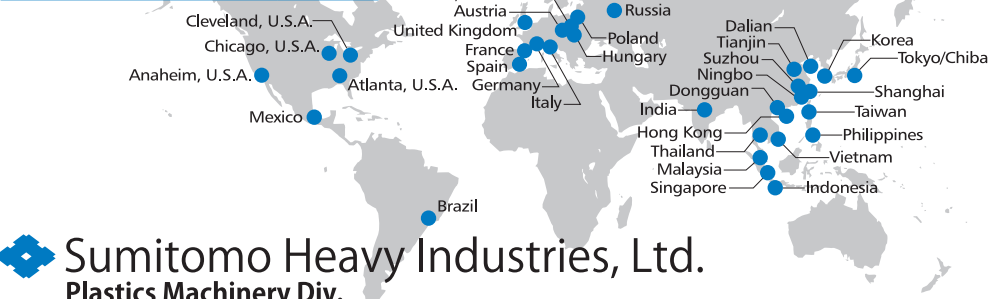


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Packaging Series

Injection Molding Machine



Packaging Series

Injection Molding Machine

Your total packaging solutions!



www.shi.co.jp/plastics/



Sumitomo Heavy Industries, Ltd.

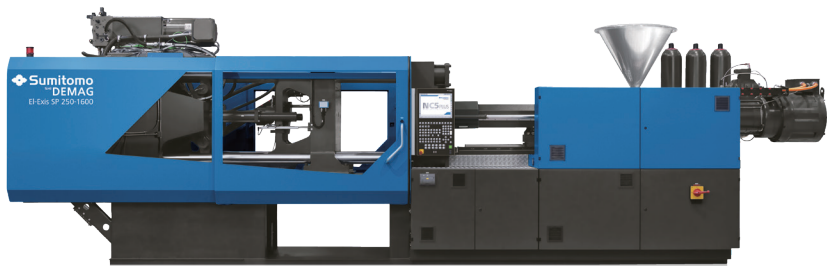
To meet high demand of packaging products.

Fast, precise, reliable
Injection tailored to fit the production environment

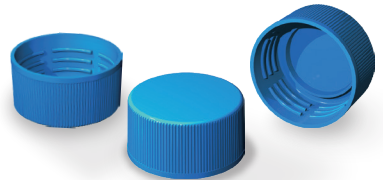
By studying of feedback from production-site, We challenged in development of packaging machine that incorporate cutting-edge ideas and highly reliable technology.
Packaging machine developed to ideally suit the production environment.

Cycle Time

Short



EI-Exis SP.



Bottle cap



SE-HSZ *Packaging spec.*
Detailed molds → P08



Drinking cups



SE-HSZ *Standard spec.*
Detailed molds → P10



Thin-walled containers



SE-EV-A-HD *CT-6 spec.*
Detailed molds → P12



General use and containers • Cutlery



SE-EV-A-HD *Standard spec.*



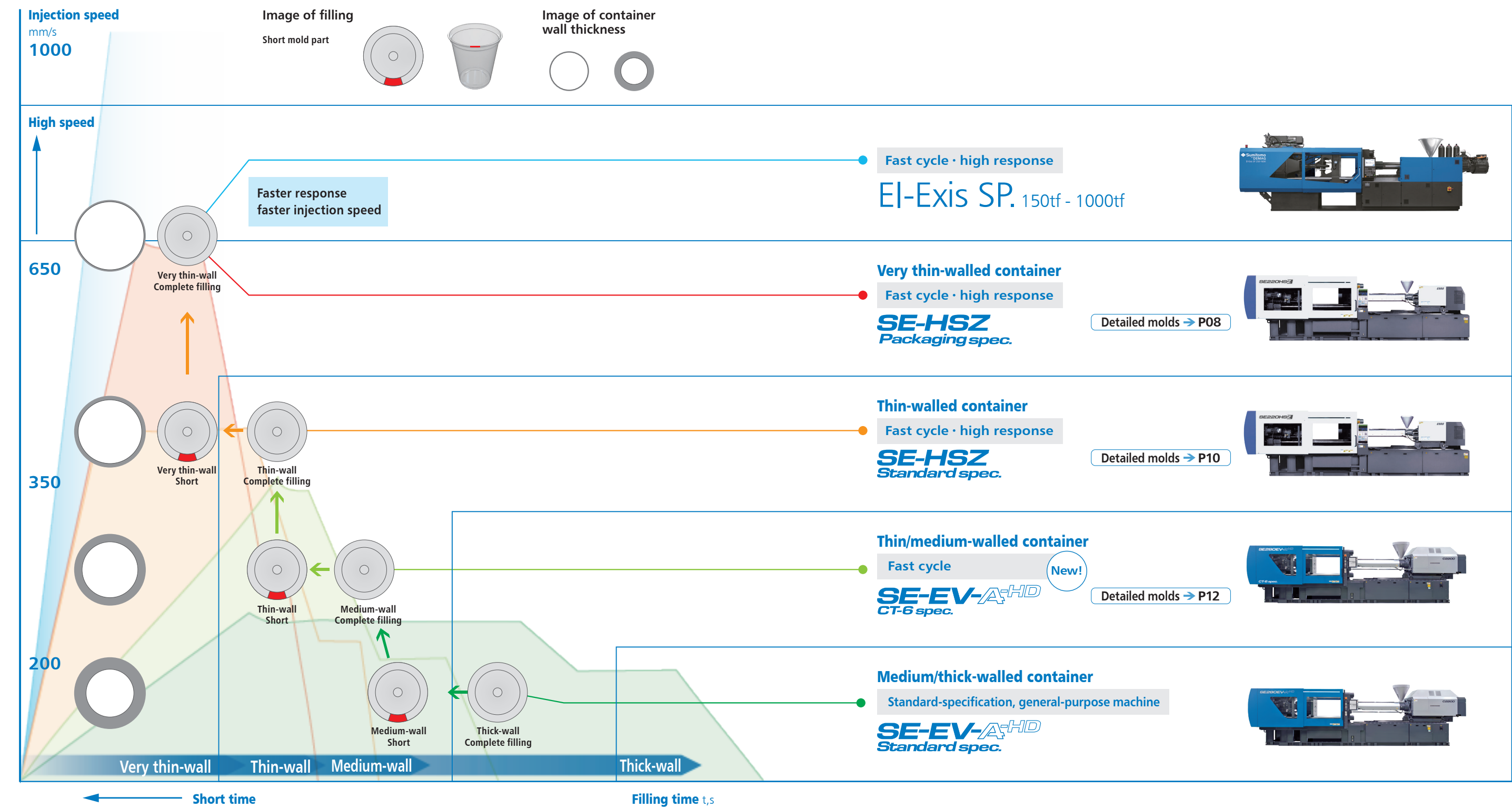
Thick-walled containers
Cosmetic containers

Machine Series

Injection performance ideal for container molding

Molding machines available to suit product needs

Products that requires fast filling and startup response (high response).
High injection speed and pressure response, allows complete fill before molded parts solidify.
Each model is tailored to work at its ideal injection performance to match each product segment.



Container molding machine specially designed to fulfill customer needs

Fast cycle, high response, stable: the performance demanded by professionals.
A variety of needs and applications, with proven technology.
A line-up of products to fulfill specific demands.

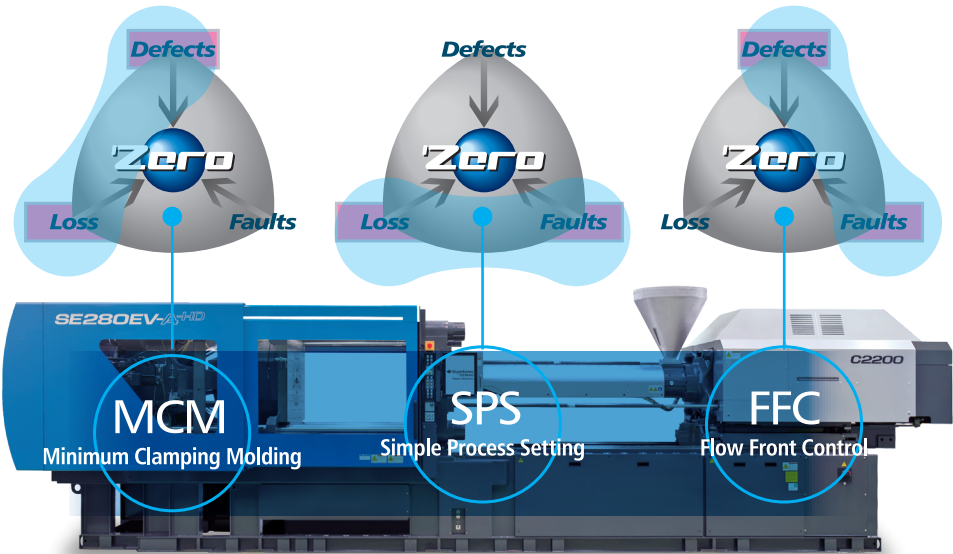
3 key features

- 1 Productivity (high cycle and high durability)
- 2 Stability and reproducibility (improved yield)
- 3 Optimized production costs (line-up of energy-saving models)

Zero-molding function good for container molding

Zero-molding is an application to bring defects, losses, and faults to target zero. It is composed of three factors: **MCM** technology for mold clamping, **FFC** technology for filling, and an **SPS** system that enables both of the above to be operated with ease.

For container molding, this contributes to realize optimal cavity balance and reduce mold clamping force.



These three technologies cut down defect, loss, and faults to almost zero

Molding machine available to best match product design and also capacity of production.

As such, it differs not only based on the wall thickness and shape of the container, but also the production volume and projected cost. The following is an illustration of an actual recommended molding machine example. We offer the ideal molding machine to fit your specific needs.

Drinking cup — Example of machine selection with different injection rates

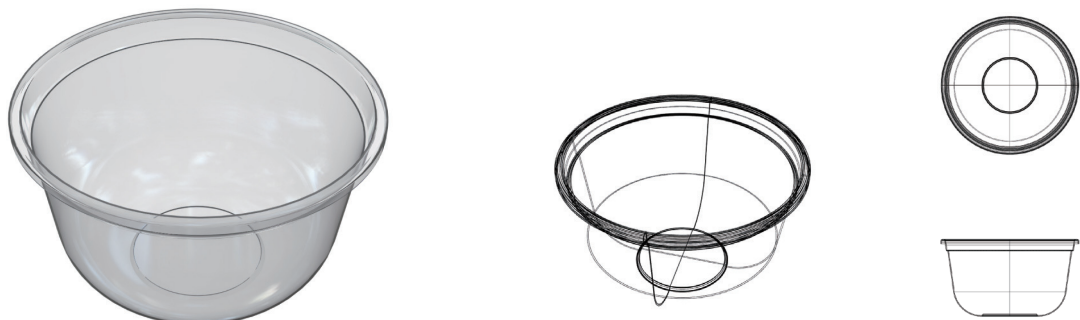


Data

Thickness	0.60mm
Weight	30g
Resin	PP
L/T	225

×8 → **SE-HSZ** *Packaging spec.*
×6 → **SE-HSZ**
×4 → **SE-EV-A-HD** *CT-6 spec.*

Dessert cup — Example of cavity decision by injection rate



Data

Thickness	0.55mm
Weight	5g
Resin	PP
L/T	132
Cavities	8

4.0Sec → **SE-HSZ** *Packaging spec.*
6.0Sec → **SE-EV-A-HD** *CT-6 spec.*

*The yield rate is based on proven performance in injection rate and responsiveness.

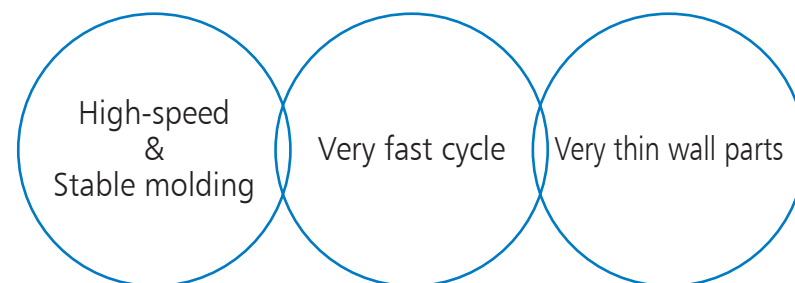
SE-HSZ *Packaging spec.*

Dedicated high-performance container molding.



Abundant features good for packaging parts molding performance

SE-HSZ, with dramatically improved container molding performance. Significantly improved stability and power saving when compared to conventional hybrid and hydraulic models. Also, fast cycle achieved sub 3 seconds for multiple-cavity very thin-walled containers. Important factor of dedicated packaging machines are reliability, and capability to mold thin-wall parts at fast cycle time.



Line up

SE280HSZ *Packaging spec.* (2740kN)
SE350HSZ *Packaging spec.* (3430kN)

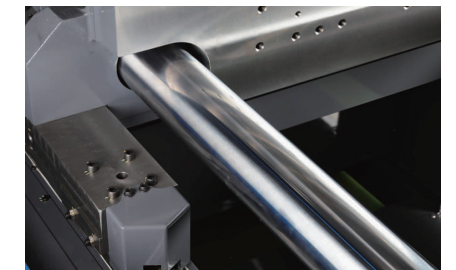
Dedicated equipment ideal for fast-cycle, thin-wall molding

Realizes remarkably high performance thanks to a high-speed, low-vibration clamp unit, a high-speed, high-response injection unit, and a screw with ample plasticizing performance. Dedicated equipment that not only facilitates fast cycle, but also enables stable and consistent production.

Fast, smooth (high-speed) and safe, high-performance clamp unit

Clamp unit that maintains low vibration even at fast open and close operation. Realizes uniform and stable clamping force thanks to DCP (double center press platen) design and mold clamp force feedback control. The high-rigidity frame designed with Linear-guide specification significantly improves linear movement of mold. Also, highly sensitive mold protecting mechanism helped to ensure safe and comfortable production.

Dry cycle time reduced by **15%** compared to SE-HSZ



Injection unit with high-speed filling and easy to mold

A maximum injection speed of 650 mm/s, thanks to double-axis direct drive design which is essential to fast speed response. Cavity balance and reduced pressure of filling has been drastically improved through utilization of Zero-molding.

Injection speed
650mm/s
 C1250 / C1700
550mm/s
 C2500



Plasticizing unit with high plast rate and precise dosing.

High plasticizing rate and precise dosing performance, enabled least shot-to-shot molding variation. The dedicated SM screw with low shear, minimize resin-burnt or gas-generation, hence, contamination (foreign materials, carbonization) rate drastically reduced too.

*SD, SF, and Long-L/D screw are available as selective options.

Even at low temperature settings SM screw design with sub-flight design enable homogeneous melt, and also reduce generation of gas.

Thorough degassing even without excessive shear. Improves kneading.



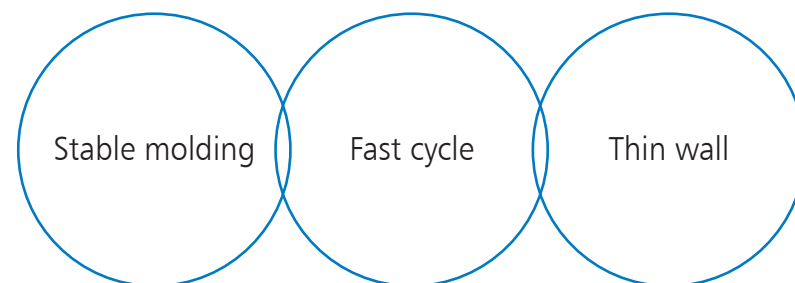
SE-HSZ

Fast cycle machine for packaging-use.



Zero-molding for fast cycle

Specially equipped with a linear guide and anti-shock leveling pads ideal for fast cycle molding, with a focus on Zero-molding to improve consistency of production. Thin-wall, fast cycle and stable molding realized.



Line up

SE220HSZ (2150kN)
SE280HSZ (2740kN)
SE350HSZ (3430kN)

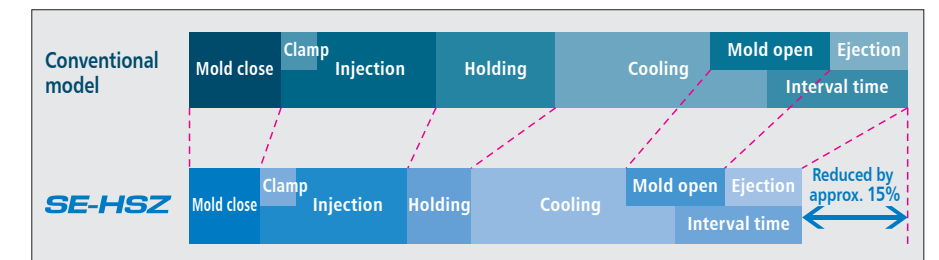
The apex of stable and fast-cycle molding

Fast cycle molding far surpassing the performance of conventional models, thanks to improved injection speed, better responsiveness, shorter process time, and precise control. Machine high performance enables comfortable, fast cycle production.

Zero-molding, first time introduced as standard feature, has won "tender and easy" to molds widely.

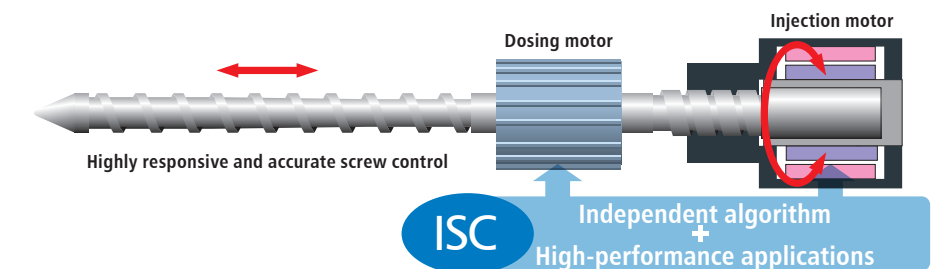
Achieves an average of 15% cycle time reduction when compared to conventional model through improved injection speed, FFC molding, and faster mold open and close via ISC.
 For FFC (flow front control) molding, extra holding time previously required to prevent sink marks can now be reduced to zero, which contributes to productivity.

Injection speed
350mm/s



ISC (intelligent servo control) system for improving productivity

Faster mold open/close realized, reduced machine vibration, and improved molding stability through use of a new control algorithm. Improved servo control performance reduces variation in cushion position and peak pressure, enabling precise plasticizing, filling, and holding process.



Direct drive that realizes precise fast cycle molding

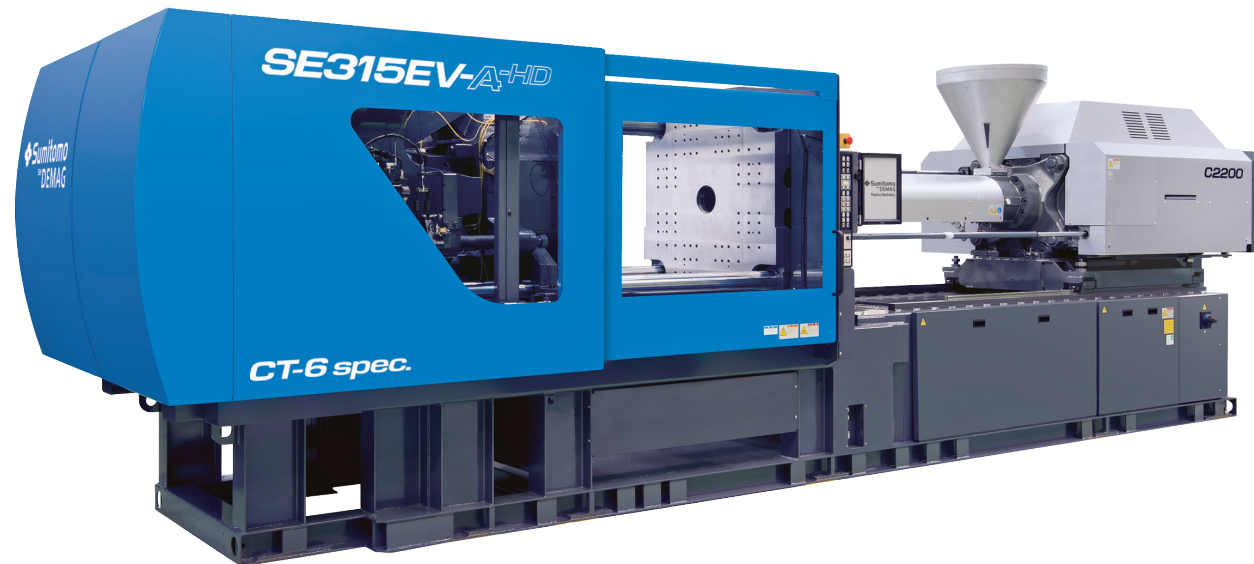
The injection unit utilizes a unique direct drive mechanism. Approx. 2.5 times faster injection velocity response than belt driven type. Enables more precise fast cycle molding, as high speed and pressure can be controlled instantaneously. Injection unit from C1250 to C1700 utilized a double-axis synchronized direct drive mechanism with compact design, in order to achieve higher response performance.



First-generation servo motor (stator)

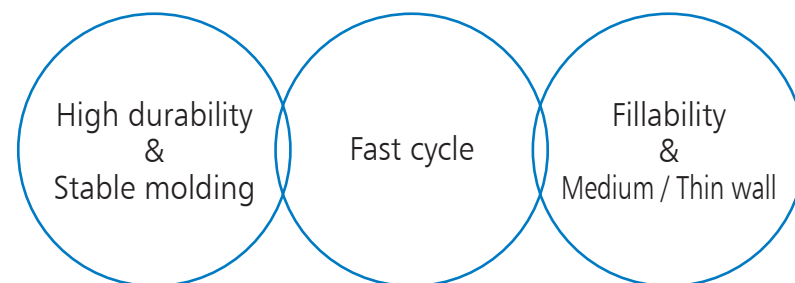
SE-EV-A-HD CT-6 spec.

High cost performance fast cycle machine



Fast cycle machine based on SE-EV-A-HD

The highly rated SE-EV-A-HD series has been enhanced with high-cycle features for packaging use. Combined with space-saving concepts and abundant line-up of base models, injection performance, as well as durability has been improved. New proposal to high cost performance fast cycle molding.



Line up

SE220EV-A-HD CT-6 spec. (2200kN)	SE350EV-A-HD CT-6 spec. (3500kN)
SE250EV-A-HD CT-6 spec. (2500kN)	SE385EV-A-HD CT-6 spec. (3850kN)
SE280EV-A-HD CT-6 spec. (2800kN)	SE450EV-A-HD CT-6 spec. (4500kN)
SE315EV-A-HD CT-6 spec. (3150kN)	SE500EV-A-HD CT-6 spec. (5000kN)

Two modes to meet the needs

High-rotation mode	Recommended for fast cycle
High-capacity mode	Recommended for products with large shot volume

※ High-rotation mode and high-capacity mode are inter-switchable.

Fast cycle design based on established technology

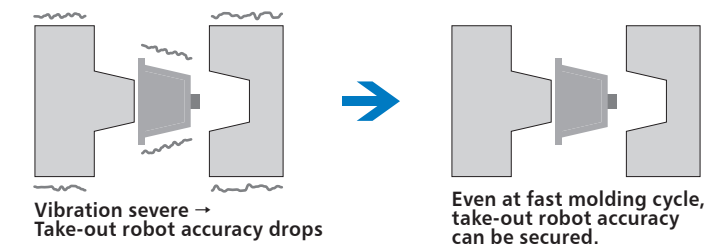
Injection functionality has been strengthened to facilitate filling performance. The highly reliable direct-drive enables high-speed mold open/close, while the dedicated screw assembly allow fast cycle, and abundant space for mold installation allow flexibility to production array.

Fast cycle design with improved reliability

Improves on the injection speed and responsiveness of the base machine. Direct-drive design enables high-speed mold open/close which successfully shorten cycle time. Toggle support rigidity has been improved to ensure reliability even at faster cycle. Toggle cross-head linearity displacement has been improved too to extend toggle push lifespan, these enhancement features, has lead to machine reliability even at fast cycle.

Injection speed
330mm/s C750
310mm/s C1100-C2200
220mm/s C3000

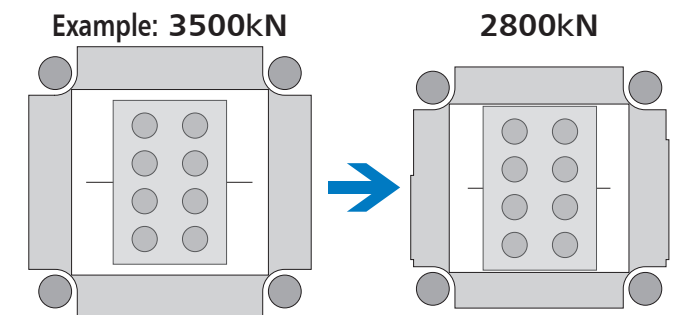
Rigid design with low vibration that minimized effects to auxiliary equipment, which is essential to fast cycle molding.



Space-saving concepts with easy mold installation

With large space between tie bars, and rigid frame, larger mold can be installed. With square and large tie-bar space, and clamp force reduction features, downsized can be realized, thus, reducing installation space at site. Facilitates effective use of space.

For example, with the SE-EV-A-HD CT-6 spec., mold that was previously installed on 3500 kN, can be installed in a 2800 kN machine. As tie-bar space is square, freedom of mold installation and take-out has been improved.



Packaging-use SM screw assembly is available to comply with fast cycle molding

SM screw assembly equipped as standard. SM screw prevents resin-burnt and generation of gas due to lower shear and hence suppress contamination (foreign materials, carbonization).

Screw assembly	Plasticizing unit	Screw diameter
	C750	φ36 φ40 φ45 φ50
	C1100	φ45 φ50 φ56 φ63
	C1600	φ45 φ50 φ56 φ63 φ71
	C2200	φ50 φ56 φ63 φ71 φ80
	C3000	φ63 φ71 φ80



Top: SD screw
Bottom: SM screw

Main Specifications

SE-HSZ

Model	SE280HSZ	SE350HSZ
Use application	Packaging spec.	Packaging spec.

■Mold clamping unit

Mold clamp system		Double toggle (5 points)		Double toggle (5 points)	
Clamp drive type		Direct drive		Direct drive	
Maximum clamping force	kN {tf}	2740 {280}		3430 {350}	
Clearance between tie bars (HxV)	mm	685 x 635		760 x 710	
Platen dimensions (HxV)	mm	950 x 885		1070 x 1020	
Daylight	mm	1320		1470	
Mold opening / closing stroke	mm	600		700	
Mold height (min. - max.)	mm	350~720		400~770	
Locating hole diameter	mm	φ100		φ100	
Ejector ejection points		Electric (13 points)		Electric (13 points)	
Ejector ejection force	kN {tf}	98 {10}		98 {10}	
Ejector stroke	mm	150		150	
Ejector drive type		Belt drive		Belt drive	

■Injection unit

Plasticizing capacity		C1250			C1700		C1700		C2500	
		L			L		L		L	
Injection drive type		Direct drive			Direct drive		Direct drive		Direct drive	
Screw diameter	mm	50	56	63	63	71	63	71	71	80
	MPa	274	218	172	215	169	215	169	229	180
Maximum injection pressure *1,*2	{kgf/cm²}	{2800}	{2230}	{1760}	{2200}	{1730}	{2200}	{1730}	{2340}	{1840}
	MPa	219	174	137	172	135	172	135	183	144
Maximum hold pressure *1,*2	{kgf/cm²}	{2240}	{1780}	{1400}	{1760}	{1380}	{1760}	{1380}	{1870}	{1470}
	cm³	448	562	711	773	982	773	982	1140	1448
Injection weight (GPPS)	g	430	539	682	742	943	742	943	1095	1390
	OZ	15.2	19.1	24.2	26.3	33.4	26.3	33.4	38.8	49.2
Plasticizing capacity (GPPS) *3	kg/h	202	273	290	290	374	290	374	374	440
	() Denotes screw rotation speed (rpm)	(400)	(400)	(320)	(320)	(320)	(320)	(320)	(320)	(320)
Injection rate	cm³/s	1276	1601	2026	2026	2573	2026	2573	2178	2765
Screw stroke	mm	228			248		248		288	
Maximum injection speed	mm/s	650			650		650		550	
Maximum screw rotation speed	min-1	400			320		320		320	
Quantity of temperature control zones		6			6		6		6	
Heater capacity	kW	27	31	37	37	43	37	43	43	44
Nozzle pressing force	kN	58 {6.0}			58 {6.0}		58 {6.0}		58 {6.0}	
Injection unit movement stroke	mm	450			450		450		450	
Protrusion	mm	65			65		65		65	
Hopper capacity	L	(100)			(100)		(100)		(100)	

■Machine dimensions and weight

Machine dimensions (LxWxH) *4	mm	7851 x 1680 x 2304			8236 x 1770 x 2254		
Machine weight	t	17.3			20.6		

*1 The maximum injection pressure and the maximum holding pressure are calculated values. These values indicate not the resin pressure but the output of the unit.
*2 The maximum injection pressure and the maximum holding pressure are not values that can be sustained continuously.
*3 The plasticization capacity value indicates the capacity when the SM screw is loading. (SD screw only for C560)
*4 The full length of the machine is the measurement taken when the smallest screw is loaded at the forward position of the injection unit.
*5 The values within { } brackets are only reference figures.
● Specifications subject to change without notice for performance improvement.
◇ This series originally comply to safety standards of Japan, the US, in addition, also China GB22530 and KC mark.

SE220HSZ	SE280HSZ	SE350HSZ
Standard spec.	Standard spec.	Standard spec.

Double toggle (5 points)	Double toggle (5 points)	Double toggle (5 points)
Direct drive	Direct drive	Direct drive
2150 {220}	2740 {280}	3430 {350}
610 x 560	685 x 635	760 x 710
880 x 830	950 x 885	1070 x 1020
1130	1220	1370
550	600	700
300~580	350~620	400~670
φ120	φ150	φ150
Electric (13 points)	Electric (13 points)	Electric (13 points)
58 {6.0}	58 {6.0}	58 {6.0}
150	150	150
Belt drive	Belt drive	Belt drive

C560						C900				C900			C1250			C1250			C1700	
M						L				L			L			L			L	
Direct drive						Direct drive				Direct drive			Direct drive			Direct drive			Direct drive	
28	32	36	40	45	50	45	50	56	63	45	50	56	50	56	63	50	56	63	63	71
289	275	272	274	215	174	267	216	172	172	267	216	172	274	218	172	274	218	172	215	169
{2950}	{2810}	{2770}	{2800}	{2200}	{1780}	{2730}	{2210}	{1760}	{1760}	{2730}	{2210}	{1760}	{2800}	{2230}	{1760}	{2800}	{2230}	{1760}	{2200}	{1730}
289	275	272	220	172	139	213	172	137	137	213	172	137	219	174	137	219	174	137	172	135
{2950}	{2810}	{2770}	{2240}	{1760}	{1424}	{2180}	{1760}	{1400}	{1400}	{2180}	{1760}	{1400}	{2240}	{1780}	{1400}	{2240}	{1780}	{1400}	{1760}	{1380}
86	129	163	201	254	314	329	406	510	510	329	406	510	448	562	711	448	562	711	773	982
83	124	156	193	244	302	316	390	489	489	316	390	489	430	539	682	430	539	682	742	943
2.9	4.4	5.5	6.8	8.7	10.7	11.2	13.8	17.3	17.3	11.2	13.8	17.3	15.2	19.1	24.2	15.2	19.1	24.2	26.3	33.4
37	53	76	101	136	193	149	202	246	246	149	202	246	202	246	290	202	246	290	290	327
(400)	(400)	(400)	(400)	(400)	(400)	(400)	(400)	(360)	(360)	(400)	(400)	(360)	(400)	(360)	(320)	(400)	(360)	(320)	(320)	(280)
216	281	356	440	557	687	557	687	862	862	557	687	862	687	862	1091	687	862	1091	1091	1386
140	160	160	160	160	160	207				207			228			228			248	
350						350				350			350			350			350	
400						400	400	360	360	400	400	360	400	360	320	400	360	320	320	280
5						6				6			6			6			6	
6.6	7.6	8.5	10.4	11.1	11.3	23.3	26.8	31.2	31.2	23.3	26.8	31.2	26.8	31.2	37.1	26.8	31.2	37.1	37.1	42.7
58 {6.0}						58 {6.0}				58 {6.0}			58 {6.0}			58 {6.0}			58 {6.0}	
390						450				450			450			450			450	
65						65				65			65			65			65	
(50)						(100)				(100)			(100)			(100)			(100)	

6436 x 1580 x 2065	6436 x 1580 x 2254	7217 x 1680 x 2254			7511 x 1770 x 2254			7522 x 1770 x 2254
10.1	10.9	13.0			13.7			18.1

Main Specifications

SE-EV-A^{HD}

Model	<i>SE220EV-A^{HD}</i>	<i>SE250EV-A^{HD}</i>
Use application	<i>CT-6 spec.</i>	<i>CT-6 spec.</i>

■ Mold clamping unit

Mold clamp system		Double toggle (5 points)		Double toggle (5 points)	
Maximum clamping force	kN	2200		2500	
Clearance between tie bars (HxV)	mm	660 x 660		660 x 660	
Platen dimensions (HxV)	mm	930 x 930		930 x 930	
Daylight	mm	1175		1225	
(Mold thickness extension 100 mm selected)		(1275)		(1325)	
(Mold thickness extension 200 mm selected)		(1375)		—	
Mold opening / closing stroke	mm	575		625	
Maximum platen speed	mm/s	1349		1431	
Mold height (min. - max.)	mm	200～600		200～600	
(Mold thickness extension 100 mm selected)		(200～700)		(200～700)	
(Mold thickness extension 200 mm selected)		(200～800)		—	
Locating hole diameter	mm	φ120		φ120	
(Locating ring with inner diameter φ120 selected)		—		—	
(Locating ring with inner diameter φ100 selected)		(φ100)		(φ100)	
Ejector ejection points		13 points		13 points	
Ejector ejection force	kN	60		60	
(Ejector ejection up selected)		(100)		(100)	
Maximum ejector speed	mm/s	267		267	
Ejector stroke	mm	220		220	
Maximum mold weight	kg	2800		2800	
(Moving side maximum)		(1850)		(1850)	

■ Injection unit

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
Maximum injection pressure *1,*2		MPa	259	274	215	174	267	230	187	148	259	274	215	174	267	230	187	148
Maximum hold pressure *1,*2		MPa	259	274	215	174	267	230	187	148	259	274	215	174	267	230	187	148
Theoretical injection capacity	Standard RPM	cm ³	162	201	254	314	329	406	510	645	162	201	254	314	329	406	510	645
	Increased volume		162	201	337	416	365	510	640	810	162	201	337	416	365	510	640	810
Injection weight (GPPS)	Standard RPM	g	156	193	244	302	316	390	489	619	156	193	244	302	316	390	489	619
	Increased volume		156	193	323	399	350	490	614	778	156	193	323	399	350	490	614	778
Plasticizing capacity *3	Standard RPM	kg/h	76	101	136	193	149	202	246	290	76	101	136	193	149	202	246	290
	Increased volume		48	63	85	121	93	126	171	227	48	63	85	121	93	126	171	227
Injection rate		cm ³ /s	335	414	524	647	493	608	763	966	335	414	524	647	493	608	763	966
Screw stroke	Standard RPM	mm	160		160		207		207		160		160		207		207	
	Increased volume		160		212		230		260		160		212		230		260	
Maximum injection speed		mm/s	330				310				330				310			
Maximum screw rotation speed	Standard RPM	min ⁻¹	400				400		360	320	400				400		360	320
	Increased volume		250				250		250	250	250				250		250	250
Quantity of temperature control zones			5				6				5				6			
Heater capacity		kW	8.9	10.8	11.4	12.6	22.1	25.0	29.4	35.3	8.9	10.8	11.4	12.6	22.1	25.0	29.4	35.3
Nozzle pressing force		kN	43				58				43				58			
Injection unit movement stroke		mm	395								395							
Protrusion		mm	65								65							
Hopper capacity (Standard model hopper selected)		L	(50)				(100)				(50)				(100)			

■ Machine dimensions and weight

Machine dimensions (LxWxH) *4	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 selected)		(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 selected)		(6666 x 1832 x 2057)	(6666 x 1832 x 2084)	—	—
(Toggle upper dust cover [fixed type] selected)		(6466 x 1832 x 2100)	(6466 x 1832 x 2100)	(6566 x 1832 x 2100)	(6566 x 1832 x 2100)
(Toggle upper dust cover [sliding type] selected)		(6466 x 1832 x 2245)	(6466 x 1832 x 2245)	(6566 x 1832 x 2245)	(6566 x 1832 x 2245)
(Safety door wide expansion selected)		(6466 x 1932 x 2057)	(6466 x 1932 x 2084)	(6566 x 1932 x 2057)	(6566 x 1932 x 2084)
Machine weight	t	11.8	12.9	11.8	12.9

*1 The maximum injection pressure and the maximum holding pressure are calculated values. These values indicate not the resin pressure but the output of the unit.

*2 The maximum injection pressure and the maximum holding pressure are not values that can be sustained continuously.

*3 The plasticization capacity value indicates the capacity when the SM screw is loading.

*4 The full length of the machine is the measurement taken when the smallest screw is loaded at the forward position of the injection unit.

Model	<i>SE280EV-A^{HD}</i>	<i>SE315EV-A^{HD}</i>
Use application	<i>CT-6 spec.</i>	<i>CT-6 spec.</i>

■ Mold clamping unit

Mold clamp system		Double toggle (5 points)		Double toggle (5 points)	
Maximum clamping force	kN	2800		3150	
Clearance between tie bars (HxV)	mm	730 x 730		730 x 730	
Platen dimensions (HxV)	mm	1020 x 1020		1020 x 1020	
Daylight	mm	1275		1325	
(Mold thickness extension 100 mm selected)		(1375)		(1425)	
(Mold thickness extension 200 mm selected)		(1475)		—	
Mold opening / closing stroke	mm	625		675	
Maximum platen speed	mm/s	1298		1394	
Mold height (min. - max.)	mm	300～650		300～650	
(Mold thickness extension 100 mm selected)		(300～750)		(300～750)	
(Mold thickness extension 200 mm selected)		(300～850)		—	
Locating hole diameter	mm	φ150		φ150	
(Locating ring with inner diameter φ120 selected)		(φ120)		(φ120)	
(Locating ring with inner diameter φ100 selected)		(φ100)		(φ100)	
Ejector ejection points		13 points		13 points	
Ejector ejection force	kN	60		60	
(Ejector ejection up selected)		(100)		(100)	
Maximum ejector speed	mm/s	267		267	
Ejector stroke	mm	220		220	
Maximum mold weight	kg	3800		3800	
(Moving side maximum)		(2500)		(2500)	

■ Injection unit

Plasticizing capacity				C1100				C1600				C2200				C1100				C1600				C2200											
				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	45	50	56	63	71	50	56	63	71	80				
Maximum injection pressure *1,*2		MPa		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				
Maximum hold pressure *1,*2		MPa		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				
Theoretical injection capacity	Standard RPM	cm ³	329	406	510	645	329	406	562	711	902	406	561	773	982	1246	329	406	510	645	329	406	562	711	902	406	561	773	982	1246					
	Increased volume		365	510	640	810	365	510	714	904	1148	510	714	977	1266	1608	365	510	640	810	365	510	714	904	1148	510	714	977	1266	1608					
Injection weight (GPPS)	Standard RPM	g	316	390	489	619	316	390	539	682	866	390	539	742	943	1196	316	390	489	619	316	390	539	682	866	390	539	742	943	1196					
	Increased volume		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 capacity *3	Standard RPM	kg/h	149	202	246	290	134	182	246	290	327	162	219	290	327	343	149	202	246	290	134	182	246	290	327	162	219	290	327	343					
	Increased volume		93	126	171	227	93	126	171	227	234	126	171	227	234	275	93	126	171	227	93	126	171	227	234	126	171	227	234	275					
Injection rate		cm ³ /s		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	Standard RPM	mm	207	207		207	207		228		207	228	248		207	207		207	207	228		207	228	248											
	Increased volume		230	260		230	260		290		260	290	320		230	260		230	260	290		260	290	320											
Maximum injection speed		mm/s		310																310															
Maximum screw rotation speed	Standard RPM	min ⁻¹	400	360	320	360		320	280	320		280	250	400	360	320	360		320	280	320		280	250											
	Increased volume		250	250	250	250		250	200	250		200	200	250	250	250	250		250	200	250		200	200											
Quantity of temperature control zones				6																6															
Heater capacity		kW		22.1	25.0	29.4	35.3	22.1	25.0	29.4	35.3	40.6	25.1	29.5	35.3	40.6	43.8	22.1	25.0	29.4	35.3	22.1	25.0	29.4	35.3	40.6	25.1	29.5	35.3	40.6	43.8				
Nozzle pressing force		kN		58																58															
Injection unit movement stroke		mm		420																420															
Protrusion		mm		65																65															
Hopper capacity (Standard model hopper selected)		L		(100)																(100)															

Main Specifications

SE-EV-A^{HD}

Model	SE350EV-A ^{HD}	SE385EV-A ^{HD}
Use application	CT-6 spec.	CT-6 spec.

■ Mold clamping unit

Mold clamp system		Double toggle (5 points)		Double toggle (5 points)	
Maximum clamping force	kN	3500		3850	
Clearance between tie bars (HxV)	mm	830 x 830		830 x 830	
Platen dimensions (HxV)	mm	1140 x 1140		1140 x 1140	
Daylight	mm	1425		1475	
(Mold thickness extension 100 mm selected)		(1525)		(1575)	
(Mold thickness extension 200 mm selected)		(1625)		—	
Mold opening / closing stroke	mm	725		775	
Maximum platen speed	mm/s	1346		1438	
Mold height (min. - max.)	mm	350~700		350~700	
(Mold thickness extension 100 mm selected)		(350~800)		(350~800)	
(Mold thickness extension 200 mm selected)		(350~900)		—	
Locating hole diameter	mm	φ150		φ150	
(Locating ring with inner diameter φ120 selected)		(φ120)		(φ120)	
(Locating ring with inner diameter φ100 selected)		(φ100)		(φ100)	
Ejector ejection points		13 points		13 points	
Ejector ejection force	kN	60		60	
(Ejector ejection up selected)		(100)		(100)	
Maximum ejector speed	mm/s	267		267	
Ejector stroke	mm	220		220	
Maximum mold weight	kg	5200		5200	
(Moving side maximum)		(3450)		(3450)	

■ Injection unit

Plasticizing capacity			C1100				C1600				C2200				C1100				C1600				C2200														
			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	45	50	56	63	71	50	56	63	71	80							
Maximum injection pressure *1,*2		MPa	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							
Maximum hold pressure *1,*2		MPa	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							
Theoretical injection capacity	Standard RPM	cm³	329	406	510	645	329	406	562	711	902	406	561	773	982	1246	329	406	510	645	329	406	562	711	902	406	561	773	982	1246							
	Increased volume		365	510	640	810	365	510	714	904	1148	510	714	977	1266	1608	365	510	640	810	365	510	714	904	1148	510	714	977	1266	1608							
Injection weight (GPPS)	Standard RPM	g	316	390	489	619	316	390	539	682	866	390	539	742	943	1196	316	390	489	619	316	390	539	682	866	390	539	742	943	1196							
	Increased volume		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 capacity *3	Standard RPM	kg/h	149	202	246	290	134	182	246	290	327	162	219	290	327	343	149	202	246	290	134	182	246	290	327	162	219	290	327	343							
	Increased volume		93	126	171	227	93	126	171	227	234	126	171	227	234	275	93	126	171	227	93	126	171	227	234	126	171	227	234	275							
Injection rate		cm³/s	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	Standard RPM	mm	207	207			207	228			207	228			248			207	207			207	207			228			207	228			248				
	Increased volume		230	260			230	260			260	290			260	290			230	260			230	260			230	290			260	290			320		
Maximum injection speed		mm/s	310																310																		
Maximum screw rotation speed	Standard RPM	min ⁻¹	400	360	320	360			320	280	320			280	250	400	360	320	360			320	280	320			280	250	400	360	320	360			320	280	250
	Increased volume		250	250	250	250			250	200	250			200	200	250	250	250	250			250	200	250			200	200	250	250	250	250			200	200	
Quantity of temperature control zones			6																6																		
Heater capacity		kW	22.1	25.0	29.4	35.3	22.1	25.0	29.4	35.3	40.6	25.1	29.5	35.3	40.6	43.8	22.1	25.0	29.4	35.3	22.1	25.0	29.4	35.3	40.6	25.1	29.5	35.3	40.6	43.8							
Nozzle pressing force		kN	58																58																		
Injection unit movement stroke		mm	450																450																		
Protrusion		mm	65																65																		
Hopper capacity (Standard model hopper selected)		L	(100)																(100)																		

■ Machine dimensions and weight

Machine dimensions (LxWxH) *4	mm	7446 x 2072 x 2192				7546 x 2072 x 2192			
(Mold thickness extension 100 mm selected)		(7546 x 2072 x 2192)				(7646 x 2072 x 2192)			
(Mold thickness extension 200 mm selected)		(7646 x 2072 x 2192)				—			
(Toggle upper dust cover [fixed type] selected)		(7446 x 2072 x 2225)				(7546 x 2072 x 2225)			
(Toggle upper dust cover [sliding type] selected)		(7446 x 2072 x 2375)				(7546 x 2072 x 2375)			
(Safety door wide expansion selected)		(7446 x 2172 x 2192)				(7546 x 2172 x 2192)			
Machine weight	t	17.6	17.8	18.4	17.7	17.9	18.5		

*1 The maximum injection pressure and the maximum holding pressure are calculated values. These values indicate not the resin pressure but the output of the unit.
*2 The maximum injection pressure and the maximum holding pressure are not values that can be sustained continuously.

*3 The plasticization capacity value indicates the capacity when the SM screw is loading.
*4 The full length of the machine is the measurement taken when the smallest screw is loaded at the forward position of the injection unit.
*5 Extended linear guides are fitted.

Model	SE450EV-A ^{HD}	SE500EV-A ^{HD}
Use application	CT-6 spec.	CT-6 spec.

■ Mold clamping unit

Mold clamp system		Double toggle (5 points)		Double toggle (5 points)	
Maximum clamping force	kN	4500		5000	
Clearance between tie bars (HxV)	mm	920 x 920		920 x 920	
Platen dimensions (HxV)	mm	1300 x 1300		1300 x 1300	
Daylight	mm	1625		1675	
(Mold thickness extension 100 mm selected)		(1725)		(1775)	
(Mold thickness extension 200 mm selected)		(1825)		—	
Mold opening / closing stroke	mm	825		875	
Maximum platen speed	mm/s	1109		1167	
Mold height (min. - max.)	mm	350～800		350～800	
(Mold thickness extension 100 mm selected)		(350～900)		(350～900)	
(Mold thickness extension 200 mm selected)		(350～1000)		—	
Locating hole diameter	mm	φ150		φ150	
(Locating ring with inner diameter φ120 selected)		(φ120)		(φ120)	
(Locating ring with inner diameter φ100 selected)		(φ100)		(φ100)	
Ejector ejection points		21 points		21 points	
Ejector ejection force	kN	100		100	
(Ejector ejection up selected)		(150)		(150)	
Maximum ejector speed	mm/s	267		267	
Ejector stroke	mm	220		220	
Maximum mold weight	kg	7500		7500	
(Moving side maximum)		(5000)		(5000)	

■ Injection unit

Plasticizing capacity		C2200				C3000				C2200				C3000
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