

## Global Network



## Sumitomo Heavy Industries, Ltd. Plastics Machinery Div.

- **TOKYO** Sumitomo Heavy Industries, Ltd. Plastics Machinery Div. Global Sales Dept.  
1-1, Osaki 2-chome, Shinagawa-ku, Tokyo, 141-6025, Japan  
Tel:+81-3-6737-2576 Fax:+81-3-6866-5176
- **CHIBA** Sumitomo Heavy Industries, Ltd. Chiba Works/Technology Center  
731-1, Naganumahara, Inage-ku, Chiba-City, 263-0001, Japan  
Tel:+81-43-420-1471 Fax:+81-43-420-1591
- **U.S.A.** Sumitomo (SHI) Demag Plastics Machinery North America, Inc. Atlanta Office/Technology Center  
410 Horizon Dr., Suite 200, Suwanee, GA 30024, United States  
Tel:+1-770-447-5430 Fax:+1-678-990-1716  
Sumitomo (SHI) Demag Plastics Machinery North America, Inc. Cleveland Office  
17909 Cleveland Parkway, Cleveland, OH 44135, United States  
Tel:+1-440-876-8960 Fax:+1-440-876-4383  
Sumitomo (SHI) Demag Plastics Machinery North America, Inc. Chicago Office/Facility and Tech Center  
1177 Corporate Grove Dr. Buffalo Grove, IL 60089, United States  
Tel:+1-847-947-9569  
Sumitomo (SHI) Demag Plastics Machinery North America, Inc. Anaheim Office/Training and Demo Center  
1130 N. Armando St. Anaheim, CA 92806, United States  
Sumitomo (SHI) Demag Plastics Machinery North America, Inc. Monterrey Office  
Ignacio Sepulveda 124, Seccion 7, Edificio 1 Parque Industrial Kalos Encarnacion Colonia La Encarnacion,  
Apodaca, N.L.C.P. 66633, Mexico  
Tel:+52-81-8356-1710, +1720-1726 Fax:+52-81-8356-1710  
Sumitomo (SHI) Demag Plastics Machinery North America, Inc. Leon Office  
Plaza San Martin Blvd Aeropuerto N° 849, Local "E" 3102, Col. San Jose el Alto, León Guanajuato CP 7545, Mexico  
Tel:+52-477-179-1730
- **MEXICO** Sumitomo (SHI) Demag do Brasil Comercio de Máquinas para Plásticos Ltda.  
Rodovia do Açúcar (SP-075), km 26-Jd. Oliveira-Itu/SP-Cep: 13312-500, Brazil  
Tel:+55-11-4403-9286
- **BRAZIL** Sumitomo (SHI) Demag do Brasil Comercio de Máquinas para Plásticos Ltda.  
Rodovia do Açúcar (SP-075), km 26-Jd. Oliveira-Itu/SP-Cep: 13312-500, Brazil  
Tel:+55-11-4403-9286
- **GERMANY** Sumitomo (SHI) Demag Plastics Machinery GmbH (Schwaig) /Technology Center  
Aldorfer Str. 15 90571 Schwaig, Germany  
Tel:+49-911-5061-0 Fax:+49-911-5061-265  
Sumitomo (SHI) Demag Plastics Machinery GmbH (Wiehe) /Technology Center  
Donndorfer Str. 3 06571 Wiehe, Germany  
Tel:+49-34672-97-0 Fax:+49-34672-97-333
- **UNITED KINGDOM** Sumitomo (SHI) Demag Plastics Machinery (UK) Ltd.  
Accent House, Triangle Business Park, Wendover Road, Stoke Mandeville, Bucks, HP22 5BL, United Kingdom  
Tel:+44-1296-73-95-00 Fax:+44-1296-73-95-01
- **FRANCE** Sumitomo (SHI) Demag Plastics Machinery (France) S.A.S.  
ZAC du Mandinet, 9, Rue des Campanules, 77437 Marne-La-Vallée Cedex 2, France  
Tel:+33-1-60-33-20-10 Fax:+33-1-60-33-20-03
- **SPAIN** Sumitomo (SHI) Demag Plastics Machinery España S.L.  
Plaza de América 4, 2º - 3º, ES 46004 Valencia, Spain  
Tel:+34-96-111-63-11
- **POLAND** Sumitomo (SHI) Demag Plastics Machinery Polska Sp. z o.o.  
Ul. Jagiellońska 81 - 83, 42 200 Cześćcowa, Poland  
Tel:+48-34-370-95-40 Fax:+48-34-370-94-86
- **AUSTRIA** Sumitomo (SHI) Demag Plastics Machinery GmbH -Office Austria-  
Wolfgang-Amadeus-Mozart-Str. 5/3, 3430 Tulln an der Donau, Austria  
Tel:+43-272-61-868 Fax:+43-272-61-868-89
- **HUNGARY** Sumitomo (SHI) Demag Plastics Machinery Hungaria Kft  
H-2045 Törökbalint, FSD Park 2, Fsz. 2, Hungary  
Tel:+36-23-531-290 Fax:+36-23-531-291
- **ITALY** Sumitomo (SHI) Demag Plastics Machinery (Italia) S.r.l.  
Strada del Portone 61/A, 10137 Torino, Italy  
Tel:+39-11-95-95-057 Fax:+39-11-95-95-185
- **RUSSIA** CISC Sumitomo (SHI) Demag Plastics Machinery  
Prombaza OAO "Stroitransgaz", d. Ascherino Leninskiy raion, 142717 Moscow region, Russia  
Tel:+7-495-937-97-64 Fax:+7-495-933-00-78
- **CZECH/SLOVAKIA** Sumitomo (SHI) Demag Plastics Machinery Cesko spol. s.r.o.  
K Bilemu vrchu 2912/3 193 00 Praha 9, Czech  
Tel:+420-296-226-210
- **SHANGHAI** SHI Plastics Machinery (Shanghai) Ltd.  
11F SMEG Plaza, No.1386 Hong Qiao Road, Chang Ning District, Shanghai, 200336, China  
Tel:+86-21-3462-7556 Fax:+86-21-3462-7655
- **DALIAN** SHI Plastics Machinery (Shanghai) Ltd. Dalian Office  
1109 Fuyou Building, No.9 Huanghaixili Road, Economic and Technological Development Zone, Dalian 116600, China  
Tel:+86-411-8764-8052 Fax:+86-411-8764-8053
- **TIANJIN** SHI Plastics Machinery (Shanghai) Ltd. Tianjin Office  
Room 501, Part 2, Building Lian Dong U Gu, Chilong Street, Shuanggang Town Industrial Park, Jinnan District, Tianjin 300350, China  
Tel:+86-22-5871-5537 Fax:+86-22-5871-5531
- **SUZHOU** SHI Plastics Machinery (Shanghai) Ltd. Suzhou Office/Technical Center  
Room 2101, Building 2, Jinfeng Urban Design Park, No 211, Zhujiang South Road, Mudu Town, Suzhou City, Jiangsu Prov. 215101, China  
Tel:+86-512-6632-1760 Fax:+86-512-6632-1770
- **NINGBO** Ningbo Sumiju Machinery, Ltd.  
No.775 Hengshan West Road, Beilun District, Ningbo City, Zhejiang 315800, China  
Tel:+86-574-2689-0162  
Demag Plastics Machinery (Ningbo) Co., Ltd.  
No.28, Baiyunshan Road, Beilun District, Ningbo City, Zhejiang 315800, China  
Tel:+86-574-2690-6600 Fax:+86-574-2690-6618
- **DONGGUAN** Dongguan SHI Plastics Machinery Ltd. /Technical Center  
#102 Block 8 Zhongda 365 No.9, Xincheng Road, Songshan Lake, Dongguan City, Guangdong Province 523808, China  
Tel:+86-769-8533-6071 Fax:+86-769-8534-9031
- **HONG KONG** SHI Plastics Machinery (Hong Kong) Ltd.  
Room 601, Telford House, 12-16 Wang Hoi Road, Kowloon Bay, Hong Kong  
Tel:+852-2750-6630 Fax:+852-2759-0008
- **TAIWAN** SHI Plastics Machinery (Taiwan) Inc.  
6F, No.35, Dexing W. Rd., Shilin Dist., Taipei 111, Taiwan  
Tel:+886-2-2831-4500 Fax:+886-2-2831-4483  
SHI Plastics Machinery (Taiwan) Inc. Taichung Office  
Rm D, 6F, No.190, Chung Kong 2nd Rd., Shi Tun Dist., Taichung 40766, Taiwan  
Tel:+886-4-2358-7334 Fax:+886-4-2358-9335
- **KOREA** SHI Plastics Machinery (Korea) Co., Ltd.  
203, JEIPLATZ, 186, Gasan digital 1-ro, Geumcheon-gu, Seoul 08502, Korea  
Tel:+82-2-757-8656 Fax:+82-2-757-8659  
SHI Plastics Machinery (Korea) Co., Ltd. Southern Office  
#209, 48, Dongbu-ro 22-gil, Dong-gu, Daegu 41242, Korea
- **SINGAPORE** SHI Plastics Machinery (S) Pte., Ltd. /Technology Center  
3791 Jalan Bukit Merah #03-07/08/09, E-Centre @ Redhill, Singapore 159471  
Tel:+65-6779-7544 Fax:+65-6777-9211
- **THAILAND** SHI Plastics Machinery (Thailand) Ltd. /Technology Center  
317 Debaratna Road, Kwaeng Bangna Nuea, Khet Bangna, Bangkok 10260, Thailand  
Tel:+66-2-747-4053-4056 Fax:+66-2-747-4081  
SHI Plastics Machinery (Thailand) Ltd. South Office  
Pinthong 2 Industrial Estate, Room BC-08, 150/55 Moo 9, Nongkham Subdistrict, Sriracha District, Chonburi 20230, Thailand
- **MALAYSIA** SHI Plastics Machinery (Malaysia) SDN BHD  
Unit G-01, Tingkat Bawah Menara Axis, No.2 Jalan S1A/223, 46100 Petaling Jaya, Selangor D.E. Malaysia  
Tel:+60-3-7958-2079, 2081 Fax:+60-3-7958-2084  
SHI Plastics Machinery (Malaysia) SDN BHD Penang Office  
No.7, Ground Floor, Jalan Kelisa Emas, Taman Kelisa Emas, 13700 Seberang Jaya, Penang, Malaysia  
Tel:+60-4-604-397-5725 Fax:+60-4-604-397-5726
- **VIETNAM** SHI Plastics Machinery (Vietnam) LLC  
Floor 1A, Hong Kong Tower, No.243A La Thanh Street, Lang Thuong Ward, Dong Da District, Hanoi, Vietnam  
Tel:+84-24-3728-0105 Fax:+84-24-3728-0106  
SHI Plastics Machinery (Vietnam) LLC Ho Chi Minh Branch  
1st floor, Block C, Dat Phuong Nam Building, 241A Chu Van An Street, Ward 12, Binh Thanh District, Ho Chi Minh City, Vietnam  
Tel:+84-8-3514-6645 Fax:+84-8-3514-6653
- **INDONESIA** PT. SHI Plastics Machinery (Indonesia)  
Jl. Tebet Raya No. 5B, Tebet, Jakarta 12810, Indonesia  
Tel:+62-21-829-3872, 3873 Fax:+62-21-828-1645
- **PHILIPPINES** SHI Plastics Machinery (Phils) Inc.  
Ground Floor, Mirax Building 2270 Chino Roces Avenue, Makati City, Philippines  
Tel:+63-2-8845-0877, 8844-0632 Fax:+63-2-8886-4670
- **INDIA** SHI Plastics Machinery (India) Private Ltd.  
Unit No.22-25, 1st Floor, JMD Galleria, Sohna Road, Gurgaon, Haryana-122001, India  
Tel:+91-124-2217056, 64 Fax:+91-124-2218076  
SHI Plastics Machinery (India) Private Ltd. Chennai Office  
Second Floor, 308-309, Block No.64, Ten Square Building, Jawaharlal Nehru Road, Koyambedu, Chennai, Tamil Nadu 600107, India  
Tel:+91-124-2217056, 64

## SE-EV-A-HD

All-electric Middle-sized Injection Molding Machine



# SE-EV-A-HD

All-electric Middle-sized Injection Molding Machine



### Lineup

**SE220EV-A-HD** (2200kN)

**SE250EV-A-HD** (2500kN)

**SE280EV-A-HD** (2800kN)

**SE315EV-A-HD** (3150kN)

**SE350EV-A-HD** (3500kN)

**SE385EV-A-HD** (3850kN)

**SE450EV-A-HD** (4500kN)

**SE500EV-A-HD** (5000kN)



Our products have acquired ISO9001 certification.

[www.shi.co.jp/plastics/](http://www.shi.co.jp/plastics/)



Sumitomo Heavy Industries, Ltd.

# Further progress in injection molding. The age of "A" begins.

Advanced

## To "A" lineage of all-electric injection molding machines

Our all-electric injection molding machines have undergone to evolve synergistically both in hardware and software technologies. The SE-EV series debuted as the leader in the age of innovation and has evolved to the next stage, the SE-EV-A-HD series, which provides overwhelming advances in precision molding.

[ Potential of all-electric IMMs ]

### SE-EV

- Evolution of Zero-molding
- Improved mold clamping and injection accuracy

### SE-HDZ

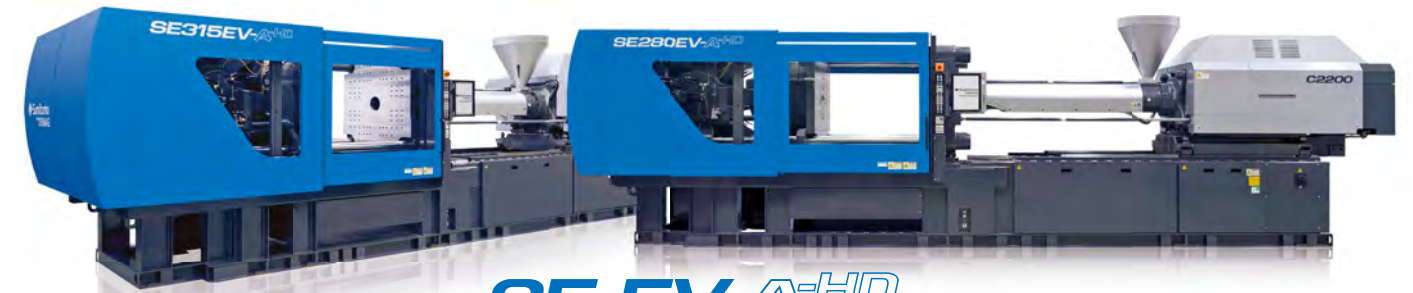
- Incorporates Zero-molding technology
- Greatly augmented potential

### SE-HD

- Double Center Press Platens
- High-duty injection

### SE-S

- Performance comparable to hydraulic machines



### SE-EV-A-HD

- Development of Zero-molding applied technologies
- Machine performance that fully demonstrates state-of-the-art Zero-molding potential

### Deployment of dedicated machines



### SE-EV-A-HD CT-6 spec.

- Purposing for molding containers at 6 sec cycle

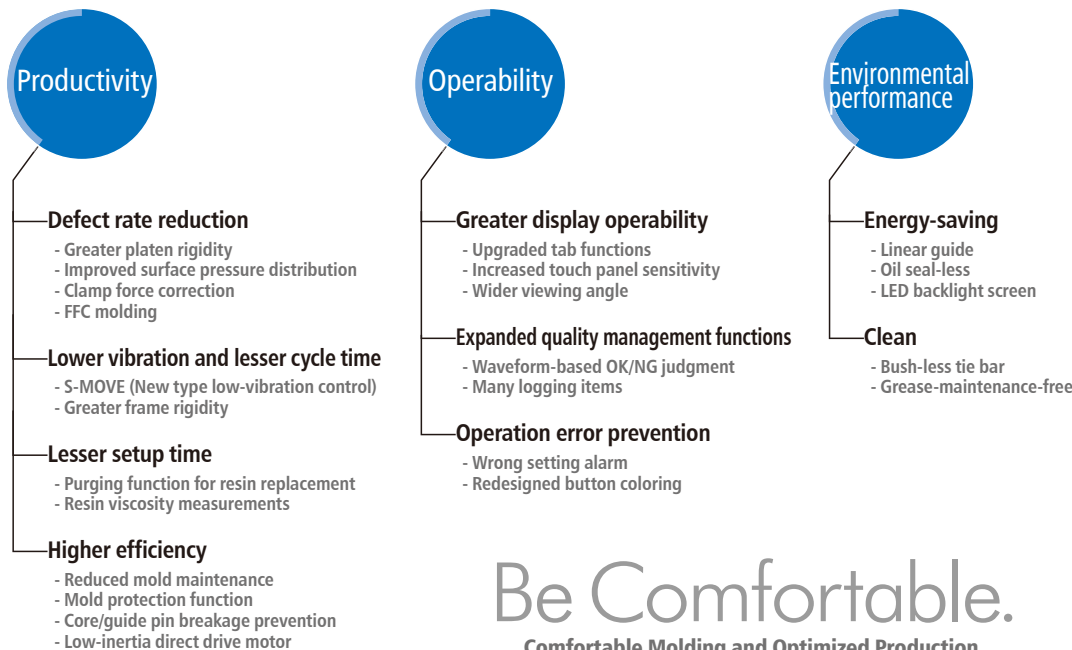
### SE-EV-A-SHR

- Mounting with a high-speed, high-response injection unit for molding large thin-wall products

[ Improvements to molding processes ]

## Zero-molding

## Increased possibilities by "A"



Be Comfortable.  
Comfortable Molding and Optimized Production

## Support for small volume molding New!

Screws of narrow diameter can be selected for all injection units\*. The SE-EV-A-HD accommodates large molds that improve the esthetics and functionality of small products like TWS\*\* and electronic components. The shorter resin holding time helps to prevent burning.

- Pairings examples of SE280EV-A-HD (2800kN), SE315EV-A-HD (3150kN), SE350EV-A-HD (3500kN) and SE385EV-A-HD (3850kN) are shown in the table below. New additions added this time are displayed in blue.
- \*Except C560 high filling spec injection unit (Option).
- \*\*Fully wireless audio devices like Bluetooth earphones

Injection unit	Screw diameter (mm)				
C1100	45	50	56	63	
C1600	45	50	56	63	71
C2200	50	56	63	71	80

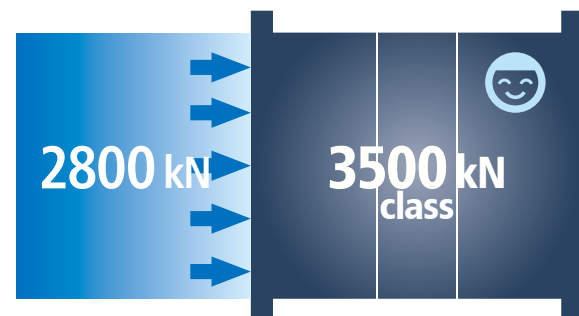
# Compact machines take on the big jobs



## Stable molding at lower mold clamp force

### A comprehensive application Zero-molding

Zero-molding can reduce the mold clamp force without sacrificing precision and stability. The advantages are lower fraction defectives, less maintenance, longer mold life, and energy saving.

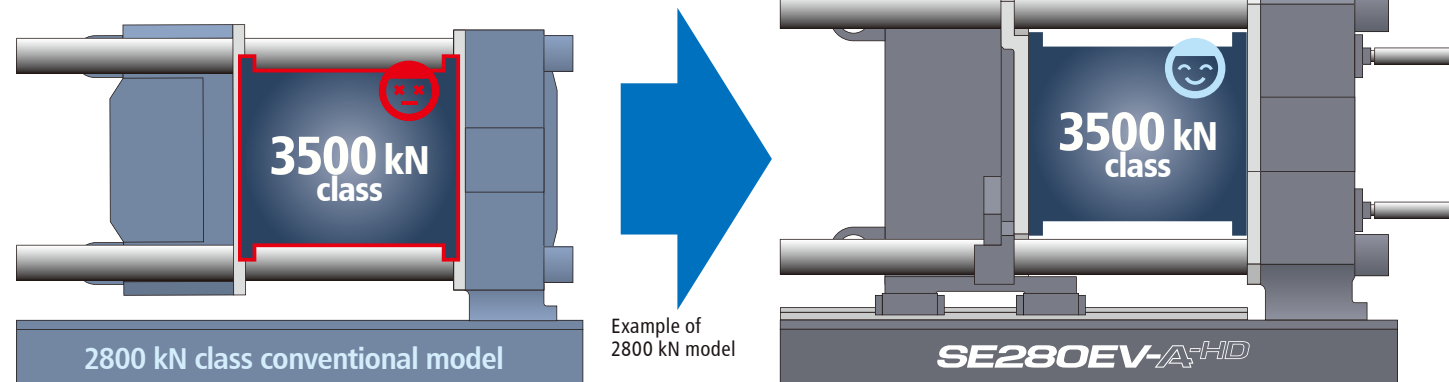


● The above figures are examples based on actual results.

## Works with one class larger molds

### Ample mold mounting capability

SE-EV-A-HD series employs a number of technologies for mounting larger molds. Moreover, the mold strengthens injection performance to meet a broader range of product needs. This series enables molding free from stresses upon molds and delivers a big job in a compact body. SE-EV-A-HD series guides production sites to innovation.



Even if the mold clamp force can be reduced, it was sometimes not possible to mount existing molds on smaller models.

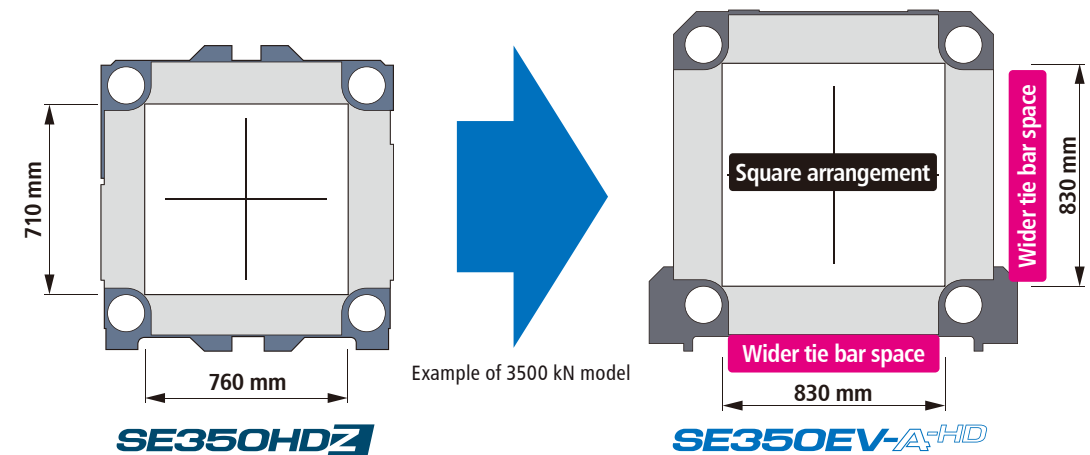
SE-EV-A-HD series can mount molds of one class larger. Because clamp force is reduced, molding is mold- and environment-friendly.

## Molds can be mounted from the side

### Wider tie bar space

Tie bar spaces have increased by 8% in width and 15%\* in length compared to conventional models. These are the largest in machines of the same class. Positions of four tie bars are arranged in a square, which allows users to insert molds from the side.

● \*Mean values of the SE-EV-A-HD series.



Example of 3500 kN model

## Strong frame construction

### Increased mold load capacity

A reinforced frame construction increases the allowable maximum mold weight by 22%\* compared to conventional models. It accommodates larger and heavier molds.

● \*Mean values of the SE-EV-A-HD series.

- Comparison of allowable maximum mold weight -



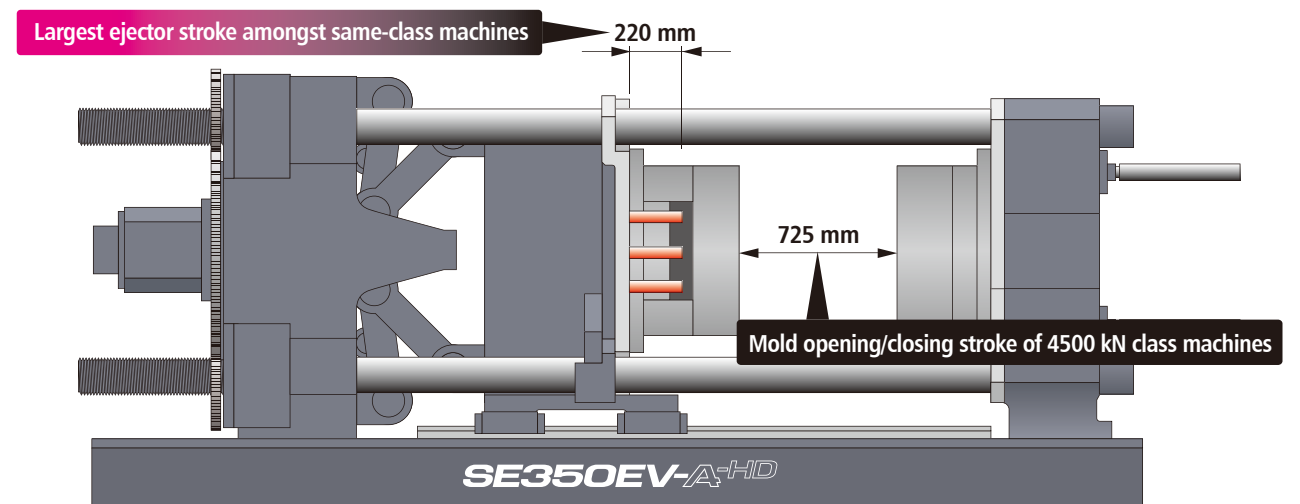
Assuming that the conventional models of the same class are 1.0

## Larger molds accommodated

### Extended opening stroke, thickness range and ejector stroke

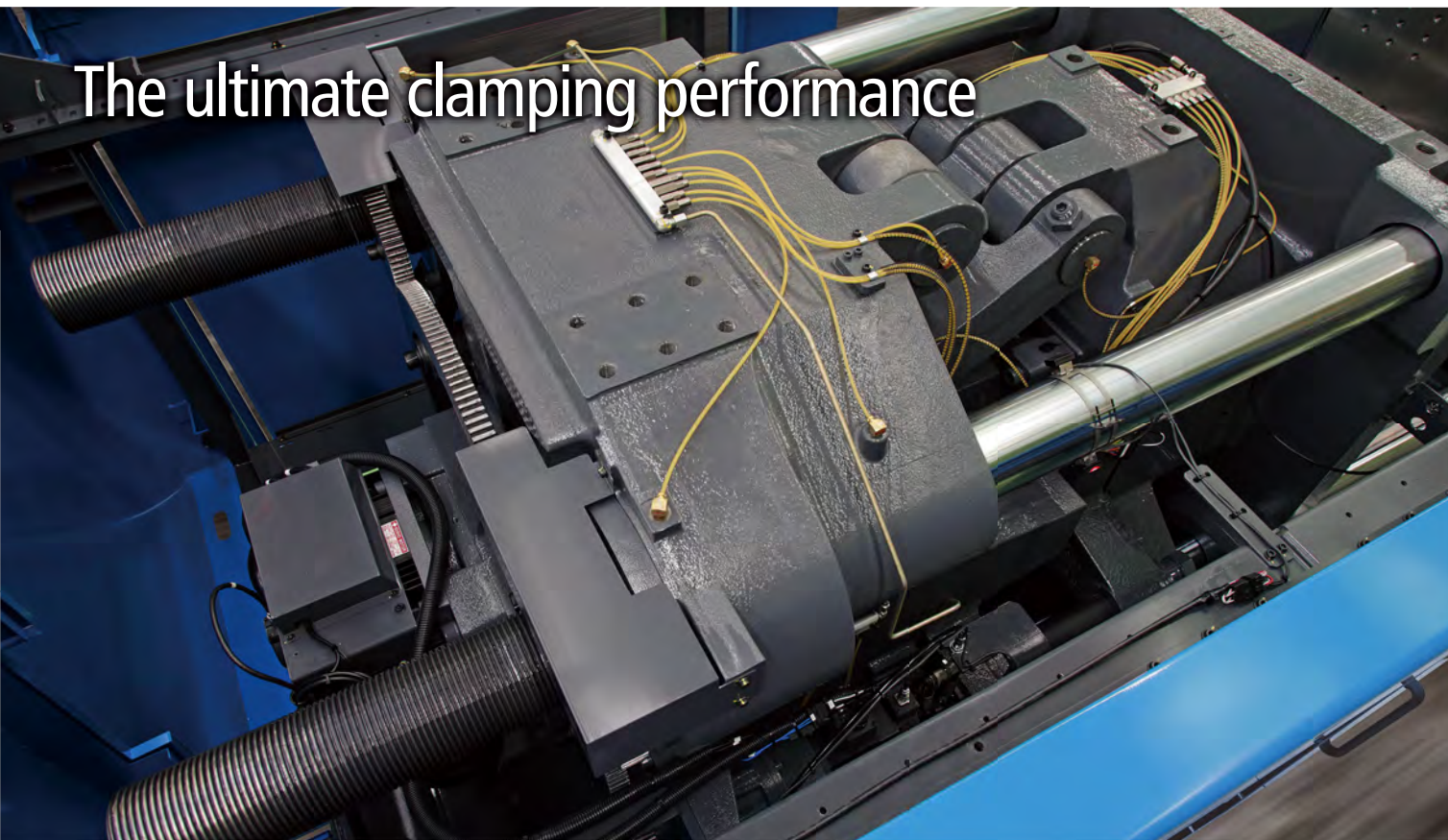
The mold-opening stroke is 25 mm wider than conventional models and the mold thickness range can be extended (100 mm\*200 mm\*) from the original minimum value. The ejector stroke is 220 mm in all models, which is the largest for machines in the same class.

● \*Option. Only a 100 mm extension is available on some models.



Example of 3500 kN model

# The ultimate clamping performance

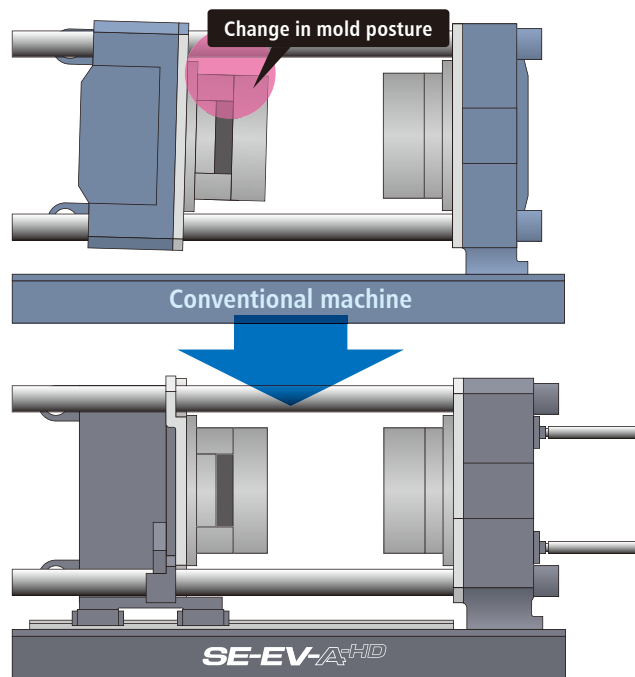


## Smooth mold opening/closing via high parallel precision

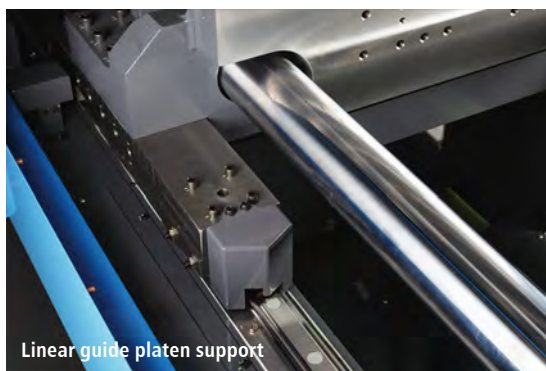
### Linear guide platen support and bush-less tie bar

Even if a heavy mold is mounted, it opens and closes smoothly with high parallelism accuracy. The tie bar bush is eliminated, and the production environment is clean and free of grease spattering.

PAT. pend. in Japan



Change in the mold posture is reduced by 50% when the mold is opened. Accurate parallelism is maintained even when large heavy molds are opened or closed.

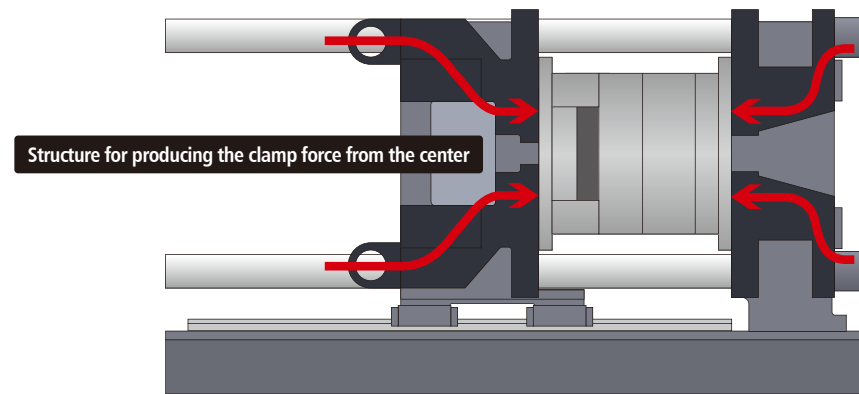


## Uniform mold surface pressure

### Double Center Press Platens

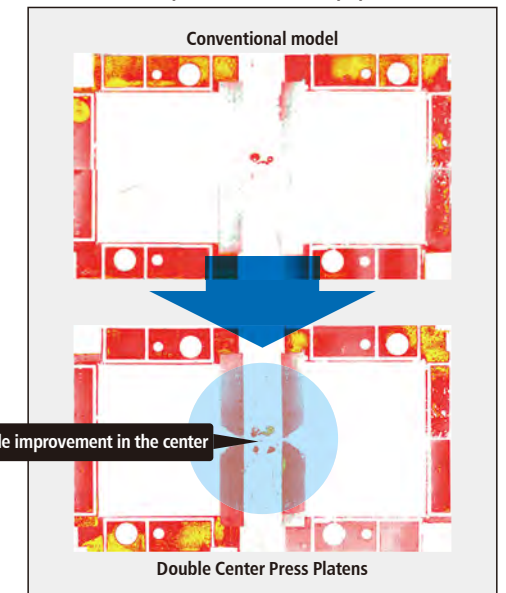
Center Press Platen evenly distributes the surface pressure applied to molds on both the movable and fixed sides as a standard feature. In addition, a newly designed structure reduces surface pressure variances in the center.

PAT. pend. in Japan



The surface pressure distribution in the center is improved. The surface pressure variance in the mold is reduced by an average of 15% compared to conventional models.

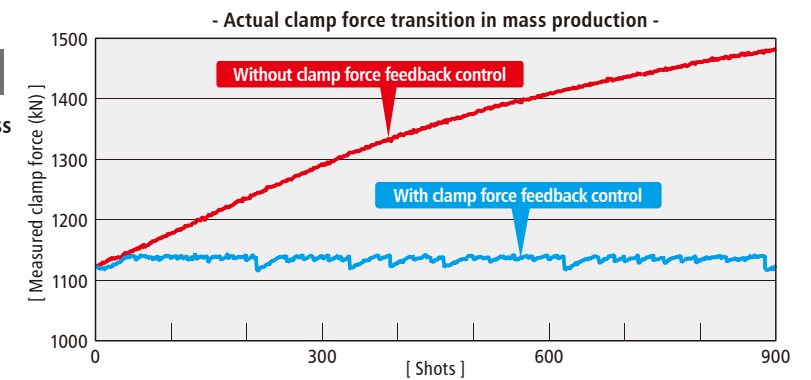
- Comparison of surface pressure distribution with pressure-sensitive paper -



## Keeping mold clamp force constant in mass production

### Clamp force feedback control

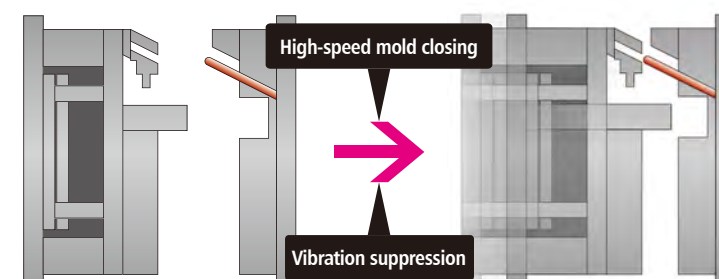
A high-performance servomotor is employed as the mold thickness movement motor to achieve  $\pm 1\%$  feedback control. This enables mass production at the specified clamp force free of influences from the thermal expansion of molds.



## Significantly suppressed machine vibration

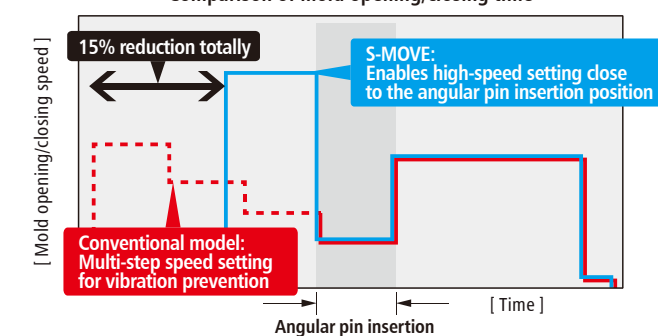
### Acceleration/deceleration control with vibration suppression S-MOVE

With S-MOVE, it can generate smooth speed patterns in acceleration/deceleration, so vibrations are reduced by more than 50% compared to conventional models.

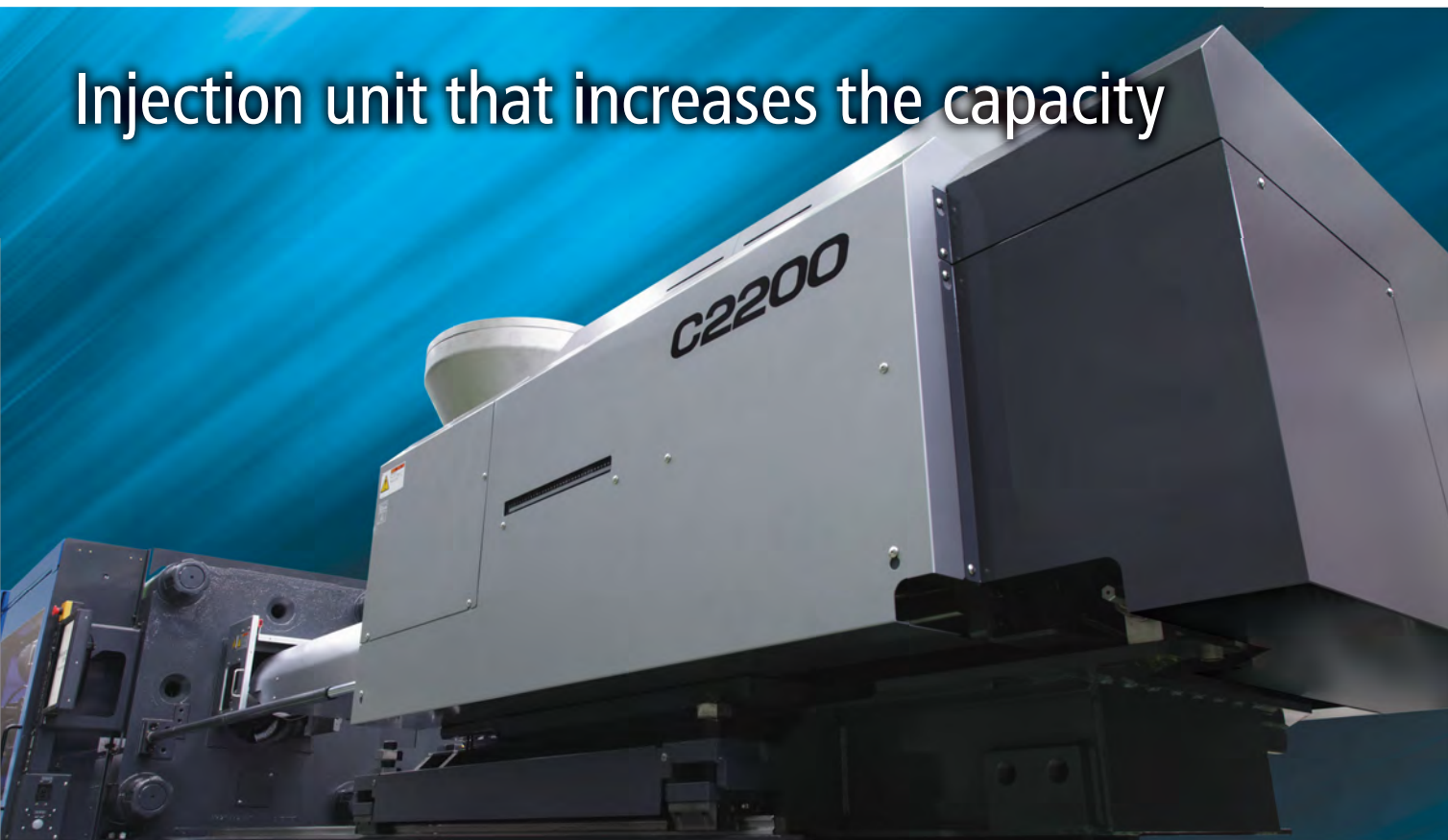


Because of S-MOVE, in case of molds with angular pins, it is possible to set higher speeds than conventional models up to near the pin insertion position.

- Comparison of mold opening/closing time -



# Injection unit that increases the capacity



## Increased maximum injection speed

### High filling spec for thin-walled products

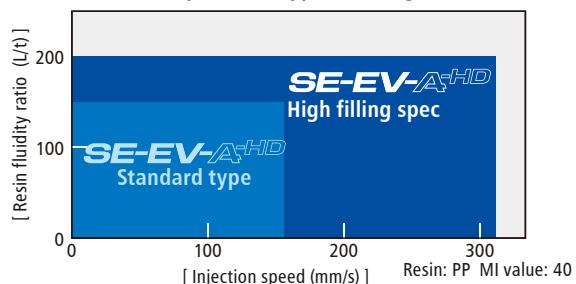
High-duty filling type models that greatly increase the maximum injection speed are available. They enable stable precision molding of thin-walled products.

Optional

- Maximum injection speed -

<b>C750</b>	Standard type	160 mm/s
<b>C2200</b>	High filling spec	310 mm/s
<b>C3000</b>	Standard type	160 mm/s
	High filling spec	220 mm/s

- Comparison of applicable ranges -



## Even faster maximum injection speed

New!

### C560 injection unit with high filling spec

The C560 injection unit that increases the max. injection speed of midclass machines to 500 mm/s can be mounted on all models. Users can choose between standard pressure and ultra-high pressure specs. The ultra-high pressure spec is ideal for thin-wall molding of optical resins, etc.



- Comparison of maximum injection pressure -

ø32 mm ultra high-pressure spec	343 MPa
ø32 mm standard pressure spec	273 MPa
ø36 mm ultra high-pressure spec	332 MPa
ø36 mm standard pressure spec	259 MPa

# Reducing defects, loss, and faults to zero whenever possible

## 'Zero-molding'

Zero-molding is an integrated application that reduces defects, loss, and faults to zero whenever possible. The product offers three elemental technologies of MCM related to clamping, FFC related to filling, and SPS related to operations.

Standard equipment

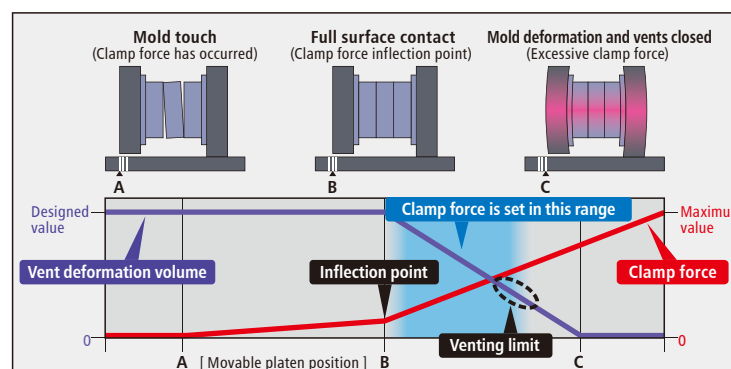


### MCM Minimum Clamping Molding

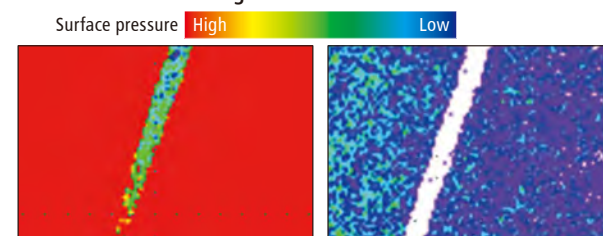
Better vent effects, less maintenance and longer mold life

The clamp force with requisite minimum and best surface pressure balance is realized by optimization of clamping precision and surface pressure.

PAT. pend. in Japan



- Change of the vent deformation -



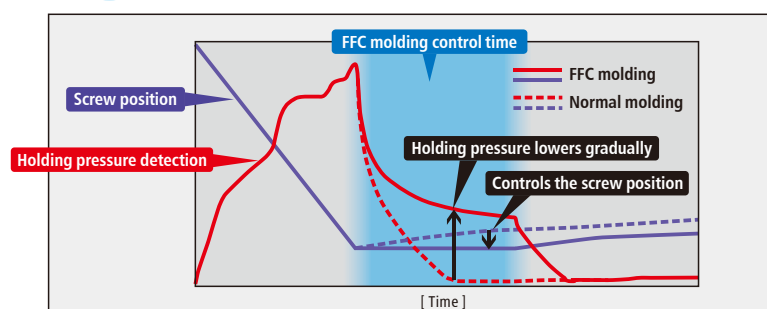
Excessive clamp force Vent will be deformed and fail to work if the clamp force is excessive.

### FFC Flow Front Control

Low-pressure and smooth filling / Improves cavity balance and venting

Screw control before and after V-P switch over enables low-pressure, smooth, and complete filling. It improves the cavity balance and eliminates burrs and short shot at the same time.

PAT. pend. in Japan



- Filling comparison at the same injection pressure -  
Molded product: Wheel cap (381 mm dia.) Resin: PC+ABS



The FFC molding enables complete filling without raising injection pressure.

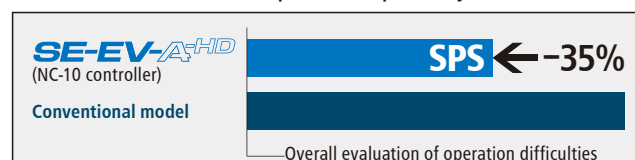
### SPS Simple Process Setting

Error-free and simple setting  
Reduces operation time

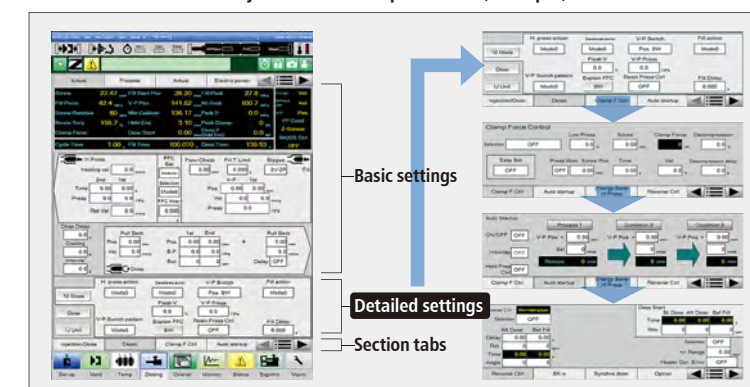
Troublesome settings are not required. Production engineers and general operators can make full use of the advanced performance.

PAT. pend. in Japan

- Comparison of operability -



- Injection unit setup window (Example) -



# Speedy start up to stable mass production



## Links humans with machines quickly and simply NC-10 controller

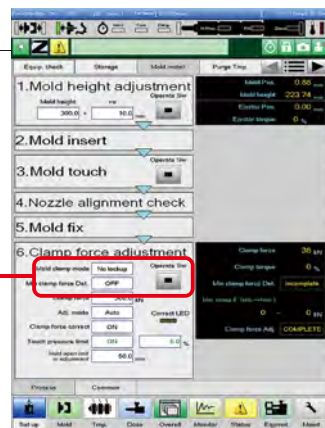
The new NC-10 controller in a human-centered design (HCD) housing has a large 15-inch color LCD panel that features high sensitivity for light-touch operations and tabs for quick switching of pages. In addition, it equipped various NC-10 controller functions such as waveform display and quality control.

### Simple and speedy start up

#### Mold install screen

Mold installation can be completed quickly and easily by procedures shown on screen.

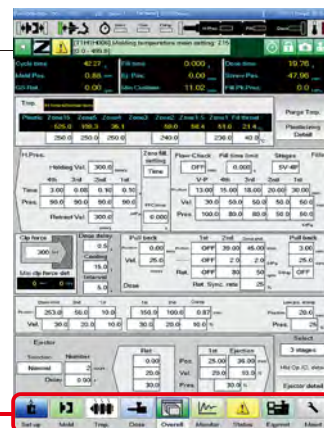
PAT. pend. in Japan



#### Overall screen

Setting various basic values on only one screen after mold installation.

Easy-to-see icons for intuitive operations are used for tabs.



### Versatile and advanced mass production management

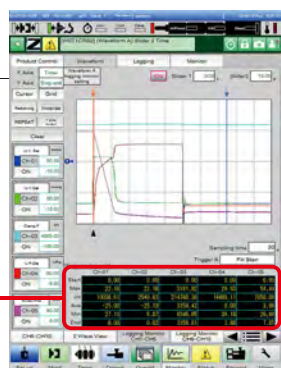
#### Molding condition protection function

Limits of condition protection can be set according to user levels to prevent incorrect settings.



#### Waveform displays and quality control

Logging waveform items to improve judgment precision of quality control.



Enhanced products judgment precision by monitoring logging screen.

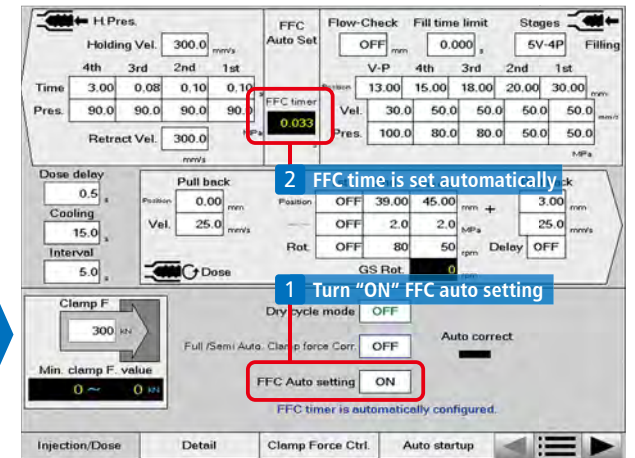
### Automatic setting for completely filling

## FFC auto setting

FFC solves short and burrs at the same time and improves cavity balance. SE-EV-A-HD set FFC time automatically.

FFC is a part of the Zero-molding functions. See page 09 for details.

#### Conventional setting procedures



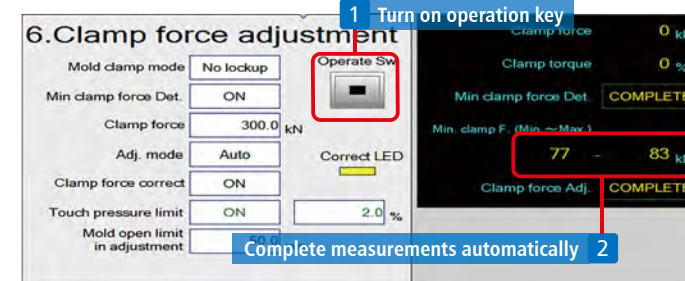
### Finding minimum mold clamp force quickly

## Minimum mold clamp force detection

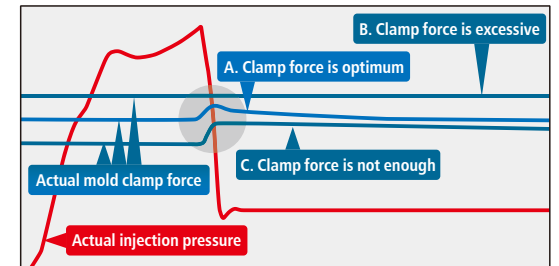
The minimum mold clamp force at mold surfaces contact completely is detected automatically. Based on this value, it's able to judge the necessary clamp force from waveform.

PAT. pend. in Japan

MCM can reduce the clamp forces remarkably. See page 09 for details.



- Judging necessary clamping force based on actual waveform -



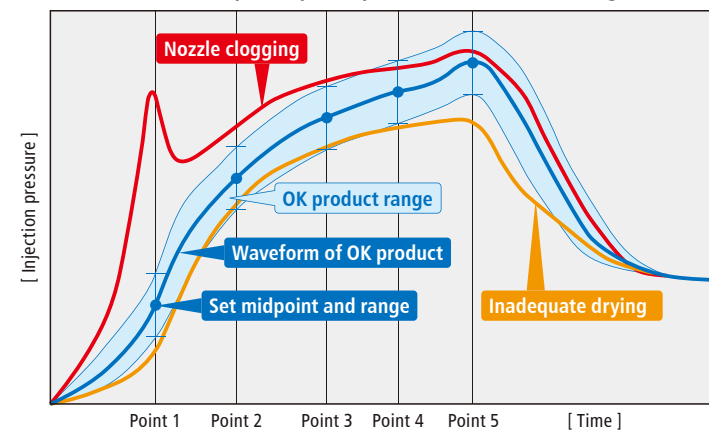
Even though the mold clamp force rises at the peak of the injection pressure, the actual clamp force goes down to setting value during holding pressure process (See waveform A). It can be judged that the set value of the mold clamp force is sufficient.

### Defects detected through injection pressure

## 5-point injection pressure monitoring

Injection pressure is monitored at any 5 moments after filling starts. Molded products for which the pressure exceeds the set high/low limits are judged as defects and can be removed from production.

- An example of injection pressure waveform monitoring -



Cursor L	0.000	Cursor R	5.000	X Axis A	5
Overwrite counter A	0	shots	Trigger A (CH1-5)	Fill Start	
Injection pressure detect	Monitor 1	Monitor 2	Monitor 3	Monitor 4	Monitor 5
	0.00	0.00	0.00	0.00	0.00
Monitor	40.00	90.00	110.00	125.00	150.00
Range	10.00	10.00	10.00	10.00	10.00
Time from start to filling	0.800	1.500	2.200	2.700	3.200

Waveform monitoring positions (elapsed time from filling starts), midpoints and ranges can be set at any 5 moments. Defects can be detected and identified by logging actual data.

# Minimizing environmental loads

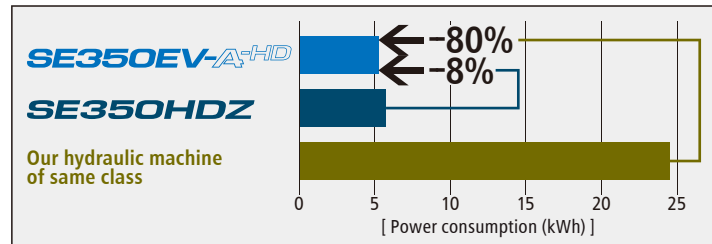


## Significantly reduces power consumption

### Thoroughgoing energy saving performances

All-electric machines are much more energy-efficient than hydraulic machines. Excellent energy-saving is gained from Zero-molding which lowers clamp force, and low friction mechanisms such as linear guide platen which improved mechanical efficiency.

- Power consumption comparison -



● The power saving effects vary with the molding conditions.

## Maximized use of motor energy

### Power regeneration system with no conversion loss

Specially designed for molding machines, this power regeneration system stores regenerative electric power in a capacitor. None of the regenerative power is lost in the conversion process. Moreover, the power from the capacitor is used to prevent voltage drops when the voltage is applied for the next shot, so molds are stably opened and closed.

- Comparison of purge resin quantity and time -



● The resin consumption and necessary time depend on molding conditions.

## Prevents product and environment pollution with tie bar grease

### Bush-less tie bar and tie bar plating

The SE-EV-A-HD prevents cosmetic defect by grease scattering, since mold area is clean by grease free tie bar. Also you will have comfortable work environments.



## Optimized greasing system

### Reduces waste to protect the environment

An optimized grease supply system reduces grease consumption. As a result, waste grease is reduced, resulting in environment-friendly operations. At the same time, the grease supply system requires less maintenance, and operation efficiency is improved.



# All production quality information at hand

## High-level, borderless management of production quality

### i-Connect production quality control system

It's able to centrally manage production of your molding machines worldwide; moreover, it grasps detailed quality information from molding machines quickly by operating intuitively via digital devices. As the quality control system, i-Connect helps you improve production efficiency significantly.

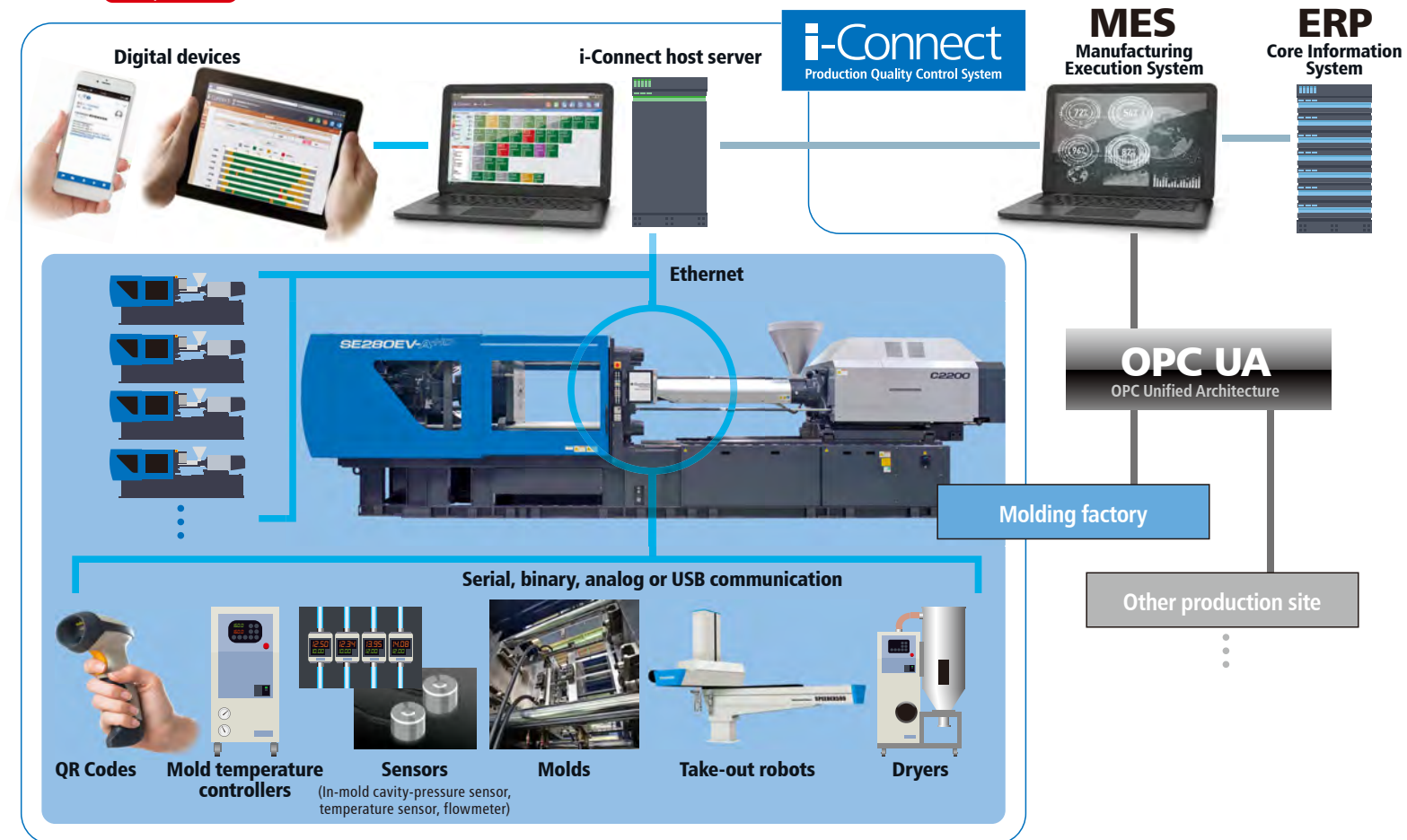
Optional

## Connects the entire factory to a higher management system

### A universal communication standard OPC UA

Our injection molding machines support OPC UA which is a standard data communication protocol for industries that exchanges data across different manufacturers and OSs. OPC UA which is versatile and flexible that achieves Industry 4.0.

Optional



## M2M, connection between molding machines and peripheral devices

### Quicker setups, less mistakes and easier operation

Performing collective monitoring and control on the molding machine side by connecting various peripheral devices to molding machines. It is possible to reduce setup time and its efforts and prevent mistakes. It is possible to strongly support more efficient production.

Optional

● Customers are requested to implement MES (manufacturing execution system).  
 ● Connection with peripheral devices may require molding machine modifications.  
 ● QR Code is a registered trademark of DENSO WAVE INCORPORATED.

## Standard Equipment

Plasticizing and injection unit
1. Injection program control function (Multi-stage control)
2. Holding pressure program control function (Multi-stage control)
3. Screw pull back function (Before starting dosing/After dosing is completed)
4. Digital display function of screw position (0.01 mm setting)
5. Holding time 0.01 seconds setting function
6. V-P switchover function (Pressure/Position)
7. Filling delay timer function
8. Pursing device with interlock (Select the position where the interlock function is unused or the injection device is retracted)
9. Heating cylinder temperature control 6 zones *2
10. Standard capacity heater
11. Heating cylinder temperature switching function (Molding/Lowered temperature/Pursing)
12. Screw cold start prevention with variable timer
13. Remote setting function for sprue break stroke (Reverse timing selection with delay timer, Nozzle contact detection, Movement time setting)
14. Screw rotation speed digital display function
15. Purging cover device (With limit switch)
16. Injection unit swivel device (With nozzle alignment adjustment mechanism)
17. Remaining cooling time display function
18. Dosing start delay timer function
19. Injection speed/Holding pressure rise speed selection function (10 modes)
20. Screw forward speed setting function during holding pressure
21. Screw pull back delay control function
22. Synchro dosing function
23. Screw reverse rotation control function
24. Independent temperature control device of nozzle
25. Standard energy saving heating cylinder cover (Two-layer structure)
26. Water cooling jacket temperature control device
27. Mold open operation function during dosing (Shut off nozzle drive control)
28. Filling pressure multi-stage control function
29. Resin retention prevention function
30. One-touch manual dosing function
31. High-precision, high-pressure nozzle contact device (Nozzle contact force 3-step variable)

Control unit
1. 15 inch TFT color LCD screen
2. Touch panel type setting input device
3. Molding condition storage function
4. Operation support function
5. Molding support function
6. Waveform display function (Waveform memory function, Display value reading function, Data storage by trigger, etc.)
7. Screen hard copy function
8. Take-out robot connection circuit device *1
9. Screen switching function in up to 15 languages
10. Maintenance management function (Inspection time, Grease greasing time, Item, Operation method display)
11. Automatic start/stop function (Lowered temperature/Heater start/Molding machine stop) *1
12. Process display function
13. SSR heater drive circuit device
14. Industrial unit input function (Speed, Position, Pressure, Rotation speed)
15. Molding machine status output signal (5 ch) *1
16. USB connection circuit device (Memory)
17. Protection function of saved conditions
18. Abnormal processing selection function
19. Initial reject/short stop reject function
20. Change screen color scheme function
21. Numerical and character input keypad layout change function (Select from 2 types)
22. Takeout robot entry permission signal

Monitor unit
1. Actual value display function
2. Heater breakage monitoring device
3. Auxiliary equipment abnormality monitoring function (3 ch) * 1
4. Abnormality monitoring function (Maximum cushion, Minimum cushion, Filling pressure, Mold protection, Cycle time, Dosing)
5. Abnormality monitoring condition automatic setting function
6. Abnormal history display function (Abnormal item/Occurrence time display)
7. Quality control function (Statistical function of actual values, Various graph functions, 100,000 shot storage and data confirmation function)
8. Production number management function (Molded product discrimination function, Automatic production completion, Stocker feed signal, Data logging, Production counter with reset)
9. Auto start function (Heater, External output signal)
10. Heating cylinder temperature monitoring function (All zones)
11. Self diagnosis function
12. Abnormal alarm buzzer
13. Shot counter
14. Processing function when cycle monitoring is abnormal (Heater processing mode change)
15. All process display screen function
16. Monitoring function to prevent forgetting to set monitoring
17. Ejector protrusion torque monitoring function
18. Maintenance time notification function (Maintenance time notification based on the number of shots/elapsed time)
19. Injection pressure monitoring function (5 points)
20. Cycle analysis function

Clamp unit
1. Mold opening/closing position and speed program control function (5-stage/3-stage switching)
2. Mold protection function
3. Low pressure mold clamp function
4. Mold opening/closing pause function
5. Remote control function of clamp force
6. Remote control function of mold space
7. Ejector remote setting function (2-speed control, Pressure, Stroke, Delay timer, Multiple time protrusions)
8. Current value input function (Ejector protrusion position)
9. Current value input function (Mold open limit position)
10. Clamp mode selection function (Lock up)
11. Ejector protrusion interlock function (Ejector can be operated only at the mold opening completion position in manual mode)
12. Ejector protrusion function during mold opening
13. Ejector protrusion function during mold clamp
14. Mold plate return confirmation device (Input signal to molding machine) Metal outlet connection * 1
15. Mold opening/closing signal (Spear control signal) *1
16. Valve gate drive circuit (Control circuit only) *1
17. Stand by mode function for mold installation (Low mold opening/closing speed)
18. Toggle cover with polycarbonate window
19. Emergency stop push button switch (Operation side/Non-operation side)
20. Safety door with polycarbonate window
21. Screw holes for mounting the take-out robot
22. Grease centralized greasing device for mold clamp/injection unit
23. Mold clamp safety device (Electric/Mechanical)
24. Mold opening/closing low vibration or high speed mode selection function
25. Movable platen support device (Linear guide type)
26. Double Center Press Platens mechanism
27. Product drop confirmation connection circuit *1
28. Multi-toggle function (Multi-stage clamp force setting)
29. Tie bar plating specification
30. Ejector motor device with brake
31. S-MOVE function (Low vibration control)
32. Ejector standby position function
33. Control device for mold installation space with servo motor
34. Dry cycle mode function

Others
1. Auto grease supply unit (Cartridge grease type)
2. 3-way take-out frame
3. Mold cooling water block device (2 systems) (Flow indicator and valve are options)
4. Standard tool (Ring spanner for nozzle)
5. Standard spare parts (Fuses, Air filters)

Zero-molding features
1. Zero-molding main screen: Simple process setting
2. Zero-molding main screen : Production monitor (Production number/Process/Abnormality/Actual results)
3. Specifications/Function confirmation screen (Standard functions/Optional functions/Abnormality handling/Specification list/Monitoring device)
4. Minimum mold clamp force detection function (Automatic measurement)
5. Setup support: Mold installation screen (Mold height, Mold contact, Clamp force, Mold open/close in preparations, Ejector setting)
6. Setup support: Mold condition setting screen (Open/close, Ejector multi-stage setting)
7. Setup support: Mold opening limit/Ejector protrusion position teaching function (Current value input)
8. Setup support: Protection setting screen (Mold protection, Ejector protection)
9. Setup support: Multi-purging function (Gate purging, Resin replacement purging, Slight time stop purging, Low-viscosity resin purging, Resin viscosity measurement)
10. Setup support: Temperature condition reference/Calling function
11. Setup support: Resin residence alarm/Monitoring function
12. Setup support: Nozzle/Heating cylinder temperature rise mode function (Step/Nozzle delay/Process temperature control)
13. Zero-molding Molding condition setting screen: 2-Screen (Filling, Holding pressure, Dosing, time, Temperature, Mold clamp force)
14. Zero-molding: FFC control function
15. Zero-molding: FFC control, mode setting function
16. Zero-molding: Function to check the filling position and short shot position by flow front check
17. Screw reversal decompression control function
18. Zero-molding: Clamp force feed back function
19. Clamp force multi-stage control function (Cross-head position control)
20. Zero-molding: Molding condition support monitor function (Peak clamp force, Pack pressure, Status display)
21. Actual value monitor switching function (Actual/Process/Power/Waveform/Temperature graph)
22. Monitoring setting: Function to automatically set all at once
23. Molding condition access restriction function (Condition range, Screen display, Password function)
24. Automatic condition change function for molding start (By short shot method)
25. Protection: Screw protection function
26. Energy saving mode function of holding pressure
27. Waveform display function: Simple display by process (Injection, Holding pressure, Dosing, Mold opening, Mold closing, Ejector, Mold height)
28. Waveform display function: Waveform save completion message
29. Waveform display function: Automatic waveform save function (Always/Trigger/Abnormal)
30. Quality control function: Waveform monitoring function
31. Quality control function: Molding process monitor logging function (Temperature, Temperature control output, Peak clamp force, Pack pressure)
32. Production control function: Function to set the number of cavities and manage the number of products
33. Production control function: Operation status management function (Operating time, Motor load factor, Power consumption display)

\*1 All input and output signals are no-voltage contact signals. Power is not supplied with output signals.

\*2 The number of zone varies depending on the screw diameter and screw type.

\*3 The max. injection speed differs as follows; C750 - C2200: 280 mm/s, C3000: 220 mm/s.

\*4 The extended distance is added to the machine dimensions. Please refer to the drawing of machines.

\*5 The max. width is 1000 mm for SE350EV-A-HD - SE500EV-A-HD.

● Specifications are subject to change without notice for performance improvement.

● Standard specification models of the SE-EV-A-HD series comply with the safety standards of Japan, China and the nations of Southeast Asia.

They can also be modified to comply with the safety standards of Korea (KCs Mark), USA, Brazil, the nations of Oceania and Canada. For more information, contact us.

## Optional Equipment

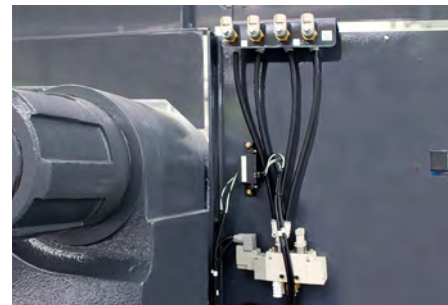
Plasticizing selection
1. Ion-nitride screw assembly
2. Hard chromium plating screw assembly
3. Wear/corrosion resistant screw assembly (Except for C750)
4. Wear and corrosion resistant A screw assembly
5. Wear and corrosion resistant B screw assembly
6. SD Screw assembly
7. SM Screw assembly
8. Screw tip set - Rotation type
9. Screw tip Corrosion and wear resistant A - Non-rotation type
10. Screw tip Corrosion and wear resistant C - Non-rotation type
11. Open type nozzle (Except for C750)
12. Needle valve shut off nozzle (Air type nozzle open/close cylinder) (For C750 only)
13. Open nozzle (Only for C750)
14. Needle valve shut off nozzle (Air type nozzle open/close cylinder) (For C750 only)
15. Cylinder nozzle
16. Zone 1 high capacity heater
17. Extension nozzle

Plasticizing and injection unit
1. Resin temperature sensing device (Only when needle valve nozzle is equipped)
2. Standard type hopper
3. V/P switchover by mold cavity pressure
4. Needle valve nozzle drive circuit
5. Hopper slide device
6. Plating resin inlet of cooling water jacket
7. Circulation air assist device for injection unit (Except for C750)
8. Purge resin receiving tray (Stainless steel)
9. Heater for PA (Nylon) resin
10. High filling specification *3
11. Power module for thick-wall molding

Control and monitor unit
1. Leak circuit breaker (AC 200 V, 220 V 3ø3W+E) (Japan and Asia only)
2. Mold temperature monitor (Type K)
3. Mold temperature monitor (Type J)
4. Mold automatic temperature adjuster
5. Automatic starting system (Heater, Water supply, External output signal)
6. Revolving alarm lamp
7. High function 3-color LED signal tower
8. Closed circuit type cooling water pipe 1 system 4 branches
9. Closed circuit type cooling water pipe 1 system 2 branches
10. Closed circuit type cooling water pipe 2 systems 10 branches
11. Personal computer connection circuit (Ethernet)
12. Electric power supply socket
13. Power source outlet for tools
14. Name plate: Blue
15. Motion07
16. MotionGB
17. Addition of motor breaker
18. Emergency stop interlock (Unloader, Cart) *1
19. DC 24 V power for external signal equipped (Power source only)
20. OPC-UA

### Clamp unit 29

### Multi air



This equipment greatly increases the ease with which products can be extracted by integrating air ejectors and cavity ventilators. It comes with up to 4 pneumatic control circuits.

### Screw Assembly

Specifications		Nitrided	Chrome plated	Wear resistant	Wear and corrosion resistant A	Wear and corrosion resistant B
Material	Screw	Nitride coating	Chrome plated	Wear and corrosion resistant A	Wear and corrosion resistant A	Wear and corrosion resistant B
	Cylinder	Wear resistant	Wear resistant	Wear resistant	Wear and corrosion resistant A	Wear and corrosion resistant B
	Screw tip (set)	Rotating type	Rotating type	Wear and corrosion resistant A Non-rotating type headset	Wear and corrosion resistant A Non-rotating type headset	Wear and corrosion resistant C Non-rotating type headset
Screw type	SD Screw	○	○	○	○	○
	SM Screw	—	○	○	○	—
Wear resistance		★	★	★★	★★	★★★
Corrosion resistance		★	★	★	★★	★★
Suitable resins		Non-abrasive (wear) and corrosive resins	Resins may burn, resins with poor thermal stability	Resins with less than 30% GF	Resins with less than 30% GF, flame retardant resins	Resin with more than 30% GF, resins with large amount of filler (GB, CF, MR)

★★★ Most suitable ★★ Suitable ★ Usable

C560 High filling spec can select SE-EV-A screw assembly and ultra-high pressure spec screw assembly, can not select the above specs.

Clamp unit
1. Hydraulic core pull hydraulic pipe
2. Hydraulic core pull control circuit
3. Pneumatic core pull
4. Pneumatic core pull circuit
5. Core rotation control circuit
6. SPI take-out robot connection circuit
7. SPI AN-146/EUROMAP67 product unloader connection circuit
8. High precision heat insulating plate (5 mm/10 mm, Cross type) *5
9. Die Clamp control unit
10. Valve gate drive circuit
11. Valve gate control circuit
12. Locate diameter 100 mm (Applied to screw dia. ø45 - ø56)
13. Full metallic toggle cover
14. Hydraulic package
15. SPI pattern platen
16. EUROMAP pattern platen
17. Locating ring (Cooling fit, Bolted)
18. Safety door automatic open/close device (Operation side)
19. Safety door automatic open/close device (Non-operation side)
20. Mold space extension 100 mm *4
21. Mold space extension 200 mm *4
22. T groove platen
23. Slide core return check *1
24. Hydraulic drive circuit (Built-in)
25. Dust prevention cover above toggle (Fixed type) *4
26. Dust prevention cover above toggle (Slide type) *4
27. Hydraulic drive circuit (Separate type)
28. Increased ejector force
29. Multi air
30. Mold clamp connection circuit *1
31. Magnet clamp connection circuit *1
32. Safety door release specification control circuit
33. Safety door wide expansion (100 mm) opposite to operation side *4
34. Cooling water pipe 2 systems 8 branches

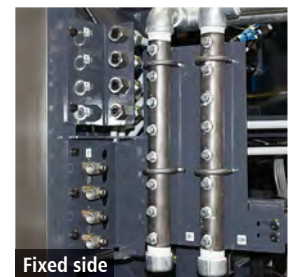
Spare parts and accessories
1. Spare parts A (Mechanical parts: Mechanical stopper, Lub. parts)
2. Spare parts A (Electrical parts: Thermocouple)
3. Spare parts for export (Encoder, Limit switch, Inductive proximity sensors)
4. Leveling pads (For one machine)
5. Anchor bolts (For one machine)
6. Locating ring (Transition fit)
7. Mechanical parts and hook for hosting machine
8. Tool A (Tools, Tool box, Rocol paste)
9. Ejector rods
10. Grease gun
11. Grease cartridge for automatic lub (700 cc)
12. Grease cartridge for manual lub (400 cc)
13. Injection unit turning handle
14. Tool for disassembly screw tip set
15. High precision heat insulating plate (5 mm/10 mm, Cross type) *5
16. Easy camp

### Clamp unit 33, 34

### Safety door wide expansion (100 mm) opposite to operation side Cooling water pipe 2 systems 8 branches



Movable side



Fixed side

These equipment greatly shorten setup time by eliminating the trouble associated with piping work.



## Main Specifications

Item	Unit	SE220EV-A <sup>HD</sup>	SE250EV-A <sup>HD</sup>
<b>■ Clamp unit</b>			
Clamp system		Double toggle (5 points)	
Clamp force	kN	2200	2500
Clearance between tie-bars (WxH)	mm	660 x 660	660 x 660
Platen size (WxH)	mm	930 x 930	930 x 930
Daylight		1175	1225
(Mold thickness extension 100 mm)	mm	(1275)	(1325)
(Mold thickness extension 200 mm)	mm	(1375)	—
Mold opening stroke	mm	575	625
Platen speed max.	mm/s	1349	1431
Mold thickness (min. - max.)		200 - 600	200 - 600
(Mold thickness extension 100 mm)	mm	(200 - 700)	(200 - 700)
(Mold thickness extension 200 mm)	mm	(200 - 800)	—
Locating ring diameter	mm	ø120	ø120
(When inner dia. ø120 mm is selected)	mm	—	—
(When inner dia. ø100 mm is selected)	mm	(ø100)	(ø100)
Ejector system		Motor driven type (13 points)	
Ejector force	kN	60	60
(When ejector force power up is selected)	kN	(100)	(100)
Ejector speed max.	mm/s	267	267
Ejector stroke	mm	220	220
Mold loading max.	kg	2800	2800
(Movable side max.)	kg	(1850)	(1850)

<b>■ Injection unit</b>																	
Plasticizing capacity		C750				C1100				C750				C1100			
		M				L				M				L			
Screw diameter	mm	36	40	45	50	45	50	56	63	36	40	45	50	45	50	56	63
Injection pressure max. <sup>*1,*2</sup>	MPa	259	274	215	174	267	230	187	148	259	274	215	174	267	230	187	148
Holding pressure max. <sup>*1,*2</sup>	MPa	259	274	215	174	267	230	187	148	259	274	215	174	267	230	187	148
Theoretical injection capacity	cm <sup>3</sup>	162	201	337	416	365	510	640	810	162	201	337	416	365	510	640	810
Injection mass (GPPS)	g	156	193	323	399	350	490	614	778	156	193	323	399	350	490	614	778
Plasticizing rate <sup>*3</sup>	kg/h	48	63	98	134	98	151	192	227	48	63	98	134	98	151	192	227
Injection rate		162	201	254	314	254	314	394	498	162	201	254	314	254	314	394	498
(When high speed filling specification is selected)	cm <sup>3</sup> /s	(335)	(414)	(524)	(647)	(493)	(608)	(763)	(966)	(335)	(414)	(524)	(647)	(493)	(608)	(763)	(966)
Screw stroke	mm	160		212	230	260		160		212	230	260		160		212	230
Injection speed max.		160				160				160				160			
(When high speed filling specification is selected)	mm/s	(330)				(310)				(330)				(310)			
Screw rotating speed max.	min <sup>-1</sup>	250								250							
Number of temperature control zone		5				6				5				6			
Heater capacity	kW	8.5	10.3	11.1	12.2	17.0	19.2	21.1	28.4	8.5	10.3	11.1	12.2	17.0	19.2	21.1	28.4
Nozzle contact force	kN	43				58				43				58			
Injection unit moving stroke	mm	395								395							
Protrusion	mm	65								65							
Hopper capacity (When the standard hopper is selected)	L	(50)				(100)				(50)				(100)			

<b>■ Machine dimensions and mass</b>																		
Machine dimensions (LxWxH) <sup>*4</sup>	mm	6466 x 1832 x 2057				6466 x 1832 x 2084				6566 x 1832 x 2057				6566 x 1832 x 2084				
		(Mold thickness extension 100 mm)	(6566 x 1832 x 2057)				(6566 x 1832 x 2084)				(6666 x 1832 x 2057)				(6666 x 1832 x 2084)			
		(Mold thickness extension 200 mm)	(6666 x 1832 x 2057)				(6666 x 1832 x 2084)				—				—			
		(When the dust prevention cover above toggle (Fixed type) is selected)	(6466 x 1832 x 2100)				(6466 x 1832 x 2100)				(6566 x 1832 x 2100)				(6566 x 1832 x 2100)			
		(When the dust prevention cover above toggle (Slide type) is selected)	(6466 x 1832 x 2245)				(6466 x 1832 x 2245)				(6566 x 1832 x 2245)				(6566 x 1832 x 2245)			
		(When the safety door wide expansion is selected)	(6466 x 1932 x 2057)				(6466 x 1932 x 2084)				(6566 x 1932 x 2057)				(6566 x 1932 x 2084)			
Machine mass	t	11.6				12.6				11.6				12.6				

\*1 The max. injection pressure and max. hold pressure are calculated values and represent machine output, not resin pressure.

\*2 The max. injection pressure and max. hold pressure are not sustained pressure levels.

\*3 The plasticizing rate is given for a machine mounted with the SD Screw.

\*4 The total length of the machine is to the front end of the injection unit when mounting the screw of the smallest diameter.

● Specifications are subject to change without notice for performance improvement.

	SE280EV-A <sup>HD</sup>	SE315EV-A <sup>HD</sup>
<b>■ Clamp unit</b>		
	Double toggle (5 points)	
	2800	3150
	730 x 730	730 x 730
	1020 x 1020	1020 x 1020
	1275	1325
	(1375)	(1425)
	(1475)	—
	625	675
	1298	1394
	300 - 650	300 - 650
	(300 - 750)	(300 - 750)
	(300 - 850)	—
	ø150	ø150
	(ø120)	(ø120)
	(ø100)	(ø100)
	Motor driven type (13 points)	
	60	60
	(100)	(100)
	267	267
	220	220
	3800	3800
	(2500)	(2500)

C1100				C1600					C2200					C1100				C1600					C2200				
L				L					L					L				L					L				
45	50	56	63	45	50	56	63	71	50	56	63	71	80	45	50	56	63	45	50	56	63	71	50	56	63	71	80
267	230	187	148	267	230	230	188	148	230	230	216	188	148	267	230	187	148	267	230	230	188	148	230	230	216	188	148
267	230	187	148	267	230	230	188	148	230	230	216	188	148	267	230	187	148	267	230	230	188	148	230	230	216	188	148
365	510	640	810	365	510	714	904	1148	510	714	997	1266	1608	365	510	640	810	365	510	714	904	1148	510	714	997	1266	1608
350	490	614	778	350	490	685	867	1102	490	685	957	1216	1544	350	490	614	778	350	490	685	867	1102	490	685	957	1216	1544
98	151	192	227	98	151	192	227	230	151	192	227	230	303	98	151	192	227	98	151	192	227	230	151	192	227	230	303
254	314	394	498	254	314	394	498	633	314	394	498	633	804	254	314	394	498	254	314	394	498	633	314	394	498	633	804
(493)	(608)	(763)	(966)	(493)	(608)	(763)	(966)	(1227)	(608)	(763)	(966)	(1227)	(1558)	(493)	(608)	(763)	(966)	(493)	(608)	(763)	(966)	(1227)	(608)	(763)	(966)	(1227)	(1558)
230	260		230	260	290		260	290	320		230	260		230	260	290		260	290	320		260	290		260	290	
160				160					160					160				160									
(310)				(310)					(310)					(310)				(310)									
250				250					200	250		200	250				250										
6				6					6					6				6									
17.0	19.2	21.1	28.4	17.0	19.2	21.1	28.4	30.5	19.3	21.2	28.4	30.5	34.6	17.0	19.2	21.1	28.4	17.0	19.2	21.1	28.4	30.5	19.3	21.2	28.4	30.5	34.6
58				58					58					58				58									
420				420					420					420				420									
65				65					65					65				65									
(100)				(100)					(100)					(100)				(100)									

	SE280EV-A <sup>HD</sup>	SE315EV-A <sup>HD</sup>
	7236 x 1972 x 2102	7336 x 1972 x 2102
	(7336 x 1972 x 2102)	(7436 x 1972 x 2102)
	(7436 x 1972 x 2102)	—
	(7236 x 1972 x 2145)	(7336 x 1972 x 2145)
	(7236 x 1972 x 2285)	(7336 x 1972 x 2285)
	(7236 x 2072 x 2102)	(7336 x 2072 x 2102)
	15.0	15.1
	15.1	15.7
	15.0	15.1
	15.1	15.7

## Main Specifications

Item	Unit	SE350EV-A <sup>HD</sup>	SE385EV-A <sup>HD</sup>
------	------	-------------------------	-------------------------

### Clamp unit

Clamp system		Double toggle (5 points)	Double toggle (5 points)
Clamp force	kN	3500	3850
Clearance between tie-bars (WxH)	mm	830 x 830	830 x 830
Platen size (WxH)	mm	1140 x 1140	1140 x 1140
Daylight		1425	1475
	(Mold thickness extension 100 mm)	(1525)	(1575)
	(Mold thickness extension 200 mm)	(1625)	—
Mold opening stroke	mm	725	775
Platen speed max.	mm/s	1346	1438
Mold thickness (min. - max.)		350 - 700	350 - 700
	(Mold thickness extension 100 mm)	(350 - 800)	(350 - 800)
	(Mold thickness extension 200 mm)	(350 - 900)	—
Locating ring diameter		ø150	ø150
	(When inner dia. ø120 mm is selected)	(ø120)	(ø120)
	(When inner dia. ø100 mm is selected)	(ø100)	(ø100)
Ejector system		Motor driven type (13 points)	Motor driven type (13 points)
Ejector force	kN	60	60
		(When ejector force power up is selected)	(100)
Ejector speed max.	mm/s	267	267
Ejector stroke	mm	220	220
Mold loading max.	kg	5200	5200
		(Movable side max.)	(3450)

### Injection unit

Plasticizing capacity		C1100			C1600			C2200			C1100			C1600			C2200												
		L	L	L	L	L	L	L	L	L	L	L	L	L	L	L	L												
Screw diameter	mm	45	50	56	63	45	50	56	63	71	50	56	63	71	80	45	50	56	63	71	50	56	63	71	80				
Injection pressure max.*1,*2	MPa	267	230	187	148	267	230	230	188	148	230	230	216	188	148	267	230	230	188	148	230	230	216	188	148				
Holding pressure max.*1,*2	MPa	267	230	187	148	267	230	230	188	148	230	230	216	188	148	267	230	230	188	148	230	230	216	188	148				
Theoretical injection capacity	cm <sup>3</sup>	365	510	640	810	365	510	714	904	1148	510	714	997	1266	1608	365	510	640	810	365	510	714	904	1148	510	714	997	1266	1608
Injection mass (GPPS)	g	350	490	614	778	350	490	685	867	1102	490	685	957	1216	1544	350	490	614	778	350	490	685	867	1102	490	685	957	1216	1544
Plasticizing rate *3	kg/h	98	151	192	227	98	151	192	227	230	151	192	227	230	303	98	151	192	227	98	151	192	227	230	151	192	227	230	303
Injection rate	cm <sup>3</sup> /s	254	314	394	498	254	314	394	498	633	314	394	498	633	804	254	314	394	498	254	314	394	498	633	314	394	498	633	804
		(493)	(608)	(763)	(966)	(493)	(608)	(763)	(966)	(1227)	(608)	(763)	(966)	(1227)	(1558)	(493)	(608)	(763)	(966)	(493)	(608)	(763)	(966)	(1227)	(608)	(763)	(966)	(1227)	(1558)
Screw stroke	mm	230	260	230	260	290	260	290	320	230	260	230	260	290	260	290	320												
Injection speed max.	mm/s	160						160																					
		(310)						(310)																					
Screw rotating speed max.	min <sup>-1</sup>	250	250	200	250	200	250	250	200	250	200																		
Number of temperature control zone		6						6																					
Heater capacity	kW	17.0	19.2	21.1	28.4	17.0	19.2	21.1	28.4	30.5	19.3	21.2	28.4	30.5	34.6	17.0	19.2	21.1	28.4	17.0	19.2	21.1	28.4	30.5	19.3	21.2	28.4	30.5	34.6
Nozzle contact force	kN	58						58																					
Injection unit moving stroke	mm	450						450																					
Protrusion	mm	65						65																					
Hopper capacity (When the standard hopper is selected)	L	(100)						(100)																					

### Machine dimensions and mass

Machine dimensions (LxWxH) <sup>*4</sup>		7446 x 2072 x 2192	7546 x 2072 x 2192
(Mold thickness extension 100 mm)	mm	(7546 x 2072 x 2192)	(7646 x 2072 x 2192)
(Mold thickness extension 200 mm)		(7646 x 2072 x 2192)	—
(When the dust prevention cover above toggle (Fixed type) is selected)		(7446 x 2072 x 2225)	(7546 x 2072 x 2225)
(When the dust prevention cover above toggle (Slide type) is selected)		(7446 x 2072 x 2375)	(7546 x 2072 x 2375)
(When the safety door wide expansion is selected)		(7446 x 2172 x 2192)	(7546 x 2172 x 2192)
Machine mass	t	17.2	17.3

\*1 The max. injection pressure and max. hold pressure are calculated values and represent machine output, not resin pressure. \*2 The max. injection pressure and max. hold pressure are not sustained pressure levels. \*3 The plasticizing rate is given for a machine mounted with the SD Screw. \*4 The total length of the machine is to the front end of the injection unit when mounting the screw of the smallest diameter.

\*5 The injection unit moving stroke differs as follows;

SE220EV-A-HD and SE250EV-A-HD: 395 mm, SE280EV-A-HD and SE315EV-A-HD: 420 mm, SE350EV-A-HD and SE385EV-A-HD: 450 mm, SE450EV-A-HD and SE500EV-A-HD: 495 mm

\*6 Extended linear guides are installed.

● Specifications are subject to change without notice for performance improvement.

SE450EV-A <sup>HD</sup>	SE500EV-A <sup>HD</sup>
-------------------------	-------------------------

Double toggle (5 points)	Double toggle (5 points)
4500	5000
920 x 920	920 x 920
1300 x 1300	1300 x 1300
1625	1675
(1725)	(1775)
(1825)	—
825	875
1109	1167
350 - 800	350 - 800
(350 - 900)	(350 - 900)
(350 - 1000)	—
ø150	ø150
(ø120)	(ø120)
(ø100)	(ø100)
Motor driven type (21 points)	Motor driven type (21 points)
100	100
(150)	(150)
267	267
220	220
7500	7500
(5000)	(5000)

C2200			C3000			C2200			C3000								
L			L			L			L								
50 <sup>6</sup>	56 <sup>6</sup>	63	71	80	63	71	80	90	50 <sup>6</sup>	56 <sup>6</sup>	63	71	80	63	71	80	90
230	230	216	188	148	216	187	148	230	230	216	188	148	216	216	187	148	230
230	230	216	188	148	216	187	148	230	230	216	188	148	216	216	187	148	230
510	714	997	1266	1608	997	1425	1809	2290	510	714	997	1266	1608	997	1425	1809	2290
490	685	957	1216	1544	957	1368	1737	2198	490	685	957	1216	1544	957	1368	1737	2198
151	192	227	230	303	182	230	303	390	151	192	227	230	303	182	230	303	390
314	394	498	633	804	498	633	804	1017	314	394	498	633	804	498	633	804	1017
(608)	(763)	(966)	(1227)	(1558)	(685)	(871)	(1105)	(1399)	(608)	(763)	(966)	(1227)	(1558)	(685)	(871)	(1105)	(1399)
260	290	320	320	360	260	290	320	320	360								
160				160													
(310)				(220)													
250	200	200	200	250	200	200											
6				6													
19.3	21.2	28.4	30.5	34.6	28.4	30.5	34.6	35.0	19.3	21.2	28.4	30.5	34.6	28.4	30.5	34.6	35.0
58				58													
495				495													
65				65													
(100)				(100)													

8361 x 2252 x 2292	8461 x 2252 x 2292
(8461 x 2252 x 2292)	(8561 x 2252 x 2292)
(8561 x 2252 x 2292)	—
(8361 x 2252 x 2330)	(8461 x 2252 x 2330)
(8361 x 2252 x 2465)	(8461 x 2252 x 2465)
(8361 x 2352 x 2292)	(8461 x 2352 x 2292)
24.9	25.7

C560 High filling spec (Common to all models)
---

The specifications and numerical values are the same as those of each model.
--

C560									
Ultra high-pressure spec		Standard pressure spec							
32	36	28	32	36	40	45	50		
343	332	284	273	259	274	216	175		
274	265	227	218	207	219	172	140		
128	162	98	128	162	201	254	314		
123	156	94	123	156	193	244	301		
37	53	37	53	76	101	136	193		
—	—	—	—	—	—	—	—		
402	508	307	402	508	628	795	981		
160	140								
—									
500									
400									
5	6								
7.9	8.4	6.5	7.5	8.5	10.3	11.5	12.6		
43									
*5									
30									
65									
(50)									

The machine dimensions are the same as the values when the minimum injection unit of each model is installed.
Please contact us for the machine mass.