

Refrigerated Air Dryer

IDFA60/70/80/90 Series

(Max. inlet air temperature: 65°C, Max. ambient temperature: 45°C)



How to Order

IDFA **60** - **23** -

Size

60
70
80
90

Voltage

Symbol	Voltage
23	Single-phase 230 VAC (50 Hz)

Options

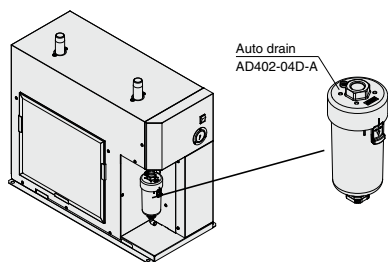
Symbol	Description
Nil	None
A	Cool compressed air output
C	Anti-corrosive treatment for copper tube
G	With Chinese labels and a Chinese operation manual
L	With a heavy-duty auto drain (The maximum operating pressure is 1.6 MPa.)
R	With an earth leakage breaker
T	With a terminal block for operating, error, and remote operation signals
V	With a timer controlled solenoid valve type auto drain (The maximum operating pressure is 1.6 MPa.)

* When multiple options are combined, indicate symbols in alphabetical order.

* The combination of L and V is not available.

Replacement Parts

Auto drain

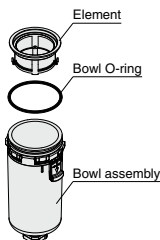


Auto Drain Replacement Part Nos.

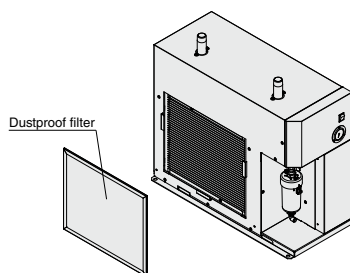
Description	Part no.	Qty.
Element	AD402P-040S	1
Bowl O-ring	KA00463	1
Bowl assembly*1	AD52-A	1

*1 A bowl O-ring is included.

A One-touch fitting for connecting the drain tube is not included.



Dustproof filter



Dustproof Filter Replacement Part Nos.

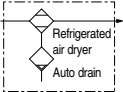
Part no.	Qty.	Dimension [mm]	Applicable model
IDF-S0530	1	H370 x W440	For IDFA60
IDF-S0531	1	H614 x W440	For IDFA70
IDF-S0535	1	H614 x W556	For IDFA80, IDFA90

Standard Specifications



Specifications		Model	IDFA60	IDFA70	IDFA80	IDFA90		
Operating range ^{*1}	Fluid	Compressed air						
	Inlet air temperature	[°C]	5 to 65					
	Inlet air pressure	[MPa]	0.15 to 1.0 ^{*9}					
	Ambient temperature (Humidity)	[°C]	2 to 45 (Relative humidity: 85% or less)					
Rated conditions ^{*4}	Air flow capacity [m ³ /h]	Standard condition (ANR) ^{*2}	Outlet air pressure dew point	3°C	204	312	552	810
			Outlet air pressure dew point	7°C	300	408	654	900
			Outlet air pressure dew point	10°C	360	480	720	960
			Outlet air pressure dew point	3°C	216	331	585	859
	Compressor intake condition ^{*3}	Outlet air pressure dew point	7°C	318	432	693	954	
		Outlet air pressure dew point	10°C	382	509	763	1018	
		Inlet air pressure	[MPa]	0.7				
	Inlet air temperature	[°C]	35					
	Ambient temperature	[°C]	25					
	Power supply voltage (Frequency)		Single-phase 230 VAC (50 Hz) Allowable voltage range ±10% ^{*5}					
Electrical spec.	Maximum air flow capacity		Air flow capacity calculated with the correction factors					
	Power consumption ^{*6}	[W]	820	1300	1950	2220		
	Current consumption ^{*6}	[A]	4.9	7.2	12.0	13.0		
	Applicable earth leakage breaker capacity ^{*7}	[A]	10	15	20	30		
Cooling method		Air-cooled refrigeration						
Refrigerant		R410A (HFC) GWP: 2088 ^{*8}						
Refrigerant charge	[g]	390 ±10	530 ±10	630 ±10	780 ±10			
Auto drain		Float type (Normally open, Min. operating pressure: 0.1 MPa)						
Port size		R1	R1 1/2	R2				
Weight	[kg]	49	68	95	110			
Accessories		Drain tube (ø12: 3.5 m), Drain tube holder, Operation manual						

Symbol



- *1 The operating range does not guarantee use with normal air flow capacity.
- *2 Air flow capacity under the standard condition (ANR) [atmospheric pressure 20°C, relative humidity 65%]
- *3 Air flow capacity converted by the compressor intake condition [32°C, Atmospheric pressure, and 75% relative humidity]
- *4 When the operating conditions are different from the rated values, select a model in accordance with Model Selection (page 147) or calculate the air flow capacity suitable to the operating conditions based on the Correction of Air Flow Capacity.
- *5 Do not use this product with continuous voltage fluctuations.
- *6 These values are reference values under rated conditions and are not guaranteed. Do not use these values for the thermal relay set values, etc.
- *7 Products other than Option R are not equipped with an earth leakage breaker. Purchase an appropriate earth leakage breaker separately. Use an earth leakage breaker with a leak current sensitivity of 30 mA.
- *8 This is the value specified by IPCC4 AR4. The value specified by the Revised Fluorocarbons Recovery and Destruction Law (Japanese law) is R410A GWP: 2090.
- *9 The maximum operating pressure is 1.0 MPa as standard, but it is possible to achieve 1.6 MPa when selecting Option L or Option V.

Correction of Air Flow Capacity

Inlet air temperature [°C]

°C	5 to 25	30	35	40	45	50	55	60	65
Correction factors	1.42	1.15	1.00	0.71	0.62	0.50	0.40	0.33	0.21

Ambient temperature [°C]

°C	2 to 25	30	35	40	45
Correction factors	1.00	0.85	0.80	0.73	0.62

Inlet air pressure [MPa]

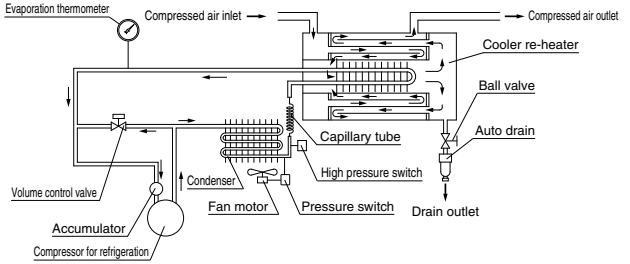
MPa	0.3	0.4	0.5	0.6	0.7 to 1.6
Correction factors	0.71	0.75	0.82	0.89	1.00

Calculation example: The air flow capacity when the dew point of the IDFA60 is set to 10°C under the following conditions is calculated. [Operating conditions: Inlet air temperature: 35°C, Ambient temperature: 35°C, Inlet air pressure: 0.6 MPa] 360 m³/h (ANR) x 1.00 x 0.80 x 0.89 = 256 m³/h (ANR)

IDFA Series

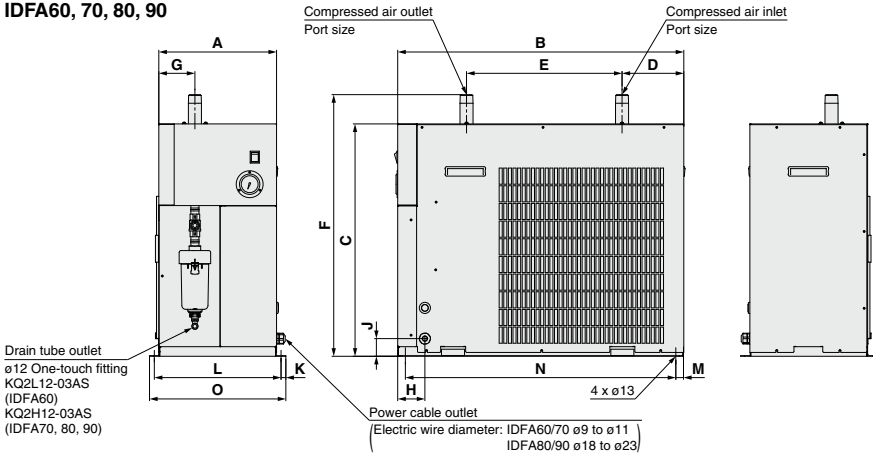
Construction (Air/Refrigerant Circuit)

Humid, hot air coming into the air dryer will be cooled down by a cooler re-heater (heat exchanger). Water condensed at this time will be removed from the air by an auto drain and drained out automatically. Air separated from the water will be heated by a cooler re-heater (heat exchanger) to obtain the dried air, which goes through to the outlet side.



Dimensions

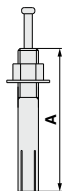
IDFA60, 70, 80, 90



Model	Port size	A	B	C	D	E	F	G	H	J	K	L	M	N	O
IDFA60	R1	307	745	605	161	405	681	71	94	46	12.5	330	20	704	355
IDFA70	R1 1/2	342	890	825	176	480	905	68	100	11	463	365		849	390
IDFA80	R2	438	957	863	169		958	219				78	916	485	
IDFA90															

IDFA Series Optional Accessories

Foundation Bolt Set



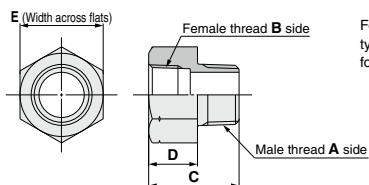
For fixing the air dryer to the foundations.
Easy to secure by striking the axle.

Mounting hole dia.: $\phi 10.5$

Part no.	Nominal thread size	Material	Number of 1 set	A
IDF-AB500	M10	Stainless steel	4	50

Piping Adapter

E (Width across flats)



For converting the thread type of an IN/OUT fitting for air dryers.

Part no.	Thread type and port size		C	D	E	Material	Number of 1 set
	Male thread A side	Female thread B side					
IDF-AP604	NPT1	Rc1	50	27	46	Brass	2
IDF-AP606	NPT1 1/2	Rc1 1/2	55	31	54		
IDF-AP607	NPT2	Rc2	65	30	70		

Bypass Piping Set

IDF-BP 339

Applicable air dryer

Symbol	Applicable dryer
339	IDFA60
340	IDFA70
341	IDFA80
	IDFA90

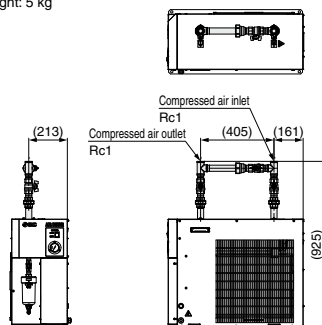
Max. operating pressure: 1.0 MPa

* Not applicable to the moderate pressure specification

Prepare a bypass piping set suitable for the specification.

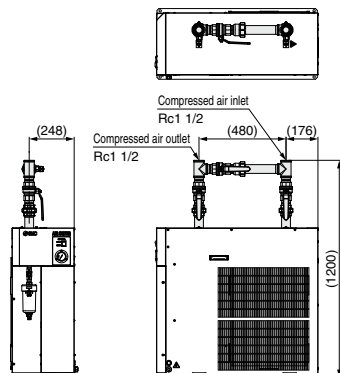
For IDFA60: IDF-BP339

Weight: 5 kg



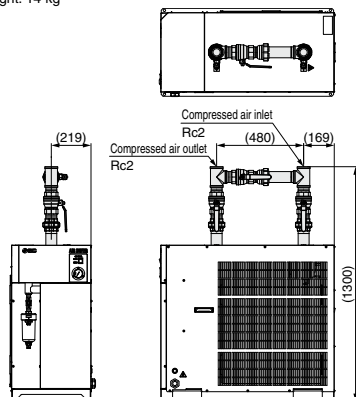
For IDFA70: IDF-BP340

Weight: 10 kg



For IDFA80, IDFA90: IDF-BP341

Weight: 14 kg



IDFA Series Options

A Option symbol Cool compressed air output

Cool outlet air (10°C) can be supplied. The air flow with this option is smaller than that of the standard air dryer. (Refer to the table below.) If the air dryer is used out of the scope of the rated specifications or conditions, select a model according to page 147 and apply the air flow capacity shown in the table below to the data (U).

* Perform thermal insulation treatment for pipings and equipment installed after the dryer to prevent the formation of condensation.

Air Flow Capacity

Model	Air flow capacity m ³ /h (ANR)				
	IDFA60-23-A	IDFA70-23-A	IDFA80-23-A	IDFA90-23-A	
Outlet air pressure dew point	10°C	186	300	462	576

Rated conditions: Inlet air pressure: 0.7 MPa, Inlet air temperature: 35°C, Outlet air temperature: 10°C

C Option symbol Anti-corrosive treatment for copper tube

This minimizes the corrosion of the copper and copper alloy parts when the air dryer is used in an atmosphere containing hydrogen sulfide or sulfuric 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.

* Failure due to corrosion is not covered under warranty.

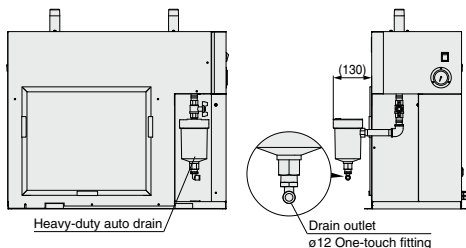
G Option symbol With Chinese labels and a Chinese operation manual

In addition, Chinese labels are put on the external panels. A Chinese operation manual is also included.

L Option symbol With a heavy-duty auto drain (applicable to moderate pressure)




The float type auto drain used in the standard air dryer is replaced with a heavy-duty auto drain (ADH4000-04) which enables the condensate to discharge more efficiently. The product can be used for moderate pressure with this option.

Max. operating pressure: 1.6 MPa



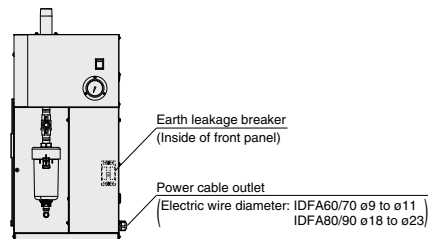
* The heavy-duty auto drain and piping materials (nipple, elbow) are shipped together with the main body of the air dryer. Customers are required to mount the parts to the air dryer.

Replacement Parts: Heavy-Duty Auto Drain

Replacement part no. (Description)	Configuration
ADH4000-04 (Heavy-duty auto drain)	 Heavy-duty auto drain
ADH-E400 (Replacement kit for exhaust mechanism)	 Replacement kit for exhaust mechanism
	 Housing (Use existing equipment.)

R Option symbol With an earth leakage breaker

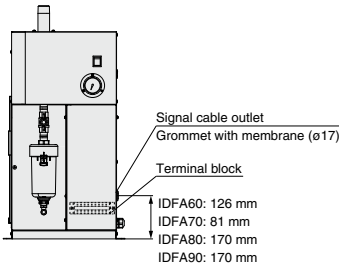
The air dryer is equipped with an earth leakage breaker, reducing the electrical wiring required during installation.



T Option symbol
With a terminal block for operating, error, and remote operation signals

In addition to power supply connection, terminal blocks for operating, error, and remote operation signals are available.

- The operating and error signals are no-voltage contact style.
 - Operating signal...During operation: contact "close", During stop: contact "open"
 - Error signal...During error: contact "close", During stop: contact "open"
- Contact capacity...Rated load voltage: 240 VAC or less/24 VDC or less
Max. load current: 5 A (Resistance load)/2 A (Induction load)
Min. applicable load: 20 VDC, 3 mA
- Power supply voltage is applied to the remote operation contact. The external switch is to be prepared by customers. Position holding switch (alternate type switch) or automatic return switch (momentary switch) can be used.



V Option symbol
With a timer controlled solenoid valve type auto drain (applicable to moderate pressure)

Drainage is discharged by controlling a solenoid valve with a timer. A strainer for solenoid valve protection and a stop valve are also included.

Max. operating pressure: 1.6 MPa

Replacement Parts

Part no.	Note
IDF-S0534	200 to 230 VAC

