

# Sinto Global Network

25 Companies in 12 countries worldwide

## U.S.A.

Sinto America, Inc.  
Roberts Sinto Corporation  
SandMold Systems, Inc.  
National Peening Inc.  
Technical Metal Finishing Inc.  
CTP Sinto America, LLC

## Mexico

Roberts Sinto De Mexico, S.De R.L.De C.V.

## Brazil

Sinto Brasil Produtos Limitada

## Germany

Heinrich Wagner Sinto Maschinenfabrik GmbH  
Frohn GmbH

## Austria

Chemisch Thermische Prozesstechnik GmbH

## China

Qingdao Sinto Machinery Co., Ltd.  
Qingdao Brator Abrasives Co., Ltd.  
Wuxi Tai Sintong Machinery Co., Ltd.  
Sintokogio (Kunshan) Co., Ltd.  
Zhejiang Sinto Abrasive Co., Ltd.  
Guangzhou Xin Zhongtong Machinery Co., Ltd.

## Korea

Korea Sinto Co., Ltd.

## Japan

SINTOKOGIO, LTD.

## Taiwan

Taiwan Sintong Machinery Co., Ltd.  
Taiwanabrator Co., Ltd.

## India

Sinto Bharat Manufacturing Pvt. Ltd.

## Thailand

Thai Sintokogio Co., Ltd.  
Siambrator Co., Ltd.

## Indonesia

P.T. Sinto Indonesia

### SINTOKOGIO, LTD.



1-11-11, Nishiki,  
Naka-ku, Nagoya 460-0003, Japan  
T e l (052) - 582 - 9211  
F a x (052) - 586 - 2279  
E-Mail webmaster@sinto.co.jp  
HP <http://www.sinto.co.jp>

### Chemisch Thermische Prozesstechnik GmbH



Schmiedstrasse, 10, 8042  
Graz, Austria  
T e l (43) - 316 - 4101  
F a x (43) - 316 - 4101 - 80  
HP <http://www.ctp-airpollutioncontrol.com/en/homepage/>

### National Peening, Inc.



1902 Weing Street Statesville,  
NC 28677, U.S.A.  
T e l (1) - 704 - 872 - 0113  
F a x (1) - 704 - 872 - 0114  
HP <http://www.nationalpeening.com>

### Roberts Sinto De Mexico, S.De R.L.De C.V.



Michoacán #1013  
Col. Nuevo Pueblo Monterrey,  
N.L. 64700, Mexico  
T e l (52) - 81 - 8190 - 1818  
F a x (52) - 81 - 8190 - 1818  
E-Mail info@robertssinto.com  
HP <http://www.sinto.mx>

### Qingdao Brator Abrasives Co., Ltd.



Wutaishan Road No.811  
Qingdao Economic & Technical  
Development Zone, China  
T e l (86) - 532 - 8689 - 3875  
F a x (86) - 532 - 8689 - 4061  
E-Mail qbrator@bdchina.com  
HP <http://www.qbrator.com>

### Zhejiang Sinto Abrasive Co., Ltd.



P.C.314200 No. 2511 Xinkai Road,  
Pinghu Economic Development Zone,  
Zhejiang, China  
T e l (86) - 573 - 89170123  
F a x (86) - 573 - 89170120  
HP <http://www.sinto-zb.com/>

### Taiwan Sintong Machinery Co., Ltd.



415 Hwa Cheong Road Hsin  
Chuang City, Taipei Hsien,  
Taiwan, R.O.C.  
T e l (886) - 2 - 8521 - 5837  
F a x (886) - 2 - 8522 - 1774  
E-Mail sinto@ms26.hinet.net  
HP <http://www.twsinto.cc.tw>

### Siambrator Co., Ltd.



27/9 Moo 5, Phaholyothin Road,  
Klong No.1 Klongluang,  
Patumthani Province 12120, Thailand  
T e l (66) - 2 - 285 - 3086  
F a x (66) - 2 - 285 - 3084  
E-Mail jirat@siambrator.com  
HP <http://www.siambrator.com>

### Heinrich Wagner Sinto Maschinenfabrik GmbH



Bahnhofstr. 101  
D-57334 Bad Laasphe, Germany  
T e l (49) - 2752 - 9070  
F a x (49) - 2752 - 907280  
E-Mail info@wagner-sinto.de  
HP <http://www.wagner-sinto.de>

### Sinto America, Inc./Roberts Sinto Corporation



3001 West Main Street P.O.Box 40760  
Lansing, MI 48901-7960, U.S.A.  
T e l (1) - 517 - 371 - 2460  
F a x (1) - 517 - 371 - 4930  
E-Mail info@robertssinto.com  
HP <http://www.robertssinto.com>

### Technical Metal Finishing Inc.



29 Capital Drive, Wallingford,  
Connecticut, 06492, U.S.A.  
T e l (1) - 203 - 284 - 7825  
F a x (1) - 203 - 284 - 7826  
HP <http://www.tmfshotpeening.com>

### Sinto Brasil Produtos Limitada



Rua Costa Barros, 3021,  
Jardim Guairaca, CEP 03210-001  
Sao Paulo, SP, Brazil  
T e l (55) - 11 - 3321 - 9500  
F a x (55) - 11 - 3321 - 9616  
E-Mail fale@sinto.com.br  
HP <http://www.sinto.com.br>

### Wuxi Tai Sintong Machinery Co., Ltd.



5th Factory, No.77, Jinma road,  
Hongshan Industrial Park,  
Wuxi City, China  
T e l (86) - 510 - 8562 - 6650  
F a x (86) - 510 - 8562 - 8108

### Guangzhou Xin Zhongtong Machinery Co., Ltd.



No.3, Jinsha Road, Nansha District,  
Guangzhou, China  
T e l (86) - 20 - 3905 - 1865  
F a x (86) - 20 - 3905 - 1789

### Taiwanabrator Co., Ltd.



No.586, Sec.2, Chung Shan S. Rd.,  
Ta Yuan Hsiang, Tao Yuan Hsien 337,  
Taiwan, R.O.C.  
T e l (886) - 3 - 381 - 3812  
F a x (886) - 3 - 381 - 8329  
E-Mail tbs@tshot.com.tw  
HP <http://www.tshot.com.tw>

### PT. Sinto Indonesia



Kawasan Industri Greenland Jl.Greenland  
Boulevard Blok AF No. 11 Kota Deltamas,  
Bekasi 17530 Indonesia  
T e l (62) - 21 - 899 - 73252  
F a x (62) - 21 - 899 - 73253

### Frohn GmbH



Nettesir.83-87 D-58762 Altena, Germany  
T e l (49) - 2352 - 9281 - 0  
F a x (49) - 2352 - 9281 - 30  
HP <http://www.frohn.com>

### SandMold Systems, Inc.



313 W. State Street, P.O. Box 488  
Newaygo, MI 49337, U.S.A.  
T e l (1) - 231 - 652 - 1623  
F a x (1) - 231 - 652 - 1629  
E-Mail smssales@smssandmold.com  
HP <http://www.smssandmold.com>

### CTP Sinto America, LLC



3001 West Main Street, Lansing,  
MI 48917, U.S.A.  
T e l (1) - 740 - 602 - 1159  
HP <http://www.ctp-us.com>

### Qingdao Sinto Machinery Co., Ltd.



55 Xingdong Road, Jiulong town,  
Jiaozhou City, Qingdao, Shandong  
Province, China  
T e l (86) - 532 - 8182 - 7898  
F a x (86) - 532 - 8182 - 7900  
E-Mail sinto@sinto.cn  
HP <http://www.sinto.cn>

### Sintokogio (Kunshan) Co., Ltd.



88 Baifu Road, Kunshan Economic  
Development Zone, Baifu Office  
Park B-F2, China  
T e l (86) - 512 - 5500 - 0696  
F a x (86) - 512 - 5516 - 3163  
HP <http://www.sinto-csk.cn/EN/>

### Korea Sinto Co., Ltd.



13, Nongong-ro 91-gil, Nongong-eup,  
Dalseong-gun, Daegu, Korea  
T e l (82) - 53 - 615 - 4901  
F a x (82) - 53 - 615 - 2110  
E-Mail koreasinto@koreasinto.com  
HP <http://www.koreasinto.com>

### Thai Sintokogio Co., Ltd.



Rojana industrial park 2  
44 Moo 4 Banchang, U-Thai,  
Ayutthaya 13210  
T e l (66) - 35 - 200 - 710  
F a x (66) - 35 - 200 - 719  
E-Mail sales@thaisinto.co.th  
HP <http://www.thaisinto.co.th/>

### Sinto Bharat Manufacturing Pvt. Ltd.



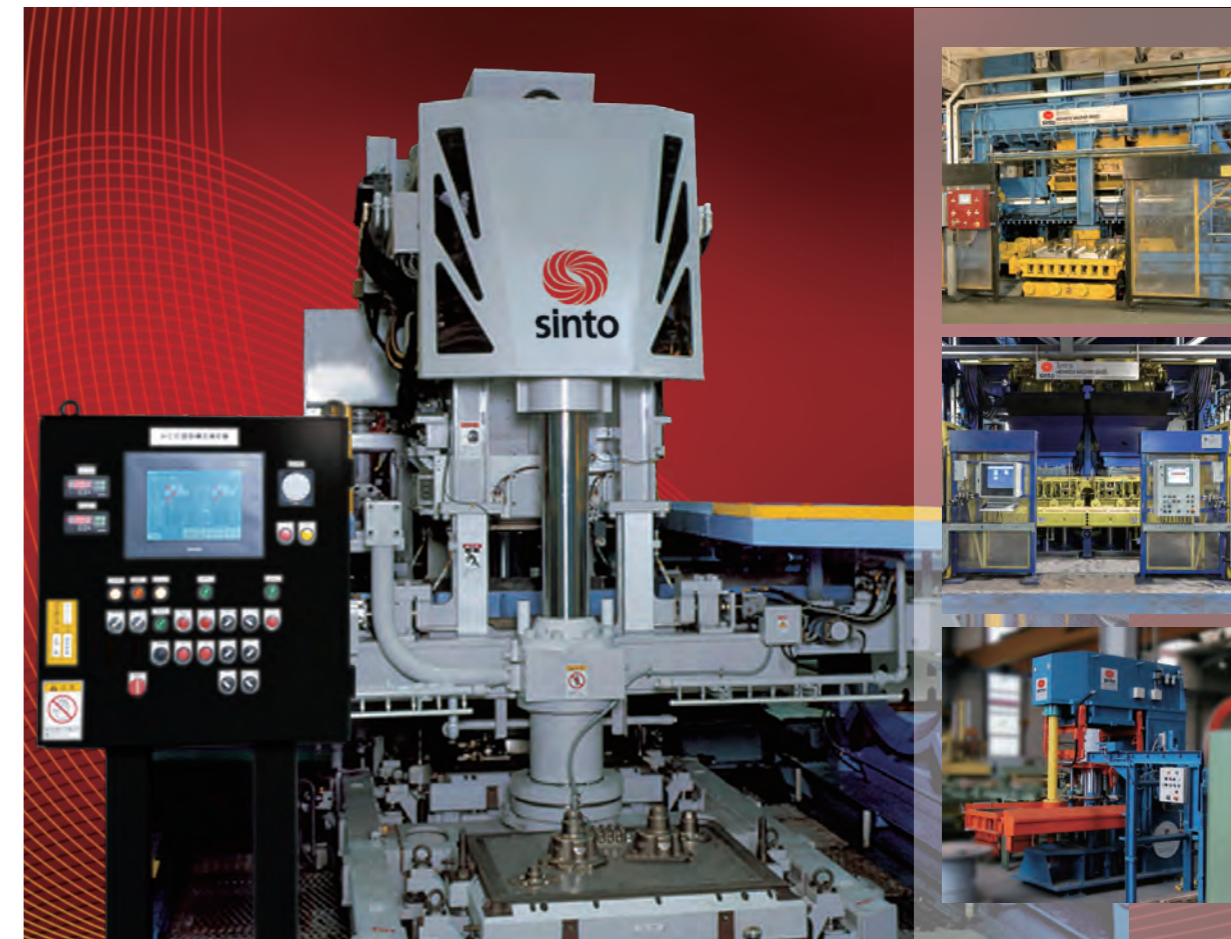
204, G.S.T Road NH-45,  
Kolambakkam Village, Madurantagam Taluk,  
Kancheepuram District, Tamilnadu-603308  
T e l (91) - 44 - 2756 - 5125  
E-Mail marketing@sintobharat.com  
HP <http://www.sintobharat.com>



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www.sinto.com

## FOUNDRY TECHNOLOGY Aeration & SEIATSU Tight Flask Molding Machines



Sinto products are designed with attention for safety and environmental quality concerns.

Before using Sinto equipment, please read and understand the supplied Operation Manual and operate the equipment properly.

### SINTOKOGIO, LTD.

1-11-11, Nishiki,  
Naka-ku, Nagoya 460-0003, Japan  
Tel +81 52 582 9211 Fax +81 52 586 2279  
[www.sinto.com](http://www.sinto.com)

# Sinto Technology Changes Green Sand Molding

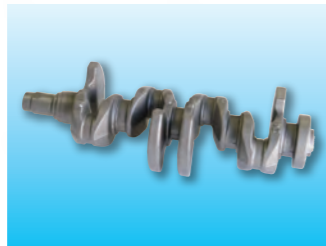
Sinto developed **SEIATSU Air-flow** technology utilizing compressed air in 1979. This technology realized consistent production of highly dimensionally accurate castings with high quality. Sinto also developed **Aeration Sand Filling** technology by fluidizing sand using low-pressure air in 2000, contributing to energy saving and clean environment as well as to production of high quality castings. Sinto proposes the most suitable equipment to each customer among our various molding machines designed under unique technologies.

## Aeration Sand Filling technology

Sand filling technology achieving uniform hardness and high density mold

For Small and Medium Size Castings

Target casting



Crankshaft



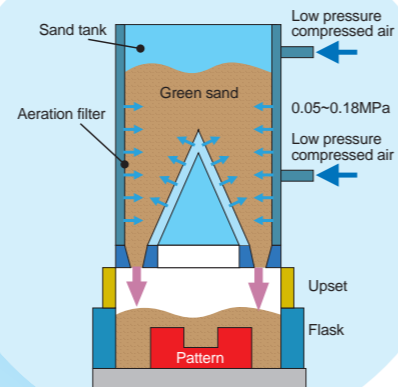
Mold strength (N/cm<sup>2</sup>)  
Increased number of casting in a mold thanks to uniform mold strength across the mold contributes production volume increase.

### Features

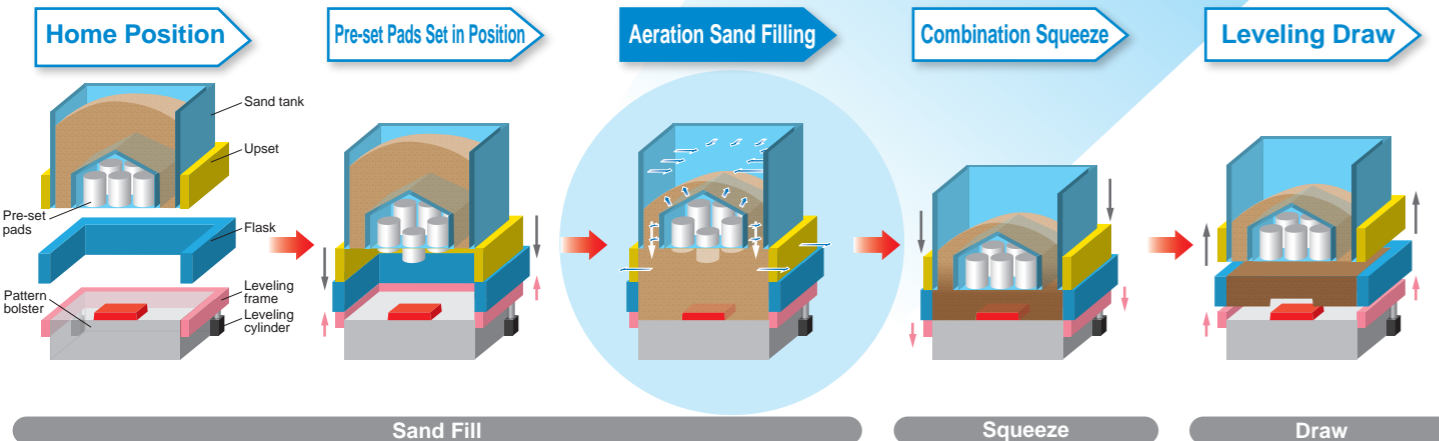
- By uniform primary sand fill, mold strength over the whole mold becomes uniform, improving dimensional accuracy of small and medium size castings and increasing number of castings in a mold.
- Huge energy saving is achieved by using low pressure air.

### Principle of Aeration Sand Filling

Green sand in the tank is fluidized by low pressure air and is introduced into flask.



### Aeration molding method (Pneumatic pre-set pad type, ACE series)



## SEIATSU Air-flow technology

Sand compaction technology applicable to larger molds with high density and uniform hardness

For Medium and Large Size Castings

Target casting



Axle (680kg)



Electric motor housings (280kg, 26kg, 3.8kg)

### Features

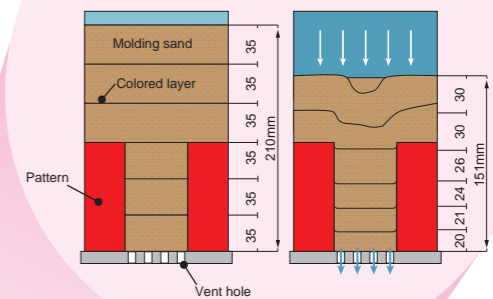
- Improvement of mold strength of large molds with deep pockets.



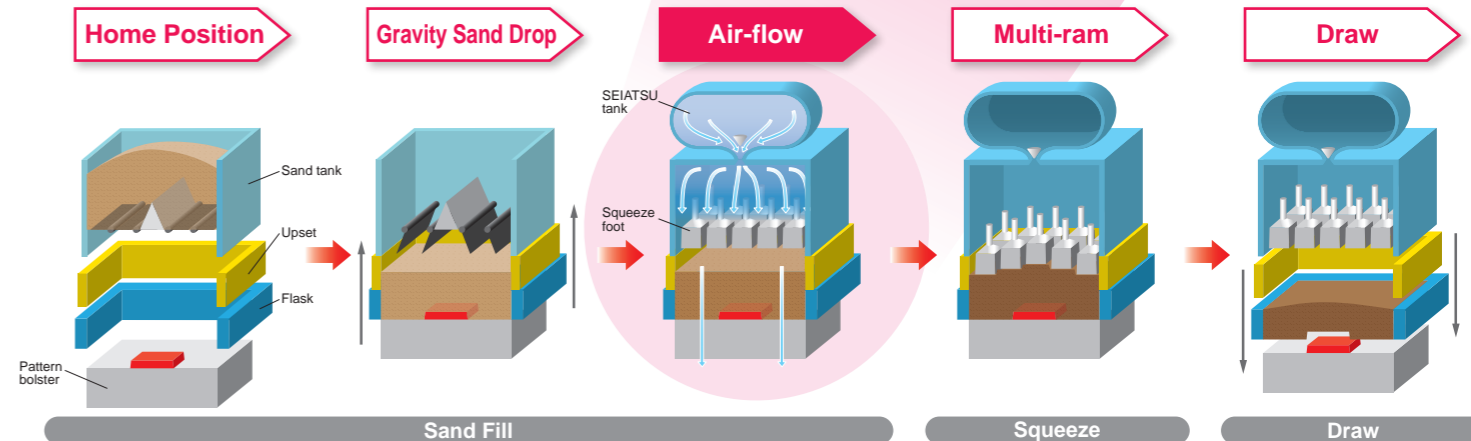
Mold example: Brake drum, φ approx. 500mm

### Principle of Air-flow

After sand is dropped into the flask by gravity, compressed air is introduced from the top of the mold through vent holes mounted on the pattern plate.





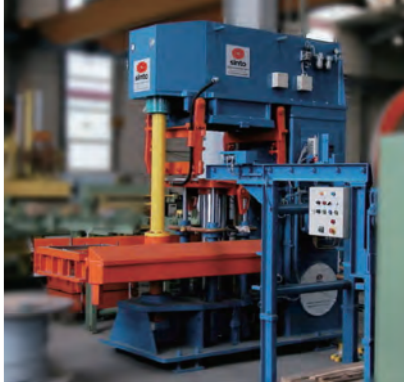


### SEIATSU molding method (EFA series & ZFA series)

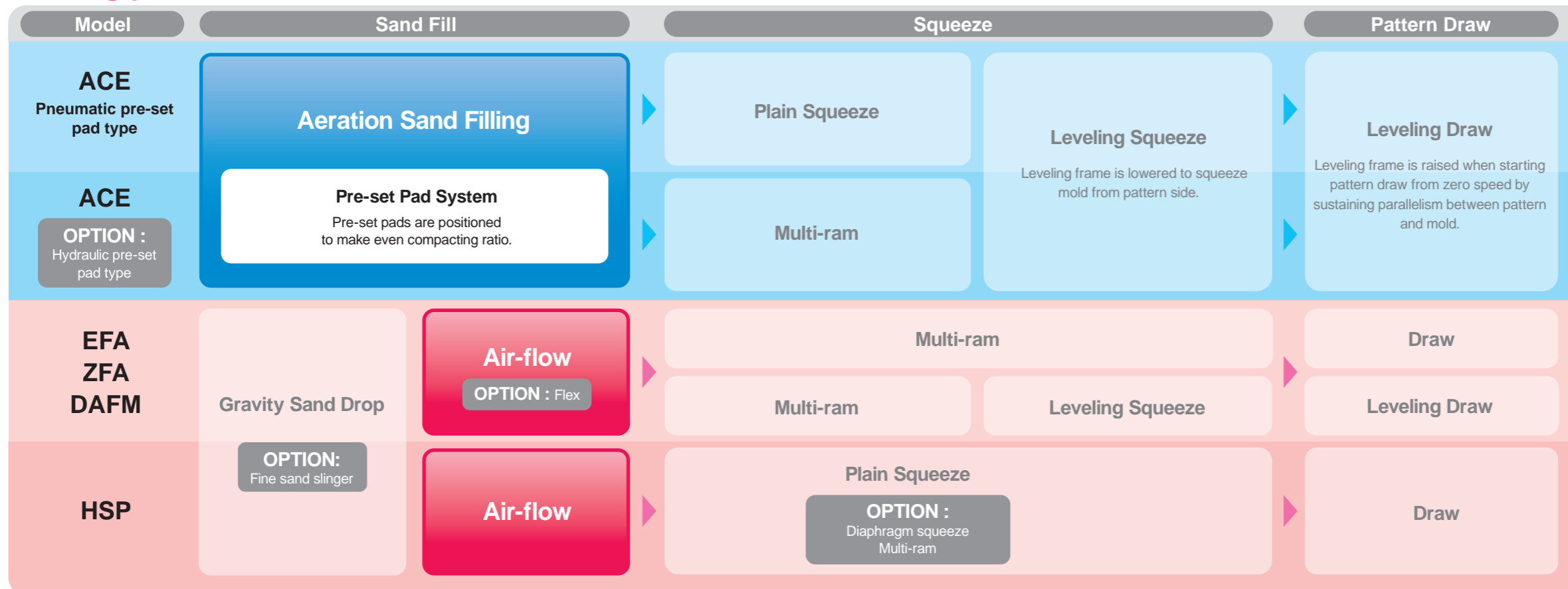


\*Type with leveling squeeze and draw is also available.

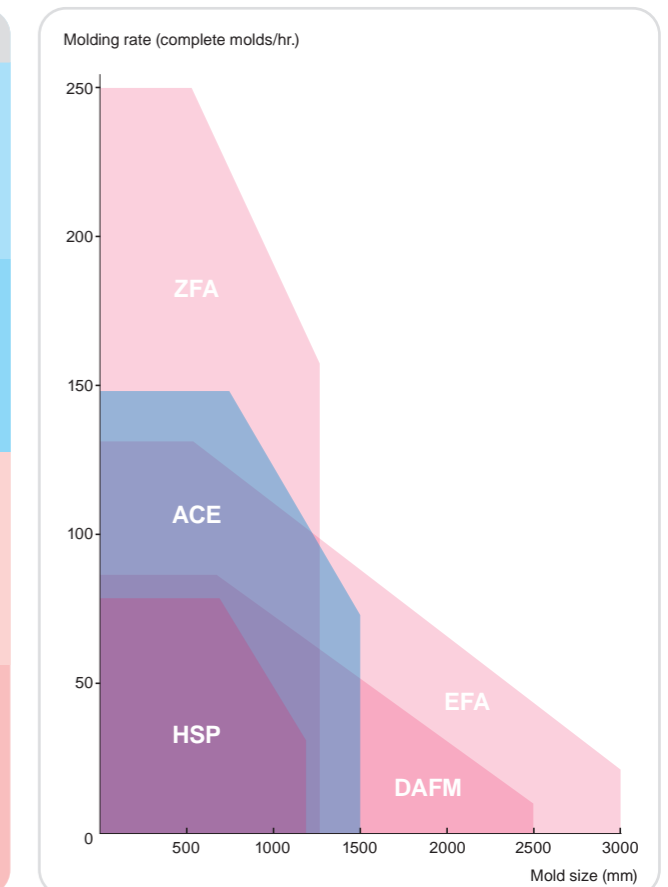
## Line-up to answer the various needs of castings

Molding Method	Aeration	SEIATSU	SEIATSU	SEIATSU	SEIATSU
Model	<b>ACE-3·4·5·6·7</b>  <a href="#">Detailed information</a> <a href="#">pages 05-08</a>	<b>EFA-SD2·3·4·5·6·7·8</b> <b>EFA-S5·6·7·8·9</b>  <a href="#">pages 09-10</a>	<b>ZFA-SD2·3·4·5·6</b> <b>ZFA-S2·3·4·5·6</b>  <a href="#">pages 09-10</a>	<b>DAFM-SD3·4·5·6</b> <b>DAFM-S5·6·7·8·9</b>  <a href="#">page 11</a>	<b>HSP-1D·2D·3D·4D</b> <b>HSP-1·2·3</b>  <a href="#">page 12</a>
Suitable Products	For small and medium size castings	For medium and large size castings	For medium and large size castings	For small lot production of various products	For small lot production of various products
Mold Size (mm)	Min. 700×650 - Max. 1,500×1,200	Min. 500×400 - Max. 3,000×2,000	Min. 500×400 - Max. 1,250×1,000	Min. 650×500 - Max. 2,500×2,000	Min. 650×500 - Max. 1,250×1,000
Mold System	Alternate molding	Alternate molding	Cope/drag simultaneous molding	Alternate molding	Alternate molding
Molding Rate	MAX <b>150</b> complete molds/hr. <small>(Simultaneous molding by twin machine type MAX 240 complete molds/hr.)</small>	MAX <b>140</b> complete molds/hr.	MAX <b>250</b> complete molds/hr.	MAX <b>80</b> complete molds/hr.	MAX <b>70</b> complete molds/hr.
Features	Simple & energy saving. “Aeration sand filling” technology achieves uniform and highly strong mold.	Highly automated, high speed, highly flexible and accurate for complex geometries.	Highly automated, top speed, highly flexible and accurate for complex geometries.	Easy accessibility to pattern for manual work. Suitable for chiller, open top feeder setting or facing sand.	Easy accessibility to pattern for manual work. Suitable for chiller, open top feeder setting or facing sand.

## Molding process of each model



## Mold size variations

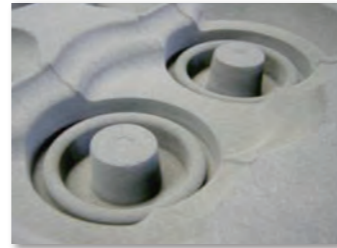


# ACE series

Simple & Energy Saving

Molding Rate : MAX **150** complete molds/hr.

Alternate molding  
(Simultaneous molding by twin machine type  
MAX **240** complete molds/hr.)

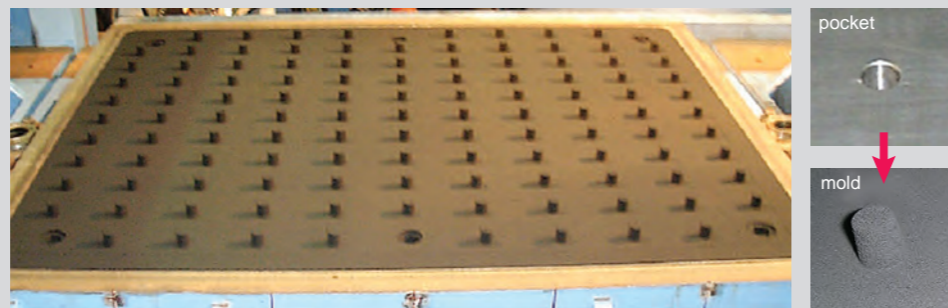
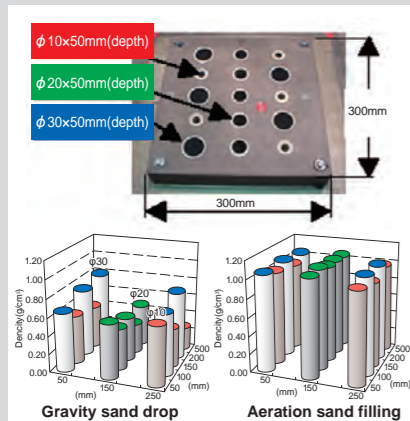


## Features

- "Aeration sand filling" technology achieves uniform and highly strong mold.
- Draft angle is minimized.
- Spill sand is eliminated, cut-off sand is minimized.
- Achieves operator-friendly environment and energy reduction.
- Installation space is reduced by compact design.
- Molding condition can visually be monitored.
- Simple machine structure realizes easy maintenance.

## "Aeration Sand Filling" Makes Mold Difference

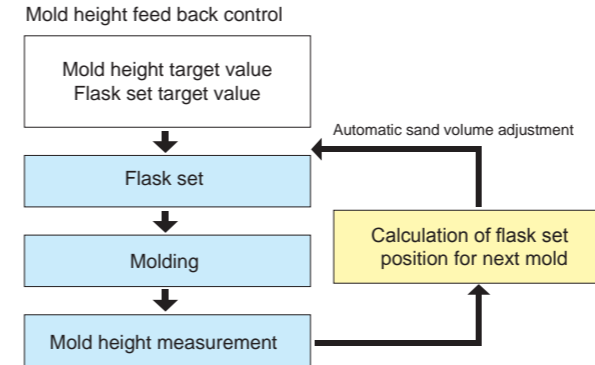
Compared to gravity sand drop system, by aeration sand filling technology, sand is not only uniformly filled to the overall area of the pattern board, but also achieves good and stable filling density in the complex shape of pattern, thus realizes the state-of-art mold.



Molding test by test pattern  
Mold size (Width x Length): 900x700 (mm) Total 115 pockets (φ12xH15 (mm)) on the pattern

## No spill sand, Minimized cut-off sand

Since sand is filled in the confined space by aeration sand filling, no spill sand is generated. Cut-off sand is minimized as well as required sand volume, by mold height feed back control.

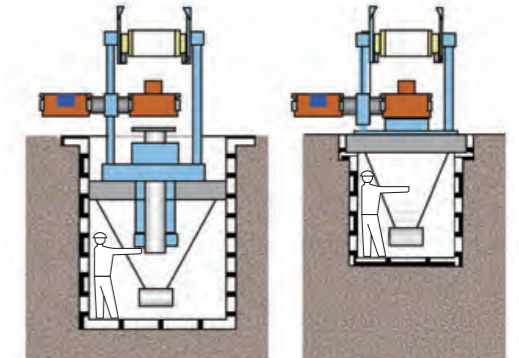


**Spill sand + Cut-off sand = Sand in mold x 5%**

## Reduced installation space

Space-saving ACE is less restricted by installation space. Replacing existing molding machine is easier and minimizing pit size is also possible.

Sinto's conventional machine ACE

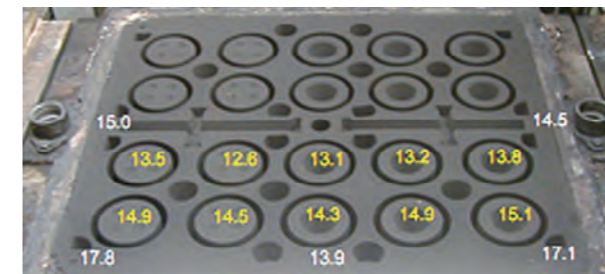


Sinto's conventional machine ACE

## More dimensionally precise castings achieved by aeration technology

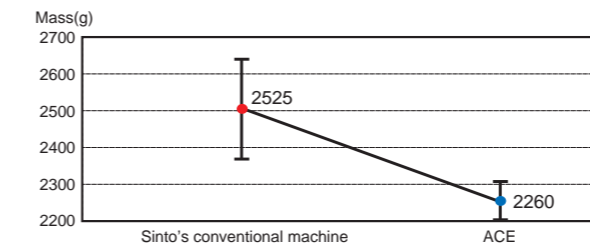
### Minimized draft angle

Example: Mold of cylinder liners (Draft angle 0.5 degrees)



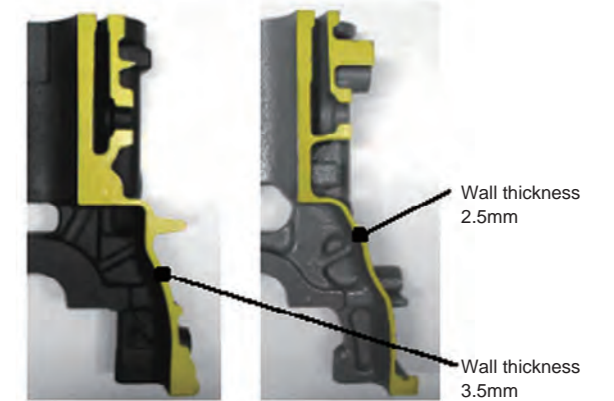
Mold strength : N/cm<sup>2</sup>

Weight reduction by minimized draft angle



### Reduced wall thickness

Example: Cylinder block

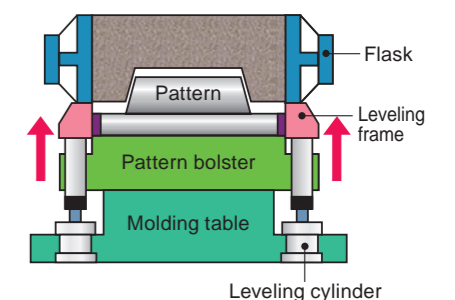


Sinto's conventional machine Weight: 25kg ACE Weight: 21kg

\*To realize castings with high dimensional accuracy, overall study on improvement of core dimension, improvement of line equipment alignment, stable sand strength, improvement of gating system, etc. is indispensable.

## Excellent pattern draw by leveling frame

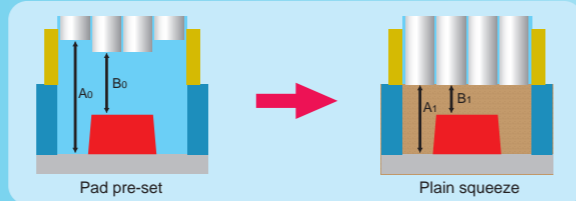
Highly accurate pattern draw is possible by lifting the mold with leveling frame at slow speed, sustaining the parallelism. Since molding and pattern draw are performed on the stationary table, draft angle can be minimized.



## Variations of pre-set pad system

### Pneumatic pre-set pad type ACE-3 · 4 · 5 · 6 · 7

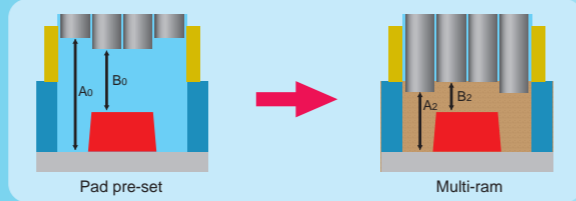
Squeeze: Plain squeeze & Leveling squeeze



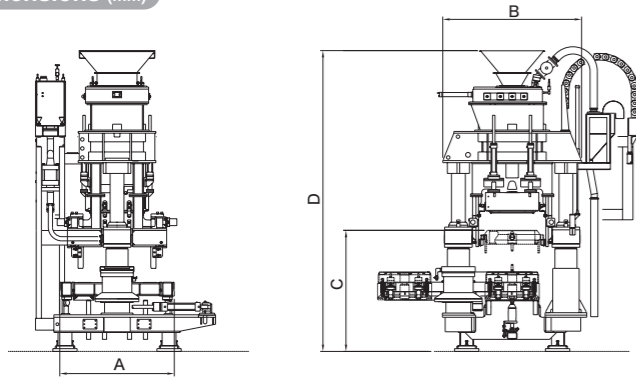
#### Option

### Hydraulic pre-set pad type ACE-5 · 6 · 7

Squeeze: Multi-ram & Leveling squeeze  
Pre-set pads can be used as segment foos for multi-ram.



#### Dimensions (mm)



Model No.	A	B	C	D
ACE-3	1,450	1,800	1,600	3,700
ACE-4	1,600	2,000	1,850	4,550
ACE-5	1,900	2,300	2,100	5,000
ACE-6	2,100	3,000	2,600	5,700
ACE-7	2,800	3,700	2,900	7,000

#### Specifications

Model No.		ACE-3	ACE-4	ACE-5	ACE-6	ACE-7			
Mold Size	Width x Length (mm)	700x650	850x650	1,000x800	1,300x900	1,500x1,200			
	Height (mm)	150-200	-250 -300	-250 -300	-300 -350	-350			
Molding System	Pneumatic Pre-set Pad Type	Aeration Sand Filling + Combination Squeeze (Plain Squeeze & Leveling Squeeze)							
	Hydraulic Pre-set Pad Type	Aeration Sand Filling + Combination Squeeze (Multi-ram & Leveling Squeeze)							
Molding Rate (Max. complete molds/hr.)		150	150	135	144	130	120	108	80-90
Squeeze Surface Pressure (Max.)		1.0 MPa							
Aeration Pressure		0.05-0.18 MPa							
Power System		Pneumatic & Hydraulic							
Air Consumption		1.25 Nm <sup>3</sup> /mold	1.5 Nm <sup>3</sup> /mold	2.0 Nm <sup>3</sup> /mold	3.0 Nm <sup>3</sup> /mold	4.0 Nm <sup>3</sup> /mold			
Operating Air Pressure		0.5-0.6 MPa							
Weight of Mold (Max.)		140 kg	210 kg	250 kg	300 kg	360 kg	530 kg	620 kg	950 kg

\*1) Please consult us for different mold sizes and outputs which are not specified in above chart. \*2) Specifications are subject to change without notice.

\*3) CE version is also available. \*4) Customized engineering is available to meet customer's requirements.

#### Options



• **Wear-resistant leveling seal for pattern bolster**  
High wear-resistant and long-life urethane leveling seal

• **Raised cope mold**  
Auxiliary sand mold for higher profile pattern is possible up to cope height +50mm.

• **Cold climate specification**  
Hydraulic unit heater is available for shortening heating time of oil fluid.

• **Clamp type pattern bolster**  
Easy mounting and dismantling of pattern by quick air coupling system, reducing pattern change time

• **Hot climate specification**  
Control panel cooler is available to prevent overheating inside the control panel.

• **Automatic pattern changer**  
Automatic pattern bolster changing unit for reducing pattern changing time and labor costs

• **Pattern heater**  
Pattern is heated to prevent sand from sticking to the pattern to achieve smooth pattern draw.

• **Hydraulic pre-set pad**

• **Wear-resistant nozzle**  
Aeration nozzle having high wear-resistance and long life

• **Additional pattern bolster**

## Automatic molding line for ACE series

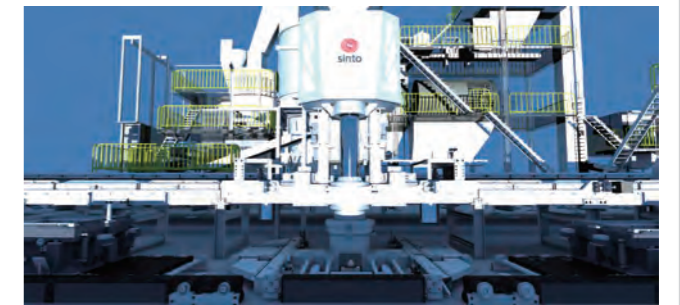
### Suitable molding line for medium volume production

• Standard molding line for ACE



MAX **150** complete molds/hr.

Line system: Alternate molding



#### Example

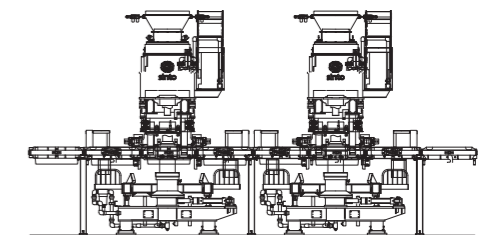
Molding machine:	ACE-5
Mold size (mm):	900x800
Mold height (mm):	250/250
Molding rate:	144 complete molds/hr.
Required mixed sand volume:	Approx. 75 ton/hr.
Production capacity:	Approx. 1800 ton/month (Assumption)

### High speed line with 2 ACE units for further high volume production

• High speed molding line with twin type ACE

MAX **240** complete molds/hr.

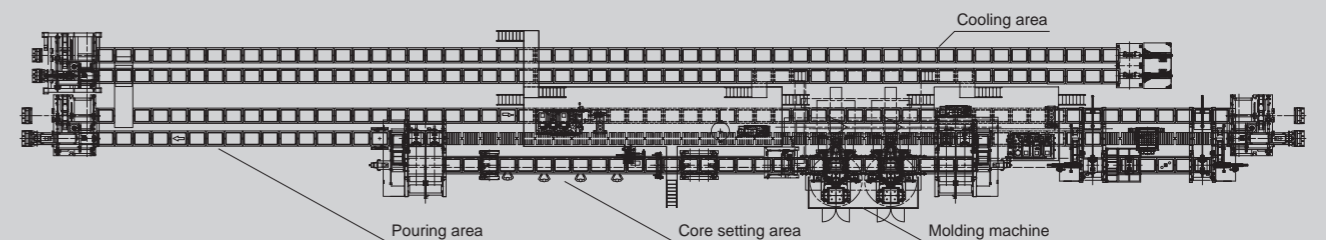
Line system: Simultaneous molding for cope and drag



Twin type ACE (Front: Cope molding, Opposite: Drag molding)

#### Example

Molding machine:	ACE-5
Mold size (mm):	900x800
Mold height (mm):	250/250
Molding rate:	240 complete molds/hr.
Required mixed sand volume:	Approx. 135 ton/hr.
Production capacity:	Approx. 3000 ton/month (Assumption)



# EFA series & ZFA series

## EFA-SD/S series



Highly Automated,  
High Speed, Highly Flexible

Molding Rate: MAX **140** complete molds/hr.  
Alternate molding

### Features

- Fully automatic molding machine with pattern turnable/shuttle for the production of cope and drag molds, equipped with multi-ram press as standard equipment
- Sand fill by batch hopper
- Molding flask handling by means of hydraulic cylinder on roller conveyors
- Excellent pattern draw by leveling frame (Leveling squeeze and draw type)



## ZFA-SD/S series



Highly Automated,  
Top Speed, Highly Flexible

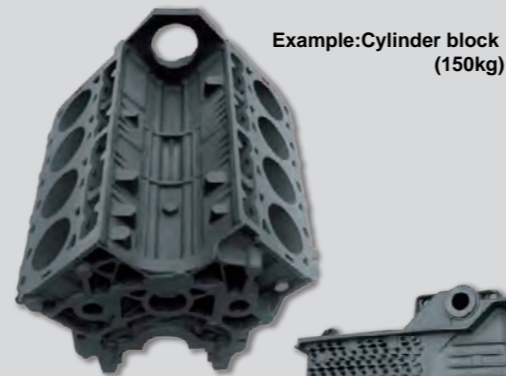
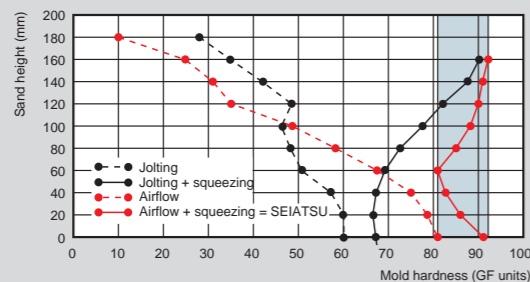
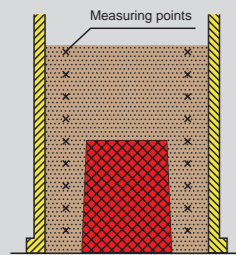
Molding Rate: MAX **250** complete molds/hr.  
Cope/drag simultaneous molding

### Features

- Fully automatic twin-type molding machine for simultaneous production of one cope and one drag mold, with pattern roller conveyor and pattern shuttle truck, equipped with flat squeeze plates, elastic squeeze plates or multi-ram presses
- Sand fill by batch hoppers
- Molding flask handling by means of hydraulic cylinder on roller conveyors
- Excellent pattern draw by leveling frame (Leveling squeeze and draw type)



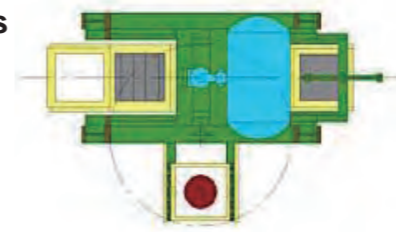
### Advantage of Air-flow Technology



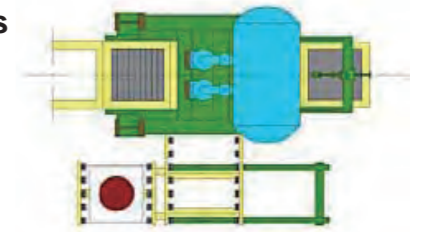
#### Uniformly high mold strength

Produced molds are uniformly hard resulting in the production of dimensionally accurate castings. The molds produced by air-flow process are considerably harder than those produced by jolt squeezing.

## EFA-SD series



## EFA-S series



### Specifications

#### EFA-SD series

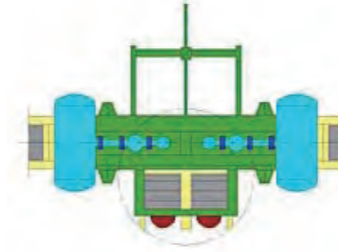
Model No.		EFA-SD2	EFA-SD3	EFA-SD4	EFA-SD5	EFA-SD6	EFA-SD7	EFA-SD8
Mold Size	Width x Length (mm)	500x400	650x500	800x650	1,000x800	1,250x1,000	1,600x1,250	2,000x1,600
	Height (mm)	150-400	150-400	150-450	150-450	200-450	250-450	250-500
Molding System		Air-flow + Squeeze						
Molding Rate (Max. complete molds/hr.)		140	140	120	120	100	80	70

#### EFA-S series

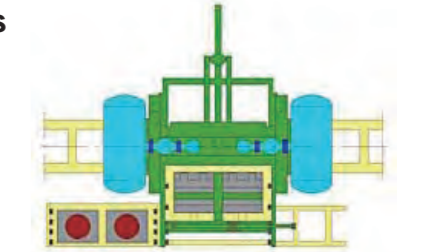
Model No.		EFA-S5	EFA-S6	EFA-S7	EFA-S8	EFA-S9
Mold Size	Width x Length (mm)	1,000x800	1,250x1,000	1,600x1,250	2,000x1,600	3,000x2,000
	Height (mm)	150-500	200-500	250-500	300-500	300-600
Molding System		Air-flow + Squeeze				
Molding Rate (Max. complete molds/hr.)		60	50	40	30	20

\*1) Please consult us for different mold sizes and outputs which are not specified in above chart. \*2) Specifications are subject to change without notice.  
\*3) CE version is also available. \*4) Customized engineering is available to meet customers' requirements.

## ZFA-SD series



## ZFA-S series



### Specifications

#### ZFA-SD series

Model No.		ZFA-SD2	ZFA-SD3	ZFA-SD4	ZFA-SD5	ZFA-SD6
Mold Size	Width x Length (mm)	500x400	650x500	800x650	1,000x800	1,250x1,000
	Height (mm)	150-400	150-400	150-450	150-500	200-500
Molding System		Air-flow + Squeeze				
Molding Rate (Max. complete molds/hr.)		250	250	200	180	160

#### ZFA-S series

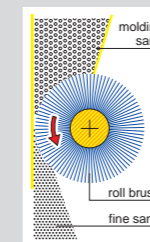
Model No.		ZFA-S2	ZFA-S3	ZFA-S4	ZFA-S5	ZFA-S6
Mold Size	Width x Length (mm)	500x400	650x500	800x650	1,000x800	1,250x1,000
	Height (mm)	150-400	150-400	150-450	150-500	200-500
Molding System		Air-flow + Squeeze				
Molding Rate (Max. complete molds/hr.)		250	250	200	180	160

\*1) Please consult us for different mold sizes and outputs which are not specified in above chart. \*2) Specifications are subject to change without notice.  
\*3) CE version is also available. \*4) Customized engineering is available to meet customers' requirements.

### Options

#### Fine sand slinger (For large molds)

This equipment disintegrates sand lumps in mixed sand and projects fine sand to the pattern for better casting surface and edge along with better sand fill.



#### Automatic pattern changer

Automatic pattern bolster changing unit for reducing pattern changing time and labor costs

#### Flex

Pressurization speed for air-flow can be increased for better sand fill.

#### Pattern heater / Pattern temperature controller

Pattern is heated to prevent sand from sticking to the pattern to achieve smooth pattern draw. Temperature of pattern heater is automatically controlled.

# DAFM-SD/S series



**Automatic Sand Feed**  
**Easy Accessibility to Pattern for Manual Work**

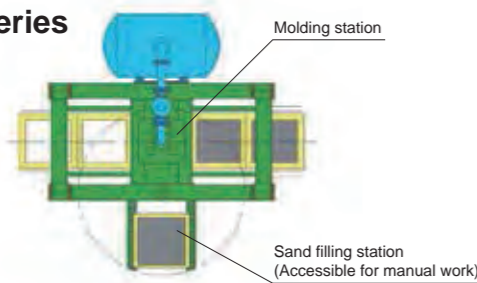
**Molding Rate: MAX 80 complete molds/hr.**  
**2-Station, Alternate molding**

**SEIATSU**

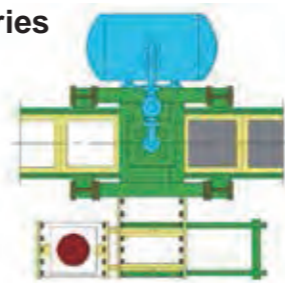
## Features

- 2-station molding machine with pattern turntable/shuttle for alternate production of cope and drag molds, equipped with multi-ram press
- Suitable for chiller, open top feeder setting or facing sand
- Sand fill by hopper, discharge belt or batch hopper in front of the machine with possibility of manual intervention
- Molding flask handling by means of hydraulic cylinder or electric motors on roller conveyors
- Excellent pattern draw by leveling frame (Leveling squeeze and draw type)

### DAFM-SD series



### DAFM-S series



## Specifications

### DAFM-SD series

Model No.		DAFM-SD3	DAFM-SD4	DAFM-SD5	DAFM-SD6
Mold Size	Width x Length (mm)	650x500	800x650	1,000x800	1,250x1,000
	Height (mm)	150-400	150-450	150-450	200-500
Molding System		Air-flow + Squeeze			
Molding Rate (Max. complete molds/hr.) (Excluding manual work time)		80	70	60	50

### DAFM-S series

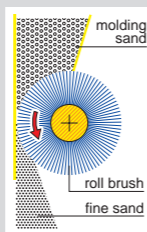
Model No.		DAFM-S5	DAFM-S6	DAFM-S7	DAFM-S8	DAFM-S9
Mold Size	Width x Length (mm)	1,000x800	1,250x1,000	1,600x1,250	2,000x1,600	2,500x2,000
	Height (mm)	150-500	200-500	250-500	300-500	300-600
Molding System		Air-flow + Squeeze				
Molding Rate (Max. complete molds/hr.) (Excluding manual work time)		50	40	30	20	10

\*1)Please consult for different mold sizes and outputs which are not specified in above chart. \*2)Specifications are subject to change without notice.  
 \*3)CE version is also available. \*4)Customized engineering is available to meet customer's requirements.

## Options

### • Fine sand slinger (For large molds)

This equipment disintegrates sand lumps in mixed sand and projects fine sand to the pattern for better casting surface and edge along with better sand fill.



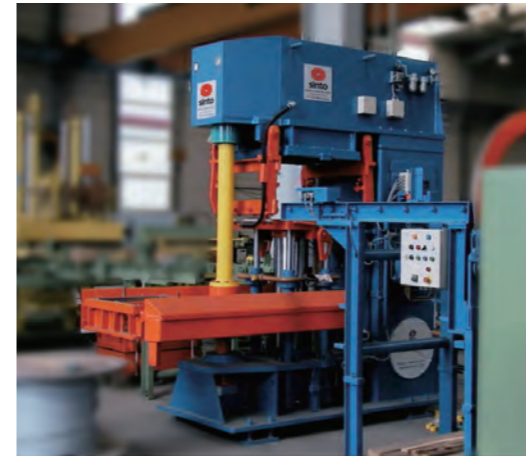
### • Automatic pattern changer

Automatic pattern bolster changing unit for reducing pattern changing time and labor costs

### • Flex (Available for DAFM-SD/S)

Pressurization speed for air-flow can be increased for better sand fill.

# HSP-D/HSP series



**Semi-automatic Sand Feed**  
**Easy Accessibility to Pattern for Manual Work**

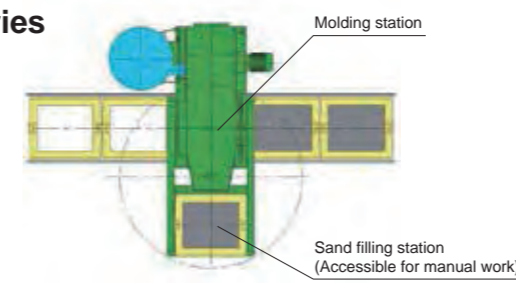
**Molding Rate: MAX 70 complete molds/hr.**  
**2-Station, Alternate molding**

**SEIATSU**

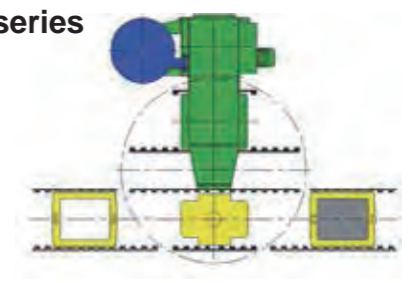
## Features

- 2-station molding machine with pattern turntable for alternative production of cope and drag molds, equipped with flat squeeze plate
- Suitable for chiller, open top feeder setting or facing sand
- Sand fill by hopper, discharge belt or batch hopper
- Molding flask handling by means of hydraulic cylinder or electric motors on roller conveyors
- Turnkey machine with integrated hydraulic system and electronic control

### HSP-D series



### HSP series



## Specifications

### HSP-D series

Model No.		HSP-1D	HSP-2D	HSP-3D	HSP-4D
Mold Size	Width x Length (mm)	650x500	800x650	1,000x800	1,250x1,000
	Height (mm)	150-300	150-350	150-400	150-450
Molding System		Air-flow + Squeeze			
Molding Rate (Max. complete molds/hr.) (Excluding manual work time)		70	60	50	40

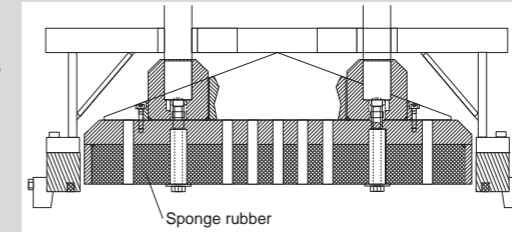
### HSP series

Model No.		HSP-1	HSP-2	HSP-3
Mold Size	Width x Length (mm)	650x500	800x650	1,000x800
	Height (mm)	150-250	150-350	150-400
Molding System		Air-flow + Squeeze		
Molding Rate (Max. complete molds/hr.) (Excluding manual work time)		35	25	18

\*1)Please consult for different mold sizes and outputs which are not specified in above chart. \*2)Specifications are subject to change without notice.  
 \*3)CE version is also available. \*4)Customized engineering is available to meet customer's requirements.

### • Diaphragm squeeze (Available for HSP-D/HSP)

By using sponge rubber for squeeze plate, uniform mold strength can be obtained for patterns having large height differences.



### • Multi-ram press (Standard for DAFM-SD/S)

• **Pattern heater / Pattern temperature controller**  
 Pattern is heated to prevent sand from sticking to the pattern to achieve smooth pattern draw. Temperature of pattern heater is automatically controlled.

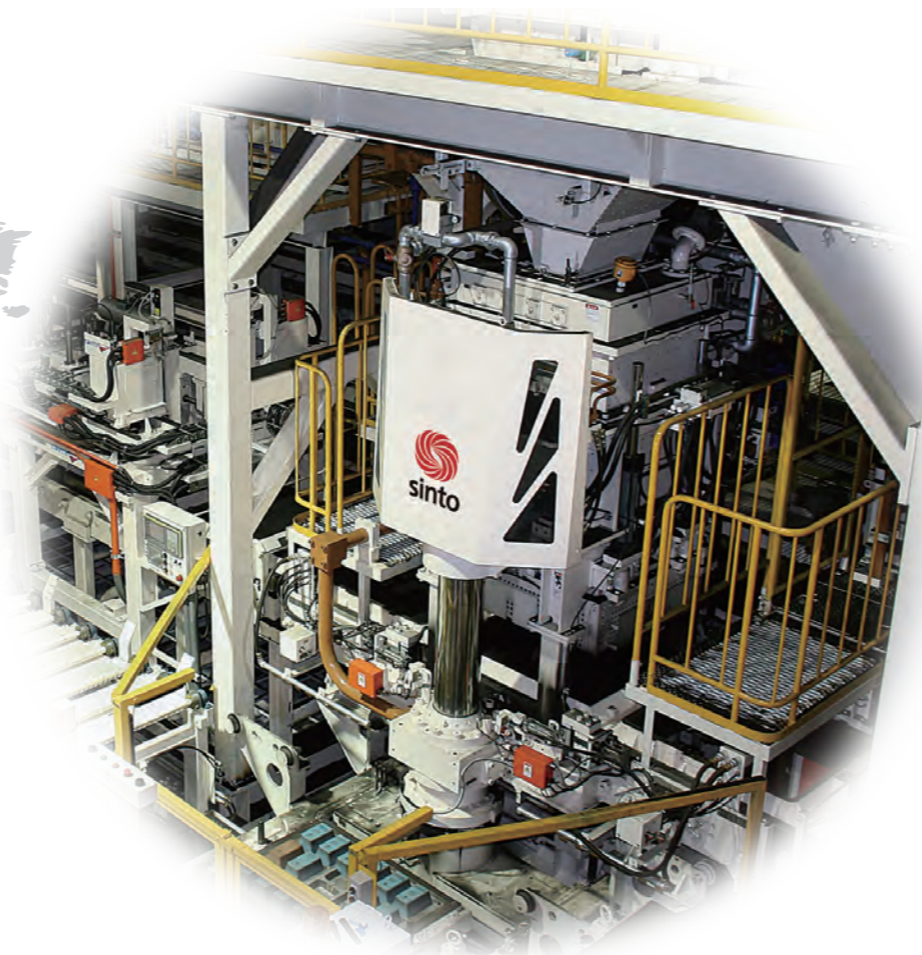
For continuous production of high quality castings at lowest cost, and for sustaining customer's production operations...

# Sinto supports customer's sustained production by attentive services.

World-wide support from support centers in Japan and Germany, along with Sinto Group Companies



This service may not be available depending on your internet access environment. In such case, availability of this service shall be reviewed respectively.



## Maintenance and Monitoring Support To Keep Equipment at Best Condition

This is a support program to keep operation of equipment at its best condition. There are several functions and services available, such as diagnosis by "mechanical doctors", operation data analysis, and parts replacement timing announcement.



Daily inspection support with hand-held terminals



Equipment diagnosis by "mechanical doctors"

Maintenance Detail Screen	
Inspection of aeration nozzle	
Date of notice	2013/05/31
Number of cycle until notice	30000
	Remaining number of cycle 29989
Reset	

Replacement history screen		
Inspection of aeration nozzle		
2013/ 4/26		14034
2013/ 3/29		14375
2013/ 2/28		13938
0/ 0/ 0		0
0/ 0/ 0		0
0/ 0/ 0		0
0/ 0/ 0		0
0/ 0/ 0		0
0/ 0/ 0		0
0/ 0/ 0		0

Consumable parts replacement information

## Remote Support

Quick Recovery Assistance at Time of Machine Problem

This program includes support from engineers with experienced knowledge of equipment for temporary action and recovery in case of emergent machine troubles during production.



A program which advises more effective operation and proposes improvement is available, by collecting operation information automatically and by analyzing such data.

## Quick Parts Supply

Avoid Downtime of Manufacturing

Critical parts and consumables, any defect of which immediately leads to a line stop or failure, shall be kept as spares in stock at the customer and also shall be kept at an overseas site close to the customer to permit immediate delivery.

