

**OUR HEAD OFFICE AND PLANT ARE CERTIFIED  
TO BOTH ISO 9001 AND ISO 14001.**

**Niigata plant:**

Shimo Aozu, Tsubame-city, Niigata-prefecture, Japan.



**ISO9001 : JQA-0581  
ISO14001 : JQA-EM4670**

**SAFETY**

- Operate safely in accordance with operation manual.
- To prevent trouble and accidents, perform daily and preventive maintenance checks without fail.

**AIRMAN®**

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DISTRIBUTOR :

**SCREW COMPRESSORS**  
**OIL INJECTED**

**AIRMAN®**

**OIL INJECTED SCREW COMPRESSORS**

〈Nominal Output 3.7~75kW〉



\*The products shown in the images are for domestic usages in Japan, so they may differ in appearance, etc.

# AIRMAN is committed to creating a carbon-neutral society

For over 80 years our company has continued to produce and sell air compressors. AIRMAN is committed to saving energy by optimizing the design of the screw rotor placed at the heart of our compressors, employing high-efficiency motors, and expanding the sales of inverter-equipped models. As the needs of the next generation change with the times, AIRMAN will continue to take on the various social challenges using our cultivated craftsmanship, state-of-the-art technologies, and insistence on quality products.



Screw shape AS Rotor

## AIRMAN's oil-cooled screw compressors have an extensive product lineup that you can choose from.

We offer an extensive product lineup to meet various needs.

According to your operating conditions, you can choose indoor or outdoor installation types.

You can also choose control types from inverter, 2-position, and regulator control models depending on your applications.



Indoor installation type  
**SAS/SWS series**

Discharge airflow: 0.44 to 16.1 m<sup>3</sup>/min



Model	V-Type <Inverter control>	S-Type <2-position control>	R-Type <Regulator control>
SAS4		●	
SAS6		●	
SAS8	●	●	
SAS11	●	●	●
SAS15	●	●	●
SAS22	●	●	●
SAS37	●	●	●
SAS55	●	●	●
SAS75	●	●	●
SWS75 (Inverter control)	●	●	●



Outdoor installation type  
**SMS series**

Discharge airflow: 0.44 to 16.1 m<sup>3</sup>/min



Model	V-Type <Inverter control>	S-Type <2-position control>	R-Type <Regulator control>
SMS4		●	
SMS8		●	
SMS11	●	●	●
SMS15	●	●	●
SMS22	●	●	●
SMS37	●	●	●
SMS55	●	●	●
SMS75	●	●	●



Medium-pressure indoor installation type (1.4 MPa)  
**SASG series**

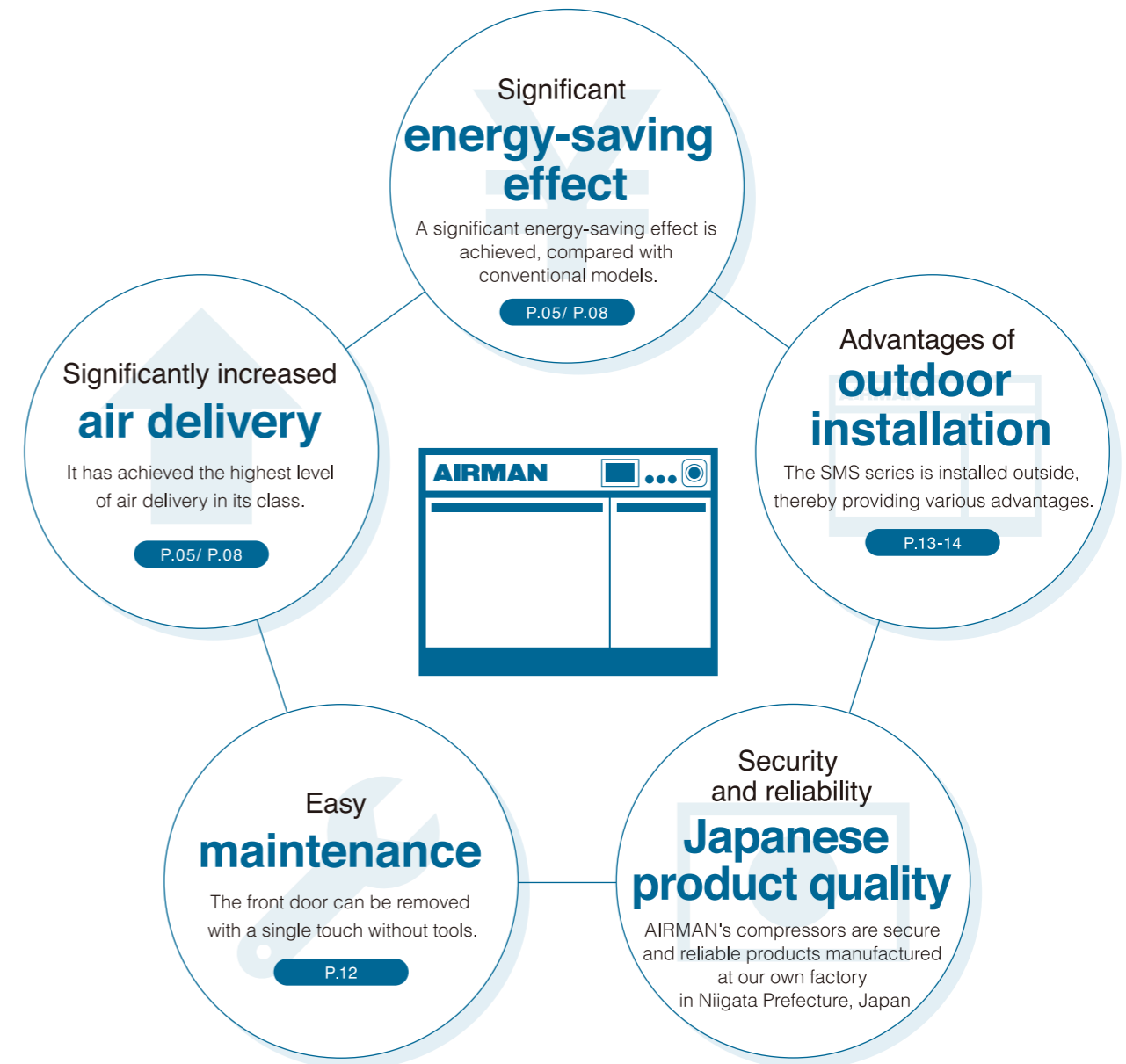
Discharge airflow: 2.0 to 2.7 m<sup>3</sup>/min



Model	V-Type <Inverter control>	S-Type <2-position control>	R-Type <Regulator control>
SASG19	●		●

\*The products shown in the images are for domestic usages in Japan, so they may differ in appearance, etc.

## Reasons why we recommend AIRMAN's oil-cooled screw compressors.



## INDEX

■ Product lineup	..... P.01	■ Common specifications	..... P.11
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The highest energy-saving performance in its class is achieved.



## Inverter control

The operating speed is automatically controlled according to the air demand which saves energy.

Air Delivery 1.05 to 16.1 m<sup>3</sup>/min For main specifications, see P15 to P17.

## Reasons why we recommend inverter models

The power consumption of compressors is said to account for 20 to 30% of the power consumption of the entire factory. Therefore, the power saving of compressors greatly affects the energy savings of the entire factory. This is why we recommend inverter compressors, which have a significant energy-saving effect. An inverter compressor adjusts the operating speed of its motor to supply compressed air according to the operating conditions. For example, an inverter compressor can lower the operating speed of the motor using its inverter to reduce power consumption during night hours when air demand is low compared with daytime hours.

The usage of inverter compressors produces significant energy savings, so it is no surprise their use is increasing every year, and is about five times greater than in 2011<sup>\*1</sup>. AIRMAN offers many inverter compressors that have high performance and various functions. Please consider using one of our products that is optimal for you.



<sup>\*1</sup> The usage of our inverter compressors (according to our survey).  
<sup>\*2</sup> The diagram is for illustrative purposes only.



SAS8VD

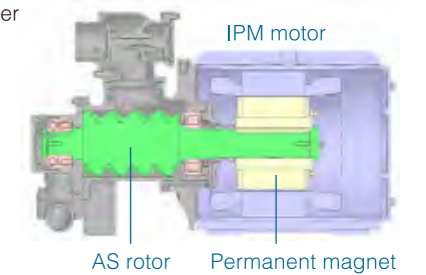
SMS22EVD

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## Built-in direct-coupling structure Energy saving

The use of an IPM (interior permanent magnet) motor makes it possible to offer higher efficiency as compared with high-efficiency induction motors. Also, the built-in direct-coupling structure reduces mechanical loss. This is how excellent energy-saving properties are achieved.

Applicable models: SAS/SMS22-75



SAS22VD

SMS37EVD

SAS55VD

SMS75EVD

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The highest energy-saving performance in its class is achieved.



Indoor installation type  
**SAS** series



Outdoor installation type  
**SMS** series

## Increased air delivery Energy saving



The use of a high-efficiency AS rotor\* significantly improves the basic performance, making it possible to offer the highest level of air delivery in its class.

\*SAS15-75



Comparison of air delivery

Model	SAS8	SAS11	SAS15	SAS22	SAS37	SAS55	SAS75
Existing S type (2-position control)	1.0	1.5	2.4	3.7	6.1	9.1	12.4
V type (inverter control)	1.05[+5%]	1.65[+10%]	2.65[+10%]	4.2[+14%]	7.0[+15%]	10.4[+14%]	14.2[+15%]

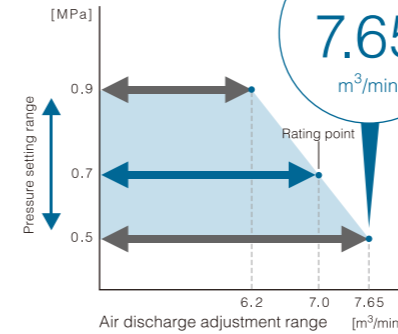
SAS8, SAS11, and SAS15-75 at 0.83 MPa, 0.69 MPa, and 0.7 MPa, respectively

## Super-wide range control Patented



The use of a high-efficiency AS rotor and a high-efficiency motor expands the control range. The pressure can be set in the range of 0.5-0.9 MPa (in increments of 0.01 MPa).

Air capacity control range



Data on SAS37

Max. pressure ↔ Max. air discharge

Unit: m³/min

Model	SAS8	SAS11	SAS15	SAS22	SAS37	SAS55	SAS75
Max. pressure	1.05 [0.83]	1.5 [0.83]	2.35 [0.85]	3.75 [0.9]	6.2 [0.9]	9.1 [0.9]	12.5 [0.9]
Rated pressure	1.05 [0.83]	1.65 [0.69]	2.65 [0.7]	4.2 [0.7]	7.0 [0.7]	10.4 [0.7]	14.2 [0.7]
Min. pressure	1.25 [0.5]	1.9 [0.4]	3.0 [0.5]	4.7 [0.5]	7.65 [0.5]	11.8 [0.5]	16.1 [0.5]

\*The numbers in parentheses are pressures in MPa

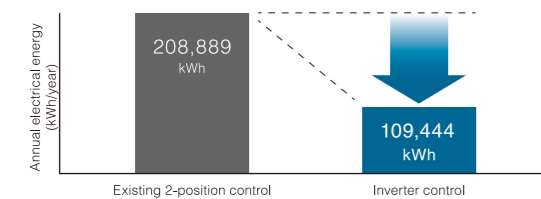
## Energy-saving effect Energy saving



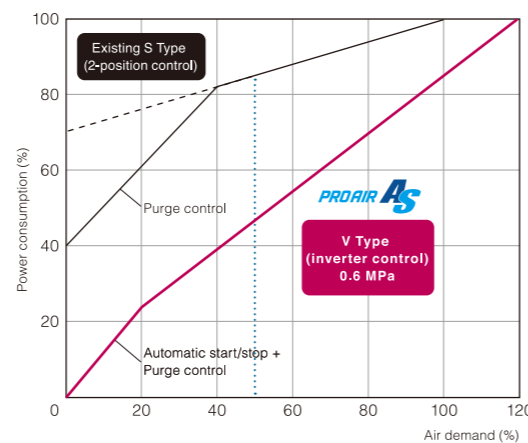
The built-in direct-coupling structure\* consisting of a high-efficiency AS rotor and an IPM motor allows significant energy savings as compared with existing models.

\*SAS22-75

**99,445 kWh**  
Energy-saving effect



Annual electrical energy of SAS37 (air demand: 50%)  
Comparison between our existing 2-position control and inverter control



Comparison between the SAS37 V Type and our existing model

Example of annual electrical energy

Unit: kWh/year

Model	SAS15	SAS22	SAS37	SAS55	SAS75
Existing S Type (2-position control)	87,778	129,444	208,889	280,556	382,778
V Type (inverter control)	56,111	67,222	109,444	147,222	181,111
	<b>31,667 kWh</b> Energy-saving effect	<b>62,222 kWh</b> Energy-saving effect	<b>99,445 kWh</b> Energy-saving effect	<b>133,334 kWh</b> Energy-saving effect	<b>201,667 kWh</b> Energy-saving effect

Conditions Calculations with an operating time of 6,000 hours/year and an air demand of 50%

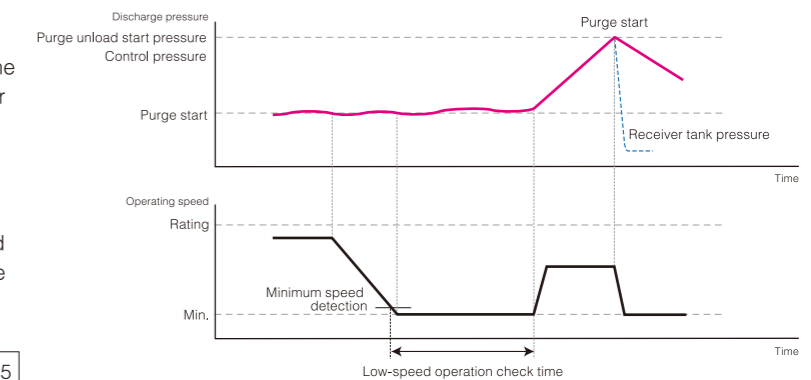
## Purge control + Automatic start/stop Energy saving Patented



AIRMAN's own technology

When the air demand decreases and the minimum-speed operation continues for a certain length of time, the operating speed will increase to quickly raise the discharge pressure and transition to purge operation in order to save power. If the air demand further decreases and the unload operation continues for more than a certain length of time, then the compressor will automatically stop.

Applicable models: SAS8, SAS/SMS11-15



SAS8VD



SAS11VD



SAS15VD



SMS15EVD

\*The products shown in the images are for domestic usages in Japan, so they may differ in appearance, etc.

The highest level of discharge airflow in its class is achieved.



## 2-position control

The intake-air capacity is controlled in two stages: open (load) and closed (unload).



## Regulator control

The intake-air capacity is controlled without stages within the range of 0–100%.

Air Delivery 0.44–13.9 m<sup>3</sup>/min

For main specifications, see P16 to P18.



SAS22SD



SMS8ESD

\*The products shown in the images are for domestic usages in Japan, so they may differ in appearance, etc.

### Increased air delivery Energy saving



The use of a high-efficiency AS rotor\* significantly improves the basic performance, making it possible to offer the highest level of air delivery in its class.

\*SAS15–75



Comparison of air delivery

Unit: m<sup>3</sup>/min

Model	SAS15	SAS22	SAS37	SAS55	SAS75
Existing model	2.4	3.7	6.1	9.1	12.4
PROAIR AS	2.65[+10%]	4.1[+11%]	6.9[+13%]	10.2[+14%]	13.9[+15%]

At 0.7 MPa

### Energy-saving effect Energy saving

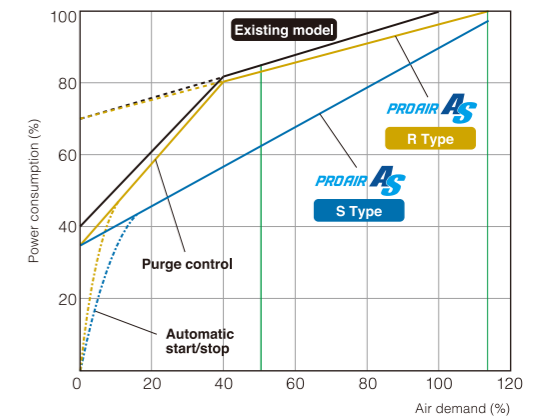


The use of a high-efficiency AS rotor\* allows energy saving as compared with existing models.

\*SAS15–75



Screw shape AS Rotor



Comparison between the SAS37 S/R types and our existing model



SAS15SD



SMS22ESD



SAS37SD



SAS75SD

\*The products shown in the images are for domestic usages in Japan, so they may differ in appearance, etc.

The highest level of discharge airflow in its class is achieved.



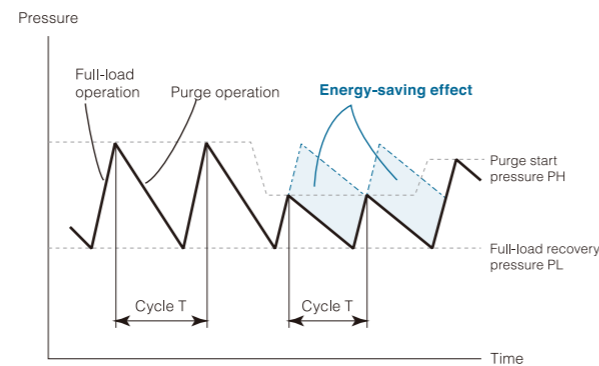
High-power air energy is supplied.



Indoor installation type  
**SASG19**

**A.C.C.S. (AIRMAN Computer Control System)** Energy saving S

The purge start pressure PH is automatically adjusted according to the air demand to save power. To optimize the cycle T, the purge start pressure is automatically changed to save power. (EX: If the pressure range of PH/PL is 0.1MPa, about 3% of power can be saved by reducing the pressure by up to 0.06MPa.)



**A.C.C.S. : AIRMAN Computer Control System**

**Purge control + Automatic start/stop** Energy saving S R

▶ **When the air demand decreases....**

the compressor saves power by transitioning to purge operation in which compressed air in the separator tank is purged to reduce the pressure.

▶▶ **When the air demand further decreases....**

the compressor saves power by stopping automatically after predicting when it can stop. Also, by increasing the service air pressure before stopping automatically, it extends the stop time to save more power and reduce load on the motor upon restart.



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**1.4 MPa** **Medium-pressure specifications**

Compressors with 1.4 MPa discharge pressure specs that can be utilized in various applications.



SASG19VD



SASG19RD

V **SASG19VD**

Nominal output: 18.5 kW (inverter control)

R **SASG19RD**

Nominal output: 18.5 kW (regulator control)

Air Delivery  $2.0-2.7 \text{ m}^3/\text{min}$

For main specifications, see **P19**.

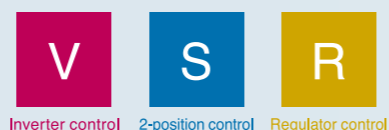
The compressors with 1.4 MPa medium-pressure specs can be utilized in various applications, including the following:

- Assist air for machine tools
- Adding air pressure to tires
- Testing equipment for air pressure

\*The products shown in the images are for domestic usages in Japan, so they may differ in appearance, etc.



## Common specifications



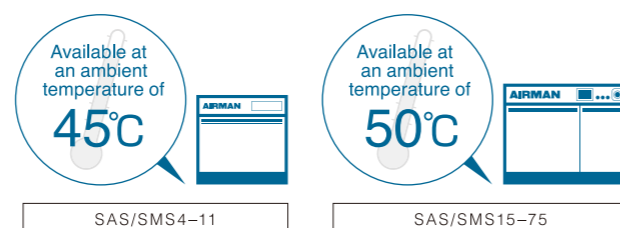
Indoor installation type  
**SAS** series



Outdoor installation type  
**SMS** series

## Standard availability at ambient temperatures of 45/50°C V S R

Thanks to performance of air cooler and fan cooling system, and improved air dryer, the SAS/SMS4~11 model can operate at an ambient temperature of up to 45°C, while the SAS/SMS15~75 model can operate at an ambient temperature of up to 50°C.



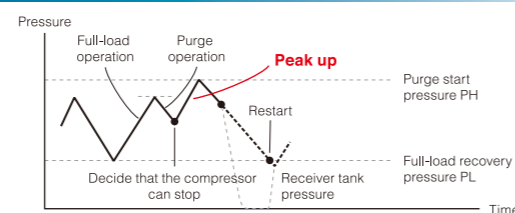
\*Operation is possible even at the above ambient temperature, but there is no warranty on the product.  
\*When continuous operation is performed for a long time in an environment exceeding ambient temperature 40°C, the lifecycle of lubricating oil, electrical components, O-rings, and other components will be shorter than usual.

## Advance dryer operation V S R

This allows the compressor to supply clean air once it starts up. During startup, the dryer operates for cooling in advance. Since the compressor starts when the dryer is sufficiently cooled, it can supply dehumidified air.

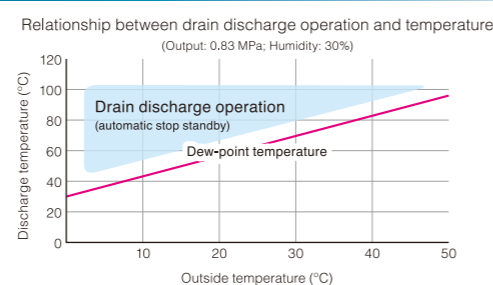
## Peak-up start/stop Energy saving V S R

When the air demand decreases, the compressor transitions to a purge operation and predicts when it can stop. When the microcontroller determines that the compressor can stop, it temporarily increases (peaks up) the discharge pressure.



## Original drain processing V S R

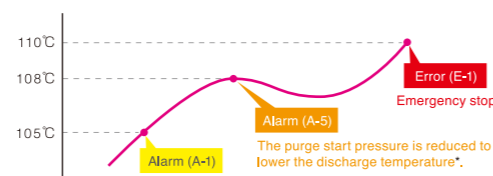
The dew point is estimated from the outside air temperature, and operation continues until the discharge air temperature exceeds the dew point. This allows faster and more reliable drain operation as compared with conventional models, thereby eliminating the need for troublesome manual drain work.



\*When the air demand has significantly decreased, or when the temperature and humidity are high, liquid waste may accumulate. Check the drain and remove liquid waste about once a week.

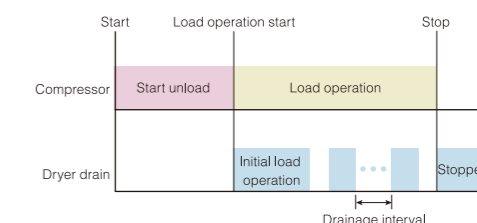
## Three-stage detection of discharge air temperature Patented V S R

If the discharge air temperature abnormally rises, it is detected in three stages. When the second alarm occurs, the purge start pressure is reduced to lower the discharge temperature so that operation can continue for as long as possible\*. \*Only for 2-position control



## Dryer drain system Patented V S R

The dryer drainage interval is controlled by a solenoid valve according to the outside air temperature and the load operating time to streamline discharge. This minimizes wasted air discharge.



## Easy operation V S R

The compressor can be started and stopped with a single touch using the buttons on the operation panel.

**LED display (4 digits)**  
Displays the service air pressure, discharge air temperature, separator outlet air temperature, operating time, and outside air temperature.



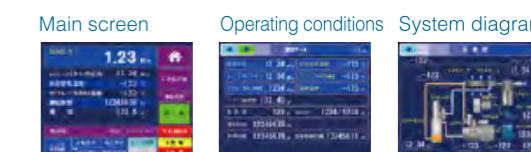
**Failure code**  
If the switch is turned ON while the lamp is blinking, the failure code is displayed. Press and hold the switch to reset.

**Change display**  
Press and hold the switch to display the data setting code.

Operating mode

## Touchscreen operation Applicable models: SAS/SMS22~75 Option V S R

This optional high-visibility color touchscreen visualizes operation screens and system diagrams, allowing you to see settings, operation records, and other information you need in one glance. You can check the operating conditions, compressor settings, operation records, and alarm history by touch operation.



## Easy maintenance V S R

The large front door can be removed with a single touch without tools, allowing easy maintenance. (The top cover of only SAS/SMS4~11 can be removed without tools.)

AIRMAN Long-Life SP is used as the compressor oil. It is a highly durable lubricant. (The SASG series uses AIRMAN Long-Life HP.)



## Easy belt tensioning Patented Applicable models: SAS/SMS4~11\*

You can adjust the belt tension simply by loosening the two mounting bolts and tightening the tension bolt nut.

\*For the SAS/SMS 15~75, the belt tension is adjusted in a different manner.

\*The products shown in the images are for domestic usages in Japan, so they may differ in appearance, etc.

## Advantages of outdoor installation



Outdoor installation type

SMS series

A half-century has passed since we launched a portable motor compressor in 1965. It has also been 40-odd years since we rolled out the outdoor installation type motor compressor SAS in 1981, which is the base for the current model (SMS). AIRMAN's outdoor installation type compressors boast reliability and are backed by the know-how and track record that we gained over the years.

### Achieve full compressor performance

- Prevent overheating in the summer
- Optimal installation environment (avoid factory dust and mist)
- Prevent reductions in air delivery due to rising temperatures
- Prevent the intake of dust in the plant or oil smoke from machine tools

### Great reductions in installation costs

- No need for ducts or ventilation fans
- No need for structures such as a compressor room
- Easy to relocate because it is air-cooled with a dryer
- Capable of being installed close to the load in order to minimize pressure loss
- Allow additional units to be easily installed because of outdoor installation (no need for the existing units to be upgraded)

### A better environment inside the plant

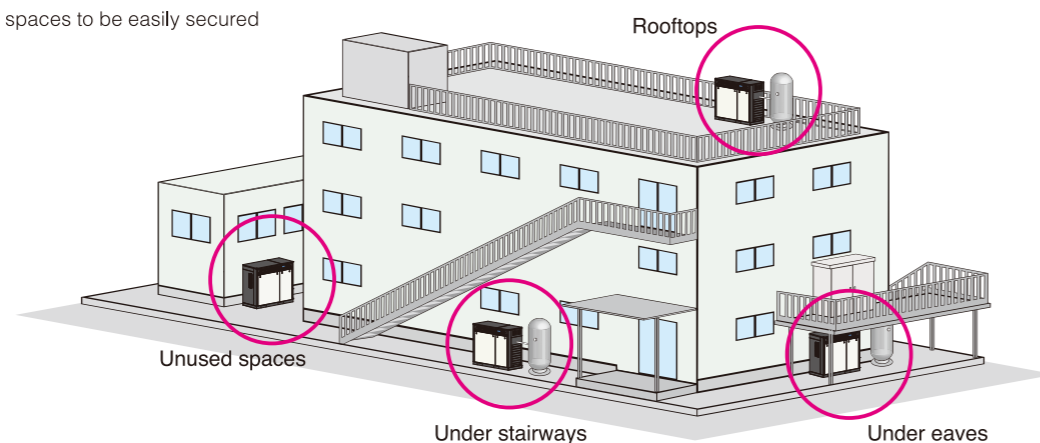
- Discharge exhaust heat directly to the outside
- Allow exhaust heat to be used to supplement plant heating (requiring duct work)
- No effects of machine heat on the air conditioning of the plant
- No echoes of compressor noise in the plant
- Higher compression efficiency thanks to the outside air source

### Easy maintenance

- Facilitate the cleaning of the cooler
- Allow the oil to be changed quickly
- A simple removable large door that facilitates daily maintenance
- Full-open top cover (3.7–15 kW)
- Minimize trouble caused by contaminants from the plant

### Effective use of space

- Capable of being installed on rooftops
- Capable of being installed in corridors, underneath stairways, or in other spaces
- No need for changes to the plant layout
- Allow maintenance spaces to be easily secured

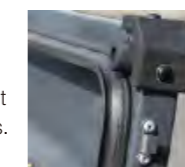


## Special hood for outdoor use

A special hood is used to minimize the intrusion of rainwater into the machine.

### ● Special seal

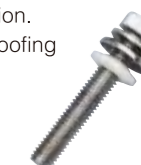
The top cover and door seal utilize the same type of press-fit seal that is used in automobiles. The structure with raised sides also blocks the entry of rainwater.



### ● Waterproofing washers and stainless-steel bolts

Stainless-steel bolts are used to resist corrosion. The top covers of the SMS15–75 use waterproofing washers that prevent rainwater from entering the bolt holes.

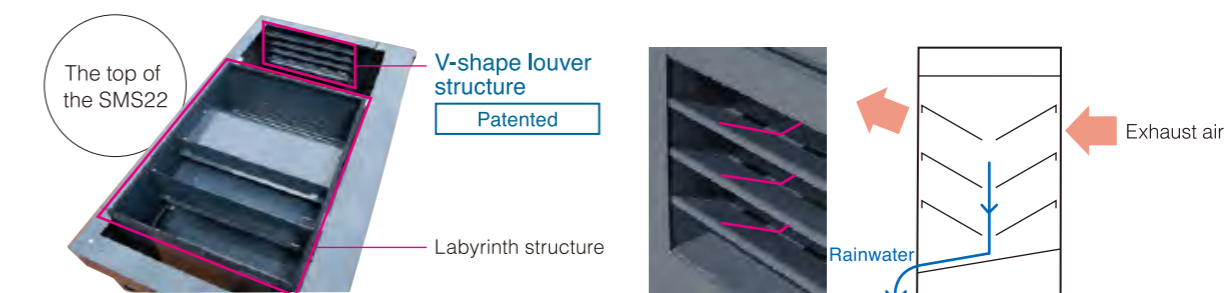
(The top covers of the SMS4–11 are boltless.)



### ● Rain trap package

A labyrinth structure is used for the intake and exhaust ports on the compressor side, and a V-shape louver structure (SMS22–75) is also used for the exhaust port on the dryer side to create a path for intruding rainwater to flow back out of the machine.

The labyrinth structure and V-shape louver structure also reduce machine noise.



## Oil fence function

In the event that oil leaks onto the frame, the oil fence function will prevent the oil from flowing out of the machine.

Applicable models: SMS15–75

\*This function does not guarantee the prevention of all oil leakages.



\*The products shown in the images are for domestic usages in Japan, so they may differ in appearance, etc.



# Main specifications



## Indoor installation type SAS series/water-cooled SWS series

PROAIR Indoor installation type screw compressor with a nominal output of 3.7 to 11 kW PROAIR AS Indoor installation type screw compressor with a nominal output of 15 to 75 kW

### V Indoor installation type SAS-V series/SWS75VD <inverter control> Air control system: Inverter control + Purge control + Automatic start/stop

	V	SAS8VD -C	SAS11VD -C	SAS15VD -E	SAS22VD -E	SAS37VD -E	SAS55VD -E	SAS75VD -E	SWS75VD -E
Cooling system		Air-cooled							Water-cooled
●Compressor									
Type		Rotating screw type, 1-stage compressed oil cooling							
Air delivery <sup>1</sup>	m <sup>3</sup> /min	1.05 (1.25-1.05)	1.65 (1.9-1.5)	2.65 (3.0-2.35)	4.2 (4.7-3.75)	7.0 (7.65-6.2)	10.4 (11.8-9.1)	14.2 (16.1-12.5)	
Discharge pressure <sup>2</sup>	MPa	0.83 (0.5-0.83)	0.69 (0.4-0.83)	0.7 (0.5-0.85)	0.7 (0.5-0.9)				
Intake conditions		Atmospheric pressure, 2-40°C							
Lubricant oil capacity <sup>3</sup>	L	5.0	8.0	13	18	41	42		
Discharge air pipe diameter	A	20(3/4B)	25(1B)			40(1 1/2B) <sup>4</sup>	50(2B)		
Nominal output of the fan motor	kW	0.4	—	0.75	1.5			—	
●Motor									
Type		Fully-enclosed, external fan, 3-phase squirrel cage induction motor				Totally-enclosed IPM 3 phase synchronous motor			
Nominal output	kW	7.5	11	15	22	37	55	75	
Frequency	Hz	Both 50/60							
Voltage	V	200/200·220[400/400·440]							
No. of poles	P	4				6			
Starting system		Inverter							
●Approx. dimensions and approx. weight									
Overall width	mm	1,045	1,160	1,380	1,620	2,450			
Overall depth	mm	730	670	780	890	1,150			
Overall height	mm	1,050	1,200	1,270	1,420	1,530	1,570		
Weight <sup>5</sup>	kg	330	397(362)	520(495)	540(500)	820(750)	1,345(1,250)	1,500(1,370)	1,560(1,435)
Noise level <sup>6</sup>	dB[A]	56		58	57	59	58	62	
●Dryer									
Input (chiller nominal output)	kW	0.28/ 0.30-0.32(0.4)	0.52/ 0.6-0.61(0.5)	0.51/ 0.58-0.6(0.5)	1.19/ 1.47-1.5(1.1)	1.1/ 1.3(1.5)	1.7/ 2.1(1.5)	2.3/ 2.7(1.9)	
Outlet dew point	°C	Below 10°C (under pressure) <sup>7</sup>							
Coolant		R134a	R407C			R410A			

- \*1 Air delivery is calculated assuming the intake conditions is at atmospheric pressure and at a temperature of 30°C. For the guaranteed value of air delivery, please contact us.  
 \*2 The numbers in parentheses “( )” represent the pressure setting range.  
 \*3 Be sure to use our genuine Long-Life SP compressor oil.  
 \*4 The discharge pipe diameter for dryerless specs is 32A (1 1/4B).  
 \*5 The numbers in parentheses “( )” for weight are for dryerless specs.  
 \*6 The noise values are calculated assuming the anechoic chamber conditions are at a distance of 1.5 m from the front (operating side) of the compressor, at a height of 1.0 m, and at an outside temperature of 30°C during full-load operation. Depending on the installation environment (effects of surrounding reverberation, etc.), the noise level under the actual installation conditions may be higher than the value shown herein.  
 The noise level also varies during air capacity control operation.  
 \*7 The outlet dew point is at an ambient temperature of 30°C.

\* <Coolant conditions for the SWS75VD> Water quantity: 125 L/min; Water temperature: 4 to 35°C; Water supply/drainage pipe diameter: 32A (Rp1 1/4B)  
 \* A separate air tank with sufficient capacity must be installed.

### S Indoor installation type SAS-S series/SWS75SD <2-position control> Air control system: 2-position control + A.C.C.S + Purge control + Automatic start/stop

### R Indoor installation type SAS-R series/SWS75RD <regulator control> Air control system: Regulator control + Purge control + Automatic start/stop

	S	SAS4SD -5C/6C	SAS6SD -5C/6C	SAS8SD -5C/6C	SAS11SD -5C/6C	SAS15SD -5E/6E	SAS22SD -5E/6E	SAS37SD -5E/6E	SAS55SD -5E/6E	SAS75SD -5E/6E	SWS75SD -5E/6E		
Cooling system	R	—	—	—	SAS11RD -5C/6C	SAS15RD -5E/6E	SAS22RD -5E/6E	SAS37RD -5E/6E	SAS55RD -5E/6E	SAS75RD -5E/6E	SWS75RD -5E/6E		
Cooling system		Air-cooled											
●Compressor													
Type		Rotating screw type, 1-stage compressed oil cooling											
Air delivery <sup>1</sup>	m <sup>3</sup> /min	0.44	0.67	1.0 [0.93]	1.5 [1.65] [1.35]	2.65 [2.35] [2.15]	4.1 [3.6] [3.4]	6.9 [6.2] [5.9]	10.2 [9.3] [8.8]	13.9 [12.7] [12.1]			
Discharge pressure <sup>2</sup>	MPa	0.83	0.83	0.83 [0.93]	0.83 [0.69] [0.93] (0.9) <sup>3</sup>	0.7 [0.85] [0.93] (0.9) <sup>3</sup>							
Intake conditions		Atmospheric pressure, 2-40°C											
Lubricant oil capacity <sup>4</sup>	L	2.5	3.5	5.0	8.0	13	20	41	42				
Discharge air pipe diameter	A	10(3/8B)	20(3/4B)		25(1B)			40(1 1/2B) <sup>5</sup>	50(2B)				
Nominal output of the fan motor	kW	—	0.4	—	0.75			1.5	—				
●Motor													
Type		Fully-enclosed, external fan, 3-phase squirrel cage induction motor											
Nominal output	kW	3.7	5.5	7.5	11	15	22	37	55	75			
Frequency	Hz	50/60											
Voltage	V	200/200·220[400/400·440]											
No. of poles	P	2				4				2			
Starting system		Direct input					Star delta						
●Approx. dimensions and approx. weight													
Overall width	mm	760	900	950	1,160	1,380	1,620	2,450					
Overall depth	mm	510	580	630	670	780	890	1,150					
Overall height	mm	750	900	1,050	1,200	1,270	1,420	1,530	1,570				
Weight <sup>6</sup>	kg	160	235	300	387(352)	505(480)	685(645)	990(920)	1,555(1,460)	1,640(1,510)	1,670(1,540)		
Noise level <sup>7</sup>	dB[A]	56					58	57	59	62			
●Dryer													
Input (chiller nominal output)	kW	0.27/ 0.25-0.28(0.3)	0.27/ 0.29-0.31(0.4)	0.28/ 0.30-0.32(0.4)	0.52/ 0.6-0.61(0.5)	0.51/ 0.58-0.60(0.5)	1.19/ 1.47-1.5(1.1)	1.1/ 1.3(1.5)	1.7/ 2.1(1.5)	2.3/ 2.7(1.9)			
Outlet dew point	°C	Below 10°C <sup>8</sup> (under pressure)											
Coolant		R134a			R407C			R410A					

- \*1 Air delivery is calculated assuming the intake conditions are at atmospheric pressure and at a temperature of 30°C. For the guaranteed value of air delivery, please contact us.  
 \*2 The high-pressure specs are optional at the time of manufacture.  
 \*3 The numbers in parentheses “<>” are for regulator control.  
 \*4 Be sure to use our genuine Long-Life SP compressor oil.  
 \*5 The discharge pipe diameter for dryerless specs is 32A (1 1/4B).  
 \*6 The numbers in parentheses “( )” for weight are for dryerless specs.  
 \*7 The noise values are calculated assuming the anechoic chamber conditions are at a distance of 1.5 m from the front (operating side) of the compressor, at a height of 1.0 m, and at an outside temperature of 30°C during full-load operation. Depending on the installation environment (effects of surrounding reverberation, etc.), the noise level under the actual installation conditions may be higher than the value shown herein.  
 The noise level also varies during air capacity control operation.  
 \*8 The outlet dew point is at an ambient temperature of 30°C.

\* <Coolant conditions for SWS75SD/RD>  
 Water quantity: 125 L/min; Water temperature: 4 to 35°C; Water supply/drainage pipe diameter: 32A (Rp1 1/4B)  
 \* A separate air tank with sufficient capacity must be installed.

\*The products shown in the images are for domestic usages in Japan, so they may differ in appearance, etc.





## Outdoor installation type SMS series

Outdoor installation type screw compressor with a nominal output of 3.7 to 11 kW Outdoor installation type screw compressor with a nominal output of 15 to 75 kW

### V Outdoor installation type SMS-V series <inverter control> Air control system: Inverter control + Purge control + Automatic start/stop

	V	SMS11EVD -C	SMS15EVD -E	SMS22EVD -E	SMS37EVD -E	SMS55EVD -E	SMS75EVD -E
Cooling system	Air-cooled						
●Compressor							
Type	Rotating screw type, 1-stage compressed oil cooling						
Air delivery <sup>1</sup>	m <sup>3</sup> /min	1.65 (1.9-1.5)	2.65 (3.0-2.35)	4.2 (4.7-3.75)	7.0 (7.65-6.2)	10.4 (11.8-9.1)	14.2 (16.1-12.5)
Discharge pressure <sup>2</sup>	MPa	0.69 (0.4-0.83)	0.7 (0.5-0.85)	0.7 (0.5-0.9)			
Intake conditions	Atmospheric pressure, 2 <sup>3</sup> -40°C						
Lubricant oil capacity <sup>4</sup>	L	8.0		13	18	41	42
Discharge air pipe diameter	A	25(1B)			40(1 1/2B) <sup>5</sup>	50(2B)	
Nominal output of the fan motor	kW	—			0.75		
●Motor							
Type	Fully-enclosed, external fan, 3-phase squirrel cage induction motor			Totally-enclosed IPM 3 phase synchronous motor			
Nominal output	kW	11	15	22	37	55	75
Frequency	Hz	Both 50/60					
Voltage	V	200/200·220[400/400·440]					
No. of poles	P	4			6		
Starting system	Inverter						
●Approx. dimensions and approx. weight							
Overall width	mm	1,320		1,590	1,840	2,590	
Overall depth	mm	700		850	960	1,250	
Overall height	mm	1,240	1,310	1,570	1,630	1,750	
Weight <sup>6</sup>	kg	442(402)	565(530)	645(605)	945(875)	1,525(1,430)	1,680(1,550)
Noise level <sup>7</sup>	dB[A]	56	58	54	58		61
●Dryer							
Input (chiller nominal output)	kW	0.52/ 0.6-0.61(0.5)	0.51/ 0.58-0.6(0.5)	1.19/ 1.47-1.5(1.1)	1.1/ 1.3(1.5)	1.7/ 2.1(1.5)	2.3/ 2.7(1.9)
Outlet dew point	°C	Below 10°C <sup>8</sup> (under pressure)					
Coolant		R407C			R410A		

\*1 Air delivery is calculated assuming the intake conditions are at atmospheric pressure and at a temperature of 30°C. For the guaranteed value of air delivery, please contact us.  
 \*2 The numbers in parentheses “()” represent the pressure setting range.  
 \*3 To use the compressor in a cold weather region (at 2°C or below), the optional tape heater is required. (Specs for cold weather regions)  
 \*4 Be sure to use our genuine Long-Life SP compressor oil.  
 \*5 The discharge pipe diameter for dryerless specs is 32A (1 1/4B).  
 \*6 The numbers in parentheses “()” for weight are for dryerless specs.  
 \*7 The noise values are calculated assuming the anechoic chamber conditions are at a distance of 1.5 m from the front (operating side) of the compressor, at a height of 1.0 m, and at an outside temperature of 30°C during full-load operation. Depending on the installation environment (effects of surrounding reverberation, etc.), the noise level under the actual installation conditions may be higher than the value shown herein. The noise level also varies during air capacity control operation.  
 \*8 The outlet dew point is at an ambient temperature of 30°C.

\* A separate air tank with sufficient capacity must be installed.

### S Outdoor installation type SMS-S series <2-position control> Air control system: 2-position control + A.C.C.S + Purge control + Automatic start/stop

### R Outdoor installation type SMS-R series <regulator control> Air control system: Regulator control + Purge control + Automatic start/stop

	S	SMS4ESD -5C/6C	SMS8ESD -5C/6C	SMS11ESD -5C/6C	SMS15ESD -5E/6E	SMS22ESD -5E/6E	SMS37ESD -5E/6E	SMS55ESD -5E/6E	SMS75ESD -5E/6E	
Cooling system	R	—	—	SMS11ERD -5C/6C	SMS15ERD -5E/6E	SMS22ERD -5E/6E	SMS37ERD -5E/6E	SMS55ERD -5E/6E	SMS75ERD -5E/6E	
Cooling system	Air-cooled									
●Compressor										
Type	Rotating screw type, 1-stage compressed oil cooling									
Air delivery <sup>1</sup>	m <sup>3</sup> /min	0.44	1.0 [0.93]	1.5 [1.65] [1.35]	2.65 [2.35] [2.15]	4.1 [3.6] [3.4]	6.9 [6.2] [5.9]	10.2 [9.3] [8.8]	13.9 [12.7] [12.1]	
Discharge pressure <sup>2</sup>	MPa	0.83	0.83 [0.93]	0.83 [0.69] [0.93] (0.9) <sup>3</sup>	0.7 [0.85] [0.93] (0.9) <sup>3</sup>					
Intake conditions	Atmospheric pressure, 2 <sup>4</sup> -40°C									
Lubricant oil capacity <sup>5</sup>	L	2.5	5.0	8.0		13	20	41	42	
Discharge air pipe diameter	A	10(3/8B)	20(3/4B)	25(1B)			40(1 1/2B) <sup>6</sup>	50(2B)		
Nominal output of the fan motor	kW	—	0.4	—	0.75			1.5		
●Motor										
Type	Fully-enclosed, external fan, 3-phase squirrel cage induction motor									
Nominal output	kW	3.7	7.5	11	15	22	37	55	75	
Frequency	Hz	50/60								
Voltage	V	200/200·220[400/400·440]								
No. of poles	P	2	4						2	
Starting system	Direct input				Star delta					
●Approx. dimensions and approx. weight										
Overall width	mm	860	1,070	1,320		1,590	1,840	2,590		
Overall depth	mm	560	670	700			850	960	1,250	
Overall height	mm	780	1,130	1,240	1,310	1,570	1,630	1,750		
Weight <sup>7</sup>	kg	180	325	427(387)	550(515)	780(740)	1,100(1,030)	1,735(1,640)	1,820(1,690)	
Noise level <sup>8</sup>	dB[A]	56			58	56	58	59	61	
●Dryer										
Input (chiller nominal output)	kW	0.27/ 0.25-0.28(0.3)	0.28/ 0.30-0.32(0.4)	0.52/ 0.6-0.61(0.5)	0.51/ 0.58-0.60(0.5)	1.19/ 1.47-1.5(1.1)	1.1/ 1.3(1.5)	1.7/ 2.1(1.5)	2.3/ 2.7(1.9)	
Outlet dew point	°C	Below 10°C <sup>9</sup> (under pressure)								
Coolant		R134a			R407C			R410A		

\*1 Air delivery is calculated assuming the intake conditions are at atmospheric pressure and at a temperature of 30°C. For the guaranteed value of air delivery, please contact us.  
 \*2 The high-pressure specs are an option at the time of manufacture.  
 \*3 The numbers in parentheses “<>” are for regulator control.  
 \*4 To use the compressor in a cold weather region (at 2°C or below), the optional tape heater is required. (Specs for cold weather regions)  
 \*5 Be sure to use our genuine Long-Life SP compressor oil.  
 \*6 The discharge pipe diameter for dryerless specs is 32A (1 1/4B).  
 \*7 The numbers in parentheses “()” for weight are for dryerless specs.  
 \*8 The noise values are calculated assuming the anechoic chamber conditions are at a distance of 1.5 m from the front (operating side) of the compressor, at a height of 1.0 m, and at an outside temperature of 30°C during full-load operation. Depending on the installation environment (effects of surrounding reverberation, etc.), the noise level under the actual installation conditions may be higher than the value shown herein. The noise level also varies during air capacity control operation.  
 \*9 The outlet dew point is at an ambient temperature of 30°C.

\*A separate air tank with sufficient capacity must be installed.

\*The products shown in the images are for domestic usages in Japan, so they may differ in appearance, etc.



# Main specifications



## Medium-pressure indoor installation type SASG19VD/RD



**V** Medium-pressure indoor installation type SASG19VD <inverter control>  
Air control system: Inverter control + Purge control + Automatic start/stop

**R** Medium-pressure indoor installation type SASG19RD <regulator control>  
Air control system: Regulator control + Purge control + Automatic start/stop

		SASG19VD-E	SASG19RD-5E/6E
Cooling system		Air-cooled	
<b>Compressor</b>			
Type	Rotating screw type, 1-stage compressed oil cooling		
Air delivery <sup>1</sup>	m <sup>3</sup> /min	2.0(2.0-2.7)	2.0
Discharge pressure <sup>2</sup>	MPa	1.4(1.4-0.88)	1.4
Intake conditions Atmospheric pressure, 2-40°C			
Lubricant oil capacity <sup>3</sup>	L	12	
Discharge air pipe diameter	A	20(3/4B)	
Nominal output of the fan motor	kW	0.75	
<b>Motor</b>			
Type	Fully-enclosed, external fan, 3-phase squirrel cage induction motor		Totally-enclosed IMP 3 phases synchronous motor
Nominal output	kW	18.5	
Frequency	Hz	Both 50/60	50/60
Voltage	V	200/200·220(400/400·440)	
No. of poles	P	6	2
Starting system		Inverter	Direct input
<b>Approx. dimensions and approx. weight</b>			
Overall width	mm	1,260	
Overall depth	mm	710	
Overall height	mm	1,350	
Weight	kg	510	555
Noise level <sup>4</sup>	dB[A]	55	
<b>Dryer</b>			
Input (chiller nominal output)	kW	0.5/0.5(0.6)	
Outlet dew point	°C	Below 10°C <sup>5</sup> (under pressure)	
Coolant		R410A	

<sup>1</sup> Air delivery is calculated assuming the intake conditions are at atmospheric pressure and at a temperature of 30°C. For the guaranteed value of air delivery, please contact us.

<sup>2</sup> The numbers in parentheses “( )” for the inverter model represent the pressure setting range.

<sup>3</sup> Be sure to use our genuine Long-Life SP compressor oil.

<sup>4</sup> The noise values are calculated assuming the anechoic chamber conditions at a distance of 1.5 m from the front (operating side) of the compressor, at a height of 1.0 m, and at an outside temperature of 30°C during full-load operation. Depending on the installation environment (effects of surrounding reverberation, etc.), the noise level under the actual installation conditions may be higher than the value shown herein. The noise level also varies during air capacity control operation.

<sup>5</sup> The outlet dew point is at an ambient temperature of 30°C.

\* A separate air tank with sufficient capacity must be installed.

\*The products shown in the images are for domestic usages in Japan, so they may differ in appearance, etc.

# Peripheral devices and options

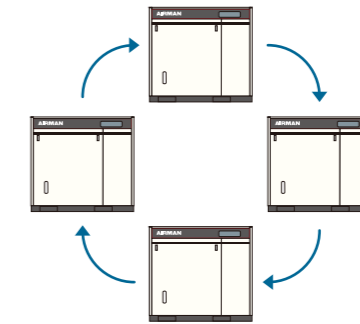
## Controlling multiple compressors simply by connecting them

### Multi-unit control system Option

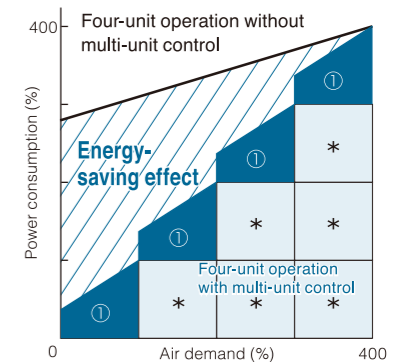
You can add a multi-unit control function simply by connecting the compressors. The function can control up to four units without using a control panel. It automatically selects the optimal control operation according to changes in air demand. It can reduce costs for facility installation as well as save space and energy.



Installation example: manufacturing plant  
Three SAS55SD units are operated using a multi-unit control system.



Schematic diagram of multi-unit control



**Point** ● No need for a multi-unit control panel ● Up to four compressors can be controlled

\* Available only for models with a touch panel (E series with a nominal motor output of 22 kW or more, including inverter models)

## Multi-unit control with a multi-unit control panel

### Multi-unit control panel MCS101-F Option

The multi-unit control panel MCS101-F can control six compressors. It optimizes operating conditions to save energy and power, for example, by using the rotary operation to equalize operating times among the compressors.



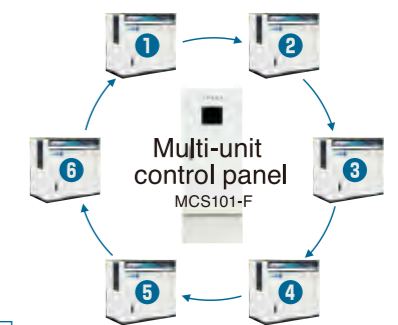
- Possible to configure any unit** You can select any compressor as necessary and configure it to start and stop.
- Selection of the first unit to operate** When you turn on the start switch of any compressor, this compressor unit will operate first, and then the multi-unit control operation will start.
- Skip function** Compressors that have broken down or are not configured for multi-unit control mode are automatically excluded from the multi-unit control circle.

**Point** ● Six units can be controlled<sup>1</sup> ● Available for both controller and touchscreen models<sup>2</sup>

<sup>1</sup> If you want to control six or more units or to control units including inverter models, please contact your nearest branch, sales office, or service center.

<sup>2</sup> Not available for a combination of controller and touchscreen models.

\*The products shown in the images are for domestic usages in Japan, so they may differ in appearance, etc.



Schematic diagram of rotary operation

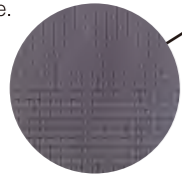


# Peripheral devices and options

## Options for outdoor installation type

### Dust filter

Prevents large dust, insects, and other substances from entering the machine. Easy to replace.



\*This is an image of the SMS37.



### Multi-duct

Changes the direction of exhaust air, prevents snow accumulation, and reduces noise. Easy to remove because it is mounted with bolts.



## Common options for indoor/outdoor installation types

### Cold-weather region specifications

In cold weather regions (at 2°C or below), a tape heater must be installed to prevent the drain from freezing. We can also offer further reinforcements upon request.

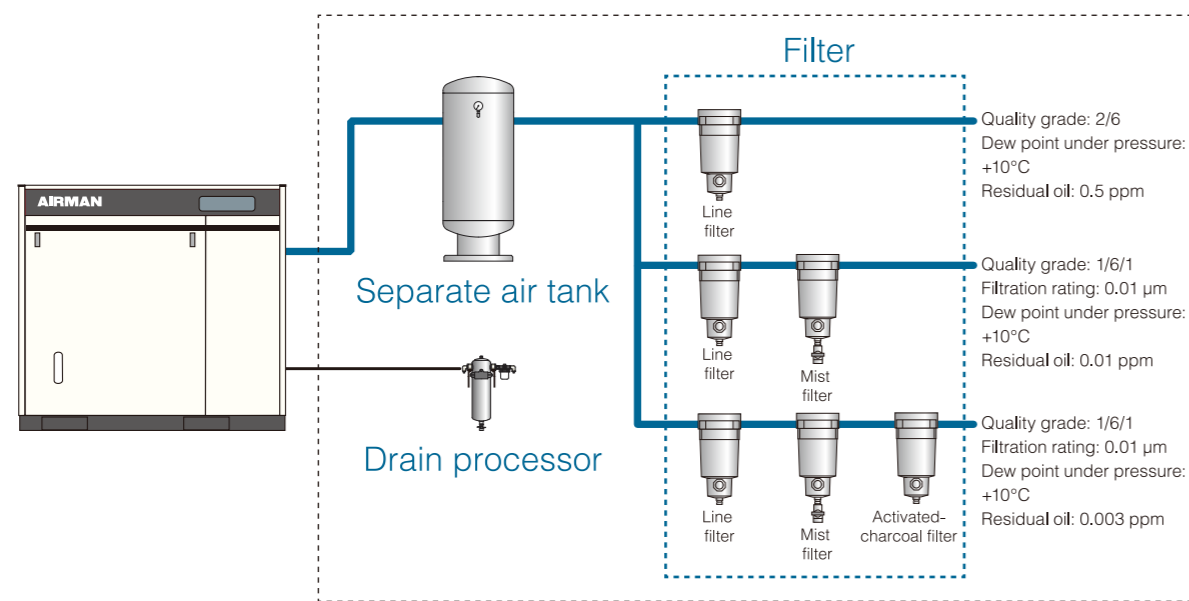


Others

- 400/440V voltage specs
- 3,000/3,300V voltage specs
- Pressure adjustment
- Anchor plate, etc.

For details, please contact your nearest branch or sales office

## Peripheral devices



\*The quality grades are as per JIS B 8392-1 (2000)

# Precautions for installation

## Installation location

The installation location must have sufficient space surrounding it, so that it is possible to easily conduct machine inspections and maintenance.

- Install the compressor in a location with the following: good ventilation, temperature and humidity are low, and surroundings are as dry as possible. When installing it indoors in a location exposed to high temperatures, install a ventilation fan or similar equipment to prevent the ambient temperature from exceeding 40°C.
- Select a location where there is little dust and the intake of air is clean as possible at all times.
- Make sure there is space around and above the machine for intake, exhaust, and inspection/maintenance. Ensure as much space as possible to the rear of the machine as well.
- Because machine vibration is extremely small, there is almost zero risk of adverse effects of vibration on the surrounding area. However, the floor must have sufficient strength to bear the full weight of the machine.
- Be aware that if there is a gap between the machine and floor, this may result in noise or vibration.

## Ventilation

When operating the compressor in a tightly sealed and narrow room or a room that is air-conditioned, ventilation is necessary in order to prevent the room temperature from rising.

### 1) General ventilation

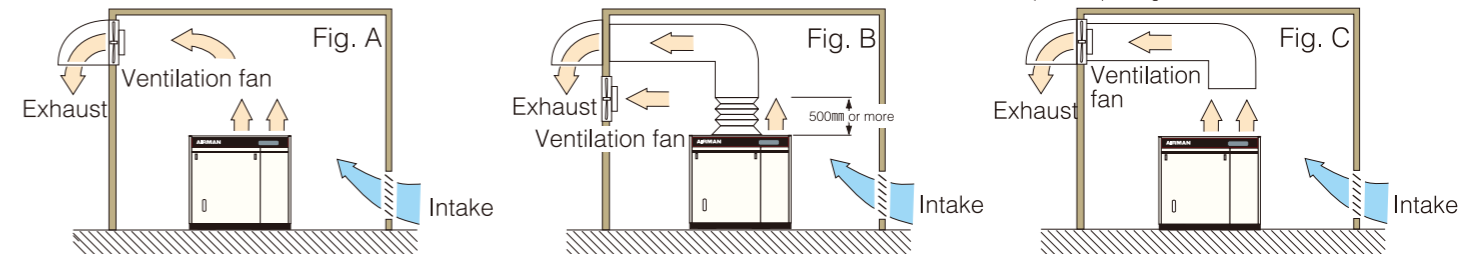
When operating the compressor in a small room, such as a compressor room, it is necessary to improve the ventilation so that the room temperature does not exceed 40°C. Although ordinary ventilation fans can be used, make sure to consider the locations of the intake port and ventilation fan so that air does not stagnate in the room.

### 2) Local ventilation using ducts

When operating the compressor in a location where air conditioning equipment has been installed, it is necessary to install ducts. Even when ducts are installed, it is still necessary to install a fan inside the room because some heat will be discharged into the room.

### 3) When installing a ventilation fan inside a duct

If the duct length is made longer or the cross-section area is narrowed, resulting in a pressure loss of 20 Pa (2 mmAq) or more, then a fan must also be installed inside the duct. In this case, in order to prevent overheating and dryer operation failure at low temperatures, the ventilation fan must start and stop as necessary according to the compressor operating conditions.



If the metal duct is fastened with rivets directly onto the compressor body, it may interfere with inspections. Therefore, take measures such as using a canvas duct.

<Precautions for ventilation>

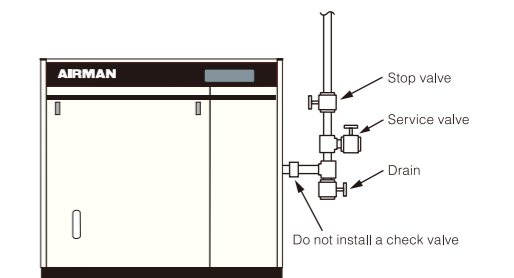
- Make sure that air enters the ventilator on the intake side of the compressor from the intake duct of the building.
- Install a duct on the exhaust-side of the building so that the cooling air that is ejected by the ventilator on the exhaust-side of the compressor can be smoothly discharged.
- Make sure that the discharged air does not return to the intake side of the compressor inside the building.
- In order to ensure ventilation, walls or other obstacles must not be installed close to the compressor.

## Reference ventilation fan airflow

Item		SAS4	SAS6	SAS8	SAS11	SAS15	SAS22	SAS37	SAS55	SAS75	SWS75	
Compressor-radiated heat	MJ/h	14.5	21.5	29.3	43.0	58.7	86.1	144.8	215.2	293.5	58.7	
Dryer-radiated heat	MJ/h	0.76	1.22	1.62	2.16	2.30	5.62	6.48	6.84	10.08	10.08	
Ventilation fan airflow	Fig. A	m <sup>3</sup> /min	42	64	86	126	170	255	415	625	850	200
	Fig. B	m <sup>3</sup> /min	-	-	17	24	30	50	75	115	160	-
	Fig. C	m <sup>3</sup> /min	-	-	37	54	70	110	175	265	360	-

## Piping

- Do not create any intermediate lower sections in the piping. If there is a dip or a rise in the piping, make sure to install a drain at the bottom.
- In the case of dryerless specifications, install an air filter (commercially available part) for drainage.
- Install drains to prevent the backflow of drainage from the main discharge pipe to the compressor side.
- Install a stop valve on the main discharge pipe for trial operation or compressor adjustment/inspection. Also install a service valve between the stop valve and the compressor.
- All models include a built-in check valve. Therefore, do not install a check valve on the piping coming from the compressor. Otherwise, it may not be possible to obtain the full effects of automatic start/stop operation. The same applies when multiple compressors are connected in parallel.
- The compressed-air piping coming from the compressor must contain the minimum possible number of bends and joint valves in order to reduce the pressure loss.



## Drains

Because the drainage may contain substances that are restricted by the Water Pollution Control Act, a request must be made for disposal of the drainage by a licensed agent, or it must be disposed of after separation treatment using a separation system or similar system.