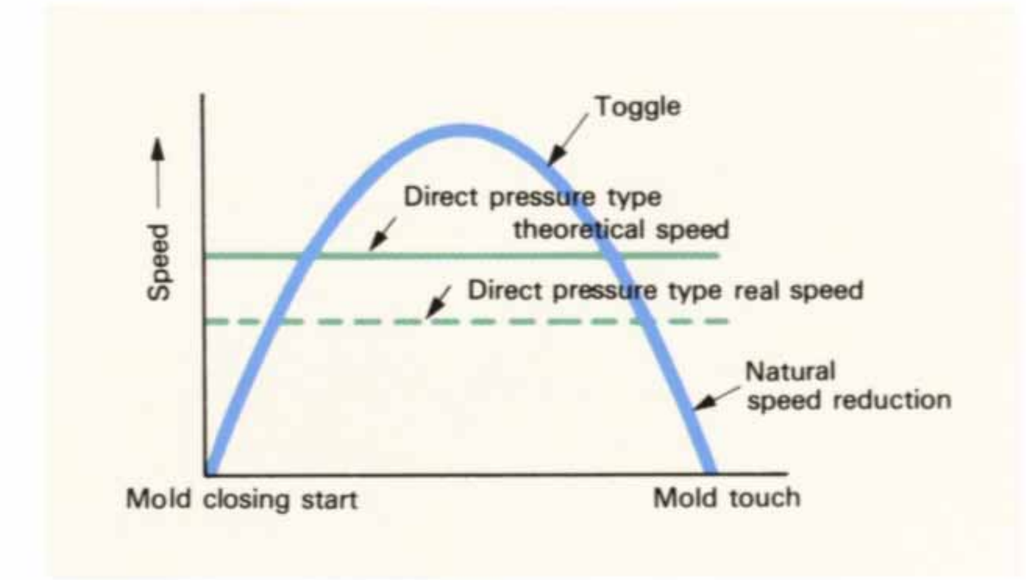
All Remote Setting of Mold Height and Movable Platen

Mold opening and closing speeds, ejector speed and position, mold height adjusting position are all remotely set. Further, by the unique JSW automatic mold clamping force setting function, personal errors in setting are eliminated, moreover repeatability and operational convenience are improved. Full remote setting is possible to adapt the machine for integration into a FA system.

Fast Cycle and Energy Savings

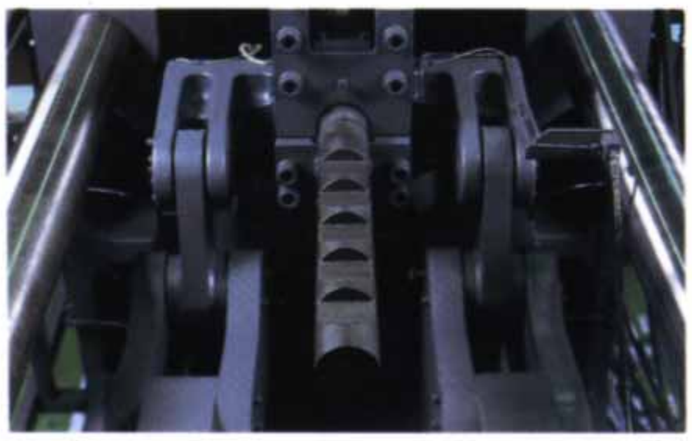
JSW toggle machines have fast mold opening and closing speeds, by using a low load clamping cylinder that results in fast cycle molding and energy saving on power consumption.





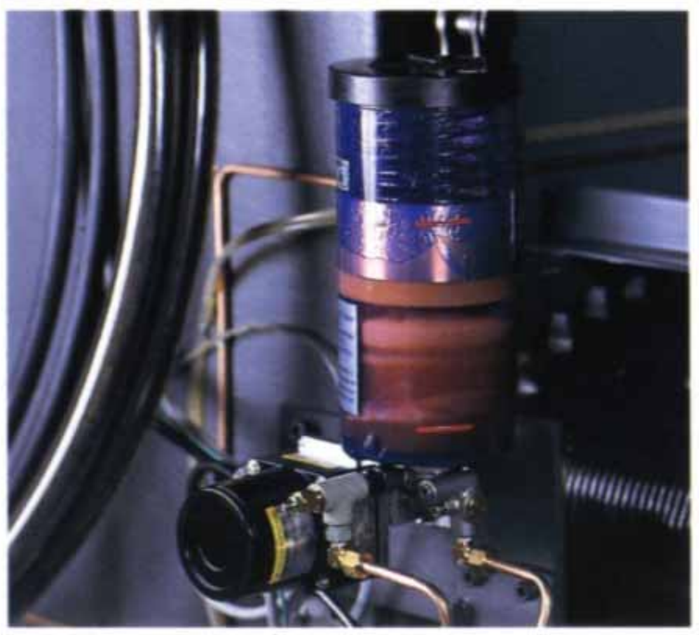
By the natural deceleration of the toggle mechanism, the mold closing speed is automatically reduced before mold touch. This avoids any shock and protects the mold.

C L A M P



Safety Devices

Machine is equipped with electric, hydraulic and mechanical safety devices. (Patent pending)



Automatic Greasing

Automatic greasing is adopted for the mold clamping unit (of toggle section, movable mold platen, mold thickness adjusting section).
If no grease in the tank or in case of any trouble in the piping, an alarm is sounded for convenience of maintenance service.

Self-lubricating Bushings with Greasing Time Alarm

Special self-lubricating bushings are used for the toggle bushing and tie-bar bushing. The toggle mechanism that maintains high precision by periodically supplying grease will result in a cleaner factory and lubrication cost savings.

The Injection System That Holds The Key To Low Temperature Homogenous Kneading, High Cycle Molding and Product Quality

Reliable Injection Unit, High Performance — High Kneading Screw and IVS Control All Help Improve Productivity.

E X C E L L E N T

■ Linear Bearing Guide

A linear bearing guide has been adopted for the Injection unit slide guide. This reduces the resistance in back and forth motions of the injection unit to afford more stable machine operation and, moreover, improves durability of the sliding parts.

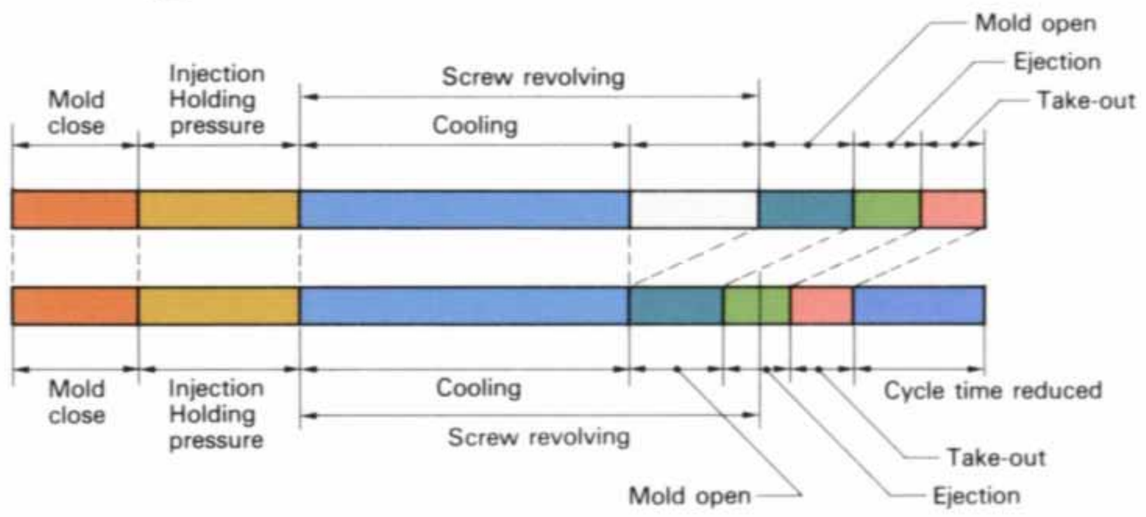
J-E III SERIES

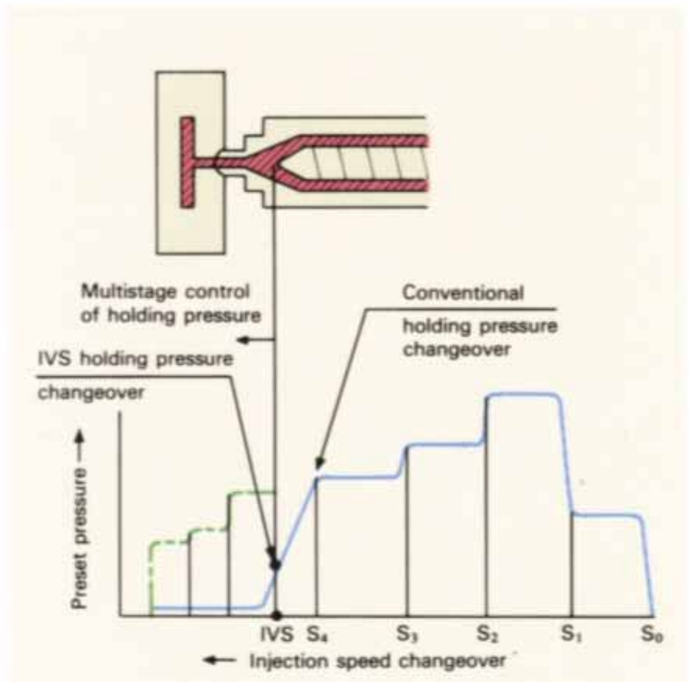
■ High-Melter M III Screw

The high-mixing high-melter MII screw in the J-E series has been praised. JSW who is a leader in screw technology development, has introduced the high-melter MIII screw as a standard to improve uniformity at low temperatures, high mixing capability, and high plasticizing capacity.

■ Dual Function

The dual function circuit-enabling screw driving and parts ejection during mold opening or closing is quite useful for molding cycle reduction of products when the products need long plasticization time.



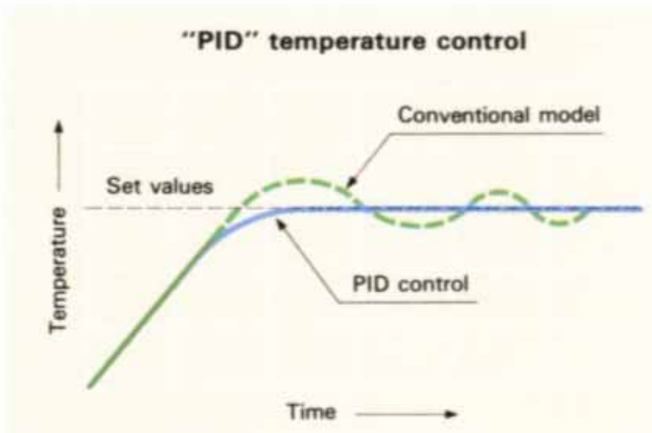


■ "IVS Control" Holding Pressure Changeover

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.

■ PID Temperature Control/Nozzle Temperature Control (SSR)

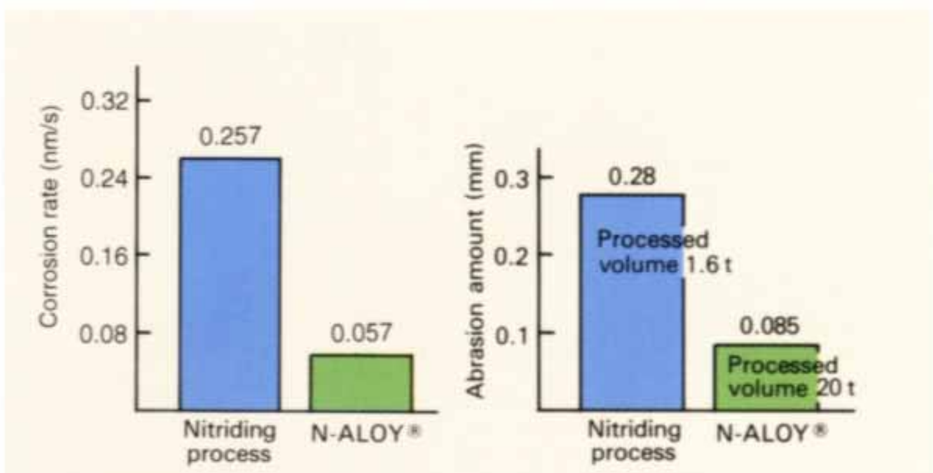
By the quick response to temperature changes, overshooting is reduced to ensure precise temperature control. As a SSR (solid state relay) is adopted for the nozzle section, deviations of actual temperatures from the setting are eliminated to provide stable temperatures at all time.



M E L T

■ Wear and Corrosion-Resistant Cylinder (optional)

N-ALOY® adopted for this cylinder is a nickel alloy which is a wear and corrosion-resistant material for lining the cylinder. This alloy is durable against materials such as resins containing glass fibers or flame-retardant materials that tend to wear out or corrode. A remarkably longer life is assured compared with conventional nitride cylinders.

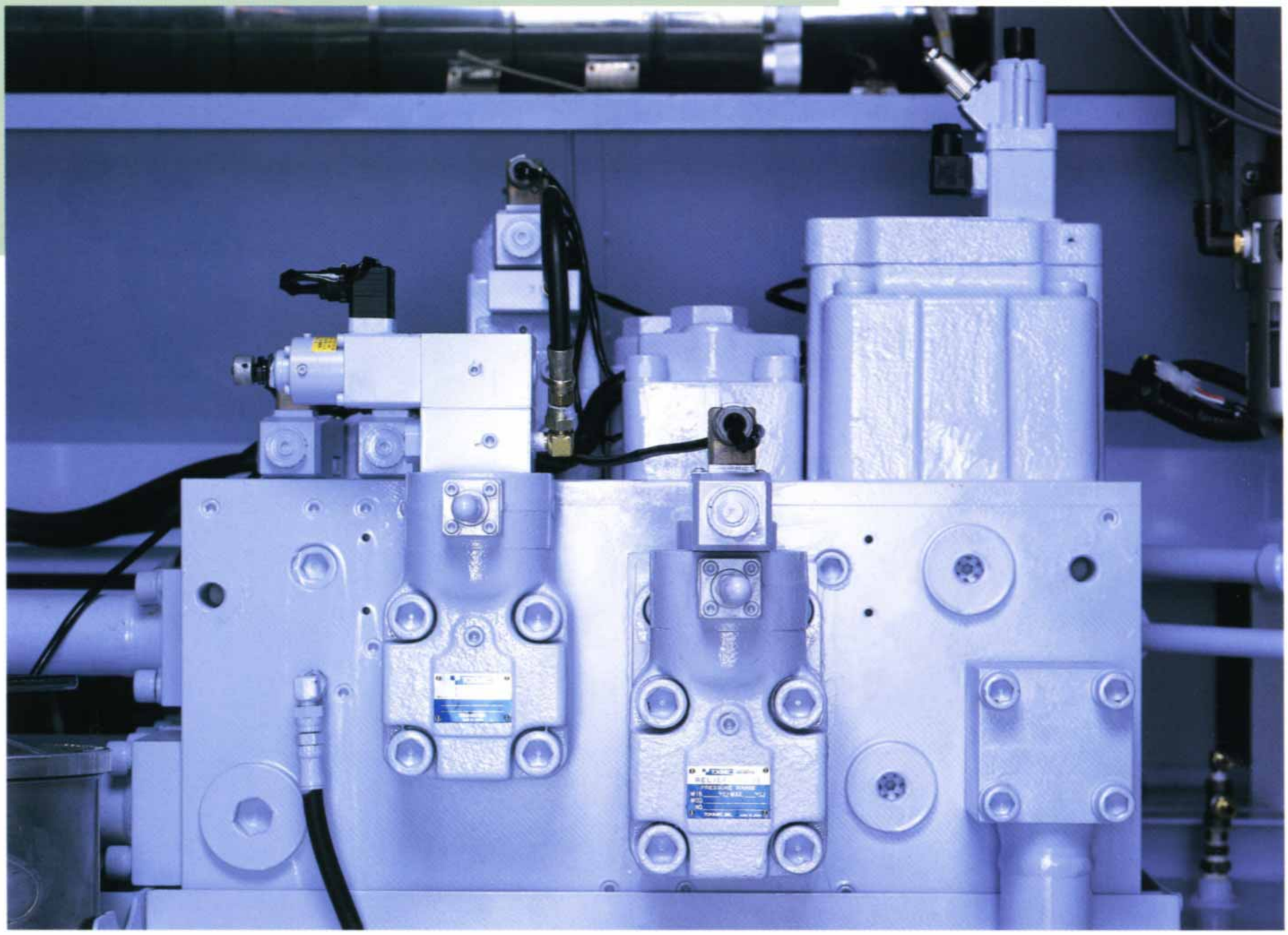


This graph shows data that was obtained when hydrochloric acid (50%) was used as the corroding liquid.

Materials:
PBT (GF30%)
Polyamide 66 (GF30%)
Polyamide 6 (GF30%)
PPO (GF30%)

Energy-Saving Hydraulic System Is Maintenance-Free

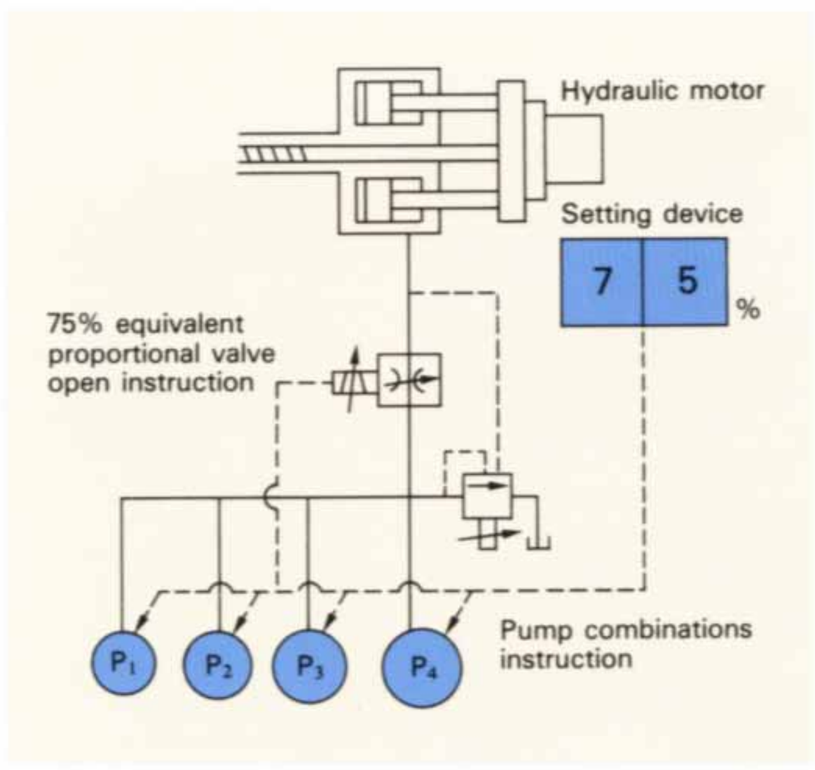
Energy Saving Circuit, Hydraulic Oil Preheating Circuit, Oil Temperature Stabilizer and Hydraulic Oil Purifier are Equipped as Standard.



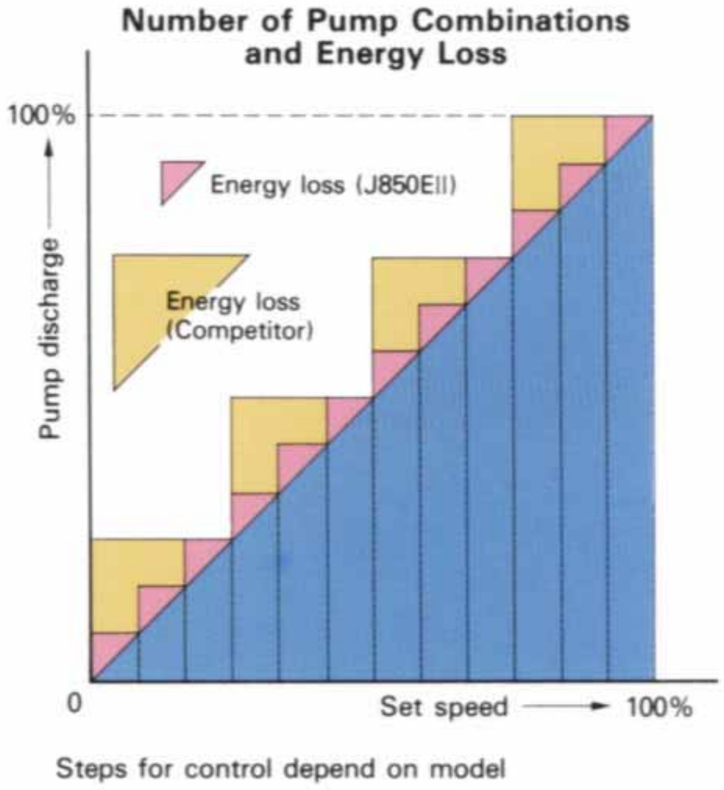
E X C E L L E N T

■ "MPS System" Energy Saving Circuit

The circuit can supply the optimum amount of oil and can match the loading pressure by using multiple pumps.



Number of Pump Combinations and Energy Loss

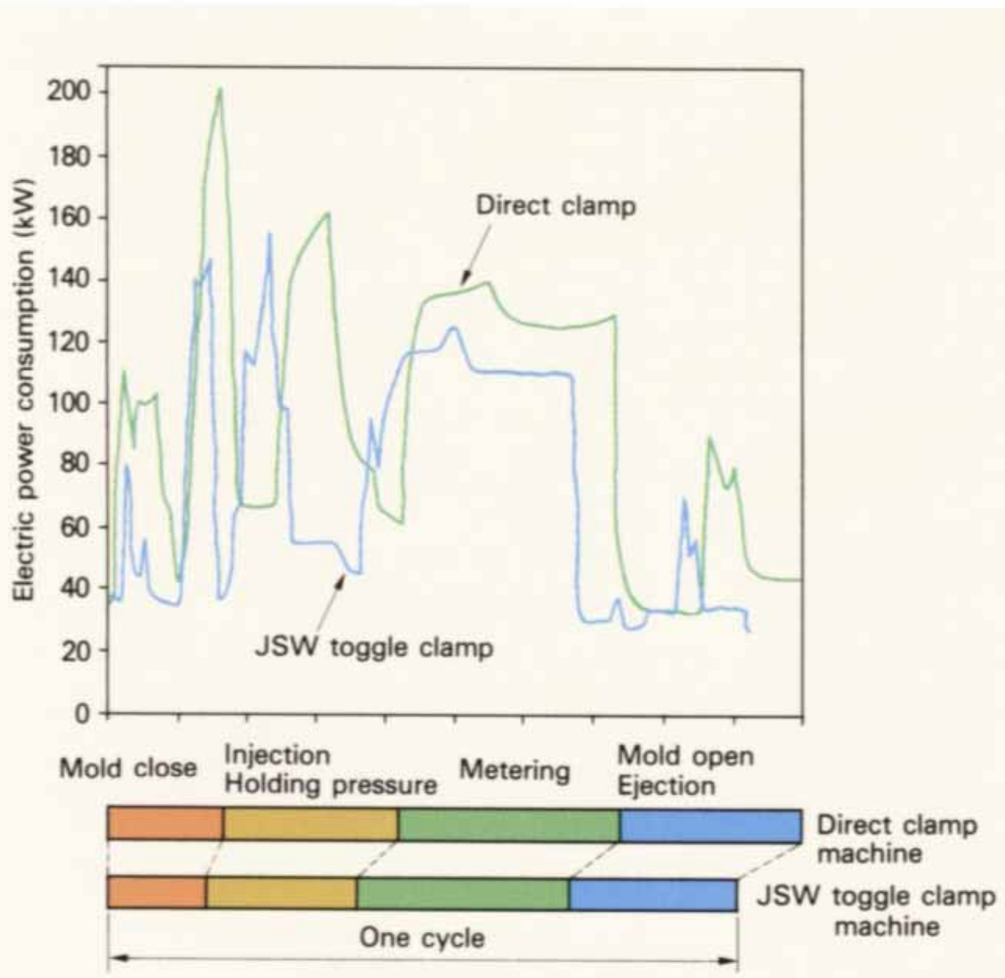


Steps for control depend on model

J-EIII SERIES

Comparison of Electric Power Consumption

(with direct clamp machines)

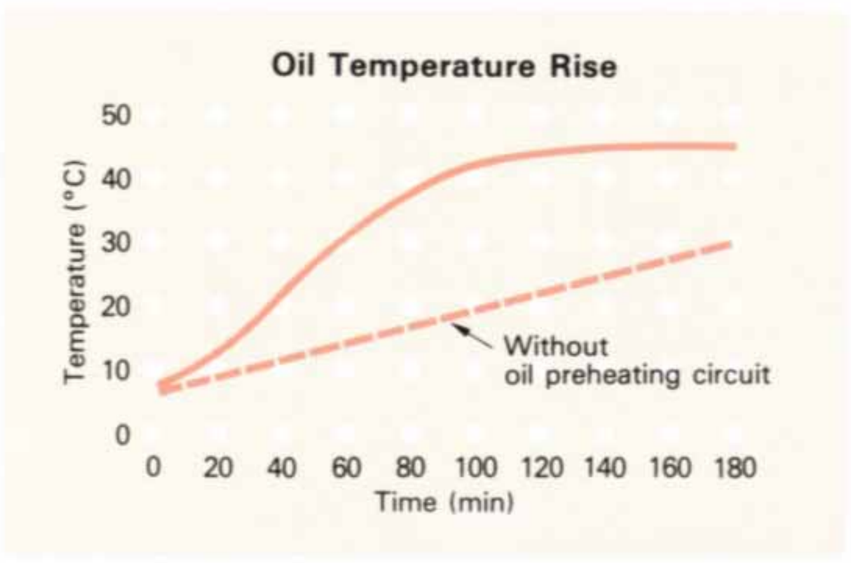


Oil Filter

The oil filter in the hydraulic system prevents oil from contamination or deterioration. Consequently, the cost of oil is reduced.

•Oil Cleaner

HYDRAULIC



Hydraulic Oil Preheating Circuit

The hydraulic oil is preheated at operation start, so that the time to stable operation is shortened. The circuit has an automatic breaker to shut the pump off as the oil temperature reaches the preset point.

Oil Temperature Stabilizer

This unit automatically controls the oil temperature by detecting the operating temperature of the oil and maintaining the optimum temperature, so molding stability can be improved.

A Highly Reliable Controller Able To Meet The Molding Needs of One and All

To Support High-performance Molding Ease of Operation, SYSCOM2000

SYSCOM2000

TFT Color LCD with Touch Panel

A big TFT color LCD screen (10.4 inch) has been added. 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.

Easy touch panel uses a pictorial display

Molding machine for easy process parameter settings. User friendly design facilitates learning, and daily operation. (Memorize 40 mold with internal memory and a data card.)

Built-in Controller

Mounted on the stationary platen, the SYSCOM 2000 controller uses a large color liquid crystal display and operation keyboard eliminating unnecessary wasted space around the machine, giving the opreator easy access to all functions.

Language Switching Function

In response to globalized needs, the screen can be switched from Japanese to English.
Also, other languages are available as options.
Notes: Some languages are not available

Print-out

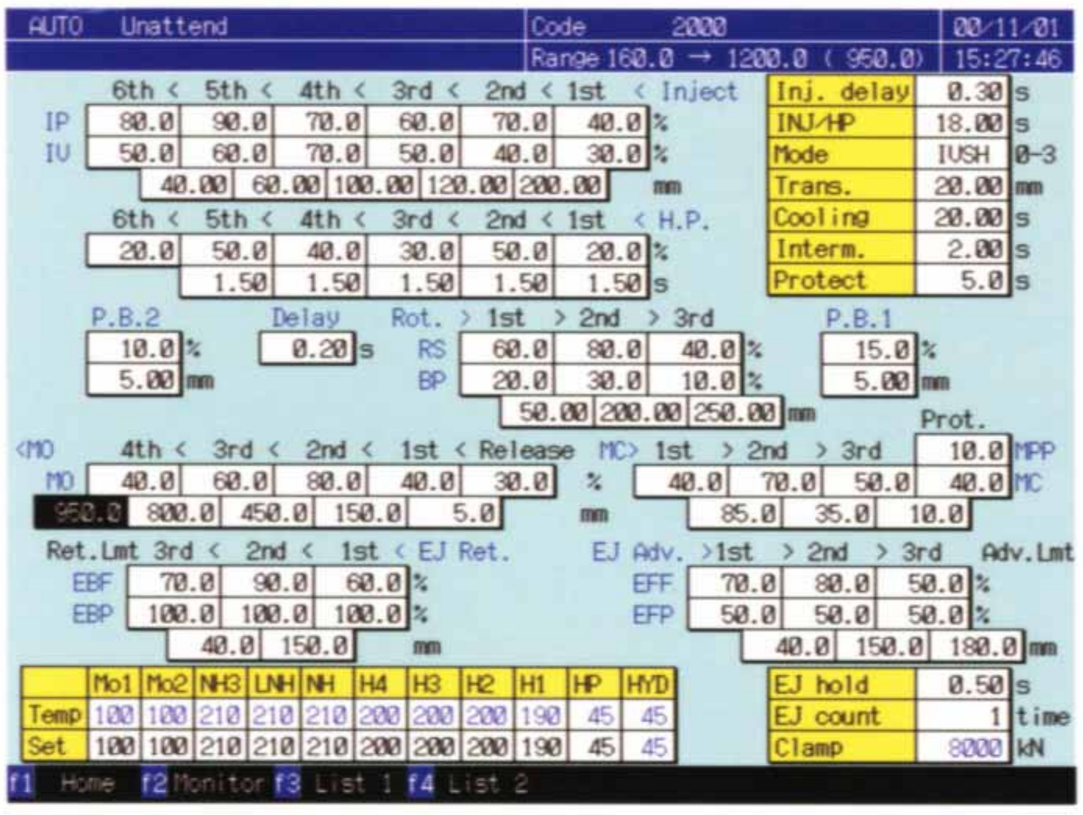
With a printer connection, it is possible to keep records of molding conditions, measured data of various sorts and injection wave form.

Centralized Control System (option)

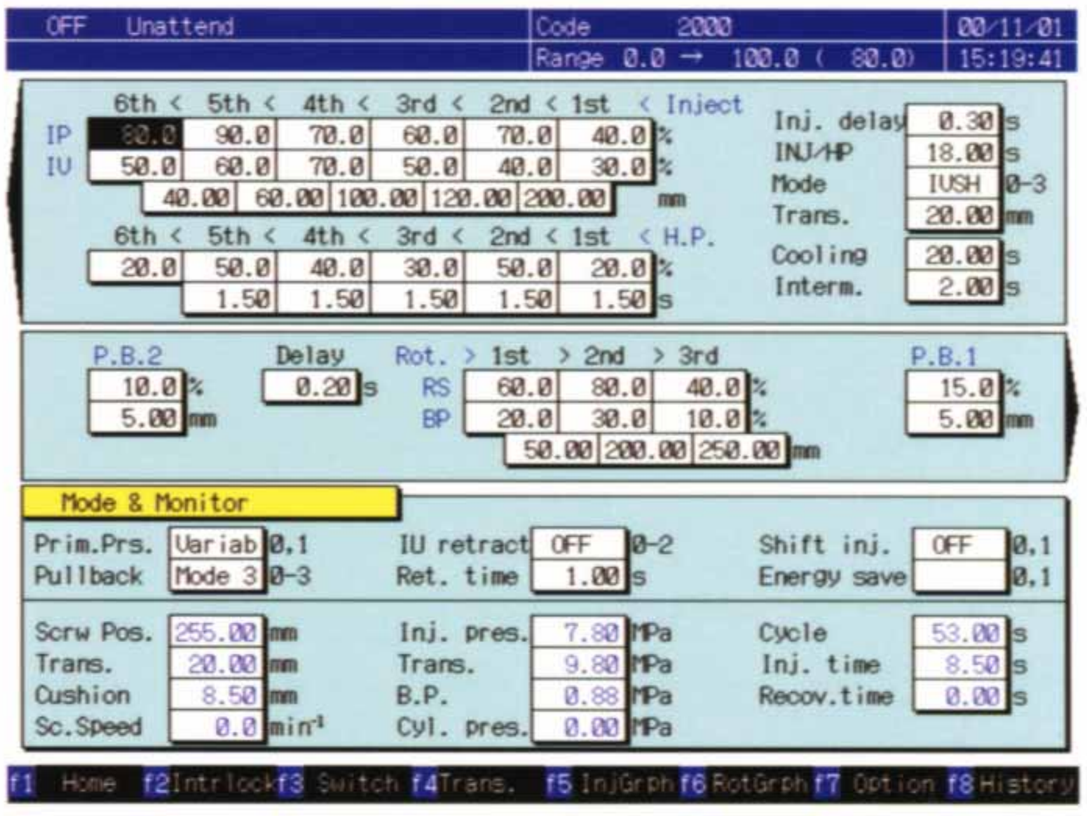
A network may be built with a host computer.

E X C E L L E N T

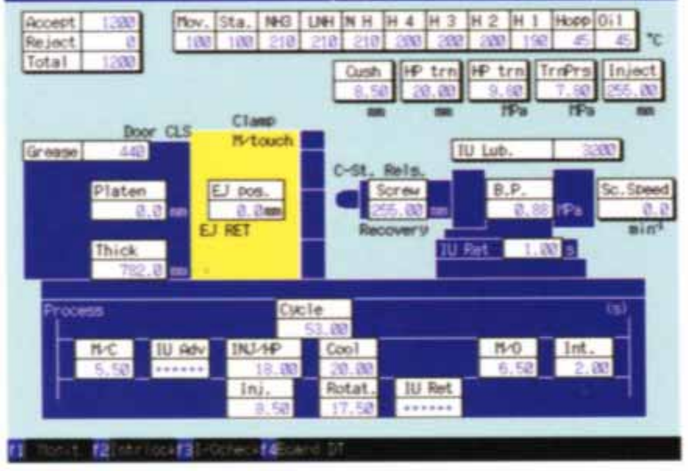
J-E III SERIES



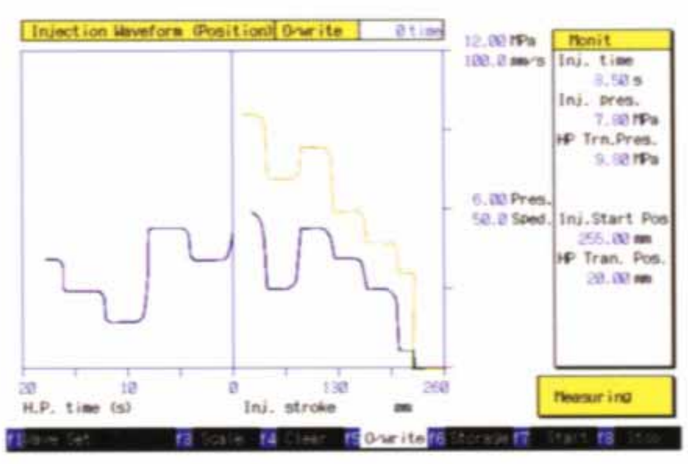
•Overall set up



•Inj.parameters set up

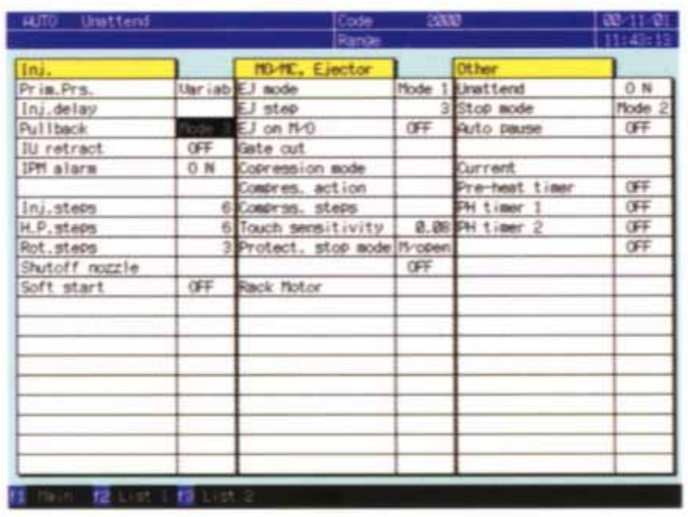


•Action monitor



•Wave form monitor

E L E C T R O N I C S



•Option mode

•Maintenance

High-Performance Standard Specifications for J-EⅢ

Standard Equipment

Injection and Plasticating Unit		
Open nozzle (SVO) (R15, ϕ 6)		○
High-melter MⅢ screw		○
Screw torque changeover		○
Swivel for injection unit [1]		○
Purge cover (with LS)		○
Cold start-up prevention		○
Mold-Pause changeover function		○
Automatic purging circuit		○
Sprue break timing selection		○
Suck back timing select		○
Injection and recovering program control	Injection speed	1—6 steps (adjust.)
	Injection pressure	1—6 steps (adjust.)
	Holding pressure	1—6 steps (adjust.)
	Screw speed	1—3 steps (adjust.)
	Screw back pressure	1—3 steps (adjust.)
	Suck back	○
Transfer to holding pressure by sensing injection speed (IVS Control)		○
Shift injection profile★		○
Cylinder temperature remote setting (PID control)		○
Nozzle temperature control (SSR)		○
Mold Clamping Unit		
Self-lubricating toggle bushings		○
Automatic greasing		○
High-performance mold platen support		○
Remote setting of mold open-close speed		○
Remote setting of moving platen position		○
Automatic mold height adjuster		○
Remote setting of mold height		○
Remote setting of ejector speed		○
Remote setting of ejector position		○
Automatic mold clamping force setting		○
Mold protection device		○
Safety devices (hydraulic, electric and mechanical)		○
Mold clamp warning device		○
Safety door automatic opening device		○
Take-out robot mounting holes		○

★ : Patent registered

Hydraulic Unit and Related Equipment	
Energy saving hydraulic circuit by multi-pump selection	○
Dual function (Mold open/close, screw driving, ejection)	○
Oil temperature stabilizer	○
Oil preheating circuit	○
Oil filter	○
Oil low level alarm	○
Oil temperature alarm / Upper and lower limits	○
Mold cooling water closed circuit	○
"Y" strainer of cooling water [2]	○
Controller	
TFT color LCD controller with SYSCOM touch panel	Color LCD
Memory of molding conditions	Int.
Data card	○ (one)
Soft touch start-up function	○
Printer output terminal [3]	○
Self-diagnostic function	○
Overall set screen	○
Molding operation aid function (Basic system)	○
Time clock	○
Non attend operation switch	○
Robot interface	○
Switching function of Japanese-English. [4]	○
Monitor	
Cylinder temperature monitoring function	○
Heater circuit break	○
Injection pressure monitor (IPM)	○
Injection wave form monitor	○
Injection wave form memory	○
Statistical analysis function (SPC)	○
Table display	○
Display of mold temperature [5]	○
Link and busing greasing alarm	○
Abnormal alarm buzzer	○
Production monitoring [6]	○
Cycle monitor display	○
Action monitor	○
Alarm set screen (SQC) [7]	○
Maintenance service [8]	○
History of alarm	○
Set Value history	○

Notes: 1) The injection unit swivelling mechanism mounted on J550EⅢ, J650EⅢ, J850 EⅢ and J1300EⅢ models is a manual operation type and the one on J1600EⅢ is a hydraulic type.
2) Available for oil cooler circuit only.
3) The printer, printer cable and receptacle are optional.
4) The Japannese/English switching function is standard equipment.
5) Sensor and cable are not included.
6) Setting of production quantity and advance notice are possible and completion time is displayed.
7) Monitoring functions of the following particulars are equipped as standard.
(Cycle time, injection time, recovery time, cushion, injection start position, changeover position to holding pressure, injection pressure, changeover pressure to holding, mold opening-closing time, screw back pressure).
8) Maintenance service time and areas are displayed.

Optional Equipment

1	Long nozzle
2	SVN shut-off nozzle (spring type)
3	Wear and corrosion-resistant cylinder
4	Wear and corrosion-resistant screw
5	High-melter M7 screw
6	Cylinder heat insulating cover
7	Cylinder cooling unit (with blower)
8	Shut-off nozzle
9	Hopper
10	Daylight extention
11	Manual central greasing (injection unit)
12	T-grooved plate
13	Spacer plate
14	Air jet
15	In-mold ejector circuit
16	Special locating ring
17	Safety foot plate
18	Mechanical mold open stopper
19	Hydraulic core puller circuit
20	Pneumatic core puller circuit
21	Hydraulic pressure stripper
22	Warning for suction filter clogging
23	Valve gate shut circuit (Hydraulic)
24	Cooling water closed circuit (with flow indicator coupler)
25	Cooling water closed circuit (stationary platen type)
26	Cooling water failure alarm
27	Mold mounting preparation unit
28	Hopper stage
29	Calendar timer
30	Warning light
31	Abnomal mold temperature warning
32	Display of mold temperature
33	Spear output signal circuit
34	Ejector plate return confirmation circuit
35	Plug socket for auxiliary equipment
36	Spare plug receptacle
37	Communication function with host computer
38	Printer (with printer cables)
39	Language switching function [1]
40	Data card
41	Microseparator

Notes: 1) One more language can be added, in addition to Japanese and English.

Polymer Flow Analyzing System (PDC-CAE System)

Services of filling and warpage analysis are available at the request of users. (Chargable)

- Due to technical reasons, printed colors are not always the same as those of actual paints.
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