

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
SHI Plastics Machinery de Mexico, S.A. DE. C.V. Monterrey Office
Ignacio Sepulveda 124, Seccion 7, Edificio 1 Parque Industrial Kalos Encarnacion Colonia La Encarnacion,
Apodaca, N.L. C.P. 66633, Mexico
Tel:+52-81-8356-1714, -1720, -1726 Fax:+52-81-8356-1710
SHI Plastics Machinery de Mexico, S.A. DE. C.V. 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 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
- **GERMANY** 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
- **UNITED KINGDOM** 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
- **FRANCE** Sumitomo (SHI) Demag Plastics Machinery España S.L.
Plaza de América 4, 2º - 3º, ES 46004 Valencia, Spain
Tel:+34-96-111-63-11
- **SPAIN** Demag Plastics Group SP. z.o.o.
Ul. Jagiellonska 81 - 83, 42 200 Czeszochowa, Poland
Tel:+48-34-370-95-40 Fax:+48-34-370-94-86
- **POLAND** Sumitomo (SHI) Demag Plastics Machinery GmbH -Office Austria-
Wolfgang-Amadeus-Mozart-Str. 5/3, 3430 Tulln an der Donau, Austria
Tel:+43-2272-61-868 Fax:+43-2272-61-868-89
- **AUSTRIA** Sumitomo (SHI) Demag Plastics Machinery (Hungary) Kft
H-2045 Torokbalint, FSD Park 2, Fsz. 2, Hungary
Tel:+36-23-531-290 Fax:+36-23-531-291
- **HUNGARY** 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
- **ITALY** CISC Sumitomo (SHI) Demag Plastics Machinery
Prombaza OAO "Stroittransgaz", d. Ascherino Leninskiy raion, 142717 Moscow region, Russia
Tel:+7-495-937-97-64 Fax:+7-495-933-00-78
- **RUSSIA** 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
- **SHANGHAI** SHI Plastics Machinery (Shanghai) Ltd. Dalian Office
1109 Fuyou Buiding, No.9 Huanghaili Road, Economic and Technological Development Zone, Dalian 116600, China
Tel:+86-411-8764-8052 Fax:+86-411-8764-8053
- **DALIAN** 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
- **TIANJIN** 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
- **SUZHOU** Ningbo Sumiju Machinery, Ltd.
No.28, Baiyunshan Road, Modern Logistics Park, Beilun District, Ningbo, 315800 Zhejiang, China
- **NINGBO** Dongguan SHI Plastics Machinery Ltd. /Technical Center
B102 Block 8 Zhongda 365 No.9, Xincheng Road, Songshan Lake, Dongguan City, Guangdong Province 523808, China
Tel:+86-769-8533-0071 Fax:+86-769-8554-9091
- **DONGGUAN** 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
- **HONG KONG** 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
- **TAIWAN** 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, JEPLATZ, 186, Gasan digital 1-ro, Geumcheon-gu, Seoul 08502, Korea
Tel:+82-2-757-8656 Fax:+82-2-757-8659
- **SINGAPORE** SHI Plastics Machinery (Korea) Co., Ltd. Southern Office
#207, 48, Dongbu-ro 22-gil, Dong-gu, Daegu 41242, Korea
Tel:+82-53-247-8656 Fax:+82-53-247-8659
- **THAILAND** 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
- **INDONESIA** 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
- **MALAYSIA** 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
- **VIETNAM** SHI Plastics Machinery (Malaysia) SDN BHD
Lot AG 16, 17 & 18, P Industrial Park, Jalan Kemajuan, Section 13, 46200 Petaling Jaya, Selangor, D.E. Malaysia
Tel:+60-3-958-2079 Fax:+60-3-7958-2084
- **PHILIPPINES** 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
- **INDIA** 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
- **INDONESIA** 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
- **PHILIPPINES** 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
- **INDONESIA** SHI Plastics Machinery (Philis) Inc.
Lot 2-B, No.14 Victoria Street, Cor. EDSA Magallanes Village, Makati City 1332, Philippines
Tel:+63-2-844-0632, 845-0877 Fax:+63-2-886-4670
- **INDIA** SHI Plastics Machinery (India) Private Ltd.
Unit No.22-25, 1st Floor, JMD Galleria, Sohna Road, Gurgaon, Haryana-122001, India
Tel:+91-0124-2217056, 64 Fax:+91-0124-2218076

Double-shot

All-electric Double-shot Injection Molding Machine

Double-shot

All-electric Double-shot Injection Molding Machine



Double-shot

All-electric Double-shot Injection Molding Machine



Lineup

- SE300DU-CI** (290kN)
- SE750DU-CI** (730kN)
- SE1300DU-CI** (1270kN)
- SE230HS-CI** (2250kN)
- SE280HS-CI** (2740kN)
- SE400HS-CI** (4000kN)



Our products have acquired ISO9001 certification.

www.shi.co.jp/plastics/



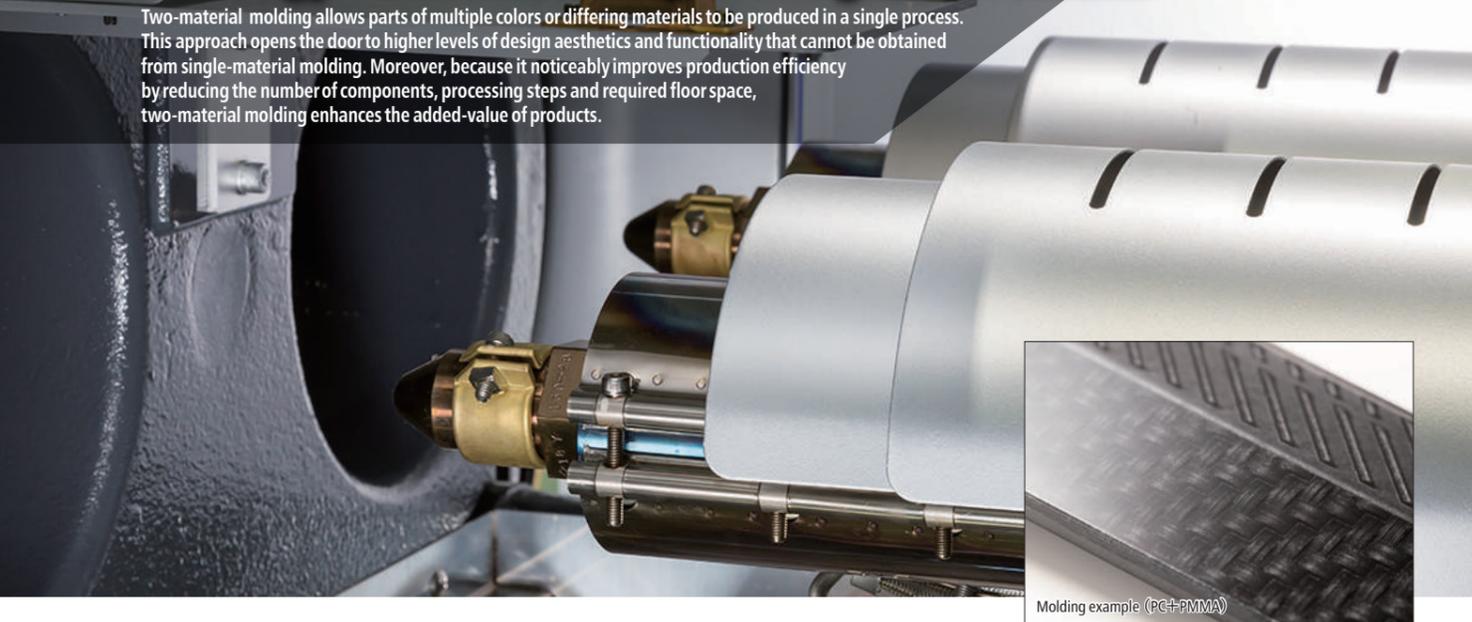
Sumitomo Heavy Industries, Ltd.

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

Pursuing greater possibilities of parts with the Double-shot

Enhancing product added-value by combining different materials

Two-material molding allows parts of multiple colors or differing materials to be produced in a single process. This approach opens the door to higher levels of design aesthetics and functionality that cannot be obtained from single-material molding. Moreover, because it noticeably improves production efficiency by reducing the number of components, processing steps and required floor space, two-material molding enhances the added-value of products.



Molding example (PC+PMMA)

Molding performance and lineup matched to manufacturer needs

Specialized for two-material molding, our Double-shot series solves productivity, stability and maintainability issues by integrating a number of highly reliable proprietary technologies into an all-electric machine with an established reputation for precision and stability. With clamping forces ranging from 290 kN to the world's highest* 4,000 kN class and a wide selection of modules to choose from, we have a solution for most any manufacturer's needs.

*World's largest class of all-electric double-shot molding machines

Manufacturer needs and solutions

High productivity	Toggle clamping system	Our highly reliable toggle technology accumulated over the years realizes fast, assured mold opening and closing.
	Rotary ejector rod	The mold rotary unit uses a servomotor drive and mechanical stop to ensure no time is wasted while rotating. At the same time, it keeps molding stable over repetitious production cycles.
	Rotation speed	
Stable precision molding	Rotation precision	Tried-and-trusted components are on board. It is designed and built to answer the growing needs for thin-wall filling.
	Double Center Press Platens	
	SKII control	
Filling for thin-wall parts	Direct drive	Freedom of mold design and mountable weight is greatly increased, making possible to produce longer parts.
	High-speed injection	
	Flash mode/control	
Mold support	Wide platen	Freedom of mold design and mountable weight is greatly increased, making possible to produce longer parts.
	Proprietary temperature control piping	
Ease of setup/maintenance	Independently turning plasticizing units	Setup, maintainability and operability have been greatly improved with features like temperature control piping for the rotary unit, screw cleaning and F/R single display.
	Temperature control piping for rotary unit	
	N9 controller	

YouTube



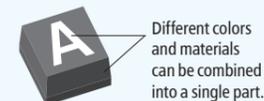
World's largest class of all-electric double-shot molding machines

Solutions made possible by two-material molding

If you consider the vast range of material combinations available, the imaginable solutions offered by two-material molding are virtually endless. Our double-shot machines enable all kinds of molding possibilities and provide manufacturers the means to achieve high value-added production.

Variety of applications

Combining different colors or grades of the same material or different materials entirely opens the door to new applications in molding that were not possible before.



Different colors and materials can be combined into a single part.

Functionality

Molded parts can be given properties of resins with conflicting elements like improved sealing or resistance.



Ex.: Integrally molding cap body and packing

Dimensional accuracy

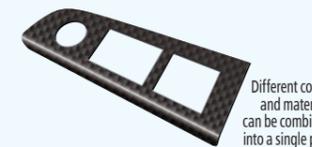
Since parts can be designed without consideration for downstream processing, dimensional variation caused by shrinkage is reduced. Moreover, improved dimensional stability can be expected in production of thinner-wall parts.



Even easily mismatching structures ... can be accurately molded.

Design aesthetics

Parts with notable design features such as texture and color can be made.



Different colors and materials can be combined into a single part.

Durability

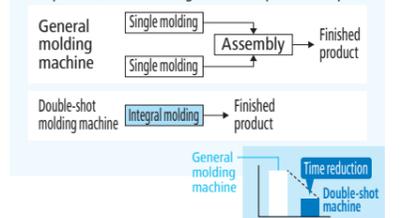
Strength and resistance to heat, weather and wear will be improved because the appropriate resin can be placed in the appropriate location.



Ex.: Tray Shock-absorbing material is used on the outside to enhance durability.

Production efficiency

Two-material molding noticeably improves production efficiency by reducing the number of processing steps, components, manufacturing time and required floor space.



Molded part examples



Benefits of parallel type double-shot machine

Compared to vertically, horizontally and diagonally arranged layouts, there are many benefits to positioning injection units parallel.

Space savings

Double-shot machine with injection units arranged in parallel requires less space than vertically arranged type machine, which needs the height for the second injection unit, or horizontally arranged (right-angle layout) type machine, which requires twice the floor space.

Suited for wide variety, small lot production

Because not only hot runners but cold runners can be used, double-shot machines make it easy to produce a wide variety of parts in small quantities.

Easy setup

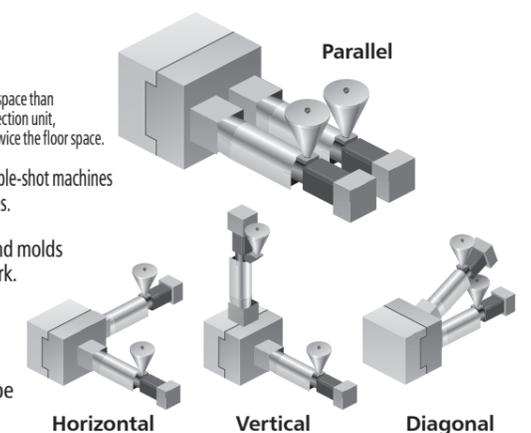
Use of integrated mold make it easy to align nozzles and molds so that injection units do not hamper maintenance work.

Shorter cycle times

More effective features to shorten cycle time is incorporated into machines.

Cleanroom compatible

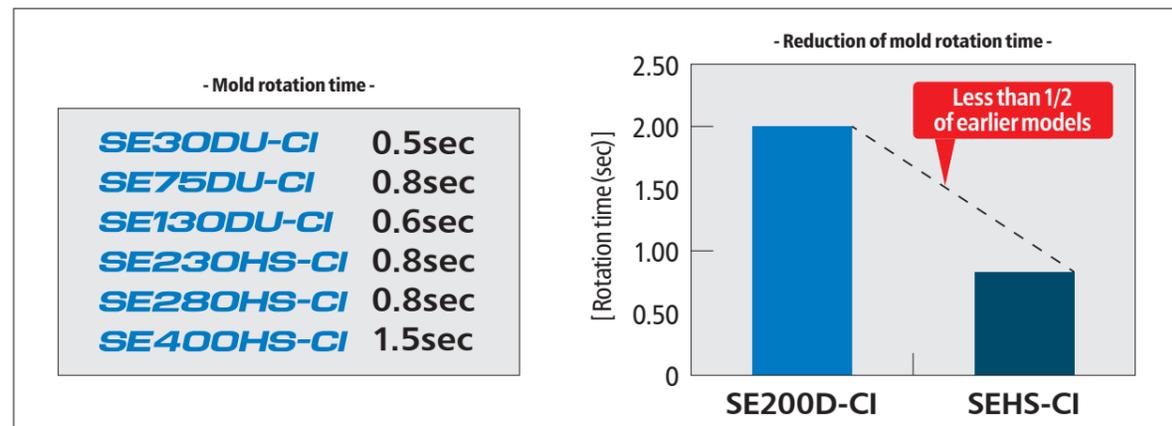
Safety door is hermetically sealed and gases can be easily recovered from the purging cover.



Features designed for cycle time reduction

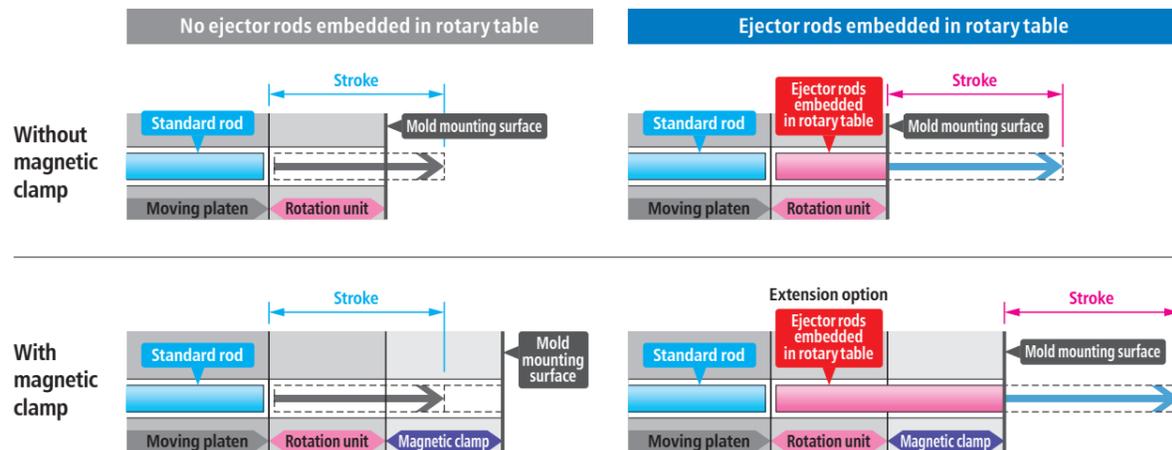
Greatly shortened mold rotation time

The performance of mold rotary unit and mold opening/closing unit have been thoroughly reviewed comparing with the conventional machine. Accordingly, rotating time has been reduced to less than half of the earlier models, which leads to significant improvement in productivity.



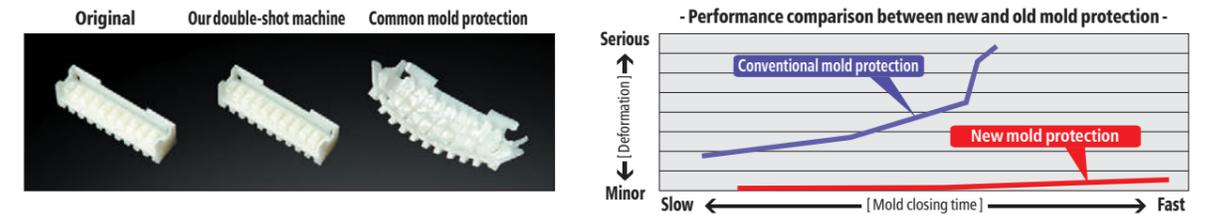
Ejector rods embedded in the rotary table

The ejection stroke can be effectively utilized to shorten the molding cycle.



Fine-tune individual control before/after mold rotation

Even with two perfectly identical two-material molds, there is actually a difference after rotating the mold. With our double-shot machine, molding inaccuracies of the sort have been improved by making it possible to individually control conditions before and after the rotation. Moreover, because torque is meticulously detected, molds are subjected to less stress, which relieves the worries of damaging expensive molds and allows to extend the maintenance interval.



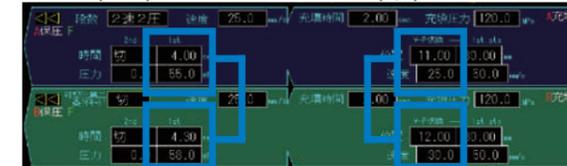
Example of mold protection settings

型開閉位置 [300.00] mm 型開時間 [2.39] sec サイクル時間 [29.3] sec
 エジェクタ位置 [0.0] mm 型閉時間 [2.34] sec 総エジェクタ時間 [1.29] sec
 反転位置 [180.0] deg 反転時間 [1.63] sec 圧力 [1.12] sec
 型締力 [830] kN

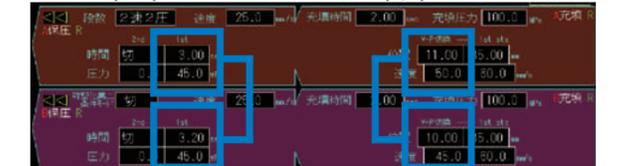
型開限 2nd 1st 位置 35.0 20.0 1.30 mm 速度 30.0 20.0 10.0 %
 位置 300.0 35.0 10.0 mm 速度 30.0 20.0 10.0 %

監視開始 監視終了 監視開始 監視終了
 監視入 位置 35.0 20.0 10.00 1.30 mm 監視入 位置 35.0 20.0 10.00 1.30 mm
 半自動入 監視 40.00 25.00 15.00 % 半自動入 監視 40.00 25.00 15.00 %
 保護動作 停止 実績 0.00 0.00 0.00 % 保護動作 停止 実績 0.00 0.00 0.00 %
 異常停止 0.0 mm 最大 34.5 22.3 11.2 mm 異常停止 0.0 mm 最大 32.5 19.4 11.9 mm

1st shot (front) conditions for each mold (A/B)



2nd shot (rear) conditions for each mold (A/B)



Rotating mode setting

Rotation timing priority

Applicable to various filling patterns

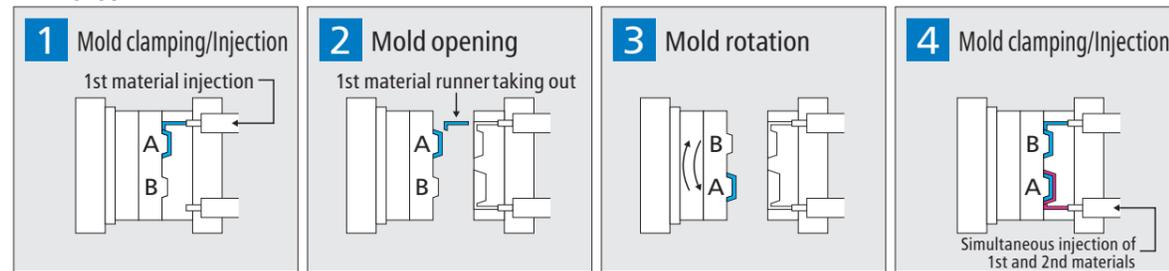
Logging display easy to monitor molds separately

Capability for a wide range of molding processes and special resins

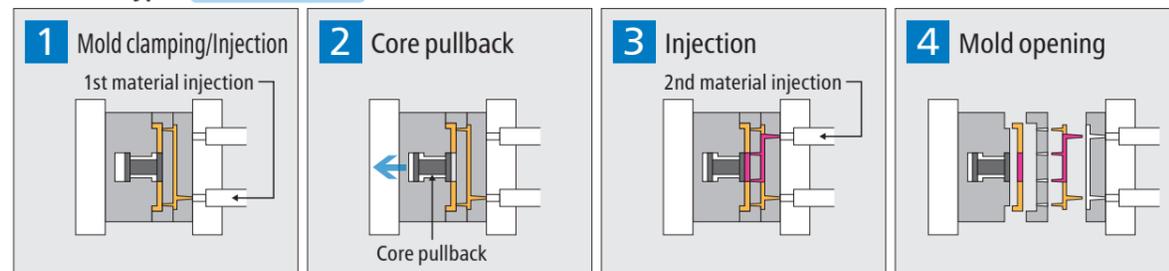
Diverse molding processes support molding complex shaped parts

The double-shot machine easily handles complex shaped parts by rotary type, core back type and rotary + core back type injection molding. Besides the two-material molding, the series can also be applied for laminate and insert molding.

Rotary type

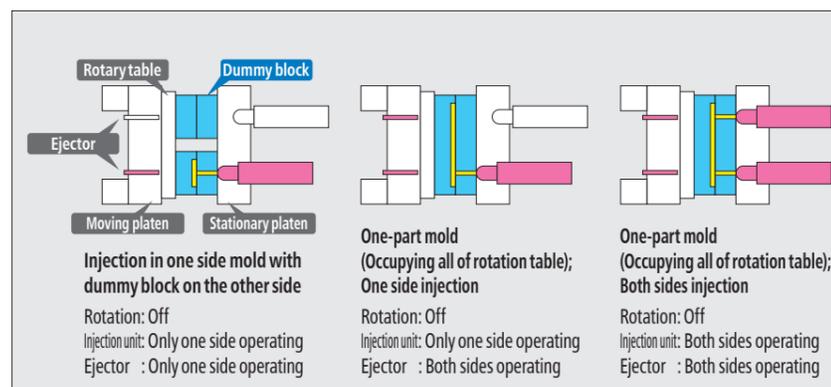


Core back type Option



Single-color molding

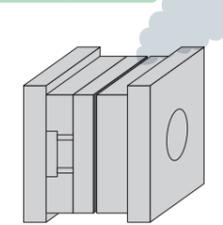
The double-shot machine can be used as a single-color molding machine without rotating molds.



Multi-toggle

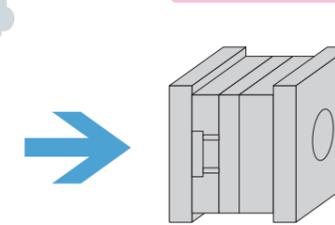
Multi-toggle is a mechanism that applies a low clamp force at the start of filling and then increases pressure as filling progresses. It improves gas release, prevents burrs from forming and lessens the frequency of mold cleaning. These benefits are especially appreciated in two-material molding where elastomers are often used.

Improved gas release



A low clamping force is applied at the start of filling to improve gas release.

Prevention of burr



Clamp force is increased as filling progresses to prevent burrs.



Particularly effective measure against elastomer gas

SL Screw Option

A new plasticizing system with a screw as the core, which was designed after visually analyzing the resin melting behavior against temperature and pressure with previous screws. It prevents melt resin stagnation and subsequent carbonization, and releases gas and moisture to realize stable plasticization.

Defects improved or solved by SL Screw



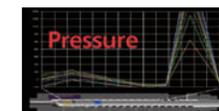
Black spot, burning and discoloring
Increased appearance defects/screw maintenance



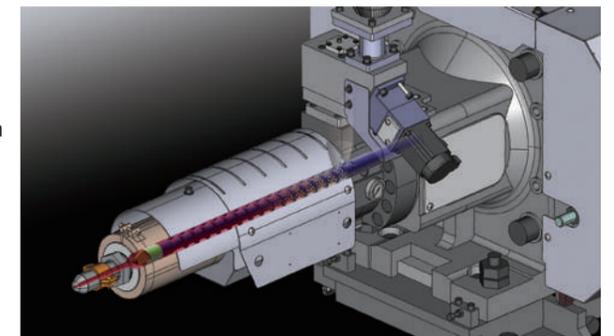
Gas generation and moisture contamination
Increased appearance defects/mold maintenance



Screw, tip or cylinder wear
Increased cylinder maintenance

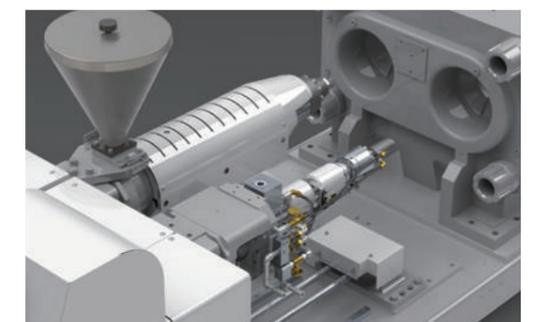
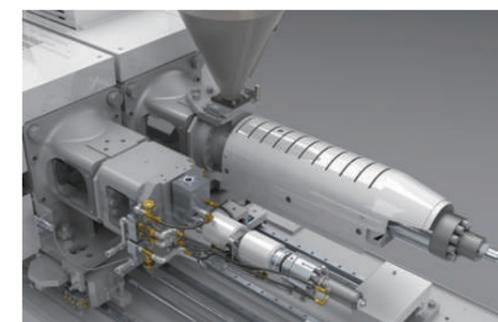


Unstable plasticization
Inconsistent product precision/productivity



LSR molding supported Option

Liquid Silicone Rubber (LSR) is often used in two-material molding. Our LSR screw assembly uses a rotating sealing method that realizes small-capacity precision metering and low-speed filling. Highly stable LSR molding without burrs will be achieved.



Main Specifications

Item	Unit	SE30DU-CI	SE75DU-CI	SE130DU-CI
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Mold clamping unit

Mold clamp system		Double toggle (5 points)	Double toggle (5 points)	Double toggle (5 points)
Maximum clamping force	kN	290	730	1270
Clearance between tie-bars (WxH)	mm	370 x 290	560 x 360	660 x 360
Dimensions of rotary table (WxH)	mm	280 x 280	560 x 390	660 x 420
Daylight	mm	520	710	825 (800) ^{*5}
(Mold thickness extension 100 mm selected)	mm	—	—	—
Mold opening stroke	mm	230	300	375 (350) ^{*5}
Maximum platen speed	mm/s	1200	1300	1200
Mold height (min. - max.)	mm	180~290	160~410	180~450
(Mold thickness extension 100 mm selected)	mm	—	—	—
Locating hole diameter	mm	2-φ60	2-φ60	2-φ120
(Locating ring with inner diameter φ100 selected)	mm	—	—	—
Ejector ejection points		Motor driven type (1 points) x 2	Motor driven type (3 points) x 2	Motor driven type (5 points) x 2
Ejector ejection force	kN	7.8 x 2	20 x 2	21 x 2
(Ejector ejection up selected)	kN	—	—	—
Maximum ejector speed	mm/s	333	333	333
Ejector stroke	mm	70	91	100 (91) ^{*6}
Ejector rod protrusion amount	mm	-83 (61) ^{*6}	-62 (82) ^{*6}	-53 (82) ^{*6}
Maximum mold weight	kg	50	175 x 2	300 x 2
(Moving side maximum)	kg	(100)	(200 x 2)	(250 x 2)

Injection unit

Plasticizing capacity		C30			C65				C250			
		MN			MN		S		M			
Screw diameter	mm	16	18	20	16	18	20	22	25	28	32	36
Maximum injection pressure ^{*1,*2}	MPa	266	210	170	266	210	235	194	281	284	217	171
Maximum hold pressure ^{*1,*2}	MPa	212	168	136	266	210	216	178	225	227	174	137
Theoretical injection capacity	cm ³	11	14	17	11	14	27	33	56	86	113	143
Injection weight (GPPS)	g	11	13	17	11	13	26	32	54	83	108	137
Plasticizing capacity ^{*3}	kg/h	9.5	13	16	8.8	12	13	18	26	37	53	76
Injection rate	cm ³ /s	101	127	157	101	127	157	190	147	185	241	305
Screw stroke	mm	55			55		87		114	140		
Maximum injection speed	mm/s	500			500				300			
Maximum screw rotation speed	min ⁻¹	430			400				400			
Quantity of temperature control zones		4			4		5		4	5		
Heater capacity	kW	2.7	2.7	3.1	2.7	2.7	3.5	3.9	5.5	6.6	7.6	8.5
Nozzle pressing force	kN	2.9			5.8				A 11 / B 14 ^{*7}			
Nozzle protrusion	mm	30 / 50			30 / 45 / 65 / 80				45 / 65 / 85			
Hopper capacity (Standard model hopper selected)	L	(2.5 x 2)			(6.0 x 2)				(15 x 2)			

Machine dimensions and weight

Machine dimensions (LxWxH) ^{*4}	mm	3453 x 1079 x 1526	4017 x 1318 x 1658	5508 x 1419 x 1860
(Mold thickness extension 100 mm selected)	mm	—	—	—
Machine weight	t	3.0	5.0	7.6

*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.

*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 When the machine is equipped with an ejector unit with brake, the mold opening-closing stroke is limited to the value in ().

*6 Values in () are for machines with ejector rods embedded in the rotary table.

*7 Selectable between A and B

*8 When the C250 plasticization device is selected, it is necessary to select both sides. (This restriction does not apply to the SE400HS-CI.)

● We appreciate your kind understanding that as a result of our effort to enhance performance, there may be slight modifications to the specifications.

● The dimensions are Japanese specification.

◇ This series originally comply to safety standards of Japan, the US, in addition, also China GB22530 and KC mark.

SE230HS-CI	SE280HS-CI	SE400HS-CI
------------	------------	------------

Double toggle (5 points)	Double toggle (5 points)	Double toggle (5 points)
2250	2740	4000
920 x 560	920 x 560	1110 x 640
920 x 600	920 x 600	1140 x 870
1070 (1040) ^{*5}	1070 (1040) ^{*5}	1225
—	—	(1325)
510 (480) ^{*5}	510 (480) ^{*5}	625
1200	1200	1200
210~560	210~560	250~600
—	—	(250~700)
2-φ120	2-φ120	2-φ120
—	—	(2-φ100)
Motor driven type (5 points) x 2	Motor driven type (5 points) x 2	Motor driven type (9 points) x 2
45 x 2	45 x 2	60 x 2
—	—	100 x 2
333	333	267
150	150	220
97	97	150
750 x 2	750 x 2	1650 x 2
(500 x 2)	(500 x 2)	(1300 x 2)

C250 ^{*8}			C360			C510			C250 ^{*8}			C360			C510			C250			C560			C900		
M			M			M			M			M			M			M			M			L		
28	32	36	32	36	40	40	45	50	28	32	36	32	36	40	40	45	50	28	32	36	40	45	50	45	50	56
284	217	171	273	215	167	245	193	156	284	217	171	273	215	167	245	193	156	284	217	171	274	216	175	267	216	172
227	174	137	218	172	134	196	154	125	227	174	137	218	172	134	196	154	125	284	217	171	274	216	175	213	172	137
86	113	143	129	163	201	201	254	314	86	113	143	129	163	201	201	254	314	86	112	142	201	254	314	329	406	509
83	108	137	124	156	193	193	244	302	83	108	137	124	156	193	193	244	302	83	108	136	193	244	301	316	390	489
37	53	76	53	76	101	101	136	193	37	53	76	53	76	101	101	136	193	37	53	76	101	136	193	149	202	246
185	241	305	241	305	377	377	477	589	185	241	305	241	305	377	377	477	589	215	281	356	439	556	687	556	687	862
140			160			160			140			160			160			140			160			207		
300			300			300			300			300			300			350			350			350		
400			400			400			400			400			400			400			400			400		
5			5			5			5			5			5			5			5			6		
6.6	7.6	8.5	7.6	8.5	10.4	10.4	11.1	11.3	6.6	7.6	8.5	7.6	8.5	10.4	10.4	11.1	11.3	6.6	7.6	8.5	10.3	11.5	12.6	17.0	19.2	21.1
A 11 / B 14 ^{*7}			A 11 / B 14 ^{*7}			24			A 11 / B 14 ^{*7}			A 11 / B 14 ^{*7}			24			A 11 / B 14 ^{*7}			A 24 / B 29 ^{*7}			A 29 / B 47 ^{*7}		
45			45 / 65			45 / 65			45			45 / 65			45 / 65			45 / 65 / 80			45 / 65 / 80			50 / 65 / 85		
(30 x 2)						(30 x 2)						(C003:30 x 2) (C003a:50 x 2)														

6403 x 1854 x 1997	6403 x 1854 x 1997	7533 x 2252 x 2191
—	—	(7633 x 2252 x 2191)
17.0	17.0	25.1
		26.1
		27.5

Standard Equipment

Plasticizing and injection unit (FR common)	DU-CI	HS-CI (230/280)	HS-CI (400)
1. Standard SD screw assembly (open nozzle, nitride screw)	○	○	○
2. Programming control of injection 5 stages / 2 stages (switching)	○	○	○
3. Programming control of holding pressure 4 stages / 2 stages (switching)	○	○	○
4. Screw pull back (after holding pressure end/after dose end)	○	○	○
5. Screw position digital display (setting 0.01mm)	○	○	○
6. Holding pressure time 0.01sec setting	○	○	○
7. V-P switchover controller (pressure, position)	○	○	○
8. Filling delay timer	○	○	○
9. Auto purging with nozzle touch or IJ unit retract confirmation	○	○	○
10. Cylinder temperature PID control 5 zones	○	○	○
11. 2-modes temperature control (production/standby)	○	○	○
12. Screw cold start prevention with variable timer	○	○	○
13. Injection unit retraction delay selector (with delay timer)	○	○	○
14. Sprue break stroke remote setting	○	○	○
15. Screw speed digital indicator	○	○	○
16. Purging cover (with limit switch)	○	○	○
17. Purging saucer (stainless steel)	○	○	○
18. Swivel injection unit (With nozzle center adjust device)	○	○	○
19. Remaining cooling time indicator	○	○	○
20. Dose delay timer	○	○	○
21. Injection/Holding response 10-mode	○	○	○
22. Holding pressure speed setting	○	○	○
23. Pull back delay control	○	○	○
24. Flash Speed Mode	○	○	○
25. Flash control	○	○	○
26. Flow front check	○	○	○
27. Synchro dose	○	○	○
28. Reverse control software	○	○	○
29. Temperature control for nozzle	○	○	○
30. Stepped heat-up operation	○	○	○
31. Energy saving cylinder cover (Two layer structure)	○	○	○
32. Water cooling jacket temperature control device	○	○	○
33. Screw centering mechanism	○	○	○
34. Mold open operation during dose (Needle nozzle drive control)	○	○	○
35. Filling pressure multi-level control	○	○	○
36. Resin residence protection	○	○	○
37. One touch dose	○	○	○
38. Auto grease lubrication unit	○	○	○

Control unit	DU-CI	HS-CI (230/280)	HS-CI (400)
1. 12.1 inch TFT Color LCD screen	○	○	○
2. Input setting device : Sheet-key and touch panel	○	○	○
3. Internal memory of molding conditions (200 conditions)	○	○	○
4. Operation support function	○	○	○
5. Molding profiles display function (mold profiles storage, cursor, display and so on)	○	○	○
6. Screen snap shot function	○	○	○
7. Take-out robot connection circuit (with turn complete signal)*1	○	○	○
8. 3 languages selection (Japanese/English/Chinese)	○	○	○
9. Operation guide for maintenance (Screen display of inspection timing, grease application timing, item, method)	○	○	○
10. Auto start/stop function (Lowered temp, heater on, machine shut down)	○	○	○
11. Process display function	○	○	○
12. SSR heater drive circuit	○	○	○
13. Input of industrial unit for speed, position, pressure and rotation rate	○	○	○
14. Machine status output signal (5ch)*1	○	○	○
15. USB connection circuit (printer, memory)	○	○	○
16. PC connection circuit (RS232C)	○	○	○
17. Protection for molding condition	○	○	○
18. Abnormal processing selection	○	○	○
19. Initial reject and interruption reject function	○	○	○

Clamp unit	DU-CI	HS-CI (230/280)	HS-CI (400)
1. Programming control of opening/closing speed (5 stages/3 stages)	○	○	○
2. Mold protection	○	○	○
3. Low pressure clamping unit	○	○	○
4. Mold opening/closing pause	○	○	○
5. Remote control of clamp force	○	○	○
6. Remote control of mold space	○	○	○
7. Clamp force feedback control	○	○	○
8. Ejector (with selective multi-functions & return check)	○	○	○
9. Ejector protrusion delay timer	○	○	○
10. Ejector remote control (speed, stroke and pressure)	○	○	○
11. Ejector 2-speed control	○	○	○
12. Ejector protrusion holding device	○	○	○
13. Ejector protrusion interlock (possible only at mold open limit during manual operation)	○	○	○
14. Ejector protrusion during mold opening	○	○	○
15. Ejector protrusion during mold closing	○	○	○
16. Ejector plate return signal (Input signal for molding machine) Connection by metal contact 2 lines on the mold reversal table *1	○	○	○
17. Mold opening/closing signal (Spear control signal) Dry A contact *1	○	○	○
18. Valve gate drive circuit (control circuit only, 2 lines)*1	○	○	○
19. Stand by mode for mold installation (low mold opening/closing speed)	○	○	○
20. Safety door with acrylic window	○	○	○
21. Safety door with polycarbonate window	○	○	○
22. Emergency stop push button (Operation side and non operation side)	○	○	○
23. Clamp cover with acrylic window	○	○	○
24. Clamp cover with polycarbonate window	○	○	○
25. Threaded holes for takeout robot mounting	○	○	○
26. Grease central lubrication for clamp unit	○	○	○
27. Mold close interlock device (Electrical, mechanical type)	○	○	○
28. Mold opening/closing with low vibration or high speed mode	○	○	○
29. Moving platen support (Sliding type)	○	○	○
30. Moving platen support device (liner guide type)	○	○	○
31. Double center press platen (Fixed platen side, Moving side)	○	○	○
32. Center press platen (Fixed platen side)	○	○	○
33. Displacement prevention in mold mounting (Clamp force set to 0 ton)	○	○	○
34. Ejected products sensor circuit *1	○	○	○
35. Oil pan under mold clamp unit (Detachable for cleaning and maintenance)	○	○	○
36. High speed mold rotating unit (With remote speed control and dust cover)	○	○	○
37. Multi-toggle	○	○	○
38. Ejector unit with brake	○	○	○
39. Clamping force balance monitor (4ch)	○	○	○
40. Rotary table lock pin	○	○	○

Monitor unit	DU-CI	HS-CI (230/280)	HS-CI (400)
1. Actual value display function	○	○	○
2. Heater breakage monitor	○	○	○
3. Auxiliary facility monitor (1ch)*1	○	○	○
4. Abnormal monitor (Max. cushion, min. cushion, filling pressure, mold protection, cycle time, weighing time)	○	○	○
5. Automatic setting for abnormality monitoring condition	○	○	○
6. Abnormality history display (abnormal item, occurrence time display)	○	○	○
7. Product quality monitor	○	○	○
8. Quality control function (Actual value statistics function, various graphing function, 100,000 shots stored data check function)	○	○	○
9. Product control (Product quality control device, automatic production stop, stocker signal, Logging, Counter)*1	○	○	○
10. Auto start device (Auxiliary facility)	○	○	○
11. Cylinder heater temperature monitor (all zones)	○	○	○
12. Self diagnosis function	○	○	○
13. Alarm buzzer	○	○	○
14. Shot counter	○	○	○
15. Molding cycle time monitor (attended/unattended selection)	○	○	○
16. Total production control circuit	○	○	○
17. List setting screen	○	○	○
18. Function to prevent use of monitor	○	○	○
19. Maintenance key switch	○	○	○

Others	DU-CI	HS-CI (230/280)	HS-CI (400)
1. Auto grease supply unit (cartridge grease type)	○	○	○
2. Three-directional ejection frame	○	○	○
3. Mold cooling water block (2 systems) (flow indicator and valve are options)	○	○	○
4. Standard tool (offset wrench for nozzle)	○	○	○
5. Standard spare parts (Touch-up paint, fuse)	○	○	○

Screw assembly

* Elastomer resins often used in two-material molding can generally be used without requiring a special screw type or assembly.

Note: The above specification is not available for some molding machine models.

○ : Good match between screw type and assembly material △ : Selectable with restrictions
 ○ : Applicable ● : Specification not applicable or available for selection

Feature	Example resins	Compounding agent	Screw type			Assembly material					Example molded parts
			SD screw	SF screw	SM screw	Plated	For Optical use	Antistatic, anticondensation I	Antistatic, anticondensation II	High temperature	
Engineering plastics supported	PA · PBT · PP · ABS · POM · PC	Strengthening (GF30% or less), Combustion retarding	○	△	△	●	●	○	○	○	Mechanical parts, electronic components, etc.
Super-engineering plastics supported	LCP · PA9T PA6T · PPS · PA46	Strengthening (Under GF35%), Combustion retarding	○	△	△	●	●	○	○	○	Connector, electronic components, etc.
Optical resins supported	Cyclic polyolefin, PMMA, PC	Not strengthening	△	○	○	○	○	△	△	△	Optical components, transparent parts, etc.
High temperature specification	LCP, PEI, PEEK	Strengthening, Not strengthening	○	△	△	●	●	△	△	○	Mechanical parts, etc.

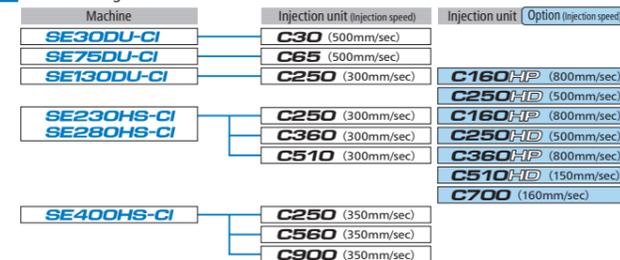
Optional Equipment

Plasticizing selection	DU-CI	HS-CI (230/280)	HS-CI (400)
1. Hard chromium plating screw assembly	○	○	○
2. Wear & corrosion resistant II & III screw assembly	○	○	○
3. Wear & corrosion resistant A screw assembly	○	○	○
4. Wear & corrosion resistant B screw assembly	○	○	○
5. High-temperature screw assembly (Max. temp. 450°C)	○	○	○
6. SF screw	○	○	○
7. SM screw	○	○	○
8. SK screw tip (Material : STD, MK, TiN)	○	○	○
9. Needle valve nozzle (Pneumatic nozzle actuating cylinder)	○	○	○
10. High capacity heater	○	○	○
11. Zone 1 high capacity heater	○	○	○

Plasticizing and injection unit	DU-CI	HS-CI (230/280)	HS-CI (400)
1. Resin temperature finder	○	○	○
2. Standard type hopper	○	○	○
3. V/P switchover by mold cavity pressure	○	○	○
4. Needle valve nozzle drive circuit	○	○	○
5. FTC nozzle electric control circuit (Built-in)	○	○	○
6. High temperature heater control circuit (Up to 499 °C / 930 °F.)	○	○	○
7. Hopper swivel mounting plate	○	○	○
8. Plating resin inlet of cooling water jacket	○	○	○

Control and monitor unit	DU-CI	HS-CI (230/280)	HS-CI (400)
1. Leak circuit breaker (AC200V, 220V 3ø 3W+E, Japan and Asia only)	○	○	○
2. Mold temperature monitor (2 Zone, stationary platen non-operation side)	○	○	○
3. Mold temperature monitor (2 Zone, mold reversal table)	○	○	○
4. Auxiliary facility monitor (STD, + 2ch)*1	○	○	○
5. Analog data output connection circuit	○	○	○
6. Mold temperature controller (Stationary platen's non-operation side. K=CA 2 zone)	○	○	○
7. Mold temperature controller (mold reversal table. K=CA 2 zone)	○	○	○
8. Automatic starting system (Heater + water supply + external output signal)	○	○	○
9. Printer connection circuit PC/AT compatible	○	○	○
10. Revolving alarm lamp (Mounted on the toggle support non-operation side)	○	○	○
11. Revolving alarm lamp (Mounted on the toggle support operation side)	○	○	○
12. Multi function 3 colors LED alarm lamp (Mounted on the toggle support non-operation side)	○	○	○
13. Multi function 3 colors LED alarm lamp (Mounted on the toggle support operation side)	○	○	○
14. 4-lines closed circuit water connection lines (Stationary side. With flow indicator and stop valve, and stop valve and filter for cooling water)	○	○	○
15. 2-lines closed circuit water connection lines (Stationary side. With flow indicator and stop valve, and stop valve and filter for cooling water)	○	○	○
16. Spare power supply outlet selection	○	○	○
17. Electric power supply receptacles	○	○	○
18. Electric power supply receptacles	○	○	○
19. Electric power supply receptacles	○	○	○
20. Key-lock switch for molding setup	○	○	○
21. Name plate : Blue	○	○	○
22. Mat switch for Under the Mold clamping unit	○	○	○
23. Motion 07	○	○	○
24. Motion GB	○	○	○
25. Emergency stop link (traverse robot & die cart)	○	○	○
26. DC24V power supply for external signal (power only)	○	○	○

Module configuration



Machine utility list

● This table presents an example case of utilities. Values will change according to the place of use and operating conditions.

Specification	Model	SE30DU-CI		SE75DU-CI		SE130DU-CI		SE230HS-CI		SE280HS-CI		SE400HS-CI		Notes
		F	R	F	R	F	R	F	R	F	R			
Plasticizing capacity	Plasticizing capacity	C30	C30	C65	C65	C250	C250	C250	C250	C360	C510	C560	C560	
	Screw size	φ18	φ20	φ20	φ22	φ32	φ36	φ32	φ36	φ36	φ45	φ40	φ50	
Cooling water	Water cooling cylinder required water level	0.6L/min	0.7L/min	0.8L/min	0.9L/min	1.8L/min	2.0L/min	1.8L/min	2.0L/min	2.0L/min	2.6L/min	2.4L/min	2.9L/min	* Molding machine only
	Connecting pipe size (both for intake/outlet)	1/2B	1/2B	1/2B	1/2B	1/2B	1/2B	1/2B	1/2B	1/2B	1/2B	1/2B	1/2B	* Shared mold
Power supply specification	Mold cooling water manifold	1/4B	1/4B	1/4B	1/4B	1/4B	1/4B	1/4B	1/4B	1/4B	1/4B	1/4B	1/4B	
	Heater capacity	2.7kW	3.1kW	3.5kW	3.9kW	7.6kW	8.5kW	7.6kW	8.5kW	8.5kW	11.1kW	10.3kW	12.6kW	
Electrical list	Main breaker capacity	125.0A	150.0A	200.0A	225.0A	225.0A	225.0A	225.0A	225.0A	225.0A	250.0A	250.0A	250.0A	
	Primary power supply terminal screw size	M8	M8	M8	M8	M8	M8	M8	M8	M8	M8	M8	M8	
	Primary power supply wiring size	38.0mm ²	50.0mm ²	80.0mm ²	100.0mm ²									
	Earth wire screw size	M8	M8	M8	M8	M8	M8	M8	M8	M8	M8	M8	M8	
	Earth wire size	22.0mm ²	30.0mm ²	50.0mm ²	50.0mm ²	50.0mm ²	50.0mm ²	50.0mm ²	50.0mm ²	50.0mm ²	50.0mm ²	100.0mm ²	100.0mm ²	
Required power capacity	43.3kVA	52.0kVA	69.3kVA	77.9kVA	77.9kVA	77.9kVA	77.9kVA	77.9kVA	77.9kVA	86.6kVA	86.6kVA	86.6kVA	* Molding machine only	

Clamp unit	DU-CI	HS-CI (230/280)	HS-CI (400)
1. Ejector (Rod diameter 25)	○	○	○
2. Pneumatic ejector (Stationary side - 2 lines, Control circuit + Pneumatic circuit)	○	○	○
3. Pneumatic ejector (Stationary side - 2 lines, Control circuit only)	○	○	○
4. Pneumatic ejector (Movable side - 2 lines, Control circuit + Pneumatic circuit)	○	○	○
5. Cavity ventilator (Stationary side - 1 line)	○	○	○
6. Cavity ventilator (Stationary side - 2 line)	○	○	○
7. Hydraulic core tractor control circuit (Stationary side, 2 line)	○	○	○
8. Hydraulic core tractor control circuit (Stationary side, 4 line)	○	○	○
9. Pneumatic core pull control circuit (Stationary side, 1 line)	○	○	○
10. Pneumatic core pull control circuit (Stationary side, 2 line)	○	○	○
11. SPI take-out robot connection circuit *1	○	○	○
12. SPI AN-146 / Euromap67 take-out robot connection circuit *1	○	○	○
13. High precision heat insulating plate t=5mm (rectangular, separates)	○	○	○
14. Auto grease lubrication unit (liner guide on plasticizing unit)	○	○	○
15. Valve gate drive circuit (Control circuit and pneumatic circuit 1 line)	○	○	○
16. Valve gate drive circuit (Control circuit and pneumatic circuit 2 line)	○	○	○
17. Full metallic toggle cover	○	○	○
18. Hydraulic driving unit	○	○	○
19. Preserve piping for Mold reversal device (1Line, less than 120°C)	○	○	○
20. Preserve piping for Mold reversal device (2Lines, less than 120°C)	○	○	○
21. Preserve piping for Mold reversal device (4Lines, less than 120°C)	○	○	○
22. Preserve piping for Mold reversal device (6Lines, less than 120°C)	○	○	○
23. Preserve piping for Mold reversal device (8Lines, less than 120°C)	○	○	○
24. Preserve piping for Mold reversal device (2Lines, less than			

Plasticizing unit	Screw / type			E	F	G	M	Max. over all length of machine
	OA	OR	NR					
C250	M	28	OR	390	450	2527	-69	6403
						2537	-59	
						2617	21	
	M	32	NR	36	450	2627	31	6434
						2707	111	6514
						2717	121	6524
			36			2807	211	6614

Plasticizing unit	Screw / type			E	F	G	M	Max. over all length of machine	
	OA	OR	NR						
C360	M	32	OR	440	500	655	2772	6784	
						645	2782		
						555	2872		
	M	36	NR	40	500	655	2772	381	6784
						645	2782		
						565	2862		
			40	36		555	2872		
			40			500	2962	416	6819

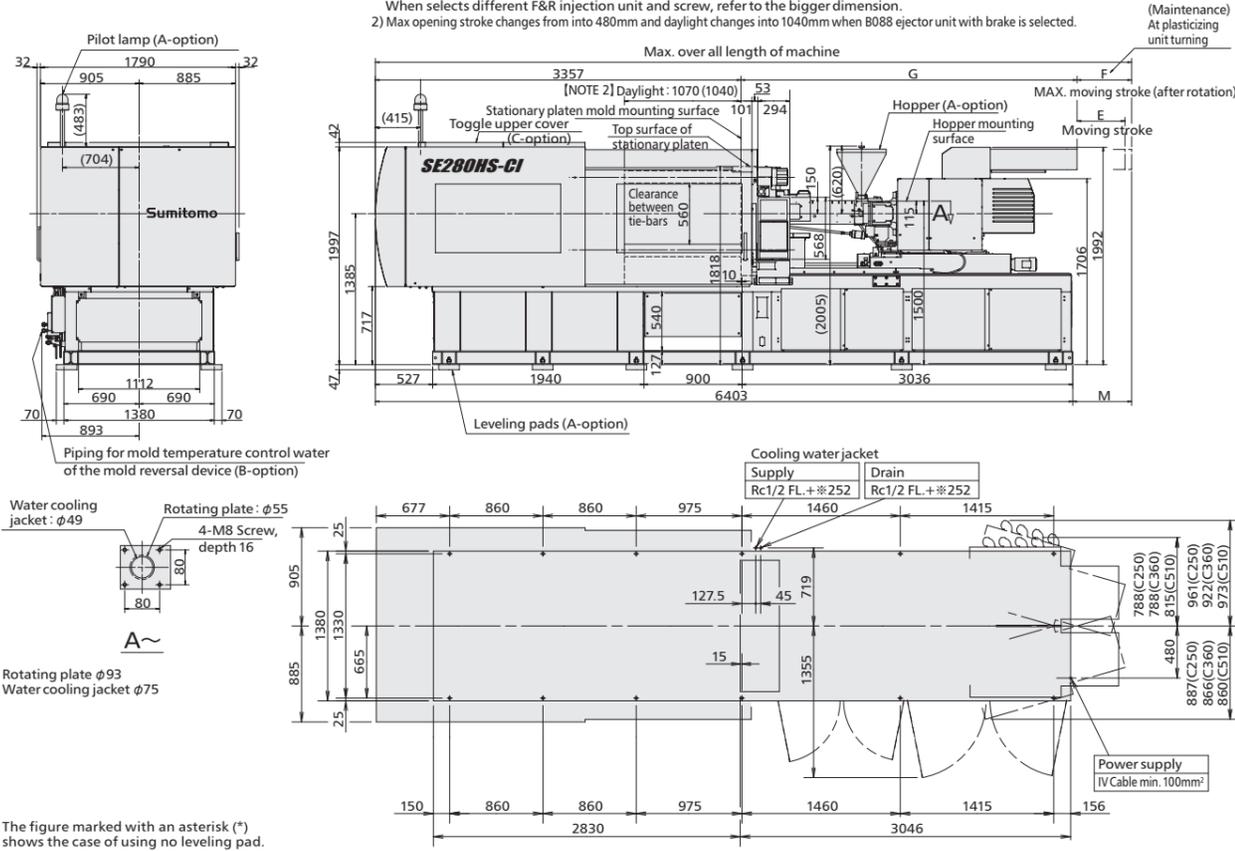
Plasticizing unit	Screw / type			E	F	G	M	Max. over all length of machine	
	OA	OR	NR						
C510	M	40	OR	440	500	2927	381	6784	
						2937	391		6794
						3017	471		6874
	M	45	NR	40	500	3027	481	6884	
						3107	561	6964	
						3117	571	6974	
			50			3207	661	7064	

OA: Open exclusive type
OR: Open type
NR: Needle valve changeable type

Dimension & Foundation Plan

The following drawing's dimensions are Japanese specification.

- [NOTES] 1) Mechanical overall length dimension is applied, when selects the same F&R injection unit and screw.
When selects different F&R injection unit and screw, refer to the bigger dimension.
2) Max opening stroke changes from into 480mm and daylight changes into 1040mm when B088 ejector unit with brake is selected.

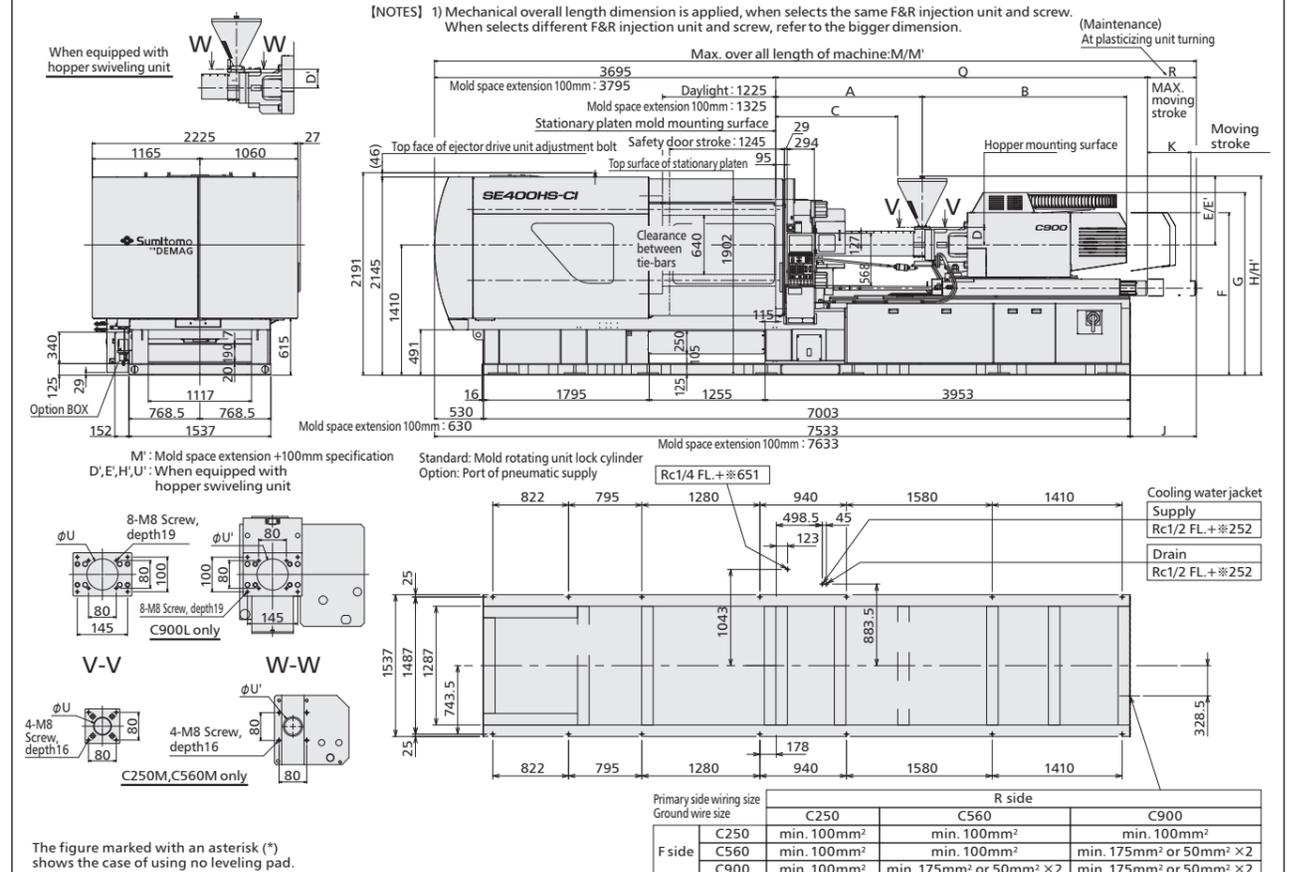


Injection unit	Screw diameter			A	B	C	D	D'	E	E'	F	G	H	H'	J	K	M	M'	Q	R	T	U	U'	
	OR	NR	NR																					
C250M	OR	28	NR	1459	462	572	155	140	711	696	1701	1978	2121	2106	-698	470	7533	7633	2320	530	20'	52	56	
					2490	2410																		
					2500	2610																		
	C560M	OR	32	NR	1723	462	572	155	140	711	696	1746	1977	2121	2106	-237	470	7533	7633	2320	530	20'	52	56
						2490	2410																	
						2500	2610																	
C900L		OR	45	NR	2212	870	1000	189	202	745	777	1758	1977	2155	2187	717	470	7800	7900	2375	530	14'	56	93
						8090	8190																	
						8250	8350																	

OR: Open type
NR: Needle valve changeable type

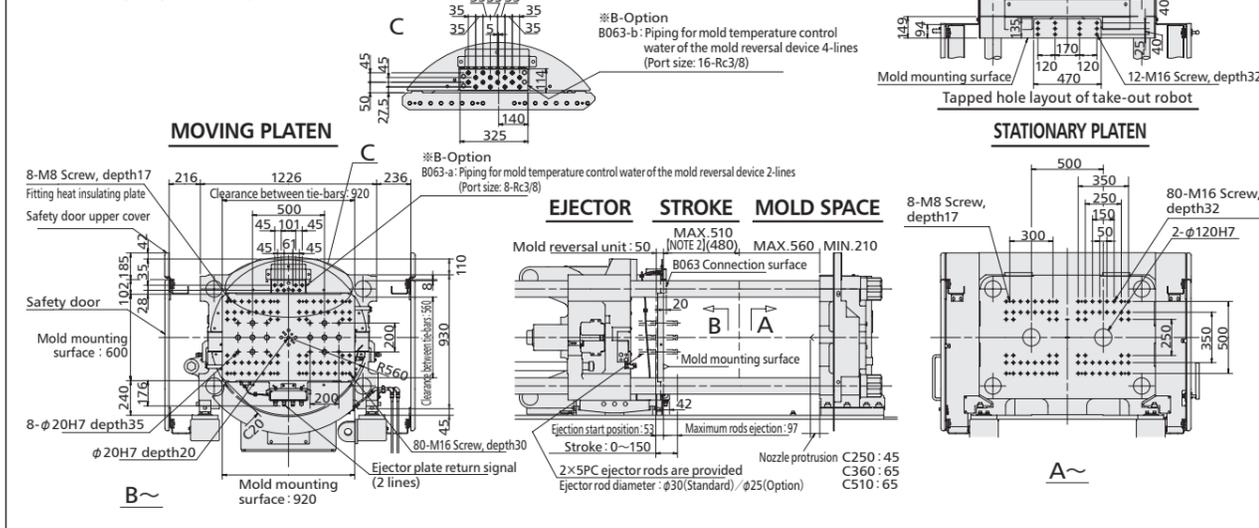
Dimension & Foundation Plan

The following drawing's dimensions are Japanese specification.



Mold Mounting Diagram

(Mold Mounting Diagrams comply with JIS B 6701.)



Mold Mounting Diagram

(Mold Mounting Diagrams comply with JIS B 6701.)

