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

Niigata plant:

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

ISO 9001
ISO 14001

ISO9001 : JQA-0581
ISO14001 : JQA-EM4670

⚠ SAFETY

Before use, please read the operation manual carefully and use the machine safely in order to prevent an accident and failure. Please make sure to perform daily and/or periodic check.

HOKUETSU INDUSTRIES CO., LTD.

8th Floor Shinjuku San-Ei Bldg,
22-2 Nishi-Shinjuku 1-Chome, Shinjuku-ku, Tokyo 160-0023 Japan
Tel: 81-3-3348-7281 Fax: 81-3-3348-7289
E-Mail: oversea@airman.co.jp
http://www.airman.co.jp

AIRMAN ASIA SDN. BHD.

Suite A-8-2, level 8, Block A, Sky Park @ One City,
Jalan USJ 25/1, 47650 Subang Jaya, Selangor, Malaysia
Tel: +60 (3) 5036 7228/23/29 Fax: +60 (3) 5036 7226
E-Mail: sales@airman-asia.com

HOKUETSU INDUSTRIES EUROPE B.V.

Aalsmeerderdijk 156, 1438 AX Oude Meer, The Netherlands
Tel: 31-20-6462636 Fax: 31-20-6462191
E-Mail: info@hokuetsu.nl

AIRMAN USA CORPORATION

7633 Adairsville Hwy Adairsville, GA 30103
Tel: 1-770-769-4241 Fax: 1-770-769-4335

DISTRIBUTOR:

Screw Compressor
SAS / SMS Series

AIRMAN®

Screw Compressor

PROAIR Series [Indoor installation type / Outdoor installation type]

Air-Cooled, Oil-Lubricated 3.7 kW / 5.5 kW / 7.5 kW / 11 kW

Indoor installation type SAS4SD

Outdoor installation type SMS4ESD

Design registered

HOKUETSU INDUSTRIES CO., LTD.

Small size, advanced functions, and energy savings! PROAIR Series - including a lineup of outdoor installation types

Output \ Type	Outdoor installation type [SMS]		Indoor installation type [SAS]	
	Inverter [V type]	2-position control [E Type]	Inverter [V type]	2-position control [S Type]
3.7 kW	-	SMS4ESD	-	SAS4SD
5.5kW	-	-	-	SAS6SD
7.5 kW	-	SMS8ESD	-	SAS8SD
11 kW	SMS11EVD	SMS11ESD	SAS11VD	SAS11SD

For the 11 kW output (indoor installation type, outdoor installation type) capacity control method, suction port closing specifications can be created at the time of manufacture at the plant.

Indoor installation type SAS11SD

Outdoor installation type SMS11EVD

Capacity control system

Inverter V TYPE

Motor output 11 kW

Airflow control	Energy-saving effects
Inverter control + Purge control + Automatic start/stop	

compliant model: SMS11EVD SAS11VD

The operating speed is automatically controlled according to the air demand, reducing energy consumption.

Constant pressure control

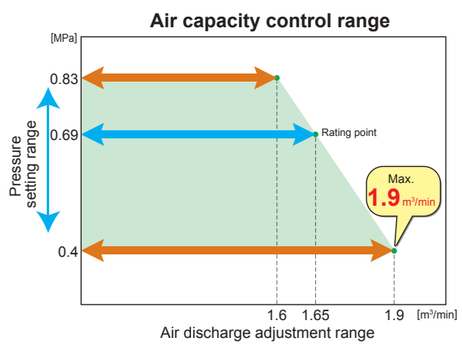
Due to its precise constant pressure control that limits pressure fluctuations to ±0.01 MPa or less, the pump can operate at the minimum required pressure, eliminating wasteful energy consumption.

Air delivery boost function

When the discharge pressure is set at or below the rated pressure (0.69 MPa), the maximum operating speed is raised, increasing the air delivery.

Air pressure boost function

When a pressure higher than the rated pressure (0.69 MPa) is needed, it can be set easily on the panel.



2-position control S TYPE

Motor output 3.7 - 11 kW

Airflow control	Energy-saving effects
2-position control + A.C.C.S. + Purge control + Automatic start/stop	

compliant model: SMS4ESD SMS8ESD SMS11ESD SAS4SD SAS6SD SAS8SD SAS11SD

Energy savings are achieved by A.C.C.S. and purge control.

2-position control

The intake-air capacity is controlled in 2 steps: open (load) and closed (unload).

Purge control

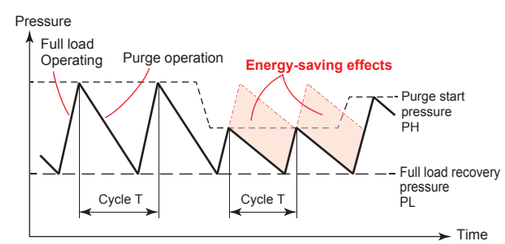
When the air demand is reduced and the load factor is remained below the purge operating transition load factor for a certain length of time, the system transits to purge operation in order to save energy.

Automatic start/stop

The system saves energy by automatically stopping operation based on microcomputer predictions of the stop time according to changes in the air demand. It also increases the pressure in the service air before stopping. This extends the stop time, saves energy, and reduces the motor load at restart.

A.C.C.S. (AIRMAN Computer Control System)

The purge start pressure (PH) is changed automatically according to the air demand, preventing frequent capacity control and thereby reducing power consumption.

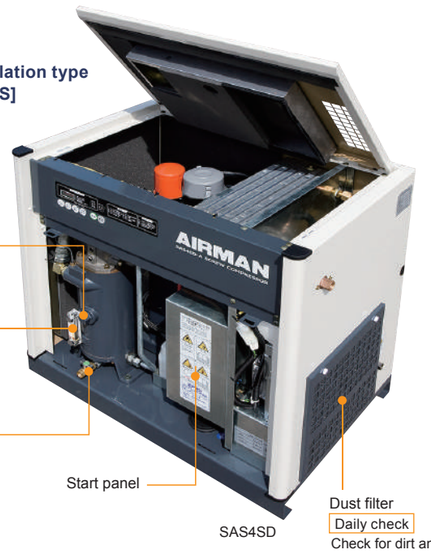


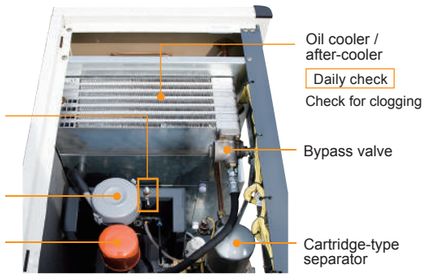
PROAIR Series features (all models)

Easy maintenance

The fully open top cover and large front door can be removed by a single touch without tools, allowing easy maintenance. The compressor oil is AIRMAN Long-Life SP. Lower maintenance costs.

Indoor installation type [SAS]





Outdoor installation type [SMS]

Easy operation

Start/Stop can be performed with a single touch using display button.

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 to reset.

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

Dryer Advance operation

Clean air is supplied, beginning from the moment the compressor starts.

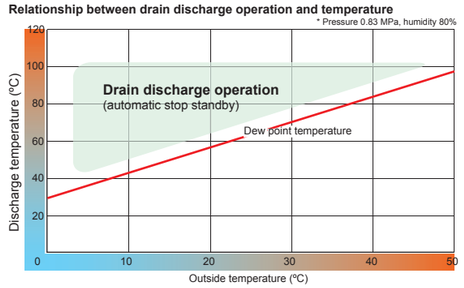
Remote control

A terminal block for start/stop, error display output, and other purposes are installed as standard.

Original drain processing [Industry's first]

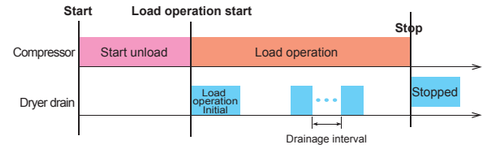
The dew point is estimated from the outside air temperature, and operation continues until the discharge air temperature exceeds the dew point. This allows faster and more reliable drain operation than with conventional models, and it eliminates troublesome manual drain work.

Relationship between drain discharge operation and temperature



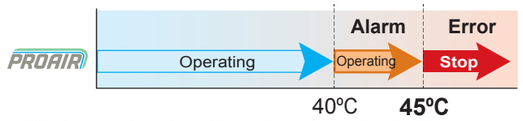
Dryer drain system [Patented]

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



Operate at ambient temperatures up to 45ºC with standard specifications

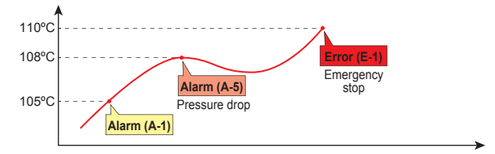
The use of a dryer that is resistant to high temperatures allows operation at ambient temperatures of up to 45°C. The compressor is compact, and the use of a counter-flow type oil cooler with good cooling efficiency allows operation at ambient temperatures of up to 50ºC.
When the compressor intake temperature reaches 45ºC, a warning is displayed on the monitor.



* If continuous operation over long periods occurs in an environment where the ambient temperature exceeds 40ºC, the lifetimes of the lubrication oil, electronics, O-rings, and other components will be shortened from their usual values.

Discharge air temperature: 3-stage detection [Patented]

When an abnormal rise in discharge air temperature occurs, detection also occurs in 3 stages.



Easy belt tensioning [Patented]

Adjust the belt tension simply by loosening the 2 mounting bolts and tightening the tension bolt nut.

Energy savings

Low pressure-loss dryer (11 kW) Energy Savings

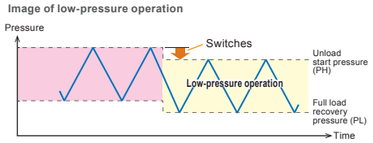
The dryer uses a stainless steel plate heat exchanger that features lower pressure drop than conventional models, as well as excellent durability.

Pressure drop: 0.005 MPa (approximately 1.2% energy savings)

Low-pressure operation Energy Savings

When the low discharge pressure is not a problem, switch to low-pressure operation to save energy.

Image of low-pressure operation



Pressure 0.83 MPa → 0.63 MPa
Pressure setting range: 0.02 - 0.2 MPa
10% energy savings

Outdoor installation type

SMS4ESD | SMS8ESD | SMS11ESD | SMS11EVD

Indoor installation type

SAS4SD | SAS6SD | SAS8SD | SAS11SD | SAS11VD

Features and advantages of the outdoor installation type [SMS]

PROAIR

compliant model SMS4ESD SMS8ESD SMS11ESD SMS11EVD

S type / 2-position control **V type** / Inverter control

Features of the outdoor installation type

Special hood for outdoor use

A special hood is used to minimize the intrusion of rainwater into the machine.
A louver structure is used at the cooling air intake. The top cover and door seal utilize the same type of press-fit seal that is used in automobiles, and a structure with raised sides is used to block the entry of rainwater.


Special seal


Louver structure


Raised sides

Manufacturing plant: SMS8ESD x 1, SMS11ESD x 2

Advantages of the outdoor installation types

Achieve full compressor performance

- Optimal installation environment (cool, little dust, little mist)
- Prevent overheating in the summer.
- Prevent the reduction in air delivery caused by rising temperatures.
- Prevent intake of dust in the plant and oil smoke from machine tools.

Large reduction in installation cost

- Ducts and ventilation fans are not required.
- Structures such as a compressor room are not necessary.
- Because the machine is air-cooled and includes a dryer, it can be easily relocated.
- It can be installed close to the load to minimize pressure loss.
- Because it can be installed outdoors, additional units can be easily installed. (Can be completed without upgrading existing units.)

A better environment inside the plant

- Exhaust heat is discharged directly outside.
- Exhaust heat can be used to supplement plant heating. (Duct work is required.)
- Machine heat does not affect the plant air conditioning.
- Compressor noise does not echo in the plant.
- Because the air source is outdoor air, compression efficiency is higher.

A wide range of options

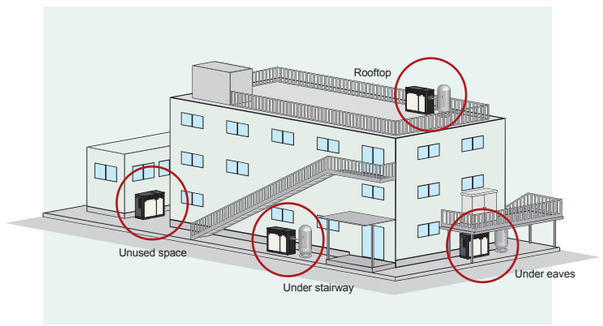
- Can be used in cold-weather regions.
- Allows pressure changes and use with different voltages.
- Remote control for easy operation from indoors.

Effective use of space

- Can be installed on rooftops.
- Can be installed underneath stairways or in other unused spaces.
- No changes to the plant layout are necessary.
- Maintenance space can be easily ensured.

Easy maintenance

- Cooler can be cleaned easily.
- Oil changes can be completed quickly.
- A simple removable large door allows easy daily maintenance.
- Full-open top cover
- Minimizes trouble caused by contaminants from the plant.



■Specifications

Indoor installation type SAS

Item		Model	3.7kW	5.5kW	7.5kW	11kW *8	
			SAS4SD-5C/6C 2-position control	SAS6SD-5C/6C 2-position control	SAS8SD-5C/6C 2-position control	SAS11SD-5C/6C 2-position control	SAS11VD-C Inverter
Compressor	Type		Rotating screw type, 1-stage compressed oil cooling				
	Air Delivery *1	m^3/min	0.44	0.72	1.1 [0.95]	1.6 [1.65] [1.35]	1.65 (1.9 - 1.6)
	Discharge pressure *2	MPa	0.83	0.83	0.83 [0.93]	0.83 [0.69] [0.9]	0.69 (0.4 - 0.83)
	Capacity control system		2-position control + A.C.C.S. + Purge control + Automatic start/stop				Inverter control
	Intake conditions		Atmospheric pressure, 2 - 40ºC				
	Lubricant oil capacity *3	L	2.5	3.5	5.0	8.0	
	Discharge air pipe diameter	A	10 (3/8B)	20 (3/4B)		25 (1B)	
Motor	Type		TEFC Fully-enclosed, external fan, 3-phase squirrel cage induction motor				
	Output	kW	3.7	5.5	7.5	11	
	Frequency	Hz	50/60				Both 50/60
	Voltage	V	200/200•220 [400/400•440]				
	No. of poles	P	2		4		
	Starting system		Direct input				Inverter
Approx. dimensions Approx. weight	Overall width	mm	760	900	950	1,160	
	Overall depth	mm	510	580	630	670	
	Overall height	mm	750	900	1,050	1,200	
	Weight	kg	160	235	290	387 (352) *7	397 (362) *7
	Noise level *4	dB [A]	56				
Dryer	Input	kW	0.27/0.25•0.28	0.27/0.29•0.31	0.28/0.30•0.32	0.512/0.592•0.604	
	Outlet dew point *5	ºC	10				
	Coolant and control system		R134a / capillary tube			R407C / capillary tube	

Outdoor installation type SMS

Item		Model	3.7kW	7.5kW	11kW *8	
			SMS4ESD-5C/6C 2-position control	SMS8ESD-5C/6C 2-position control	SMS11ESD-5C/6C 2-position control	SMS11EVD-C Inverter
Compressor	Model		Rotating screw type, 1-stage compressed oil cooling			
	Air Delivery *1	m^3/min	0.44	1.1 [0.93]	1.6 [1.65] [1.35]	1.65 (1.9 - 1.6)
	Discharge pressure *2	MPa	0.83	0.83 [0.93]	0.83 [0.69] [0.93]	0.69 (0.4 - 0.83)
	Capacity control system		2-position control + A.C.C.S. + Purge control + Automatic start/stop			Inverter control
	Intake conditions		Atmospheric pressure, -15*6- 40ºC			
	Lubricant oil capacity *3	L	2.5	5.0	8.0	
	Discharge air pipe diameter	A	10 (3/8B)	20 (3/4B)	25 (1B)	
Motor	Model		TEFC Fully-enclosed, external fan, 3-phase squirrel cage induction motor			
	Output	kW	3.7	7.5	11	
	Frequency	Hz	50/60			Both 50/60
	Voltage	V	200/200•220 [400/400•440]			
	No. of poles	P	2		4	
	Starting system		Direct input			Inverter
Approx. dimensions Approx. weight	Overall width	mm	860	1,070	1,320	
	Overall depth	mm	560	670	700	
	Overall height	mm	780	1,130	1,240	
	Weight	kg	180	315	427 (387) *7	442 (407) *7
	Noise level *4	dB [A]	56			
Dryer	Input	kW	0.27/0.25•0.28	0.28/0.30•0.32	0.512/0.592•0.604	
	Outlet dew point *5	ºC	10			
	Coolant and control system		R134a / capillary tube		R407C / capillary tube	

*1 Air delivery is converted at intake conditions at atmospheric pressure and 30ºC. As for guaranteed value of air delivery, please contact us if necessary. *2 Inverter model figures in parentheses ( ) are the setting range. The 2-position control high-pressure specifications are an option at the time of manufacture. *3 Be sure to use Long-Life SP genuine Hokuetsu compressor oil. *4 The noise value is converted to anechoic chamber conditions at a distance of 1.5 m from the pump front (operating side) and a height of 1.0 m when the pump is operating at full load. Depending on the installation environment (effects of surrounding reverberation, etc.), the noise level when the system is actually installed may be higher than the level indicated here. The noise level also changes when the capacity control operation is in effect. *5 Outlet dew point is the one at ambient temperature of 30ºC. *6 When using in cold weather regions (0ºC or below), the optional tape heater is required. (Cold weather region specifications) *7 Figures in parentheses show those of the unit without dryer. *8 11 kW output can created for regulator control SAS11RD and SMS11ERD at the time of manufacture at the plant. * A separate air tank with sufficient capacity must be installed.