

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	
IDF22E		22	
IDF37E		37	R1 1/2
IDF55E	40°C	55	R2
IDF75E	0.7 MPa	75	



- **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

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

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	



*IDF4E to 75E/IDU3E to 75E

Series **IDF/IDU**



CAT.ES30-81

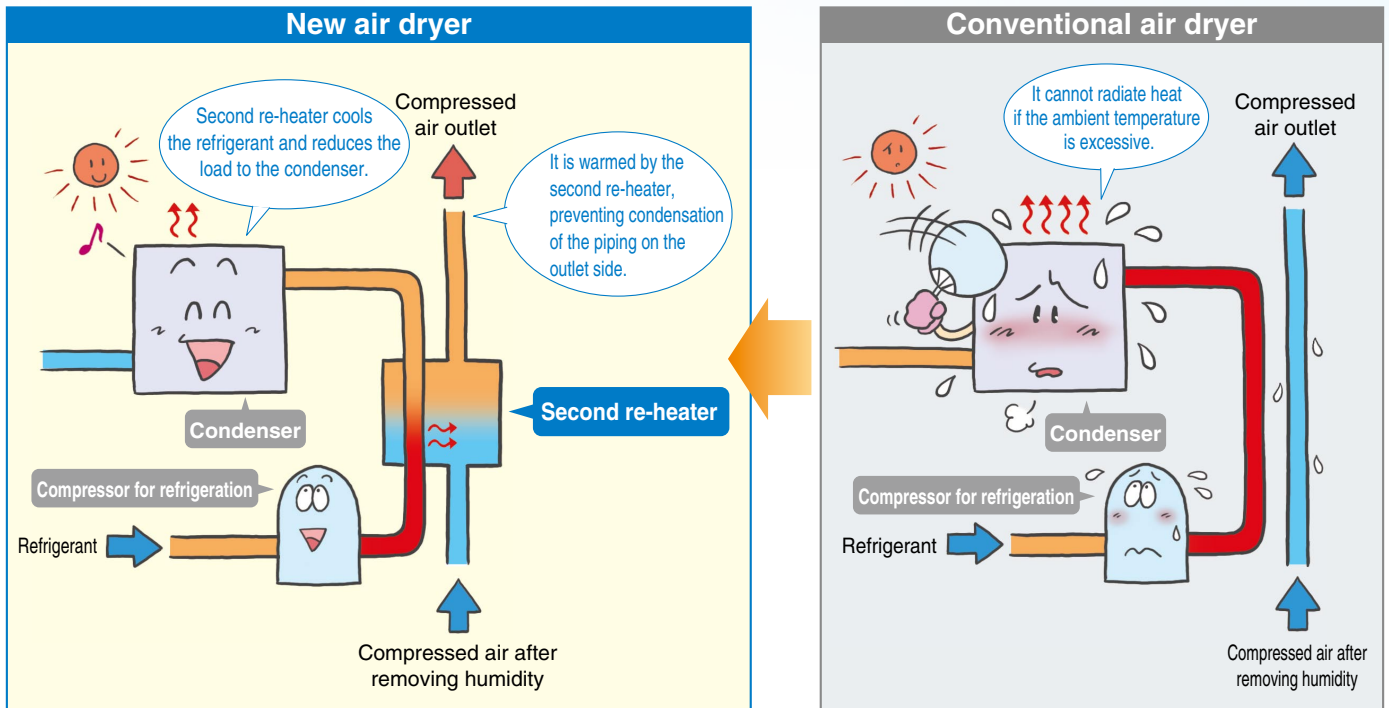
Refrigerated Air Dryer

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.

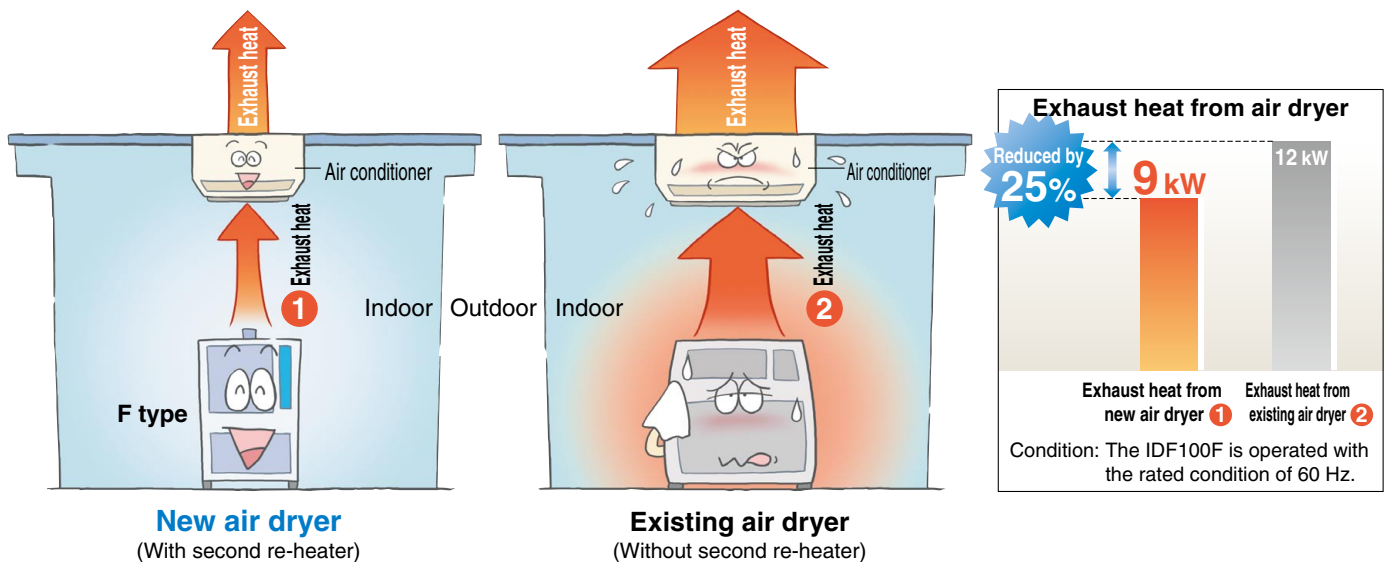


Energy saving design: Reduces exhaust heat from air dryer by up to 25%.

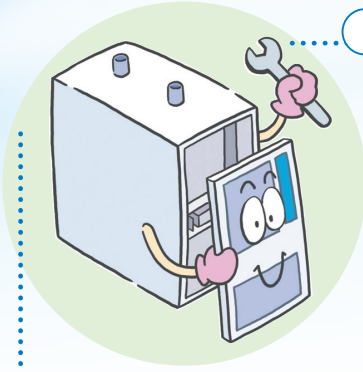
Suppresses ambient temperature increase (air-cooled type)/ Reduces amount of facility water (water-cooled type)!

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)

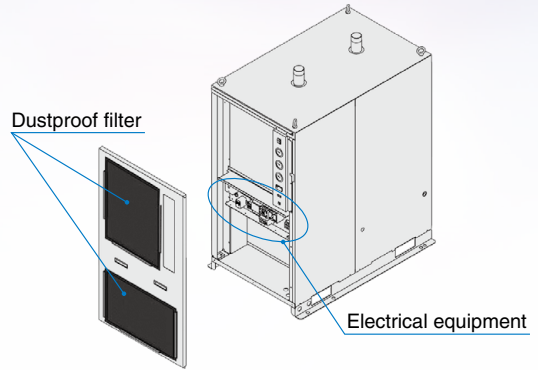
Reduced exhaust heat achieves downsizing and energy saving operation of the air conditioner!



Maintenance



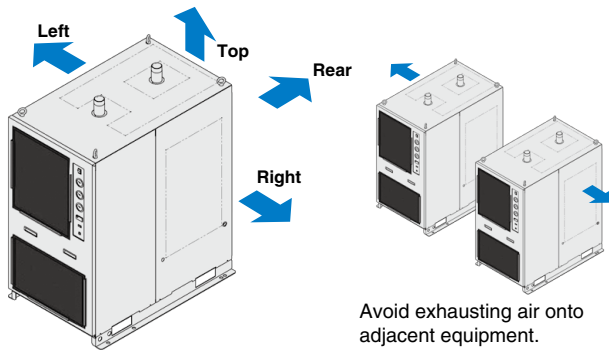
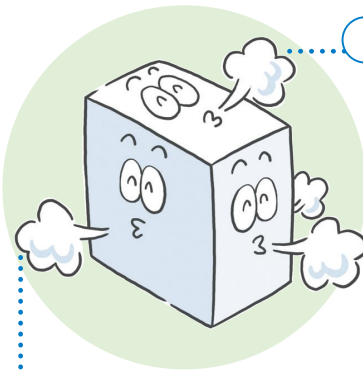
- Dustproof filter provided as a standard accessory
- Only access from front side is required to check electrical equipment and dustproof filter.



Selection of layout

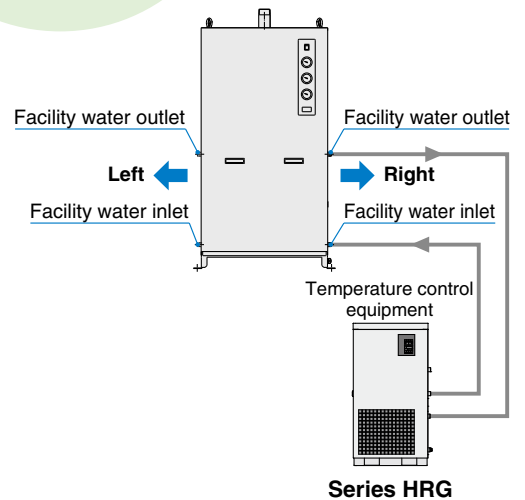
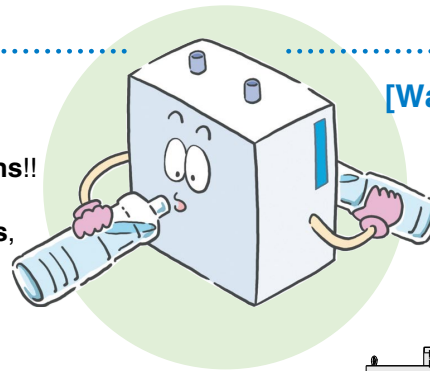
[Air-cooled type]

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**!!

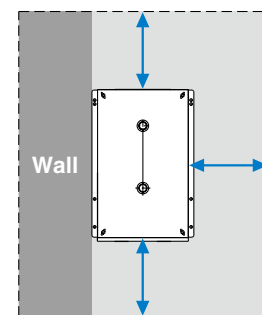
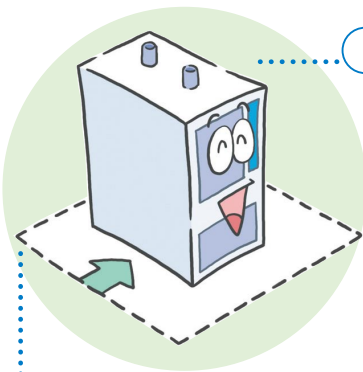


Space saving

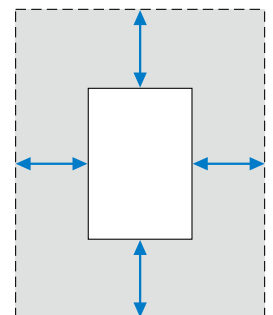
Either the left or right can be installed flat against a wall! ^{Note)}
Installation space can be reduced by up to **1.5 m²**!!

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.

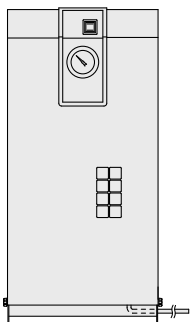
Leave at least 600 mm on the sides indicated with ←→.



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



Installation space of the conventional type



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 (m ³ /min [ANR])		Applicable air compressor (kW)	Refrigerant	Port size	Page
		50 Hz	60 Hz				
IDF1E	35°C 0.7 MPa	0.1	0.12	0.75	R134a (HFC)	Rc3/8	P.5 to 8
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			
IDF8E		1.22	1.32	7.5		Rc3/4	
IDF11E		1.65	1.82	11			
IDF15E1		2.8	3.1	15		Rc1	
IDF22E		3.9	4.3	22			
IDF37E		5.7	6.1	37		R1	
IDF55E	8.4	9.8	55				
IDF75E	11.0	12.4	75	R2			
IDF100F	40°C 0.7 MPa	16.0	18.8		100	R407C (HFC)	65(2 1/2B) Flange
IDF125F		20.1	23.7	125			
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	P.12 to 19	

High inlet air temperature type

Series IDU□E

Rated inlet air temperature: 55°C



Model	Rated inlet condition	Air flow capacity (m ³ /min [ANR])		Applicable air compressor (kW)	Refrigerant	Port size	Page	
		50 Hz	60 Hz					
IDU3E	55°C 0.7 MPa	0.32	0.37	2.2	R134a (HFC)	Rc3/8	P.20 to 22	
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		Rc1		
IDU15E1		2.6	2.8	15				
IDU22E		3.9	4.3	22		R1		P.23 to 25
IDU37E		5.7	6.1	37				
IDU55E		8.4	9.8	55		R407C (HFC)		R1 1/2
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.26, 27	
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.28
	IDF190D, 240D	IDF□D-□(-□)-M		
	IDU3E to 75E	IDU□E-□-M		
With a circuit breaker	IDF4E to 75E	IDF□E-□-R	P.29	
	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.30	
	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.31
	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.32 to 41
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.

<p>1 Select the IDF or IDU.</p>	<p>Select the IDF or IDU from inlet air temperature used.</p> <ul style="list-style-type: none"> • 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 																																																																	
<p>2 Read the correction factors.</p> <p>Obtain the correction factors (A) to (D) suitable for your operating condition from the table on the next page.</p>	<table border="1"> <thead> <tr> <th colspan="4">IDF Selection Example</th> </tr> <tr> <th>Condition</th> <th></th> <th>Data symbol</th> <th>Correction factor ^(Note)</th> </tr> </thead> <tbody> <tr> <td>Inlet air temperature</td> <td>40°C</td> <td>(A)</td> <td>0.82</td> </tr> <tr> <td>Ambient temperature</td> <td>35°C</td> <td>(B)</td> <td>0.96</td> </tr> <tr> <td>Outlet air pressure dew point</td> <td>10°C</td> <td>(C)</td> <td>1</td> </tr> <tr> <td>Inlet air pressure</td> <td>0.5 MPa</td> <td>(D)</td> <td>0.88</td> </tr> <tr> <td>Air flow rate</td> <td>0.3 m³/min</td> <td>—</td> <td>—</td> </tr> <tr> <td>Power supply frequency</td> <td>50 Hz</td> <td>—</td> <td>—</td> </tr> </tbody> </table> <p>Note) Values obtained from "Correction Factors" on page 4.</p>	IDF Selection Example				Condition		Data symbol	Correction factor ^(Note)	Inlet air temperature	40°C	(A)	0.82	Ambient temperature	35°C	(B)	0.96	Outlet air pressure dew point	10°C	(C)	1	Inlet air pressure	0.5 MPa	(D)	0.88	Air flow rate	0.3 m ³ /min	—	—	Power supply frequency	50 Hz	—	—	<table border="1"> <thead> <tr> <th colspan="4">IDU Selection Example</th> </tr> <tr> <th>Condition</th> <th></th> <th>Data symbol</th> <th>Correction factor ^(Note)</th> </tr> </thead> <tbody> <tr> <td>Inlet air temperature</td> <td>60°C</td> <td>(A)</td> <td>0.95</td> </tr> <tr> <td>Ambient temperature</td> <td>35°C</td> <td>(B)</td> <td>0.93</td> </tr> <tr> <td>Outlet air pressure dew point</td> <td>10°C</td> <td>(C)</td> <td>1</td> </tr> <tr> <td>Inlet air pressure</td> <td>0.5 MPa</td> <td>(D)</td> <td>0.88</td> </tr> <tr> <td>Air flow rate</td> <td>0.4 m³/min</td> <td>—</td> <td>—</td> </tr> <tr> <td>Power supply frequency</td> <td>60 Hz</td> <td>—</td> <td>—</td> </tr> </tbody> </table> <p>Note) Values obtained from "Correction Factors" on page 4.</p>	IDU Selection Example				Condition		Data symbol	Correction factor ^(Note)	Inlet air temperature	60°C	(A)	0.95	Ambient temperature	35°C	(B)	0.93	Outlet air pressure dew point	10°C	(C)	1	Inlet air pressure	0.5 MPa	(D)	0.88	Air flow rate	0.4 m ³ /min	—	—	Power supply frequency	60 Hz	—	—
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<p>3 Check the coefficient.</p>	<p>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.</p>																																																																	
<p>4 Calculate the corrected air flow capacity.</p> <p>Obtain the corrected air flow capacity from the following formula. Corrected air flow capacity = Air flow rate ÷ (Correction factor (A) x (B) x (C) x (D))</p>	<p>Corrected air flow capacity = 0.3 m³/min ÷ (0.82 x 0.96 x 1 x 0.88) = 0.43 m³/min</p>	<p>Corrected air flow capacity = 0.4 m³/min ÷ (0.95 x 0.93 x 1 x 0.88) = 0.51 m³/min</p>																																																																
<p>5 Select the model.</p> <p>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 (E) on page 4.)</p>	<p>According to the corrected air flow capacity of 0.43 m³/min, the IDF4E will be selected which air flow capacity is 0.52 m³/min at 50 Hz.</p>																																																																	
<p>6 Options</p>	<p>Refer to pages 26 to 31.</p>																																																																	
<p>7 Finalize the model number.</p>	<p>Refer to pages 5, 9, 12, 17.</p>																																																																	
<p>8 Select the optional accessories.</p>	<p>Refer to pages 32 to 41.</p>																																																																	
		<p>According to the corrected air flow capacity of 0.51 m³/min, the IDU4E will be selected which air flow capacity is 0.57 m³/min at 60 Hz.</p>																																																																

Correction Factors

Data (A): 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 (B): 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 (C): 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 (D): 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 (E): Air Flow Capacity

Series IDF

Model	IDF1E	IDF2E	IDF3E	IDF4E	IDF6E	IDF8E	IDF11E	IDF15E1	IDF22E	IDF37E	IDF55E	IDF75E
Air flow capacity 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
m ³ /min (ANR) 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 50 Hz	16.0	20.1	25.0	32.0	43.0	54.0
m ³ /min (ANR) 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 26 for details.

Series IDU

Model	IDU3E	IDU4E	IDU6E	IDU8E	IDU11E	IDU15E1	IDU22E	IDU37E	IDU55E	IDU75E
Air flow capacity 50 Hz	0.32	0.52	0.75	1.1	1.5	2.6	3.9	5.7	8.4	11.0
m ³ /min (ANR) 60 Hz	0.37	0.57	0.82	1.2	1.7	2.8	4.3	6.1	9.8	12.5

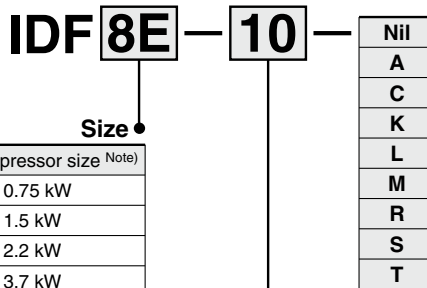
Refrigerant R134a (HFC) Standard Inlet Air Temperature

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



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 ●

Symbol <small>Note 1)</small>	Nil	A	C	K	L	M	R	S	T
Description	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) <small>Note 2)</small>	With a terminal block for power supply, operating and error signals <small>Note 3)</small>
Size									
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.

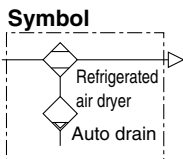
Voltage symbol 10 (100 VAC) is the power cable with plug as standard.

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 26 to 30 for further information on options.

Standard Specifications



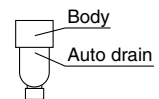
Specifications		Model									
		IDF1E	IDF2E	IDF3E	IDF4E	IDF6E	IDF8E	IDF11E	IDF15E1		
Operating range <small>Note 3</small>	Fluid	Compressed air									
	Inlet air temperature (°C)	5 to 50									
	Inlet air pressure (MPa)	0.15 to 1.0									
	Ambient temperature (humidity) (°C)	2 to 40 (Relative humidity 85% or less)									
Rated conditions <small>Note 4</small>	Air flow capacity (m ³ /min) <small>Note 1</small>	Standard condition (ANR) <small>Note 1</small>	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 <small>Note 2</small>	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) <small>Note 5</small>	Single-phase: 100 VAC (50 Hz), 100/110 VAC (60 Hz) <small>Note 5</small> Single-phase: 200 VAC (50 Hz), 200/220 VAC (60 Hz)										
Electric specifications <small>Note 6</small>	Power consumption (W) <small>Note 6</small>	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 (A) <small>Note 6</small>	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 (A) <small>Note 7</small> (sensitivity current 30 mA)	10 (100 VAC), 5 (200 VAC)										
Condenser	Air-cooled										
Refrigerant	R134a (HFC)										
Auto drain	Float type <small>(Normally closed)</small>	Float type <small>(Normally open)</small>									
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 3, 4) for models beyond the rated specifications.
 Note 5) When selecting a power supply voltage, refer to "How to Order" on page 5.
 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

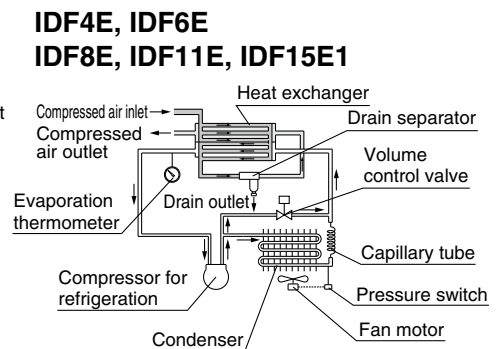
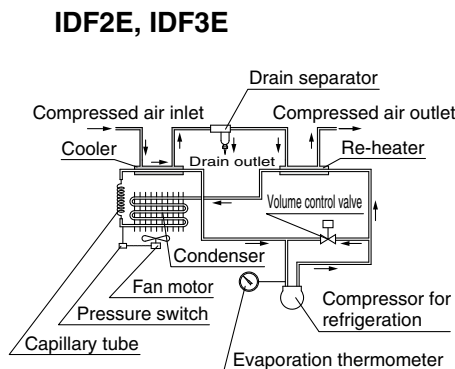
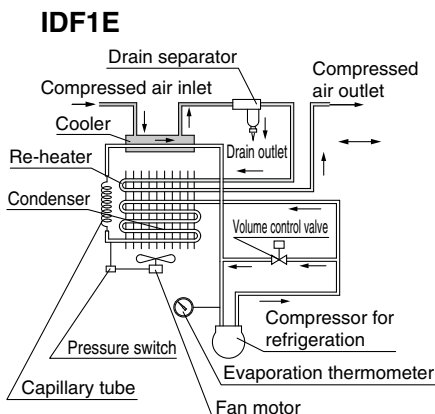
Model	IDF1E	IDF2E	IDF3E	IDF4E	IDF6E	IDF8E	IDF11E	IDF15E1
Auto drain replacement parts no. <small>Note 8</small>	AD37	AD38			AD48			

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)

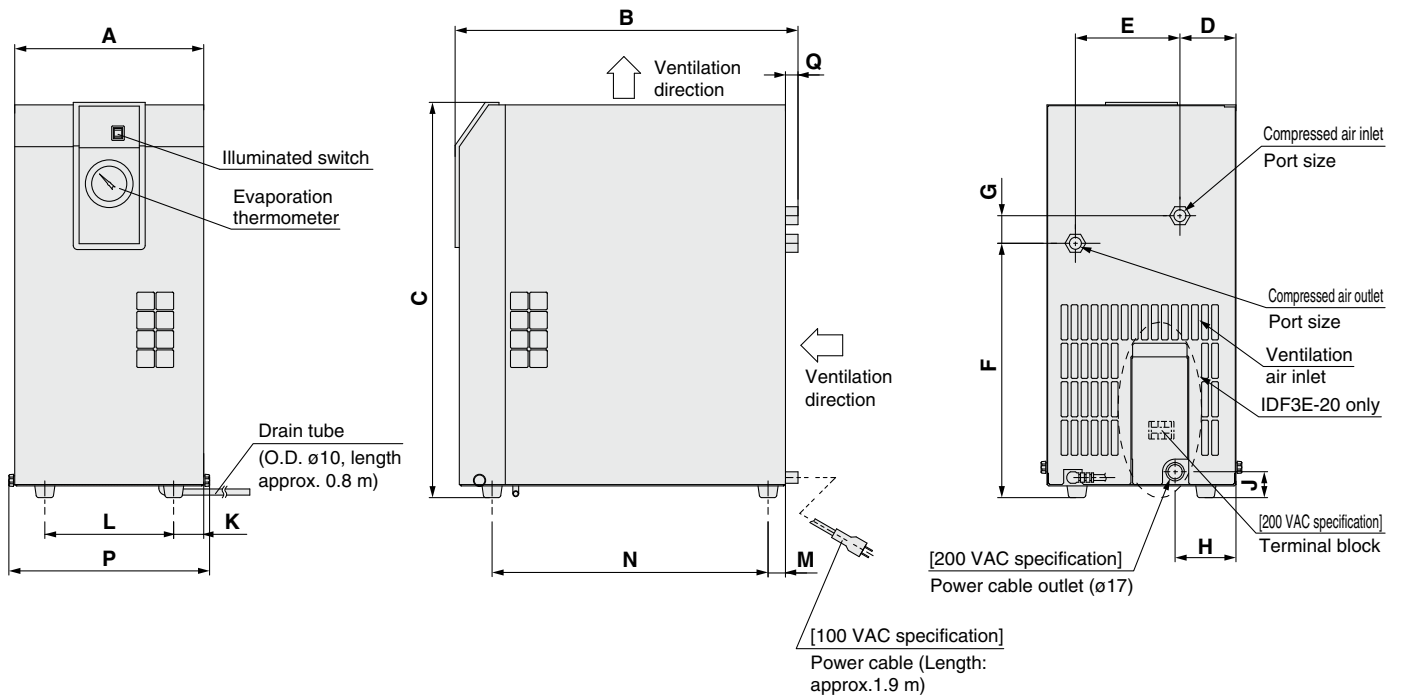
Humid, hot air coming into the air dryer will be cooled down by a cooler (heat exchanger). Water condensed at this time will be removed from the air by a drain separator (auto drain) and drained out automatically. Air separated from the water will be heated by a re-heater (heat exchanger) to obtain the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



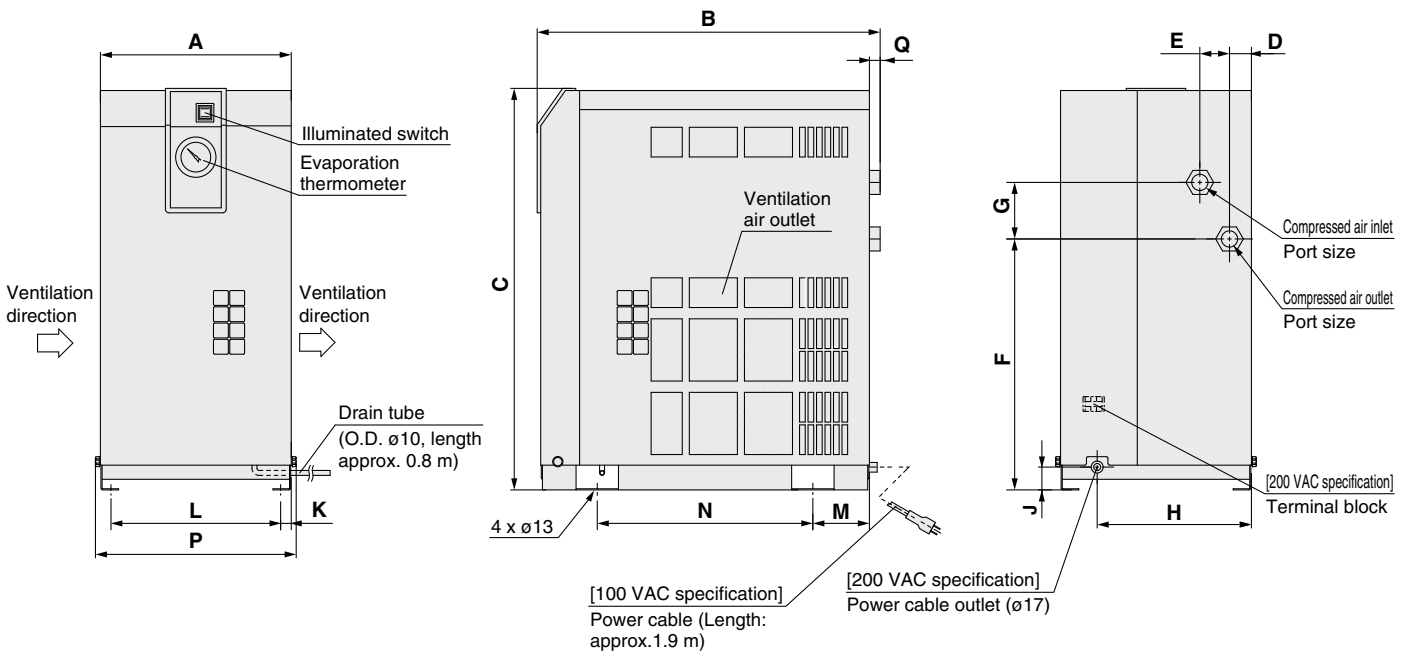
Series IDF□E

Dimensions

IDF1E to 3E



IDF4E to 11E

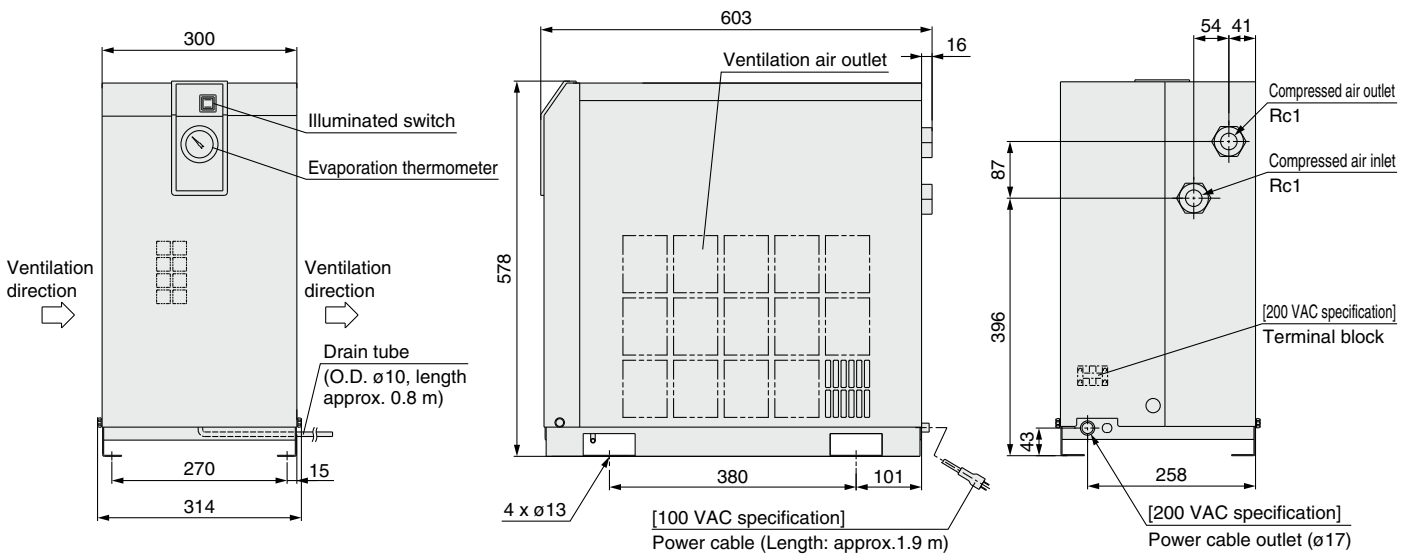


Dimensions

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	—	—	38	150	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	455		284											15		
IDF8E	Rc3/4		485	568										300		15
IDF11E			300											15		

Dimensions

IDF15E1



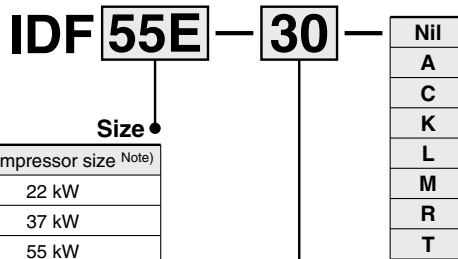
Refrigerant R407C (HFC) Standard Inlet Air Temperature

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



Symbol	Air compressor size <small>Note)</small>
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.

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)	●	●	●	●

Symbol <small>Note 1)</small>	Nil	A	C	K	L	M	R	T
Description	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	With a terminal block for power supply, operating and error signals <small>Note 3)</small>
Size								
22E	●	●	●	●	●	●	●	●
37E	●	●	●	●	●	●	●	●
55E	●	●	●	— <small>Note 2)</small>	●	●	●	●
75E	●	●	●	— <small>Note 2)</small>	●	●	●	●

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:**

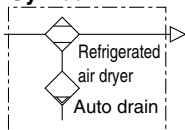
When switching from the previous air dryer and remote operation are required, select the Made to Order (IDF□E-□-X256) product.

Note 4) Refer to pages 26 to 30 for further information on options.

Standard Specifications



Symbol



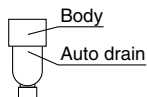
Specifications		Model	Standard inlet air temperature				
			IDF22E	IDF37E	IDF55E	IDF75E	
Operating range (Note 3)	Fluid		Compressed air				
	Inlet air temperature (°C)		5 to 50				
	Inlet air pressure (MPa)		0.15 to 1.0				
	Ambient temperature (humidity) (°C)		2 to 40 (Relative humidity 85% or less)				
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)		Three-phase: 200 VAC (50 Hz)		Three-phase: 200/220 VAC (60 Hz)	
Electric specifications	Power consumption (W) (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) (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 (sensitivity current 30 mA) (Note 7) (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 3, 4) for models beyond the rated specifications.
 Note 5) When selecting a power supply voltage, refer to "How to Order" on page 9.
 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			

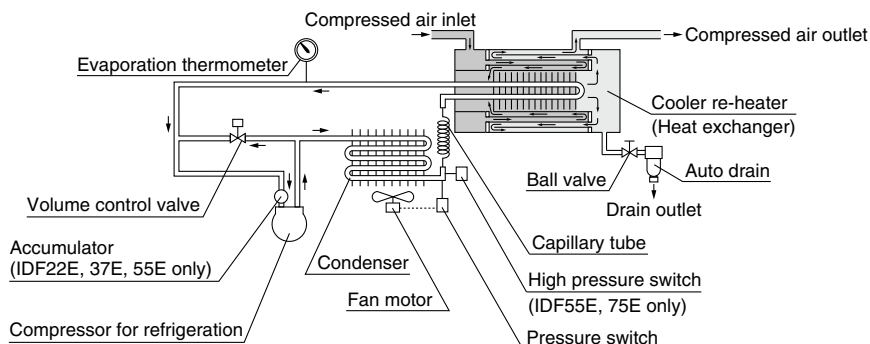
Note 8) The part number for the auto drain components only excluding the body part. Body part replacement is not possible.



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.

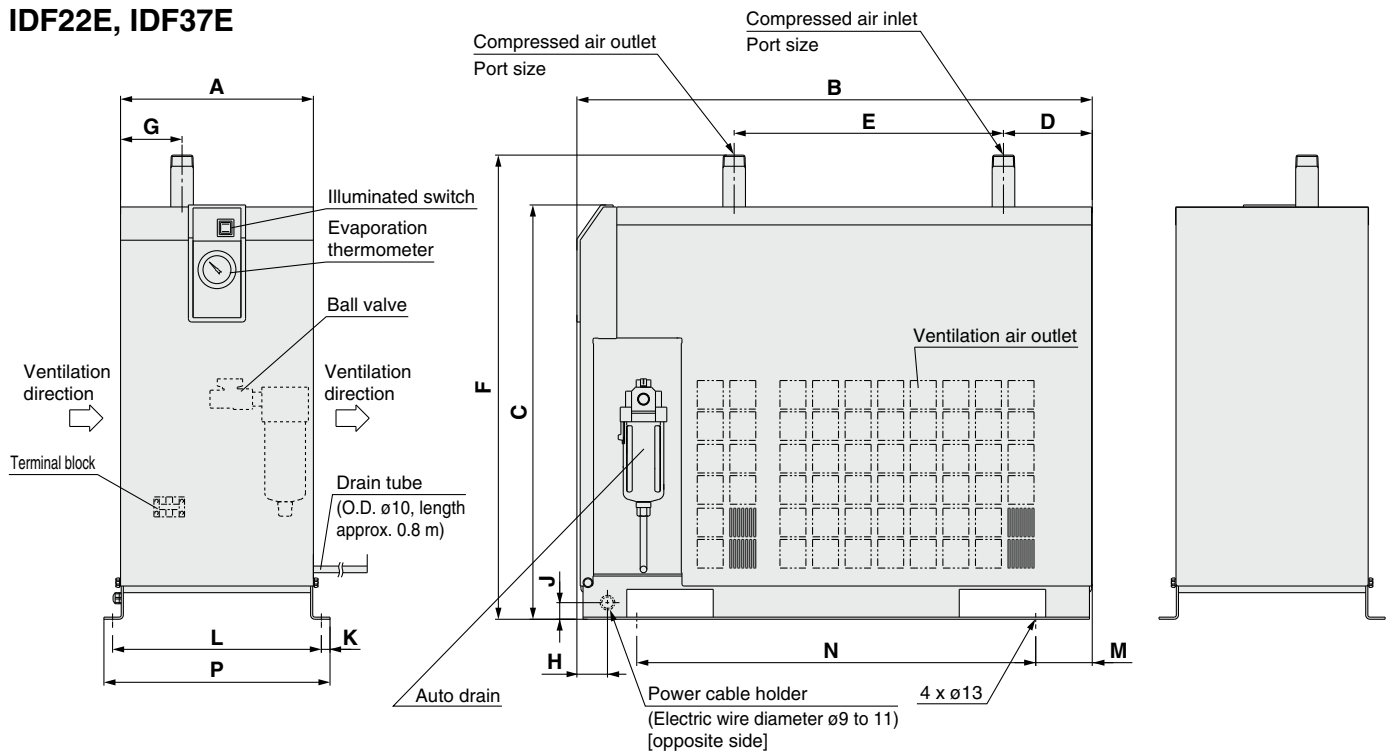
IDF22E, IDF37E, IDF55E, IDF75E



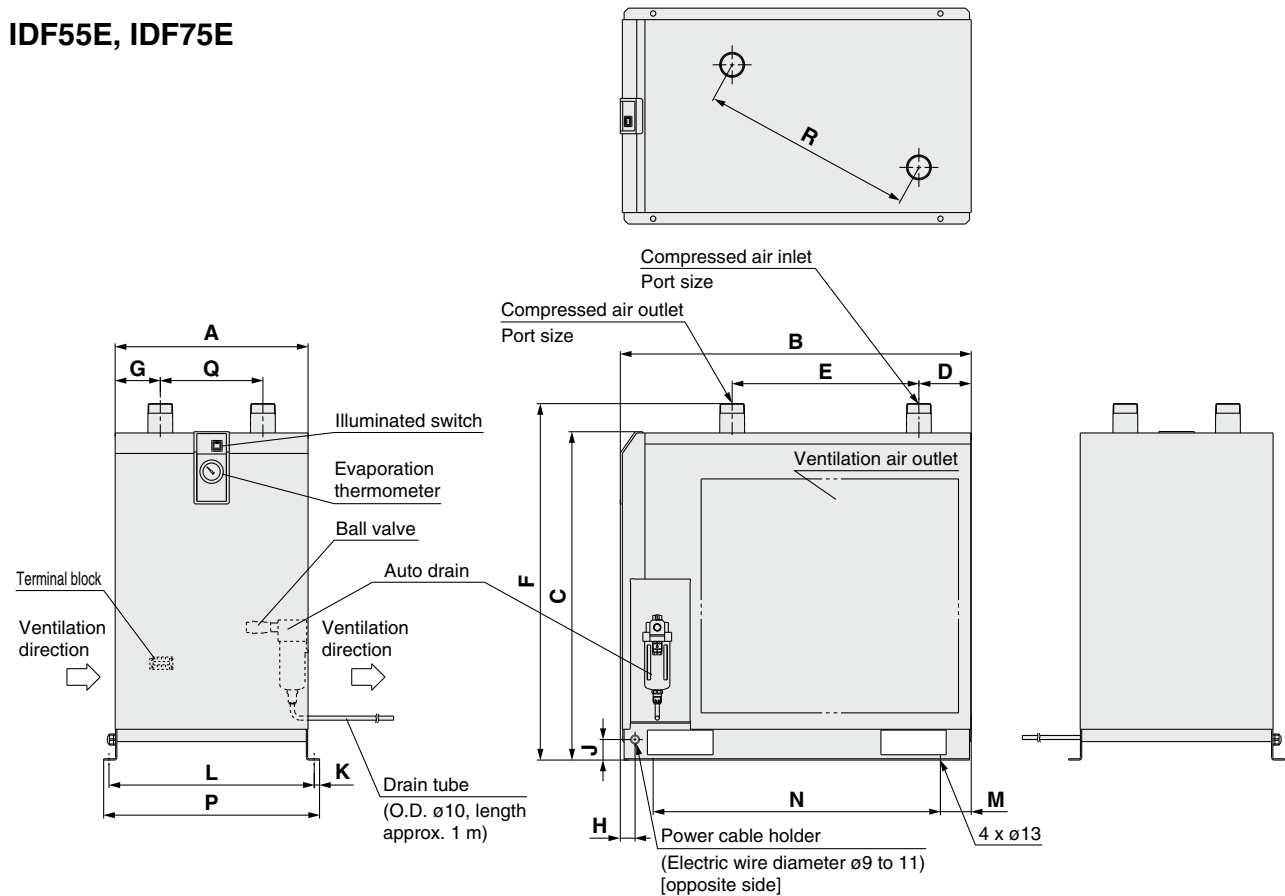
Series IDF□E

Dimensions

IDF22E, IDF37E



IDF55E, IDF75E



Dimensions

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 -

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.

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

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.

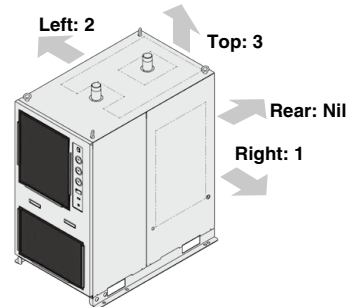
Note 2) A terminal block for remote operation, stop, operating, and error signals is provided as a standard accessory.

Nil	Nil
B	1
C	2
K	3
P	
R	
V	

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 -

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.

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

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.

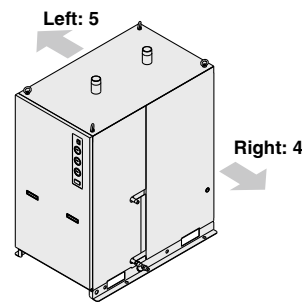
Note 2) A terminal block for remote operation, stop, operating, and error signals is provided as a standard accessory.

Nil	W
C	4
D	5
K	
P	
R	
V	

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



Series IDF100F/125F/150F

Standard Specifications: Air-cooled Type



Specifications	Model	IDF100F-30	IDF125F-30	IDF150F-30	
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)			
Air flow capacity (m³/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)			
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 3, 4) 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.

Exhaust mechanism replacement kit

Replacement Parts

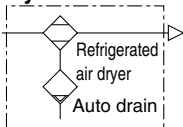
Air dryer model	IDF100F	IDF125F	IDF150F
Heavy-duty auto drain replacement part no. ^{Note 7)}	ADH-E400		
Dustproof filter set for condenser	IDF-FL219	IDF-FL220	

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.

Housing (Use existing equipment.)

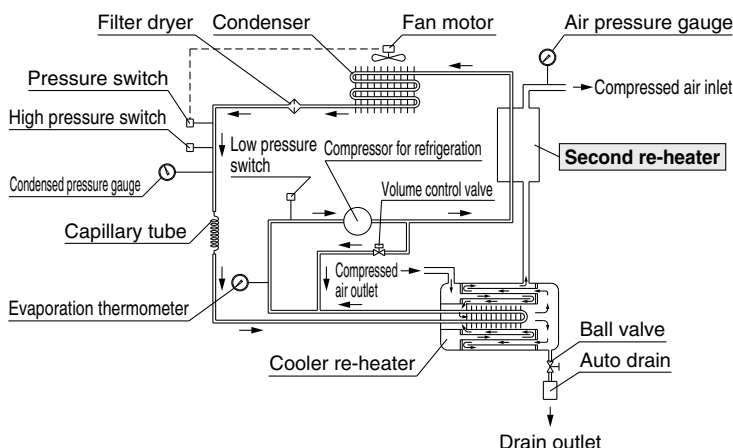
Symbol



Construction (Air/Refrigerant Circuit)

Hot and humid air entering the air dryer is cooled down by the cooler re-heater (heat exchanger). The moisture which is condensed and separated is automatically exhausted by the auto drain. The air which has had its moisture removed is heated in two stages by the re-heater (heat exchanger) in the cooler re-heater and by the 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:

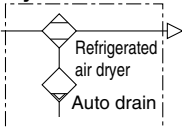
1. The outlet air temperature increases, preventing condensation of the piping on the outlet side.
2. The amount of heat exhausted from the condenser is reduced.
3. Energy saving operation of the air dryer is achieved by reducing the amount of heat exhausted from the condenser.

Refrigerated Air Dryer Series **IDF100F/125F/150F**

Standard Specifications: Water-cooled Type



Symbol



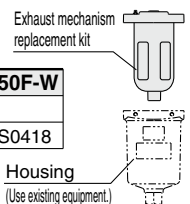
Specifications		Model	IDF100F-30-W	IDF125F-30-W	IDF150F-30-W
Fluid			Compressed air		
Operating range (Note 3)	Inlet air temperature (°C)		5 to 60		
	Inlet air pressure (MPa)		0.15 to 1.0		
	Ambient temperature (humidity) (°C)		2 to 45 (Relative humidity 85% or less)		
	Air flow capacity (m ³ /min)	Standard condition (ANR) (Note 1)	50 Hz	16	20.1
		60 Hz	18.8	23.7	30
	Compressor intake condition (Note 2)	50 Hz	17	21	27
		60 Hz	20	25	32
Rated conditions	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 3, 4) 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 ($\Delta t = 5^\circ\text{C}$)
 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.

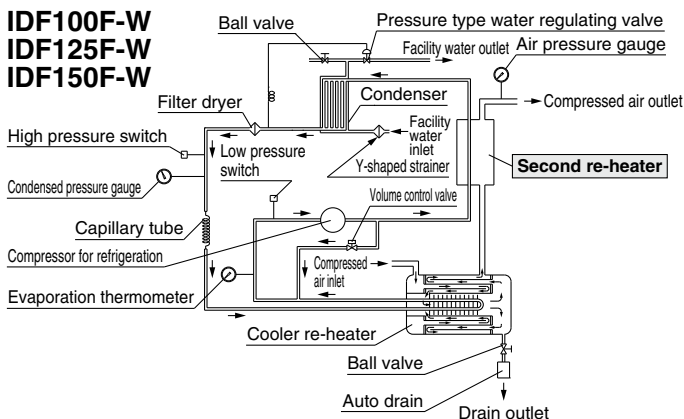
Replacement Parts

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.



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.

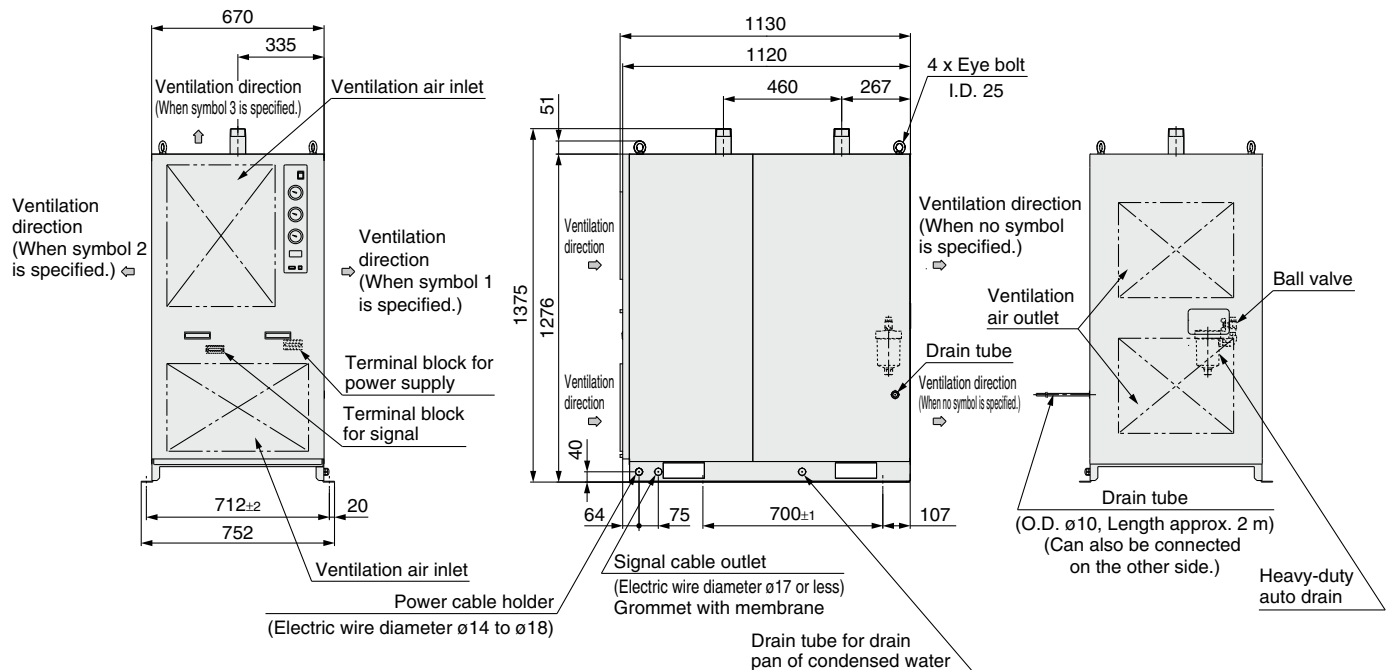
Second re-heater

- 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.

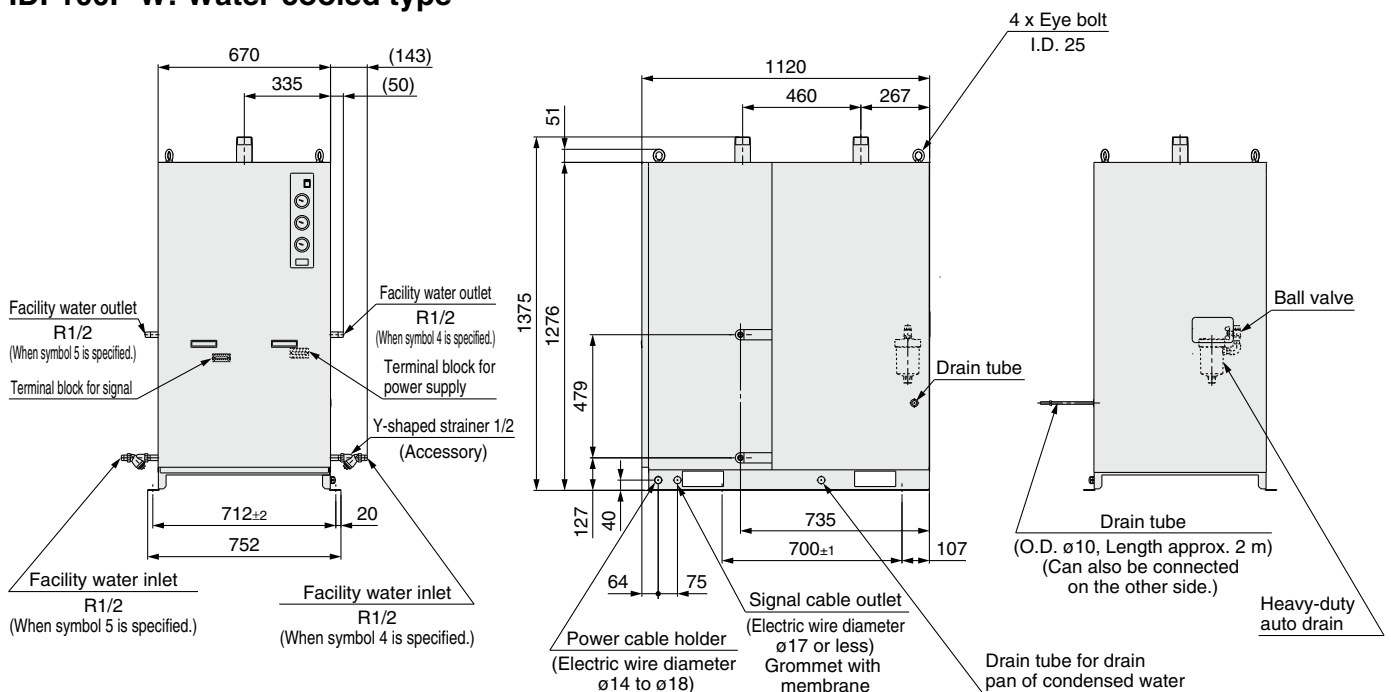
Series IDF100F/125F/150F

Dimensions

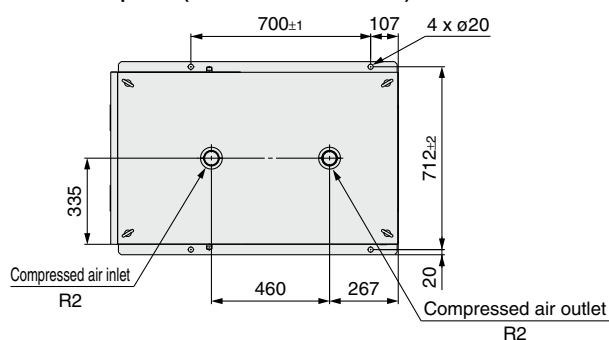
IDF100F: Air-cooled type



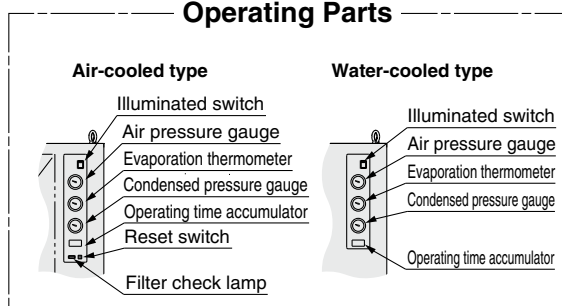
IDF100F-W: Water-cooled type



Top view (Air-cooled/Water-cooled)



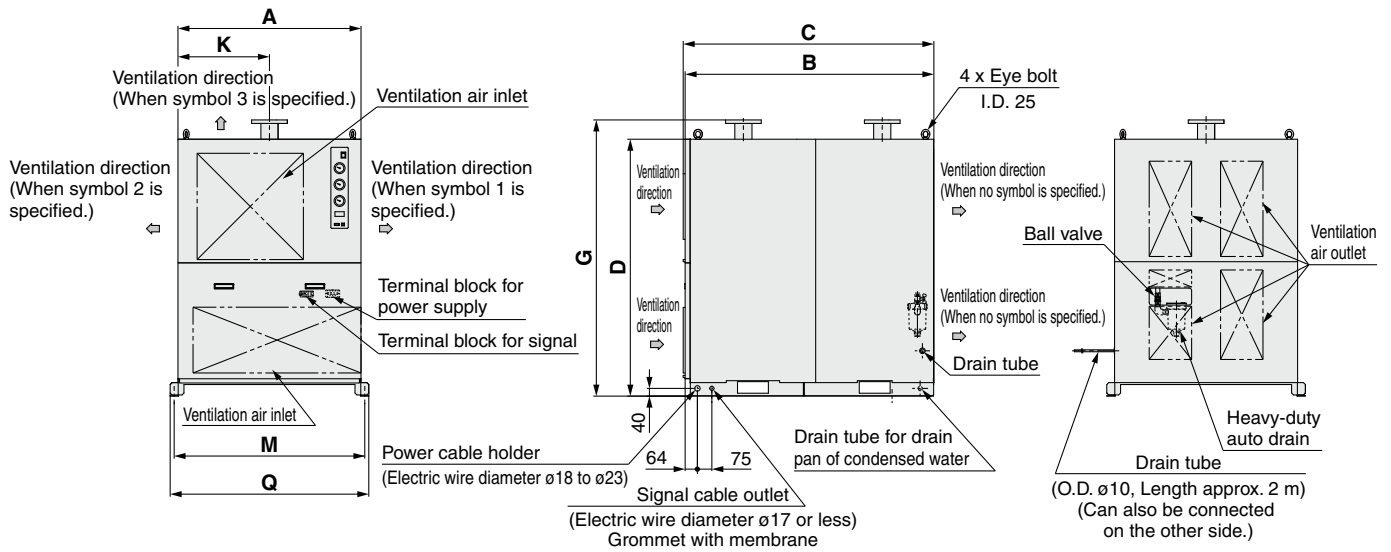
Operating Parts



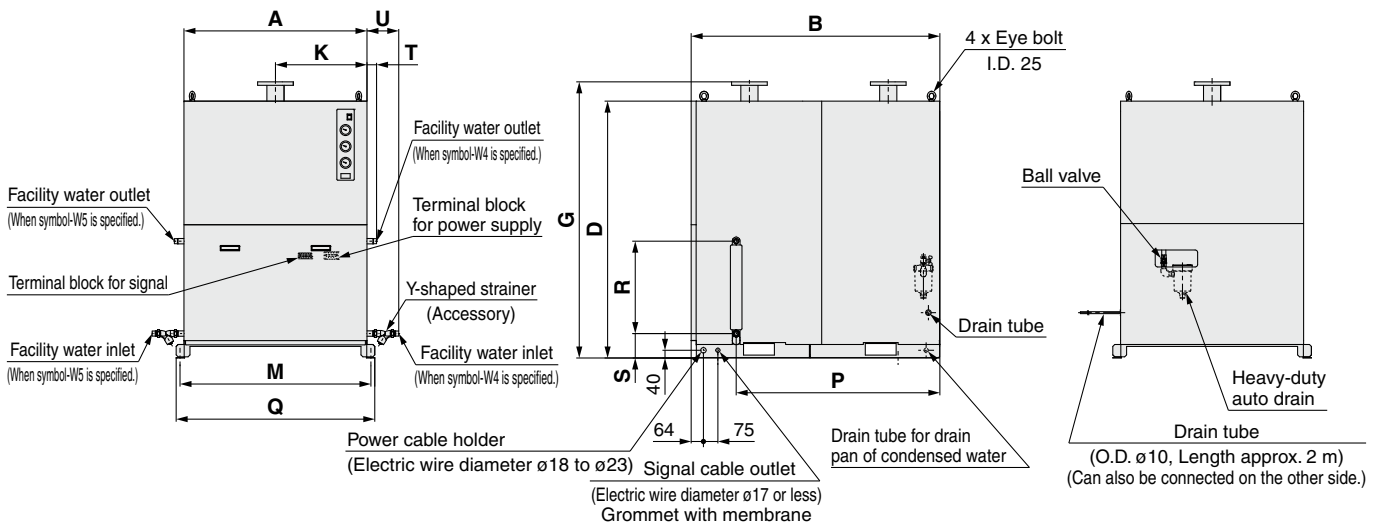
Refrigerated Air Dryer Series IDF100F/125F/150F

Dimensions

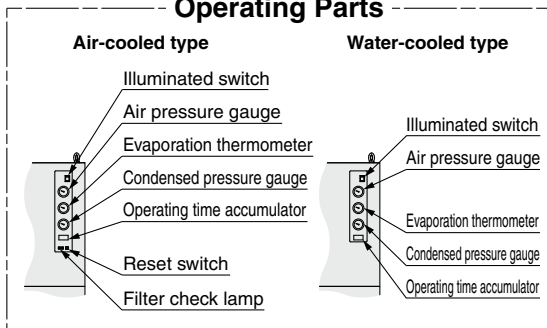
IDF125F/150F: Air-cooled type



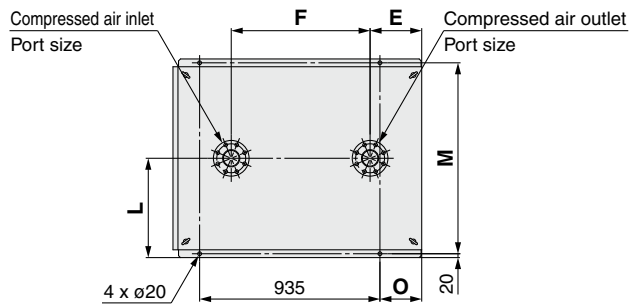
IDF125F-W/150F-W: Water-cooled type



Operating Parts



Top view (Air-cooled/Water-cooled)



Dimensions

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	700	1120	1130	1276	267	655	1375	350	376	712	78	—	752	—	—	—	—	—
IDF125F-W	65A 10K	—	1120	—									885		479	127	36	129	R1/2
IDF150F	JIS flange	950	1290	1300	1332	268	720	1432	475	515	990	217	—	1030	—	—	—	—	—
IDF150F-W	80A 10K	—	1290	—									1056		479	127	50	165	R3/4

Refrigerant R407C (HFC) Standard Inlet Air Temperature

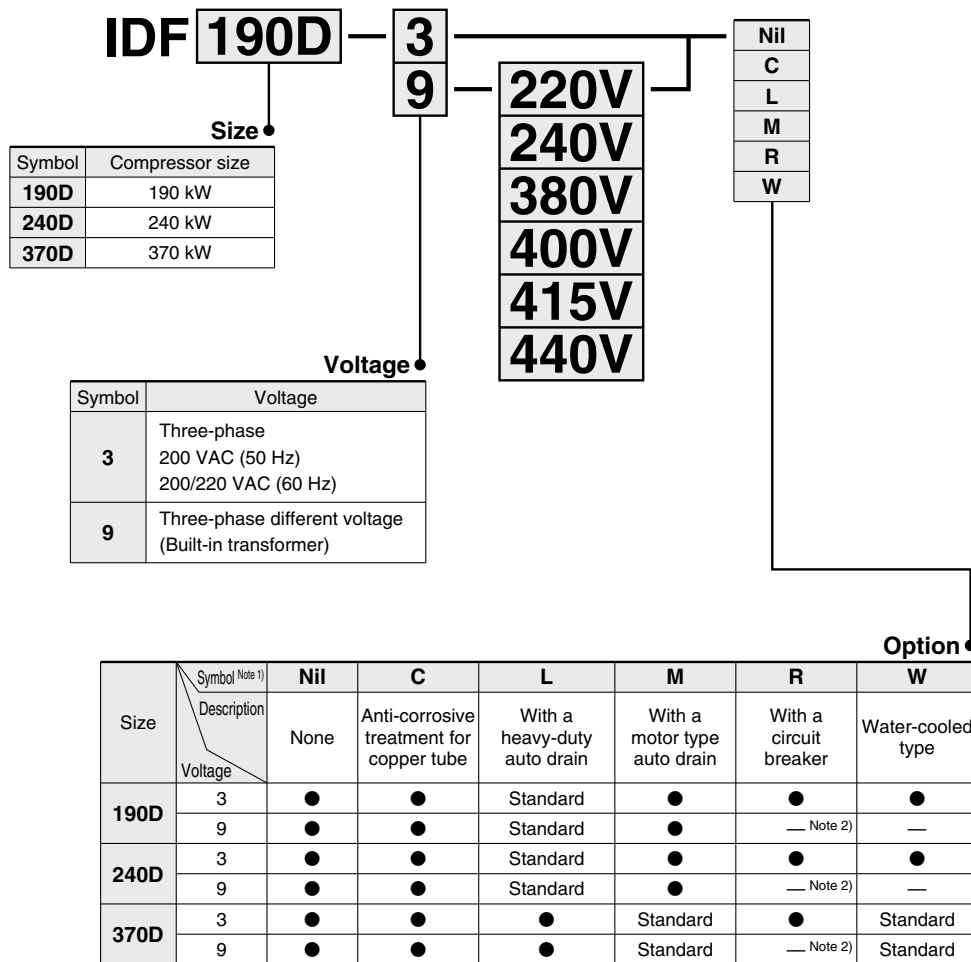
Series **IDF** □ **D**

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



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 26 to 31 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) (ANR) (Note 1) Compressor intake condition (Note 2)	Standard condition	50 Hz	32	43	54
		60 Hz	38	50	65	
		50 Hz	34	46	57	
		60 Hz	40	53	69	
	Inlet air pressure (MPa)	0.7				
	Inlet air temperature (°C)	40				
	Ambient temperature (°C)	32				
Rated conditions (Note 4)	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 (kW) 50/60 Hz (Note 6)	Three-phase 200 V	4.9	6.3	11.6	
		5.9	7.6	11.6		
	Operating current (A) 50/60 Hz (Note 6)	Three-phase 200 V	19.5	26.1	36.5	
		20.1	26.4	36.5		
Applicable circuit breaker capacity (sensitivity current 30 mA) (Note 7) (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 3, 4) for models beyond the rated specifications.

Note 5) When selecting a power supply voltage, refer to "How to Order" on page 17.

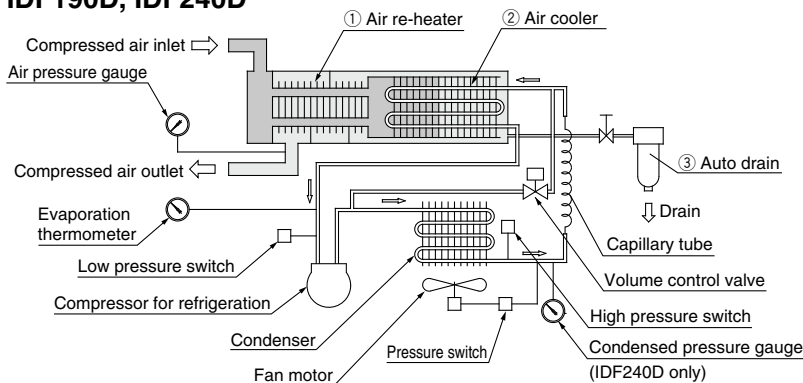
Note 6) These values are reference values under rated conditions, and are not guaranteed. Do not use these values for the thermal set values etc.

Note 7) Product other than the option R is not equipped with a circuit breaker. Purchase an appropriate circuit breaker separately.

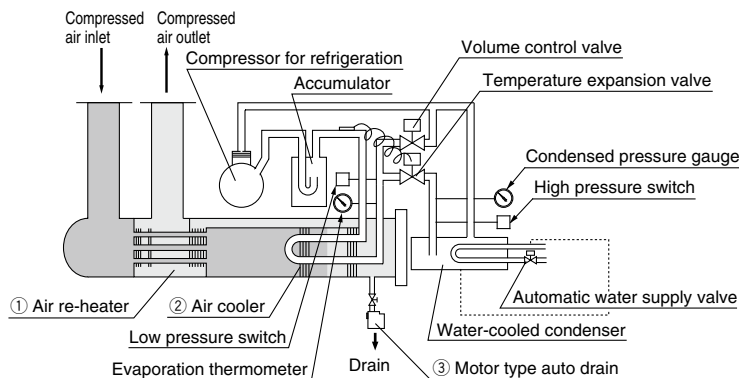
Note 8) JIS 10K FF is used as a flange.

Construction (Air/Refrigerant Circuit)

IDF190D, IDF240D



IDF370D



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

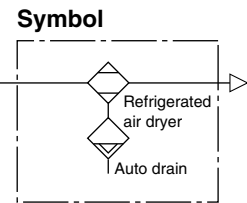
Note 1) Value with rated load when cooling water inlet temperature is 32°C.

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



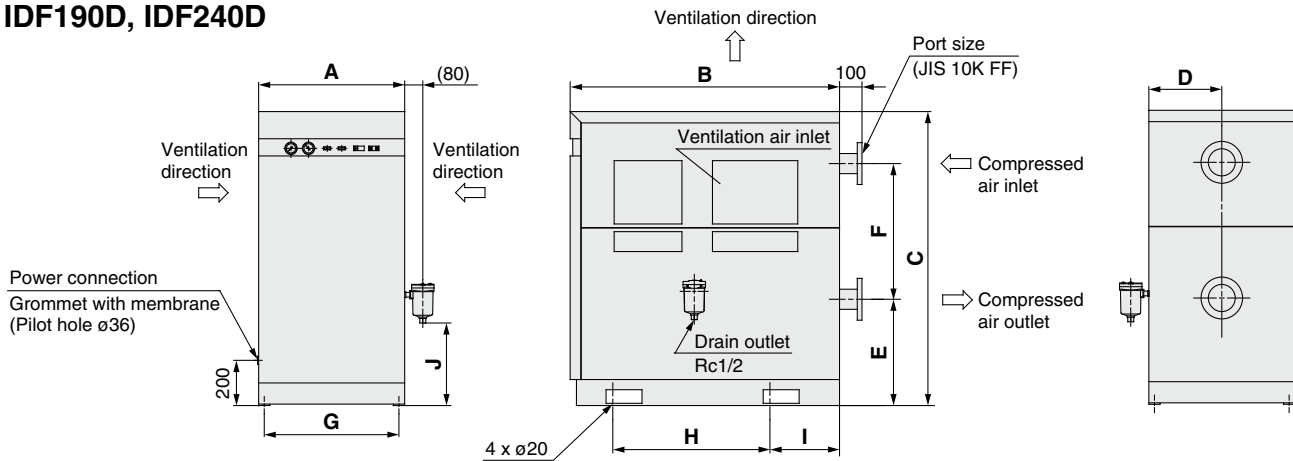
High temperature humid air from the air compressor passes through the air re-heater ① and is pre-cooled by dehumidified cool air. Then, it is cooled to the specified temperature by the air cooler ② using the evaporation heat of refrigerant.

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.

Series IDF□D

Dimensions

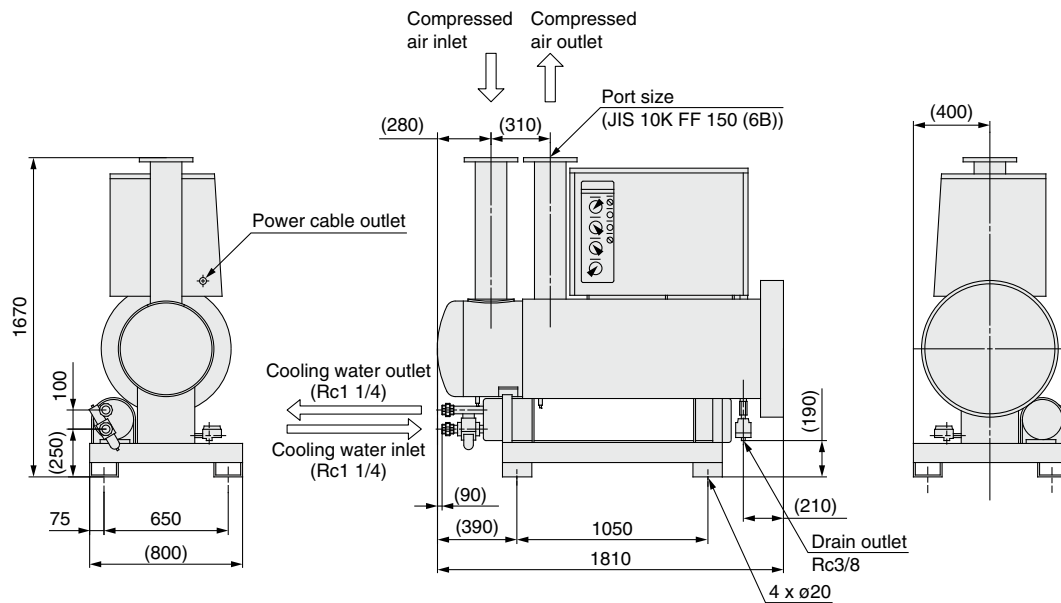
IDF190D, IDF240D



(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



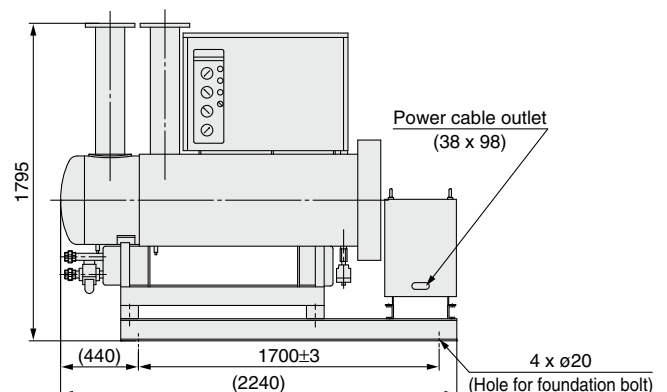
Power Transformer Integrated Type

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 <small>Note)</small>
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 <small>Note 1)</small>	Nil	C	K	L	M	R	S	T	V
Description	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) <small>Note 2)</small>	With a terminal block for power supply, operating and error signals <small>Note 3)</small>	With a timer controlled solenoid valve type auto drain (Voltage symbol 23 only) (applicable to moderate pressure)
Size									
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:**

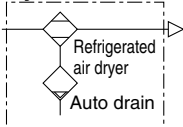
When switching from the previous air dryer and remote operation are required, select the Made to Order (IDU□E-□-X256) product.

Note 4) Refer to pages 26 to 30 for further information on options.

Standard Specifications



Symbol



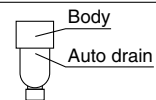
Specifications		Model		High inlet air temperature					
		IDU3E	IDU4E	IDU6E	IDU8E	IDU11E	IDU15E1		
Operating range ^{Note 3)}	Fluid	Compressed air							
	Inlet air temperature (°C)	5 to 80							
	Inlet air pressure (MPa)	0.15 to 1.0							
	Ambient temperature (humidity) (°C)	2 to 40 (Relative humidity 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							
Electric specifications	Power consumption (W) ^{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) ^{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 3, 4) for models beyond the rated specifications.
 Note 5) When selecting a power supply voltage, refer to "How to Order" on page 20.
 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					

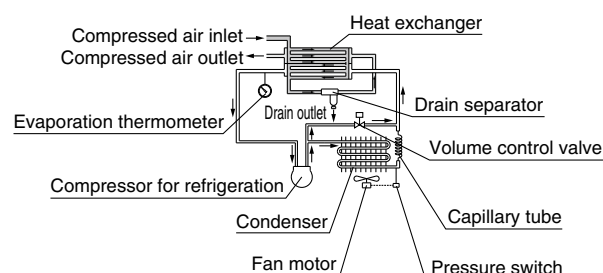
Note 9) The part number for the auto drain components only excluding the body part.
 Body part replacement is not possible.



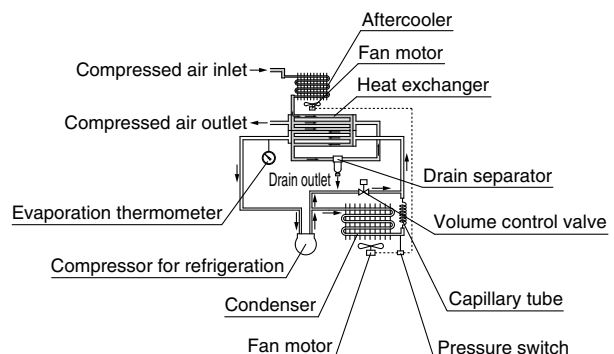
Construction (Air/Refrigerant Circuit)

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

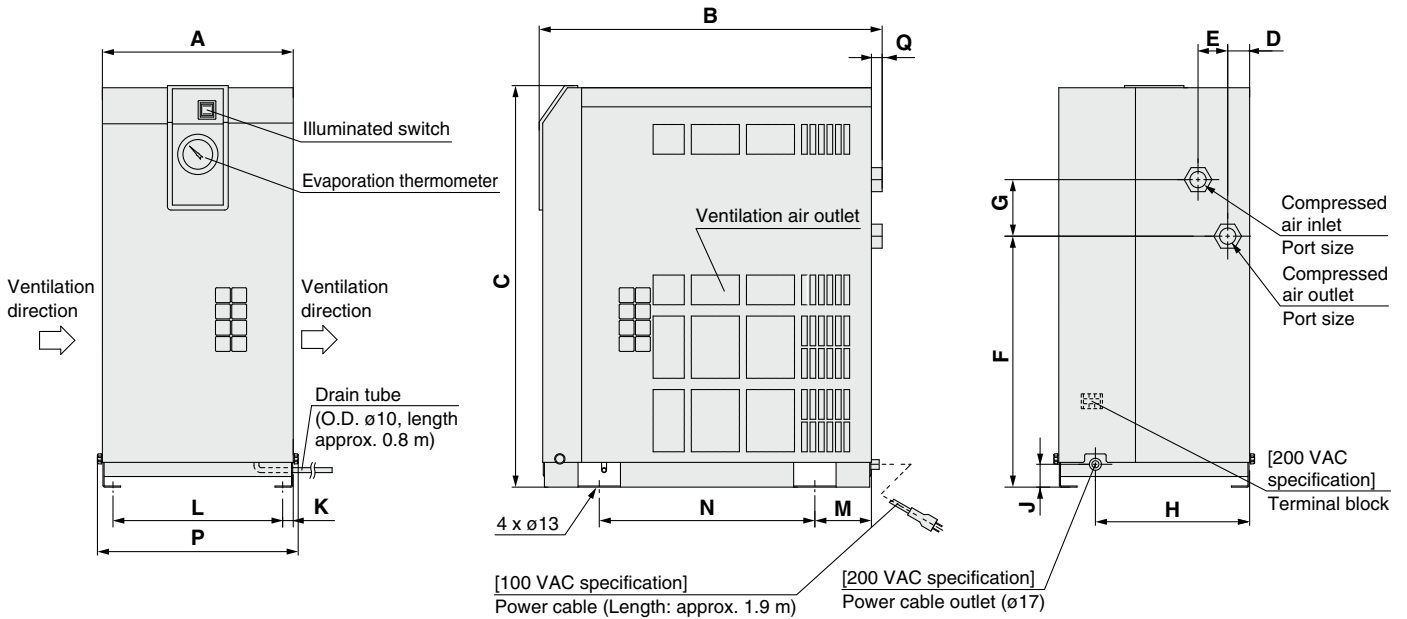


IDU8E, IDU11E, IDU15E1



Dimensions

IDU3E to IDU6E

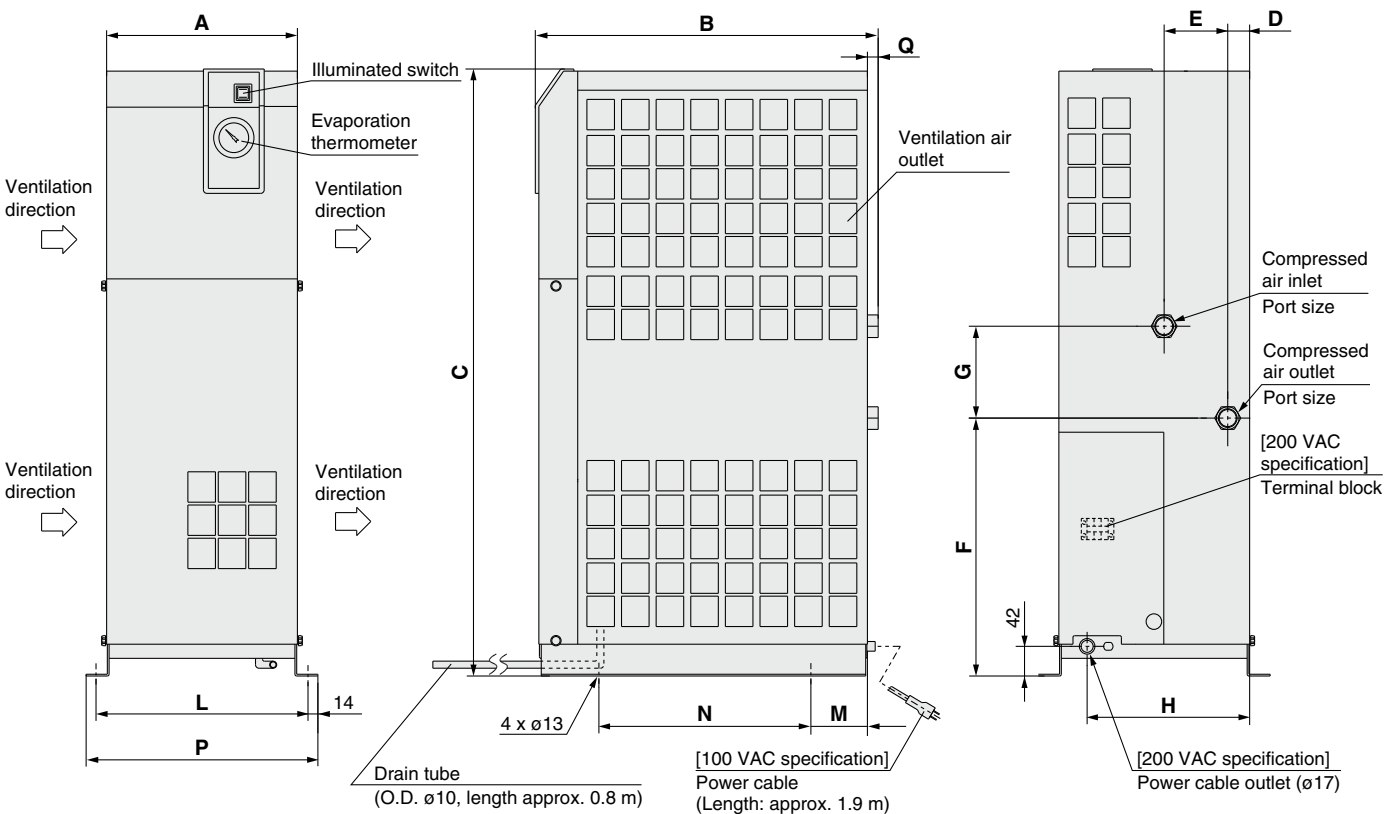


Dimensions

Model	Port size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q
IDU3E	Rc3/8	270	455	498	31	42	283	80	230	32	15	240	80	275	284	15
IDU4E	Rc1/2		483	568			355							300		13
IDU6E	Rc3/4		485	355			300							15		

(mm)

IDU8E to IDU15E1



Dimensions

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

(mm)

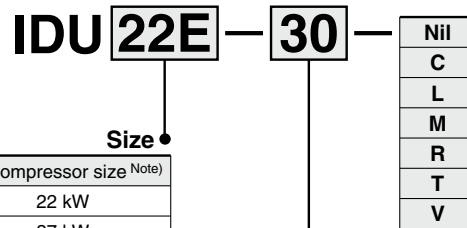
Refrigerant R407C (HFC) High Inlet Air Temperature

Series **IDU**□**E**

22E, 37E, 55E, 75E

(Inlet air temperature: 55°C, Outlet air pressure dew point: 10°C)

How to Order



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

Symbol ^{Note 1)}	Nil	C	L	M	R	T	V
Description	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)
Size							
22E	●	●	●	●	●	●	●
37E	●	●	●	●	●	●	●
55E	●	●	●	●	●	●	●
75E	●	●	●	●	●	●	●

Note 1) Enter alphabetically when multiple options are combined.

However, the following combinations are not possible.

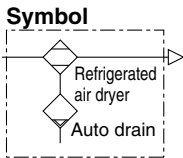
· The combination of L, M and V is not possible because an auto drain can only be attached to a single option.

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 26 to 30 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)				
Air flow capacity ^{Note 4)} (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	12.5
	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
Rated conditions	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 (W) ^{Note 5)} 50/60 Hz	Three-phase 200 V	1100/1450		1530/2000	2200/2850
		Single-phase 230 V (50 Hz)	960		1570	2300
	Operating current (A) ^{Note 5)} 50/60 Hz	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)} (A) (sensitivity current 30 mA)	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	

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 3, 4) for models beyond the rated specifications.

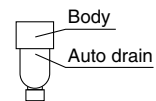
Note 5) These values are reference values under rated conditions, and are not guaranteed. Do not use these values for the thermal set values etc.

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			

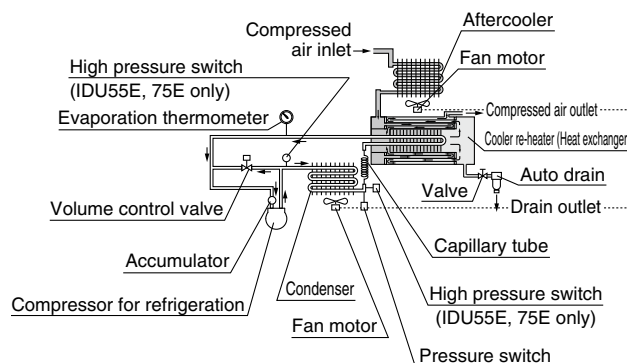
Note 7) The part number for the auto drain components only excluding the body part.
Body part replacement is not possible.



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.

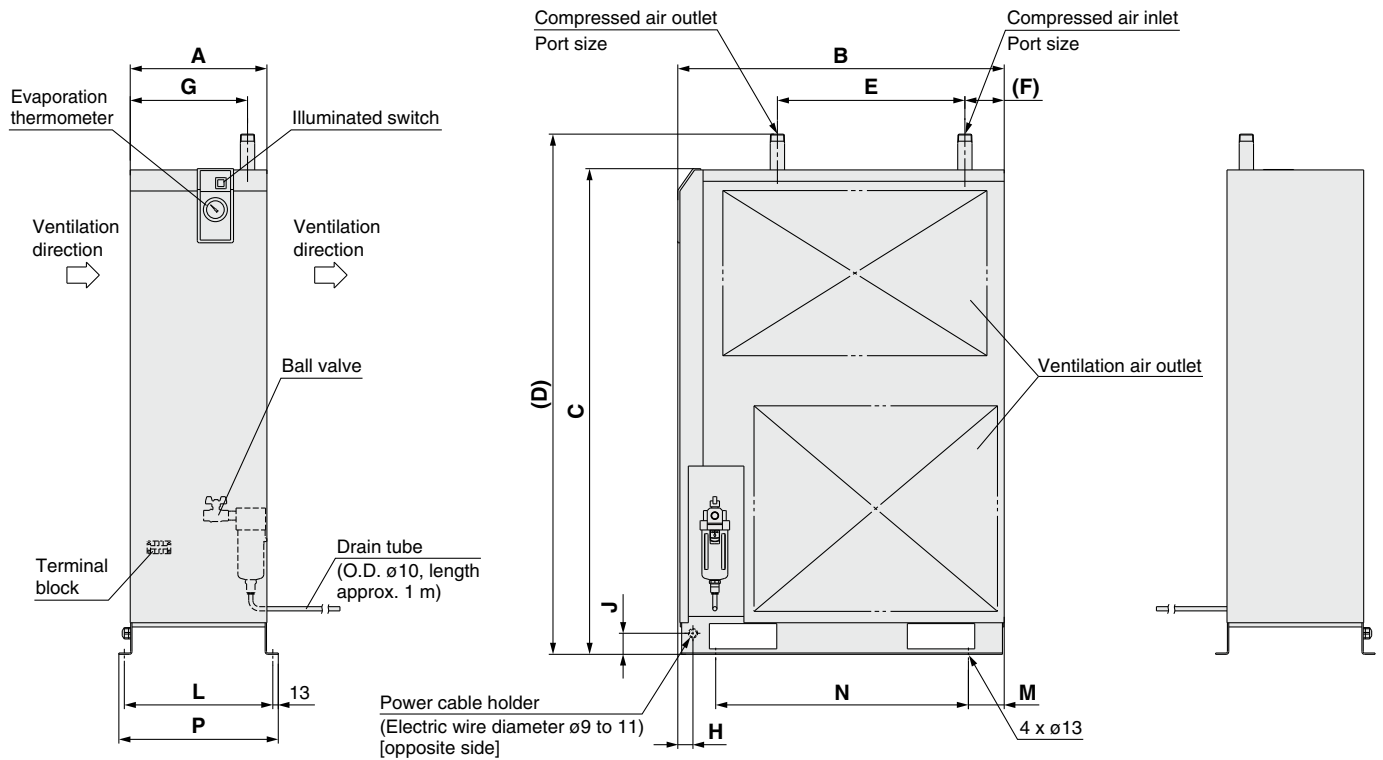
IDU22E, IDU37E, IDU55E, IDU75E



Series IDU□E

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										

Series IDF/IDU Options 1

Refer to “How to Order” on pages 5, 9, 12, 17, 20, 23 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 3 and 4 and apply the air flow capacity shown in the tables below to the data (E).

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
	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

Series IDF/IDU Options 2

Refer to "How to Order" on pages 5, 9, 12, 17, 20, 23 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

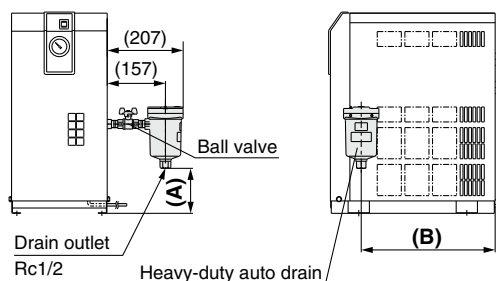
1. Maximum operating pressure: 1.6 MPa
2. Dimensions ... same as standard products

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

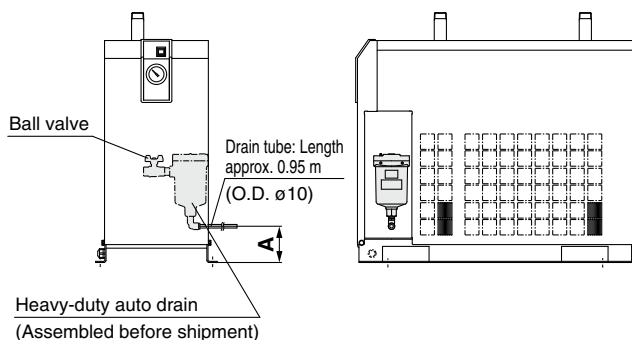


- Note 1) The heavy-duty auto drain and the ball valve are both enclosed in the same shipping package as the main body of the air dryer. Users are required to mount the parts to the air dryer.
Note 2) Users will need to supply the fitting (KQ2L10-04AS) and tubing (TU1065BU) for the drain piping.

Dimensions (mm)

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

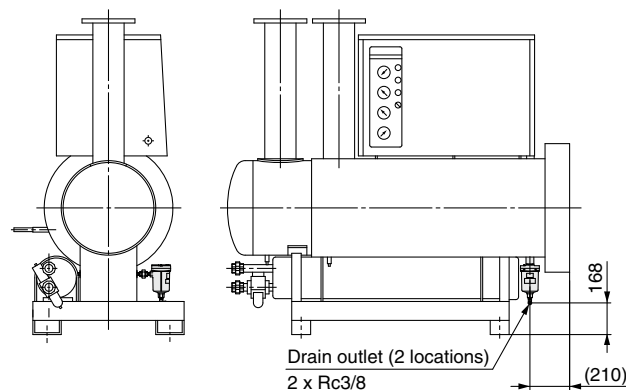
IDF22E to 75E, IDU22E to 75E




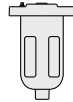

Dimensions (mm)

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.)

Series IDF/IDU Options 3

Refer to “How to Order” on pages 5, 9, 12, 17, 20, 23 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).

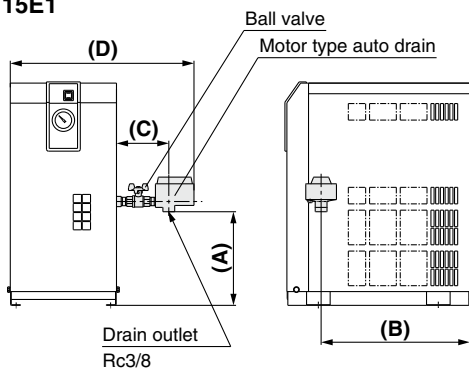
Note) The IDF370D standard type is equipped with a motor type auto drain.

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



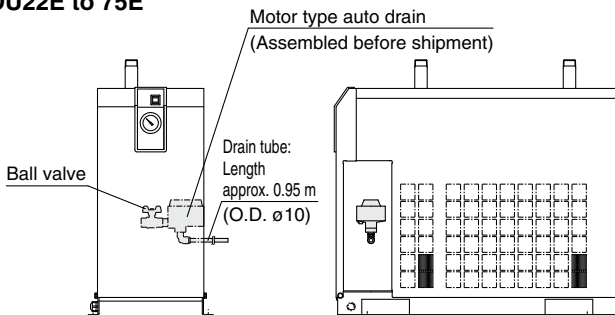
Dimensions

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

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.

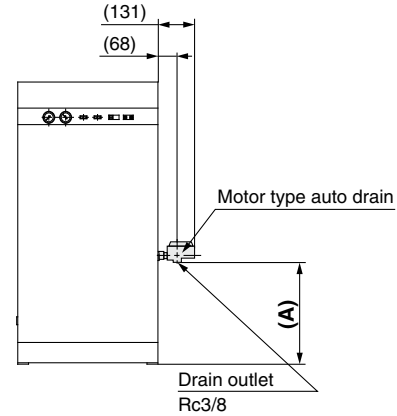
Note 2) Users will need to supply the fitting (KQ2L10-03AS) and tubing (TU1065BU) for the drain piping.

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

Series IDF/IDU Options 4

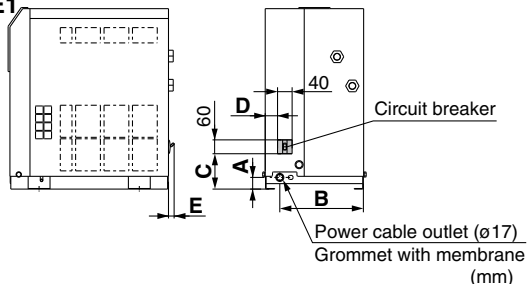
Refer to "How to Order" on pages 5, 9, 12, 17, 20, 23 for optional models.

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.)

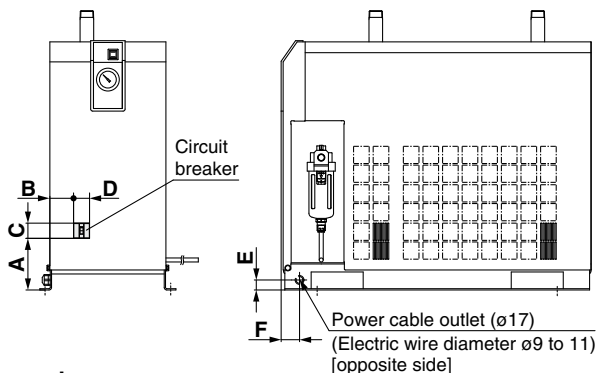
IDF4E to 15E1
IDU3E to 15E1



Dimensions

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	43	258	102	82	—

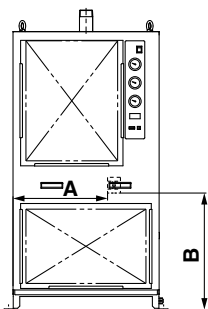
IDF22E to 75E
IDU22E to 75E



Dimensions

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

IDF100F to 150F

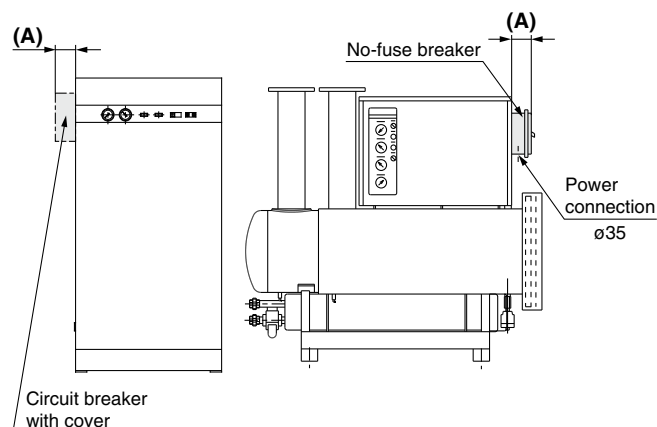


Dimensions (mm)

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	30 mA	
	IDU3E-20, IDU4E-20 IDU6E-20, IDU8E-20, IDU11E-20	10 A		
	IDF15E1-20, IDF22E-20, IDF37E-20 IDU15E1-20 IDF22E-30, IDF37E-30 IDF55E-30 IDU22E-30, IDU37E-30, IDU55E-30			15 A
	IDF75E-30, IDU75E-30	30 A		
	IDF100F			
	IDF125F			
	IDF150F			
	50 A	IDF190D		50 A
		IDF240D		
		IDF370D		

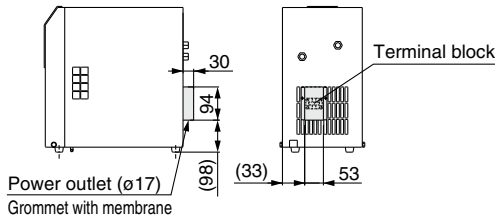
Series IDF/IDU Options 5

Refer to “How to Order” on pages 5, 9, 12, 17, 20, 23 for optional models.

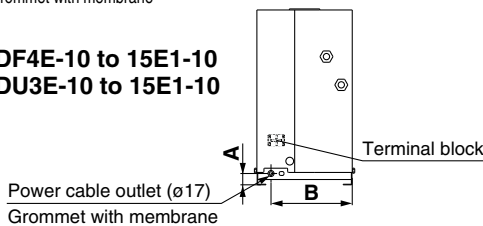
S Option symbol Power supply terminal block connection **IDF1E-10 to 15E1-10, IDU3E-10 to 15E1-10**

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



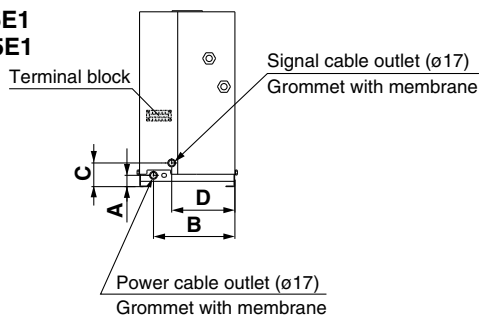
Dimensions (mm)

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

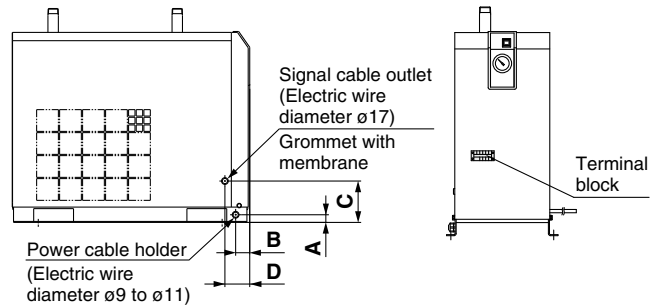
Note) Be sure to confirm the electric circuits with the drawings or Operating Manual before using the operating and error signals.

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

Series IDF/IDU Options 6

Refer to “How to Order” on pages 5, 9, 12, 17, 20, 23 for optional models.

W	Option symbol	
	Water-cooled type	IDF100F to 150F, 190D, 240D

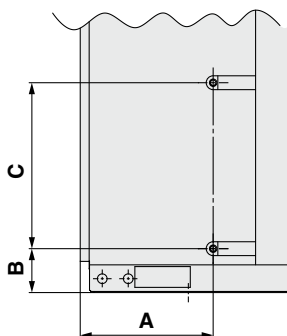
It can be used in a high temperature environment without decreasing air flow capacity. It can also be used in an enclosed environment without increasing the ambient temperature. This option is supplied with the IDF370D as a standard accessory.

Model	IDF100F	IDF125F	IDF150F	IDF190D	IDF240D
Condenser	Plate system			Shell and coil system	
Cooling water flow rate (m³/h) <small>Note 1) 50/60 Hz</small>	1.29/1.56	1.74/1.98	2.16/2.52	4.8/4.8	5.4/5.4
Cooling tower performance (RT) <small>Note 2)</small>	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

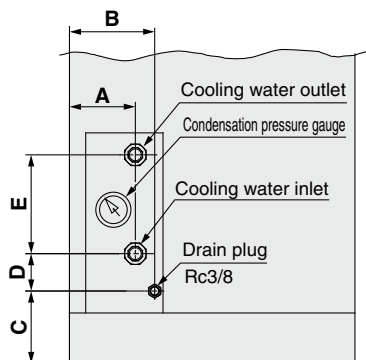
IDF100F to 150F



Dimensions (mm)

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

IDF190D, 240D


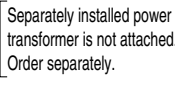






Dimensions (mm)

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 <small>Note 1), 2)</small> 	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 34, 35
Dedicated base for separately installed power transformer <small>Note 2)</small> 	For integrating the separately installed power transformer and the air dryer. <small>Separately installed power transformer is not attached. Order separately.</small>	—	IDF4E to 15E1-10 IDF22E-20/30, IDF37E-20/30 IDF55E-30, IDF75E-30 IDU3E to 15E1-10	Page 36
Dust-protecting filter set <small>Note 3)</small> 	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 37
Bypass piping set 	Easy bypass piping (connect this set to the air dryer), allowing substantial reduction in the installation time.	Max. operating pressure <small>Note 4)</small> 1.0 MPa Max. operating temperature IDF: 60°C IDU: 80°C	IDF1E to 75E IDU3E to 75E	Page 38, 39
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 39
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	
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 <small>Note 4)</small> 1.0 MPa Max. operating temperature 60°C	IDF6E to 15E1	Page 40
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 <small>Note 4)</small> 1.0 MPa Max. operating temperature 60°C	IDF6E to 15E1	Page 41

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 17.)

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 — TR500 — 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 34 and 35 for dimensions.

Three-phase type **IDF — TR1700 — 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 35 for dimensions.

Series IDF/IDU

How to Order

[Dedicated base for separately installed power transformer]

IDF — TB 403

Size ●

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

IDU — TB 407

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 36 for dimensions.

[Dust-protecting filter set]

IDF — FL 201

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

IDF — FL 190 D

Applicable air dryer ●

Symbol	Applicable air dryer
190	IDF190D
240	IDF240D

IDU — FL 210

Applicable air dryer ●

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

Note) This filter set is supplied with the IDF100F to 150F as a standard accessory.
Refer to page 37 for dimensions.

[Bypass piping set (Rc, R thread)]

IDF — BP 302

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	
318	IDF37E	R
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.

IDU — BP 305

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 38 and 39 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 39 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 39 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 40 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.

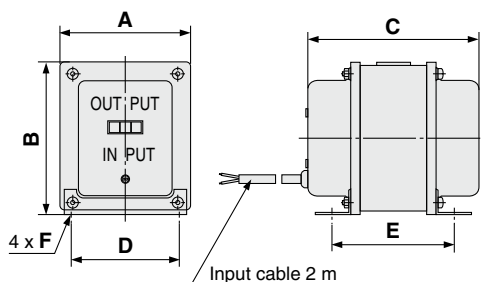
Part no.		Applicable air dryer
Conversion piping set	Conversion bypass piping set	
IDF-S0186	IDF-S0183	IDF6E
IDF-S0203	IDF-S0202	IDF8E
IDF-S0187	IDF-S0184	IDF11E
IDF-S0188	IDF-S0185	IDF15E1

Note) Refer to pages 40 and 41 for dimensions.

Specifications/Dimensions

[Separately installed power transformer]

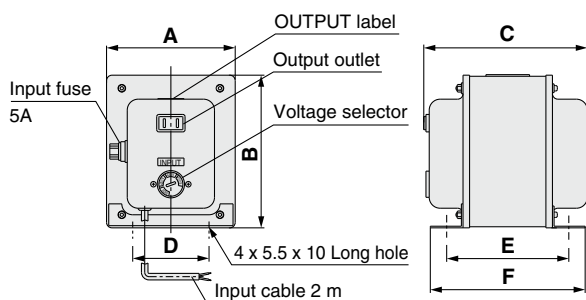
IDF-TR□-1



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 100, 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	

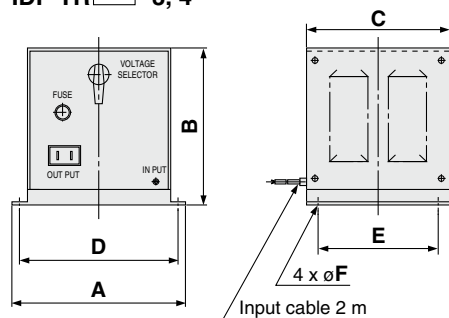
IDF-TR□-2



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)	100 VAC (50 Hz)	118	140	163	70	112	142	6 kg
				200 to 260 VAC (60 Hz)	100, 110 VAC (60 Hz)							

IDF-TR□-3, 4



Specifications/Dimensions

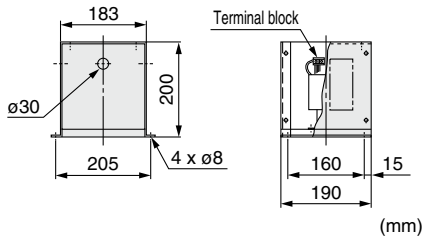
											(mm)	
Part no.	Applicable air dryer	Capacity	Type	Inlet voltage	Outlet voltage	A	B	C	D	E	F	Weight
IDF-TR500-3	IDF1E-10 to 8E-10 IDU3E-10, 4E-10, 8E-10	500 VA	Single-phase Single-turn	380, 400, 415 VAC (50 Hz)	100 VAC (50 Hz) 110 VAC (60 Hz)	230	207	190	210	160	9	15 kg
IDF-TR1000-3	IDF11E-10, 15E1-10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

Series IDF/IDU

Specifications/Dimensions

[Separately installed power transformer]

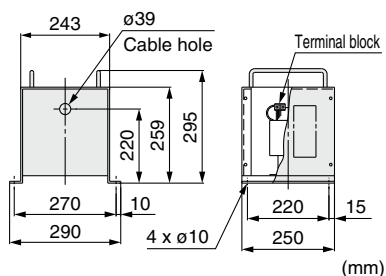
IDF-TR1700-5



Specifications

Part no.	Applicable air dryer	Capacity	Type	Inlet voltage	Outlet voltage	Weight
IDF-TR1700-5	IDF22E-30	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
	IDF37E-30					
	IDU22E-30					
	IDU37E-30					

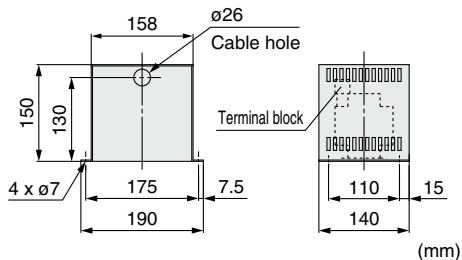
IDF-TR1700-6,7



Specifications

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

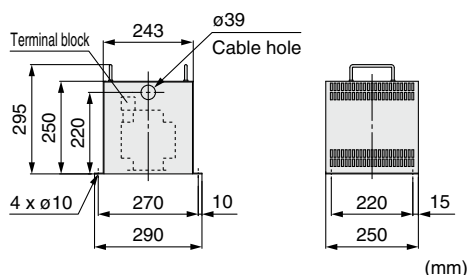
IDF-TR2000-9



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

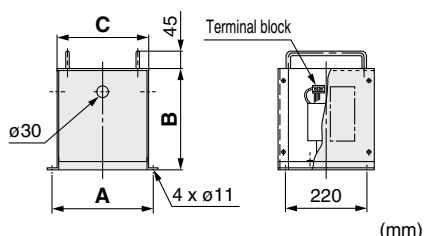
IDF-TR2000-10,11



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)	200 VAC (50 Hz) 200, 220 VAC (60 Hz)	20 kg
				380 to 400, 400 to 415, 415 to 440 VAC (60 Hz)		
IDF-TR2000-11				440, 460 VAC (50 Hz) 440 to 460, 460 to 500 VAC (60 Hz)		

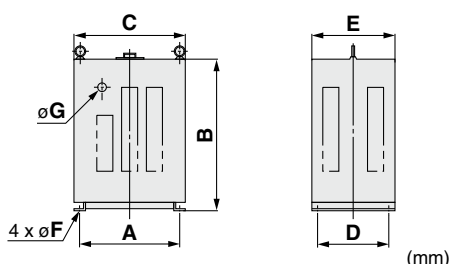
IDF-TR4000-5,6,7



Specifications/Dimensions

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



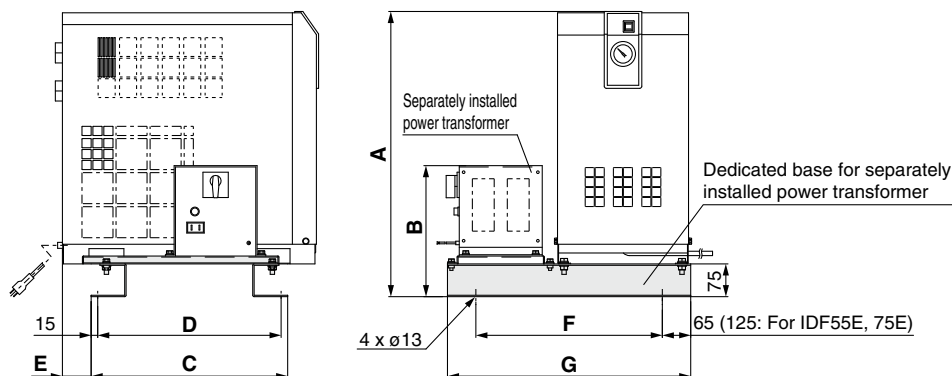
Specifications/Dimensions

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	220, 240,	200V (50/60 Hz)	360	540	400	260	300	11	30	94 kg
IDF-TR9000-8	IDF125F, 150F	9 kVA	Three-phase	380, 400,		400	650	450	300	350	13	40	109 kg
IDF-TR14000-8	IDF190D, 240D	14 kVA	Double-turn	415,		400	650	450	300	350	13	40	152 kg
IDF-TR18000-8	IDF370D	18 kVA	Double-turn	440 V (50/60 Hz)	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		171							50
	IDF6E-10 IDU3E-10	IDF-TR500-1	217	30.5							
		IDF-TR500-2	284	35							
		IDF-TR500-3	171	44							
		IDF-TR500-4	171	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		199							55
IDF11E-10 IDU6E-10	IDF-TR1000-1	217	38								
	IDF-TR1000-2	284	44								
	IDF-TR1000-3	199	49								
	IDF-TR1000-4	215	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		300							75
IDF-TB405	IDF22E-30	IDF-TR1700-5	773	300	630	600	70	805	12	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	710	300	680	675	13	13	13	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	15	129
		IDF-TR4000-6		437							150
		IDF-TR4000-7		397							157
	IDF75E-30	IDF-TR4000-5	1043	397	145						
		IDF-TR4000-6		437	166						
		IDF-TR4000-7		437	173						

IDU-TB□/Dimensions

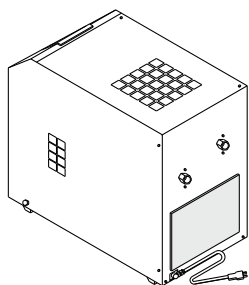
(mm)

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		199							72
	IDU11E-10	IDF-TR1000-1	984	217	57						
		IDF-TR1000-2		284	63						
IDU-TB408	IDU15E1-10	IDF-TR1000-3	1035	284	540	510	31	487	617	10	68
		IDF-TR1000-4		199							75
		IDF-TR1000-1		215							85
		IDF-TR1000-2		233							91
		IDF-TR1000-3		300							96
		IDF-TR1000-4									103

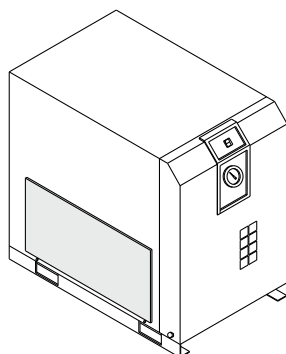
Series IDF/IDU

Dimensions

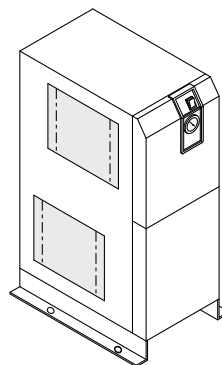
[Dust-protecting filter set]



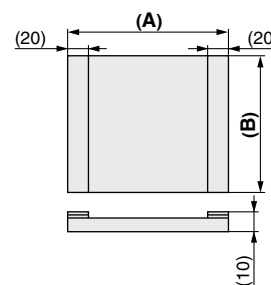
(IDF-FL200, 201)



(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

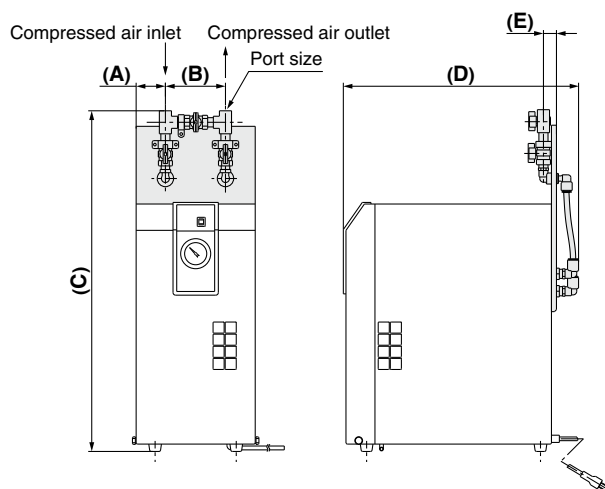
* A filter set for the IDU-FL210 to 212, 215 to 218 consists of 2 filters.

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

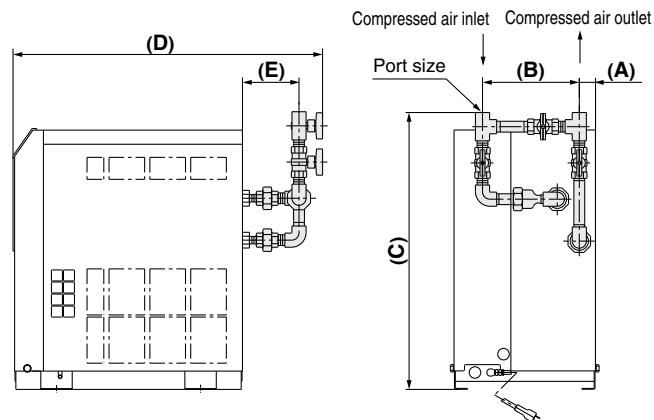
[Bypass piping set]
IDF1E to 3E



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		
IDF-BP302	IDF3E				642	445		

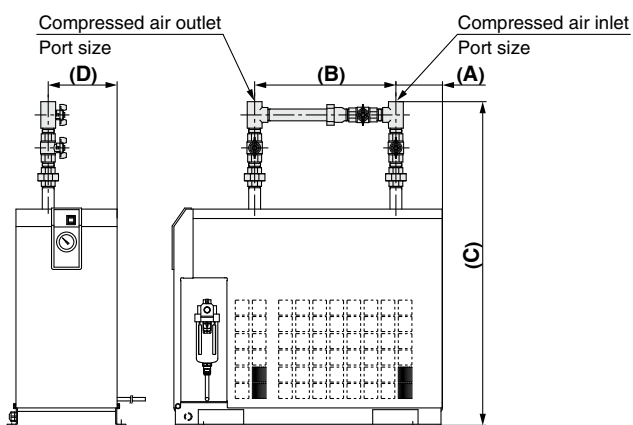
IDF4E to 15E1
IDU3E to 6E



Dimensions (mm)

Part no.	Applicable air dryer	Port size Rc	A	B	C	D	E	Weight (kg)	
IDF	IDF-BP303	IDF4E	31	175	531	595	110	2.3	
	IDF-BP304	IDF6E		3/4	187	555			617
		IDF8E	627			647	129		
		IDF11E							
IDF-BP316	IDF15E1	1	41	210	710	774	136	5.3	
IDU	IDU-BP305	IDU3E	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

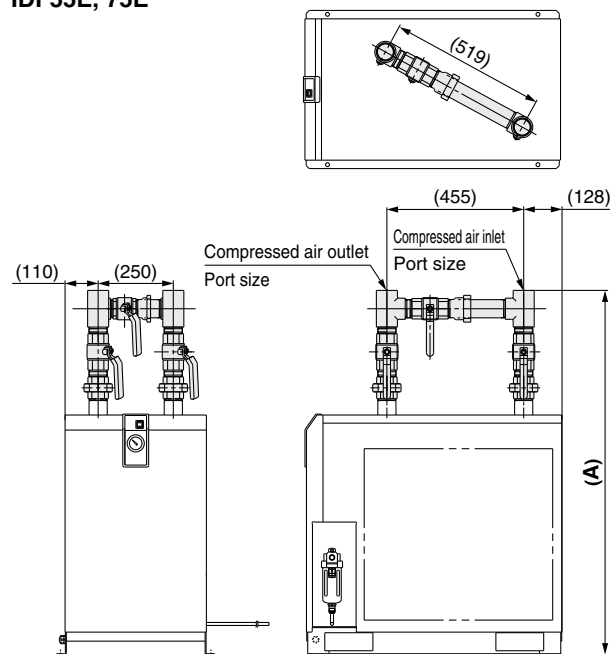
IDF22E, 37E
IDU22E to 75E



Dimensions (mm)

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

IDF55E, 75E



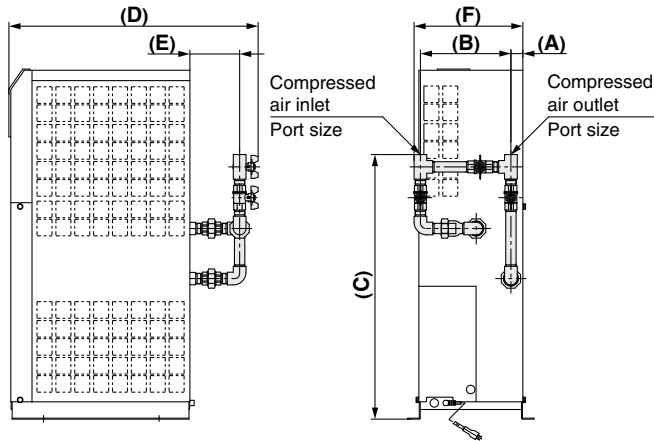
Dimensions (mm)

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

Series IDF/IDU

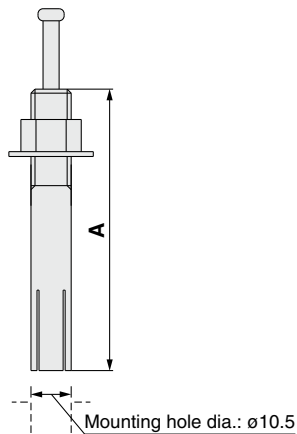
Dimensions

[Bypass piping set]
IDU8E to 15E1



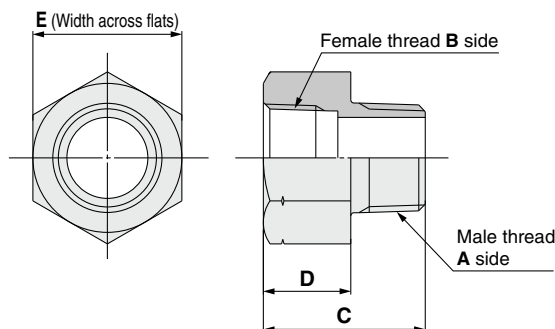
Dimensions							(mm)	
Part no.	Applicable air dryer	Port size Rc	A	B	C	D	E	Weight (kg)
IDU-BP320	IDU8E	3/4	31	210	687	647	129	3.6
	IDU11E							
IDU-BP322	IDU15E1	1	79		745	791	136	5.3

[Foundation bolt set]



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

[Piping adapter]

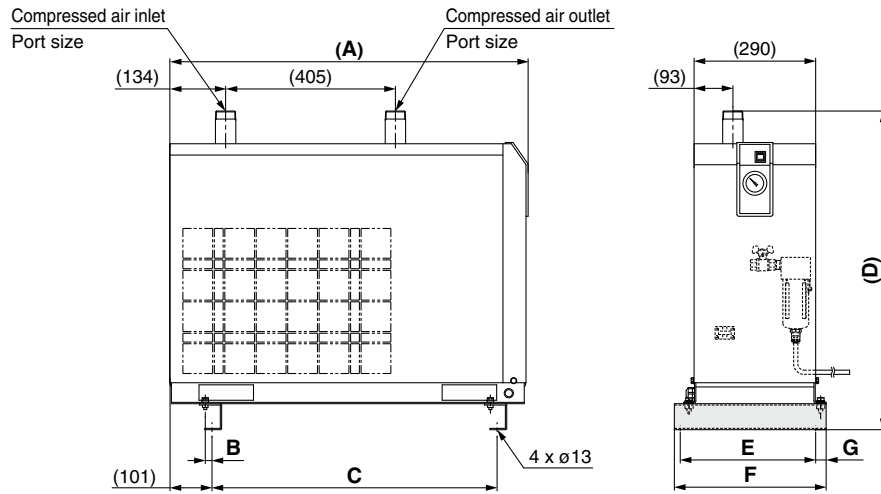


Dimensions							(mm)	
Part no.	Thread type and port size		Applicable air dryer	C	D	E	Material	Number of 1 set
	Male thread A side	Female thread B side						
IDF-AP601	R1/2	NPT1/2	IDF4E IDU4E	38	23	26	Brass	2
IDF-AP603	R3/4	NPT3/4	IDF6E to 11E IDU6E to 11E	43	23	32		
IDF-AP604	NPT1	Rc1	IDF22E, IDU22E	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



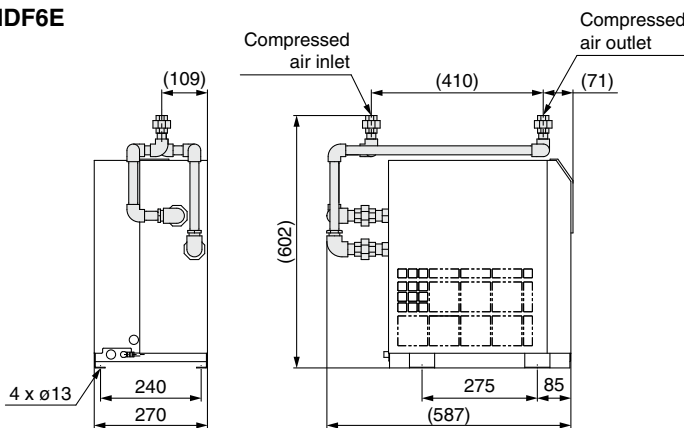
Dimensions

(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

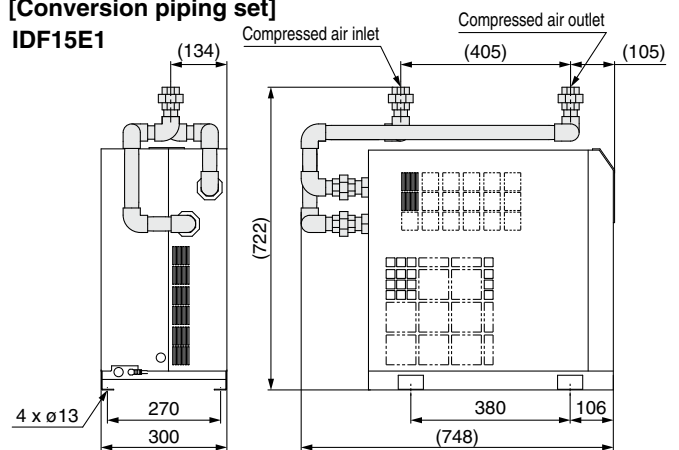


Port Size

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

[Conversion piping set]

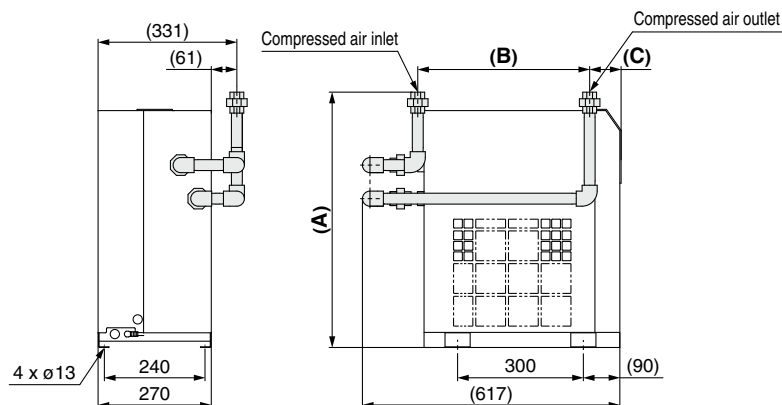
IDF15E1



Port Size

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

IDF8E, 11E



Dimensions

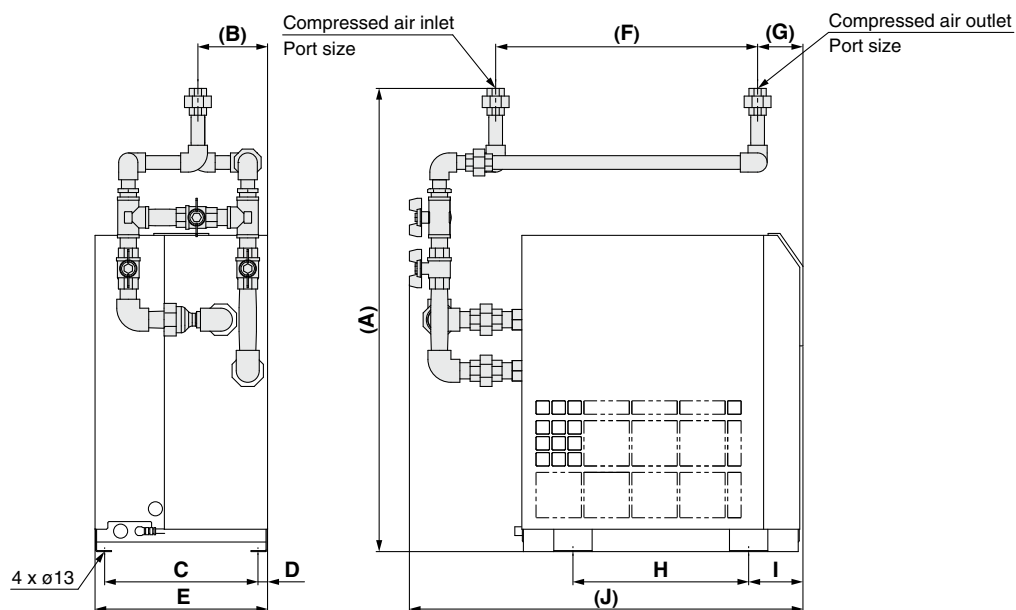
(mm)

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

Series IDF/IDU

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

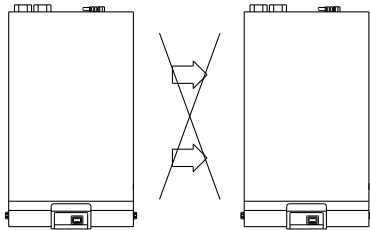
Specific Product Precautions 1

Be sure to read this before handling. Refer to the back cover 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 $\pm 10\%$ 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 $\pm 10\%$ 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 6, 10, 13, 14, 18, 21 and 24.

When using with other voltages than specified for a standard product, use a separately installed power transformer. (page 32)



Series IDF/IDU

Specific Product Precautions 2

Be sure to read this before handling. Refer to the back cover 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>

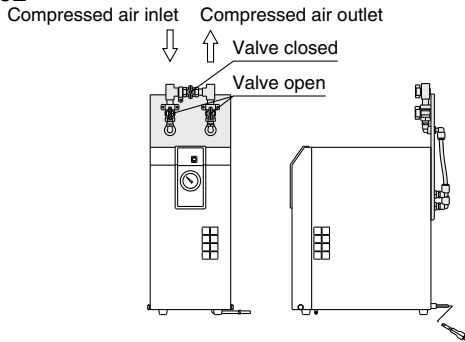
Air Piping

⚠ Caution

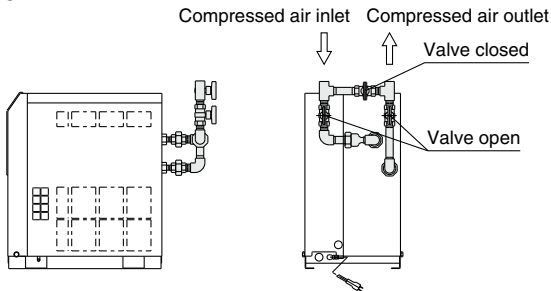
- Be careful to avoid an error in connecting the air piping at the compressed air inlet (IN) and outlet (OUT).
- Install bypass piping since it is needed for maintenance.

Use the bypass piping set on pages 38 and 39.

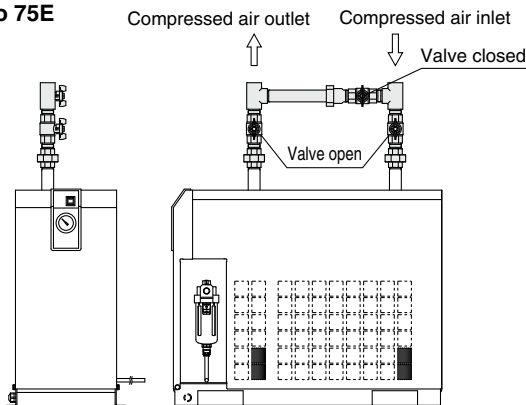
IDF1E to 3E



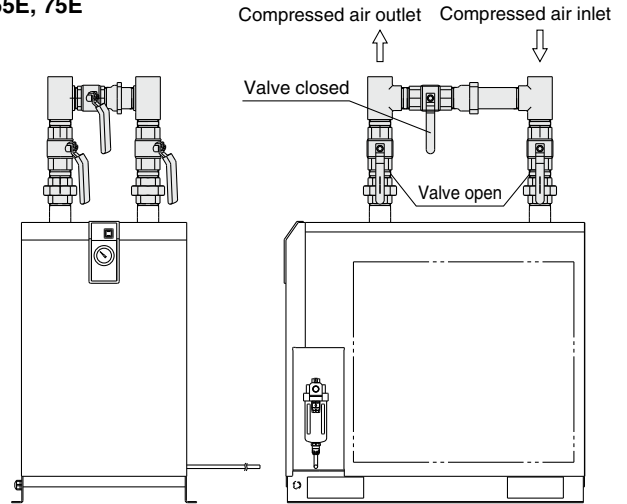
IDF4E to 15E1 IDU3E to 15E1



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 $\pm 10\%$.
- The air dryer is drawing in high temperature air exhausted from an air compressor or other dryer.
- The ventilation port is obstructed by a wall or clogged with dust.



Series IDF/IDU

Specific Product Precautions 3

Be sure to read this before handling. Refer to the back cover 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

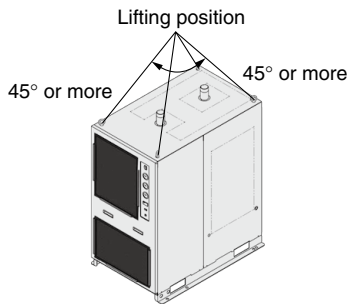
Be sure to follow the below instructions for transporting the product.

- 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
Reference item	Ionic state silica (SiO ₂)	[mg/L]	50 or less
	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.

Safety Instructions

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

Caution: Caution indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

Warning: Warning indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

Danger: Danger indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

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

Warning

1. The compatibility of the product is the responsibility of the person who designs the equipment or decides its specifications.

Since the product specified here is used under various operating conditions, its compatibility with specific equipment must be decided by the person who designs the equipment or decides its specifications based on necessary analysis and test results. The expected performance and safety assurance of the equipment will be the responsibility of the person who has determined its compatibility with the product. This person should also continuously review all specifications of the product referring to its latest catalog information, with a view to giving due consideration to any possibility of equipment failure when configuring the equipment.

2. Only personnel with appropriate training should operate machinery and equipment.

The product specified here may become unsafe if handled incorrectly. The assembly, operation and maintenance of machines or equipment including our products must be performed by an operator who is appropriately trained and experienced.

3. Do not service or attempt to remove product and machinery/equipment until safety is confirmed.

- The inspection and maintenance of machinery/equipment should only be performed after measures to prevent falling or runaway of the driven objects have been confirmed.
- When the product is to be removed, confirm that the safety measures as mentioned above are implemented and the power from any appropriate source is cut, and read and understand the specific product precautions of all relevant products carefully.
- Before machinery/equipment is restarted, take measures to prevent unexpected operation and malfunction.

4. Contact SMC beforehand and take special consideration of safety measures if the product is to be used in any of the following conditions.

- Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
- Installation on equipment in conjunction with atomic energy, railways, air navigation, space, shipping, vehicles, military, medical treatment, combustion and recreation, or equipment in contact with food and beverages, emergency stop circuits, clutch and brake circuits in press applications, safety equipment or other applications unsuitable for the standard specifications described in the product catalog.
- An application which could have negative effects on people, property, or animals requiring special safety analysis.
- Use in an interlock circuit, which requires the provision of double interlock for possible failure by using a mechanical protective function, and periodical checks to confirm proper operation.

Caution

1. The product is provided for use in manufacturing industries.

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

Limited warranty and Disclaimer/ Compliance Requirements

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

Read and accept them before using the product.

Limited warranty and Disclaimer

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

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

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

Compliance Requirements

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


Caution

SMC products are not intended for use as instruments for legal metrology.

Measurement instruments that SMC manufactures or sells have not been qualified by type approval tests relevant to the metrology (measurement) laws of each country. Therefore, SMC products cannot be used for business or certification ordained by the metrology (measurement) laws of each country.

Revision history

Edition B	* Added Refrigerated Air Dryers, ID15E/22E/37E, IDU8E/11E/15E. * Deleted Option H: Moderate Pressure Specification (Auto drain bowl: Metal bowl). * Added Compressor Intake Condition to Air Flow Capacity in the standard specifications. * Number of pages from 20 to 24	Edition D	* Added Refrigerated Air Dryers, ID120D to 240D, ID1370B. * Added Refrigerated Air Dryers, IDU22E/37E, IDU55C/75C. * Number of pages from 32 to 44	Edition F	* Changed to Quick Reference Guide to Air Preparation Equipment. * Number of pages from 52 to 48
Edition C	* Added Refrigerated Air Dryers, ID155E/75E. * Added Piping Adapter to Optional Accessories.	Edition E	* Added Refrigerated Air Dryers, IDU55E/75E. * Deleted Refrigerated Air Dryers, IDU55C/75C. * Number of pages from 44 to 52	Edition G	* Not available
				Edition H	* Updated pages 21 to 67 of the Best Pneumatics No. 5 (Ver. 5).
				Edition I	* Power consumption and operating current for the IDU37E-23 and IDU55E-23 are changed.

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