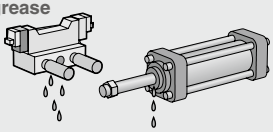
Refrigerated Air Dryers

Protect Pneumatic Equipment from Moisture!

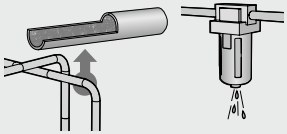
An air dryer removes the vapor from the moist compressed air delivered by the compressor, and prevents it from causing the pneumatic equipment to fail.

Effects of moisture on equipment

Malfunctioning of valves and actuators caused by dripping grease



Decomposition of auto drain caused by rusting inside pipes



Generation of water droplets

Standard inlet air temperature type *Series IDF□E/F/D*

- Air flow capacity: Increased by **up to 40%** (SMC comparison)
- Power consumption: Reduced by **up to 40%** (SMC comparison)
- Improved corrosion resistance with the stainless steel heat exchanger*

Model	Rated inlet condition	Applicable air compressor (kW)	Port size
IDF1E	35°C 0.7 MPa	0.75	Rc3/8
IDF2E		1.5	
IDF3E		2.2	
IDF4E		3.7	Rc1/2
IDF6E		5.5	Rc3/4
IDF8E		7.5	
IDF11E		11	
IDF15E1		15	Rc1
IDF22E		22	R1
IDF37E		37	R1 1/2
IDF55E	40°C 0.7 MPa	55	R2
IDF75E		75	

IDF□E

The air dryers (CE or UL compliant) conforming to the international standards are separately available.
*IDF4E to 75E/IDU3E to 75E

- **Large size series**
- **Tolerant of high temperature environment!**
  Top of its class in the industry for the large air-cooled type **Ambient temperature 45°C/Inlet air temperature 60°C (IDF100F to 150F)**
- **Energy saving design**
  Exhaust heat amount is reduced 25% to suppress the ambient temperature rise (air-cooled type) and reduce the facility water amount (water-cooled type) **(IDF100F to 150F)**.

Model	Rated inlet condition	Applicable air compressor (kW)	Port size
IDF100F	40°C 0.7 MPa	100	R2
IDF125F		125	65 (2 1/2B) Flange
IDF150F		150	80 (3B) Flange
IDF190D		190	
IDF240D		240	100 (4B) Flange
IDF370D	35°C 0.7 MPa	370	150 (6B) Flange

Air-cooled type Water-cooled type
IDF□F

IDF□D

High inlet air temperature type *Series IDU□E*

Model	Rated inlet condition	Applicable air compressor (kW)	Port size
IDU3E	55°C 0.7 MPa	2.2	Rc3/8
IDU4E		3.7	Rc1/2
IDU6E		5.5	Rc3/4
IDU8E		7.5	
IDU11E		11	
IDU15E1		15	Rc1
IDU22E		22	R1
IDU37E		37	R1 1/2
IDU55E		55	R2
IDU75E		75	

IDU□E

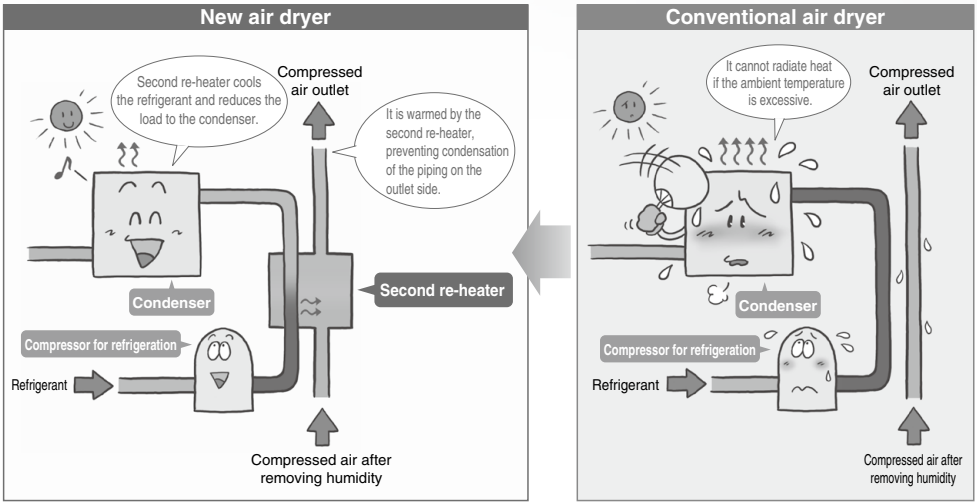
*IDF4E to 75E/IDU3E to 75E

Series IDF100F/125F/150F

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

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

Second re-heater helps the heat radiation of the condenser allow use at ambient temperature 45°C.

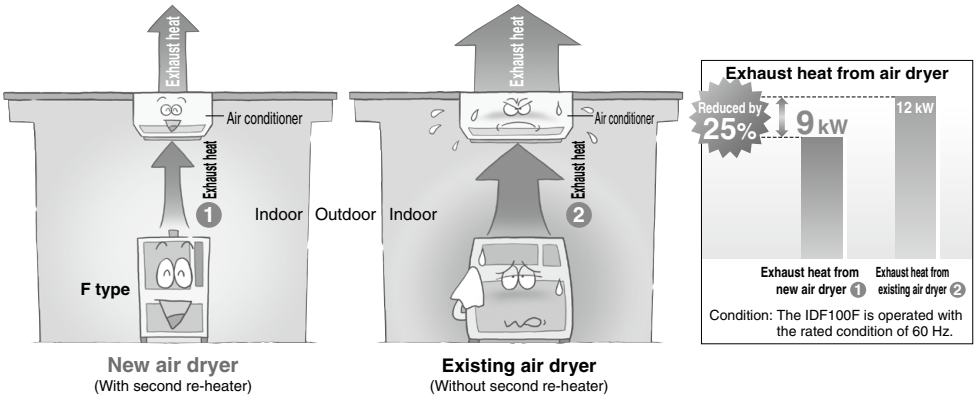


Energy saving design: Reduces exhaust heat from air dryer by up to 25%.

Suppresses ambient temperature increase (air-cooled type)/ Reduces amount of facility water (water-cooled type)!

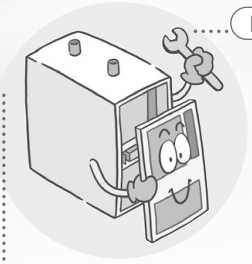
Second re-heater reduces the load to the condenser, and reduces exhaust heat from air dryer by up to 25%. (comparison with other SMC products)

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



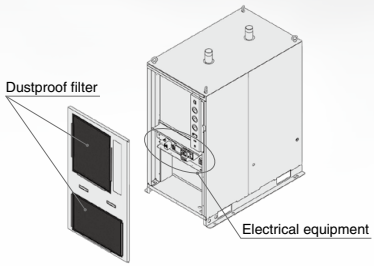
New air dryer
(With second re-heater)

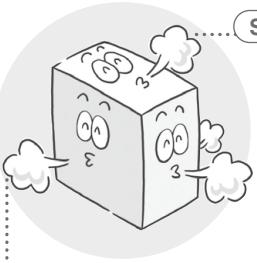
Existing air dryer
(Without second re-heater)



Maintenance

- Dustproof filter provided as a standard accessory
- Only access from front side is required to check electrical equipment and dustproof filter.

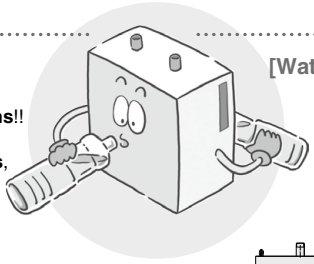




Selection of layout

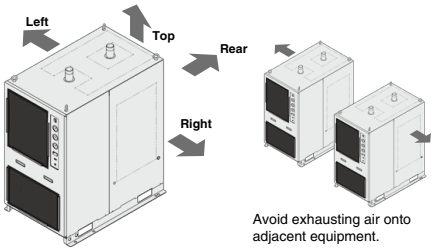
[Air-cooled type]

Exhausting direction can be selected from **four directions**!! Auto drain tube can be connected in **two directions**, left or right.

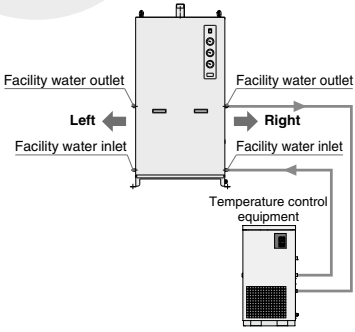


[Water-cooled type]

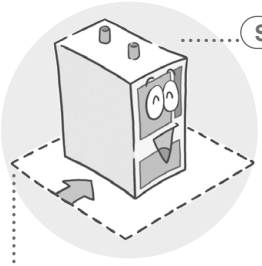
Facility water piping port can be selected from **two directions**!!



Avoid exhausting air onto adjacent equipment.



Series HRG

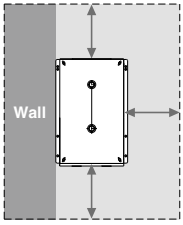


Space saving

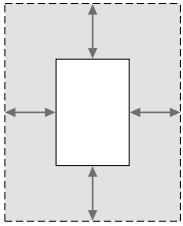
Either the left or right can be installed flat against a wall! Note) Installation space can be reduced by up to **1.5 m²**!!

Note) For air-cooled type, leave a space of at least 600 mm between the heat exhausting surface and the wall. For water-cooled type, leave a space at least 600 mm between the facility water piping side and the wall.

Leave at least 600 mm on the sides indicated with ←→.

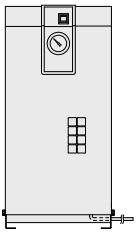


Installation space of the **IDF100F** (Example: Installed flat against the wall on the left)



Installation space of the conventional type

INDEX



Complies with CFC restrictions

Refrigerated Air Dryers

Series IDF/IDU

Standard inlet air temperature type

Series IDF□E/F/D
Rated inlet air temperature: 35, 40°C

Large size series

Model	Rated inlet condition	Air flow capacity (m³/min [ANR]) 50 Hz	Air flow capacity (m³/min [ANR]) 60 Hz	Applicable air compressor (kW)	Refrigerant	Port size	Page
IDF1E	35°C 0.7 MPa	0.1	0.12	0.75	R134a (HFC)	Rc3/8	**P.13 to 16**
IDF2E		0.2	0.235	1.5			
IDF3E		0.32	0.37	2.2			
IDF4E		0.52	0.57	3.7		Rc1/2	
IDF6E		0.75	0.82	5.5		Rc3/4	
IDF8E		1.22	1.32	7.5			
IDF11E		1.65	1.82	11			
IDF15E1		2.8	3.1	15		Rc1	
IDF22E		3.9	4.3	22	R407C (HFC)	R1	**P.17 to 19**
IDF37E		5.7	6.1	37		R1 1/2	
IDF55E	40°C 0.7 MPa	8.4	9.8	55		R2	
IDF75E		11.0	12.4	75			
IDF100F		16.0	18.8	100			**P.20 to 27**
IDF125F		20.1	23.7	125		65(2 1/2B) Flange	
IDF150F		25.0	30.0	150		80(3B) Flange	
IDF190D		32.0	38.0	190			
IDF240D		43.0	50.0	240		100(4B) Flange	
IDF370D	35°C 0.7 MPa	54.0	65.0	370		150(6B) Flange	

High inlet air temperature type

Series IDU□E
Rated inlet air temperature: 55°C

Model	Rated inlet condition	Air flow capacity (m³/min [ANR]) 50 Hz	Air flow capacity (m³/min [ANR]) 60 Hz	Applicable air compressor (kW)	Refrigerant	Port size	Page
IDU3E	55°C 0.7 MPa	0.32	0.37	2.2	R134a (HFC)	Rc3/8	**P.28 to 30**
IDU4E		0.52	0.57	3.7		Rc1/2	
IDU6E		0.75	0.82	5.5		Rc3/4	
IDU8E		1.1	1.2	7.5			
IDU11E		1.5	1.7	11			
IDU15E1		2.6	2.8	15		Rc1	
IDU22E		3.9	4.3	22	R407C (HFC)	R1	**P.31 to 33**
IDU37E		5.7	6.1	37		R1 1/2	
IDU55E		8.4	9.8	55		R2	
IDU75E		11.0	12.5	75			

∗ Refer to the **WEB catalog** or Best Pneumatics No.5 for air dryer models conforming to international standards (CE and UL).

2. Options

Description	Applicable model	Model (Suffix: Option symbol)	Page
Cool compressed air output	**IDF1E to 75E**	**IDF□E-□-A**	**P.34, 35**
Anti-corrosive treatment for copper tube	**IDF1E to 75E**	**IDF□E-□-C**	
	IDF100F to 150F	**IDF□F-□-C**	
	IDF190D to 370D	**IDF□D-□(-□)-C**	
	IDU3E to 75E	**IDU□E-□-C**	
Moderate pressure specification (up to 1.6 MPa)	**IDF6E to 37E**	**IDF□E-□-K**	
	IDU3E to 15E1	**IDU□E-□-K**	
	IDF100F to 150F	**IDF□F-□-K**	
With a heavy-duty auto drain Note 1) **(applicable to moderate pressure)**	**IDF4E to 75E**	**IDF□E-□-L**	
	IDF370D	**IDF370D-□-L**	
	IDU3E to 75E	**IDU□E-□-L**	
With a motor type auto drain Note 2)	**IDF4E to 75E**	**IDF□E-□-M**	**P.36**
	IDF190D, 240D	**IDF□D-□(-□)-M**	
	IDU3E to 75E	**IDU□E-□-M**	
With a circuit breaker	**IDF4E to 75E**	**IDF□E-□-R**	**P.37**
	IDF100F to 150F	**IDF□F-□-R**	
	IDF190D to 370D	**IDF□D-3-R**	
	IDU3E to 75E	**IDU□E-□-R**	
Power supply terminal block connection	**IDF1E to 15E1-10**	**IDF□E-10-S**	**P.38**
	IDU3E to 15E1-10	**IDU□E-10-S**	
With a terminal block for power supply, operating and error signals Note 3)	**IDF4E to 75E**	**IDF□E-□-T**	
	IDU3E to 75E	**IDU□E-□-T**	
With a timer controlled solenoid valve type auto drain	**IDU3E to 75E**	**IDU□E-□-V**	
	IDF100F to 150F	**IDF□F-□-V**	
Water-cooled type Note 2)	**IDF100F to 150F**	**IDF□F-□-W**	**P.39**
	IDF190D, 240D	**IDF□D-3-W**	

Note 1) The IDF100F to 150F, 190D, 240D standard types are equipped with a heavy-duty auto drain and a terminal block for remote operation, stop, operating, and error signal.
Note 2) The IDF370D standard type is the water-cooled type with a motor type auto drain.
Note 3) When switching from the previous air dryer and remote operation are required, select the Made to Order (IDF/U□E-□-X256) product.
The IDF100F to 150F and 190D to 370D standard types are equipped with a terminal block for remote operation, stop, operating, and error signals.

3. Optional Accessories

Description	Page
Separately installed power transformer	**P.40 to 49**
Dedicated base for separately installed power transformer	
Dust-protecting filter set	
Bypass piping set	
Foundation bolt set	
Piping adapter	
Mounting base adapter	
Conversion piping set	
Conversion bypass piping set	

Series IDF/IDU
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.

1 Select the IDF or IDU.

Select the IDF or IDU from inlet air temperature used.
- **Inlet air temperature 5 to 50°C ····· IDF (For IDF100F to 150F, up to 60°C is allowed.)**
- **Inlet air temperature 50 to 80°C ····· IDU**

2 Read the correction factors.

Obtain the correction factors Ⓐ to Ⓓ suitable for your operating condition from the table on the next page.

IDF Selection Example

Condition		Data symbol	Correction factor Note)
Inlet air temperature	40°C	Ⓐ	0.82
Ambient temperature	35°C	Ⓑ	0.96
Outlet air pressure dew point	10°C	Ⓒ	1
Inlet air pressure	0.5 MPa	Ⓓ	0.88
Air flow rate	0.3 m^3/min	—	—
Power supply frequency	50 Hz	—	—

Note) Values obtained from "Correction Factors" on page 12.

IDU Selection Example

Condition		Data symbol	Correction factor Note)
Inlet air temperature	60°C	Ⓐ	0.95
Ambient temperature	35°C	Ⓑ	0.93
Outlet air pressure dew point	10°C	Ⓒ	1
Inlet air pressure	0.5 MPa	Ⓓ	0.88
Air flow rate	0.4 m^3/min	—	—
Power supply frequency	60 Hz	—	—

Note) Values obtained from "Correction Factors" on page 12.

3 Check the coefficient.

Correction factor = 0.82 x 0.96 x 1 x 0.88 = 0.69
Max. coefficient value is 1.5. Correction factor is 1.5 when the calculation result is 1.5 or greater.

Correction factor = 0.95 x 0.93 x 1 x 0.88 = 0.78
Max. coefficient value is 1.5. Correction factor is 1.5 when the calculation result is 1.5 or greater.

4 Calculate the corrected air flow capacity.

Obtain the corrected air flow capacity from the following formula.
Corrected air flow capacity = Air flow rate ÷ (Correction factor Ⓐ x Ⓑ x Ⓒ x Ⓓ)

Corrected air flow capacity = 0.3 m^3/min ÷ (0.82 x 0.96 x 1 x 0.88)
= 0.43 m^3/min

Corrected air flow capacity = 0.4 m^3/min ÷ (0.95 x 0.93 x 1 x 0.88)
= 0.51 m^3/min

5 Select the model.

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 data Ⓔ on page 12.)

According to the corrected air flow capacity of 0.43 m^3/min, the **IDF4E** will be selected which air flow capacity is 0.52 m^3/min at 50 Hz.

According to the corrected air flow capacity of 0.51 m^3/min, the **IDU4E** will be selected which air flow capacity is 0.57 m^3/min at 60 Hz.

6 Options

Refer to pages 34 to 39.

Refer to pages 34 to 39.

7 Finalize the model number.

Refer to pages 13, 17, 20, 25.

Refer to pages 28 and 31.

8 Select the optional accessories.

Refer to pages 40 to 49.

Correction Factors

Data Ⓐ: Inlet Air Temperature

Series IDF

IDF1E to 37E

Inlet air temp. (°C)	Correction factor
5 to 30	1.3
35	1
40	0.82
45	0.68
50	0.57

IDF55E, 75E, 190D to 240D

Inlet air temp. (°C)	Correction factor
5 to 30	1.35
35	1.25
40	1
45	0.8
50	0.6

IDF100F to 150F

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

IDF370D

Inlet air temp. (°C)	Correction factor
5 to 30	1.25
35	1.00
40	0.83
45	0.70
50	0.60

Series IDU

IDU3E to IDU37E

Inlet air temp. (°C)	Correction factor
5 to 45	1.15
50	1.07
55	1
60	0.95
65	0.9
70	0.86
75	0.82
80	0.79

IDU55E, 75E

Inlet air temp. (°C)	Correction factor
5 to 45	1.21
50	1.10
55	1
60	0.87
65	0.76
70	0.74
75	0.72
80	0.70

Data Ⓑ: Ambient Temperature Note)

Series IDF

IDF1E to 75E

Ambient temp. (°C)	Correction factor
2 to 25	1.14
30	1.04
32	1
35	0.96
40	0.9

IDF100F to 150F

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

IDF190D to 240D

Ambient temp. (°C)	Correction factor
2 to 25	1.10
30	1.05
32	1
35	0.95
40	0.90

Series IDU

IDU3E to IDU37E

Ambient temp. (°C)	Correction factor
2 to 25	1.2
30	1.04
32	1
35	0.93
40	0.84

IDU55E, 75E

Ambient temp. (°C)	Correction factor
2 to 25	1.25
30	1.11
32	1
35	0.90
40	0.63

Note) For the water-cooled type, the correction factor is determined to "1" in an ambient temperature range of 2 to 45°C.

Data Ⓒ: Outlet Air Pressure Dew Point

Series IDF

IDF1E to 75E, 190D to 370D

Outlet air pressure dew point (°C)	Correction factor
3	0.55
5	0.7
10	1
15	1.3

Series IDU

IDU3E to IDU37E

Outlet air pressure dew point (°C)	Correction factor
3	0.55
5	0.7
10	1
15	1.3

IDF100F to 150F

Outlet air pressure dew point (°C)	Correction factor
3	0.55
5	0.7
10	1
15	1.4

IDU55E, 75E

Outlet air pressure dew point (°C)	Correction factor
3	0.53
5	0.67
10	1
15	1.30

Data Ⓓ: Inlet Air Pressure

Series IDF

IDF1E to 75E

Inlet air pressure (MPa)	Correction factor
0.2	0.62
0.3	0.72
0.4	0.81
0.5	0.88
0.6	0.95
0.7	1
0.8	1.06
0.9	1.11
1 to 1.6	1.16

IDF100F to 150F

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

IDF190D to 370D

Inlet air pressure (MPa)	Correction factor
0.2	0.68
0.3	0.77
0.4	0.84
0.5	0.90
0.6	0.95
0.7	1
0.8	1.03
0.9	1.06
1.0	1.08

Series IDU

IDU3E to 37E

Inlet air pressure (MPa)	Correction factor
0.2	0.62
0.3	0.72
0.4	0.81
0.5	0.88
0.6	0.95
0.7	1
0.8	1.06
0.9	1.11
1 to 1.6	1.16

IDU55E, 75E

Inlet air pressure (MPa)	Correction factor
0.2	0.62
0.3	0.69
0.4	0.77
0.5	0.85
0.6	0.93
0.7	1
0.8	1.08
0.9	1.16
1 to 1.6	1.23

Data Ⓔ: Air Flow Capacity

Series IDF

Model		IDF1E	IDF2E	IDF3E	IDF4E	IDF6E	IDF8E	IDF11E	IDF15E1	IDF22E	IDF37E	IDF55E	IDF75E
Air flow capacity m³/min (ANR)	50 Hz	0.10	0.20	0.32	0.52	0.75	1.22	1.65	2.8	3.9	5.7	8.4	11.0
	60 Hz	0.12	0.235	0.37	0.57	0.82	1.32	1.82	3.1	4.3	6.1	9.8	12.4

Model		IDF100F	IDF125F	IDF150F	IDF190D	IDF240D	IDF370D
Air flow capacity m³/min (ANR)	50 Hz	16.0	20.1	25.0	32.0	43.0	54.0
	60 Hz	18.8	23.7	30.0	38.0	50.0	65.0

Note) In the case of the option A (cool compressed air output), the air flow capacity is different. Refer to page 34 for details.

Series IDU

Model		IDU3E	IDU4E	IDU6E	IDU8E	IDU11E	IDU15E1	IDU22E	IDU37E	IDU55E	IDU75E
Air flow capacity m³/min (ANR)	50 Hz	0.32	0.52	0.75	1.1	1.5	2.6	3.9	5.7	8.4	11.0
	60 Hz	0.37	0.57	0.82	1.2	1.7	2.8	4.3	6.1	9.8	12.5

INDEX

Refrigerant R134a (HFC)
Standard Inlet Air Temperature
Series IDF□E
1E, 2E, 3E, 4E, 6E, 8E, 11E, 15E1
(Inlet air temperature: 35°C, Outlet air pressure dew point: 10°C)

How to Order

IDF 8E — 10 — Nil / A / C / K / L / M / R / S / T

Size

Symbol	Air compressor size Note)
1E	0.75 kW
2E	1.5 kW
3E	2.2 kW
4E	3.7 kW
6E	5.5 kW
8E	7.5 kW
11E	11 kW
15E1	15 kW

Note) Note that the above values are for reference only. Check the actual compressor capacity.

Voltage

Symbol	Voltage	Applicable size							
		1E	2E	3E	4E	6E	8E	11E	15E1
10	Single-phase 100 VAC (50Hz) 100/110 VAC (60Hz)	●	●	●	●	●	●	●	●
20	Single-phase 200 VAC (50Hz) 200/220 VAC (60Hz)	—	—	●	●	●	●	●	●

Option

Size \ Symbol Note 1)	Nil	A	C	K	L	M	R	S	T
	None	Cool compressed air output	Anti-corrosive treatment for copper tube	Moderate pressure specification (Auto drain bowl: Metal bowl with level gauge)	With a heavy-duty auto drain (applicable to moderate pressure)	With a motor type auto drain	With a circuit breaker	Power supply terminal block connection (Voltage symbol 10 only) Note 2)	With a terminal block for power supply, operating and error signals Note 3)
1E	●	●	●	—	—	—	—	●	—
2E	●	●	●	—	—	—	—	●	—
3E	●	●	●	—	—	—	—	●	—
4E	●	●	●	—	●	●	●	●	●
6E	●	●	●	●	●	●	●	●	●
8E	●	●	●	●	●	●	●	●	●
11E	●	●	●	●	●	●	●	●	●
15E1	●	●	●	●	●	●	●	●	●

Note 1) Enter alphabetically when multiple options are combined.
However, the following combinations are not possible.
· R and S (Because S function is also included in R.)
· S and T (Because S function is also included in T.)
· The combination of K, L and M is not possible because an auto drain can only be attached to a single option.

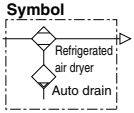
Note 2) Voltage symbol 20 (200 VAC) is the terminal block connection as standard. The option S cannot be chosen.
Voltage symbol 10 (100 VAC) is the power cable with plug as standard.

Note 3) **To users who are considering switching from the previous air dryer:**

When switching from the previous air dryer and remote operation are required, select the Made to Order (IDF□E-□-X256) product.

Note 4) Refer to pages 34 to 38 for further information on options.

Symbol



Standard Specifications

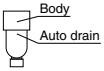
Specifications / Model				Standard inlet air temperature							
				IDF1E	IDF2E	IDF3E	IDF4E	IDF6E	IDF8E	IDF11E	IDF15E1
Operating range Note 3)	Fluid			Compressed air							
	Inlet air temperature (°C)			5 to 50							
	Inlet air pressure (MPa)			0.15 to 1.0							
	Ambient temperature (humidity) (°C)			2 to 40 (Relative humidity 85% or less)							
Rated conditions Note 4)	Air flow capacity (m^3/min)	Standard condition (ANR) Note 1)	50 Hz	0.10	0.20	0.32	0.52	0.75	1.22	1.65	2.8
			60 Hz	0.12	0.235	0.37	0.57	0.82	1.32	1.82	3.1
		Compressor intake condition Note 2)	50 Hz	0.11	0.21	0.34	0.55	0.8	1.3	1.75	3.0
			60 Hz	0.13	0.25	0.39	0.61	0.87	1.4	1.93	3.3
	Inlet air pressure (MPa)			0.7							
	Inlet air temperature (°C)			35							
	Ambient temperature (°C)			32							
	Outlet air pressure dew point (°C)			10							
	Power supply voltage (frequency) Note 5)			Single-phase: 100 VAC (50 Hz), 100/110 VAC (60 Hz) Note 5) Single-phase: 200 VAC (50 Hz), 200/220 VAC (60 Hz)							
Electric specifications	Power consumption 50/60 Hz Note 6) (W)	Single-phase 100 V		180/202	180/202	180/202	180/202	180/202	208/236	385/440	420/480
		Single-phase 200 V		—	—						
	Operating current 50/60 Hz Note 6) (A)	Single-phase 100 V		2.4/2.5	2.4/2.5	2.4/2.5	2.4/2.5	2.4/2.5	3.0/3.1	5.7/5.7	4.3/4.6
		Single-phase 200 V		—	—	1.2/1.3	1.2/1.3	1.2/1.3	1.5/1.5	3.4/3.0	3.4/3.1
Applicable circuit breaker capacity Note 7) (A) (sensitivity current 30 mA)				10 (100 VAC), 5 (200 VAC)							10 (100 VAC) 10 (200 VAC)
Condenser				Air-cooled							
Refrigerant				R134a (HFC)							
Auto drain				Float type (Normally closed)	Float type (Normally open)						
Port size				Rc3/8			Rc1/2	Rc3/4			Rc1
Weight (kg)				16	17	18	22	23	27	28	46
Coating color				Body panel: White 1 Base: Gray 2							
Applicable air compressor output (Reference) For screw type (kW)				0.75	1.5	2.2	3.7	5.5	7.5	11	15

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, relative humidity 75%]
Note 3) The operation range does not guarantee the use with normal air flow capacity.
Note 4) Select the air dryer model according to "Model Selection" (pages 11, 12) for models beyond the rated specifications.
Note 5) When selecting a power supply voltage, refer to "How to Order" on page 13.
Note 6) These values are reference values under rated conditions, and are not guaranteed. Do not use these values for the thermal set values etc.
Note 7) Product other than the option R is not equipped with a circuit breaker. Purchase an appropriate circuit breaker separately.

Replacement Parts

Model	IDF1E	IDF2E	IDF3E	IDF4E	IDF6E	IDF8E	IDF11E	IDF15E1
Auto drain replacement parts no. Note 8)	AD37	AD38			AD48			

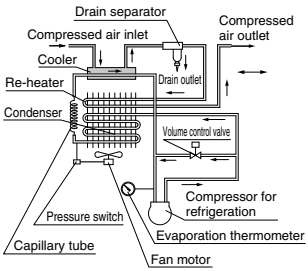
Note 8) The part number for the auto drain components only excluding the body part.
Body part replacement is not possible.



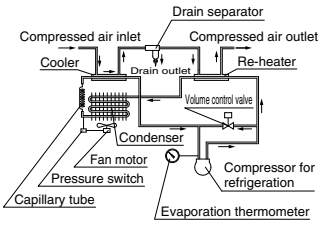
Construction (Air/Refrigerant Circuit)

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

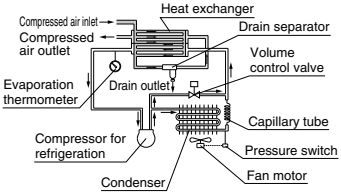
IDF1E



IDF2E, IDF3E



IDF4E, IDF6E
IDF8E, IDF11E, IDF15E1



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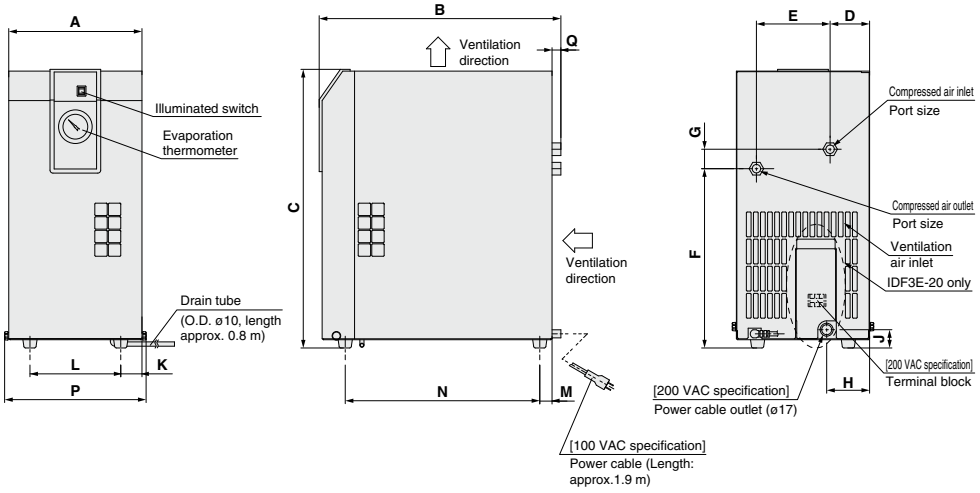
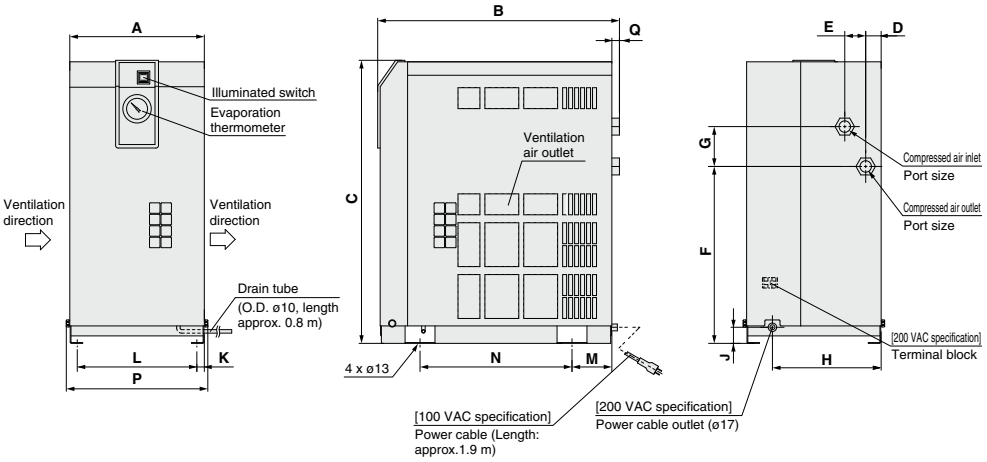
Dimensions

IDF1E to 3E



IDF4E to 11E

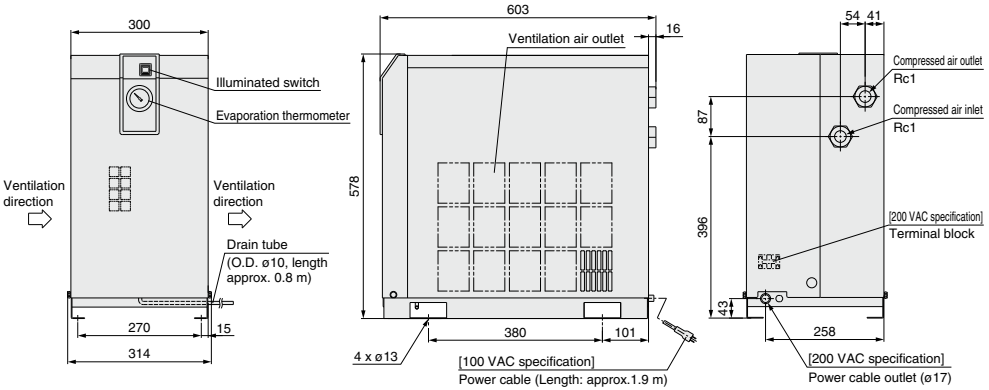


Dimensions (mm)

Model	Port size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
IDF1E	Rc3/8	226	410	413	69	101	270	32	—	—	38	150	21	330	240	15
IDF2E					51	125	232	138					24	327		
IDF3E				473	67		304	33	73	31	36	154	21	330		
IDF4E	Rc1/2	270	453	498	31	42	283	80	230	32	15	240	80	275	284	13
IDF6E	Rc3/4		455													
IDF8E			485	568			355							300		15
IDF11E																

Dimensions

IDF15E1



Refrigerant R407C (HFC)
Standard Inlet Air Temperature
Series IDF□E
22E, 37E, 55E, 75E
(Inlet air temperature: 35°C (22E, 37E), 40°C (55E, 75E), Outlet air pressure dew point: 10°C)

How to Order

IDF 55E — 30 — Nil / A / C / K / L / M / R / T

Size

Symbol	Air compressor size Note)
22E	22 kW
37E	37 kW
55E	55 kW
75E	75 kW

Note) Note that the above values are for reference only. Check the actual compressor capacity.

Voltage

Symbol	Voltage	Applicable size			
		22E	37E	55E	75E
20	Single-phase 200 VAC (50 Hz) 200/220 VAC (60 Hz)	●	●	—	—
30	Three-phase 200 VAC (50 Hz) 200/220 VAC (60 Hz)	●	●	●	●

Option

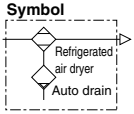
Symbol Note 1) / Description / Size	Nil None	A Cool compressed air output	C Anti-corrosive treatment for copper tube	K Moderate pressure specification (Auto drain bowl: Metal bowl with level gauge)	L With a heavy-duty auto drain (applicable to moderate pressure)	M With a motor type auto drain	R With a circuit breaker	T With a terminal block for power supply, operating and error signals Note 3)
22E	●	●	●	●	●	●	●	●
37E	●	●	●	●	●	●	●	●
55E	●	●	●	— Note 2)	●	●	●	●
75E	●	●	●	— Note 2)	●	●	●	●

Note 1) Enter alphabetically when multiple options are combined.
However, the following combinations are not possible.
· The combination of K, L and M is not possible because an auto drain can only be attached to a single option.
Note 2) Select the option L for the 55E and 75E which need moderate pressure.
Note 3) **To users who are considering switching from the previous air dryer:**

When switching from the previous air dryer and remote operation are required, select the Made to Order (IDF□E-□-X256) product.

Note 4) Refer to pages 34 to 38 for further information on options.

Symbol



Standard Specifications

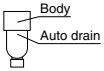
Specifications / Model				Standard inlet air temperature			
				IDF22E	IDF37E	IDF55E	IDF75E
Operating range (Note 3)	Fluid			Compressed air			
	Inlet air temperature (°C)			5 to 50			
	Inlet air pressure (MPa)			0.15 to 1.0			
	Ambient temperature (humidity) (°C)			2 to 40 (Relative humidity 85% or less)			
Rated conditions (Note 4)	Air flow capacity (m³/min)	Standard condition (ANR) Note 1)	50 Hz	3.9	5.7	8.4	11.0
			60 Hz	4.3	6.1	9.8	12.4
		Compressor intake condition Note 2)	50 Hz	4.1	6.1	8.9	11.7
			60 Hz	4.6	6.5	10.4	13.2
	Inlet air pressure (MPa)			0.7			
	Inlet air temperature (°C)			35		40	
	Ambient temperature (°C)			32			
	Outlet air pressure dew point (°C)			10			
	Power supply voltage (frequency) Note 5)			Single-phase/Three-phase: 200 VAC (50 Hz) Note 5) Single-phase/Three-phase: 200/220 VAC (60 Hz)		Three-phase: 200 VAC (50 Hz) Three-phase: 200/220 VAC (60 Hz)	
Electric specifications	Power consumption (W) 50/60 Hz Note 6)	Single-phase 200 V		810/940	810/940	—	—
		Three-phase 200 V		850/1070	850/1070	1300/1700	2000/2500
	Operating current (A) 50/60 Hz Note 6)	Single-phase 200 V		4.3/4.7	4.3/4.7	—	—
		Three-phase 200 V		3.3/3.5	3.3/3.5	5.0/5.4	7.2/8.0
Applicable circuit breaker capacity Note 7) (sensitivity current 30 mA) (A)				10 (200 VAC)			15 (200 VAC)
Condenser				Air-cooled			
Refrigerant				R407C (HFC)			
Auto drain				Float type (Normally open)			
Port size				R1	R1 1/2	R2	
Weight (kg)				54	62	100	116
Coating color				Body panel: White 1 Base: Gray 2			
Applicable air compressor output (Reference) For screw type (kW)				22	37	55	75

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, relative humidity 75%]
Note 3) The operation range does not guarantee the use with normal air flow capacity.
Note 4) Select the air dryer model according to "Model Selection" (pages 11, 12) for models beyond the rated specifications.
Note 5) When selecting a power supply voltage, refer to "How to Order" on page 17.
Note 6) These values are reference values under rated conditions, and are not guaranteed. Do not use these values for the thermal set values etc.
Note 7) Product other than the option R is not equipped with a circuit breaker. Purchase an appropriate circuit breaker separately.

Replacement Parts

Model	IDF22E	IDF37E	IDF55E	IDF75E
Auto drain replacement parts no. Note 8)	AD48			

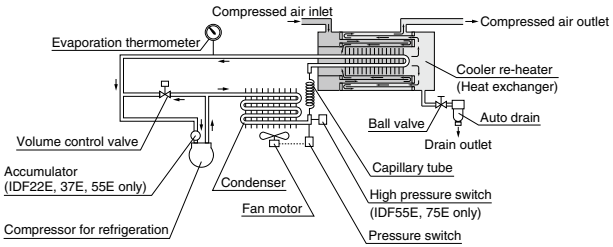
Note 8) The part number for the auto drain components only excluding the body part.
Body part replacement is not possible.



Construction (Air/Refrigerant Circuit)

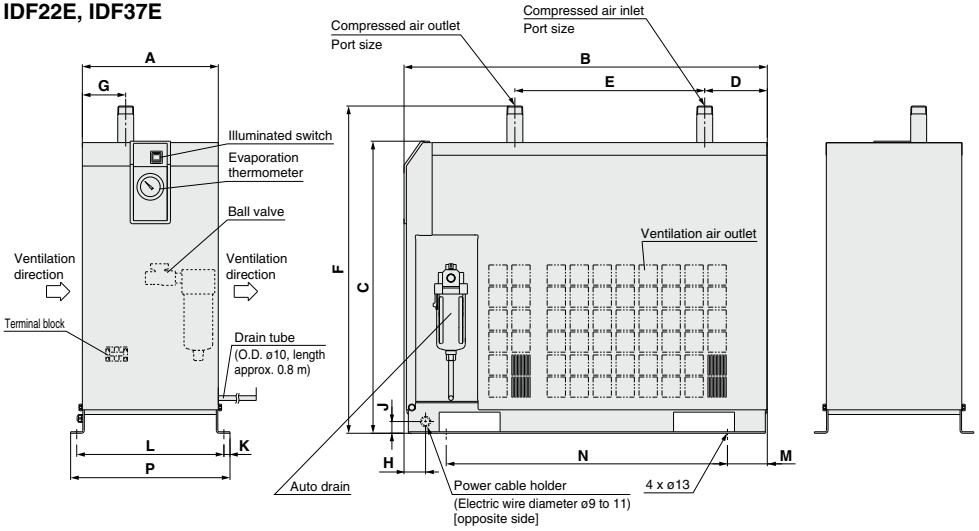
Humid, hot air coming into the air dryer will be cooled down by a cooler re-heater (heat exchanger). Water condensed at this time will be removed from the air by an auto drain and drained out automatically. Air separated from the water will be heated by a cooler re-heater (heat exchanger) to obtain the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

IDF22E, IDF37E, IDF55E, IDF75E

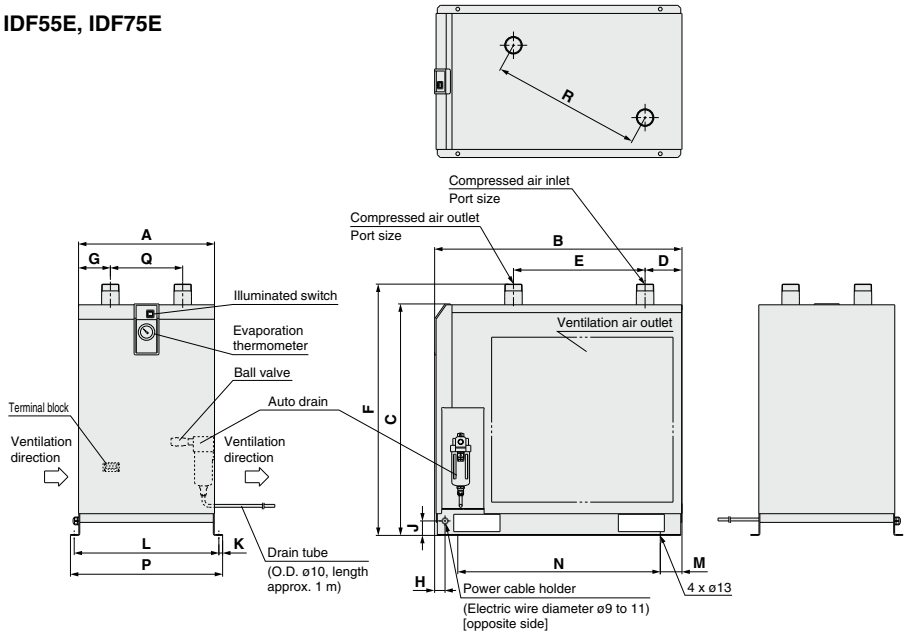


Dimensions

IDF22E, IDF37E



IDF55E, IDF75E



Dimensions (mm)

Model	Port size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R
IDF22E	R1	290	775	623	134	405	698	93	46	25	13	314	85	600	340	—	—
IDF37E	R1 1/2		855											680			
IDF55E	R2	470	855	800	128	455	868	110	36	50	13	500	75	700	526	250	519
IDF75E				900			968										

Refrigerant R407C (HFC)

Series IDF100F/125F/150F

Applicable Compressor Size: 100 kW, 125 kW, 150 kW
(Max. inlet air temperature: 60°C, Max. ambient temperature: 45°C)

How to Order

Air-cooled **IDF 100 F – 30 –** [Nil / B / C / K / P / R / V] [Nil / 1 / 2 / 3]

Size

Size	Air compressor size Note)
100	100 kW
125	125 kW
150	150 kW

Note) Note that the above values are for reference only. Check the actual compressor capacity.

Voltage

Symbol	Voltage
30	Three-phase 200 VAC (50 Hz) 200/220 VAC (60 Hz)

Option

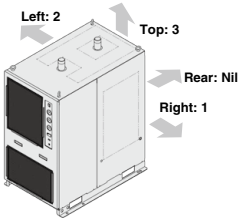
Symbol Note 1)	Description
Nil	None
C	Anti-corrosive treatment for copper tube
K	Moderate pressure specification
P	With a metal name plate
R	With a circuit breaker
V	With a timer controlled solenoid valve type auto drain

Note 1) Enter alphabetically when multiple options are combined.
Note 2) A terminal block for remote operation, stop, operating, and error signals is provided as a standard accessory.

Heat exhausting direction

Symbol	Description
Nil	Heat exhaust from the rear
1	Heat exhaust from the right Note)
2	Heat exhaust from the left Note)
3	Heat exhaust from the top Note)

Note) The combination of 1, 2 and 3 is not available. (Heat exhausting face can be specified on one side only.)



Water-cooled **IDF 100 F – 30 –** [Nil / C / D / K / P / R / V] **W** [4 / 5]

Size

Size	Air compressor size Note)
100	100 kW
125	125 kW
150	150 kW

Note) Note that the above values are for reference only. Check the actual compressor capacity.

Voltage

Symbol	Voltage
30	Three-phase 200 VAC (50 Hz) 200/220 VAC (60 Hz)

Option

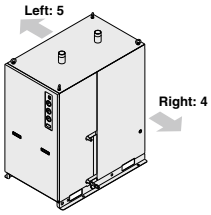
Symbol Note 1)	Description
Nil	None
C	Anti-corrosive treatment for copper tube
K	Moderate pressure specification (1.6 MPa)
P	With a metal name plate
R	With a circuit breaker
V	With a timer controlled solenoid valve type auto drain

Note 1) Enter alphabetically when multiple options are combined.
Note 2) A terminal block for remote operation, stop, operating, and error signals is provided as a standard accessory.

Piping direction

Symbol	Description
4	Facility water piping direction: Right Note)
5	Facility water piping direction: Left Note)

Note) The combination of 4 and 5 is not available. (Piping direction can be specified on one side only.)



Cooling method

Symbol	Cooling method
W	Water-cooled condenser

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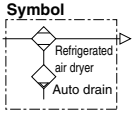
Standard Specifications: Air-cooled Type

Specifications / Model				IDF100F-30	IDF125F-30	IDF150F-30
Operating range Note 3)	Fluid			Compressed air		
	Inlet air temperature		(°C)	5 to 60		
	Inlet air pressure		(MPa)	0.15 to 1.0		
	Ambient temperature (humidity)		(°C)	2 to 45 (Relative humidity 85% or less)		
Rated conditions Note 4)	Air flow capacity (m^3/min)	Standard condition (ANR) Note 1)	50 Hz	16	20.1	25
			60 Hz	18.8	23.7	30
		Compressor intake condition Note 2)	50 Hz	17	21	27
			60 Hz	20	25	32
	Inlet air pressure		(MPa)	0.7		
	Inlet air temperature		(°C)	40		
	Ambient temperature		(°C)	32		
	Outlet air pressure dew point		(°C)	10		
	Exhaust heat from condenser (50/60 Hz)		(kW)	8.0/9.0	10.0/11.5	12.0/15.0
	Air dryer outlet air temperature		(°C)	37		
	Power supply voltage (frequency)			Three-phase 200 VAC (50 Hz), 200/220 VAC (60 Hz)		
Electric specifications	Power consumption (kW) 50/60 Hz Note 5)			2.9/3.5	4.0/4.7	4.0/4.8
	Operating current (A) 50/60 Hz			10.5/11.5	15.4/15.6	15.7/16.0
Applicable circuit breaker capacity Note 6) (sensitivity current 30 mA)			(A)	30		
Refrigerant				R407C (HFC)		
Auto drain				Heavy-duty auto drain (Normally open)		
Port size				R2	JIS flange 65A 10K	JIS flange 80A 10K
Weight			(kg)	245	270	350
Coating color				Body panel: White 1 Base: Gray 2		
Applicable air compressor output (Reference) For screw type			(kW)	100	125	150

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.
Note 4) Select the air dryer model according to "Model Selection" (pages 11, 12) for models beyond the rated specifications.
Note 5) These values are reference values under rated conditions, and are not guaranteed. Do not use these values for the thermal set values etc.
Note 6) Product other than the option R is not equipped with a circuit breaker. Purchase an appropriate circuit breaker separately.

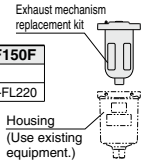
Symbol



Replacement Parts

Air dryer model	IDF100F	IDF125F	IDF150F
Heavy-duty auto drain replacement part no. Note 7)	ADH-E400		
Dustproof filter set for condenser	IDF-FL219		IDF-FL220

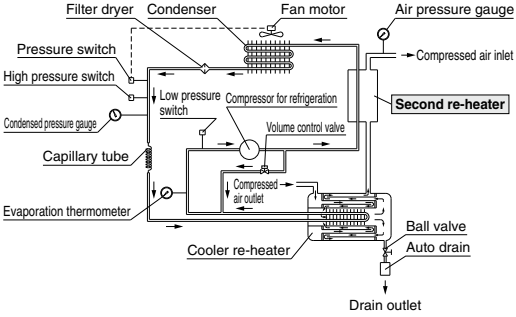
Note 7) Part number of only the exhaust mechanism replacement kit excluding the housing
Note 8) A terminal block for remote operation, stop, operating, and error signal is provided as a standard accessory.



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 second re-heater, and is supplied to the outlet side as warm and dry air.

IDF100F, IDF125F, IDF150F



Second re-heater

Compressed air from which drainage has been exhausted exchanges heat with refrigerant which has been compressed by the compressor for refrigeration, 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 air dryer is achieved by reducing the amount of heat exhausted from the condenser.

Standard Specifications: Water-cooled Type

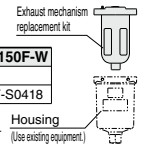
Specifications \ Model				IDF100F-30-W	IDF125F-30-W	IDF150F-30-W
Operating range Note 1)	Fluid			Compressed air		
	Inlet air temperature		(°C)	5 to 60		
	Inlet air pressure		(MPa)	0.15 to 1.0		
	Ambient temperature (humidity)		(°C)	2 to 45 (Relative humidity 85% or less)		
Rated conditions	Air flow capacity (m^3/min)	Standard condition (ANR) Note 1)	50 Hz	16	20.1	25
			60 Hz	18.8	23.7	30
		Compressor intake condition Note 2)	50 Hz	17	21	27
			60 Hz	20	25	32
	Inlet air pressure		(MPa)	0.7		
	Inlet air temperature		(°C)	40		
	Ambient temperature		(°C)	32		
	Outlet air pressure dew point		(°C)	10		
	Air dryer outlet air temperature		(°C)	37		
	Facility water flow rate Note 4) (50/60 Hz)		(m^3/h)	1.29/1.56	1.74/1.98	2.16/2.52
	Facility water inlet temperature		(°C)	32		
	Facility water pressure drop Note 5) (50/60 Hz)		(MPa)	0.07/0.1		
	Cooling tower capacity Note 6)		kW(RT)	9 (2)	11.5 (2.5)	14.5 (3.2)
	Recommended chiller model Note 6) (made by SMC)			HRG010-A	HRG015-A	
Electric specifications	Power supply voltage (frequency)			Three-phase 200 VAC (50 Hz), 200/220 VAC (60 Hz)		
	Power consumption (kW) 50/60 Hz Note 7)			2.4/2.8	2.4/2.8	2.8/3.3
	Operating current (A) 50/60 Hz Note 7)			8.5/9.0	8.5/9.0	10.2/11.5
Facility water pressure range			(MPa)	0.2 to 0.98		
Required facility water flow rate (50/60 Hz)			(m^3/h)	1.29/1.56	1.74/1.98	2.16/2.52
Facility water inlet temperature range			(°C)	5 to 40		
Facility water port size				R1/2		R3/4
Facility water amount adjusting equipment				Pressure type water regulating valve		
Condenser				Plate type		
Applicable circuit breaker capacity Note 8) (sensitivity current 30 mA)			(A)	20		30
Refrigerant				R407C (HFC)		
Auto drain				Heavy-duty auto drain (Normally open)		
Port size				R2	JIS flange 65A 10K	JIS flange 80A 10K
Weight			(kg)	226	250	322
Coating color				Body panel: White 1 Base: Gray 2		
Applicable air compressor output (Reference) For screw type			(kW)	100	125	150

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. Select the air dryer model according to "Model Selection" (pages 11, 12) for models beyond the rated specifications.
Note 4) The facility water flow rate that satisfies the rated conditions with a facility water inlet temperature of 32 and an output temperature of 37°C ($\Delta t = 5$°C)
Note 5) These values are obtained under rated conditions with a rated facility water flow rate and a facility water inlet pressure of 0.2 MPa.
Note 6) These values are obtained under rated conditions (1 RT = 4.535 kW).
Note 7) These values are reference values under rated conditions, and are not guaranteed. Do not use these values for the thermal set values etc.
Note 8) Product other than the option R is not equipped with a circuit breaker. Purchase an appropriate circuit breaker separately.

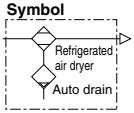
Replacement Parts

Air dryer model	IDF100F-W	IDF125F-W	IDF150F-W
Heavy-duty auto drain replacement part no. Note 9)	ADH-E400		
Facility water piping strainer	IDF-S0406		IDF-S0418

Note 9) Part number of only the exhaust mechanism replacement kit excluding the housing
Note 10) A terminal block for remote operation, stop, operating, and error signal is provided as a standard accessory.

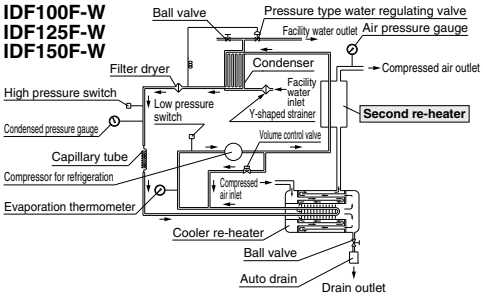


Symbol



Construction (Air/Refrigerant Circuit)

IDF100F-W
IDF125F-W
IDF150F-W



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 second re-heater, and is supplied to the outlet side as warm and dry air.

Second re-heater

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

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3. Energy saving operation of the air dryer is achieved by reducing the amount of heat exhausted from the condenser.

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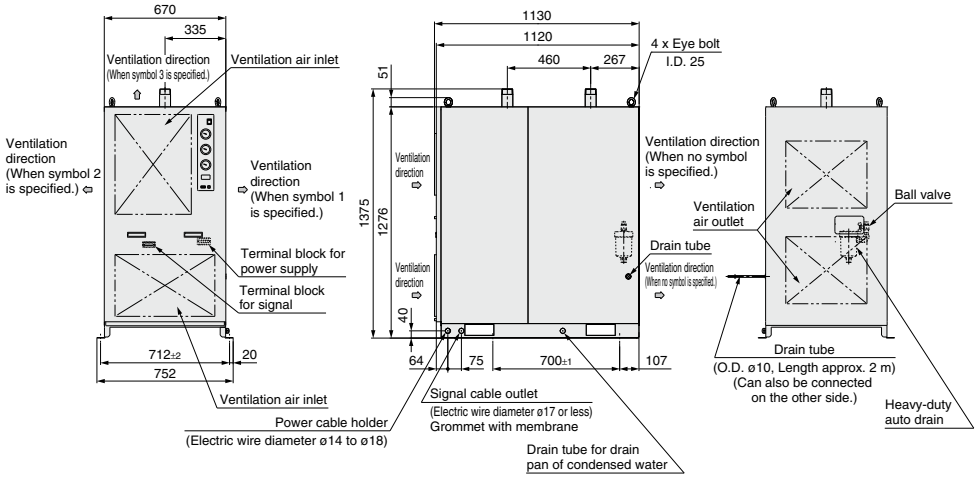
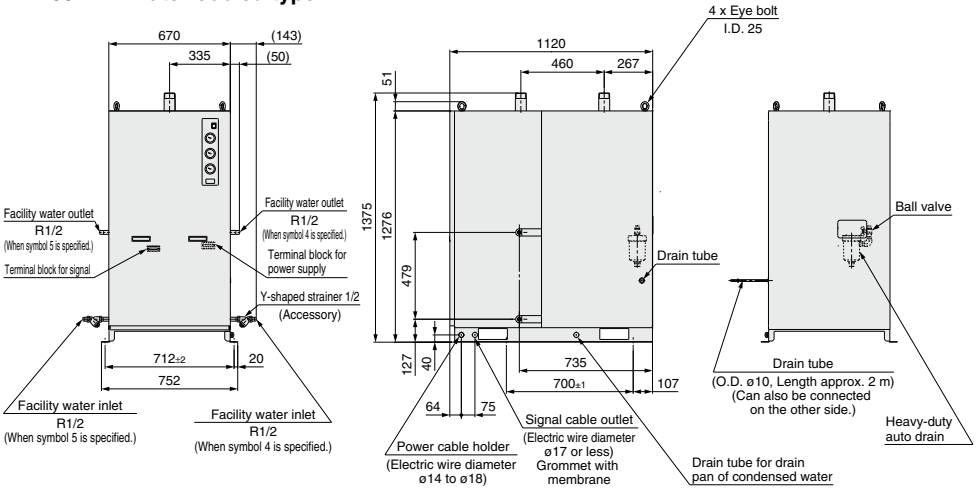
Dimensions

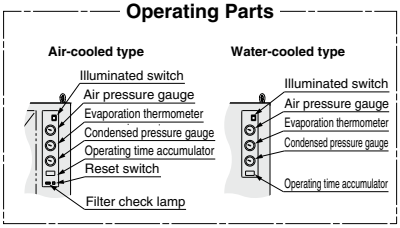
IDF100F: Air-cooled type



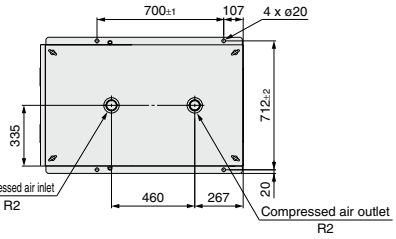
IDF100F-W: Water-cooled type



Operating Parts

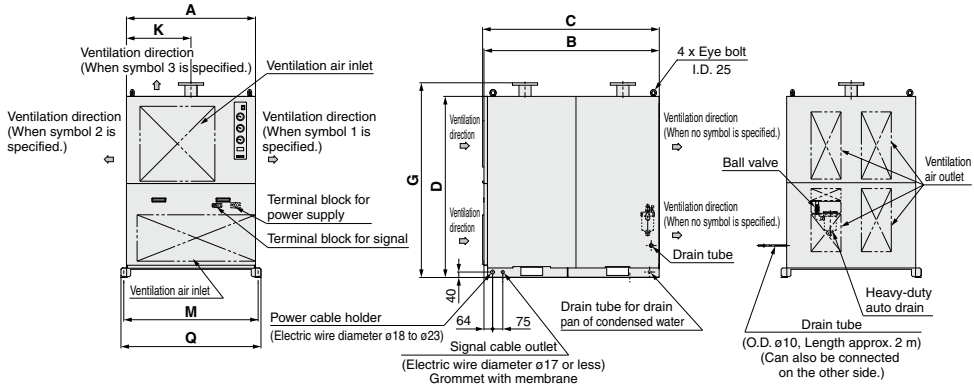


Top view (Air-cooled/Water-cooled)

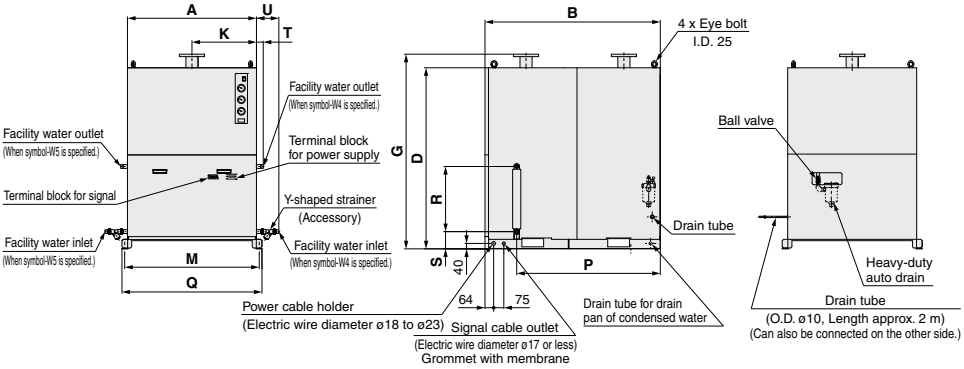


Dimensions

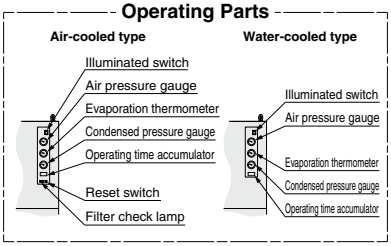
IDF125F/150F: Air-cooled type



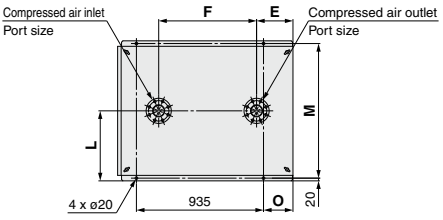
IDF125F-W/150F-W: Water-cooled type



Operating Parts



Top view (Air-cooled/Water-cooled)



Dimensions (mm)

Model	Port size	A	B	C	D	E	F	G	K	L	M	O	P	Q	R	S	T	U	Facility water inlet/outlet
IDF125F	JIS flange 65A 10K	700	1120	1130	1276	267	655	1375	350	376	712	78	—	752	—	—	—	—	—
IDF125F-W				1120									885		479	127	36	129	R1/2
IDF150F	JIS flange 80A 10K	950	1290	1300	1332	268	720	1432	475	515	990	217	—	1030	—	—	—	—	—
IDF150F-W				1290									1056		479	127	50	165	R3/4

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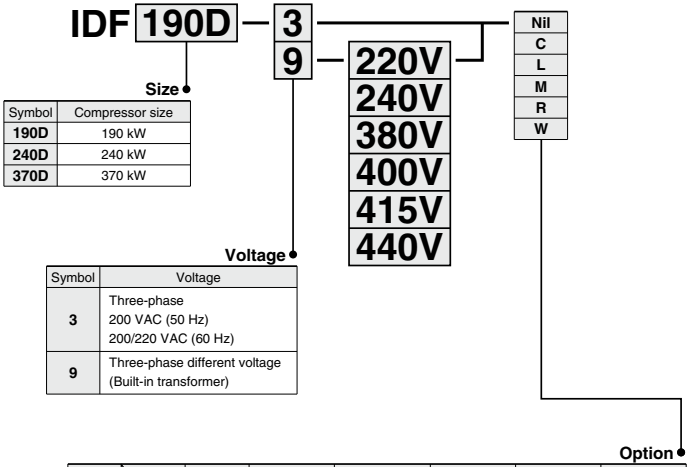
Refrigerant R407C (HFC)
Standard Inlet Air Temperature
Series IDF□D
190D, 240D, 370D
(Inlet air temperature: 40°C (190D, 240D), 35°C (370D), Outlet air pressure dew point: 10°C)

How to Order

Refrigerant R407C
IDF190D to IDF370D



Symbol	Compressor size
190D	190 kW
240D	240 kW
370D	370 kW

Symbol	Voltage
3	Three-phase 200 VAC (50 Hz) 200/220 VAC (60 Hz)
9	Three-phase different voltage (Built-in transformer)

Size	Symbol Note 1) / Description / Voltage	Nil	C	L	M	R	W
		None	Anti-corrosive treatment for copper tube	With a heavy-duty auto drain	With a motor type auto drain	With a circuit breaker	Water-cooled type
190D	3	●	●	Standard	●	●	●
	9	●	●	Standard	●	— Note 2)	—
240D	3	●	●	Standard	●	●	●
	9	●	●	Standard	●	— Note 2)	—
370D	3	●	●	●	Standard	●	Standard
	9	●	●	●	Standard	— Note 2)	Standard

Note 1) Enter alphabetically when multiple options are combined.
Note 2) Purchase an appropriate circuit breaker suitable for the inlet voltage separately.
Note 3) Refer to pages 34 to 39 for further information on options.
Note 4) The standard type (Nil) is equipped with a terminal block for remote operation, stop, operating, and error signals.

Standard Specifications

Specifications \ Model			Standard inlet air temperature		
			IDF190D	**IDF240D**	**IDF370D**
Operating range Note 3)	**Fluid**		Compressed air		
	Inlet air temperature (°C)		5 to 50		
	Inlet air pressure (MPa)		0.15 to 0.97		
	Ambient temperature (humidity) (°C)		2 to 43 (Relative humidity 85% or less)		
Rated conditions Note 4)	**Air flow capacity (m^3/min)**	Standard condition (ANR) Note 1) **50 Hz**	32	43	54
		60 Hz	38	50	65
		Compressor intake condition Note 2) **50 Hz**	34	46	57
		60 Hz	40	53	69
	Inlet air pressure (MPa)		0.7		
	Inlet air temperature (°C)		40		35
	Ambient temperature (°C)		32		—
	Outlet air pressure dew point (°C)		10		
	Power supply voltage (frequency) Note 5)		Three-phase: 200 VAC (50 Hz), 200/220 VAC (60 Hz)		Three-phase: 200 VAC (50/60 Hz)
Electric specifications	**Power consumption 50/60 Hz** Note 6) **(kW)**	**Three-phase**	4.9	6.3	11.6
		200 V	5.9	7.6	11.6
	Operating current 50/60 Hz Note 6) **(A)**	**Three-phase**	19.5	26.1	36.5
		200 V	20.1	26.4	36.5
Applicable circuit breaker capacity Note 7) **(sensitivity current 30 mA) (A)**			50		
Condenser			Air-cooled		Water-cooled
Air re-heater/Air cooler			Class 2 pressure vessel		
Refrigerant			R407C (HFC)		
Auto drain			ADH4000-04		ADM200-042-8
Port size Note 8)			80 (3B) flange	100 (4B) flange	150 (6B) flange
Weight (kg)			450	660	1100
Coating color			Body panel: White Base: Black		Operating panel: Sky blue Other panel (except base): White
Applicable air compressor output (Reference) For screw type (kW)			190	240	370

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, relative humidity 75%]
Note 3) The operation range does not guarantee the use with normal air flow capacity.
Note 4) Select the air dryer model according to "Model Selection" (pages 11, 12) for models beyond the rated specifications.
Note 5) When selecting a power supply voltage, refer to "How to Order" on page 25.
Note 6) These values are reference values under rated conditions, and are not guaranteed. Do not use these values for the thermal set values etc.
Note 7) Product other than the option R is not equipped with a circuit breaker. Purchase an appropriate circuit breaker separately.
Note 8) JIS 10K FF is used as a flange.

Water-cooled Condenser (IDF370D)

Condenser	Shell and tube type
Cooling water flow rate Note 1)	6 m^3/h
Cooling tower performance Note 2)	10 RT
Water flow regulator	Pressure type automatic water supply valve
Port size for water side	1 1/4 union

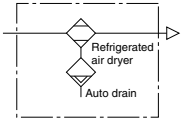
Note 1) Value with rated load when cooling water inlet temperature is 32°C.
Note 2) Calculated at 1 RT = 4.535 kW

Motor Type Auto Drain

Model	Operating cycle	
IDF370D	4 times per minute	for 8 seconds every one minute

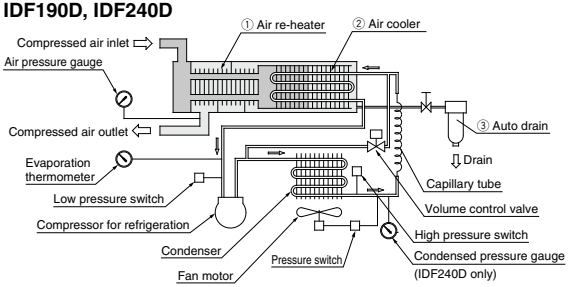
Power supply	200 VAC 50/60 Hz
Power consumption	4 W

Symbol



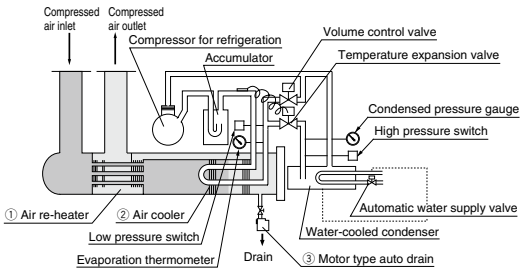
Construction (Air/Refrigerant Circuit)

IDF190D, IDF240D



High temperature humid air from the air compressor passes through the air re-heater ① and is pre-cooled by dehumidified cool air. Then, it is cooled to the specified temperature by the air cooler ② using the evaporation heat of refrigerant.
At this time, the oil mist and moisture generated by condensation are automatically exhausted by the auto drain ③. The cooled and dehumidified air goes back to the air re-heater ① and heat is exchanged with hot air that flows into the air re-heater. It is supplied as dry warm air without "sweating" in the piping system.

IDF370D



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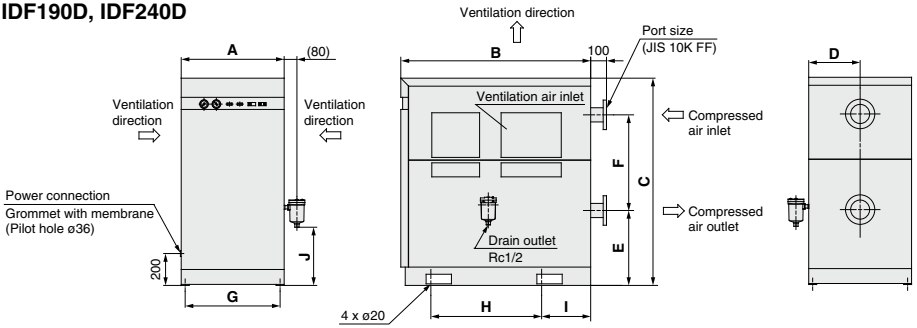
Dimensions

IDF190D, IDF240D

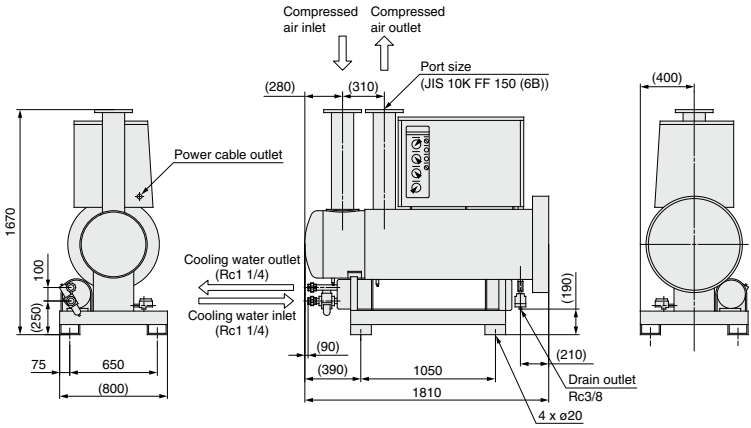


(mm)

Model	Inlet and outlet port	A	B	C	D	E	F	G	H	I	J
IDF190D	JIS 10K FF 80 (3B) flange	750	1510	1320	375	480	600	700	800	355	427
IDF240D	JIS 10K FF 100 (4B) flange	770	1550	1640	385	703	730	700	800	355	592

∗ The auto drain is enclosed in the same shipping package as the main body. Users are required to mount the auto drain to the air dryer.

IDF370D



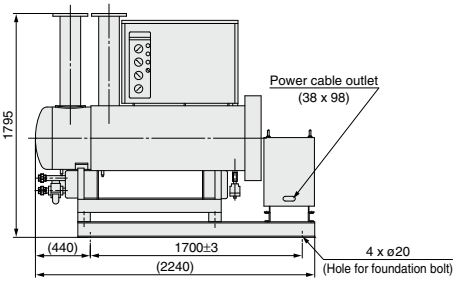
Power Transformer Integrated Type

IDF370D

The power transformer marked with the voltage symbol “9” is integrated into the refrigerated air dryer.

IDF190D to 240D

The power transformer marked with the voltage symbol “9” is built into the main body, and the outside dimensions are the same as those with the voltage symbol “3”.



Refrigerant R134a (HFC)
High Inlet Air Temperature
Series IDU□E
3E, 4E, 6E, 8E, 11E, 15E1
(Inlet air temperature: 55°C, Outlet air pressure dew point: 10°C)

How to Order

IDU 4E — 10 — Nil / C / K / L / M / R / S / T / V

Size

Symbol	Air compressor size Note)
3E	2.2 kW
4E	3.7 kW
6E	5.5 kW
8E	7.5 kW
11E	11 kW
15E1	15 kW

Note) Note that the above values are for reference only. Check the actual compressor capacity.

Voltage

Symbol	Voltage	Applicable size					
		3E	4E	6E	8E	11E	15E1
10	Single-phase 100 VAC (50 Hz) 100/110 VAC (60 Hz)	●	●	●	●	●	●
20	Single-phase 200 VAC (50 Hz) 200/220 VAC (60 Hz)	●	●	●	●	●	●
23	Single-phase 230 VAC (50 Hz)	●	●	●	●	●	●

Option

Symbol Note 1) / Description / Size	Nil	C	K	L	M	R	S	T	V
	None	Anti-corrosive treatment for copper tube	Moderate pressure specification (Auto drain bowl: Metal bowl with level gauge)	With a heavy-duty auto drain (applicable to moderate pressure)	With a motor type auto drain (Voltage symbol 10, 20 only)	With a circuit breaker	Power supply terminal block connection (Voltage symbol 10 only) Note 2)	With a terminal block for power supply, operating and error signals Note 3)	With a timer controlled solenoid valve type auto drain (Voltage symbol 23 only) (applicable to moderate pressure)
3E	●	●	●	●	●	●	●	●	●
4E	●	●	●	●	●	●	●	●	●
6E	●	●	●	●	●	●	●	●	●
8E	●	●	●	●	●	●	●	●	●
11E	●	●	●	●	●	●	●	●	●
15E1	●	●	●	●	●	●	●	●	●

Note 1) Enter alphabetically when multiple options are combined.
However, the following combinations are not possible.
· R and S (Because S function is also included in R.)
· S and T (Because S function is also included in T.)
· The combination of K, L, M and V is not possible because an auto drain can only be attached to a single option.

Note 2) Voltage symbol 20 (200 VAC) and 23 (230 VAC) are the terminal block connection as standard. The option S cannot be chosen.
Voltage symbol 10 (100 VAC) is the power cable with plug as standard.

Note 3) **To users who are considering switching from the previous air dryer:**

When switching from the previous air dryer and remote operation are required, select the Made to Order (IDU□E-□-X256) product.

Note 4) Refer to pages 34 to 38 for further information on options.

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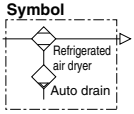
Symbol



Standard Specifications

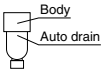
Specifications \ Model				High inlet air temperature					
				IDU3E	IDU4E	IDU6E	IDU8E	IDU11E	IDU15E1
Operating range Note 3)	Fluid			Compressed air					
	Inlet air temperature (°C)			5 to 80					
	Inlet air pressure (MPa)			0.15 to 1.0					
	Ambient temperature (humidity) (°C)			2 to 40 (Relative humidity 85% or less)					
Rated conditions Note 4)	Air flow capacity (m^3/min)	Standard condition (ANR) Note 1)	50 Hz	0.32	0.52	0.75	1.1	1.5	2.6
			60 Hz	0.37	0.57	0.82	1.2	1.7	2.8
		Compressor intake condition Note 2)	50 Hz	0.34	0.55	0.8	1.2	1.6	2.8
			60 Hz	0.39	0.61	0.87	1.3	1.8	3.0
	Inlet air pressure (MPa)			0.7					
	Inlet air temperature (°C)			55					
	Ambient temperature (°C)			32					
	Outlet air pressure dew point (°C)			10					
	Power supply voltage (frequency) Note 5)			Single-phase: 100 VAC (50 Hz), 100/110 VAC (60 Hz) Note 5) Single-phase: 200 VAC (50 Hz), 200/220 VAC (60 Hz) Single-phase: 230 VAC ±10% (50 Hz)					
Electric specifications	Power consumption (W) 50/60 Hz Note 6)	Single-phase 100 V		180/202	208/236	385/440	250/290 Note 7)	425/470 Note 7)	460/530 Note 7)
		Single-phase 200 V							
		Single-phase 230 V (50 Hz)		210	220	400	260	425	450
	Operating current (A) 50/60 Hz Note 6)	100 V		2.4/2.5	3.0/3.1	5.7/5.7	3.4/3.5	5.7/6.0	4.6/4.9
		200 V		1.2/1.3	1.5/1.5	3.4/3.0	1.7/1.7	3.5/3.2	3.6/3.4
		230 V (50 Hz)		1.5	1.6	2.9	1.7	3.0	3.2
Applicable circuit breaker capacity Note 7) (sensitivity current 30 mA) (A)				10 (100 VAC), 5 (200 VAC, 230 VAC)					10 (100 VAC) 10 (200 VAC)
Refrigerant				R134a (HFC)					
Auto drain				Float type (Normally open)					
Port size				Rc3/8	Rc1/2	Rc3/4			Rc1
Weight (kg)				23	27	28	44	47	71
Coating color				Body panel: White 1 Base: Gray 2					
Applicable air compressor output (Reference) For screw type (kW)				2.2	3.7	5.5	7.5	11	15

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, relative humidity 75%]
Note 3) The operation range does not guarantee the use with normal air flow capacity.
Note 4) Select the air dryer model according to "Model Selection" (pages 11, 12) for models beyond the rated specifications.
Note 5) When selecting a power supply voltage, refer to "How to Order" on page 28.
Note 6) These values are reference values under rated conditions, and are not guaranteed. Do not use these values for the thermal set values etc.
Note 7) For the IDU8E or larger models, cooling with the aftercooler helps save energy.
Note 8) Product other than the option R is not equipped with a circuit breaker. Purchase an appropriate circuit breaker separately.

Replacement Parts

Model	IDU3E	IDU4E	IDU6E	IDU8E	IDU11E	IDU15E1
Auto drain replacement parts no. Note 9)	AD48					

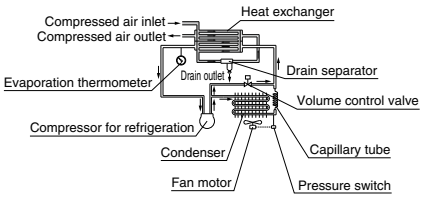
Note 9) The part number for the auto drain components only excluding the body part.
Body part replacement is not possible.



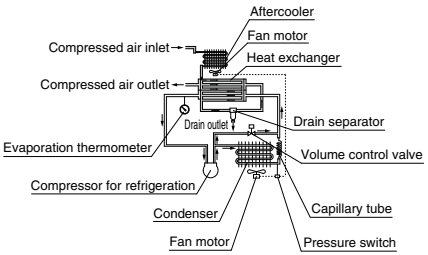
Construction (Air/Refrigerant Circuit)

Humid, hot air coming into the air dryer will be cooled down by a heat exchanger. Water condensed at this time will be removed from the air by a drain separator and drained out automatically. Air separated from the water will be heated by a heat exchanger to obtain the dried air, which goes through to the outlet side.
For models IDU8E to 15E1, the humid and hot air introduced to the air dryer will be cooled down by the aftercooler before being cooled down by the heat exchanger.

IDU3E, IDU4E, IDU6E

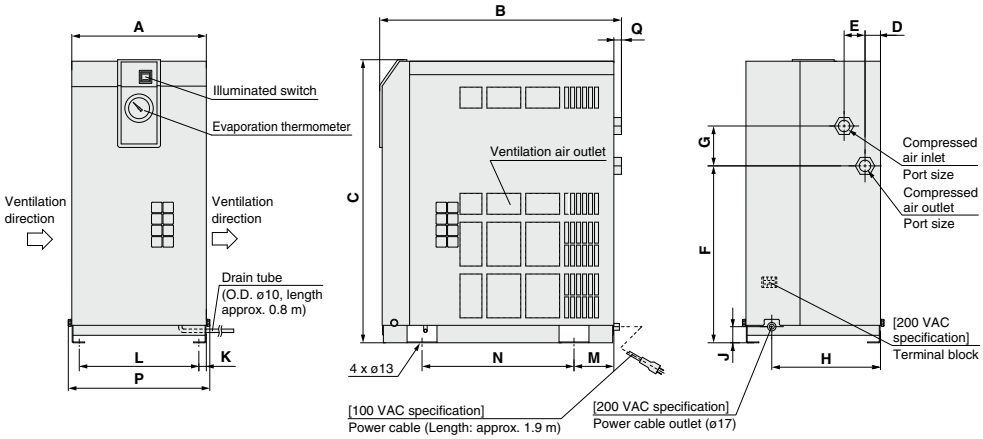


IDU8E, IDU11E, IDU15E1



Dimensions

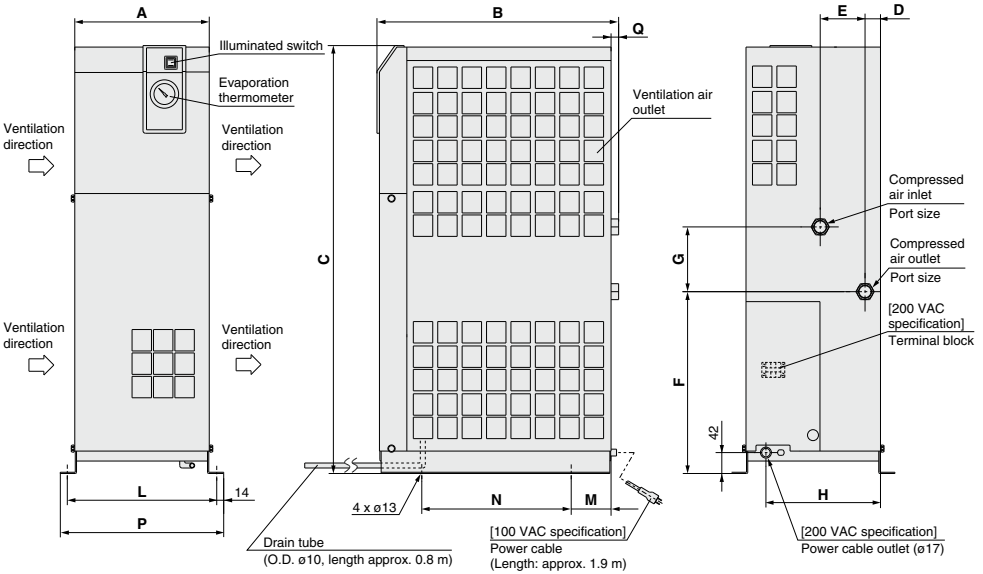
IDU3E to IDU6E



Dimensions (mm)

Model	Port size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
IDU3E	Rc3/8	270	455	568	31	42	283	80	230	32	15	240	80	300	284	15
IDU4E	Rc1/2		483				355									13
IDU6E	Rc3/4		485													15

IDU8E to IDU15E1



Dimensions (mm)

Model	Port size	A	B	C	D	E	F	G	H	L	M	N	P	Q
IDU8E	Rc3/4	270	485	859	31	90	365	130	230	300	80	300	328	15
IDU11E				909										
IDU15E1	Rc1	300	620	960	79	54	425	93	258	330	66	470	358	16

INDEX

Refrigerant R407C (HFC)
High Inlet Air Temperature
Series IDU□E
22E, 37E, 55E, 75E
(Inlet air temperature: 55°C, Outlet air pressure dew point: 10°C)

How to Order

IDU 22E — 30 — Nil / C / L / M / R / T / V

Size

Symbol	Air compressor size Note)
22E	22 kW
37E	37 kW
55E	55 kW
75E	75 kW

Note) Note that the above values are for reference only. Check the actual compressor capacity.

Voltage

Symbol	Voltage
23	Single-phase 230 VAC (50 Hz)
30	Three-phase 200 VAC (50 Hz) 200/220 VAC (60 Hz)

Option

Symbol Note 1) / Description / Size	Nil	C	L	M	R	T	V
	None	Anti-corrosive treatment for copper tube	With a heavy-duty auto drain (applicable to moderate pressure)	With a motor type auto drain (Voltage symbol 30 only)	With a circuit breaker	With a terminal block for power supply, operating and error signals Note 2)	With a timer controlled solenoid valve type auto drain (Voltage symbol 23 only) (applicable to moderate pressure)
22E	●	●	●	●	●	●	●
37E	●	●	●	●	●	●	●
55E	●	●	●	●	●	●	●
75E	●	●	●	●	●	●	●

Note 1) Enter alphabetically when multiple options are combined.
However, the following combinations are not possible.
· The combination of L, M and V is not possible because an auto drain can only be attached to a single option.

Note 2) **To users who are considering switching from the previous air dryer:**

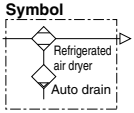
When switching from the previous air dryer and remote operation are required, select the Made to Order (IDU□E-□-X256) product.

Note 3) Refer to pages 34 to 38 for further information on options.

Standard Specifications

Specifications / Model				High inlet air temperature			
				IDU22E	IDU37E	IDU55E	IDU75E
Operating range Note 3)	Fluid			Compressed air			
	Inlet air temperature		(°C)	5 to 80			
	Inlet air pressure		(MPa)	0.15 to 1.0			
	Ambient temperature (humidity)		(°C)	2 to 40 (Relative humidity 85% or less)			
Rated conditions (Note. 4)	Air flow capacity (m^3/min)	Standard condition (ANR) Note 1)	50 Hz	3.9	5.7	8.4	11.0
			60 Hz	4.3	6.1	9.8	12.5
		Compressor intake condition Note 2)	50 Hz	4.1	6.1	8.9	11.7
			60 Hz	4.6	6.5	10.4	13.3
	Inlet air pressure		(MPa)	0.7			
	Inlet air temperature		(°C)	55			
	Ambient temperature		(°C)	32			
	Outlet air pressure dew point		(°C)	10			
	Power supply voltage (frequency)			Single-phase: 230 VAC ±10% (50 Hz) Three-phase: 200 VAC (50 Hz) Three-phase: 200/220 VAC (60 Hz)			
Electric specifications	Power consumption 50/60 Hz Note 5)	(W)	Three-phase 200 V	1100/1450		1530/2000	2200/2850
			Single-phase 230 V (50 Hz)	960		1570	2300
	Operating current 50/60 Hz Note 5)	(A)	Three-phase 200 V	4.2/4.8		6.3/6.8	8.2/9.3
			Single-phase 230 V (50 Hz)	4.3		6.9	10.7
	Applicable circuit breaker capacity Note 6) (sensitivity current 30 mA)	(A)	Three-phase 200 V	10			15
			Single-phase 230 V (50 Hz)	10			20
Refrigerant				R407C (HFC)			
Auto drain				Float type (Normally open)			
Port size				R1	R1 1/2	R2	
Weight			(kg)	90	130	160	166
Coating color				Body panel: White 1 Base: Gray 2			
Applicable air compressor output (Reference) For screw type			(kW)	22	37	55	75

Symbol

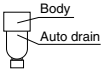


Note 1) Air flow capacity under the standard condition (ANR) [atmospheric pressure 20°C, relative humidity 65%]
Note 2) Air flow capacity converted by the compressor intake condition [atmospheric pressure 32°C, relative humidity 75%]
Note 3) The operation range does not guarantee the use with normal air flow capacity.
Note 4) Select the air dryer model according to "Model Selection" (pages 11, 12) for models beyond the rated specifications.
Note 5) These values are reference values under rated conditions, and are not guaranteed. Do not use these values for the thermal set values etc.
Note 6) Product other than the option R is not equipped with a circuit breaker. Purchase an appropriate circuit breaker separately.

Replacement Parts

Model	IDU22E	IDU37E	IDU55E	IDU75E
Auto drain replacement parts no. Note 7)	AD48			

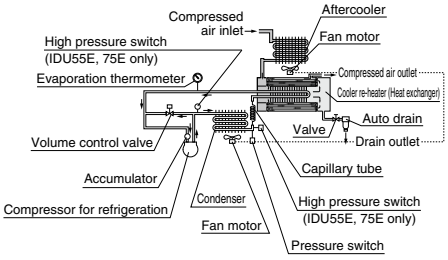
Note 7) The part number for the auto drain components only excluding the body part.
Body part replacement is not possible.



Construction (Air/Refrigerant Circuit)

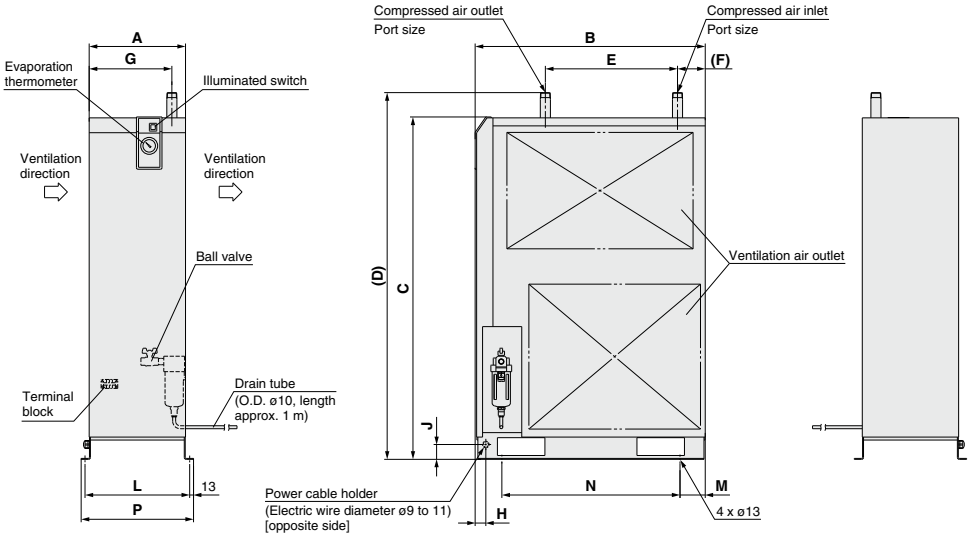
Humid, hot air coming into the air dryer will be cooled down by a heat exchanger. Water condensed at this time will be removed from the air by a drain separator and drained out automatically. Air separated from the water will be heated by a heat exchanger to obtain the dried air, which goes through to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

IDU22E, IDU37E, IDU55E, IDU75E



Dimensions

IDU22E to 75E



Dimensions (mm)

Model	Port size	A	B	C	D	E	F	G	H	J	L	M	N	P
IDU22E	R1	325	775	1153	1235	445	93	279	46	50	353	85	600	379
IDU37E	R1 1/2	360	855	1258	1350	550	64	290			388		680	414
IDU55E	R2	470		1345	1440	530	53	360	30	70	500	75	700	526
IDU75E				1480	1575									

Options 1

Refer to "How to Order" on pages 13, 17, 20, 25, 28, 31 for optional models.

A Option symbol: Cool compressed air output

IDF1E to 75E

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 below table.)
If the air dryer is used out of the scope of the rated specifications or conditions, select a model according to pages 11 and 12 and apply the air flow capacity shown in the tables below to the data Ⓔ.

Note 1) Perform thermal insulation treatment for pipings and equipment installed after the dryer to prevent the formation of condensation.
Note 2) The option A cannot be used for the IDF100F to 370D and the IDU series due to the construction of the heat exchanger unit.

Air Flow Capacity

Model		IDF1E	IDF2E	IDF3E	IDF4E	IDF6E	IDF8E	IDF11E	IDF15E1	IDF22E	IDF37E	IDF55E	IDF75E
Air flow capacity	50 Hz	0.085	0.12	0.18	0.26	0.32	0.5	0.65	1.2	1.7	2.6	3.85	5.35
m^3/min (ANR)	60 Hz	0.1	0.14	0.21	0.29	0.375	0.55	0.75	1.3	1.9	3.05	4.5	6.2

(Rated specification/Conditions): Inlet air pressure: 0.7 MPa, Inlet air temperature: 35°C (IDF1E to 37E), 40°C (IDF55E, 75E), Outlet air temperature: 10°C

C Option symbol: Anti-corrosive treatment for copper tube

IDF, IDU all models

This minimizes 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 (Auto drain bowl: Metal bowl with level gauge)

IDF6E to 37E, IDU3E to 15E1

The maximum operating pressure is 1.6 MPa.
The auto drain is changed from the standard to the moderate pressure specification.
A metal bowl with a level gauge which can confirm the water level is used for the auto drain.

Specifications

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

Replacement Parts

Model	Auto drain replacement parts no.	Note
IDF6E to 37E IDU3E to 15E1	IDF-S0086	Assembly of auto drain: AD48-8-X2110, One-touch fitting: KQ2H10-02AS, and insulator

Options 2

Refer to "How to Order" on pages 13, 17, 20, 25, 28, 31 for optional models.

K Option symbol: Moderate pressure specification

IDF100F to 150F

The maximum operating pressure is 1.6 MPa.
The internal drain piping is changed from the nylon tube to the metal.

Specifications

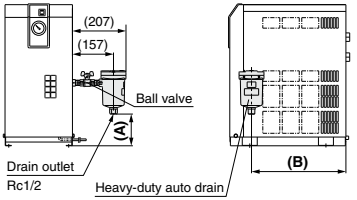
1. Maximum operating pressure: 1.6 MPa
2. Dimensions ··· same as standard products

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

IDF4E to 75E, IDF370D, IDU3E to 15E1, IDU22E to 75E

Drainage including dust can also be exhausted.
The float type auto drain used in the standard air dryer is replaced with a heavy-duty auto drain (ADH4000-04).
Note) The IDF100F to 150F, 190D, 240D standard types are equipped with a heavy-duty auto drain.

Max. operating pressure: 1.6 MPa
IDF4E to 15E1
IDU3E to 15E1

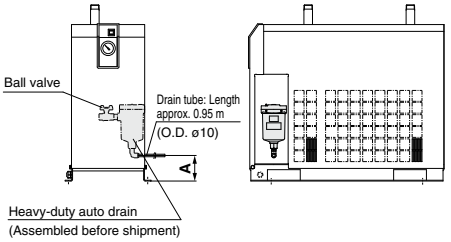


Note 1) The heavy-duty auto drain and the ball valve are both enclosed in the same shipping package as the main body of the air dryer. Users are required to mount the parts to the air dryer.
Note 2) Users will need to supply the fitting (KQ2L10-04AS) and tubing (TU1065BU) for the drain piping.

Dimensions (mm)

Model	A	B
IDF4E	55	348
IDF6E, IDU3E	67	
IDF8E, IDF11E	139	378
IDU4E, IDU6E		
IDU8E, IDU11E	149	
IDF15E1	47	494
IDU15E1		533

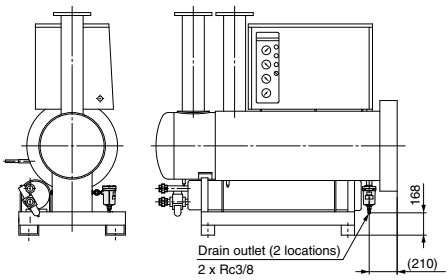
IDF22E to 75E, IDU22E to 75E



Dimensions (mm)

Model	A
IDF22E, 37E IDU22E, 37E	Approx. 100
IDF55E, 75E IDU55E	Approx. 120
IDU75E	Approx. 250

Max. operating pressure: 0.97 MPa
IDF370D



Replacement Parts/Heavy-Duty Auto Drain

Model	Part no. (Description)	Configuration
IDF4E to 15E1 IDU3E to 15E1 IDF370D	ADH4000-04 (Heavy-duty auto drain)	 Heavy-duty auto drain
IDF22E to 75E IDU22E to 75E	ADH-E400 (Exhaust mechanism replacement kit)	 Exhaust mechanism replacement kit  Housing (Use existing equipment.)

Options 3

Refer to "How to Order" on pages 13, 17, 20, 25, 28, 31 for optional models.

M Option symbol

With a motor type auto drain

IDF4E to 75E, 190D, 240D
IDF3E to 75E

The float type auto drain used in the standard air dryer is replaced with a motor type auto drain (ADM200).

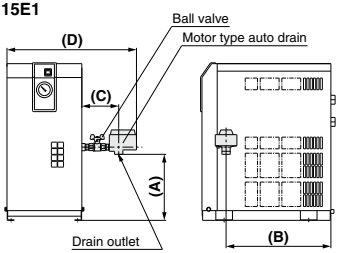
Note) The IDF370D standard type is equipped with a motor type auto drain.

Air Discharge

Operating air pressure	Air discharge without drainage
0.3 MPa	0.006 m^3 per cycle (ANR)
0.5 MPa	0.010 m^3 per cycle (ANR)
0.7 MPa	0.014 m^3 per cycle (ANR)

∗ The motor type auto drain actuates once (for 2 seconds) every one minute.

IDF4E to 15E1
IDU3E to 15E1



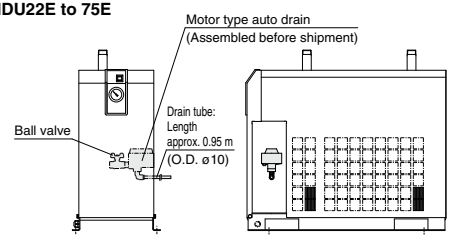
Dimensions (mm)

Model	A	B	C	D
IDF4E	154	348	133	474
IDF6E, IDU3E	166			
IDF8E, 11E	238	378		
IDU4E, 6E				
IDU8E, 11E	288			496
IDF15E1	149	494	146	510
IDU15E1	150	533	137	530

Note 1) The motor type auto drain and the ball valve are both enclosed in the same shipping package as the main body of the air dryer. Users are required to mount the auto drain to the air dryer.

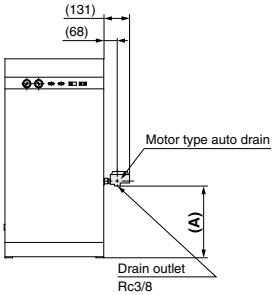
Note 2) Users will need to supply the fitting (KQ2L10-03AS) and tubing (TU1065BU) for the drain piping.

IDF22E to 75E
IDU22E to 75E



Note) When a longer drain tube than the one attached is necessary, remove and replace it with a tube prepared by users.
(After connection with a fitting, the drain may not flow due to a drop in pressure caused by the fitting.)

IDF190D, 240D



Note) The motor type auto drain is enclosed in the same shipping package as the main body of the air dryer. Users are required to mount the auto drain to the air dryer.

Dimensions (mm)

Model	A
IDF190D	526
IDF240D	690

Replacement Parts/Motor Type Auto Drain Assembly Note)

Voltage	Part no.	Note
Single-phase **100 VAC (50 Hz)** **100/110 VAC (60 Hz)**	IDF-S0087	Assembly of motor type auto drain: ADM200-041, plug housing assembly: 173090-2, receptacle: 173707-1, rubber plug: 172888-2
Single-phase **200 VAC (50 Hz)** **Three-phase** **200/220 VAC (60 Hz)**	IDF-S0090	Assembly of motor type auto drain: ADM200-042, plug housing assembly: 173090-2, receptacle: 173707-1, rubber plug: 172888-2

Note) Including electric wire with connector on the end

Options 4

Refer to "How to Order" on pages 13, 17, 20, 25, 28, 31 for optional models.

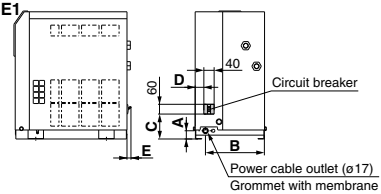
R Option symbol

With a circuit breaker

Except IDF1E, 2E, 3E

The air dryer is equipped with a circuit breaker, reducing the electrical wiring required during installation.
(The IDF370D does not include the electrical leakage detection function.)

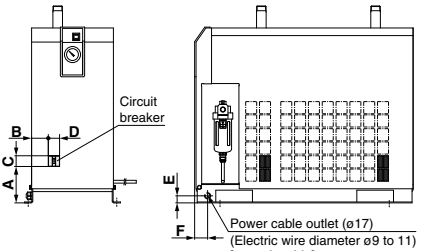
IDF4E to 15E1
IDU3E to 15E1



Dimensions (mm)

Model	A	B	C	D	E
IDF4E, 6E, 8E, 11E	32	230	97	34	15
IDF15E1	43	258	102	82	—
IDU3E, 4E, 6E	32	230	97	34	15
IDU8E	42		100	37	—
IDU11E				75	
IDU15E1	43	258	102	82	

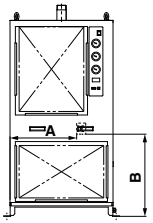
IDF22E to 75E
IDU22E to 75E



Dimensions (mm)

Model	A	B	C	D	E	F
IDF22E-20	125	59	60	40	25	46
IDF37E-20						
IDF22E-30		39		60		
IDF37E-30						
IDF55E-30	148	81			50	36
IDF75E-30	133	73				
IDU22E-30	151	74	60	60	50	46
IDU37E-30	146	122				
IDU55E-30	148	55				36
IDU75E-30	166	73			70	

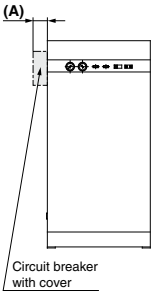
IDF100F to 150F



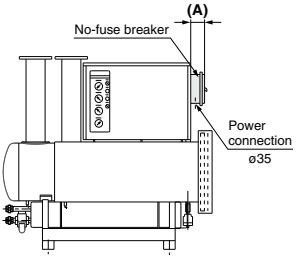
Dimensions (mm)

Model	A	B
IDF100F	434	535
IDF125F	448	
IDF150F	628	537

IDF190D, 240D



IDF370D



Dimensions (mm)

Model	A
IDF190D	95
IDF240D	
IDF370D	156

Breaker Capacity and Sensitivity Current

Voltage	Model	Breaker capacity	Sensitivity current
100 V type	**IDF4E-10, IDF6E-10** **IDF8E-10, IDF11E-10, IDF15E1-10**	10 A	30 mA
	IDU3E-10, IDU4E-10, IDU6E-10 **IDU8E-10, IDU11E-10, IDU15E1-10**		
200 V type	**IDF4E-20, IDF6E-20** **IDF8E-20, IDF11E-20**	5 A	
	IDU3E-20, IDU4E-20 **IDU6E-20, IDU8E-20, IDU11E-20**		
	IDF15E1-20, IDF22E-20, IDF37E-20 **IDU15E1-20** **IDF22E-30, IDF37E-30** **IDF55E-30** **IDU22E-30, IDU37E-30, IDU55E-30**	10 A	
	IDF75E-30, IDU75E-30	15 A	
	IDF100F	30 A	
	IDF125F		
	IDF150F		
	IDF190D	50 A	
	IDF240D		
	IDF370D		—

Options 5

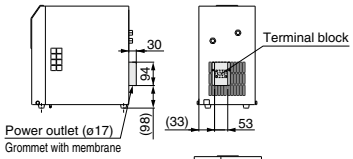
Refer to "How to Order" on pages 13, 17, 20, 25, 28, 31 for optional models.

S Option symbol

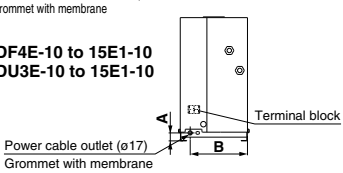
Power supply terminal block connection — **IDF1E-10 to 15E1-10, IDU3E-10 to 15E1-10**

The option allows the connection of a power cable to a terminal block.
This option is supplied with the 200 V model as a standard accessory.

IDF1E-10 to 3E-10



IDF4E-10 to 15E1-10
IDU3E-10 to 15E1-10



Dimensions (mm)

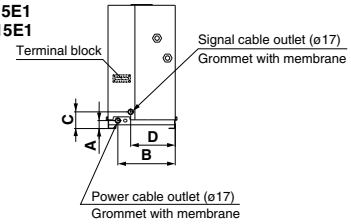
Model	A	B
IDF4E, 6E, 8E, 11E	32	230
IDF15E1	43	258
IDU3E, 4E, 6E	32	230
IDU8E, 11E	42	230
IDU15E1	43	258

T Option symbol

With a terminal block for power supply, operating and error signals — **IDF4E to 15E1, IDU3E to 15E1**

Besides terminals for the power supply, terminals for the operating signal and the error signal are also available. (No-voltage contact)
Additionally, when using the remote operation, select the Made to Order (IDF8E to 75E-□-X256, IDU8E to 75E-□-X256) products.

IDF4E to 15E1
IDU3E to 15E1



Contact capacity: Operating signal ··· 220 VAC, 6 A
Error signal ··· 250 VAC, 7 A

Minimum current value: 24 V, 5 mA (AC/DC) for operating and error signals

Note) Be sure to confirm the electric circuits with the drawings or Operating Manual before using the operating and error signals.

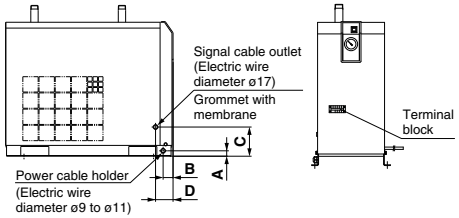
Dimensions (mm)

Model	A	B	C	D
IDF4E, 6E, 8E, 11E	32	230	67	179
IDF15E1	43	258	77	158
IDU3E, 4E, 6E	32	230	67	179
IDU8E, 11E	42	230	77	136
IDU15E1	43	258	77	158

T Option symbol

With a terminal block for power supply, operating and error signals — **IDF22E to 75E, IDU22E to 75E**

IDF22E to 75E, IDU22E to 75E



Contact capacity: Operating signal ··· 220 VAC, 6 A
Error signal ··· 250 VAC, 7 A

Minimum current value: 20 V, 5 mA (AC/DC) for operating and error signals

Dimensions (mm)

Model	A	B	C	D
IDF22E, 37E	25	46	135	81
IDF55E, 75E	50	36	207	
IDU22E, 37E	50	46	166	
IDU55E		36	230	
IDU75E	70		242	

V Option symbol

With a timer controlled solenoid valve type auto drain (applicable to moderate pressure) — **IDU3E to 75E-23 IDF100F to 150F**

Drainage is discharged by controlling a solenoid valve with a timer.
A strainer for solenoid valve protection and a stop valve are also included.
(The external dimensions are the same as the standard product.)

Maximum operating pressure: 1.6 MPa (IDF100F to 150F: 1.0 MPa)

∗ The timer controlled solenoid valve actuates once (for 0.5 seconds) every 30 seconds.

Replacement Parts

Model	Part no.	Note
IDU3E to 37E-23	IDF-S0198	230 VAC
IDU55E, 75E-23	IDF-S0302	
IDF100F to 150F	IDF-S0405	200 VAC

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Options 6

Refer to "How to Order" on pages 13, 17, 20, 25, 28, 31 for optional models.

W Option symbol

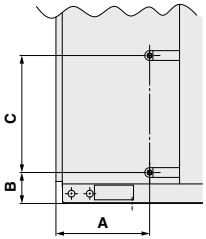
Water-cooled type — IDF100F to 150F, 190D, 240D

It can be used in a high temperature environment without decreasing air flow capacity. It can also be used in an enclosed environment without increasing the ambient temperature. This option is supplied with the IDF370D as a standard accessory.

Model	IDF100F	IDF125F	IDF150F	IDF190D	IDF240D
Condenser	Plate system			Shell and coil system	
Cooling water flow rate (m^3/h) Note 1) 50/60 Hz	1.29/1.56	1.74/1.98	2.16/2.52	4.8/4.8	5.4/5.4
Cooling tower performance (RT) Note 2)	2	2.4	3	7.5	7.5
Water flow regulator	Pressure type automatic water supply valve				
Port size for water side	R1/2	R3/4	R1		

Note 1) Value with rated load when cooling water inlet temperature is 32°C.
Note 2) Calculated at 1 RT = 3300 kcal/h

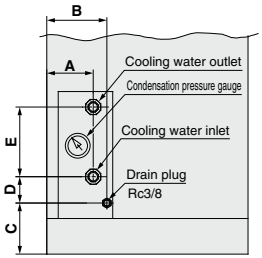
IDF100F to 150F



Dimensions (mm)

Model	A	B	C
IDF100F	384	127	479
IDF125F, 150F	234		

IDF190D, 240D



Dimensions (mm)

Model	A	B	C	D	E
IDF190D, 240D	180	250	160	48	273

Series IDF/IDU
Optional Accessories

Specifications

Description	Features	Specifications	Applicable air dryer	Dimensions
Separately installed power transformer Note 1), 2) 	Power supply and voltage for those other than the standard.	Max. ambient temperature 40°C (Relative humidity 85% or less)	IDF1E-10 to IDF15E1-10, IDF22E-20/30 IDF37E-20/30, IDF55E-30, IDF75E-30 IDU3E-10 to 15E1-10, IDU22E to 75E-30 IDF100F to 150F, IDF190D to 370D-3	Page 42, 43
Dedicated base for separately installed power transformer Note 2) [Separately installed power transformer is not attached. Order separately.]	For integrating the separately installed power transformer and the air dryer.	—	IDF4E to 15E1-10 IDF22E-20/30, IDF37E-20/30 IDF55E-30, IDF75E-30 IDU3E to 15E1-10	Page 44
Dust-protecting filter set Note 3) 	For preventing a decline in the performance of air dryers, even in a dusty atmosphere.	Max. ambient temperature 40°C	IDF1E to 75E IDF190D to 240D IDU3E to 75E	Page 45
Bypass piping set 	Easy bypass piping (connect this set to the air dryer), allowing substantial reduction in the installation time.	Max. operating pressure Note 4) 1.0 MPa Max. operating temperature IDF: 60°C IDU: 80°C	IDF1E to 75E IDU3E to 75E	Page 46, 47
Foundation bolt set 	For fixing the air dryer to the foundations. Easy to secure by striking the axle.	Stainless steel	IDF4E to 75E IDU3E to 75E IDF100F to 150F	Page 47
Piping adapter 	For converting the thread type of an IN/OUT fitting for air dryers.	Brass	IDF1E to 75E IDU3E to 75E IDF100F to 150F	
Mounting base adapter	For ensuring conversion to the former models' (IDF22C and 37C) air piping.	—	IDF22E, 37E	Page 48
Conversion piping set	[When bypass piping is already in place] For ensuring conversion to the former models' (IDF6D to 15C) air piping.	Max. operating pressure Note 4) 1.0 MPa Max. operating temperature 60°C	IDF6E to 15E1	
Conversion bypass piping set	[When there is no bypass piping] For ensuring conversion to the former models' (IDF6D to 15C) air piping.	Max. operating pressure Note 4) 1.0 MPa Max. operating temperature 60°C	IDF6E to 15E1	Page 49

Note 1) When using a power transformer for the IDF1E to 15E1 and IDU3E to 15E1, select the air dryer of 100 V.
Note 2) When using a power transformer for the IDF190D and 240D, built-in transformer type is also available. (Refer to "How to Order" on page 25.)
Note 3) This filter set is supplied with the IDF100F to 150F as a standard accessory.
Note 4) Not applicable to the moderate pressure specification. Prepare a bypass, conversion or conversion bypass piping set suitable for the specification.

How to Order

[Separately installed power transformer]

Single-phase type **IDF — TR 500 — 2**

Capacity

Symbol	Applicable air dryer	Capacity
500	IDF1E-10 to IDF8E-10 IDU3E-10, IDU4E-10, IDU8E-10	500 VA
1000	IDF11E-10, IDF15E1-10 IDU6E-10, IDU11E-10, IDU15E1-10	1 kVA
2000	IDF22E-20, IDF37E-20	2 kVA

Power supply voltage

Symbol	Inlet voltage	Outlet voltage	Type
1	110 VAC (50 Hz) 110 to 120 VAC (60 Hz)	100 VAC (50 Hz) 100, 110 VAC (60 Hz)	Single-phase
2	200, 220, 230, 240 VAC (50 Hz) 200 to 260 VAC (60 Hz)		
3	380, 400, 415 VAC (50 Hz) 380 to 420 VAC (60 Hz)		
4	420, 440, 480 VAC (50 Hz) 420 to 520 VAC (60 Hz)		
9	220 VAC (50 Hz) 220 to 240 VAC (60 Hz)	200 VAC (50 Hz) 200, 220 VAC (60 Hz)	Single-phase
10	380, 400, 415 VAC (50 Hz) 380 to 400, 400 to 415, 415 to 440 VAC (60 Hz)		
11	440, 460 VAC (50 Hz) 440 to 460, 460 to 500 VAC (60 Hz)		

Note) Refer to pages 42 and 43 for dimensions.

Three-phase type **IDF — TR 1700 — 5**

Capacity

Symbol	Applicable air dryer	Capacity
1700	IDF22E-30, IDF37E-30 IDU22E-30, IDU37E-30	1.7 kVA
4000	IDF55E-30, IDF75E-30 IDU55E-30, IDU75E-30	4 kVA
7000	IDF100F	7 kVA
9000	IDF125F, 150F	9 kVA
14000	IDF190D, 240D	14 kVA
18000	IDF370D	18 kVA

Power supply voltage

Symbol	Inlet voltage	Outlet voltage	Type
5	220 VAC (50 Hz) 220 to 240 VAC (60 Hz)	200 VAC (50 Hz) 200, 220 VAC (60 Hz)	Three-phase
6	380, 400, 415 VAC (50 Hz) 380 to 440 VAC (60 Hz)		
7	440, 460 VAC (50 Hz) 440 to 500 VAC (60 Hz)		
8	220, 240, 380, 400, 415, 440 VAC (50/60 Hz)	200 VAC (50/60 Hz)	

Note) Refer to page 43 for dimensions.

INDEX

How to Order

[Dedicated base for separately installed power transformer]

IDF — TB 403 **IDU — TB 407**

Size

Symbol	Applicable air dryer
403	IDF4E to 11E, IDU3E to 6E
404	IDF15E1
405	IDF22E
406	IDF37E
409	IDF55E, IDF75E

Size

Symbol	Applicable air dryer
407	IDU8E, IDU11E
408	IDU15E1

Note) Not available for the IDF1E to 3E, IDU22E to 75E, IDF100F to 150F, IDF190D, 240D, 370D.
In the case of the option S, the part number will be different. Please consult with SMC separately.
Refer to page 44 for dimensions.

[Dust-protecting filter set]

IDF — FL 201 **IDF — FL 190 D** **IDU — FL 210**

Applicable air dryer

Symbol	Applicable air dryer
200 Note)	IDF1E, 2E
201 Note)	IDF3E
202	IDF4E
203	IDF6E, IDU3E
204	IDF8E, IDU4E
205	IDF11E, IDU6E
206	IDF15E1
207	IDF22E
208	IDF37E
213	IDF55E
214	IDF75E

Note) This filter set is supplied with the IDF100F to 150F as a standard accessory.
Refer to page 45 for dimensions.

Applicable air dryer

Symbol	Applicable air dryer
190	IDF190D
240	IDF240D

Applicable air dryer

Symbol	Applicable air dryer
210	IDU8E
211	IDU11E
212	IDU15E1
215	IDU22E
216	IDU37E
217	IDU55E
218	IDU75E

[Bypass piping set (Rc, R thread)]

IDF — BP 302 **IDU — BP 305**

Applicable air dryer

Symbol	Applicable air dryer	Thread type
300	IDF1E	Rc
301	IDF2E	
302	IDF3E	
303	IDF4E	
304	IDF6E to 11E	
316	IDF15E1	
317	IDF22E	R
318	IDF37E	
325	IDF55E	
	IDF75E	

Note) Not applicable to the moderate pressure specification (maximum operating pressure 1.6 MPa). Prepare a bypass piping set suitable for the specification by users.

Applicable air dryer

Symbol	Applicable air dryer
305	IDU3E
306	IDU4E
307	IDU6E
320	IDU8E, IDU11E
322	IDU15E1
336	IDU22E
337	IDU37E
338	IDU55E, IDU75E

Note) Refer to pages 46 and 47 for bypass piping set dimensions.

[Foundation bolt set]

IDF — AB 500

Applicable air dryer

Symbol	Applicable air dryer
500	IDF4E to 75E
	IDU3E to 15E1
501	IDF100F to 150F

Note) Refer to page 47 for dimensions.

[Piping adapter]

IDF — AP 601

Applicable air dryer

Symbol	Thread type and port size		Applicable air dryer
	Male thread **A** side	Female thread **B** side	
601	R1/2	NPT1/2	IDF4E, IDU4E
603	R3/4	NPT3/4	IDF6E to 11E, IDU6E to 11E
604	NPT1	Rc1	IDF22E, IDU22E
605	R1	NPT1	IDF15E1, IDU15E1
606	NPT1 1/2	Rc1 1/2	IDF37E, IDU37E
607	NPT2	Rc2	IDF100F to 150F
609	R3/8	NPT3/8	IDF1E to 3E, IDU3E

Note) Refer to page 47 for dimensions.

[Mounting base adapter]

Applicable to the IDF22E and 37E.

Part no.	Applicable air dryer
IDF-S0189	IDF22E
IDF-S0147	IDF37E

Note) Refer to page 48 for dimensions.

[Conversion piping set/ Conversion bypass piping set]

Applicable to the IDF6E to 15E1.
Select "conversion piping set" when bypass piping is already in place, and "conversion bypass piping set" when there is no bypass piping.

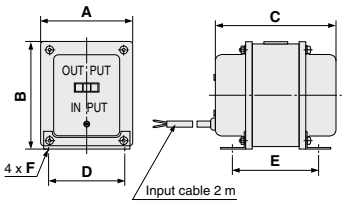
Part no.		Applicable air dryer
Conversion piping set	Conversion bypass piping set	
IDF-S0186	**IDF-S0183**	IDF6E
IDF-S0203	**IDF-S0202**	IDF8E
IDF-S0187	**IDF-S0184**	IDF11E
IDF-S0188	**IDF-S0185**	IDF15E1

Note) Refer to pages 48 and 49 for dimensions.

Specifications/Dimensions

[Separately installed power transformer]

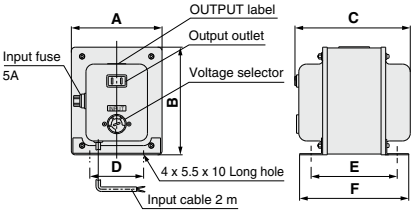
IDF-TR□−1



Specifications/Dimensions (mm)

Part no.	Applicable air dryer	Capacity	Type	Inlet voltage	Outlet voltage	A	B	C	D	E	F	Weight
IDF-TR500-1	IDF1E-10 to 8E-10 IDU3E-10, 4E-10, 8E-10	500 VA	Single-phase Single-turn	110 VAC (50 Hz) 110 to 120 VAC (60 Hz)	100 VAC (50 Hz) 100, 110 VAC (60 Hz)	78	94	100	64	75	4.2 x 7 (Long hole)	1.5 kg
IDF-TR1000-1	IDF11E-10, 15E1-10 IDU6E-10, 11E-10, 15E1-10	1 kVA				104	122	134	75	114	4.2 x 9 (Long hole)	4 kg

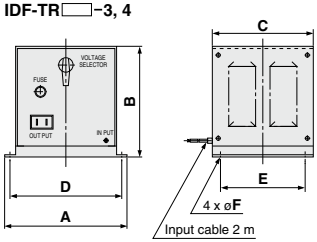
IDF-TR□−2



Specifications/Dimensions (mm)

Part no.	Applicable air dryer	Capacity	Type	Inlet voltage	Outlet voltage	A	B	C	D	E	F	Weight
IDF-TR500-2	IDF1E-10 to 8E-10 IDU3E-10, 4E-10, 8E-10	500 VA	Single-phase Single-turn	200, 220 230, 240 VAC (50 Hz) 200 to 260 VAC (60 Hz)	100 VAC (50 Hz) 100, 110 VAC (60 Hz)	118	140	163	70	112	142	6 kg
IDF-TR1000-2	IDF11E-10, 15E1-10 IDU6E-10, 11E-10, 15E1-10	1 kVA						208	90	157	187	10 kg

IDF-TR□−3, 4



Specifications/Dimensions (mm)

Part no.	Applicable air dryer	Capacity	Type	Inlet voltage	Outlet voltage	A	B	C	D	E	F	Weight
IDF-TR500-3	IDF1E-10 to 8E-10 IDU3E-10, 4E-10, 8E-10	500 VA	Single-phase Single-turn	380, 400, 415 VAC (50 Hz) 380 to 420 VAC (60 Hz)	100 VAC (50 Hz) 110 VAC (60 Hz)	230	207	190	210	160	9	15 kg
IDF-TR1000-3	IDF11E-10, 15E1-10 IDU6E-10, 11E-10, 15E1-10	1 kVA										
IDF-TR500-4	IDF1E-10 to 8E-10 IDU3E-10, 4E-10, 8E-10	500 VA		420, 440, 480 VAC (50 Hz) 420 to 520 VAC (60 Hz)								22 kg
IDF-TR1000-4	IDF11E-10, 15E1-10 IDU6E-10, 11E-10, 15E1-10	1 kVA										

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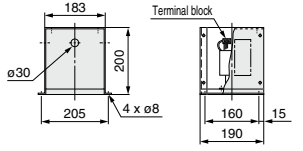
Specifications/Dimensions

[Separately installed power transformer]

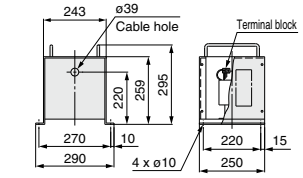
IDF-TR1700-5



Specifications

Part no.	Applicable air dryer	Capacity	Type	Inlet voltage	Outlet voltage	Weight
IDF-TR1700-5	IDF22E-30 IDF37E-30 IDU22E-30 IDU37E-30	1.7 kVA	Three-phase Single-turn	220 VAC (50 Hz) 220 to 240 VAC (60 Hz)	200 V (50 Hz) 200, 220 V (60 Hz)	9 kg

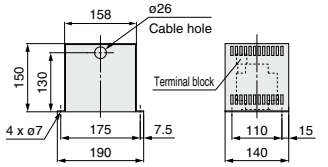
IDF-TR1700-6,7



Specifications

Part no.	Applicable air dryer	Capacity	Type	Inlet voltage	Outlet voltage	Weight
IDF-TR1700-6	IDF22E-30 IDF37E-30 IDU22E-30 IDU37E-30	1.7 kVA	Three-phase Single-turn	380, 400, 415 VAC (50 Hz) 380 to 400, 400 to 415, 415 to 440 VAC (60 Hz)	200 V (50 Hz) 200, 220 V (60 Hz)	18 kg
IDF-TR1700-7				440, 460 VAC (50 Hz) 440 to 460, 460 to 500 VAC (60 Hz)		

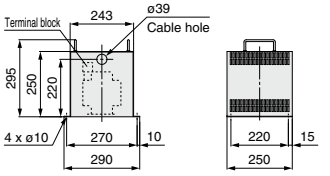
IDF-TR2000-9



Specifications

Part no.	Applicable air dryer	Capacity	Type	Inlet voltage	Outlet voltage	Weight
IDF-TR2000-9	IDF22E-20 IDF37E-20	2 kVA	Single-phase Single-turn	220 VAC (50 Hz) 220 to 240 VAC (60 Hz)	200 VAC (50 Hz) 200, 220 VAC (60 Hz)	5 kg

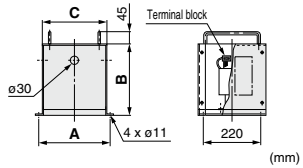
IDF-TR2000-10,11



Specifications

Part no.	Applicable air dryer	Capacity	Type	Inlet voltage	Outlet voltage	Weight
IDF-TR2000-10	IDF22E-20 IDF37E-20	2 kVA	Single-phase Single-turn	380, 400, 415 VAC (50 Hz) 380 to 400, 400 to 415, 415 to 440 VAC (60 Hz)	200 VAC (50 Hz) 200, 220 VAC (60 Hz)	20 kg
IDF-TR2000-11				440, 460 VAC (50 Hz) 440 to 460, 460 to 500 VAC (60 Hz)		

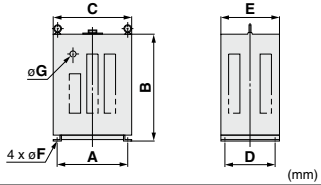
IDF-TR4000-5,6,7



Specifications/Dimensions

Part no.	Applicable air dryer	Capacity	Type	Inlet voltage	Outlet voltage	A	B	C	Weight
IDF-TR4000-5	IDF55E-30 IDF75E-30 IDU55E-30 IDU75E-30	4 kVA	Three-phase Single-turn	220 V (50 Hz) 220 to 240 V (60 Hz)	200 V (50 Hz) 200, 220 V (60 Hz)	275	259	240	14 kg
IDF-TR4000-6				380, 400, 415 V (50 Hz) 380 to 400, 400 to 415, 415 to 440 V (60 Hz)	200 V (50 Hz) 200, 220 V (60 Hz)	355	299	320	35 kg
IDF-TR4000-7				440, 460 V (50 Hz) 440 to 460, 460 to 500 V (60 Hz)	200 V (50 Hz) 200, 220 V (60 Hz)	355	299	320	42 kg

IDF-TR□−8

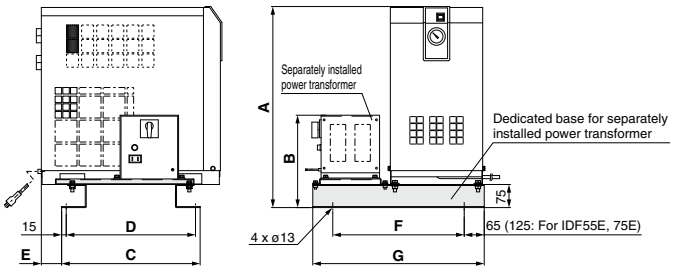


Specifications/Dimensions

Part no.	Applicable air dryer	Capacity	Type	Inlet voltage	Outlet voltage	A	B	C	D	E	F	G	Weight
IDF-TR7000-8	IDF100F	7 kVA	Three-phase Double-turn	220, 240, 380, 400, 415, 440 V (50/60 Hz)	200V (50/60 Hz)	360	540	400	260	300	11	30	94 kg
IDF-TR9000-8	IDF125F, 150F	9 kVA				400	650	450	300	350	13	40	109 kg
IDF-TR14000-8	IDF190D, 240D	14 kVA				400	650	450	300	350	13	40	152 kg
IDF-TR18000-8	IDF370D	18 kVA				400	650	450	300	350	13	40	179 kg

Dimensions

[Dedicated base for separately installed power transformer]
IDF4E to 75E
IDU3E to 15E1



IDF-TB□/Dimensions

(mm)

Part no.	Applicable air dryer	Applicable transformer	A	B	C	D	E	F	G	Unit weight (kg)	Reference weight (including air dryer and transformer) (kg)
IDF-TB403	IDF4E-10	IDF-TR500-1	573	171	345	315	45	385	515	6	29.5
		IDF-TR500-2		217							34
		IDF-TR500-3		284							43
		IDF-TR500-4									50
	IDF6E-10 IDU3E-10	IDF-TR500-1		171							30.5
		IDF-TR500-2		217							35
		IDF-TR500-3		284							44
		IDF-TR500-4									51
	IDF8E-10 IDU4E-10	IDF-TR500-1	643	171	370	340					34.5
		IDF-TR500-2		217							39
		IDF-TR500-3		284							48
		IDF-TR500-4									55
	IDF11E-10 IDU6E-10	IDF-TR1000-1		199							38
		IDF-TR1000-2		217							44
		IDF-TR1000-3		284							49
		IDF-TR1000-4									56
IDF-TB404	IDF15E1-10	IDF-TR1000-1	653	215	450	420	66	427	557	7	57
		IDF-TR1000-2		233							63
		IDF-TR1000-3		300							68
		IDF-TR1000-4									75
IDF-TB405	IDF22E-30	IDF-TR1700-5	773	300	630	600	70	675	805	12	75
		IDF-TR1700-6, 7		352							84
	IDF22E-20	IDF-TR2000-9		243							71
		IDF-TR2000-10, 11		343							86
IDF-TB406	IDF37E-30	IDF-TR1700-5		300	710	680				13	84
		IDF-TR1700-6, 7		352							93
	IDF37E-20	IDF-TR2000-9		243							80
		IDF-TR2000-10, 11		343							95
IDF-TB409	IDF55E-30	IDF-TR4000-5	943	397	730	750	60		925	15	129
		IDF-TR4000-6		437							150
		IDF-TR4000-7									157
	IDF75E-30	IDF-TR4000-5	1043	397							145
		IDF-TR4000-6		437							166
		IDF-TR4000-7									173

IDU-TB□/Dimensions

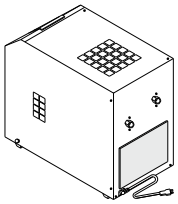
(mm)

Part no.	Applicable air dryer	Applicable transformer	A	B	C	D	E	F	G	Unit weight (kg)	Reference weight (including air dryer and transformer) (kg)
IDU-TB407	IDU8E-10	IDF-TR500-1	934	171	370	340	45	475	605	6	51.5
		IDF-TR500-2		217							56
		IDF-TR500-3		284							65
		IDF-TR500-4									72
	IDU11E-10	IDF-TR1000-1	984	199							57
		IDF-TR1000-2		217							63
		IDF-TR1000-3		284							68
		IDF-TR1000-4									75
IDU-TB408	IDU15E1-10	IDF-TR1000-1	1035	215	540	510	31	487	617	10	85
		IDF-TR1000-2		233							91
		IDF-TR1000-3		300							96
		IDF-TR1000-4									103

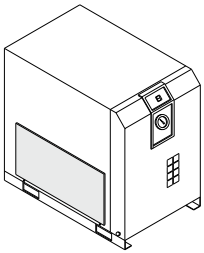
INDEX

Dimensions

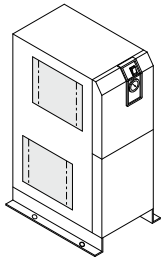
[Dust-protecting filter set]



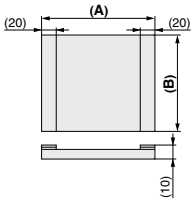
(IDF-FL200, 201)



(IDF-FL202 to 214)



(IDU-FL210 to 218)



Dimensions (mm)

Part no.	Applicable air dryer	A	B	Weight (g)
IDF-FL200	IDF1E, 2E	220	150	20
IDF-FL201	IDF3E		200	30
IDF-FL202	IDF4E	310	195	45
IDF-FL203	IDF6E, IDU3E	375		55
IDF-FL204	IDF8E, IDU4E	340	265	70
IDF-FL205	IDF11E, IDU6E	375		75
IDF-FL206	IDF15E1	440	370	120
IDF-FL207	IDF22E	420	315	100
IDF-FL208	IDF37E	550	365	140
IDF-FL213	IDF55E	720	400	175
IDF-FL214	IDF75E	610	560	190

∗ A filter set for the IDF-FL200 to 214 consists of 1 filter.

Dimensions (mm)

Part no.	Applicable air dryer	A	B	Weight (g)
IDU-FL210	IDU8E	375	265	75
		375	265	75
IDU-FL211	IDU11E	375	265	75
		360	320	90
IDU-FL212	IDU15E1	440	370	120
		440	375	120
IDU-FL215	IDU22E	420	315	100
		555	415	170
IDU-FL216	IDU37E	550	365	140
		580	540	230
IDU-FL217	IDU55E	720	400	175
		735	515	265
IDU-FL218	IDU75E	610	560	190
		735	515	265

∗ A filter set for the IDU-FL210 to 212, 215 to 218 consists of 2 filters.

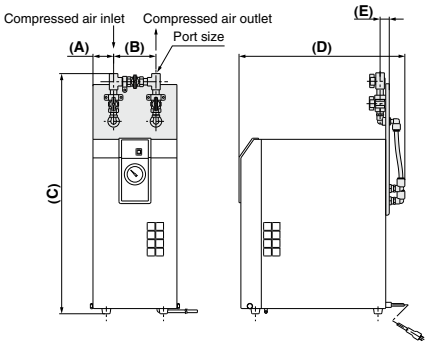
Dimensions (mm)

Part no.	Applicable air dryer	A	B
IDF-FL190D	IDF190D	250	480
		750	480
IDF-FL240D	IDF240D	440	670
		600	670

∗ A filter set for the IDF-FL190D to 240D consists of 4 filters.

Dimensions

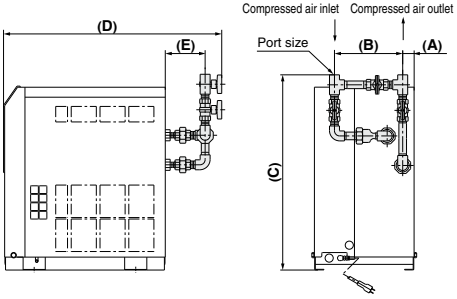
[Bypass piping set]
IDF1E to 3E



Dimensions (mm)

Part no.	Applicable air dryer	Port size Rc	A	B	C	D	E	Weight (kg)
IDF-BP300	IDF1E	3/8	56	114	549	440	21	1.5
IDF-BP301	IDF2E				628	443		1.6
IDF-BP302	IDF3E				642	445		

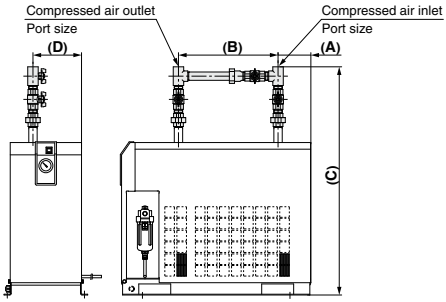
IDF4E to 15E1
IDU3E to 6E



Dimensions (mm)

	Part no.	Applicable air dryer	Port size Rc	A	B	C	D	E	Weight (kg)
IDF	**IDF-BP303**	IDF4E	1/2	31	175	531	595	110	2.3
	IDF-BP304	IDF6E	3/4		187	555	617	129	3.3
		IDF8E				627	647		
		IDF11E							
	IDF-BP316	IDF15E1	1	41	210	710	774	136	5.3
IDU	**IDU-BP305**	IDU3E	3/8	31	202	506	572	100	1.6
	IDU-BP306	IDU4E	1/2		175	603	625	110	2.3
	IDU-BP307	IDU6E	3/4		187	627	647	129	3.3

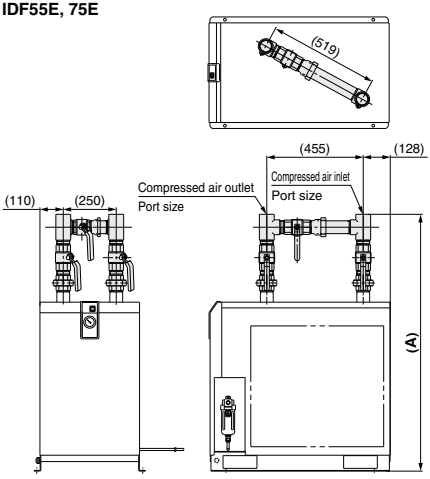
IDF22E, 37E
IDU22E to 75E



Dimensions (mm)

	Part no.	Applicable air dryer	Port size Rc	A	B	C	D	Weight (kg)
IDF	**IDF-BP317**	IDF22E	1	134	405	928	198	4.4
	IDF-BP318	IDF37E	1 1/2			980		7.7
IDU	**IDU-BP336**	IDU22E	1	93	445	1465	46	4.5
	IDU-BP337	IDU37E	1 1/2	64	550	1635	70	8.0
	IDU-BP338	IDU55E	2	53	530	1783	110	12.3
		IDU75E				1918		

IDF55E, 75E



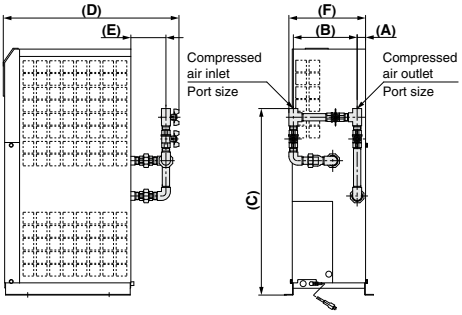
Dimensions (mm)

Part no.	Applicable air dryer	Port size Rc	A	Weight (kg)
IDF-BP325	IDF55E	2	1191	12.3
	IDF75E		1291	

INDEX

Dimensions

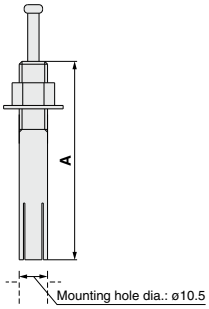
[Bypass piping set]
IDU8E to 15E1



Dimensions (mm)

Part no.	Applicable air dryer	Port size Rc	A	B	C	D	E	Weight (kg)
IDU-BP320	IDU8E IDU11E	3/4	31	210	687	647	129	3.6
IDU-BP322	IDU15E1	1	79		745	791	136	5.3

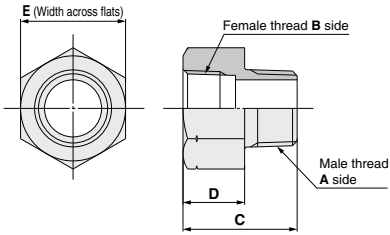
[Foundation bolt set]



Dimensions (mm)

Part no.	Applicable air dryer	Nominal thread size	Material	Number of 1 set	A
IDF-AB500	IDF4E to 75E IDU3E to 15E1	M10	Stainless steel	4	50
IDF-AB501	IDU22E to 75E IDF100 to 150F				70

[Piping adapter]

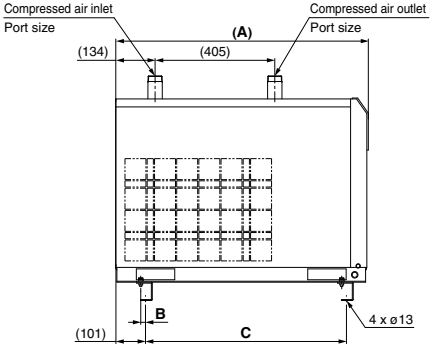


Dimensions (mm)

Part no.	Thread type and port size		Applicable air dryer	C	D	E	Material	Number of 1 set
	Male thread **A** side	Female thread **B** side						
IDF-AP601	R1/2	NPT1/2	IDF4E IDU4E	38	23	26	Brass	2
IDF-AP603	R3/4	NPT3/4	IDF6E to 11E IDU6E to 11E	43	23	32		
IDF-AP604	NPT1	Rc1	IDF22E, IDU22E	50	27	46		
IDF-AP605	R1	NPT1	IDF15E1, IDU15E1					
IDF-AP606	NPT1 1/2	Rc1 1/2	IDF37E, IDU37E	55	31	54		
IDF-AP607	NPT2	Rc2	IDF55E, 75E, IDU55E, 75E IDF100 to 150F	65	35	70		
IDF-AP609	R3/8	NPT3/8	IDF1E to 3E IDU3E	30	15	22		

Dimensions

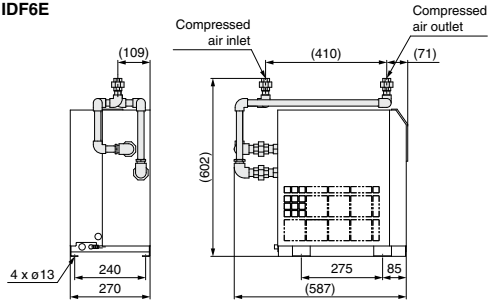
[Mounting base adapter]
IDF22E, 37E



Dimensions (mm)

Part no.	Applicable air dryer	Port size R	A	B	C	D	E	F	G	Single unit weight (kg)	Reference weight (including air dryer) (kg)
IDF-S0189	IDF22E	1	775	17	600	760	323	362	25	3	57
IDF-S0147	IDF37E	1 1/2	855	30	680	810	348	376	14	4	66

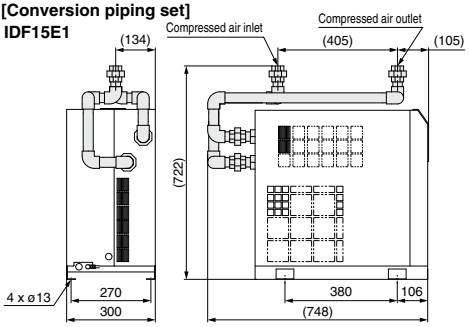
[Conversion piping set]
IDF6E



Port Size

Part no.	Applicable air dryer	Port size Rc	Weight (kg)
IDF-S0186	IDF6E	1/2	3.5

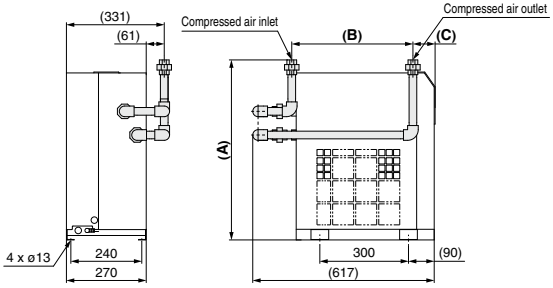
[Conversion piping set]
IDF15E1



Port Size

Part no.	Applicable air dryer	Port size Rc	Weight (kg)
IDF-S0188	IDF15E1	1	6.7

IDF8E, 11E

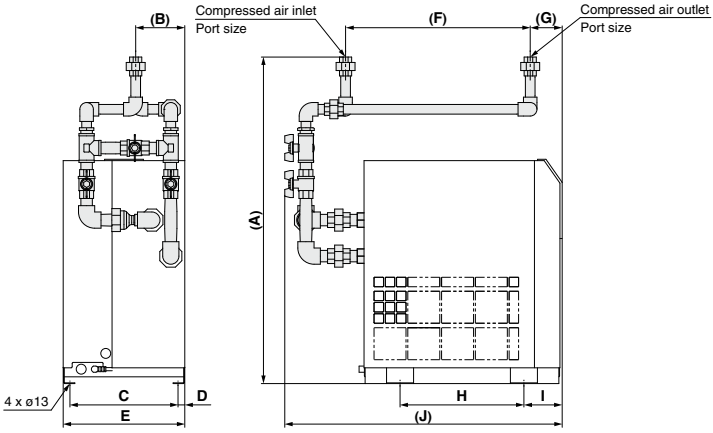


Dimensions (mm)

Part no.	Applicable air dryer	Port size Rc	A	B	C	Weight (kg)
IDF-S0203	IDF8E	3/4	609	410	75	3.8
IDF-S0187	IDF11E	3/4	669	405	89	4.0

Dimensions

[Conversion bypass piping set]
IDF6E to 15E1



Dimensions (mm)

Part no.	Applicable air dryer	Port size Rc	A	B	C	D	E	F	G	H	I	J	Weight (kg)
IDF-S0183	IDF6E	1/2	725	109	240	15	270	410	71	275	85	616	5.6
IDF-S0202	IDF8E	3/4	749	111	240	15	270	410	75	300	90	646	6.1
IDF-S0184	IDF11E	3/4	815	138	240	15	270	405	89	300	90	653	6.3
IDF-S0185	IDF15E1	1	897	135	270	15	300	405	105	380	106	775	10.2

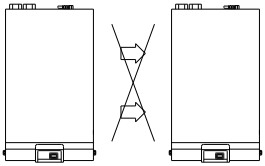
Series IDF/IDU
Specific Product Precautions 1

Be sure to read this before handling. Refer to page 1154 for Safety Instructions. For Air Preparation Equipment Precautions, refer to "Handling Precautions for SMC Products" and the Operation Manual on SMC website, http://www.smcworld.com

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.



Confirm that the exhaust air does not flow into the neighboring equipment.

- Avoid locations subjected to vibration.
- Avoid possible locations where the drain can freeze.
- Avoid locations with an ambient temperature 40°C or higher (IDF100F to 150F: 45°C or higher).
- Avoid installation on machines for transporting, such as vehicles, ships, etc.

Drain Tube

⚠ Caution

- A polyurethane tube is attached as a drain tube for the IDF1E to 150F, IDU3E to 75E. 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. (Otherwise, the operation of an auto drain will stop and drainage will discharge through the air outlet.) If it is unavoidable that the tube goes upward, make sure it only goes as far as the position of the auto drain.

Power Supply

⚠ Caution

<100 VAC>

- Insert the power supply plug to an exclusive 100 VAC power outlet.
- Install a circuit breaker Note 1) suitable to each model for the power supply.
- Maintain voltage fluctuation within ±10% of the rated voltage.
- Be sure to ground the power supply prior to use.
- Multiple-branch wiring is dangerous since it causes overheating.
- Do not extend the power cable by using a table tap etc. A voltage drop may cause the air dryer to stop operating.

Note 1) Select a circuit breaker with a sensitivity current 30 mA and a rated current 10 A.

<200 VAC>

- Connect the power supply to the terminal block.
- Install a circuit breaker Note 2) suitable to each model for the power supply.
- Maintain voltage fluctuation within ±10% of the rated voltage.

Note 2) Select a circuit breaker with a sensitivity current 30 mA. As regards rated current, refer to "Applicable circuit breaker capacity" on pages 14, 18, 21, 22, 26, 29 and 32.

When using with other voltages than specified for a standard product, use a separately installed power transformer. (page 40)

Series IDF/IDU
Specific Product Precautions 2

Be sure to read this before handling. Refer to page 1154 for Safety Instructions. For Air Preparation Equipment Precautions, refer to "Handling Precautions for SMC Products" and the Operation Manual on SMC website, http://www.smcworld.com

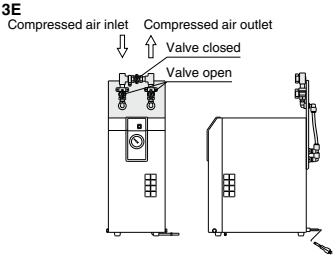
Air Piping

⚠ Caution

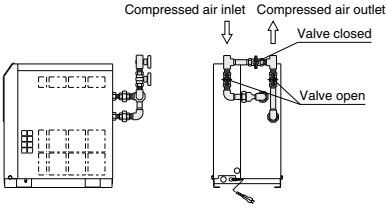
- Be careful to avoid an error in connecting the air piping at the compressed air inlet (IN) and outlet (OUT).
- Install bypass piping since it is needed for maintenance.

Use the bypass piping set on pages 46 and 47.

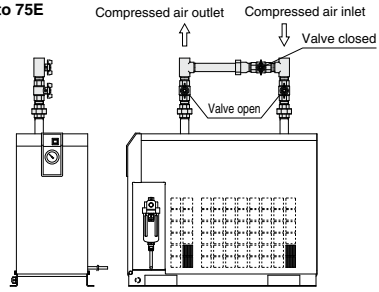
IDF1E to 3E



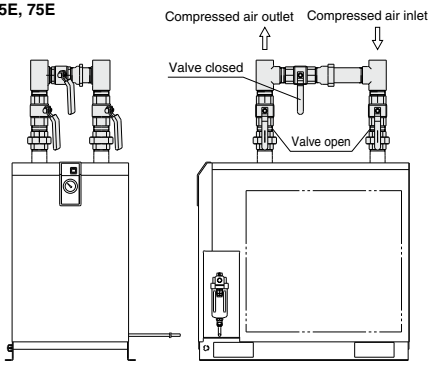
IDF4E to 15E1
IDU3E to 15E1



IDF22E, 37E
IDU22E to 75E



IDF55E, 75E



- When tightening the inlet/outlet air piping, firmly hold the hexagonal parts of the port on the air dryer side or piping with a wrench or adjustable angle wrench.
- Variations in operating conditions may cause condensation to form on the surface of the outlet piping. Apply thermal insulation around the piping to prevent condensation from forming.
- Confirm 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, the protection circuit will activate, the lamp will turn off and 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. (40°C or higher (IDF100F to 150F: 45°C or higher))
- The fluctuation of the power supply is beyond the rated voltage ±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.

Specific Product Precautions 3

Be sure to read this before handling. Refer to page 1154 for Safety Instructions. For Air Preparation Equipment Precautions, refer to "Handling Precautions for SMC Products" and the Operation Manual on SMC website, http://www.smcworld.com

Transportation and Installation

⚠ Warning

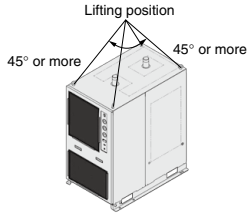
Be sure to follow the below instructions for transporting the product.

- 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 or rope and lifting hook. The lifting angle should be 45° or more.

Note) The lifting hooks are installed on the IDF100F to 150F.

- 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.



Compressor Air Delivery

⚠ Caution

Use an air compressor with an air delivery of 100 L/min or more for a model other than the IDF1E.

Since the auto drain of the IDF2E to 75E, IDU3E to 75E is designed in such a way that the valve remains open unless the air pressure rises to 0.1 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

⚠ Caution

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

Time Delay for Restarting

⚠ Caution

Allow at least three minutes before restarting the air dryer. Otherwise, the protection circuit will activate, the lamp will turn off and the air dryer will not start up.

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.

Facility Water Supply (Water-cooled type)

⚠ Warning

1. Be certain to supply the facility water.

1. Prohibition of water-cut operation, very little flow rate of water operation.
   Do not operate under the condition that there is no facility water or where there is very little flow rate of water is flowing. In this kind of operation, facility water temperature may become extremely higher. It is dangerous enough the material of hose may soften and burst when the piping supplying the facility water is connected with hose.
2. Actions to be taken when an emergency stop occurs due to high temperature.
   In case a stop occurs due to extremely high temperature resulting from a decrease in the facility water flow rate, do not immediately flow facility water. It is dangerous enough the material of hose may soften and burst when the piping supplying the facility water is connected with hose.
   First, naturally let it cool down by removing the cause of the flow rate reduction. Secondly, confirm that there is no leakage again.

⚠ Caution

1. Facility water quality

1. Use the facility water within the specified range as shown below. When using with other fluids than facility water, please consult with SMC.
2. When it is likely that foreign matter may enter the fluid, install a filter (20 mesh or equivalent).

<Facility Water Quality Standard>

The Japan Refrigeration and Air Conditioning Industry Association JRA GL-02-1994 "Cooling water system – Circulation type – Circulating water"

	Item	Unit	Standard value
Standard item	pH (at 25°C)	—	6.5 to 8.2
	Electrical conductivity (25°C)	[μS/cm]	100* to 800*
	Chloride ion (Cl^-)	[mg/L]	200 or less
	Sulfuric acid ion (SO_4^{2-})	[mg/L]	200 or less
	Acid consumption amount (at pH4.8)	[mg/L]	100 or less
	Total hardness	[mg/L]	200 or less
	Calcium hardness ($CaCO_3$)	[mg/L]	150 or less
	Ionic state silica (SiO_2)	[mg/L]	50 or less
Reference item	Iron (Fe)	[mg/L]	1.0 or less
	Copper (Cu)	[mg/L]	0.3 or less
	Sulfide ion (S_2^-)	[mg/L]	Should not be detected.
	Ammonium ion (NH_4^+)	[mg/L]	1.0 or less
	Residual chlorine (Cl)	[mg/L]	0.3 or less
	Free carbon (CO_2)	[mg/L]	4.0 or less

* In the case of [MΩ-cm], it will be 0.00125 to 0.01.

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