JADS® SERIES

All Electric Servo Drive
Injection Molding Machine

J550ADS J1000ADS
J650ADS J1300ADS
J850ADS J1400ADS
J850ADSW

Made in HIROSHIMA

JSW

CERTIFIED JQA MANAGEMENT SYSTEM
ISO 9001
ISO 14001

JQA-QMA13993
JQA-EM6416 (Hiroshima Plant)

Electric servo drive injection molding machine that has evolved to a higher standard than ever before

JADS® SERIES

JSW, a specialist in toggle type mold clamping unit design,
proudly presents the JADS series of electric servo drive injection molding machines.
As a world's top-class supplier we have achieved
“faster cycle times”, a stronger, “long life design” and “precise & stable molding”
based on our extensive experience.
In addition, the new controller, which is based on ergonomics
and is extremely easy to use,
provides advanced intelligence to meet the diverse needs of various molding factories
and contributes to increased productivity.

4 Solutions for High Productivity

SPEED
Faster Cycle Times

- Ultrahigh-speed open/close toggle mechanism
- High-speed & high-acceleration ejector
- High speed servo type mold height adjustment device
- High response & high output injection unit

SMART
Intelligence

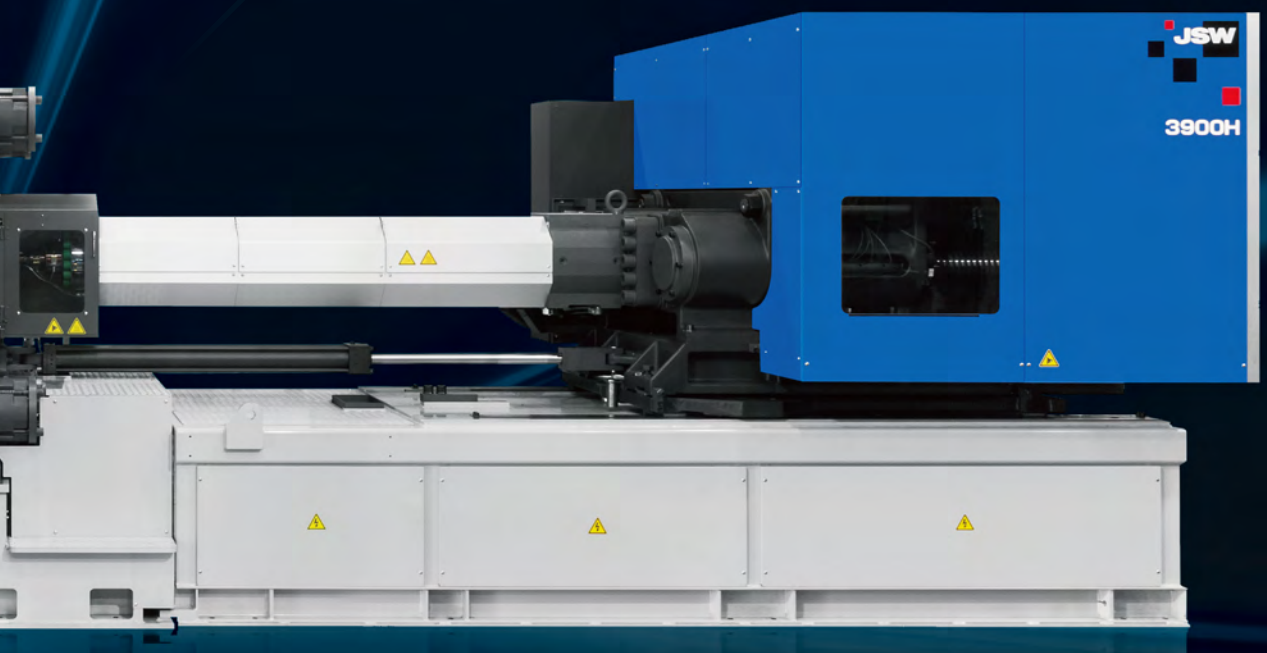
- Applications for a variety of needs
- New controller "SYSCOM 5000*i*"
- Convenient screen layout
- IoT solutions "J-WiSe®"

STRONG
Longer Life Design

- High-rigidity mold clamping unit
- Flat press wide platen
- Advanced high-performance screw

STABLE
Stable Molding

- Clamping force feedback control
- High-accuracy recovery control
- Energy saving



Conforms to national safety standards
Some equipment shown maybe optional.

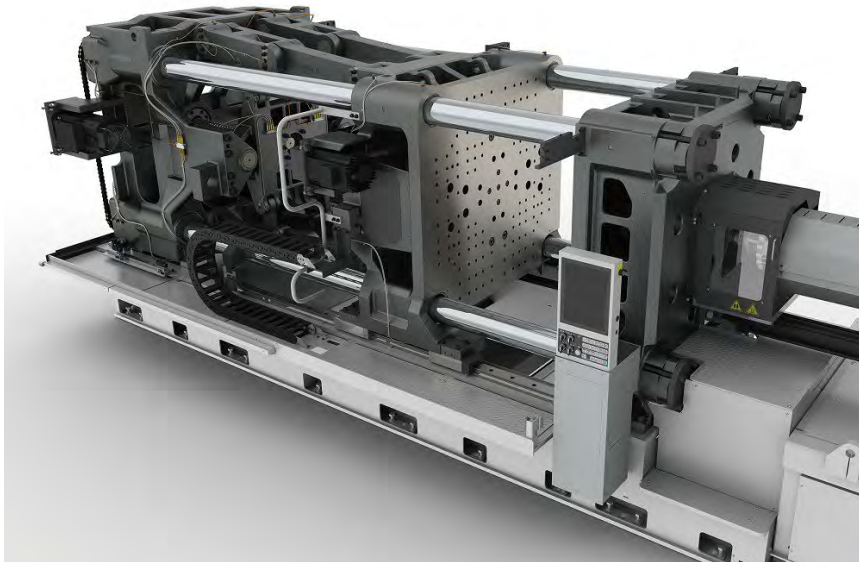
SPEED *Excellent Fast Cycle Performance*

Exceptional dry cycle capability

Ultra high-speed toggle mechanism

JSW's original toggle clamp design has evolved to achieve top-level dry cycle times.

- **Mold open/close speed is increased by approximately 15%**
- **High-speed, high-acceleration ejector device significantly reduces product removal time**
- **The servo drive mold thickness adjustment mechanism greatly reduces the time for the mold thickness adjustment and improves the linearity of clamping force between the set value and actual value**



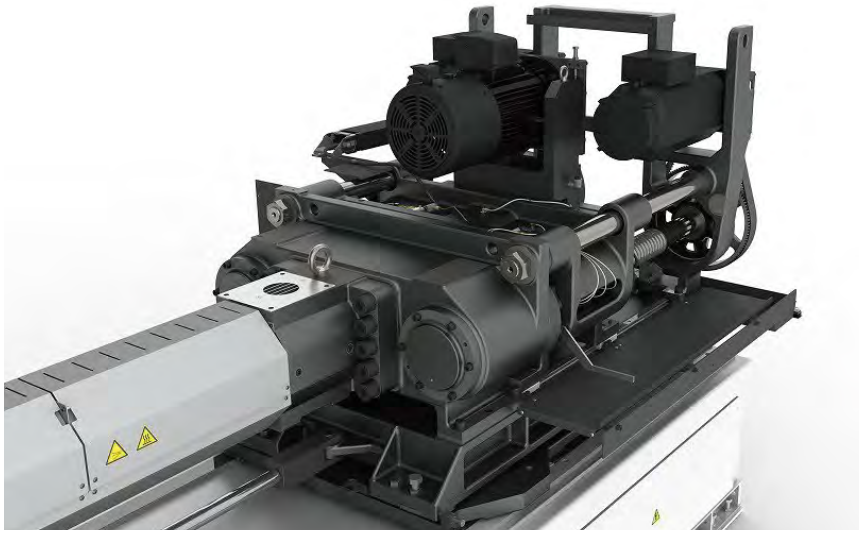
■ **Comparison of dry cycles (650T)**

Improved stability of injection and plasticizing

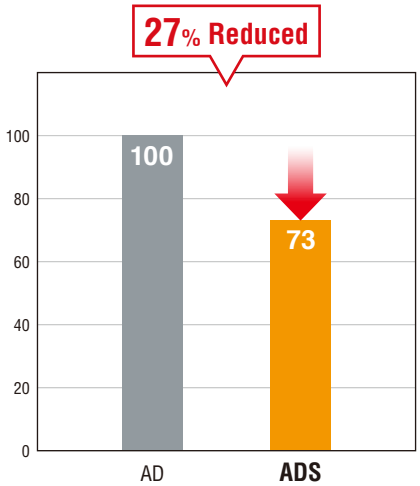
Highly responsive & high-power injection unit

JSW's original high-precision, highly stable injection unit has been made more compact with reduced inertia allowing for consistent injection and plasticizing.

- **Injection acceleration time has been increased by 27% to enable molding of thin-walled products**
- **The three-plate structure of the injection unit achieves high rigidity and high durability**
- **Large-capacity servo motors are installed to support a wide range of molding applications such as high speed and high load processes**



■ **Injection start-up time (3900H)**

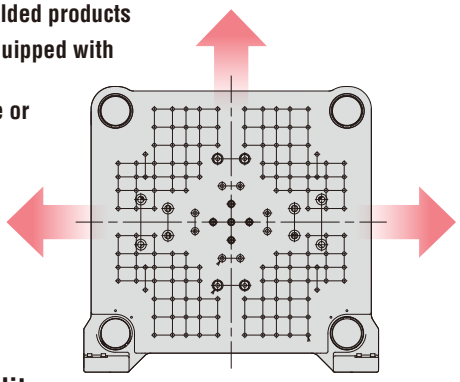


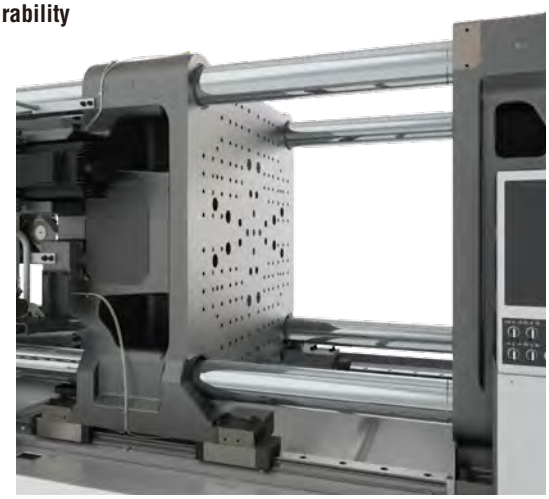
Mold clamping unit with a proven track record and high reputation

High-rigidity mold clamping unit

Further evolution of the proven highly rigid mold clamping unit to achieve more stable molding.

- **High-rigidity mold clamping unit that pursues precise, stable molding and high-durability**
- **Maintenance-free, linear-guided mold support system with high running accuracy**
  ✻ 1000T and above are large diameter and wide tires
- **Flat press platens ensure uniform surface pressure distribution and prevent burr and uneven wall thickness in molded products**
- **The mold open/close motor is equipped with a brake as standard to protect the mold in case of power failure or other unforeseen circumstances**





Wide platens with high rigidity

By increasing the distance between tie bars while maintaining the rigidity of the mold platen, larger molds can be mounted.

Item \ Series \ Model		J550	J650	J850	J850W	J1000	J1300	J1400
Distance between Tie-bars H×V (mm)	AD	960 × 900	1060 × 960	1060 × 1060	1320 × 1320	1320 × 1320	1400 × 1400	1700 × 1400*
	ADS	1020 × 970	1120 × 1070	1120 × 1070	1370 × 1320	1370 × 1320	1520 × 1470	1720 × 1470

✻ J1350ADW

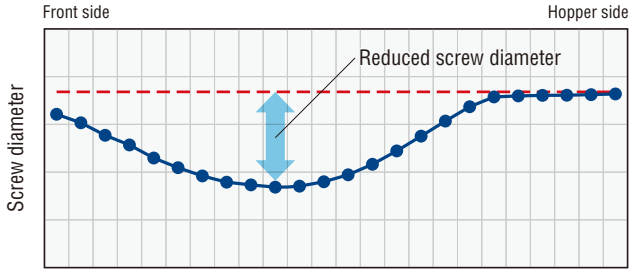
Advanced high-performance screw ✻Standard screw for 1400H and smaller is the GP screw

M3-CL screw

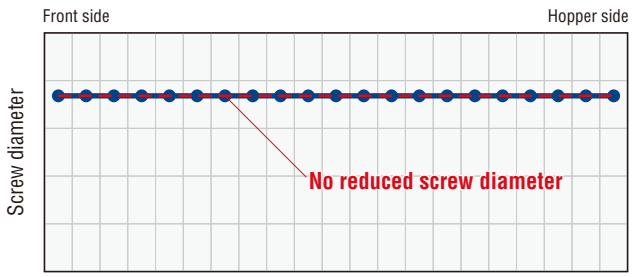
Faster cycle times and a stable molding process is achieved utilizing a longer life screw with both high plasticizing capacity and high kneading performance.

- **Achieves faster cycle molding with the industry's top-class plasticization capacity**
- **New screw design reduces wear and material burn**
- **JSW's original screw design provides both high plasticizing capacity and improved kneading performance**

■ **Conventional screw**



■ **M3-CL screw**

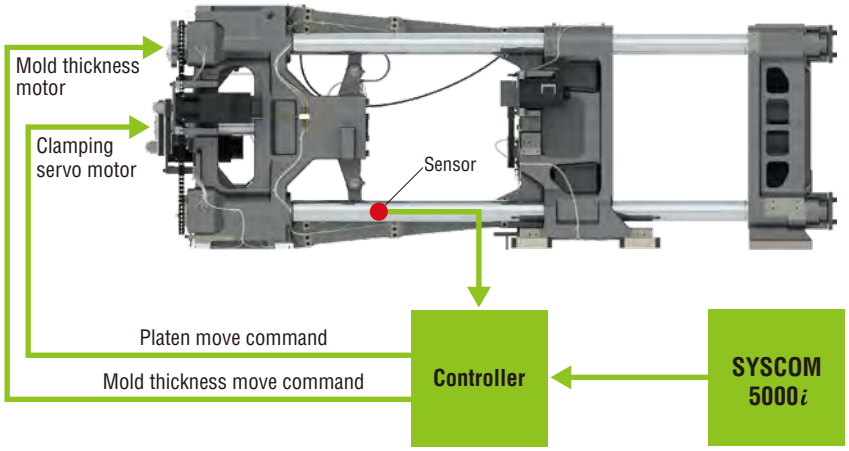


Highly precise and stable control

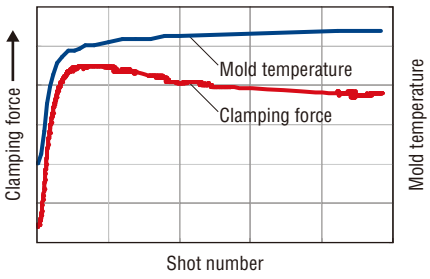
Original high precision mold clamping control

Prevents changes in mold clamping force due to changes in temperature to achieve stable molding.

- **"Visualization" of the actual clamping force in toggle machine**
- **Reduced clamping force fluctuations based on temperature changes in the mold**
- **"Reduction of mold maintenance" by stabilizing gas venting**
- **"Longer mold life" with optimum clamping force**

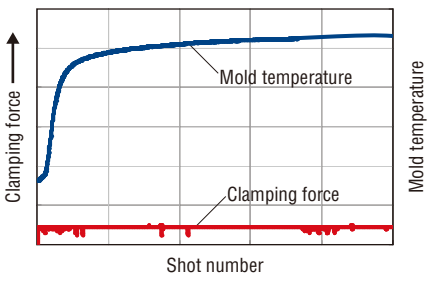


Conventional molding



Mold clamping force changes as mold temperature rises

Clamping force feedback control



Mold clamping force remains constant even if the mold temperature changes

New mold protection function

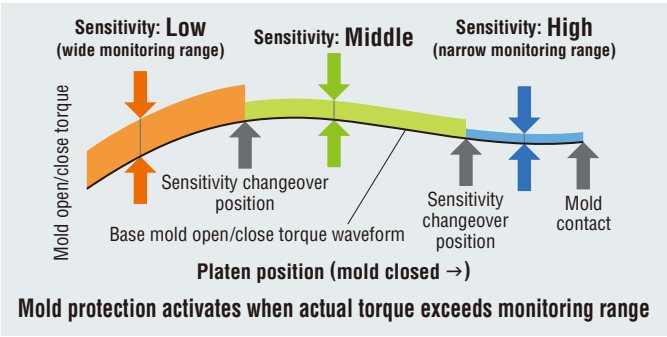
In addition to conventional mold protection, the use of the new control further improves mold protection performance.

- **High safety performance with easy setup**
- **Compatible with various molds**
- **Follows changes in mold temperature**
- **Abnormality detection at all stages of mold open/close**

Only two values need to be set

- **Mold protection monitoring sensitivity**
- **Changeover position**

Easy to set !



Mold protection activates when actual torque exceeds monitoring range

High-precision original injection control

Various holding pressure settings

By selecting the proper holding pressure mode, the quality of the molded products can be improved and stabilized.

Select mode	Control	Improvements
IVSH	Changeover by Position	—
IVSL	Changeover by Speed	Less variation when filling
IPS	Changeover by Pressure	Less variation when filling
EXT	Changeover by External signal	Pressure within the mold can be controlled (selected) by user
Wait control 1	Constant control of the Cushion position	Flow extension, improvements in filling balance, pressure reduction in the mold, etc.
Wait control 2	Constant control of the Cushion position + Pressure holding	Flow extension, improvements in filling balance, pressure reduction in the mold, controlling sink marks, etc.

High-accuracy recovery control

JSW's original high accuracy volume control

JSW's unique High Accuracy volume Technology enables further stabilization of molding.

Reverse Seal Control

The screw is reversed after recovery ends to help the back-flow prevention ring close and to inhibit drooling.

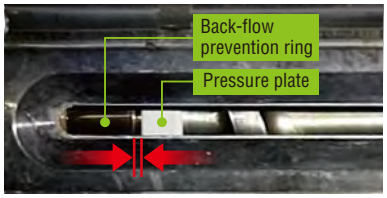
Injection Weight and Cushion Stability

In order to stabilize product weight, the density of molten resin is controlled after recovery.

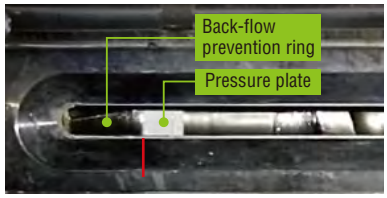
High Accuracy Volume Control

In order to stabilize product weight, the reverse seal and injection stroke after repressurization are constantly controlled.

■ Before reversal

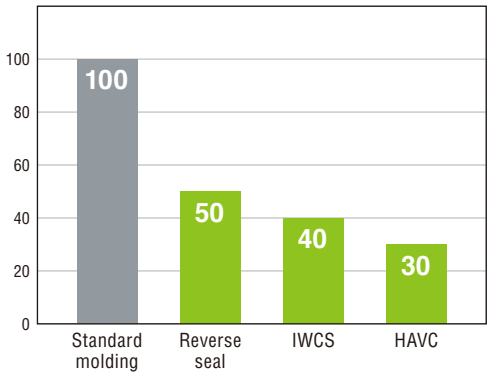


■ After reversal



Promotes closure of the back-flow prevention ring after reversal

■ Product weight variation

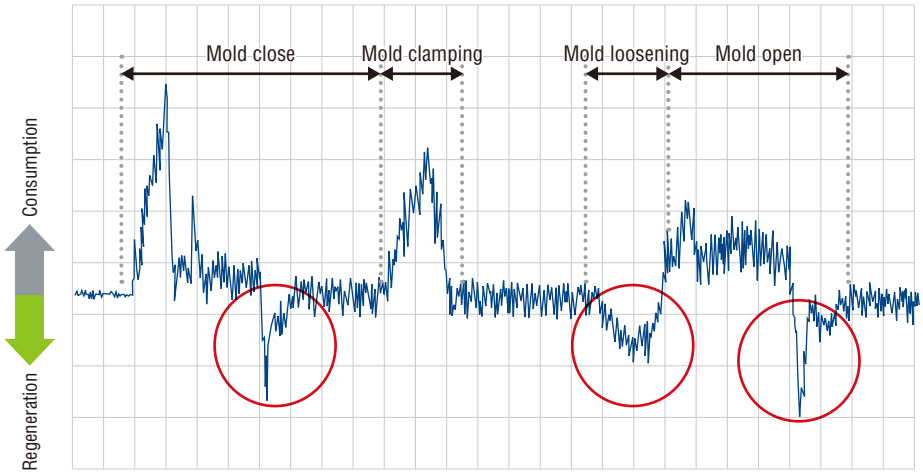


Various energy saving solutions

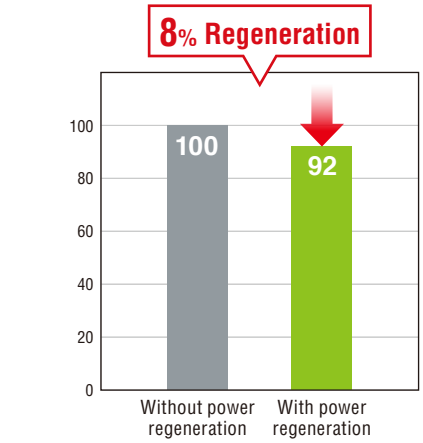
Original Power Regeneration

In the entire process of servo motor drive, such as injection and mold open/close, the energy generated at the time of deceleration is recovered as regenerative power to reduce power consumption.

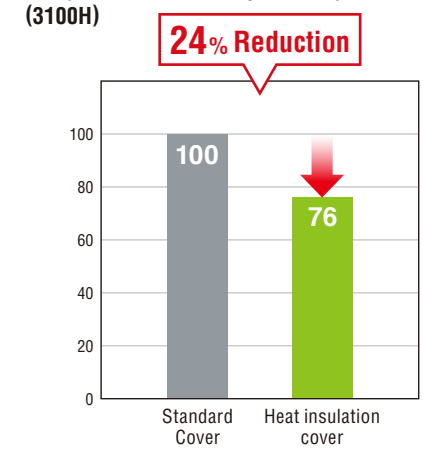
■ Regenerated power in the mold open/close



■ Regenerated power in the mold open/close



■ Comparison of electricity consumption (3100H)



Barrel insulation cover (optional)

- Prevents heat dissipation from the barrel heater and improves the thermal efficiency of the heater
- Reduces power consumption by about 24% when the barrel temperature rises

Synchro heat up control

- Reduces power consumption by synchronizing the temperature rise speed of the nozzle and barrel
- Prevents resin burn and contamination at the nozzle when the barrel temperature rises

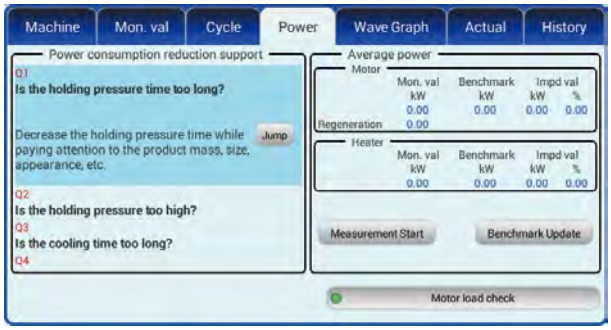
*Power consumption when the barrel temperature is increased from 150°C to 250°C

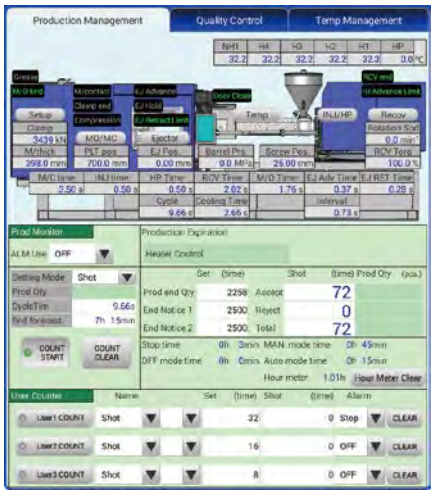
Management

Promotes energy savings and improves productivity with production management system

Energy savings [J-Support]

SYSCOM 5000*i* will suggest injection molding conditions in order to save energy





Production management system

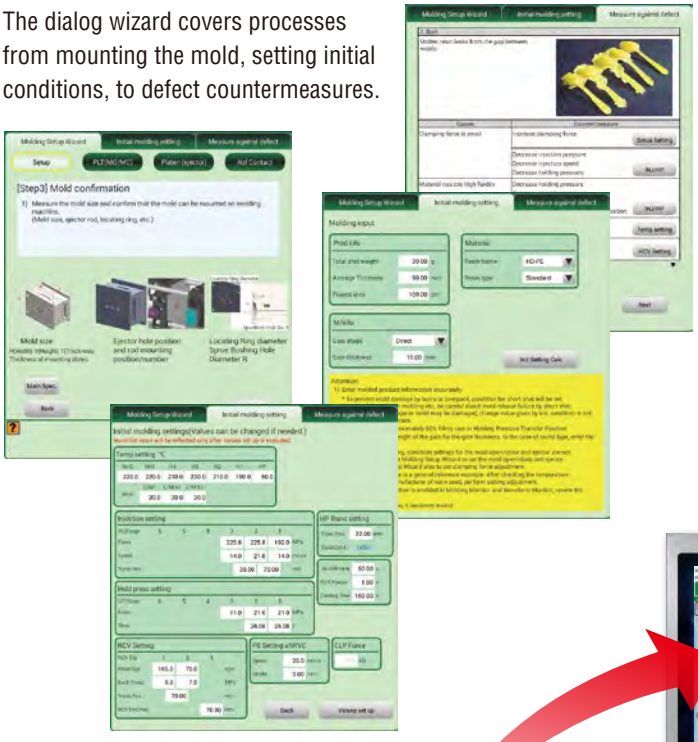
Collecting of shot data and statistical data, setting of upper and lower limit alarms can be controlled easily.

Manufacturing

Reduces operator work load to create higher added value

Molding assist [J-Assist]

The dialog wizard covers processes from mounting the mold, setting initial conditions, to defect countermeasures.

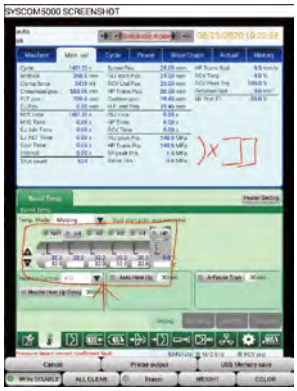


Memo of molding conditions

Storage capabilities such as molding conditions, memos, setting of peripheral devices and photos of products.

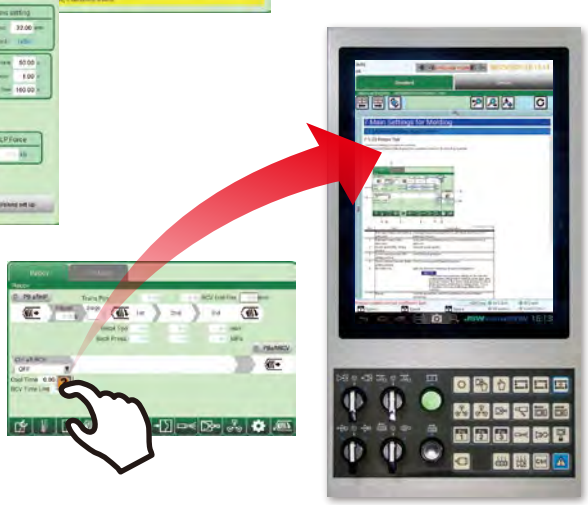
Screen shots · Hand written memos

You can write and edit information directly on top of screenshots.



Instruction manual stored in system

Instruction manual can be referred to as needed on the controller.

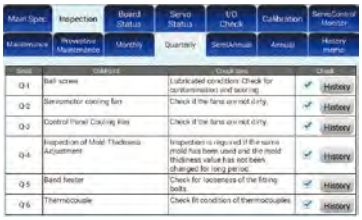


Maintenance

Preventive maintenance reduces machine downtime

Preventative maintenance [J-Support]

Maintenance items can be checked in collective display



Automatically notifies you when to perform regular inspections. Inspection record can be stored in the controller.

Quarterly Up to past 3

Smbl	ChkPoint	
Q-1	Ball screw	2020/08/25
Q-2	Servomotor cooling fan	2020/08/25
Q-3	Control Panel Cooling Fan	2020/08/25
Q-4	Inspection of Mold Thickness Adjustment	2020/08/25
Q-5	Band heater	2020/08/25
Q-6	Thermocouple	2020/08/25

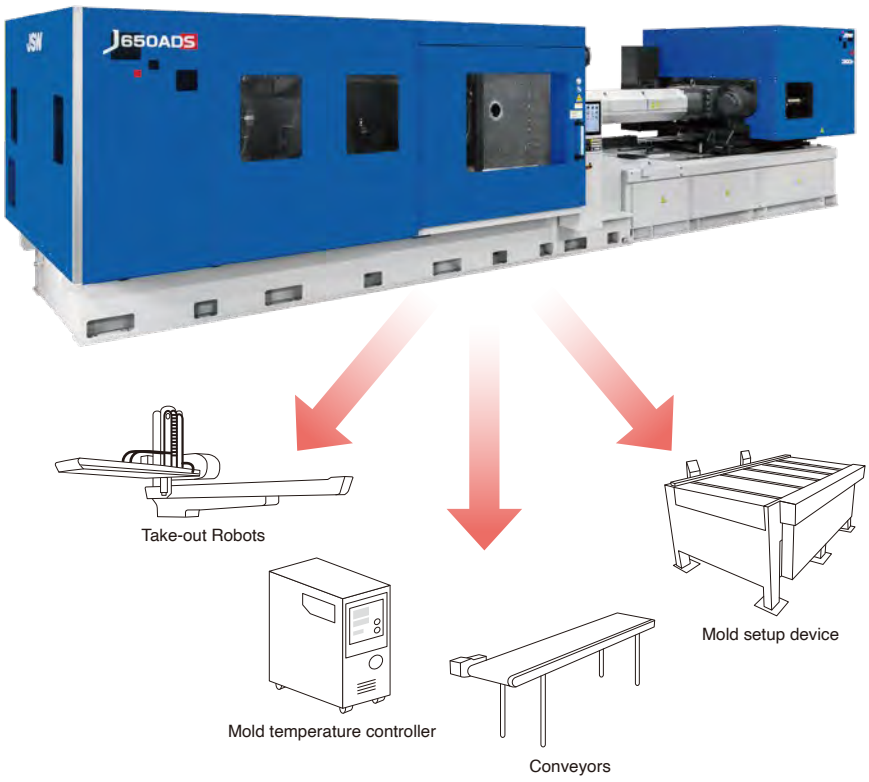
The inspection timing of the ball screws can be checked while taking the molding load into account.

Production engineering

Enables the construction of a manufacturing system through connection with peripheral equipment.

I/O customization

Simple sequences can be user generated.



Setting

Action

1. Mold is opened
2. The internal production counter is increased by 1.
3. When the internal production counter reaches 4, the conveyor operates for 2 seconds.
4. Reset count

New controller SYSCOM5000*i*

Function fully realized through simple navigation system

Main characteristics of SYSCOM5000*i*

- **Casual multi-touch operation**
- **Simple lever operation**
- **User-manual display function**
- **On screen instruction manual**
- **Large 15” display with utilized energy saving LED technology**

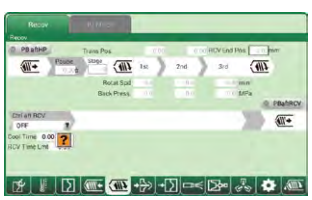
Touch operated lever switches

Tablet based operation (optional)

User friendly screen configuration

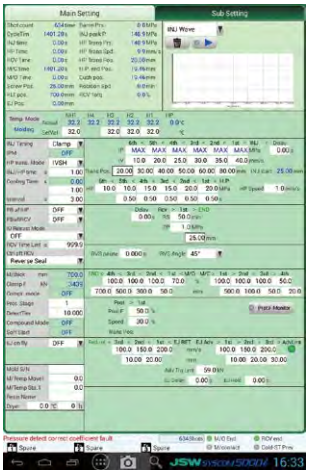
Operation process display

Visual or list display for every molding process.



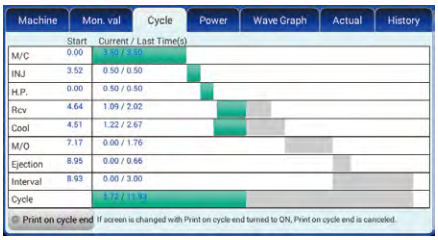
Collective setting display

Molding conditions can be set without navigating numerous pages.



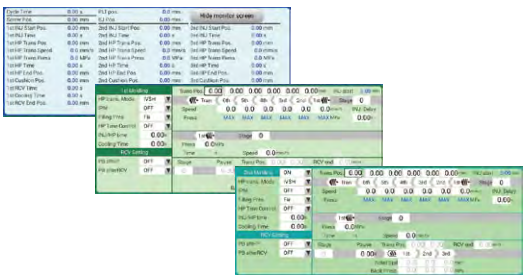
Cycle monitor

Allows task conditions in the molding machine to be visually checked in real time.



Multiple injection (option)

Multiple injection unit control can be integrated.



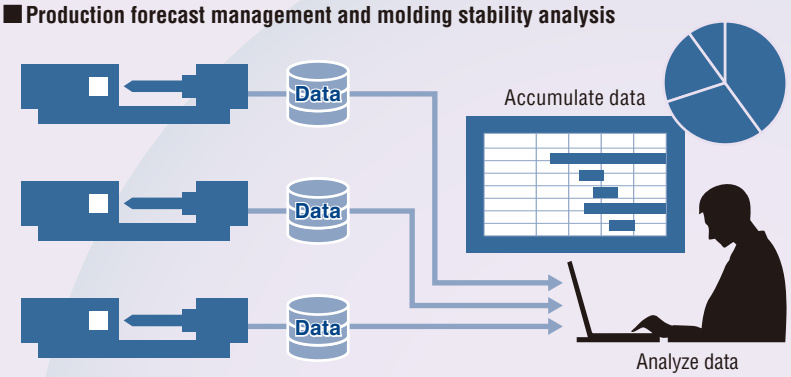
IoT solutions J-WiSe®

J-WiSe® : JSW Worldwide IoT Solutions of Enhancement

"J-WiSe®" is a general term for the IoT solutions that JSW aims to provide.
By providing systems and services in the four categories of "Production Management," "Operation Support," "Service and Maintenance," and "Production Automation Systems," our goal is to make our customers' molding factories smart factories and contribute to the improvement of their productivity.

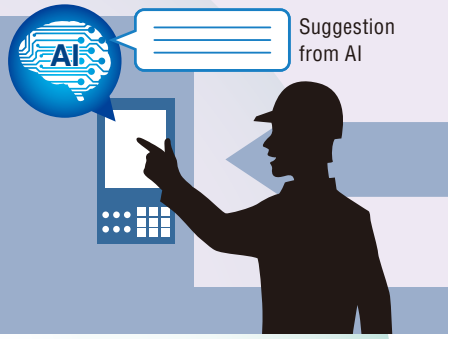
Production Management

■Production forecast management and molding stability analysis



Operation Support

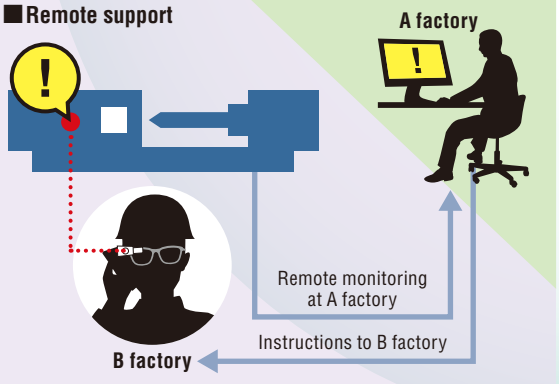
■Corrective molding conditions support



J-WiSe®
Solution Concept

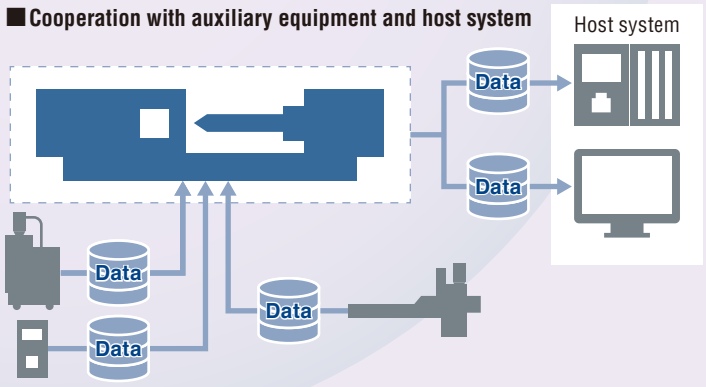
Service and Maintenance

■Remote support



Production Automation Systems

■Cooperation with auxiliary equipment and host system

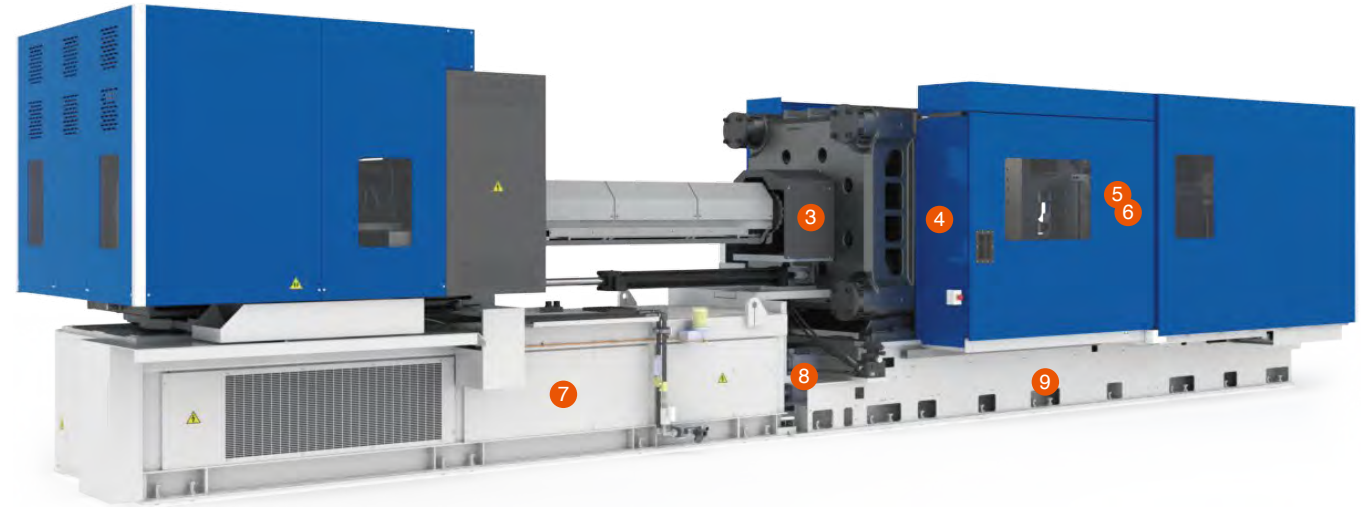


Smart Factory

Productivity Improvement

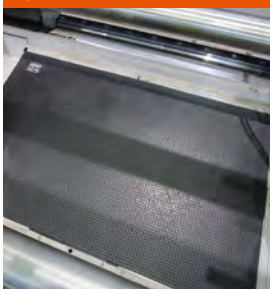
Various Equipment

A full range of equipment to meet a wide range of requirements.



1 Leveling pad for installation

2 Safety mat



3 Valve unit

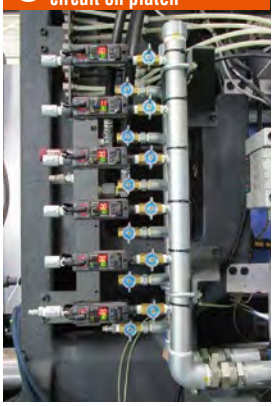
7 Spare receptacle

8 Hydraulic unit

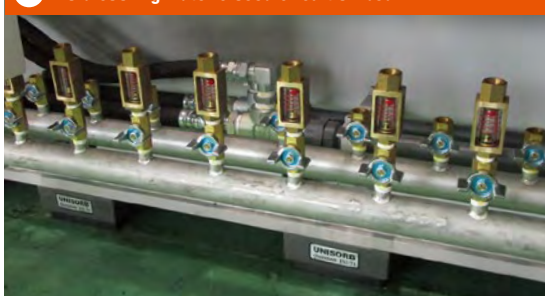
4 Air jet

5 Hydraulic core-puller

6 Mold cooling water closed circuit on platen



9 Mold cooling water closed circuit on bed

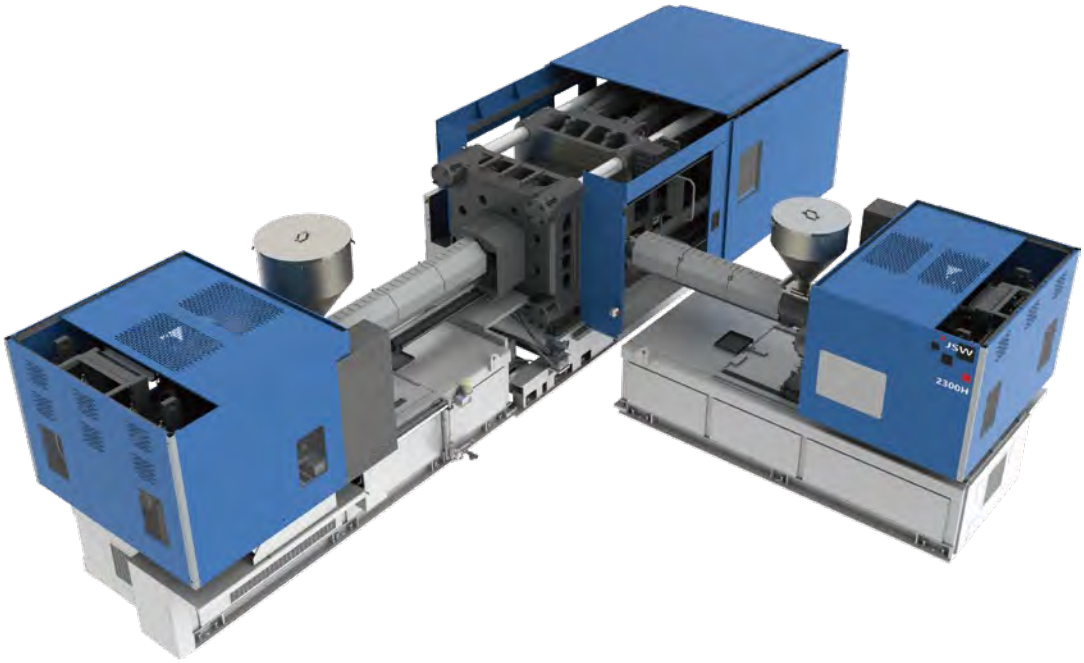


✻These are sample pictures of options and may differ from the pictures depending on the customer's specifications.

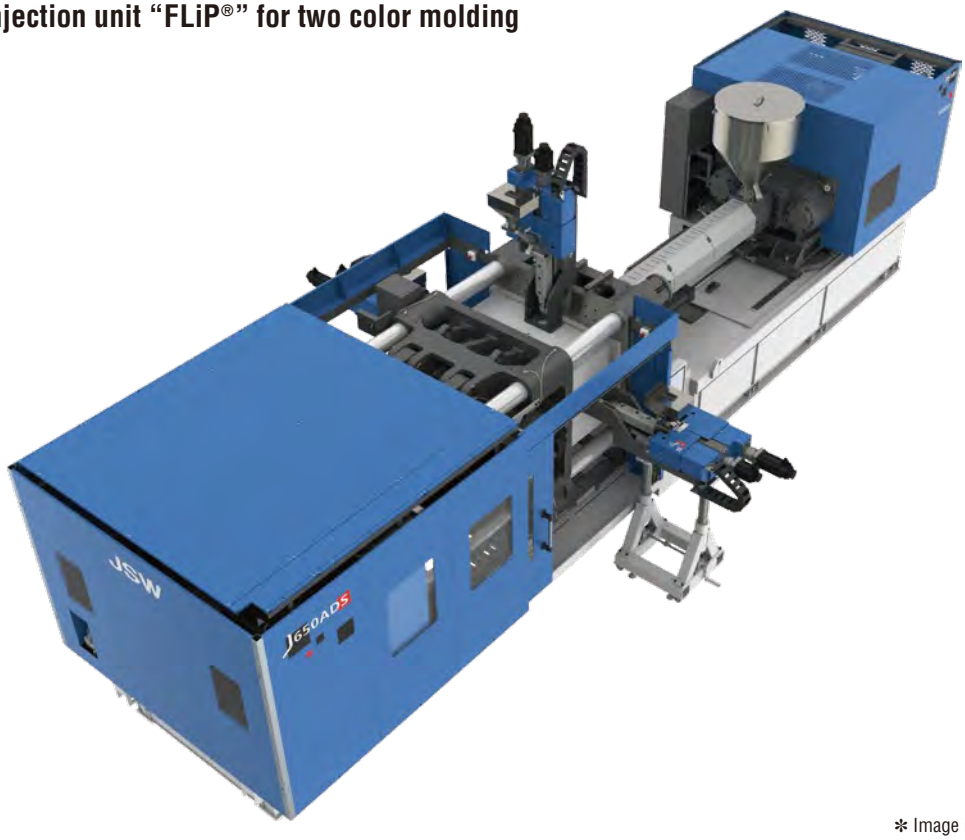
Customization

Flexibly respond to custom specifications.

L-shape injection unit for two color molding



Retrofit sub-injection unit “FLiP®” for two color molding



✻ Image is for illustration purposes.

Standard Equipment List

	Item		
Injection and Plasticizing Unit	Open nozzle		Note 1
	N2000F barrel		
	Chrome plated screw		Note 2
	Screw pull-back		
	Purge cover (with limit switch)		
	Injection Unit Swiveling device (with limit switch)		Note 3
	Screw cold start prevention		
	Molding/Purging/Pause temperature select		
	Auto purging circuit		
	Nozzle retract select		
	Injection/Metering programmed control	Injection/Holding pressure: 1~6 steps (variable)	
		Metering/Back pressure: 1~3 steps (variable)	
	Holding pressure transfer select		
	Holding pressure control select		
	Pull-back select		
	Barrel temperature control (PID/SSR)		
	Nozzle temperature control (PID/SSR)		
	Synchrounous temperature rise control		
	Hopper flange temperature control		
	Soft pack servo control		
	HAVC (high accuracy volume control)		
	IWCS (injection and cushion stability) control		
	Reverse seal control		
	Auto grease iubrication		
Clamping Unit	High performance platen support		
	Low vibration mold open/close		
	Wide platen		
	Flat press platen mechanism (stationary side/movable side)		
	Mold open/close and Ejector programmed control	Mold open/close: 4 steps (fixed)	
		Ejector: 1~3 steps (variable)	
	Mold protection function		
	Ejector servo motor with brake		
	Mold open/close servo motor with brake		
	Auto mold thickness adjusting device		
	Auto clamp force setting		
	Clamp force display		
	Clamping force feedback control		
	Ejector plate return confirmation circuit		
	Electrical clamping unit safety device		
	Robot mounting holes		
	Compound action	Screw rotation during mold open/close	
		Eject during mold open	
		Injection during clamp up	
	Safety mat (under mold area) J850ADSW and above		Note 4
	Grease free toggle bushing		
	Auto grease lubrication		

	Item	
Controller	Touch panel 15" TFT color LCD controller	
	300 mold condition storage (internal memory)	Note 5
	Soft start molding	
	Self diagnostics function	
	I/O customize function	
	Molding operation assist [J-Assist]	
	Help function	
	Pop up display	
	Manual browsing function	
	Start up safety notice	
	Molding condition memo	
	Clock function	
	Multi language select (English, Chinese, Japanese)	
	USB port × 2	Note 6
	Overall setting screen	
	Preheat timer	
	Product takeout robot circuit	
	Attended/Unattended operation select	
	Emergency stop button	
	Safety key	
Monitor	Actual value display	
	Mold temperature display	Note 7
	Injection/Metering waveform monitor	
	Oscilloscope waveform monitor	
	Energy consumption and regeneration monitor	
	Injection/Metering waveform storage	
	Barrel temperature monitor	
	Injection pressure monitor (IPM)	
	Statistical graph	
	Production monitor	
	Cumlative operating hour display	
	Cycle monitor	
	Molding condition upper/lower limit monitor	Note 8
	Inspection and maintenance guide [J-Support]	Note 9
	Heater system alarm	
	Injection pressure overshoot alarm	
	Grease lubrication alarm	
	Servo fault alarm	
	Unreleased clamp alarm	
	Position calibration request	
	Fault alarm buzz	
	Alarm history	
	Set value history	
Others	Safety compliance (ISO20430, ISO60204-1)	
	Cooling water closed circuit for feed throat	
	Accessories (maintenance tools and ejector rods, etc.)	

Note 1 1400H and below are chip types.
Note 2 2300H and above are MIII-CL screws.
1400H and below are GP-21 screws.
Note 3 1400H and below are manual.
Note 4 J850ADSW and above are standard equipment. (models with tie-bar spacing larger than 1200 mm)
J550ADS to J850ADS are optional. (tie-bar interval smaller than 1200 mm)
The safety mat on the top of the steps is optional.
Note 5 Commercial USB flash drives can also store molding conditions.
Note 6 You can save the controller screen in PNG format and measured values in CSV format.
Note 7 Temperature sensor and wiring not included.
Note 8 You can select up to 18 display items and alarms from the list below.
(1) Cycle time (2) Injection time (3) Metering time (4) Maximum injection pressure (5) Cushion position (6) Holding pressure end position
(7) Holding pressure transfer pressure (8) Back pressure (9) Metering end position (10) Injection start position (11) Holding pressure transfer position
(12) Metering torque (13) Holding pressure transfer speed (14) Mold close time (15) Mold open time (16) Clamp force (17) Shift amount (HAVC) (18) End speed (HAVC)
Note 9 Notifies you of component inspection times based on molding conditions

Options List

	Item		
Injection and Plasticizing Unit	Long nozzle		
	Shut off nozzle (pneumatic type and hydroulic type)		
	Mixing nozzle		
	KC nozzle (support up to 3100H ϕ 92)		
	LSP-2 screw (abrasion resistant type)		
	Special design screw	MIIK screw for optical application	
		HP screw for high dispersion	
	Wide selection of screws & barrels		Note 1
	Barrel insulation cover		
	Barrel blower cooling unit (with insulation or no insulation)		
	Hopper		
	Hopper slide device		
	High speed injection spec.		
	Extended holding pressure time spec.		Note 2
	Long time plasticizing spec.		Note 3
	Electric motor driven injection unit advance/retract		
	Purge shutter		
Clamping Unit	Daylight extension		
	Mold platen heat insulation boed (5 or 10 mm)		Note 4
	Locating ring		
	Air jet		
	Core pull devices (pneumatic type and hydraulic type)		Note 5
	Valve gate devices (pneumatic type and hydraulic type)		Note 5
	Coupler joint (hydraulic, pneumatic)		
	Hydraulic power pack		
	Ejector gate cutting circuit		
	Ejector (one touch type)		
	Unscrewing motor circuit		
	Auto safety gate open (operation side)		
	Auto safety gate open/close (operation side/non operation side/both sides)		
	Safety mat (under mold area) J550ADS to J850ADS		Note 6
	Safety mat (top of the steps)		
	Safety footplate		
	T slot platen		
	Mold clamper device (pneumatic, hydraulic, magnet type)		Note 4
	Easy mold clamper		
	Toggle type injection compression function compression: 1~6 steps (variable)	A mode	
		B mode	
	Forming mold control		
	Mechanical clamping unit safety device		

	Item	
Electrical Instrumentation and Control	Multi language select (1 language additional)	Note 7
	J-WiSe®system	
	Mold temp display (with mold temp upper/lower limit alarm)	
	Mold temp control device (with mold temp upper/lower limit alarm)	
	Hot runner control circuit	
	Receptacle	Note 8
	Family mold control	
	Flow mold control	
	Speae output signal circuit	
Others	Hopper stage	
	Mold cooling water closed circuit (platen/bed)	
	Cooling water failure warning	
	Air pressure alarm	
	Leveling pad for installation	
	Movement prevent anchor bolts	
	Rotary warning light	
	Export specification	Note 9
	Designated color	Note 10

Note 1 Please contact us for detailed specifications.
Note 2 High pressure holding capacity for a long time.
Injection speed may be slow.
Note 3 Can be plasticized with high torque.
Plasticizing capacity may be reduced.
Note 4 When an insulated plate or magnetic clamper is mounted, the nozzle plunge amount must take these thicknesses into account.
Specification values for mold thicknesses have also been changed.
Note 5 The hydraulic system requires an increase in the capacity of the hydraulic unit.
Note 6 J850ADSW and above are standard equipment. (models with tie-bar spacing larger than 1200 mm)
J550ADS to J850ADS are optional. (tie-bar interval smaller than 1200 mm)
Note 7 Japanese, English and Chinese are standard equipment.
Note 8 Please specify the power supply voltage and the number of outlets required for ancillary equipment.
Note 9 Export specifications must be discussed depending on the destination.
Note 10 Designate colors, referring to color samples or muncell codes.

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