

Refrigerated Air Dryer Large Size Series **New**

EC Directive compliant (with CE marking)



For use in Europe, Asia and Oceania

Power supply voltage **Three-phase 380 VAC** (For Asia and Oceania)
Three-phase 400 VAC (For Europe)

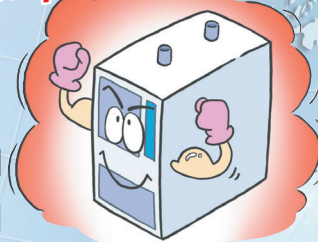
Tolerant of high temperature environment!

Top of its class in the industry for the large air-cooled type

Ambient temperature **45°C** at max. [Conventional large type: 40°C]

Inlet air temperature **60°C** at max. [Conventional large type: 50°C]

Doesn't stop even in high-temperature environments such as compressor rooms!



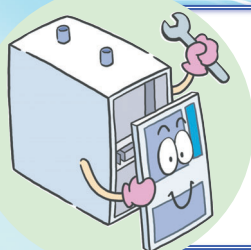
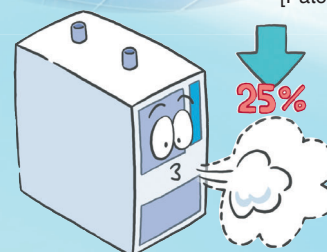
Energy saving design with secondary heater (SMC's original new design!)

[Patent Pending]

Exhaust heat reduced by **25%** at max. (8 kW → 6 kW)

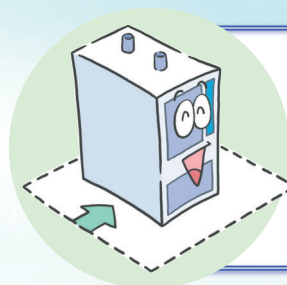
Ambient temperature increase suppressed (Air-cooled type)

Employs a heat exchanger made of high corrosion-resistant stainless steel.



Maintenance

- Dustproof filter
- Only access from front side is required to check electrical equipment and dustproof filter.



Space saving

One side can be installed flat against a wall!

Installation space reduced by **1.5 m²** at max!! (IDFA100F)



Model		Power supply voltage	Rated inlet condition	Outlet air pressure dew point	Air flow capacity (m³/h [ANR])		Refrigerant	Port size
					Standard condition (ANR)	Compressor intake condition		
For use in Asia and Oceania	IDFA100F-38	Three-phase 380 VAC	40°C 0.7 MPa	10°C	960	1000	R407C (HFC)	R2
	IDFA125F-38				1210	1255		R2 1/2
	IDFA150F-38				1500	1560		DIN flange 80
For use in Europe	IDFA100F-40	Three-phase 400 VAC	35°C 0.7 MPa	3°C	860	875		R2
	IDFA125F-40				1100	1119		R2 1/2
	IDFA150F-40				1340	1363		DIN flange 80

Refrigerant R407C (HFC)

Series IDFA100F/125F/150F



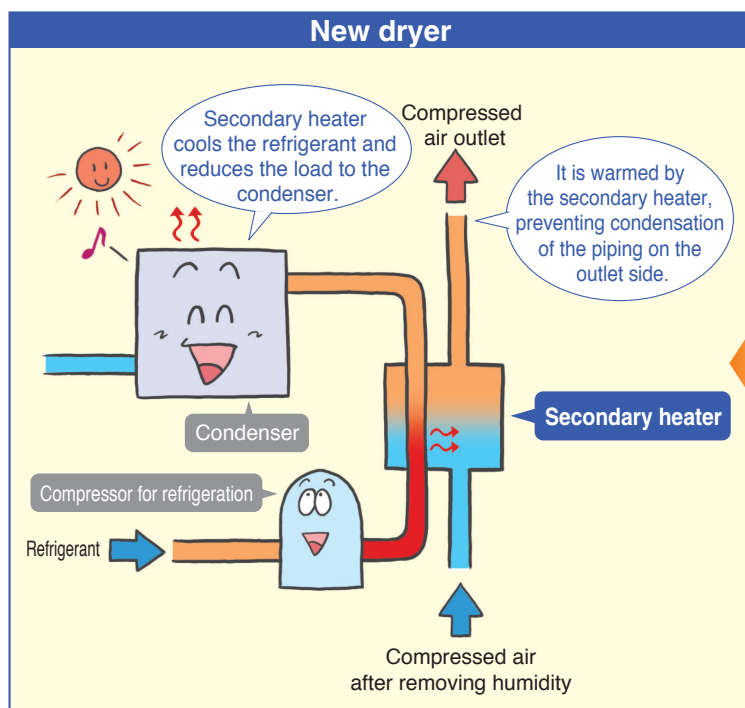
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Refrigerated Air Dryer

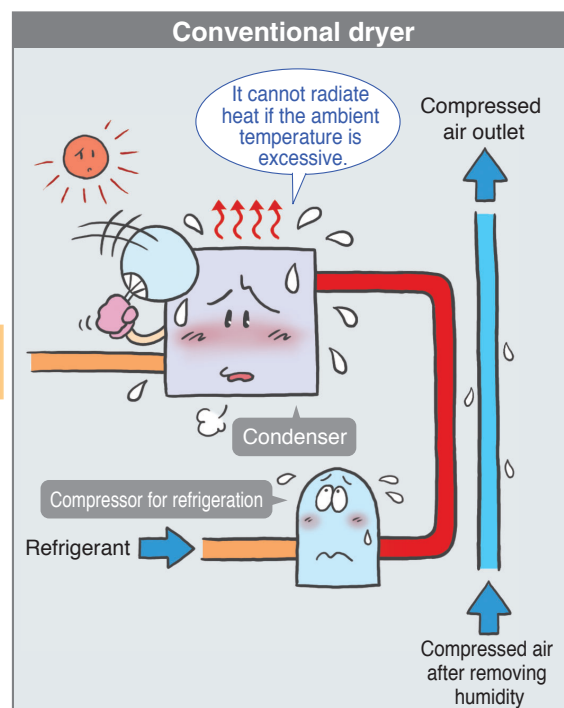
Tolerant of high temperature environment (ambient temperature 45°C), Energy saving design!

● Air-cooled type can be used at ambient temperature 45°C.

Secondary heater helps the heat radiation of the condenser allows use at ambient temperature 45°C.



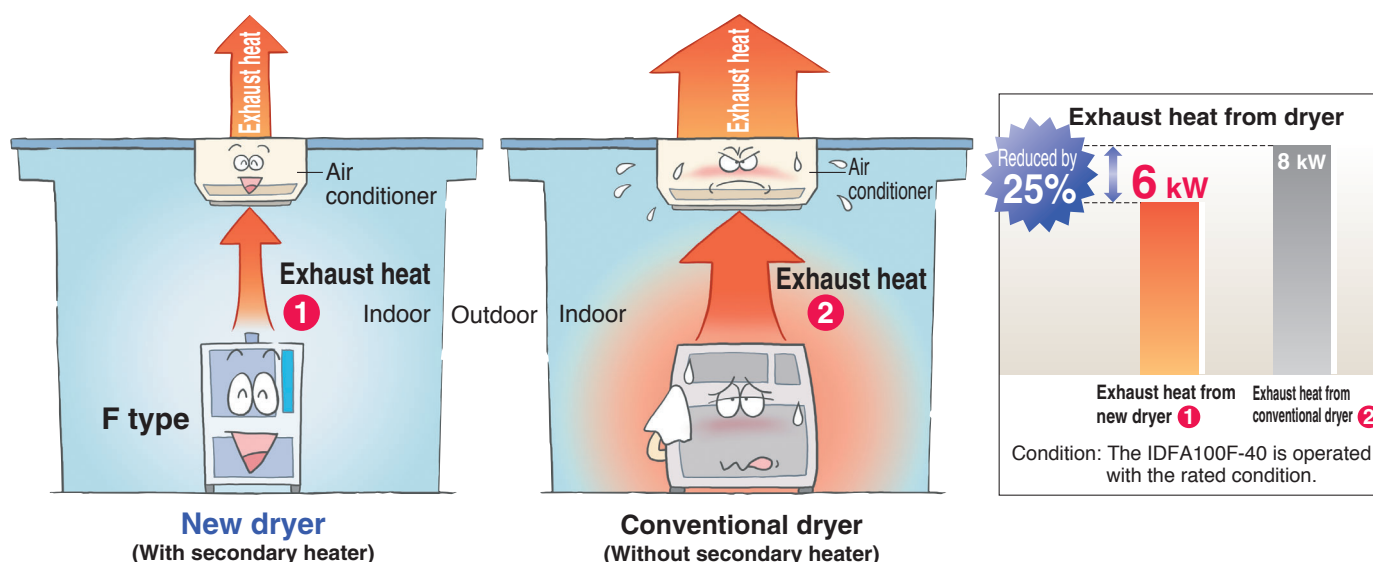
[Patent Pending]



● Energy saving design: Reduces exhaust heat from dryer by 25% at max. Suppresses ambient temperature increase.

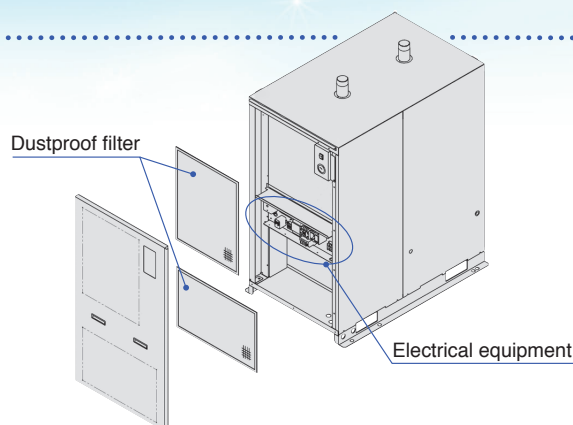
Secondary heater reduces the load to the condenser, and reduces exhaust heat from dryer by 25% at max. (comparison with other SMC products)

● Reduction of exhaust heat achieves downsizing and energy saving operation of the air conditioner!



Maintenance

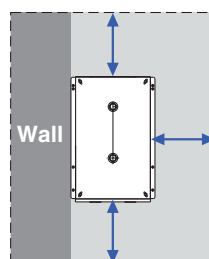
- Dustproof filter
- Only access from front side is required to check electrical equipment and dustproof filter.



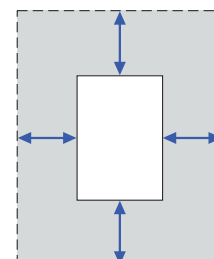
Space saving

Either the left or right can be installed flat against a wall! ^(Note)
Installation space reduced by **1.5 m²** at max!!

Note) Leave a space of at least 600 mm between the heat exhausting face and the wall.
Leave at least 600 mm on the sides indicated with \longleftrightarrow .



Installation space of the IDFA100F (Example: Installed flat against the wall on the left)



Installation space of the conventional type

SMC Air Dryer Variations

Large size Series IDFA□F

Introducing Series IDFA□F large-size air dryer

Tolerant of high temperature environment!

Can be used with ambient temperature 45°C at max. and inlet air temperature 60°C at max., making it top of its class in the industry for the large air-cooled type.

Energy saving design

Exhaust heat reduced by 25% at max.
Ambient temperature increase suppressed
Employs a heat exchanger made of high corrosion-resistant stainless steel.



Standard Series IDFA□E

- Air flow capacity **Increased by 40% at max.** (SMC comparison)
- Power consumption **Reduced by 40% at max.** (SMC comparison)
- Employs a heat exchanger made of high corrosion-resistant stainless steel. (IDFA4E to 75E)



Power supply voltage:

Three-phase 380 VAC (For Asia and Oceania)
Three-phase 400 VAC (For Europe)

Model	Rated inlet condition	Outlet air pressure dew point	Air flow capacity (m ³ /h [ANR])	Port size
IDFA100F-38	40°C 0.7 MPa	10°C	960	R2
IDFA125F-38			1210	R2 1/2
IDFA150F-38			1500	DIN flange 80
IDFA100F-40	35°C 0.7 MPa	3°C	860	R2
IDFA125F-40			1100	R2 1/2
IDFA150F-40			1340	DIN flange 80

Model	Rated inlet condition	Air flow capacity (m³/h [ANR])			Port size
		Outlet air pressure dew point			
		3°C	7°C	10°C	
IDFA3E	35°C 0.7 MPa	12.0	15.0	17.0	Rc3/8
IDFA4E		24.0	31.0	34.0	Rc1/2
IDFA6E		36.0	46.0	50.0	Rc3/4
IDFA8E		65.0	83.0	91.0	
IDFA11E		80.0	101.0	112.0	
IDFA15E		120.0	152.0	168.0	Rc1
IDFA22E		182.0	231.0	254.0	R1
IDFA37E		273.0	347.0	382.0	R1 1/2
IDFA55E		390.0	432.0	510.0	R2
IDFA75E		660.0	720.0	822.0	

Series IDFA100F/125F/150F

Model Selection

The corrected air flow capacity, which considers the user's operating conditions, is required for selecting air dryer. Select using the following procedures. However, for 400 VAC, model should also be selected based on the amount of processed air of 380 VAC. (Correction factor is based on the rated conditions of 380 VAC, so when the factor of rated conditions of 400 VAC is inputted, the amount of processed air of 400 VAC can be found.)

<div>1</div> <div>Read the correction factors.</div> <div>Obtain the correction factors A to D suitable for your operating condition from the below table.</div>	<div>IDFA100F/125F/150F Selection Example</div> <table><tr><th colspan="2">Condition</th><th>Data symbol</th><th>Correction factor <small>Note)</small></th></tr><tr><td>Inlet air temperature</td><td>45°C</td><td>A</td><td>0.92</td></tr><tr><td>Ambient temperature</td><td>40°C</td><td>B</td><td>0.98</td></tr><tr><td>Outlet air pressure dew point</td><td>10°C</td><td>C</td><td>1</td></tr><tr><td>Inlet air pressure</td><td>0.5 MPa</td><td>D</td><td>0.93</td></tr><tr><td>Air flow rate</td><td>800 m³/h</td><td>—</td><td>—</td></tr><tr><td>Power supply voltage</td><td>400 VAC</td><td>—</td><td>—</td></tr></table> <div>Note) Values obtained from the below “Correction Factors”</div>	Condition		Data symbol	Correction factor <small>Note)</small>	Inlet air temperature	45°C	A	0.92	Ambient temperature	40°C	B	0.98	Outlet air pressure dew point	10°C	C	1	Inlet air pressure	0.5 MPa	D	0.93	Air flow rate	800 m³/h	—	—	Power supply voltage	400 VAC	—	—
Condition		Data symbol	Correction factor <small>Note)</small>																										
Inlet air temperature	45°C	A	0.92																										
Ambient temperature	40°C	B	0.98																										
Outlet air pressure dew point	10°C	C	1																										
Inlet air pressure	0.5 MPa	D	0.93																										
Air flow rate	800 m³/h	—	—																										
Power supply voltage	400 VAC	—	—																										
<div>2</div> <div>Check the coefficient.</div>	<div>Correction factor = 0.92 x 0.98 x 1 x 0.93 = 0.84</div> <div>Max. coefficient value is 1.5 Correction factor is 1.5 when the calculation result is 1.5 or greater.</div>																												
<div>3</div> <div>Calculate the corrected air flow capacity.</div> <div>Obtain the corrected air flow capacity from the following formula.</div> <div>Corrected air flow capacity = Air flow rate ÷ (correction factor A x B x C x D)</div>	<div>Corrected air flow capacity = 800 m³/h ÷ (0.92 x 0.98 x 1 x 0.93)</div> <div>= 952 m³/h</div>																												
<div>4</div> <div>Select the model.</div> <div>Select the model with air flow capacity which exceeds the corrected air flow capacity from the specification table. (For air flow capacity, refer to the below data E.)</div>	<div>From the corrected air flow capacity 952 m³/h, the IDFA100F which processes air 960 m³/h will be selected. As the power supply voltage is 400 VAC, the model number will be the IDFA100F-40.</div>																												
<div>5</div> <div>Options</div>	<div>Refer to page 5.</div>																												
<div>6</div> <div>Finalise the model number.</div>	<div>Refer to page 2.</div>																												
<div>7</div> <div>Select the optional accessories.</div>	<div>Refer to page 5.</div>																												

Correction Factors

Data **A**: Inlet Air Temperature

Inlet air temp. (°C)	Correction factor
5 to 30	1.41
35	1.21
40	1
45	0.92
50	0.75
55	0.63
60	0.53

Data **B**: Ambient Temperature

Ambient temp. (°C)	Correction factor
2 to 25	1.06
30	1.02
32	1
35	0.99
40	0.98
45	0.92

Data **C**: Outlet Air Pressure Dew Point

Outlet air pressure dew point (°C)	Correction factor
3	0.7
5	0.75
10	1
15	1.4

Data **D**: Inlet Air Pressure

Inlet air pressure (MPa)	Correction factor
0.2	0.84
0.3	0.87
0.4	0.9
0.5	0.93
0.6	0.96
0.7	1
0.8	1.03
0.9	1.06
1 to 1.6	1.09

Data **E**: Air Flow Capacity

Model	IDFA100F	IDFA125F	IDFA150F
Air flow capacity (m³/h [ANR])	960	1210	1500

Refrigerant R407C (HFC)

Series *IDFA100F/125F/150F*

For use in Europe, Asia and Oceania

(Max. inlet air temperature: 60°C, Max. ambient temperature: 45°C)



How to Order

For use in
Asia and Oceania

IDFA **100F** - **38** -

Size

Size
100F
125F
150F

Voltage

Symbol	Voltage
38	Three-phase 380 VAC (50 Hz)

Option

Symbol <small>Note)</small>	Description
—	None
C	Anti-corrosive treatment for copper tube
G	With Chinese labels and a Chinese operation manual
K	Moderate pressure specification
R	With a circuit breaker
V	With a timer controlled solenoid valve type auto drain

Note) Enter alphabetically when multiple options are combined.

Example: When the IDFA100F-38 is provided with options C or R or V, the model number will be the IDFA100F-38-CRV.

For use in Europe

IDFA **100F** - **40** -

Size

Size
100F
125F
150F

Voltage

Symbol	Voltage
40	Three-phase 400 VAC (50 Hz)

Option

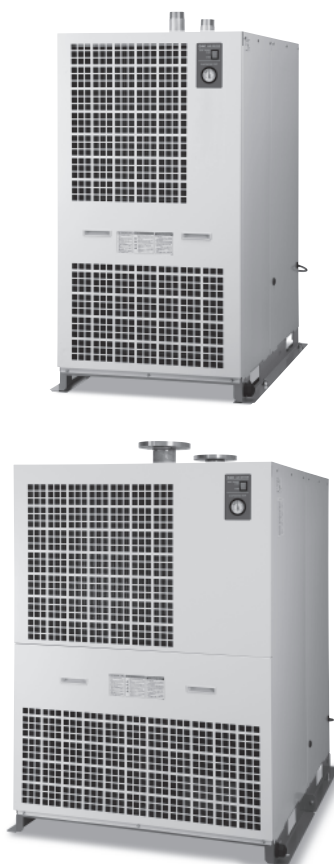
Symbol <small>Note)</small>	Description
—	None
C	Anti-corrosive treatment for copper tube
G	With Chinese labels and a Chinese operation manual
K	Moderate pressure specification (1.6 MPa)
R	With a circuit breaker
V	With a timer controlled solenoid valve type auto drain

Note) Enter alphabetically when multiple options are combined.

Example: When the IDFA100F-40 is provided with options C or R or V, the model number will be the IDFA100F-40-CRV.

Series IDFA100F/125F/150F

Standard Specifications



Specifications	Model	For use in Asia and Oceania			For use in Europe		
		IDFA100F-38	IDFA125F-38	IDFA150F-38	IDFA100F-40	IDFA125F-40	IDFA150F-40
Fluid		Compressed air					
Inlet air temperature °C		5 to 60					
Inlet air pressure MPa		0.15 to 1.0 (0.15 to 1.6 for option K2)					
Ambient temperature (humidity) °C		2 to 45 (Relative humidity 85% or less)					
Air flow capacity m³/h	Standard condition (ANR) Note 1)	960	1210	1500	860	1100	1340
	Compressor intake condition Note 2)	1000	1255	1560	875	1119	1363
Inlet air pressure MPa		0.7					
Inlet air temperature °C		40			35		
Ambient temperature °C		32			25		
Outlet air pressure dew point °C		10			3		
Power supply voltage		Three-phase 380 VAC			Three-phase 400 VAC		
Power consumption kW		2.8	3.4	3.4	2.5	2.7	2.7
Operating current A		5.1	6.3	6.3	4.5	5.3	5.9
Applicable circuit breaker capacity Note 4)		15					
Heat discharge from condenser kW		7.5	9	11.5	7	8	10
Refrigerant		R407C (HFC)					
Auto drain		Float type (Normally open) The option V stands for a timer type solenoid valve.					
Port size		R2	R2 1/2	DIN flange 80	R2	R2 1/2	DIN flange 80
Weight kg		245	270	350	245	270	350
Coating colour		Body panel: White 1 Base: Grey 2					
Compliant standards		EC Directive compliant (with CE marking)					

Note 1) Air flow capacity under the standard condition (ANR) [atmospheric pressure 20°C, relative humidity 65%]

Note 2) Air flow capacity converted by the compressor intake condition [atmospheric pressure 32°C]

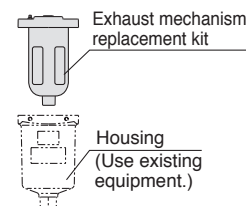
Note 3) The operation range does not guarantee the use with normal air flow capacity. When operating conditions are different from the rated specifications, please select a model in accordance with Model Selection (page 1).

Note 4) Install a circuit breaker with a sensitivity 30 mA.

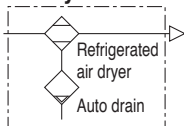
Replacement Parts

Air dryer model	IDFA100F	IDFA125F	IDFA150F
Heavy duty auto drain replacement part no. Note 5)	ADH-E400		
Dustproof filter set for condenser	IDF-FL219	IDF-FL220	

Note 5) Part number of only the exhaust mechanism replacement kit excluding the housing



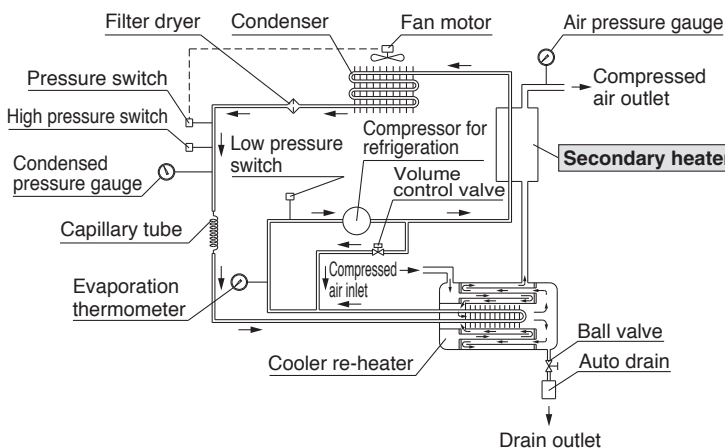
JIS Symbol



Construction (Air/Refrigerant Circuit)

Hot and humid air entering the air dryer is cooled down by the cooler re-heater (heat exchanger). The moisture which is condensed and separated is automatically exhausted by the auto drain. The air which has had its moisture removed is heated in two stages by the re-heater (heat exchanger) in the cooler re-heater and by the secondary heater, and is supplied to the outlet side as warm and dry air.

IDFA100F/125F/150F



Secondary heater

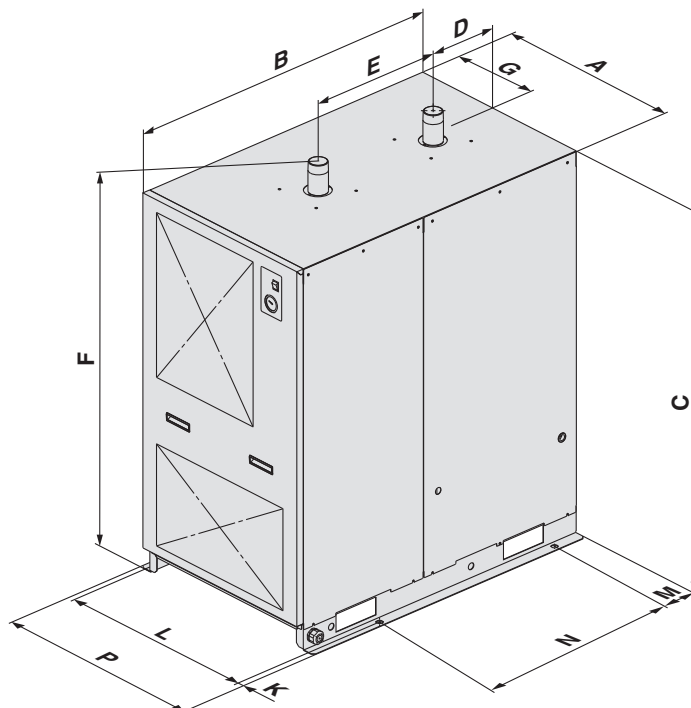
Compressed air from which drainage has been exhausted exchanges heat with refrigerant which has been compressed by the refrigerator, to give the following effects:

1. The outlet air temperature increases, preventing condensation of the piping on the outlet side.
2. The amount of heat exhausted from the condenser is reduced.
3. Energy saving operation of the dryer is achieved by reducing the amount of heat exhausted from the condenser.

Refrigerated Air Dryer *Series IDFA100F/125F/150F*

Dimensions

IDFA100F/125F

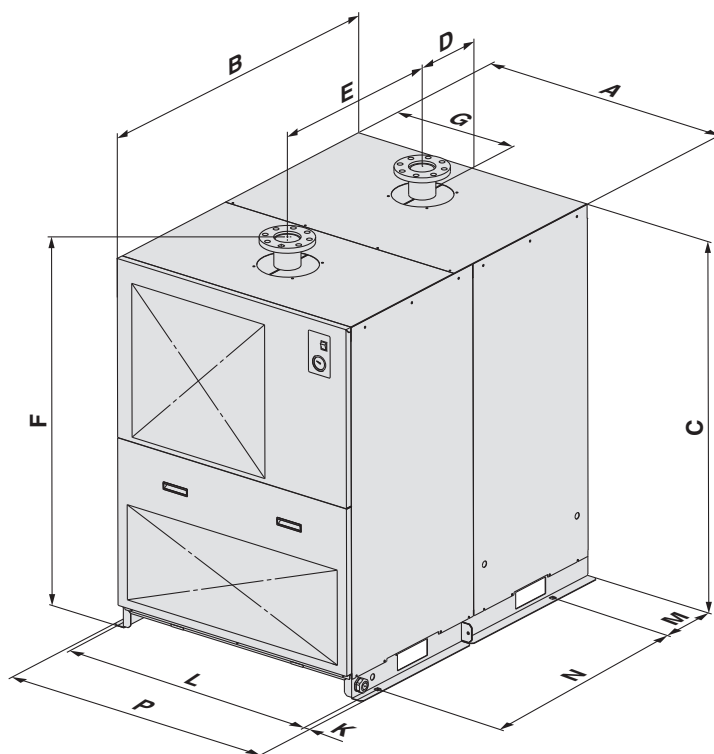


Dimensions

(mm)

Model	Port size	A	B	C	D	E	F	G	K	L	M	N	P
IDFA100F	R2	670	1120	1276	267	460	1375	335	20	712	107	700	752
IDFA125F	R2 1/2	700				655		350			78	935	

IDFA150F



Dimensions

(mm)

Model	Port size	A	B	C	D	E	F	G	K	L	M	N	P
IDFA150F	DIN flange 80	950	1290	1332	268	720	1432	475	20	990	217	935	1030

Series IDFA100F/125F/150F Options

Refer to "How to Order" page 2 for optional models.

C Option symbol

Anti-corrosive treatment for copper tube

This minimises the corrosion of the copper and copper alloy parts when the air dryer is used in an atmosphere containing hydrogen sulfide or sulfurous acid gas. (Corrosion cannot be completely prevented.)

Special epoxy coating: Copper tube and copper alloy parts
The coating is not applied on the heat exchanger or around electrical parts, where operation may be affected by the coating.

* Corrosion is not covered under warranty.

K Option symbol

Moderate pressure specification

The maximum operating pressure is 1.6 MPa.

The internal drain piping material is changed from nylon to metal.

Specifications

1. Maximum operating pressure: 1.6 MPa
2. Dimensions ... same as standard products

R Option symbol

With a circuit breaker

A circuit breaker is installed in the air dryer.

This saves additional electrical wiring at the time of installation.

Air dryer model	IDFA100F/125F/150F
Breaker capacity	15 A

Sensitivity current: 30 mA

V Option symbol

With a timer controlled solenoid valve type auto drain


Float type heavy duty auto drain is changed to the solenoid valve type auto drain. Drainage is discharged by controlling a solenoid valve with a timer. A strainer for solenoid valve protection and stop valve are also included.

Replacement Parts

Description	Part no.	Note
Timer type solenoid valve	IDF-S0405	200 VAC

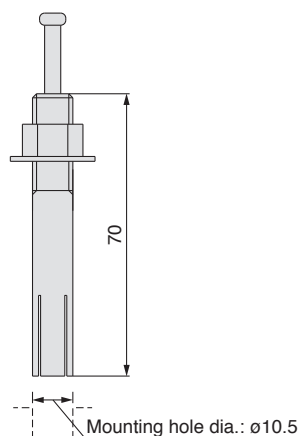
Optional Accessories

Specifications

Description	Features	Specifications
Foundation bolt set 	For fixing the air dryer to the foundations Easy to secure by striking the axle	Stainless steel

Dimensions

[Foundation bolt set]



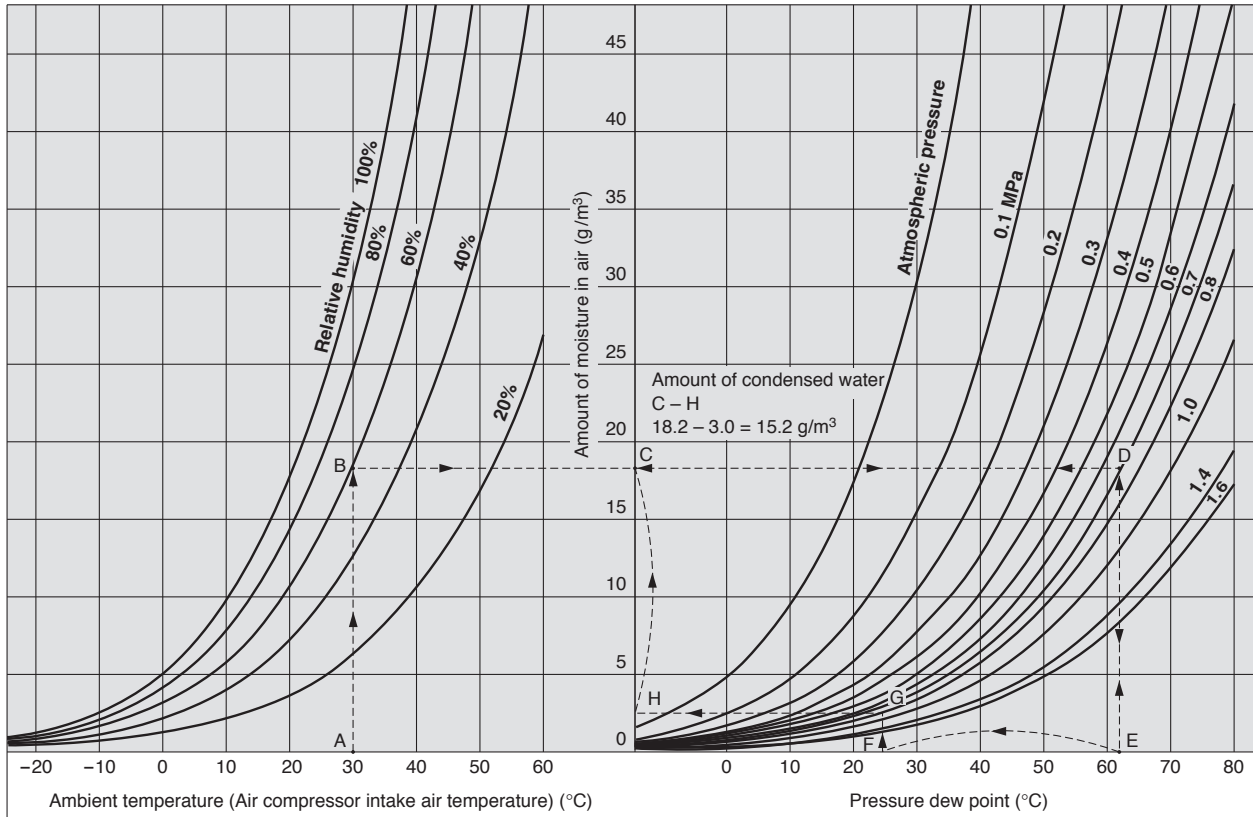
* Use a large flat washer when it is used.

Specifications

Part no.	Applicable dryer	Nominal thread size	Material	Number of 1 set
IDF-AB501	IDFA100F to 150F	M10	Stainless steel	4

Series IDFA100F/125F/150F Data

Condensed Water Calculation



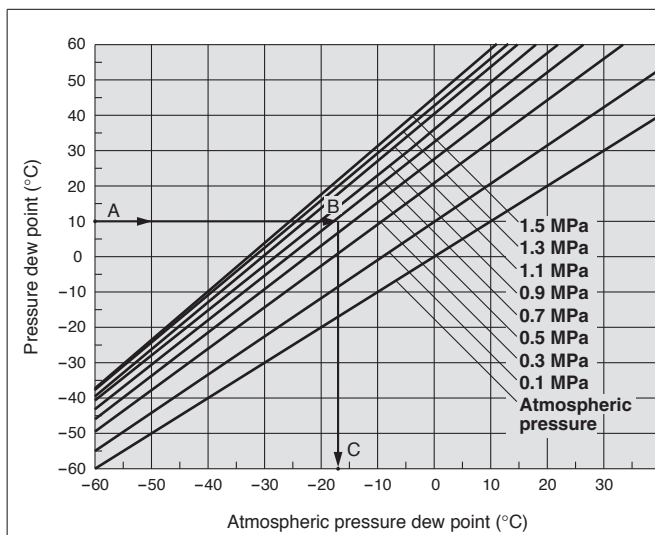
How to calculate the amount of condensed water

Example) To obtain the amount of condensed water when the pressure is applied to air up to 0.7 MPa with an air compressor, then cooled down to 25°C. Given an ambient temperature at 30°C and a relative humidity 60%.

- Trace the arrow mark from the point A at an ambient temperature 30°C to obtain the intersection B on the curved line for the relative humidity 60%.
- Trace the arrow mark from the intersection B to obtain the intersection D on the pressure characteristic line for 0.7 MPa.
- Trace the arrow mark from the intersection D to obtain the intersection E.
- The intersection E is the dew point under pressure 0.7 MPa with an ambient temperature 30°C and a relative humidity 60%. The value for E is 62°C.
- Trace the intersection E upward, and trace from the intersection D leftward to obtain the intersection C.
- The intersection C is the amount of moisture included in the compressed air 1 m³ at 0.7 MPa and a pressure dew point 62°C. **The amount of moisture is 18.2 g/m³.**
- Trace the arrow mark, starting from F for cooling temperature 25°C (pressure dew point 25°C) to obtain the intersection G on the pressure characteristic line for 0.7 MPa.
- From the intersection G, trace the arrow mark to obtain the intersection H on the vertical axis.
- The intersection H is the amount of moisture included in the compressed air 1 m³ at 0.7 MPa, and a pressure dew point 25°C. **The amount of moisture is 3.0 g/m³.**
- Therefore, the amount of condensed water is as follows (per 1 m³):

The amount of moisture at the intersection C
– the amount of moisture at the intersection H
= the amount of condensed water
18.2 – 3.0 = 15.2 g/m³

Dew Point Conversion Chart



How to read the dew point conversion chart

Example) To obtain the atmospheric pressure dew point at a pressure dew point 10°C and a pressure 0.7 MPa.

- Trace the arrow mark → starting from the point A at a pressure dew point 10°C to obtain the intersection B on the pressure characteristic line for 0.7 MPa.
- Trace the arrow mark → starting from the point B to obtain the intersection C at the dew point under atmospheric pressure.
- The intersection C is the conversion value –17°C under atmospheric pressure dew point.



Series IDFA100F/125F/150F

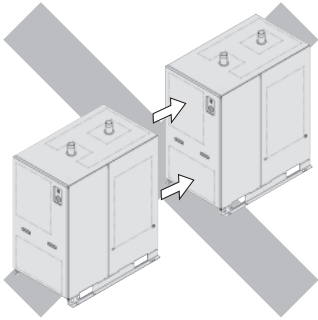
Specific Product Precautions 1

Be sure to read before handling. Refer to back cover for Safety Instructions, “Handling Precautions for SMC Products” (M-E03-3) for Air Preparation Equipment Precautions.

Installation

⚠ Caution

- Avoid locations where the air dryer will be in direct contact with wind and rain. (Avoid locations where relative humidity is 85% or more.)
- Avoid exposure to direct sunlight.
- Avoid locations that contain much dust, corrosive gases, or flammable gases. Failure due to corrosion is not covered under warranty. However, when the risk of corrosion is high, select the option C (anti-corrosive treatment for copper tube).
- Avoid locations of poor ventilation and high temperature.
- Avoid locations where the air dryer is too close to a wall, etc. Leave a sufficient space between the air dryer and the wall according to the “Maintenance Space” in the operation manual.
- Avoid locations where the air dryer could draw in high temperature air discharged from an air compressor or other dryer.



Check that the exhaust air does not flow into the neighbouring equipment.

- Avoid locations subjected to vibration.
- Avoid possible locations where the drain can freeze.
- Avoid locations with an ambient temperature over 45°C.
- Avoid installation on machines for transporting, such as vehicles, ships, etc.
- Avoid locations which experience sudden pressure/flow rate changes.

Drain Tube

⚠ Caution

- A polyurethane tube is attached as a drain tube for the IDFA□F. Use this tube to discharge drainage to a drain tank, etc.
- Do not use the drain tube in an upward direction. Do not bend or crush the drain tube. (Operation of the auto drain will stop water vapour from discharging through the air outlet.) If it is unavoidable that the tube goes upwards, make sure it only goes as far as the position of the auto drain.
- The drain tube comes with a tube fitting. Pipe a 10 mm O.D. tube with a length of 5 m or less.

Power Supply

⚠ Caution

- Connect the power supply to the terminal block.
 - Install a circuit breaker ^{Note)} suitable to each model for the power supply.
 - Maintain voltage fluctuation within $\pm 10\%$ of the rated voltage.
- Note) Select a circuit breaker with a sensitivity current 30 mA. As regards rated current, refer to “Applicable circuit breaker capacity” on page 3.

Air Piping

⚠ Caution

- Be careful to avoid an error in connecting the air piping at the compressed air inlet (IN) and outlet (OUT).
- Install bypass piping since it is needed for maintenance.
- When tightening the inlet/outlet air piping, hold the dryer-side piping firmly in place with a pipe wrench.
- The piping surface may reach temperatures around 60°C depending on usage conditions. When adjusting valves or performing other such operations, a temperature check is necessary, wear gloves before proceeding.
- Check that vibrations resulting from the compressor are not transmitted through the air piping to the air dryer.
- Do not allow the weight of the piping to lie directly on the air dryer.

Protection Circuit

⚠ Caution

When the air dryer is operated in the following cases, which will activate the protection circuit and turn off the lamp, the air dryer will come to stop.

- The compressed air temperature is too high.
- The compressed air flow rate is too high.
- The ambient temperature is too high. (over 45°C)
- The fluctuation of the power supply is beyond the rated voltage $\pm 10\%$.
- The air dryer is drawing in high temperature air exhausted from an air compressor or other dryer.
- The ventilation port is obstructed by a wall or clogged with dust.

Transportation and Installation

⚠ Warning

Be sure to follow the below instructions for transporting the product.

- The product is filled with refrigerant. Transport it (by land, sea or air) in accordance with laws and regulations specified.
- When carrying the product, be careful not to let it drop or fall over. Lift it by using a fork lift.
- Do not lift the product by holding the panel, fittings or piping.
- Never lay the product down for transportation. This may lead to damage to the product.

- The product is heavy and has potential dangers in transportation. Be sure to follow the above instructions.
- Be sure to use a fork lift or lifting hook for transporting the product.



Series IDFA100F/125F/150F

Specific Product Precautions 2

Be sure to read before handling. Refer to back cover for Safety Instructions, “Handling Precautions for SMC Products” (M-E03-3) for Air Preparation Equipment Precautions.

Compressor Air Delivery

Caution

Use an air compressor with an air delivery of 50 L/min or larger.

Since the auto drain is designed in such a way that the valve remains open unless the air pressure rises to 0.05 MPa or higher, air will blow out from the drain outlet at the time of air compressor start up until the pressure increases. Therefore, if an air compressor has a small air delivery, the pressure may not be sufficient.

Auto Drain

Caution

The auto drain may not function properly, depending on the quality of the compressed air. Check the operation once a day.

Cleaning of Ventilation Area (Air-cooled Type)

Caution

Remove dust from the ventilation area once a month using a vacuum cleaner or an air blow nozzle.

Delay for Restarting

Caution

- Allow at least three minutes before restarting the dryer. If the air dryer is restarted within three minutes after being stopped, the protection circuit will be activated, operating light turns off and the dryer will not be activated.
- The residual drainage in the air dryer may splash over the outlet when the operation is re-started, so it is recommended to install a filter on the outlet of the air dryer.

Modifying the Standard Specifications

Caution

Do not modify the standard product using any of the optional specifications once the product has been supplied to a customer. Check the specifications carefully before selecting an air dryer.

Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of “**Caution**,” “**Warning**” or “**Danger**.” They are all important notes for safety and must be followed in addition to International Standards (ISO/IEC)*1), and other safety regulations.

- Caution:** **Caution** indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.
- Warning:** **Warning** indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.
- Danger:** **Danger** indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

- *1) ISO 4414: Pneumatic fluid power – General rules relating to systems.
ISO 4413: Hydraulic fluid power – General rules relating to systems.
IEC 60204-1: Safety of machinery – Electrical equipment of machines.
(Part 1: General requirements)
ISO 10218-1: Manipulating industrial robots - Safety.
etc.

Warning

- The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.**
Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalogue information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.
- Only personnel with appropriate training should operate machinery and equipment.**
The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.
- Do not service or attempt to remove product and machinery/equipment until safety is confirmed.**
 - The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
 - When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
 - Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.
- Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.**
 - Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
 - Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalogue.
 - An application which could have negative effects on people, property, or animals requiring special safety analysis.
 - Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.

Caution

- The product is provided for use in manufacturing industries.**
The product herein described is basically provided for peaceful use in manufacturing industries.
If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary.
If anything is unclear, contact your nearest sales branch.

Limited warranty and Disclaimer/ Compliance Requirements

The product used is subject to the following “Limited warranty and Disclaimer” and “Compliance Requirements”.

Read and accept them before using the product.

Limited warranty and Disclaimer

- The warranty period of the product is 1 year in service or 1.5 years after the product is delivered.*2)
Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.
- For any failure or damage reported within the warranty period which is clearly our responsibility, a replacement product or necessary parts will be provided.
This limited warranty applies only to our product independently, and not to any other damage incurred due to the failure of the product.
- Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalogue for the particular products.

*2) **Vacuum pads are excluded from this 1 year warranty.**

A vacuum pad is a consumable part, so it is warranted for a year after it is delivered.
Also, even within the warranty period, the wear of a product due to the use of the vacuum pad or failure due to the deterioration of rubber material are not covered by the limited warranty.

Compliance Requirements

- The use of SMC products with production equipment for the manufacture of weapons of mass destruction (WMD) or any other weapon is strictly prohibited.
- The exports of SMC products or technology from one country to another are governed by the relevant security laws and regulations of the countries involved in the transaction. Prior to the shipment of a SMC product to another country, assure that all local rules governing that export are known and followed.

Safety Instructions

Be sure to read “Handling Precautions for SMC Products” (M-E03-3) before using.

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