

Global Network

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● Photographs of machines and details may differ from actual products.
● Specifications subject to change without notice for performance improvement.

SEEV-A-HD
All-electric Middle-sized Injection Molding Machine

SEEV-A-HD
All-electric Middle-sized Injection Molding Machine



SEEV-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/

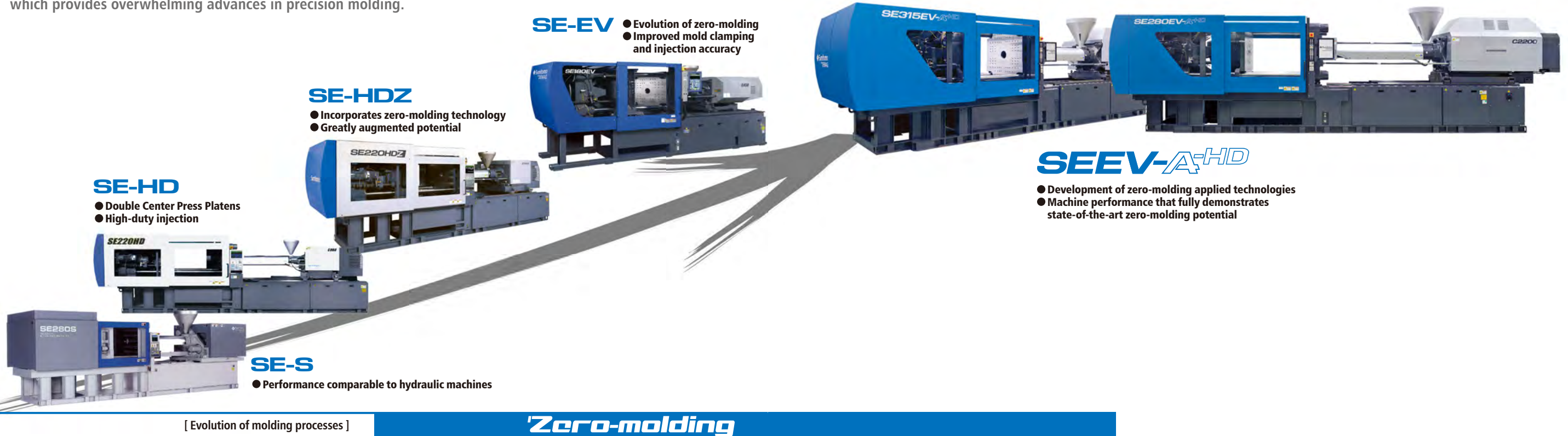


Further progress in injection molding. The age of "A" begins.

Lineage of the all-electric injection molding machines "A"

Our all-electric injection molding machines have undergone a synergistic evolution 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 SEEV-A-HD series, which provides overwhelming advances in precision molding.

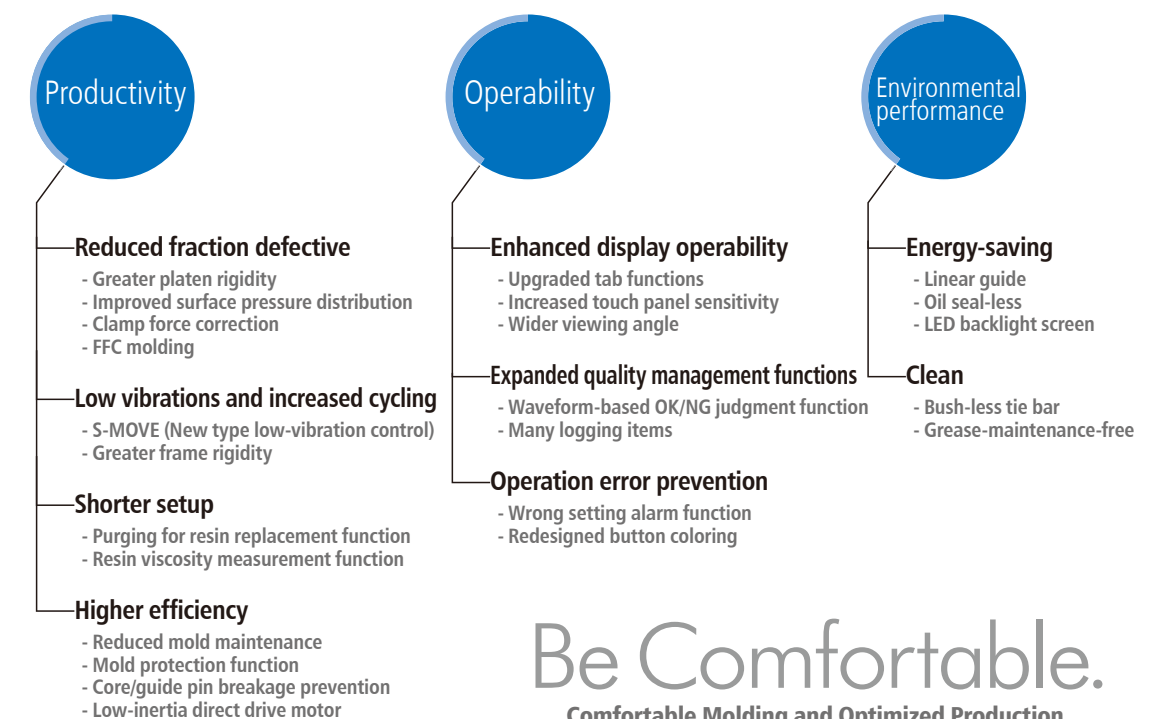
[Potential of all-electric injection molding machines]



Motive force of molding technology evolution

Zero-molding brings the three vectors of loss, defects, and faults as close to zero as possible. It has expanded its own functions, promoted innovation of machinery technologies, and dramatically enhanced the potential of all-electric molding machines. All technologies will take zero-molding to the extreme.

Increased potential achieved by "A"



Be Comfortable.
Comfortable Molding and Optimized Production

Major jobs and reliable performance with a compact machine

Defects

Stable molding at lower mold clamp force

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.

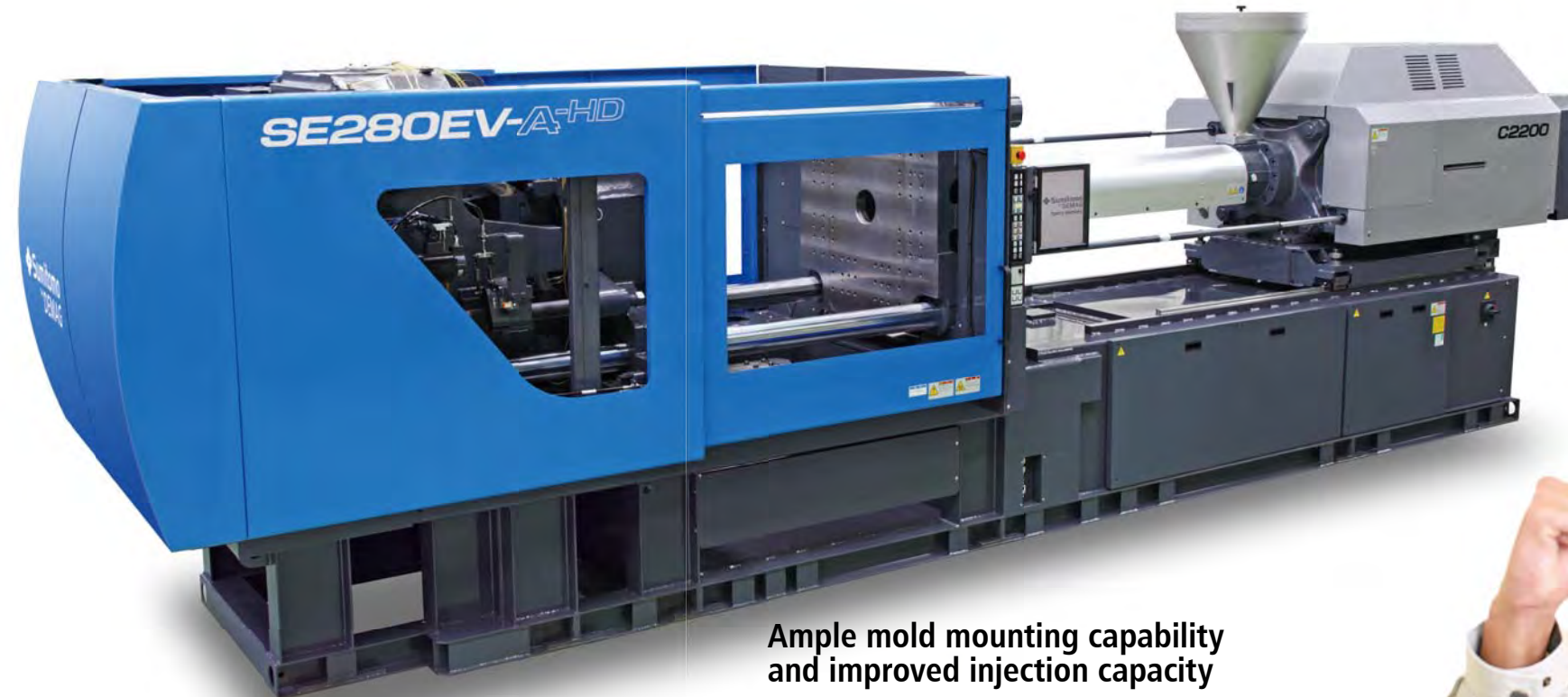
Loss

Faults

'Zero-molding'

"If we could only mount larger molds on a compact machine ..."

"We could not use our molds on a compact machine even though we could lower the clamp force."



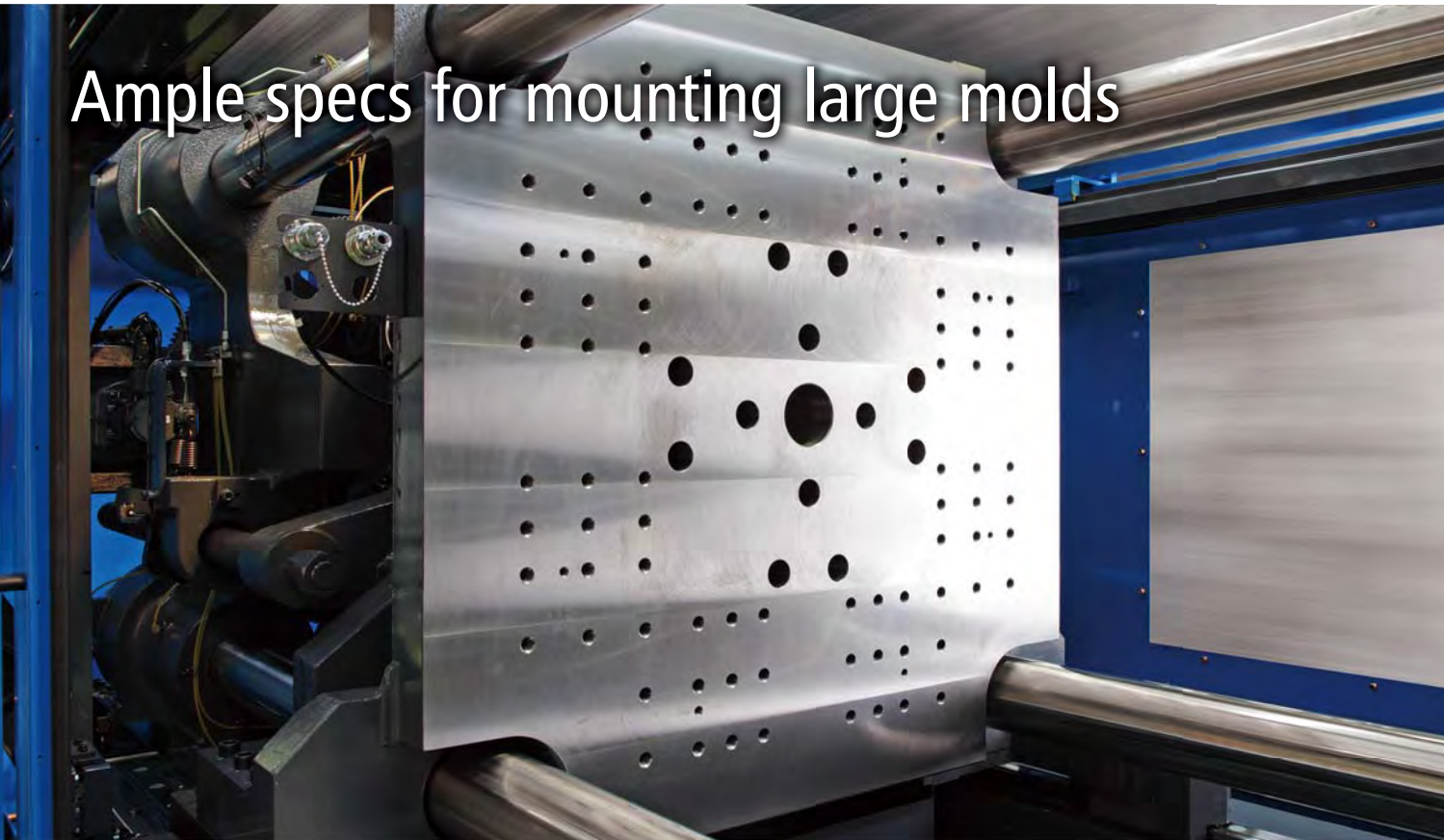
Ample mold mounting capability and improved injection capacity

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

●The above figures are examples based on actual results.



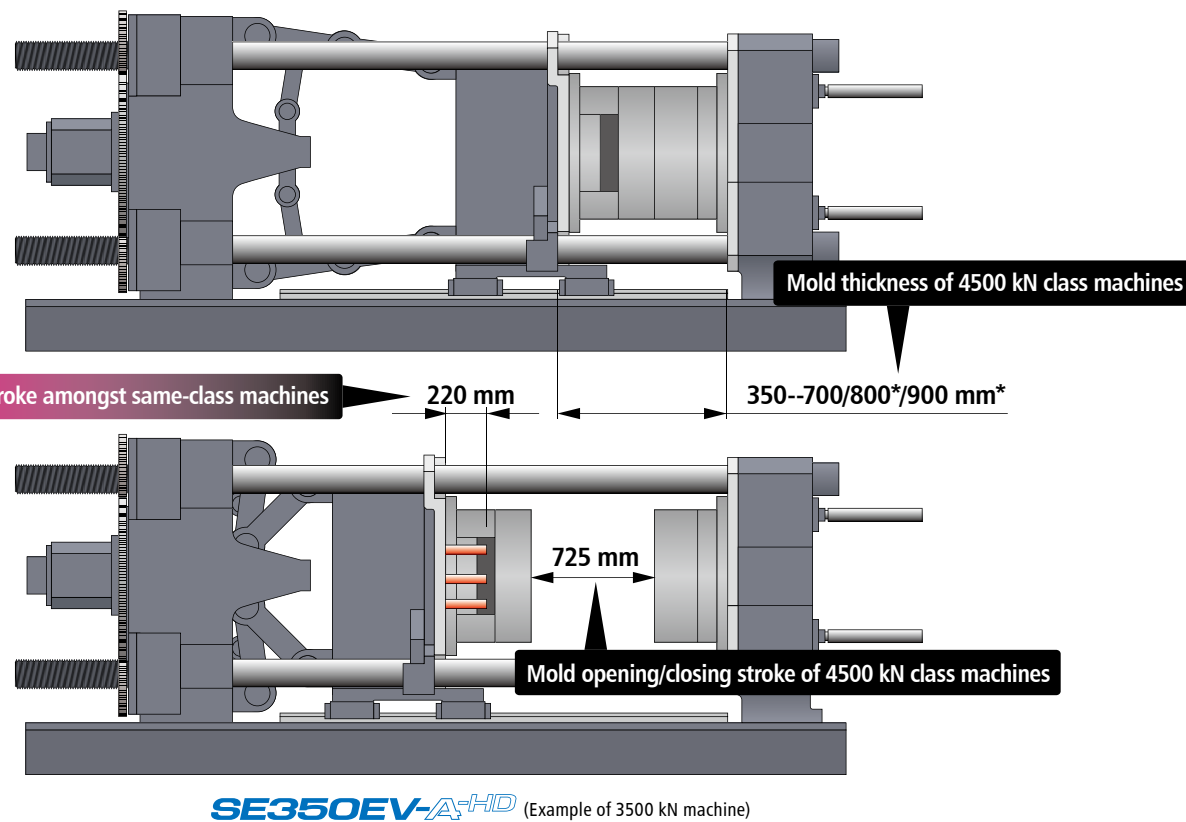
Ample specs for mounting large molds



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.

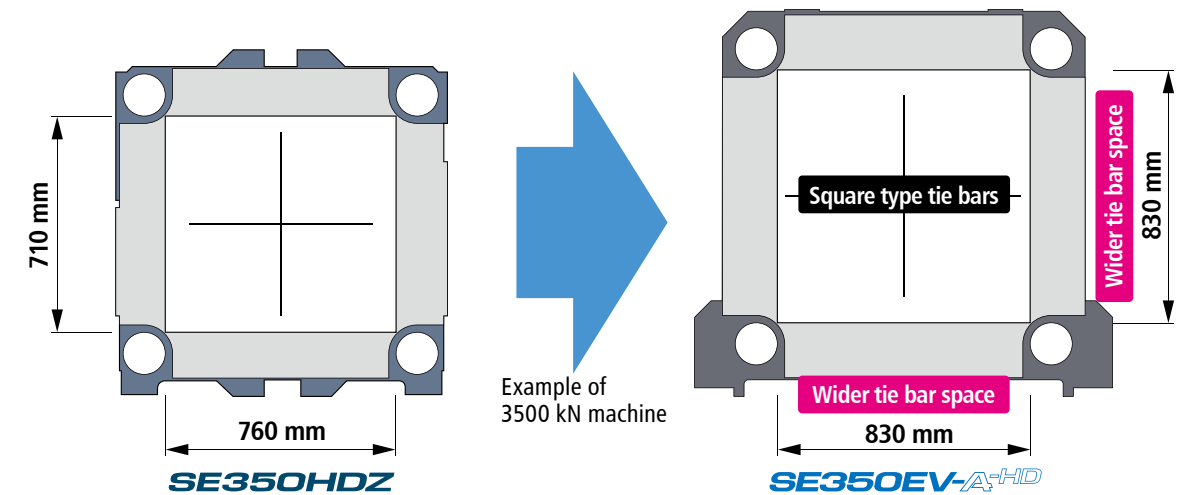
●*Option. Only a 100 mm extension is available on some models.



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. The square type tie bars allow users to insert molds from the side.

●*Mean values of the SEEV-A-HD models.

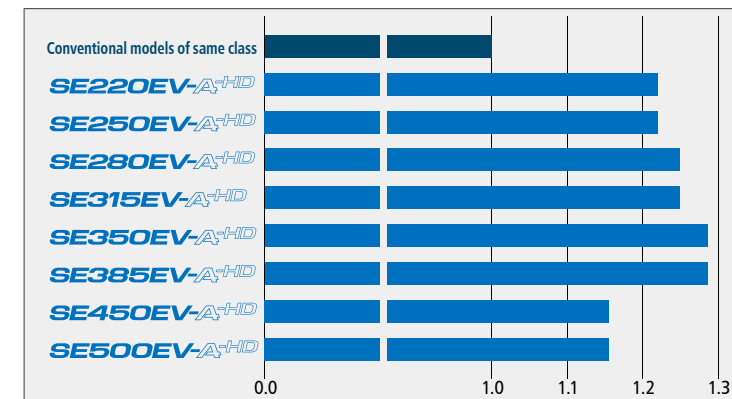


Increased mold load capacity

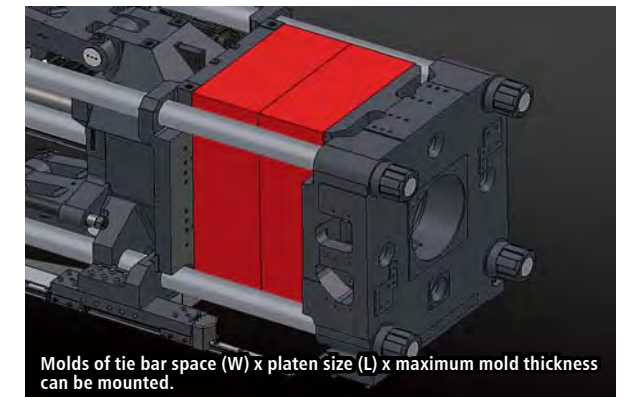
A reinforced frame construction increases the allowable maximum mold weight by 22%* compared to conventional models. The unit accommodates larger and heavier molds.

●*Mean values of the SEEV-A-HD models.

- Comparison of allowable maximum mold weight -

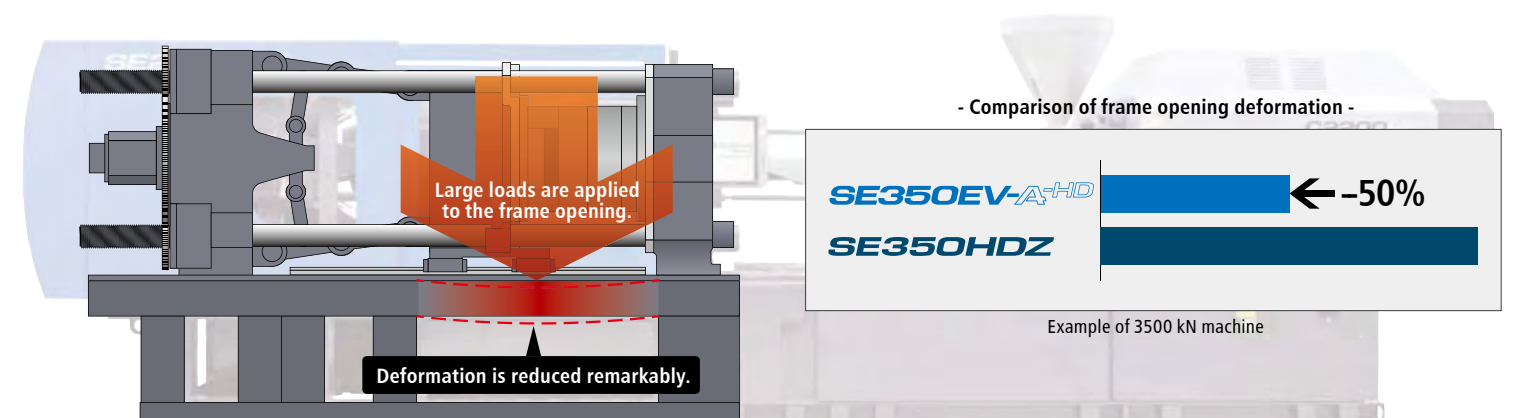


Assuming that the conventional models of the same class are 1.0

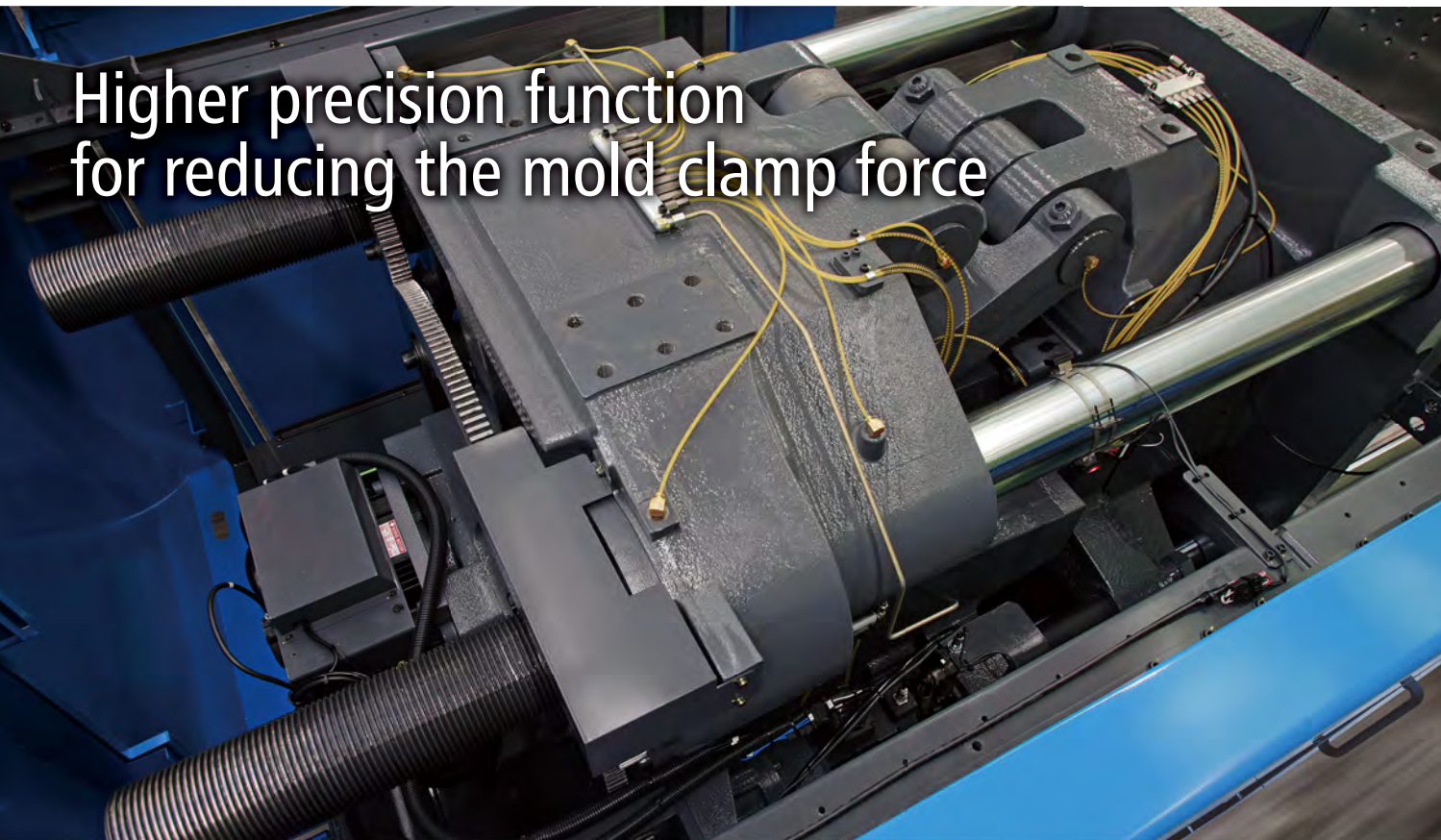


Reinforced frame

Deformation of the frame opening, which affects the mold posture when the mold is closed, is reduced by 50%. Improved linearity prevents wear and breakage of the guide pins.



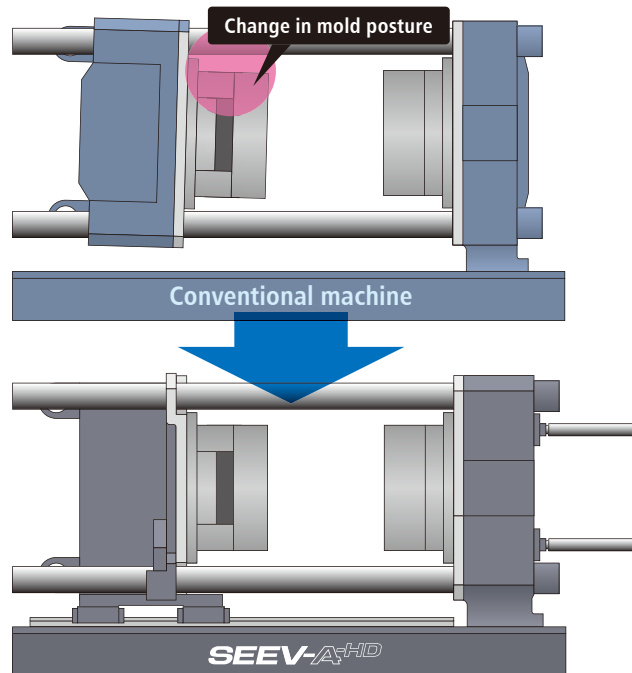
Higher precision function for reducing the mold clamp force



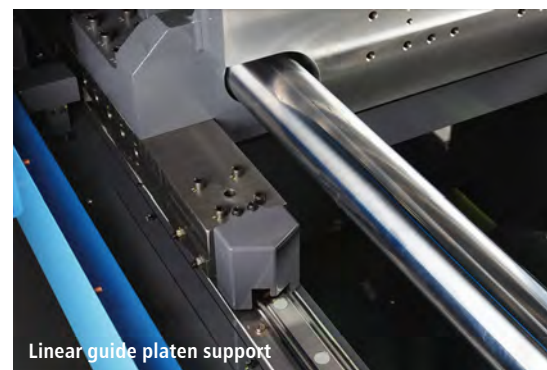
Linear guide platen support and bush-less tie bar

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



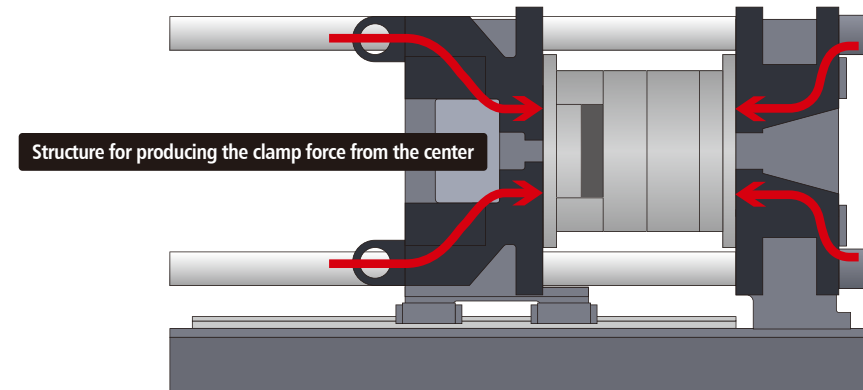
Change in the mold posture is reduced by 50% when the mold is opened. Accurate parallelism is maintained even when large heavy molds are opened or closed.



Double Center Press Platens

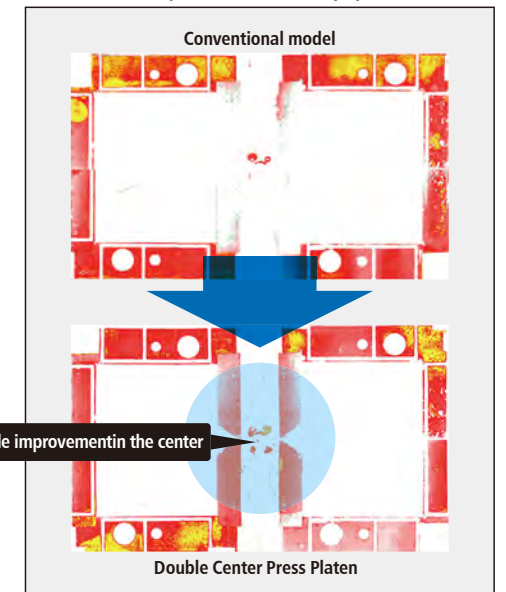
Center Press Platens evenly distribute the surface pressure applied to molds on both the movable and stationary sides as a standard feature. In addition, a newly designed structure reduces surface pressure variances in the center.

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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.

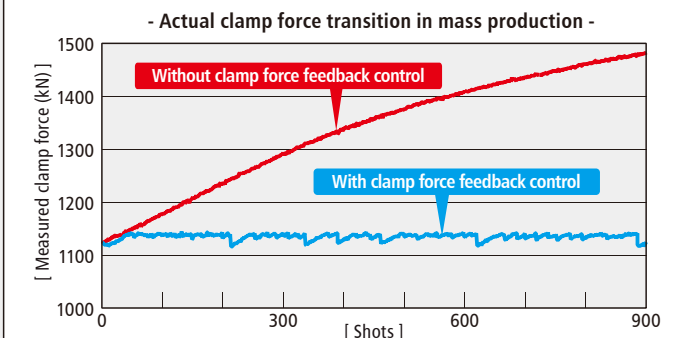
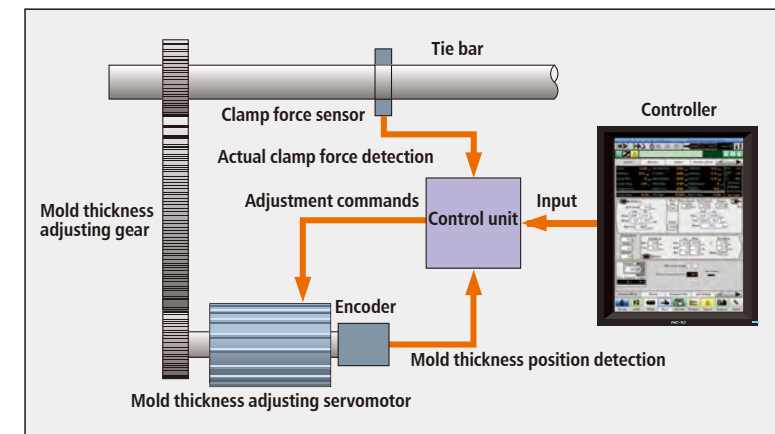
- Comparison of surface pressure distribution with pressure-sensitive paper -



Clamp force feedback control

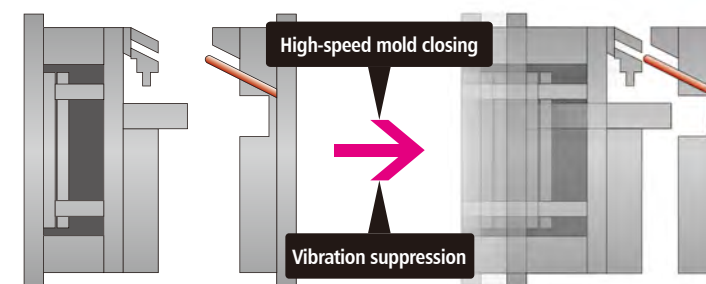
A high-performance servomotor is employed as the mold thickness movement motor to achieve $\pm 1\%$ feedback control. This enables mass production at the specified clamp force free of influences from the thermal expansion of molds.

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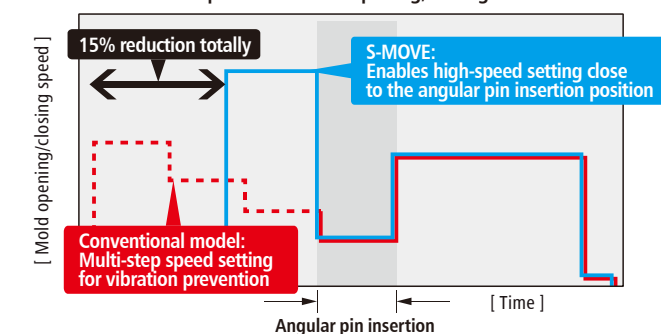
Adjustable-speed vibration suppressing control S-MOVE

While the motor accelerates and decelerates, smooth speed patterns are generated to reduce vibrations by 50% or less compared to conventional models.



The adjustable-speed vibration suppressing control S-MOVE allows greater speed control than conventional models near the pin insertion positions when using molds with angular pins.

- Comparison of mold opening/closing time -



Injection unit that increases the capacity



Screw selection applicable to large injection capacities

Large-diameter screws are added to the C1100 and larger-capacity plasticizing units. They are applicable to products requiring large injection capacities.

	Screw diameter (mm)	Maximum injection pressure (MPa)	Theoretical injection volume (cm ³)
C750	45	215	337
	50	174	416
C1100	50	230	510
	56	187	640
C1600	63	148	810
	56	230	714
C2200	63	188	904
	71	148	1148
C3000	63	216	997
	71	188	1266
C3000	80	148	1608
	71	216	1425
C3000	80	187	1809
	90	148	2290

● Needle valve nozzle cannot be selected for above portion in blue.

High-duty filling specification for thin-walled products

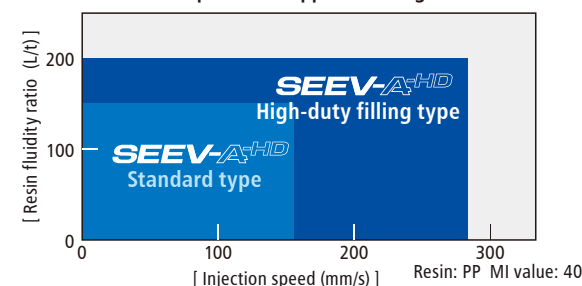
High-duty filling type models that greatly increase the maximum injection speed are available. They enable stable precision molding of thin-walled products.

- Maximum injection speed -

C750	Standard type	160 mm/s
C2200	High-duty filling type	280 mm/s
C3000	Standard type	160 mm/s
	High-duty filling type	220 mm/s

● The high-duty filling type models are optional.

- Comparison of applicable ranges -



Reducing defects, loss, and faults to zero whenever possible 'Zero-molding'

Standard equipment

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.

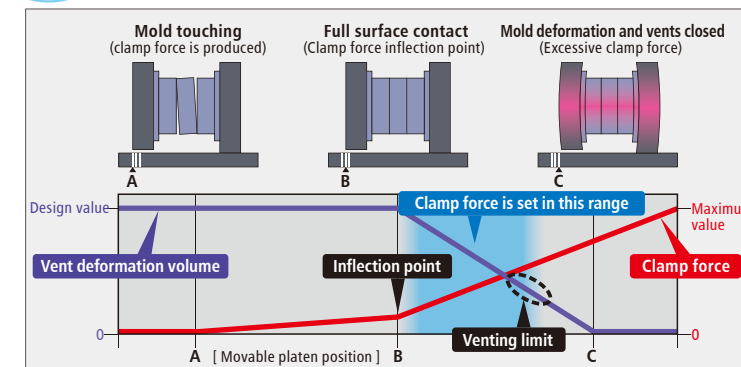


MCM
Minimum Clamping Molding

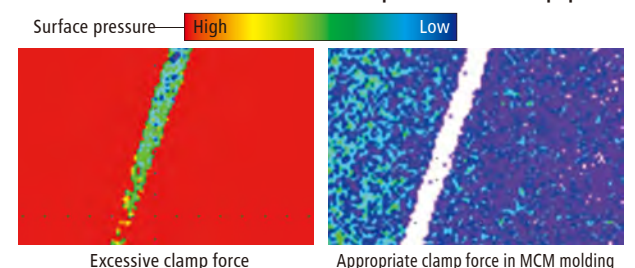
Making the best use of vent effects. Less maintenance and longer mold life.

Optimization of improved clamping accuracy and uniform surface pressure distribution yields the required minimum clamp forces with well-balanced surface pressure.

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- Observation of vent deformation with pressure-sensitive paper -



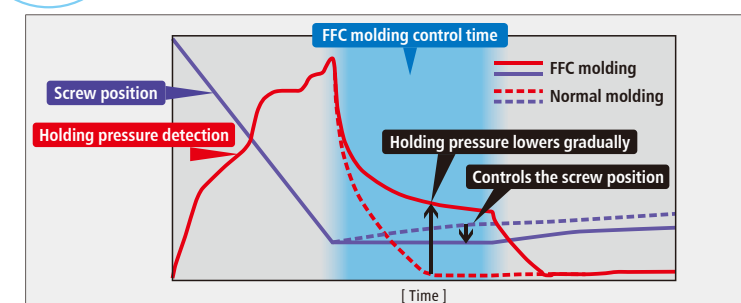
A high clamp force causes vent deformation and impedes the air and gas exhaust functions.

FFC
Flow Front Control

Low-pressure and smooth filling. Promotes gas discharge and improves cavity balance.

Quick-response control of speed and pressure before and after V-P switching achieves low-pressure and smooth, complete filling. It improves cavity balance and eliminates burrs and short shots at the same time.

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- Filling comparison at the same injection pressure -



The FFC molding enables complete filling without raising injection pressure.

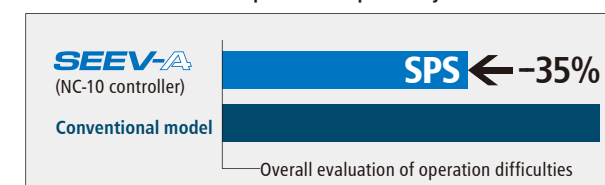
SPS
Simple Process Setting

Error-free and simple setting. Reduces operation time.

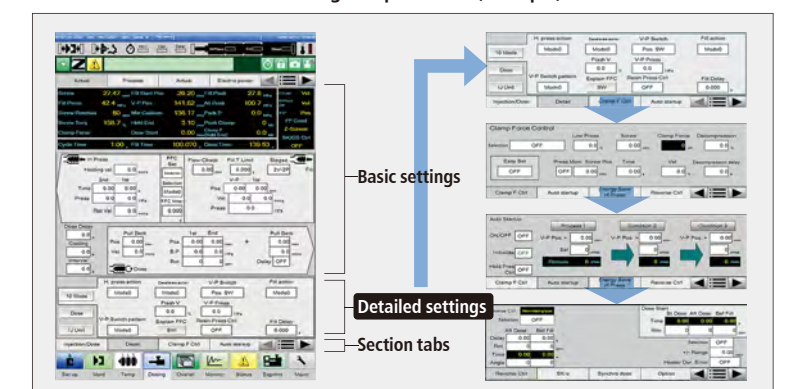
Troublesome settings are not required. Production engineers and general operators can make full use of the advanced performance.

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- Comparison of operability -



- Plasticizing setup window (Example) -



Controller links operators with the machine speedily and ergonomically

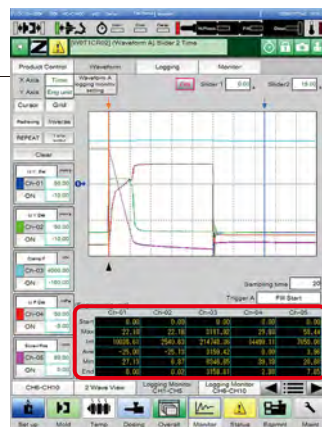


Evolved interface NC-10 controller

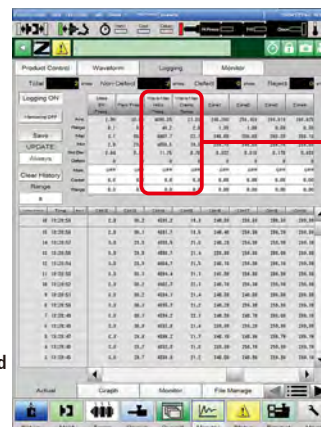
The new NC-10 controller in a human-centered design (HCD) housing has a large 15-inch color LCD panel that features high sensitivity for light-touch operations and a wide horizontal viewing angle. In addition, it employs a waveform display, quality control, and other functions for easy operations.

Waveform displays and quality control

Waveform items can be logged to improve the accuracy of quality control judgments.



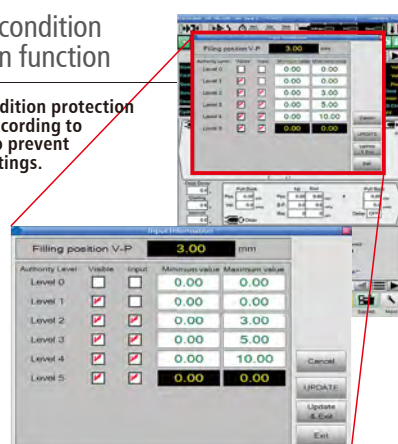
Statistical quantity of each item is calculated on the waveform window.



Enhanced judgment accuracy of monitored products on the logging window

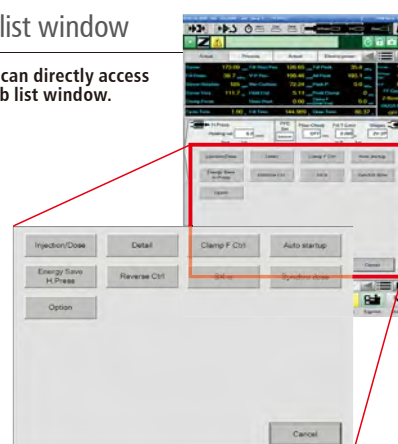
Molding condition protection function

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



Tab list window

Users can directly access the tab list window.



Language selection function

The NC-10 supports a maximum of 15 languages, including English, Spanish, Portuguese and Japanese, Chinese (Simplified/Traditional) and Korean.

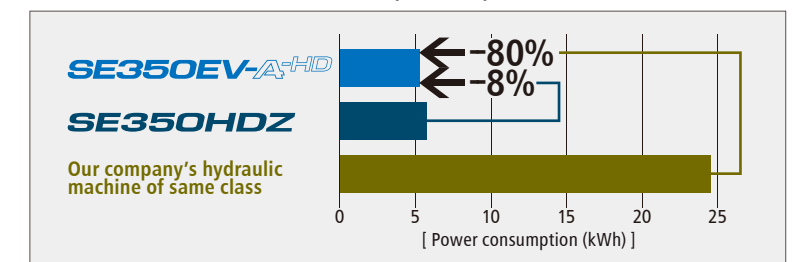
Substantial environmental performance



Thoroughgoing energy saving performances

Reduction of the clamp force achieved by zero-molding and improved mechanical efficiency derived from low-friction mechanisms, including the linear guide platen support, reduce power consumption compared to conventional all-electric machines.

- Power consumption comparison -

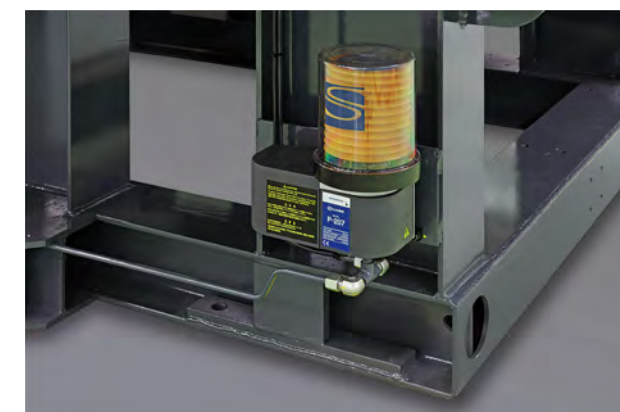
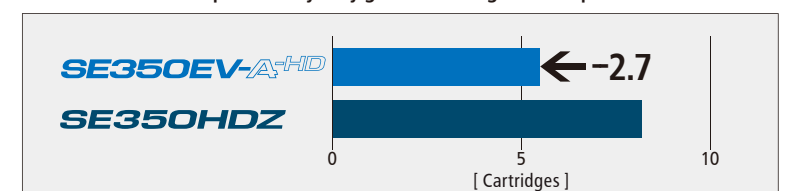


The power saving effects vary with the molding conditions.

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.

- Comparison of yearly grease cartridge consumption -



Standard Equipment

Plasticizing and injection unit
1. Standard 5D screw assembly (Open nozzle, nitride screw, wear resistant cylinder) (C750 is excluded)
2. Standard 5D screw assembly (Open nozzle, nitride screw) (For C750 only)
3. Programming control of injection
4. Programming control of holding pressure
5. Screw pull back (Before dose start/after dose end)
6. Screw position digital display (Setting 0.01 mm)
7. Holding pressure time 0.01 sec setting
8. V-P switchover controller (Pressure, position)
9. Filling delay timer
10. Auto purging with injection unit retract confirmation
11. Cylinder temperature control 6 zones (C750: 5 zones)
12. Cylinder temperature mode setting (Molding/Lowered/Purge)
13. Screw cold start prevention with variable timer
14. Sprue break stroke remote setting (With Detection of nozzle touch, moving time and delay timer)
15. Digital indicator of screw rotation speed
16. Purging cover (With limit switch)
17. Swivel injection unit (With nozzle center adjust device) (C750 is excluded)
18. Remaining cooling time indicator
19. Dose delay timer
20. Injection/Holding response 10-mode
21. Holding pressure speed setting
22. Pull back delay control
23. Synchro dose
24. Reverse control software
25. Temperature control for nozzle
26. Energy saving cylinder cover (Two layer structure)
27. Water cooling jacket temperature control device
28. Screw centering mechanism
29. Mold open operation during dose (Needle nozzle drive control)
30. Filling pressure multi-level control
31. Resin residence protection
32. One touch dose
33. High nozzle touch force and precision unit (Nozzle touch force : 3 stages changeable)

Control unit
1. 15-inch TFT Color LCD screen
2. Touch panel setting input device
3. Internal memory of molding conditions (200 conditions)
4. Operation support function
5. Forming support function
6. Molding profiles display function (Mold profiles storage, cursor, display and so on)
7. Screen snap shot function
8. Take-out robot connection circuit *3
9. 15 languages selection
10. Maintenance guide (Screen display of inspection timing, grease application timing, item, method)
11. Auto start/stop function (Lowered temp, heater on, machine shut down) *3
12. Process display function
13. SSR heater drive circuit
14. Input of industrial unit for speed, position, pressure and rotation rate
15. Machine status output signal (5ch.) *3
16. USB connection circuit (Memory)
17. Protection for molding condition
18. Abnormal processing selection
19. Initial reject and interruption reject function
20. Maintenance timing notification (Shot number/Elapsed time)
21. Screen color change
22. Number and character entry key layout change (Selection from two types)

Monitor unit
1. Actual value display function
2. Heater breakage monitor
3. Auxiliary facility monitor (3 ch.) *3
4. Abnormal monitor
5. Automatic setting for abnormality monitoring condition
6. Abnormality history display (Abnormal item, occurrence time display)
7. Quality control function (Actual value statistics function, various graphing function, 100,000 shots stored data check function)
8. Product control (Product quality control device, automatic production stop, stocker signal, logging, counter) *3
9. Auto start device (Heater, external output signal) *3
10. Cylinder heater temperature monitor (All zones)
11. Self diagnosis function
12. Alarm buzzer
13. Shot counter
14. Processing at cycle monitor abnormality (heater processing mode change)
15. List setting screen
16. Function to prevent use of monitor
17. Ejector torque monitoring

Clamp unit
1. Programmed control of mold opening/closing speed (5-step/3-step)
2. Mold protection
3. Low pressure clamp unit
4. Mold close/open temporary stop
5. Remote control of clamp force
6. Remote control of mold space
7. Ejector remote setting (2-speed control, pressure, stroke, delay timer, multiple time protrusions)
8. Current value input (Ejector protrusion limit position)
9. Current value input (Mold open limit position)
10. Mold clamp mode (Lock up)
11. Ejector protrusion interlock (Possible only at mold open limit during manual operation)
12. Ejector protrusion during mold opening
13. Ejector protrusion during mold closing
14. Ejector plate return signal (Input signal for molding machine) Connecting by metal concent *3
15. Mold close/mold open signal (Spear control signal) *3
16. Valve gate drive circuit (Control circuit only) *3
17. Mold installation preparation mode (Low speed mold open/close)
18. Toggle cover with polycarbonate sheet
19. Emergency stop push button switch (Operation side, opposite to operation side)
20. Safety door with polycarbonate sheet
21. Hole to install unloader
22. Mold clamp and ejection grease supply pipe
23. Mold clamp safety device (Electric type, mechanical type)
24. Mold open/close low vibration/high speed mode selection function
25. Moving platens support device -- linear guide
26. Double center press platen
27. Ejected products sensor circuit *3
28. Multi-toggle
29. Tie bar plating
30. Ejector unit with brake
31. S-MOVE (Low vibration control)
32. Ejector waiting
33. Mold thickness servo control

Others
1. Auto grease supply unit (Cartridge grease type)
2. Mold cooling water block (2 systems) (Flow indicator and valve are options)
3. Standard tool (Offset wrench for nozzle)
4. Standard spare parts (Set screw with hexagonal hole, ring, filter)

Optional Equipment

Plasticizing selection
1. Hard chromium plating screw assembly
2. Wear/corrosion resistant screw assembly (C750 is excluded)
3. Wear & corrosion resistant A screw assembly
4. Wear & corrosion resistant B screw assembly
5. SM screw assembly
6. Needle valve nozzle (Air type nozzle open/close cylinder) (C750 is excluded)
7. Extension nozzle
8. Cylinder nozzle
9. Z1 High capacity heater
10. Needle valve shut off nozzle (Air type nozzle open/close cylinder) (For C750 only)

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 plasticization (Not applied to C750)
8. Purge resin receiving tray (Stainless steel)
9. Heater for PA (Nylon) resin
10. High filling specification *1
11. Power module for thick-wall molding

Control and monitor unit
1. Leak circuit breaker (AC200V, 220V 3φ3W+E) (Japan and Asia only)
2. Mold temperature monitoring (K type)
3. Mold temperature monitoring (I type)
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. Electric power supply socket
12. Power source outlet for tool
13. Motion07
14. Emergency stop interlock (Unloader, cart) *3
15. DC24V power for external signal equipped (Power source only)

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) *4
9. Die Clamp control unit
10. Valve gate drive circuit & control circuit
11. Locate diameter 100 mm (Applied to screw dia. ø45 -- ø56)
12. Full metallic toggle cover
13. Hydraulic package
14. SPI pattern platen
15. EUROMAP pattern platen
16. Locating ring (Cooling fit, bolted)
17. Safety door automatic open/close device (Operation side)
18. Safety door automatic open/close device (Opposite to operation side)
19. Mold space extension 100 mm *2
20. Mold space extension 200 mm *2
21. T groove platen
22. Slide core return check *3
23. Hydraulic drive circuit (Built-in)
24. Dust prevention cover above toggle (Fixed type) *2
25. Dust prevention cover above toggle (Slide type) *2
26. Hydraulic drive circuit (Separate type)
27. Increased ejector force
28. Multi air
29. Mold clamp connection circuit *3
30. Magnet clamp connection circuit *3
31. Safety door release specification control circuit
32. Safety door wide expansion (100 mm) opposite to operation side *4
33. Cooling water pipe 2 systems 8 branches

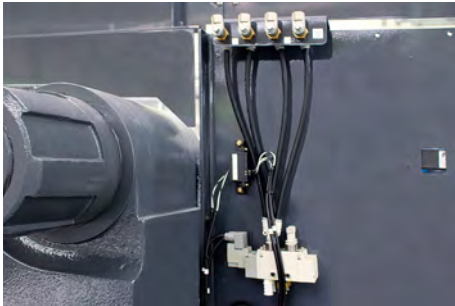
Spare parts and accessories
1. Spare parts (Mechanical parts: Mechanical stopper, lub. parts)
2. Spare parts (Electrical parts: Thermocouple)
3. Spare parts for export. (Encoder, limit switch, and inductive proximity sensors)
4. Leveling pads (For one machine)
5. Anchor bolts (For one machine)
6. Locating ring (Transition fit)
7. Tool A (Tool, tool box, rocol paste)
8. Ejector rods
9. Grease gun
10. Grease cartridge for automatic lub (700 cc)
11. Grease cartridge for manual lub (400 cc)
12. Injection unit turning handle
13. Tool for disassembly screw tip set
14. Easy Clamp

Zero-molding features	
1. Zero-molding main screen: Simple process setting	17. Decomp. by Revers after plasticizing
2. Zero-molding main screen : Product molding monitor (Product count, process, abnormal, detect)	18. Zero-molding: Clamp force feed back
3. Screen for confirm spec. and functions (Standard, option, abnormal transaction, specification list, monitoring system)	19. MULTI clamp force control (X_head pos. control)
4. Minimum clamp force detect (Automatic)	20. Multi-toggle by objective (Gas release, deformation prevention)
5. Setup guidance: Mold installation screen (Mold thickness, mold contact, clamp force, mold open/close in preparations, ejector)	21. Zero-molding: Molding condition guidance monitor (Peak clamp force, pack press., situation monitor)
6. Setup guidance: Mold condition setting screen (Open/close, ejector multi-step)	22. Detect monitor change (Detect, detail, detect+real time, wave, temp. graph)
7. Setup guidance: Teaching of mold opening limit and ejector protrusion point (Actual value input)	23. Protection for molding condition
8. Setup guidance: Mold protection setting screen (Mold protection, ejector protection)	24. Initial molding by auto change (Condition)
9. SET-UP guidance: Multi purge	25. Protection: Screw protection
10. SET-UP guidance: Reference & call temp. condition	26. Wave: Display by process (Injection, holding press., plasticizing., mold open, mold close, ejector)
11. SET-UP guidance: Supervise & warning remain resin	27. Wave: Wave preservation message
12. SET-UP guidance: Nozzle/Heating cylinder heated up mode (Step/Nozzle delay)	28. Quality Control: Wave distinction
13. Zero-molding: Molding condition setting screen Z-Screen (Filling, holding press., plast.time, temp.,clamp force)	29. Quality Control: Molding process monitor logging
14. Zero-molding: Flash control	30. Production control: Production count control (Cavity count setting)
15. Zero-molding: Flash control auto setting	31. Production control: Operation status control (Operation time, motor over load monitor, electricity consumption monitor)
16. Zero-molding: Short shot mode by Flash control	

*1 The max. injection speed differs as follows; C750 - C2200: 280 mm/s, C3000: 220 mm/s.
*2 The extended distance is added to the machine dimensions. Please refer to the drawing of machines.
*3 All input and output signals are no-voltage contact signals. Power is not supplied with output signals.
*4 The max. width is 1000 mm for SE350EV-A-HD - SE500EV-A-HD.
● Specifications are subject to change without notice for performance improvement.

Clamp unit 28

Multiple air



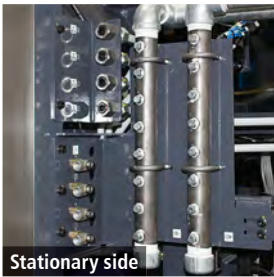
This equipment greatly increases the ease with which products can be extracted by integrating an air ejector and cavity ventilator. It comes with up to 4 pneumatic control circuits.

Clamp unit 32, 35

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



Moving side



Stationary side

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

Main Specifications

Item	Unit	SE220EV-AHD	SE250EV-AHD
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■ Clamp unit

Clamp system		Double toggle (5 points)			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)	(1275)			(1325)		
	(Mold thickness extension 200 mm)	(1375)			-		
Mold opening stroke	mm	575			625		
Platen speed	mm/s	1349			1431		
Mold thickness (min. - max.)		200 ~ 600			200 ~ 600		
	(Mold thickness extension 100 mm)	(200 ~ 700)			(200 ~ 700)		
	(Mold thickness extension 200 mm)	(200 ~ 800)			-		
Locating ring diameter		ø120			ø120		
	(When the option is selected)	(ø100)			(ø100)		
Ejecting points		13 points			13 points		
Ejector force		60			60		
	(Ejector force strengthening)	(100)			(100)		
Ejector speed	mm/s	267			267		
Ejector stroke	mm	220			220		
Mold loading max.		2800			2800		
	(Moving side max.)	(1850)			(1850)		

■ Injection unit

Plasticizing capacity		C750		C1100			C750		C1100		
		M		L			M		L		
Screw diameter	mm	45	50	50	56	63	45	50	50	56	63
Injection pressure max. *1,*2	MPa	215	174	230	187	148	215	174	230	187	148
Holding pressure max. *1,*2	MPa	215	174	230	187	148	215	174	230	187	148
Theoretical injection capacity	cm³	337	416	510	640	810	337	416	510	640	810
Injection mass (GPPS)	g	323	399	490	614	778	323	399	490	614	778
Plasticizing rate *3	kg/h	98	134	151	192	227	98	134	151	192	227
Injection rate	cm³/s	254	314	314	394	498	254	314	314	394	498
(High speed filling)		(445)	(549)	(549)	(689)	(872)	(445)	(549)	(549)	(689)	(872)
Screw stroke	mm	212		260			212		260		
Injection speed max.	mm/s	160			160						
(High speed filling)		(280)			(280)						
Screw rotating speed max.	min ⁻¹	250			250						
Number of temperature control zone		5		6			5		6		
Heater capacity	kW	11.1	12.2	19.2	21.1	28.4	11.1	12.2	19.2	21.1	28.4
Nozzle contact force	kN	43		58			43		58		
Injection moving stroke	mm	395			395						
Protrusion	mm	65			65						
Hopper capacity (When the standard hopper selected)	L	(50)		(100)			(50)		(100)		

■ Machine dimensions and mass

Machine dimensions (LxWxH) *4	mm	6466 x 1832 x 2025		6566 x 1832 x 2025	
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. The total hight does not include leveling pads and standard hopper.
When the mold space extension or the safety door wide expansion (100 mm, opposite to operation side) or the dust prevention cover above toggle is selected, that extended distance is added to the machine dimensions. Please refer to the drawing of machines.
● Specifications are subject to change without notice for performance improvement.

Item	Unit	SE280EV-A-HD	SE315EV-A-HD
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■ Clamp unit

Clamp system		Double toggle (5 points)			Double toggle (5 points)		
Clamp force	kN	2800			3150		
Clearance between tie-bars (WxH)	mm	730 x 730			730 x 730		
Platen size (WxH)	mm	1020 x 1020			1020 x 1020		
Daylight		1275			1325		
	(Mold thickness extension 100 mm)	(1375)			(1425)		
	(Mold thickness extension 200 mm)	(1475)			-		
Mold opening stroke	mm	625			675		
Platen speed	mm/s	1298			1394		
Mold thickness (min. - max.)		300 ~ 650			300 ~ 650		
	(Mold thickness extension 100 mm)	(300 ~ 750)			(300 ~ 750)		
	(Mold thickness extension 200 mm)	(300 ~ 850)			-		
Locating ring diameter		ø150			ø150		
	(When the option is selected)	(ø100 / ø120)			(ø100 / ø120)		
Ejecting points		13 points			13 points		
Ejector force		60			60		
	(Ejector force strengthening)	(100)			(100)		
Ejector speed	mm/s	267			267		
Ejector stroke	mm	220			220		
Mold loading max.		3800			3800		
	(Moving side max.)	(2500)			(2500)		

■ Injection unit

Plasticizing capacity		C1100			C1600			C2200			C1100			C1600			C2200		
		L			L			L			L			L			L		
Screw diameter	mm	50	56	63	56	63	71	63	71	80	50	56	63	56	63	71	63	71	80
Injection pressure max. *1,*2	MPa	230	187	148	230	188	148	216	188	148	230	187	148	230	188	148	216	188	148
Holding pressure max. *1,*2	MPa	230	187	148	230	188	148	216	188	148	230	187	148	230	188	148	216	188	148
Theoretical injection capacity	cm³	510	640	810	714	904	1148	997	1266	1608	510	640	810	714	904	1148	997	1266	1608
Injection mass (GPPS)	g	490	614	778	685	867	1102	957	1216	1544	490	614	778	685	867	1102	957	1216	1544
Plasticizing rate *3	kg/h	151	192	227	192	227	230	227	230	303	151	192	227	192	227	230	227	230	303
Injection rate		314	394	498	394	498	633	498	633	804	314	394	498	394	498	633	498	633	804
	(High speed filling)	(549)	(689)	(872)	(689)	(872)	(1108)	(872)	(1108)	(1407)	(549)	(689)	(872)	(689)	(872)	(1108)	(872)	(1108)	(1407)
Screw stroke	mm	260			290			320			260			290			320		
Injection speed max.		160			160			160			160			160			160		
	(High speed filling)	(280)			(280)			(280)			(280)			(280)			(280)		
Screw rotating speed max.	min ⁻¹	250			200	250	200	250			200	250	200	250			200	250	200
Number of temperature control zone		6			6			6			6			6			6		
Heater capacity	kW	19.2	21.1	28.4	21.1	28.4	30.5	28.4	30.5	34.6	19.2	21.1	28.4	21.1	28.4	30.5	28.4	30.5	34.6
Nozzle contact force	kN	58			58			58			58			58			58		
Injection moving stroke	mm	420			420			420			420			420			420		
Protrusion	mm	65			65			65			65			65			65		
Hopper capacity (When the standard hopper selected)	L	(100)			(100)			(100)			(100)			(100)			(100)		

■ Machine dimensions and mass

Machine dimensions (LxWxH) *4	mm	7236 x 1972 x 2059		7336 x 1972 x 2059	
Machine mass	t	15.0	15.1	15.7	15.7

Main Specifications

Item	Unit	SE350EV-A ^{HD}	SE385EV-A ^{HD}
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■ 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	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 the option is selected)	(ø100 / ø120)				(ø100 / ø120)			
Ejecting points		13 points				13 points			
Ejector force		60				60			
	(Ejector force strengthening)	(100)				(100)			
Ejector speed	mm/s	267				267			
Ejector stroke	mm	220				220			
Mold loading max.		5200				5200			
	(Moving side max.)	(3450)				(3450)			

■ Injection unit

Plasticizing capacity		C1100			C1600			C2200			C1100			C1600			C2200		
		L			L			L			L			L			L		
Screw diameter	mm	50	56	63	56	63	71	63	71	80	50	56	63	56	63	71	63	71	80
Injection pressure max. *1,*2	MPa	230	187	148	230	188	148	216	188	148	230	187	148	230	188	148	216	188	148
Holding pressure max. *1,*2	MPa	230	187	148	230	188	148	216	188	148	230	187	148	230	188	148	216	188	148
Theoretical injection capacity	cm³	510	640	810	714	904	1148	997	1266	1608	510	640	810	714	904	1148	997	1266	1608
Injection mass (GPPS)	g	490	614	778	685	867	1102	957	1216	1544	490	614	778	685	867	1102	957	1216	1544
Plasticizing rate *3	kg/h	151	192	227	192	227	230	227	230	303	151	192	227	192	227	230	227	230	303
Injection rate	cm³/s	314	394	498	394	498	633	498	633	804	314	394	498	394	498	633	498	633	804
(High speed filling)		(549)	(689)	(872)	(689)	(872)	(1108)	(872)	(1108)	(1407)	(549)	(689)	(872)	(689)	(872)	(1108)	(872)	(1108)	(1407)
Screw stroke	mm	260			290			320			260			290			320		
Injection speed max.	mm/s	160									160								
(High speed filling)		(280)									(280)								
Screw rotating speed max.	min ⁻¹	250				200	250	200		250				200	250	200			
Number of temperature control zone		6									6								
Heater capacity	kW	19.2	21.1	28.4	21.1	28.4	30.5	28.4	30.5	34.6	19.2	21.1	28.4	21.1	28.4	30.5	28.4	30.5	34.6
Nozzle contact force	kN	58									58								
Injection moving stroke	mm	450									450								
Protrusion	mm	65									65								
Hopper capacity (When the standard hopper selected)	L	(100)									(100)								

■ Machine dimensions and mass

Machine dimensions (LxWxH) *4	mm	7446x 2072 x 2147			7546 x 2072 x 2147		
Machine mass	t	17.2	17.3	17.9	17.3	17.4	18.0

*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. The total height does not include leveling pads and standard hopper.
When the mold space extension or the safety door wide expansion (100 mm, opposite to operation side) or the dust prevention cover above toggle is selected, that extended distance is added to the machine dimensions. Please refer to the drawing of machines.
● Specifications are subject to change without notice for performance improvement.

Item	Unit	SE450EV-A ^{HD}	SE500EV-A ^{HD}
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■ Clamp unit

Clamp system		Double toggle (5 points)				Double toggle (5 points)			
Clamp force	kN	4500				5000			
Clearance between tie-bars (WxH)	mm	920 x 920				920 x 920			
Platen size (WxH)	mm	1300 x 1300				1300 x 1300			
Daylight		1625				1675			
	(Mold thickness extension 100 mm)	(1725)				(1775)			
	(Mold thickness extension 200 mm)	(1825)				-			
Mold opening stroke	mm	825				875			
Platen speed	mm/s	1109				1167			
Mold thickness (min. - max.)		350 ~ 800				350 ~ 800			
	(Mold thickness extension 100 mm)	(350 ~ 900)				(350 ~ 900)			
	(Mold thickness extension 200 mm)	(350 ~ 1000)				-			
Locating ring diameter		ø150				ø150			
	(When the option is selected)	(ø100 / ø120)				(ø100 / ø120)			
Ejecting points		21 points				21 points			
Ejector force		100				100			
	(Ejector force strengthening)	(150)				(150)			
Ejector speed	mm/s	267				267			
Ejector stroke	mm	220				220			
Mold loading max.		7500				7500			
	(Moving side max.)	(5000)				(5000)			

■ Injection unit

Plasticizing capacity		C2200			C3000			C2200			C3000		
		L			L			L			L		
Screw diameter	mm	63	71	80	71	80	90	63	71	80	71	80	90
Injection pressure max. *1,*2	MPa	216	188	148	216	187	148	216	188	148	216	187	148
Holding pressure max. *1,*2	MPa	216	188	148	216	187	148	216	188	148	216	187	148
Theoretical injection capacity	cm³	997	1266	1608	1425	1809	2290	997	1266	1608	1425	1809	2290
Injection mass (GPPS)	g	957	1216	1544	1368	1737	2198	957	1216	1544	1368	1737	2198
Plasticizing rate *3	kg/h	227	230	303	230	303	390	227	230	303	230	303	390
Injection rate	cm³/s	498	633	804	633	804	1017	498	633	804	633	804	1017
		(872)	(1108)	(1407)	(871)	(1105)	(1399)	(872)	(1108)	(1407)	(871)	(1105)	(1399)
Screw stroke	mm	320			360			320			360		
Injection speed max.	mm/s	160						160					
		(280)			(220)			(280)			(220)		
Screw rotating speed max.	min ⁻¹	250	200					250	200				
Number of temperature control zone		6						6					
Heater capacity	kW	28.4	30.5	34.6	30.5	34.6	35.0	28.4	30.5	34.6	30.5	34.6	35.0
Nozzle contact force	kN	58						58					
Injection moving stroke	mm	495						495					
Protrusion	mm	65						65					
Hopper capacity (When the standard hopper selected)	L	(100)						(100)					