

Refrigerated Air Dryer Series *IDU/IDF*

The models IDF1E to 11E and IDU3E to 6E have been revised. For details, refer to catalog no. ES30-8A. Similar updating for other IDF/IDU models is scheduled to follow shortly.



In compliance with the Montreal Protocol Regulations, SMC uses refrigerants R134a and R407C in its refrigerated air dryers to prevent any damage to the earth's ozone layer.

Large models IDF190D and 240D newly introduced R134a used in small models (IDU3D to 8D, IDF1D to 8D) R407C used in large models (IDF120D, 150D, 190D, 240D)

HA

AT

ID

AMG

AFF

AM

Misc.

The models IDF1E to 11E and IDU3E to 6E have been revised. For details, refer to catalog no. ES30-8A.

Refrigerated Air Dryer

Air Flow Capacity

**Increased by
up to 40%**

(Compared with the previous model)

MAX. 40

Power Consumption

**Reduced by
up to 40%**

(Compared with the previous model)

MAX. 40

Improved corrosion resistance with the adoption of a stainless steel, plate type, heat exchanger.

(Except for 1E to 3E)

Refrigeran
HFC134a

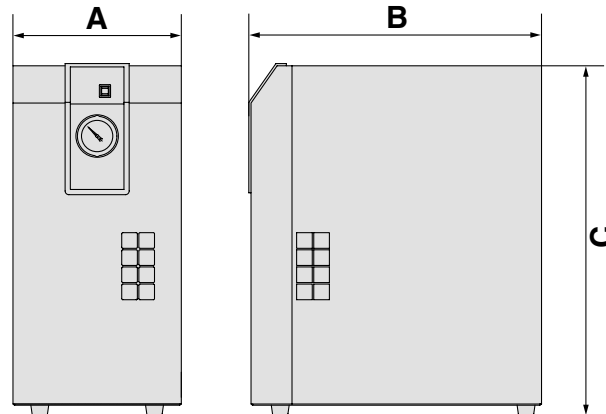
Coefficient of ozone depletion-Zero

	Model	Air flow capacity (l/min(ANR))		Rated inlet condition	Outlet air pressure dew point
		50Hz	60Hz		
Inlet air of normal temperature	IDF1E	100	110	35°C Saturation 0.7MPa	10°C
	IDF2E	200	220		
	IDF3E	310	350		
	IDF4E	500	570		
	IDF6E	740	810		
	IDF8E	1200	1300		
Inlet air of high temperature	IDU3E	310	350	55°C Saturation 0.7MPa	
	IDU4E	500	570		
	IDU6E	740	810		

The models IDF1E to 11E and IDU3E to 6E have been revised. For details, refer to catalog no. ES30-8A.

● Dimensions

Model	A	B	C
IDF1E IDF2E	226	390	410
IDF3E			470
IDF4E IDF6E	270	435	495
IDF8E IDF11E		465	565
IDU3E		435	495
IDU4E IDU6E		465	565



● Main specifications

- Series IDF□E (Inlet air temperature : 35°C, Outlet air pressure dew point : 10°C),
Series IDU□E (Inlet air temperature : 55°C, Outlet air pressure dew point : 10°C)

Specifications		Model	Series IDF□E							Series IDU□E		
			IDF1E	IDF2E	IDF3E	IDF4E	IDF6E	IDF8E	IDF11E	IDU3E	IDU4E	IDU6E
Rated conditions	Air flow capacity	50Hz	100	200	310	500	740	1200	1650	310	500	740
	ℓ/min(ANR) <small>Note1)</small>	60Hz	110	220	350	570	810	1300	1820	350	570	810
	Inlet air pressure(MPa)	0.7										
	Inlet air temperature(°C)	35 Saturation							55 Saturation			
	Ambient temperature(°C)	32										
Operating range	Outlet air pressure dew point (°C)	10										
	Working fluid	Compressed air										
	Inlet air temperature(°C)	5~50							5~80			
	Inlet air pressure(MPa)	0.15~1.0										
Ambient temperature (Humidity) (°C)	2~40 (Relative humidity of 85% or less)											
Applicable compressor (as a guide) (for screw style) (kW)		0.75	1.5	2.2	3.7	5.5	7.5	11	2.2	3.7	5.5	
Power source (V) 50/60Hz		Single phase, AC100/100 to 110			Single phase, AC100/100 to 110 Single phase, AC200/200 to 220							
Power consumption (W) <small>Note2)</small> 50/60Hz	AC 100V	50Hz	165	165	165	165	170	210	310	165	210	320
		60Hz	195	195	195	195	200	240	360	195	250	385
	AC 200V	50Hz	-	-	165	165	175	200	330	175	200	335
		60Hz	-	-	195	195	210	230	370	210	230	380
Refrigerant		R134a										
Air connection		Rc3/8			Rc1/2	Rc3/4			Rc3/8	Rc1/2	Rc3/4	
Weight (kg)		16	17	18	22	23	27	28	23	27	28	
Coating color		White1 (Munsell 10Y8/0.5)										

HA□

AT

ID□

AMG

AFF

AM□

Misc.

Note1) The data for ℓ/min (ANR) is under the conditions of 20°C, atmospheric pressure of 1 atm. and relative humidity of 65%.

Note2) Under conditions of inlet air pressure: 0.7MPa, inlet air temperature: 35°C, ambient temperature: 32°C, outlet air pressure dew point: 10°C.

The models IDF1E to 11E and IDU3E to 6E have been revised. For details, refer to catalog no. ES30-8A. Similar updating for other IDF/IDU models is scheduled to follow shortly.

Montreal Protocol Regulation Compliant

Refrigerated Air Dryer Series **IDU/IDF**

Uses refrigerants (R134a, R407C) that are harmless to the ozone layer

IDU3D, 4D, 6D, 8D/IDF1D, 2D, 3D, 4D, 6D, 8D R134a
IDF120D, 150D, 190D, 240D R407C

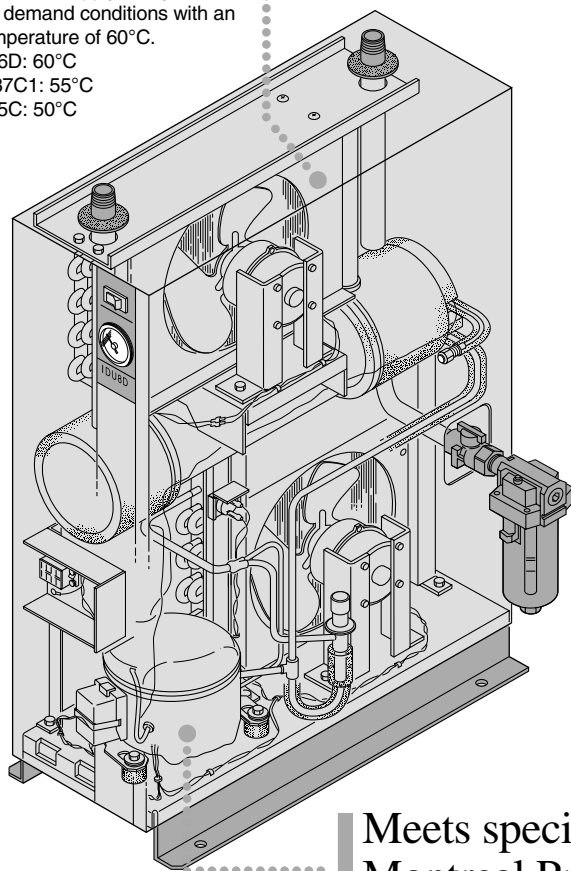
In compliance with the Montreal Protocol Regulations, SMC uses refrigerants R134a and R407C to prevent any damage to the earth's ozone layer.

(Medium size series use R22, ODP = 0.055.)

Series IDU
(built-in after-cooler)
Can be operated
directly connected to
a screw compressor

Provides a stable supply of dry air even under high demand conditions with an inlet air temperature of 60°C.

IDU3D to 6D: 60°C
IDU8D to 37C1: 55°C
IDU55C, 75C: 50°C



Series IDU

IDU3D, 4D, IDF1D to 4D
Rust-free heat exchanger

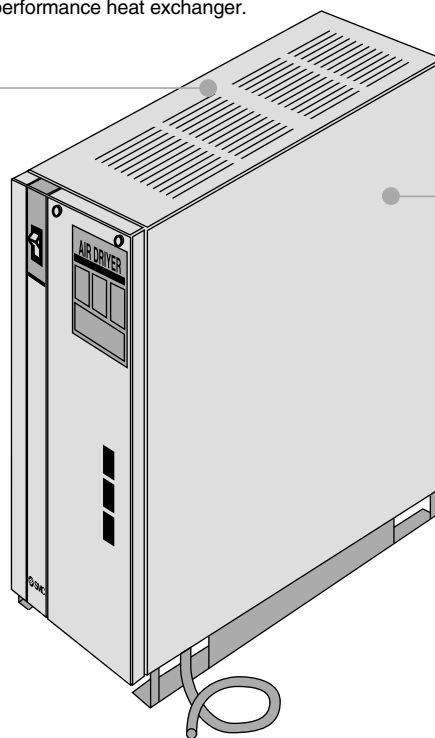
Coaxial copper piping design prevents rust formation.

IDF1D, 2D, 3D
Reduced noise
45dB(A)

Quiet operation allows indoor use in locations such as dental offices, etc.

Series IDF
Can accommodate an inlet
air temperature of 40°C

System efficiency is improved by using a high performance heat exchanger.



Series IDF

Meets specified
Montreal Protocol
Regulations

Small series: R134a
Medium series: R22
Large series: R407C

IDU3D to 15C, IDF3D to 15C
Available in single phase
200VAC without transformer

The models IDF1E to 11E and IDU3E to 6E have been revised. For details, refer to catalog no. ES30-8A. Similar updating for other IDF/IDU models is scheduled to follow shortly.

Series Variations

Series IDU

High inlet air temperature type
Rated temperature
of 50 to 60°C



Air cooled

Series	Air flow capacity (l/min(ANR)) <small>Note)</small>		Screw type air compressor power (kW)	Refrigerant	Rated inlet air temp.	Air connection	Page
	50 Hz	60Hz					
Small	IDU3D	300	350	R134a	60°C	Rc 3/8	14-17-8 to 14-17-11
	IDU4D	430	500			R 1/2	
	IDU6D	640	750		55°C	R 3/4	
	IDU8D	850	1000			7.5	
Medium	IDU11D	1300	—	R134a	55°C	R 3/4	14-17-12 to 14-17-15
	IDU11C	1300	1500			R22	
	IDU15C	2050	2400	50°C			
	IDU22C/22C1	3150	3700			75	
	IDU37C/37C1	5200	6100				
	IDU55C	7650	9000				
	IDU75C	10500	12400				

Series IDF

Standard inlet air temperature type
Rated temperature
of 35 to 40°C



Air cooled

Small	IDF1D	100	120	R134a	35°C	Rc 3/8	14-17-16 to 14-17-19
	IDF2D	200	235		40°C		
	IDF3D	300	350				
	IDF4D	430	500		R 1/2		
	IDF6D	640	750				
	IDF8D	850	1000		R 3/4		
Medium	IDF11D	1300	—	R134a	40°C	R 3/4	14-17-20 to 14-17-22
	IDF11C	1300	1500			R22	
	IDF15C/15C1	2050	2400	75			
	IDF22C/22C1	3150	3700			R 2	
	IDF37C/37C1	5200	6100				
	IDF55C	7650	9000				
	IDF75C	10500	12400				
	Large	IDF120D	20000	23000	R407C	40°C	
IDF150D		25000	30000	3B flange			
IDF190D		32000	38000	4B flange			
IDF240D		43000	50000				240
Medium	IDF75C	10500	12400	R22	40°C	R 2	14-17-20 to 14-17-22
Large	IDF120D	20000	23000	R407C	40°C	2 1/2B flange	14-17-23 to 14-17-25
	IDF150D	25000	30000			3B flange	
	IDF190D	32000	38000			4B flange	
	IDF240D	43000	50000				
	IDF370B	54000	65000	R22	35°C	6B flange	

Water cooled



Options

For medium air pressure
Max. operating pressure 1.5MPa

With terminal block
for signal
With terminal block for
run & alarm signals and
remote operations

For cool compressed
air output.
With anti-corrosive
treatment of copper tube.
With evaporation
thermometer

With motor operated
auto drain.
With circuit breaker.
With power cord
connection.
Water cooled condenser.

14-17-26
to
14-17-27

HA

AT

ID

AMG

AFF

AM

Misc.

Accessories (Options)

Transformer

This is for power supply
other than specified.
Available base to integrate
transformer.



Dust proof filter set

Avoids decrease of air dryer
performance even in dirty
environment.



Bypass piping set

Easy bypass piping (just connect this
set to air dryer). Substantial reduction
of installation labor.



14-17-28
to
14-17-31

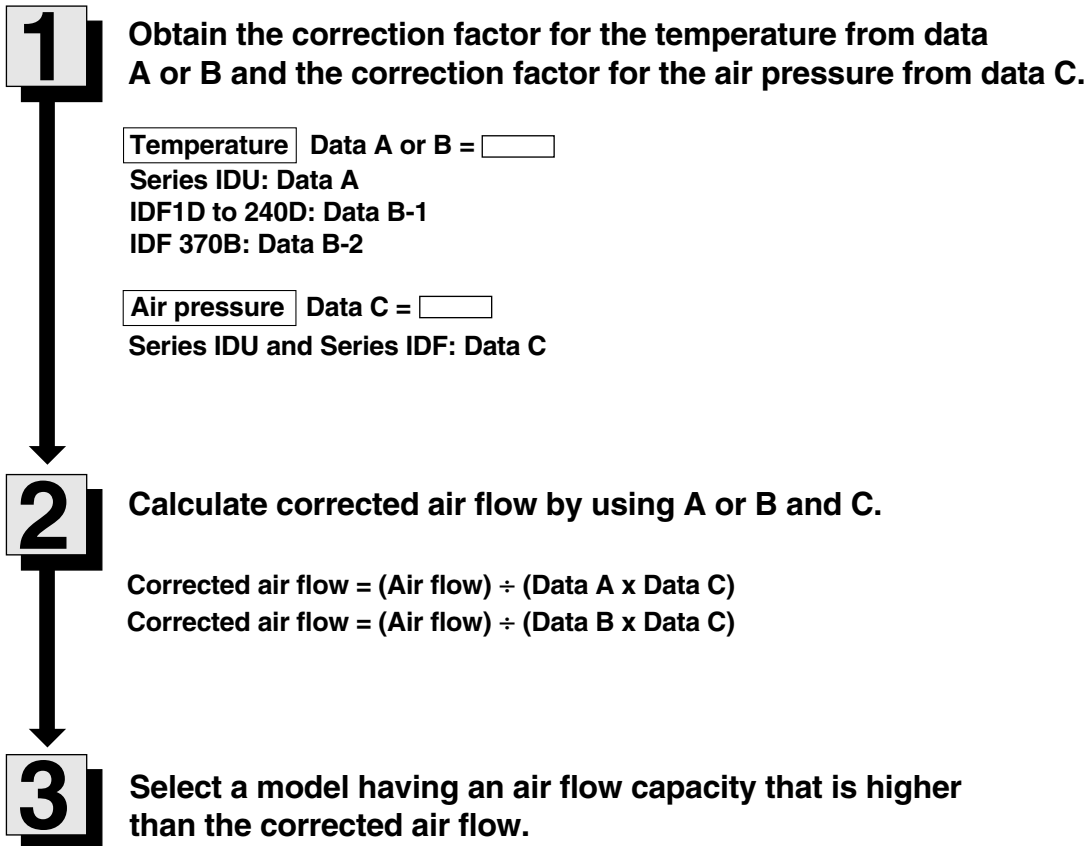
Technical Data

Pressure dew point-Condensed water calculation chart, Pressure dew point temperature-Atmospheric pressure dew point temperature conversion cart

14-17-32

Note) l/min (ANR) is for reference conditions of 20°C, 1 ATM and 65% relative humidity.

Model Selection



IDU selection example

The procedure for selecting the optimum model under the following conditions is shown below.

- Condition ① Inlet air temperature 55°C
② Outlet air pressure dew point 10°C
③ Ambient temperature 35°C
④ Inlet air pressure 0.7MPa
⑤ Air flow 350 ℓ/min (ANR)
⑥ Power supply frequency 50Hz

- ① A = 0.85 based on conditions ①, ② and ③
↓
② C = 1.00 based on condition ④
↓
③ Based on condition ⑤, A and B
Corrected air flow = $350 \div (0.85 \times 1.00) = 412$ ℓ/min (ANR)
↓
④ Based on condition ⑥;
IDU4D is selected as the model to process an air flow larger than 412 ℓ/min (ANR) with a 50Hz power supply, according to data D-1.

Note) ℓ/min (ANR) is for reference conditions of 20°C, 1 ATM and 65% relative humidity.

IDF selection example

The procedure for selecting the optimum model under the following conditions is shown below.

- Condition ① Inlet air temperature 40°C
② Outlet air pressure dew point 10°C
③ Ambient temperature 35°C
④ Inlet air pressure 0.5MPa
⑤ Air flow 1200 ℓ/min (ANR)
⑥ Power supply frequency 60Hz

- ① B-1 = 0.95 based on conditions ①, ② and ③
↓
② C = 0.90 based on condition ④
↓
③ Based on condition ⑤, B-1 and C
Corrected air flow = $1200 \div (0.95 \times 0.90) = 1400$ ℓ/min (ANR)
↓
④ Based on condition ⑥;
IDF11C is selected as the model to process an air flow larger than 1400 ℓ/min (ANR) with a 60Hz power supply, according to data D-2.

The models IDF1E to 11E and IDU3E to 6E have been revised.
For details, refer to catalog no. ES30-8A. Similar updating
for other IDF/IDU models is scheduled to follow shortly.

Data A Correction factor for temperature/Series IDU

Inlet air temp. (°C)	IDU3D to 6D			50			55			60			70			80		
	IDU8D to 15C			45			50			55			65			75		
Ambient temperature (°C)	IDU22C1, 37C1			45			50			55			65			70		
	IDU55C, 75C			40			45			50			55			60		
Outlet air pressure dew point (°C)		5	10	15	5	10	15	5	10	15	5	10	15	5	10	15		
25	0.60	1.35	1.35	0.60	1.35	1.35	0.60	1.35	1.35	0.60	1.35	1.35	0.60	1.35	1.35	0.60	1.35	1.35
30	0.60	1.25	1.35	0.55	1.20	1.35	0.50	1.10	1.35	0.50	1.05	1.35	0.50	1.05	1.35	0.50	1.05	1.35
32	0.60	1.25	1.35	0.55	1.15	1.35	0.50	1.00	1.30	0.45	0.95	1.25	0.45	0.95	1.25	0.45	0.95	1.25
35	0.50	0.95	1.25	0.45	0.85	1.15	0.35	0.75	1.05	0.30	0.70	1.00	0.30	0.70	1.00	0.30	0.70	1.00
40	0.25	0.70	1.00	0.20	0.65	0.90	0.15	0.55	0.80	0.10	0.50	0.80	0.10	0.50	0.80	0.10	0.50	0.80

Data B-1 Correction factor for temperature/Series IDF (IDF1D to 240D)

Inlet air temp. (°C)	IDF 1D			25			30			35			40			50		
	IDF2D to 240D			30			35			40			45			50		
Ambient temp. (°C)	Outlet air press. dew point (°C)			5	10	15	5	10	15	5	10	15	5	10	15	5	10	15
	25	0.60	1.35	1.35	0.60	1.35	1.35	0.50	1.10	1.35	0.35	0.90	1.20	0.20	0.65	1.00	0.20	0.65
30	0.60	1.35	1.35	0.60	1.30	1.35	0.50	1.05	1.35	0.35	0.80	1.15	0.20	0.60	0.95	0.20	0.60	0.95
32	0.60	1.35	1.35	0.60	1.25	1.35	0.50	1.00	1.30	0.35	0.80	1.10	0.20	0.60	0.90	0.20	0.60	0.90
35	0.55	1.35	1.35	0.55	1.20	1.35	0.50	0.95	1.25	0.35	0.75	1.05	0.15	0.60	0.90	0.15	0.60	0.90
40	0.40	1.35	1.35	0.40	1.15	1.50	0.35	0.90	1.15	0.25	0.70	1.00	0.15	0.55	0.80	0.15	0.55	0.80

Data B-2 Correction factor for temperature/Series IDF (IDF370B)

Inlet air temp. (°C)	30			35			40			45			50		
	Outlet air pressure dew point (°C)			5	10	15	5	10	15	5	10	15	5	10	15
25	0.90	1.50	2.10	0.72	1.20	1.68	0.60	1.00	1.39	0.50	0.84	1.18	0.43	0.72	1.01
30	0.80	1.34	1.87	0.64	1.07	1.50	0.53	0.89	1.24	0.45	0.75	1.05	0.39	0.64	0.90
32	0.75	1.25	1.75	0.60	1.00	1.40	0.50	0.83	1.16	0.42	0.70	0.98	0.36	0.60	0.84
35	0.68	1.13	1.58	0.54	0.90	1.26	0.45	0.75	1.05	0.38	0.63	0.88	0.32	0.54	0.76
43	0.45	0.75	1.05	0.36	0.60	0.84	0.30	0.50	0.69	0.25	0.42	0.59	0.21	0.36	0.51

Data C Correction factor for air pressure/Series IDU and IDF

Inlet air pressure (MPa)	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
Correction factor	0.65	0.68	0.77	0.84	0.90	0.95	1.00	1.03	1.06	1.08

Data D-1 Air flow capacity/Series IDU

Model	IDU3D	IDU4D	IDU6D	IDU8D	IDU11C	IDU15C	IDU22C1	IDU37C1	IDU55C	IDU75C
Air flow capacity (l/min (ANR))	300	430	640	850	1300	2050	3150	5200	7650	10500
	350	500	750	1000	1500	2400	3700	6100	9000	12400

Data D-2 Air flow capacity/Series IDF

Model	IDF1D	IDF2D	IDF3D	IDF4D	IDF6D	IDF8D	IDF11C	IDF15C	IDF22C1	IDF37C1	IDF55C	IDF75C	IDF120D	IDF150D	IDF190D	IDF240D	IDF370B
Air flow capacity (l/min (ANR))	100	200	300	430	640	850	1300	2050	3150	5200	7650	10500	20000	25000	32000	43000	54000
	120	235	350	500	750	1000	1500	2400	3700	6100	9000	12400	23000	30000	38000	50000	65000

HA

AT

ID

AMG

AFF

AM

Misc.

The models IDF1E to 11E and IDU3E to 6E have been revised. For details, refer to catalog no. ES30-8A. Similar updating for other IDF/IDU models is scheduled to follow shortly.

Refrigerant R134a

Series IDU Small

3D, 4D, 6D, 8D

How to Order

IDU

Model	3D	4D	6D	8D				
Voltage	1	2	4	6				
Options (No options for standard specification models)	C	E	H	L	M	R	S	T

Voltage		
Single phase	100VAC (50Hz) 100 to 110VAC (60Hz)	1
	200VAC (50Hz) 200 to 220VAC (60Hz)	2
	240VAC (50Hz) 220 to 240VAC (50Hz)	4
	220VAC (50Hz)	6

Model	Air compressor	Refrigerant
3D	2.2kW	R134a
4D	3.7kW	
6D	5.5kW	
8D	7.5kW	

Model and voltage combinations

Voltage	1	2	4	6
	100VAC (50Hz) 100 to 110VAC (60Hz)	200VAC (50Hz) 200 to 220VAC (60Hz)	220 to 240VAC (50Hz)	240VAC (50Hz) 220VAC (50Hz)
Model	3D	4D	6D	8D
	●	●	●	●
	●	●	●	●
	●	●	●	●
	●	●	●	●

Option

Option	C	E	H	L	M	R	S	T
Optional specification	With anti-corrosive treatment	With evaporation thermometer	For medium air pressure	With heavy duty auto drain	With motor operated auto drain	With circuit breaker	With power cord connection	With terminal block for run & alarm signal and remote operation
Model	3D	4D	6D	8D	3D	4D	6D	8D
	●	●	●	●	●	●	●	●
	●	●	●	●	●	●	●	●
	●	●	●	●	●	●	●	●
	●	●	●	●	●	●	●	●

Note 1) Single phase 200 to 240VAC is "S" specification standard.
 Note 2) Combinations of H and M, R and S, S and T, L and M are not available.
 Note 3) Option "T" is not available for IDU6D, 8D-4 and -6.



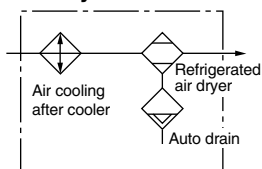
* Refer to pages 14-17-26 to 14-17-27 for further information on options.

The models IDF1E to 11E and IDU3E to 6E have been revised. For details, refer to catalog no. ES30-8A. Similar updating for other IDF/IDU models is scheduled to follow shortly.

Standard Specifications/Models



JIS Symbol

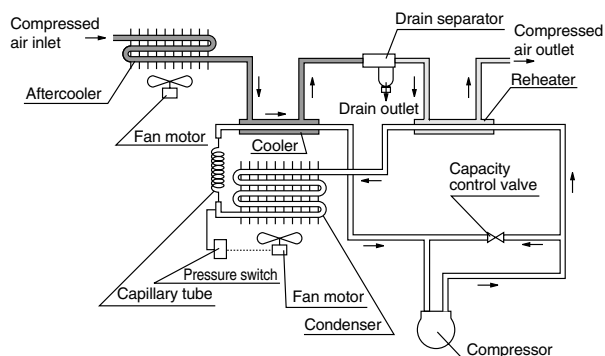


Specification		Model	IDU3D	IDU4D	IDU6D	IDU8D	
Rated Conditions	Air flow rate ^{Note 2)} ℓ/min (ANR)	50Hz	300	430	640	850	
		60Hz	350	500	750	1000	
	Operating pressure (MPa)	0.7					
	Inlet air temperature (°C)	60				55	
	Ambient temperature (°C)	32					
Operating Ranges	Pressure dew point (°C)	10					
	Working fluid	Compressed air					
	Inlet air temperature (°C)	5 to 80				5 to 75	
	Inlet air pressure (MPa)	0.15 to 1.0					
Electrical Specifications	Ambient temperature (°C)	2 to 40 (Relative humidity of 85% or less)					
	Power source	Single phase, 100/100 to 110VAC (50/60Hz) Single phase, 200/200 to 220VAC (50/60Hz) Single phase, 220, 240/200 to 240VAC (50Hz)					
	Power consumption (W)	100 VAC	50Hz	225	250	305	340
			60Hz	275	350	380	415
		200 VAC	50Hz	205	220	300	325
			60Hz	240	280	350	375
		220 to 240VAC	50Hz	—	—	—	332
			220VAC	50Hz	182	265	280
	240VAC	50Hz	189	275	295	—	
	Circuit breaker (A) ^{Note 3)}	10 (for 100VAC), 5 (for 200VAC)					
Condenser	Air cooled						
Refrigerant	R134a						
Air connection	Rc 3/8		Rc 1/2		Rc 3/4		
Drain connection	Drain tube ø10 attached			Rc 1/4			
Auto drain	AD43			INA-20-41-04 ^{Note 5)}			
Weight (kg)	100 to 200VAC	23	31	43	47		
	220 to 240VAC	24	31	46	53		
Coating color	Munsell 10Y8/0.5 (White)						
Applicable compressor (screw type) kW	2.2	3.7	5.5	7.5			

- Note 1)** Select an air dryer according to the selection method and not the rated conditions.
Note 2) The data for ℓ/min (ANR) refers to the conditions of 20°C, 1atm. pressure and relative humidity of 65%.
Note 3) Install a circuit breaker with sensitivity of ≤ 30mA.
Note 4) IDU3D to 8D-4/6 are only for frequency of 50Hz.
Note 5) Spare part for auto drain INA-20-41-04 is AD44-x445.

Operation Principles

IDU3D

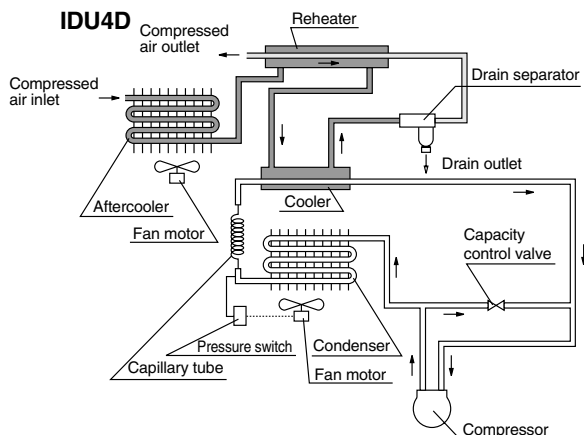


Humid hot air entering the air dryer is cooled in the aftercooler (air-cooling style) and then further cooled by the cooler.

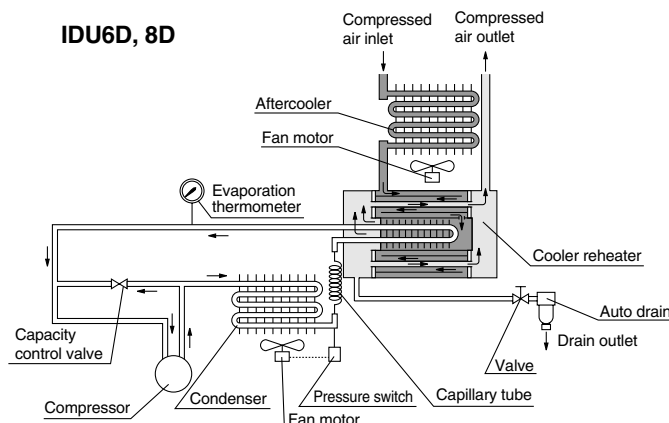
At this time, the condensed moisture is separated from the air by the drain separator and automatically discharged. (IDU3D uses hot refrigerant vapor for reheating.)

The dried clean air is heated by the hot air that has entered the dryer. It is then discharged from air dryer outlet.

IDU4D



IDU6D, 8D



HA

AT

ID

AMG

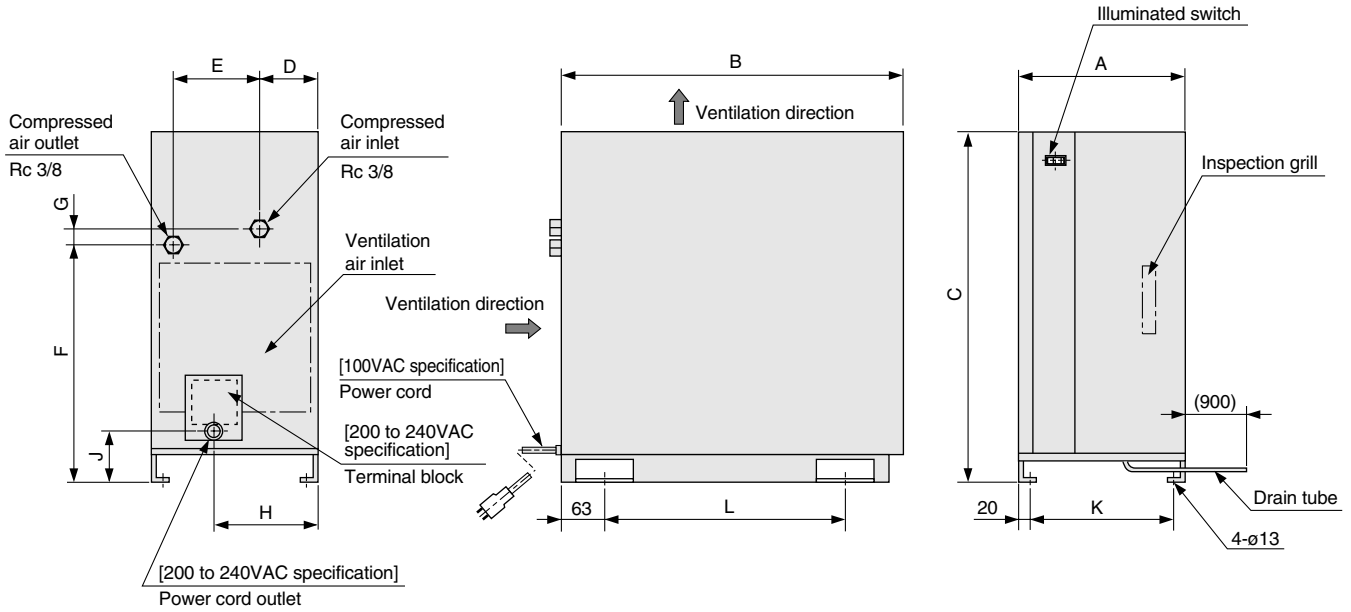
AFF

AM

Misc.

The models IDF1E to 11E and IDU3E to 6E have been revised. For details, refer to catalog no. ES30-8A. Similar updating for other IDF/IDU models is scheduled to follow shortly.

IDU3D, 4D

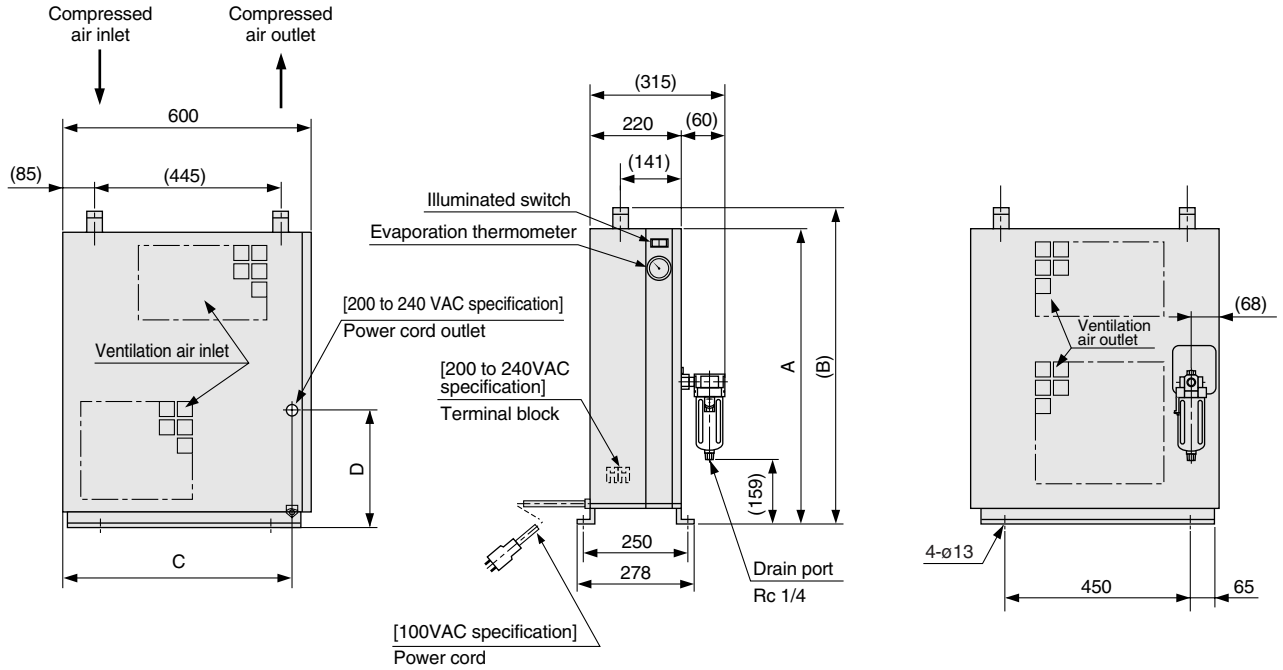


Model	Port size	A	B	C	D	E	F	G	H	J	K	L		
IDU3D	Rc 3/8	246	496	509	87	125	344	23	175	151	44	67	206	356
IDU4D		242	591	606	31	170	469	13	171	179	44	67	202	446

□ : Power source 200 to 240VAC

The models IDF1E to 11E and IDU3E to 6E have been revised.
 For details, refer to catalog no. ES30-8A. Similar updating
 for other IDF/IDU models is scheduled to follow shortly.

IDU6D, 8D



* Auto drain is packed together with air dryer. (Some assembly is required.)

Model	Port size	A	B	C	D
IDU6D	R 1/2	710	760	560 [551]	240 [75]
IDU8D	R 3/4	810	860		

[] : Power source 220 to 240VAC

- HA
- AT
- ID**
- AMG
- AFF
- AM
- Misc.

The models IDF1E to 11E and IDU3E to 6E have been revised. For details, refer to catalog no. ES30-8A. Similar updating for other IDF/IDU models is scheduled to follow shortly.

Refrigerant R22, R134a

Series IDU Medium

11D, 11C, 15C, 15C1, 22C, 22C1, 37C, 37C1, 55C, 75C

How to Order

IDU

Model	11D
	11C
	15C
	22C
	22C1
	37C
	37C1
	55C
	75C

Voltage

1
2
3
4
6

Options (No options for standard specification models)

C
E
H
L
M
R
S
T

Model	Air compressor	Refrigerant
11D	11kW	R134a
11C		
15C	15kW	R22
22C/22C1	22kW	
37C/37C1	37kW	
55C	55kW	
75C	75kW	

Voltage		
Single phase 100VAC (50Hz) 100 to 110VAC (60Hz)	1	
Single phase 200VAC (50Hz) 200 to 220VAC (60Hz)	2	
Three phase 200VAC (50Hz) 200 to 220VAC (60Hz)	3	
Single phase 240VAC (50Hz) 220 to 240VAC (50Hz)	4	
Single phase 220VAC (50Hz)	6	

Note 1 Options for "-4" and "-6" are not currently available. Please contact our subsidiaries if necessary.

Note 2 A combination of two options is standard. A combination of three or more optional items is handled as a special order product.

Note 3 200 to 240VAC is "S" specification standard.

Note 4 Combinations of M and H, H and M, R and S, S and T, L and M are not available.

Note 5 Option "T" is not available for IDU55C and 75C-4/6.

Option	C	E	H	L	M	R	S	T
Optional specification	With anti-corrosive treatment	With evaporation thermometer	For high air pressure	With heavy duty auto drain	With motor operated auto drain	With circuit breaker	With power cord connection	With terminal block for run & alarm signal
Model		Standard					Standard	
11C/11D	●		●	●	●	●	●	●
15C	●		●	●	●	●	●	●
22C1/22C	●		●	●	●	●	●	●
37C1/37C	●			●	●	●	●	●
55C	●			●	●	●	●	● Note 5
75C	●			●	●	●	●	● Note 5

* Refer to pages 14-17-26 to 14-17-27 for further information on options.

Model and voltage combinations

Voltage	1		2		3		4		6	
	Single phase		Three phase		Single phase		Single phase		Single phase	
	100VAC (50Hz) 100 to 110VAC (60Hz)	200VAC (50Hz) 200 to 220VAC (60Hz)	200VAC (50Hz) 200 to 220VAC (60Hz)	200VAC (50Hz) 200 to 220VAC (60Hz)	220 to 240VAC (50Hz)	240VAC (50Hz)	220VAC (50Hz)	220VAC (50Hz)	220VAC (50Hz)	220VAC (50Hz)
Model										
11D					●					
11C	●									
15C	●	●					●		●	
22C							●		●	
22C1				●						
37C							●		●	
37C1				●						
55C				●			●		●	
75C				●			●		●	

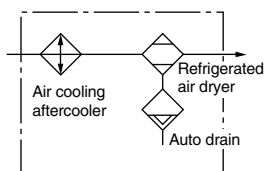
The models IDF1E to 11E and IDU3E to 6E have been revised. For details, refer to catalog no. ES30-8A. Similar updating for other IDF/IDU models is scheduled to follow shortly.



Standard Specifications/Models

Specification		Model											
		IDU11D	IDU11C	IDU15C	IDU22C	IDU22C1	IDU37C	IDU37C1	IDU55C	IDU75C			
Rated Conditions	Air flow rate ^{Note 2)} l/min (ANR)	50Hz	1300	1300	2050	3150	5200	7650	10500				
		60Hz	—	1500	2400	—	3700	—	6100	9000	12400		
	Operating pressure (MPa)	0.7											
	Inlet air temperature (°C)	55							50				
	Ambient temperature (°C)	32											
Operating Ranges	Ambient temperature (°C)	32											
	Pressure dew point (°C)	10											
	Working fluid	Compressed air											
	Inlet air temperature (°C)	5 to 75				5 to 70			5 to 60				
	Inlet air pressure (MPa)	0.15 to 1.0											
Electrical Specifications	Ambient temperature (°C)	2 to 40 (Relative humidity of 85% or less)											
	Power source	Single phase, 100/100 to 110VAC (50/60Hz) 220, 240VAC (50Hz) 220 to 240VAC (50Hz)					Three phase, 200/200 to 220VAC (50/60Hz) Single phase, 220, 240VAC (50Hz)						
	Power consumption (W)	100 VAC	50Hz	—	360	583	—	—	—	—	—	—	
			60Hz	—	385	700	—	—	—	—	—		
		200 VAC	50Hz	—	348	597	—	750	—	870	1520	2290	
			60Hz	—	384	690	—	880	—	1040	1910	2770	
		220 to 240VAC	50Hz	377	—	—	—	—	—	—	—	—	
	220VAC	50Hz	—	—	600	790	—	870	—	1650	2340		
	240VAC	50Hz	—	—	620	815	—	900	—	1700	2390		
	Circuit breaker (A) ^{Note 3)}	10 (for 100VAC), 5 (for 200VAC)				10			15				
Condenser	Air cooled												
Refrigerant	R134a					R22							
Air connection	Rc 3/4			Rc 1			Rc 1 1/2		Rc 2				
Drain connection	Rc 1/4												
Auto drain	INA-20-41-04 ^{Note 5)}												
Weight (kg)	100 to 200VAC	—	59	66	—	83	—	114	160	185			
	220 to 240VAC	62	—	70	85	—	115	—	170	194			
Coating color	Munsell 10Y8/0.5 (White)												
Applicable compressor (screw type) kW	11		15		22		37		55		75		

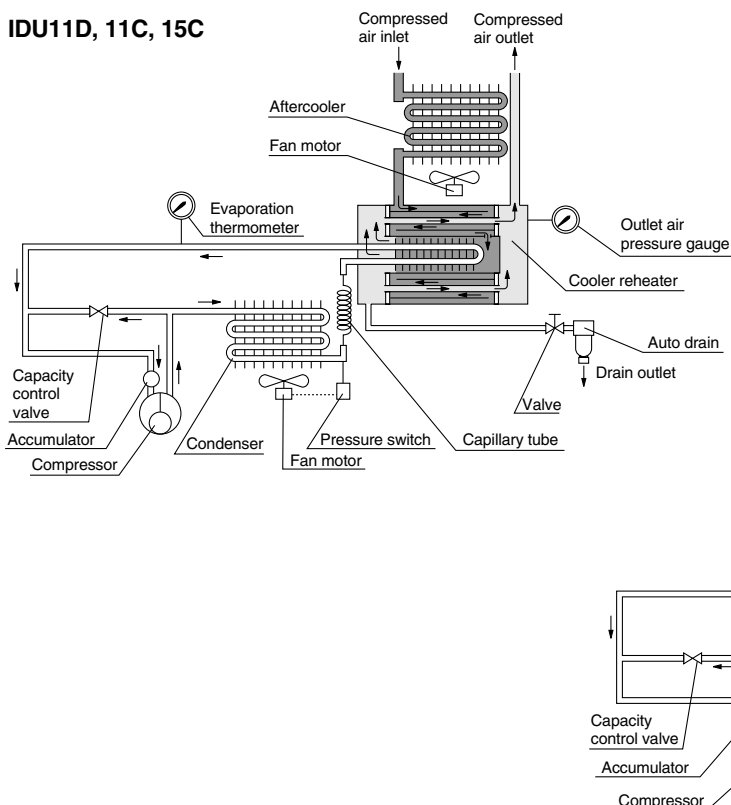
JIS Symbol



- Note 1) Select an air dryer according to the selection method and not the rated conditions.
- Note 2) The data for l/min (ANR) refers to the conditions of 20°C, 1 atm. pressure and relative humidity of 65%.
- Note 3) Install a circuit breaker with sensitivity of ≤ 30 mA.
- Note 4) IDU11D to 75C-4/6 are only for frequency of 50Hz.
- Note 5) Spare part for auto drain INA-20-41-04 is AD44-x445.

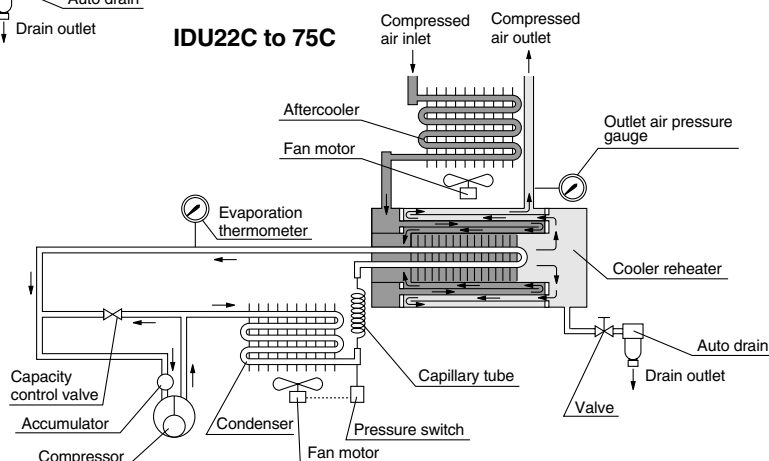
Operation Principles

IDU11D, 11C, 15C



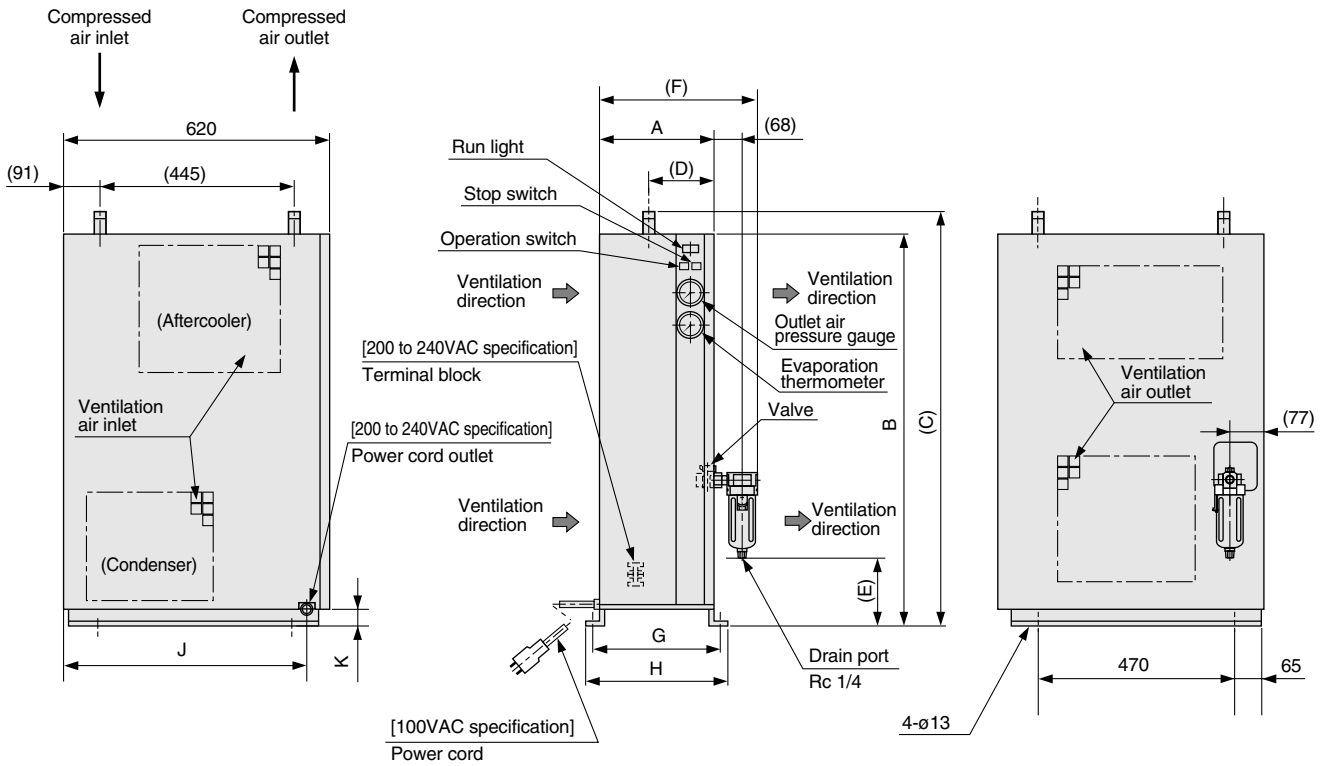
Humid hot air entering the air dryer is cooled in the after-cooler. It then enters the reheater to create an initial condensation with cooled and dehumidified air. The hot air is cooled further and dehumidified inside the cooler as heat is transferred to the refrigerant. The water vapor condensed by the cooling process is cooled and discharged automatically through the auto drain. Cool air is then heated again inside the reheater (heat is transferred from incoming hot air), before leaving the air dryer.

IDU22C to 75C



- HA
- AT
- ID
- AMG
- AFF
- AM
- Misc.

IDU11D, 11C, 15C



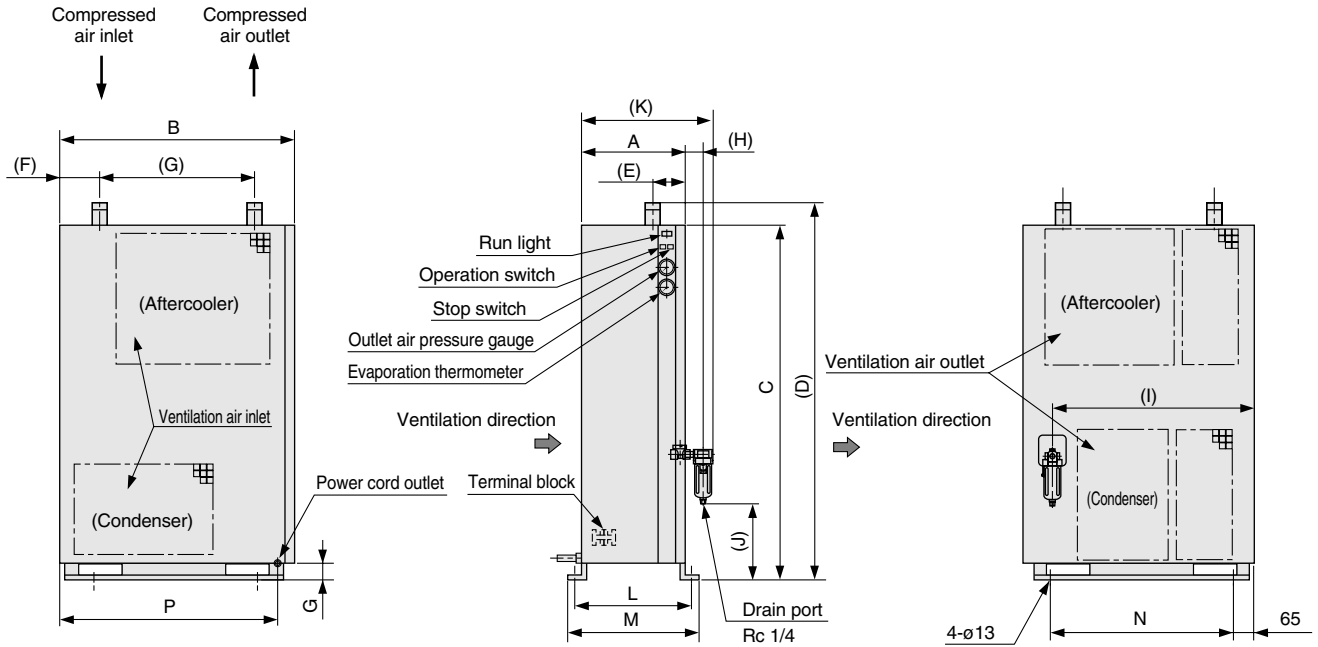
* Auto drain is packed together with air dryer. (Some assembly is required.)

Model	Port size	A	B	C	D	E	F	G	H	J	K
IDU11C/11D	R 3/4	260	910	959	152	157	363	289	317	571	580
IDU15C	R 1	280	960	1009	175	207	383	309	337	571	70

□ : Power source 220 to 240VAC

The models IDF1E to 11E and IDU3E to 6E have been revised. For details, refer to catalog no. ES30-8A. Similar updating for other IDF/IDU models is scheduled to follow shortly.

IDU22C, 22C1, 37C, 37C1, 55C, 75C



* Auto drain is packed together with air dryer. (Some assembly is required.)

Model	Port size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q
IDU22C1/22C	R 1	300	750	1155	1235	71	70	445	63	642	219	398	328	356	600	700 <input type="checkbox"/>	50 <input type="checkbox"/> 90
IDU37C1/37C	R 1 1/2	360	830	1260	1350	112	136	550	68	722	269	463	388	416	680	780 <input type="checkbox"/> 776	50 <input type="checkbox"/> 90
IDU55C	R 2	405	850	1340	1440	87	155	530	68	722	267	508	433	461	700	800 <input type="checkbox"/> 800	50 <input type="checkbox"/> 95
IDU75C	R 2	425	850	1475	1575	87	220	530	68	722	317	528	453	481	700	800 <input type="checkbox"/> 800	50 <input type="checkbox"/> 95

: Power source 220 to 240VAC

- HA
- AT
- ID
- AMG
- AFF
- AM
- Misc.

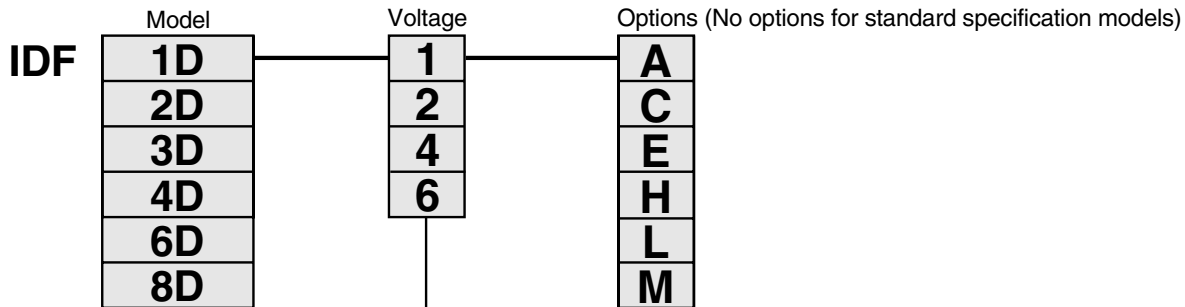
The models IDF1E to 11E and IDU3E to 6E have been revised. For details, refer to catalog no. ES30-8A. Similar updating for other IDF/IDU models is scheduled to follow shortly.

Refrigerant R134a

Series **IDF** Small

1D, 2D, 3D, 4D, 6D, 8D

How to Order



Voltage		
Single phase	100VAC (50Hz) 100 to 110VAC (60Hz)	1
	200VAC (50Hz) 200 to 220VAC (60Hz)	2
	240VAC (50Hz) 220 to 240VAC (50Hz)	4
	220VAC (50Hz)	6



Note 1) A combination of three or more optional items is handled as a special order product.

Note 2) Single phase 220 to 240VAC is "S" specification standard.

Note 3) Combinations of H and M, R and S, S and T, A and H, L and M are not available.

Note 4) Option "T" is not available for IDF6D, 8D-4 and -6.

Model	Air compressor	Refrigerant
1D	0.75kW	R134a
2D	1.5kW	
3D	2.2kW	
4D	3.7kW	
6D	5.5kW	
8D	7.5kW	

Option	A	C	E	H	L	M	R	S	T
Optional specification	With cool compressed air output	With anti-corrosive treatment	With evaporation thermometer	For medium air pressure	With heavy duty auto drain	With motor operated auto drain	With circuit breaker	With power cord connection	With terminal block for run & alarm signal and remote operation
Model									
1D	●	●						●	
2D	●	●						●	
3D	●	●	●					●	
4D	●	●	●	●				●	
6D	●	●	Standard	●	●	●	●	●	● Note 4)
8D	●	●	Standard	●	●	●	●	●	● Note 4)



* Refer to pages 14-17-26 to 14-17-27 for further information on options.

Model and voltage combinations

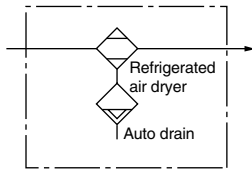
Model	Voltage 1		Voltage 2		Voltage 4		Voltage 6	
	100VAC (50Hz) 100 to 110VAC (60Hz)	200VAC (50Hz) 200 to 220VAC (60Hz)	220 to 240VAC (50Hz)	240VAC (50Hz)	220VAC (50Hz)			
1D	●							
2D	●							
3D	●	●		●	●			
4D	●	●		●	●			
6D	●	●	●					
8D	●	●	●					

The models IDF1E to 11E and IDU3E to 6E have been revised. For details, refer to catalog no. ES30-8A. Similar updating for other IDF/IDU models is scheduled to follow shortly.

Refrigerated Air Dryer Series **IDF**Small



JIS Symbol



Standard Specifications/Models

Specification		Model	IDF1D	IDF2D	IDD3D	IDF4D	IDF6D	IDF8D	
Air flow rate ^{Note 2)} ℓ/min (ANR)	50Hz		100	200	300	430	640	850	
	60Hz		120	235	350	500	750	1000	
Operating pressure (MPa)			0.7						
Inlet air temperature (°C)			35	40					
Ambient temperature (°C)			32						
Pressure dew point (°C)			10						
Working fluid			Compressed air						
Inlet air temperature (°C)			5 to 50						
Inlet air pressure (MPa)			0.15 to 1.0						
Ambient temperature (°C)			2 to 40 (Relative humidity of 85% or less)						
Power source			Single phase, 100/100 to 110VAC (50/60Hz)		Single phase, 100/100 to 110VAC (50/60Hz) Single phase, 200/200 to 220VAC (50/60Hz) Single phase, 220, 240/220 to 240VAC (50Hz)				
Power consumption (W)	100 VAC	50Hz	184	187	210	207	283	283	
		60Hz	213	210	260	250	330	330	
	220 to 240VAC	50Hz	—	—	—	—	259	292	
		220VAC	50Hz	—	—	172	247	—	—
		240VAC	50Hz	—	—	179	257	—	—
Circuit breaker (A) ^{Note 3)}			10 (for 100VAC), 5 (for 200VAC)						
Condenser			Air cooled						
Refrigerant			R134a						
Air connection			Rc 3/8				Rc 1/2	Rc 3/4	
Drain connection			Drain tube ø10 attached				Rc 1/4		
Auto drain			AD53	AD43		INA-20-41-04 ^{Note 5)}			
Weight (kg)	100 to 200VAC		15	16	18	26	32	32	
	220 to 240VAC		—		19	26	35	38	
Coating color			Munsell 10Y8/0.5 (White)						
Applicable compressor (screw type) kW			0.75	1.5	2.2	3.7	5.5	7.5	



Note 1) Select an air dryer according to the selection method and not the rated conditions.

Note 2) The data for ℓ/min (ANR) refers to the conditions of 20°C, 1 atm. pressure and relative humidity of 65%.

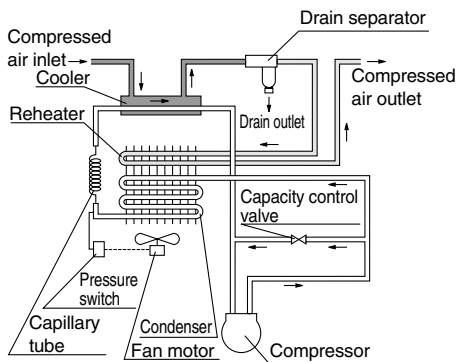
Note 3) Install a circuit breaker with sensitivity of ≤30 mA.

Note 4) IDF3D to 8D-4/6 are only for frequency of 50Hz.

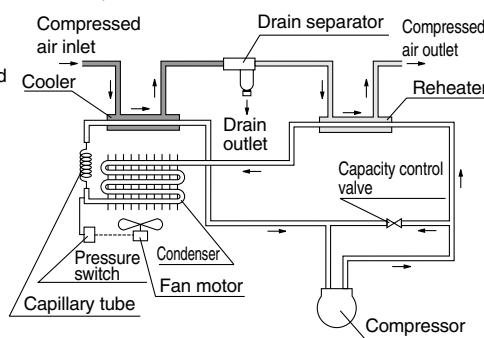
Note 5) Spare part for auto drain INA-20-41-04 is AD44- x445.

Operation Principles

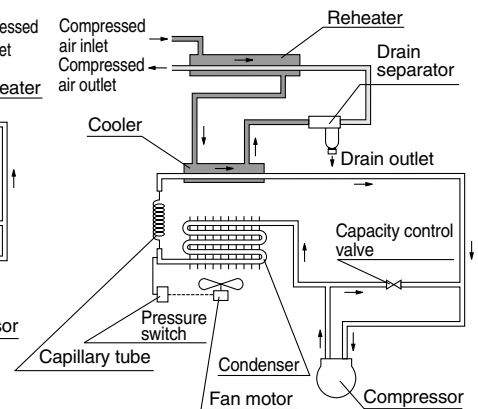
IDF1D



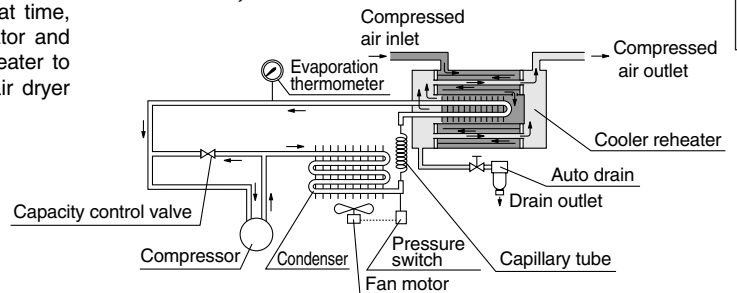
IDF2D, 3D



IDF4D



IDF6D, 8D



Hot humid air entering the air dryer is cooled by the cooler. At that time, condensed moisture is separated from the air by the drain separator and automatically discharged. The dried clean air is heated by the reheater to about the ambient temperature, and is then discharged from the air dryer outlet.

HA

AT

ID

AMG

AFF

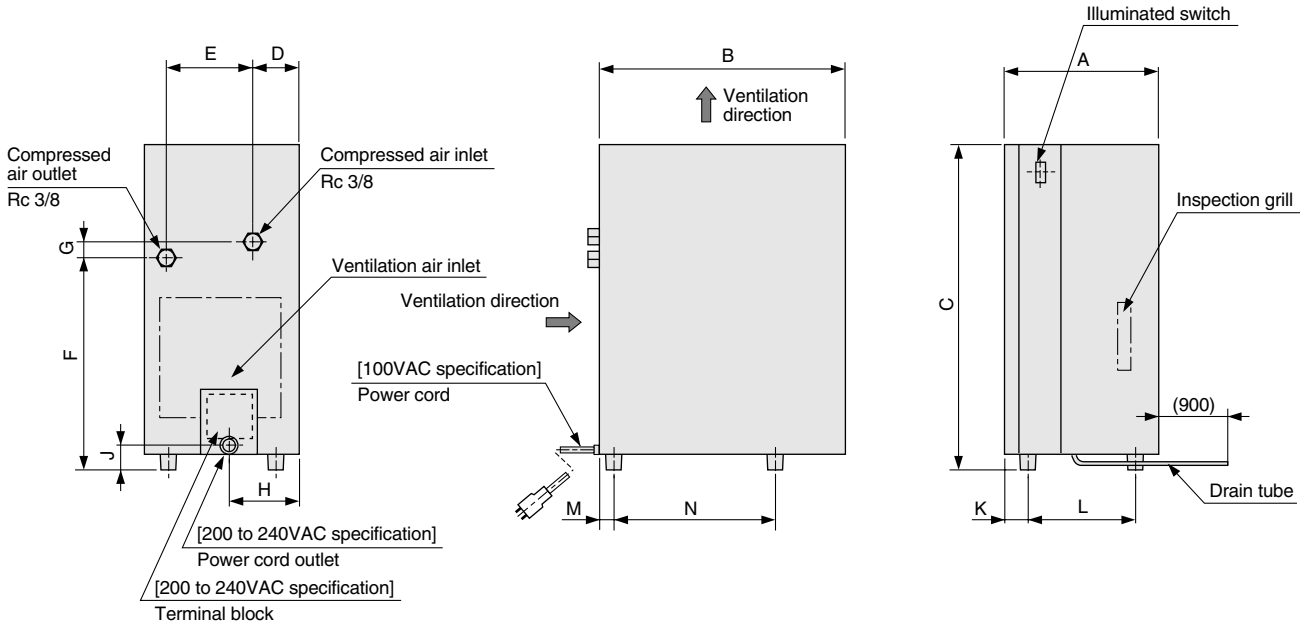
AM

Misc.

Series IDF **Small**

The models IDF1E to 11E and IDU3E to 6E have been revised. For details, refer to catalog no. ES30-8A. Similar updating for other IDF/IDU models is scheduled to follow shortly.

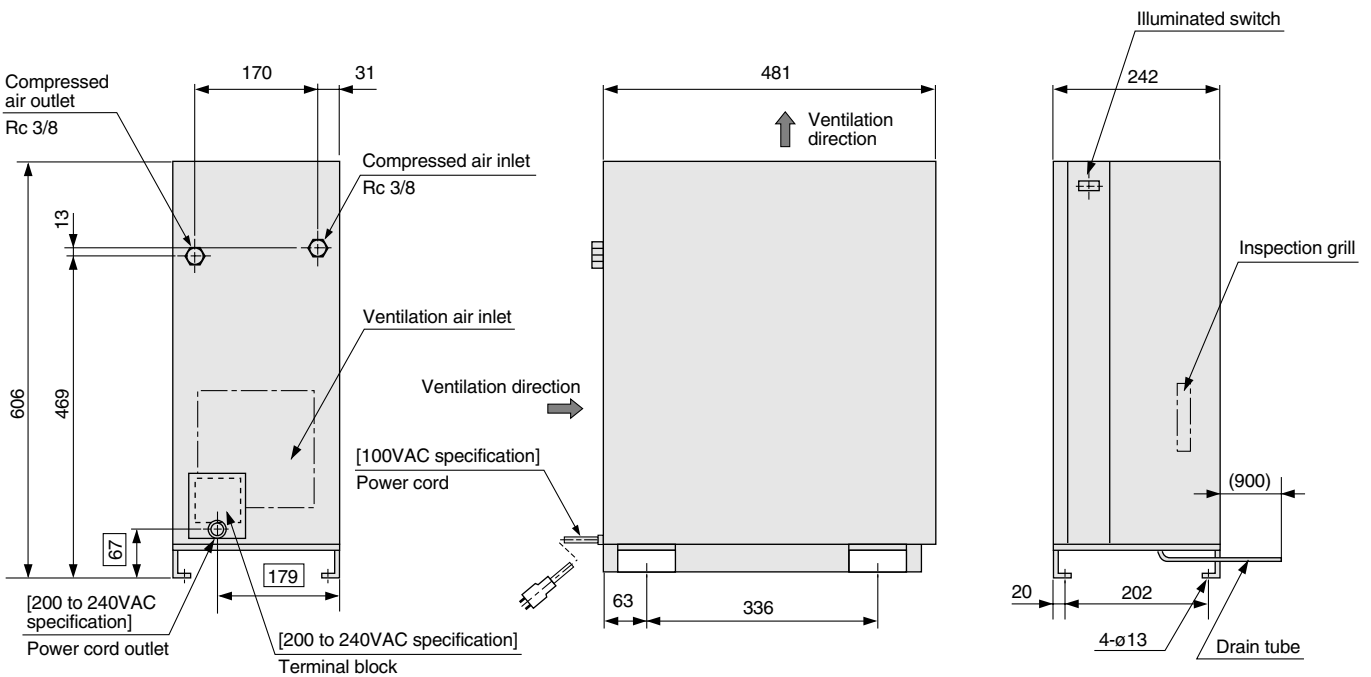
IDF1D, 2D, 3D



Model	Port size	A	B	C	D	E	F	G	H	J	K	L	M	N
IDF1D	Rc 3/8	200	328	395	59	74	247	36	—	—	34	132	38	198
IDF2D		226	328	410	51	125	232	138	—	—	38	150	24	217
IDF3D		226	358	470	67	125	304	33	[103]	[28]	36	154	21	236

□ : Power source 200 to 240VAC

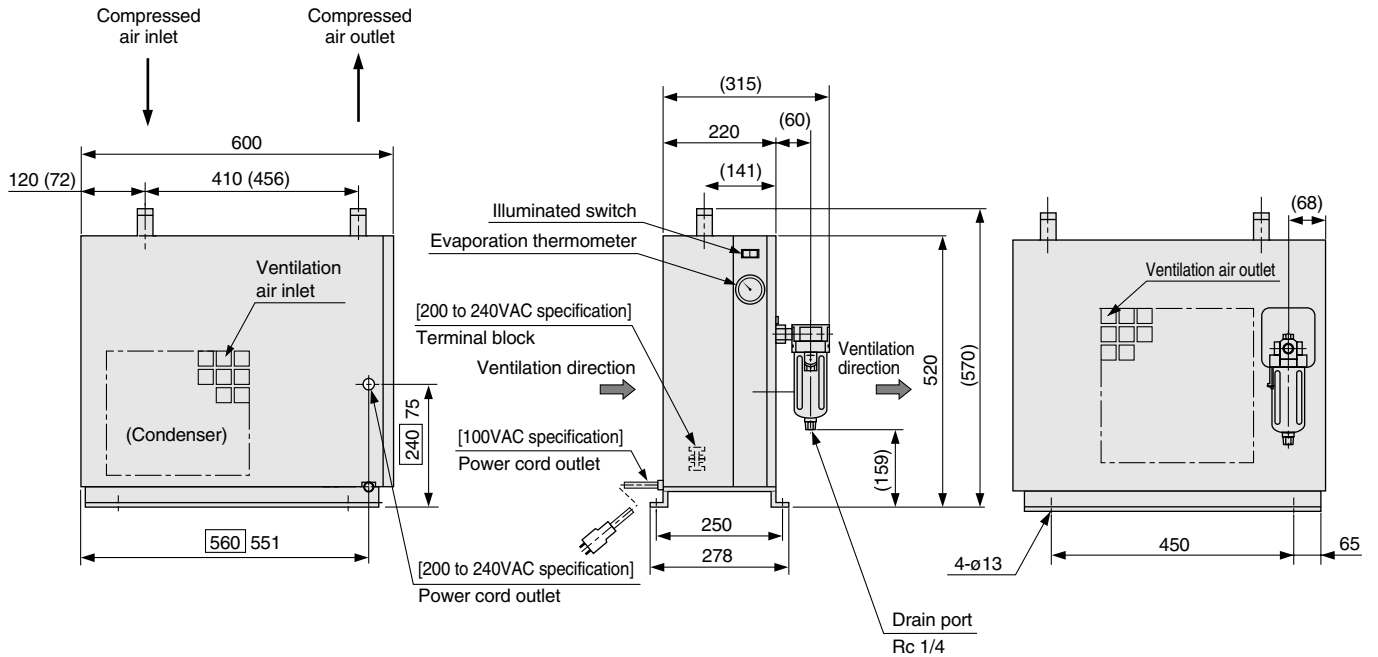
IDF4D



□ : Power source 200 to 240VAC

The models IDF1E to 11E and IDU3E to 6E have been revised. For details, refer to catalog no. ES30-8A. Similar updating for other IDF/IDU models is scheduled to follow shortly.

IDF6D, 8D



□: In case of 200VAC. Dimension shown on the right is for 220 to 240VAC.
 (): Dimension within bracket is for air dryer with option A, with cool compressed air output.
 Air inlet and outlet are reversed for air dryer with option A, with cool compressed air output.

* Auto drain is packed together with the air dryer. (Some assembly is required.)

Model	Port size
IDF6D	R 1/2
IDF8D	R 3/4

- HA □
- AT
- ID □**
- AMG
- AFF
- AM □
- Misc.

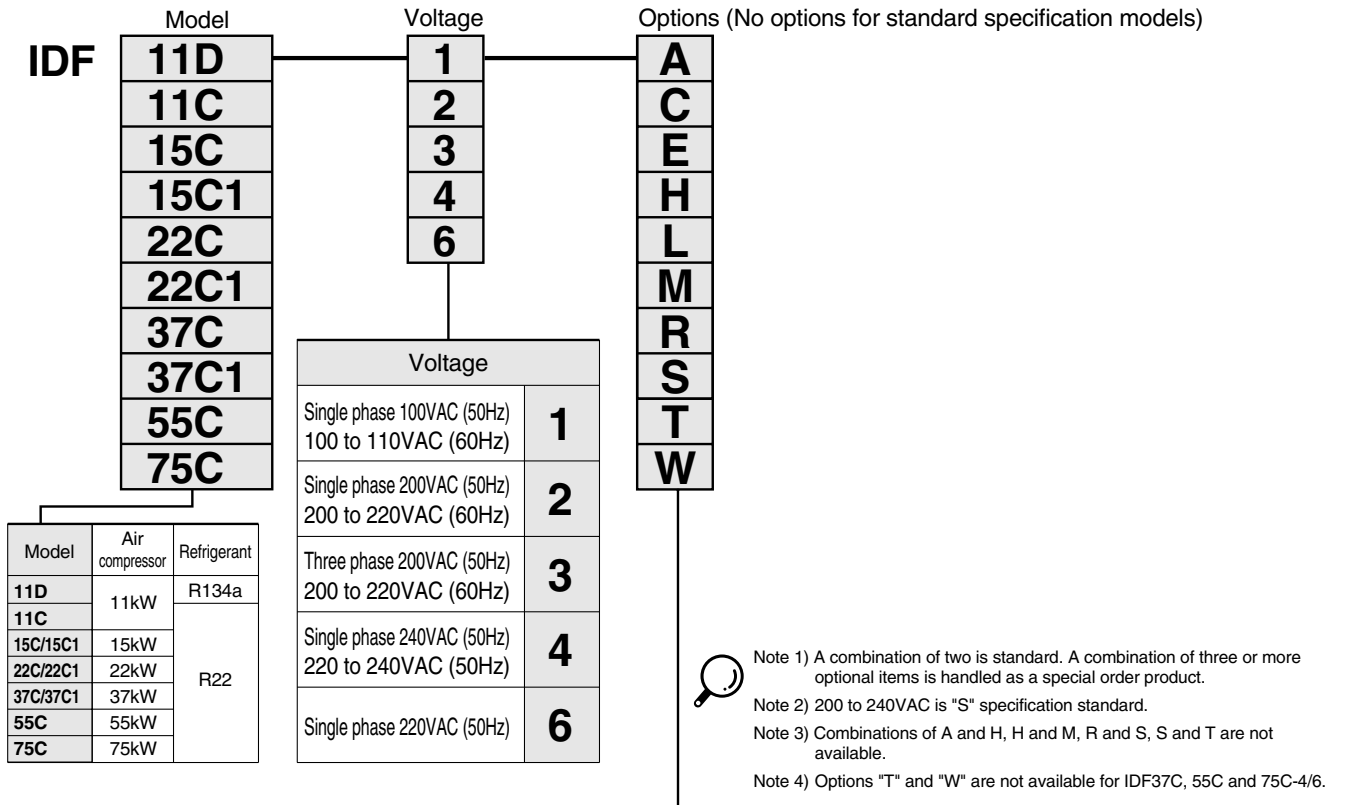
The models IDF1E to 11E and IDU3E to 6E have been revised. For details, refer to catalog no. ES30-8A. Similar updating for other IDF/IDU models is scheduled to follow shortly.

Refrigerant R22

Series **IDF** Medium

11D, 11C, 15C, 15C1, 22C, 22C1, 37C, 37C1, 55C, 75C

How to Order



Option	A	C	E	H	L	M	R	S	T	W	
Optional specification	With cool compressed air output	With anti-corrosive treatment	With evaporation thermometer	For medium air pressure	With heavy duty auto drain	With motor operated auto drain	With circuit breaker	With power cord connection	With terminal block for run & alarm signal	Water cooled condenser	
Model			Standard					Standard			
11C/11D	●	●		●	●	●	●		●	●	
15C/15C1	●	●		●	●	●	●		●	●	
22C/22C1	●	●		●	●	●	●		●	●	
37C/37C1	●	●		●	●	●	●		●	●	● Note 4)
55C	●	●		●	●	●	●		●	●	● Note 4)
75C	●	●	●	●	●	●	●	●	● Note 4)		

* Refer to pages 14-17-26 to 14-17-27 for further information on options.

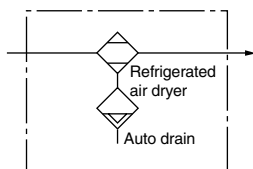
Model and voltage combinations

Voltage	1	2	3	4	6
	Single phase 100VAC (50Hz) 100 to 110VAC (60Hz)	Single phase 200VAC (50Hz) 200 to 220VAC (60Hz)	Three phase 200VAC (50Hz) 200 to 220VAC (60Hz)	Single phase 220 to 240VAC (50Hz)	Single phase 240VAC (50Hz)
Model					
11D				●	
11C	●	●			
15C	●	●			
15C1				●	●
22C				●	●
22C1			●		
37C				●	●
37C1			●		
55C			●	●	●
75C			●	●	●

The models IDF1E to 11E and IDU3E to 6E have been revised. For details, refer to catalog no. ES30-8A. Similar updating for other IDF/IDU models is scheduled to follow shortly.



JIS Symbol



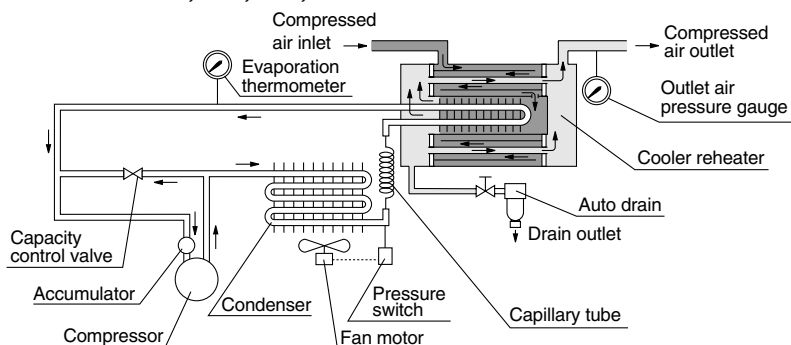
Standard Specifications/Models

Specification	Model	IDF11D	IDF11C	IDF15C	IDF15C1	IDF22C	IDF22C1	IDF37C	IDR37C1	IDF55C	IDF75C	
Air flow rate ^{Note 2)} l/min (ANR)	50Hz	1300	2050	3150	5200	7650	10500					
	60Hz	—	1500	2400	—	3700	—	6100	9000	12400		
Operating pressure (MPa)		0.7										
Inlet air temperature (°C)		40										
Ambient temperature (°C)		32										
Pressure dew point (°C)		10										
Working fluid		Compressed air										
Inlet air temperature (°C)		5 to 50										
Inlet air pressure (MPa)		0.15 to 1.0										
Ambient temperature (°C)		2 to 40 (Relative humidity of 85% or less)										
Power source		Single phase, 100/100 to 110VAC (50/60Hz) 220, 240VAC (50Hz) 220 to 240VAC (50Hz)					Three phase, 200/200 to 220VAC (50/60Hz) Single phase, 220, 240VAC (50Hz)					
Power consumption (W)	100 VAC	50Hz	—	320	543	—	—	—	—	—	—	—
		60Hz	—	347	662	—	—	—	—	—	—	—
	200 VAC	50Hz	—	308	561	—	—	670	—	750	1400	2100
		60Hz	—	346	652	—	—	800	—	880	1750	2150
	220 to 240VAC	50Hz	337	—	—	—	—	—	—	—	—	—
220VAC	50Hz	—	—	—	548	747	—	830	—	1530	2150	
240VAC	50Hz	—	—	—	570	777	—	860	—	1580	2200	
Circuit breaker (A) ^{Note 3)}		10 (for 100VAC), 5 (for 200VAC)					10			15		
Condenser		Air cooled										
Refrigerant		R134a										
Air connection		Rc 3/4		Rc 1			Rc 1 1/2		Rc 2			
Drain connection		Rc 1/4										
Auto drain		INA-20-41-04 ^{Note 5)}										
Weight (kg)	100 to 200VAC	—	47	50	—	—	60	—	72	114	126	
	220 to 240VAC	50	—	—	53	60	—	72	—	125	135	
Coating color		Munsell 10Y8/0.5 (White)										
Applicable compressor (screw type) kW		11		15		22		37		55		75

- Note 1) Select an air dryer according to the selection method and not the rated conditions.
- Note 2) The data for l/min (ANR) refers to the conditions of 20°C, 1 atm. pressure and relative humidity of 65%.
- Note 3) Install a circuit breaker with sensitivity of ≤30 mA.
- Note 4) IDU11D to 75C-4/6 are only for frequency of 50Hz.
- Note 5) Spare part for auto drain INA-20-41-04 is AD44-x445.

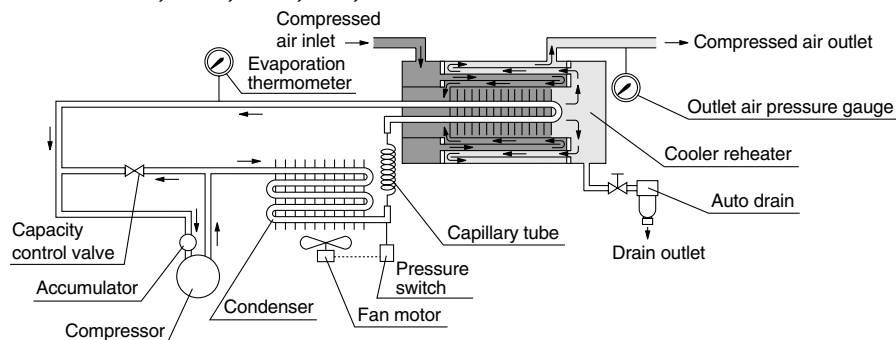
Operation Principles

IDF11D, 11C, 15C, 15C1



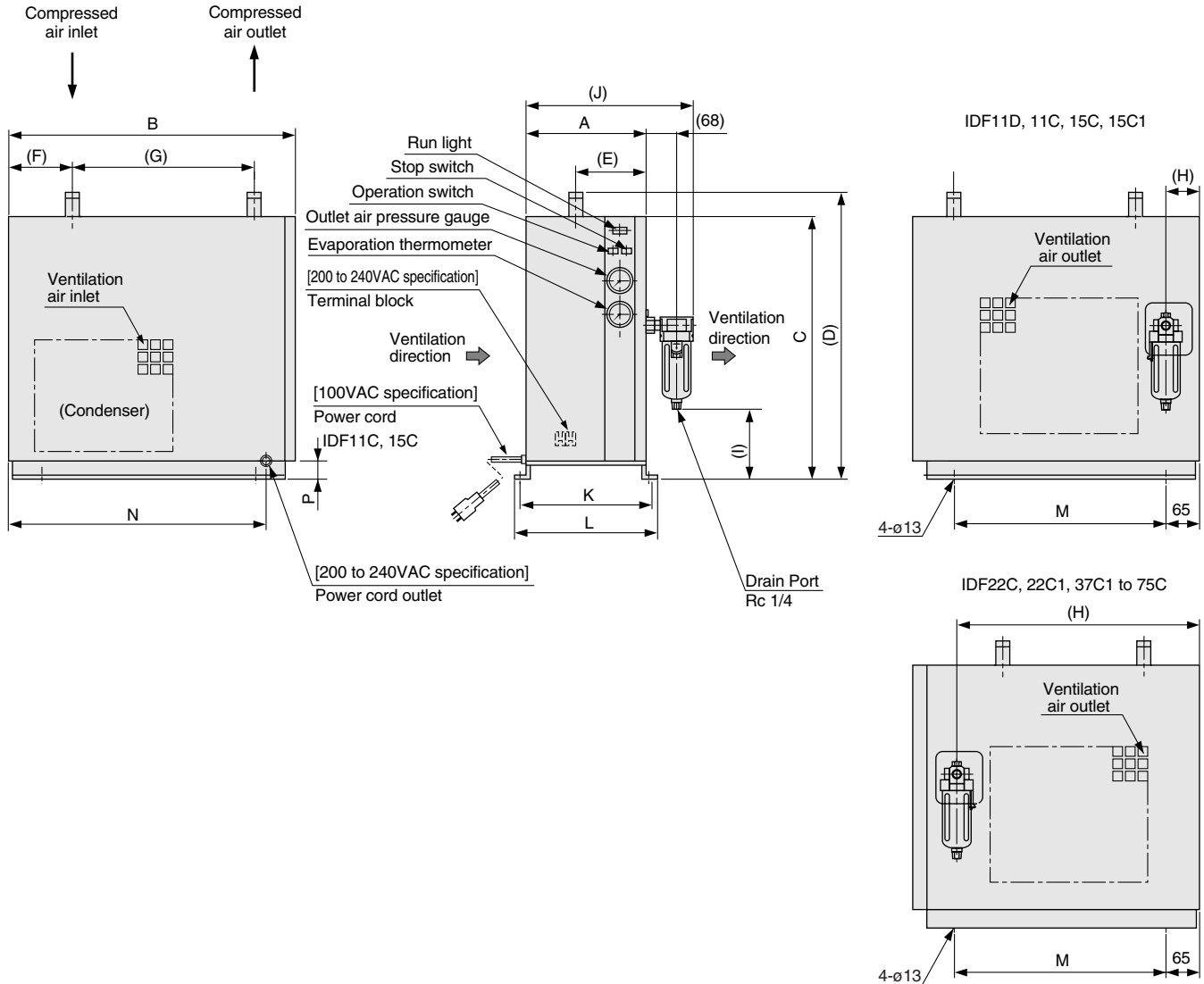
Hot humid air entering the reheater is pre-cooled by dehumidified cool air. (The hot air is cooled further and dehumidified inside the cooler as heat is transferred to the refrigerant. The water condensed by the cooling process is collected and discharged automatically by the auto drain.) Finally, the cool dehumidified air is heated in the reheater by hot inlet air and discharged in a dry state.

IDF22C, 22C1, 37C1, 55C, 75C



- HA
- AT
- ID
- AMG
- AFF
- AM
- Misc.

IDF11D, 11C, 15C, 15C1, 22C, 22C1, 37C1, 55C, 75C



* Auto drain is packed together with the air dryer. (Some assembly is required.)

Model	Port size	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P
IDF11C/11D	R 3/4	260	620	570	630	152	131 (85)	405 (450)	77	157	363	289	317	470	580 [580]	70 [65]
IDF15C/15C	R 1	280	620	620	680	175	131 (85)	405 (450)	77	207	383	309	337	470	580 [580]	70 [65]
IDF22C/22C1	R 1	295	750	680	760	183	98	405 (530)	642	199	398	323	351	600	700 [700]	70 [30]
IDF37C/37C1	R 1 1/2	320	830	730	810	208	98	405 (610)	722	249	423	348	376	680	776 [780]	70 [30]
IDF55C	R 2	405	850	850	930	85	98	405 (610)	722	247	508	433	461	700	800 [800]	75 [30]
IDF75C	R 2	425	850	900	980	85	98	405 (610)	722	297	528	453	481	700	802 [800]	75 [30]

□ : Power source 200VAC. Dimension shown on the right is for 220 to 240VAC.
() : Dimension within bracket is for air dryer with option A, with cool compressed air output.
Air inlet and outlet are reversed for air dryer with option A, with cool compressed air output.

Refrigerant R407C, R22

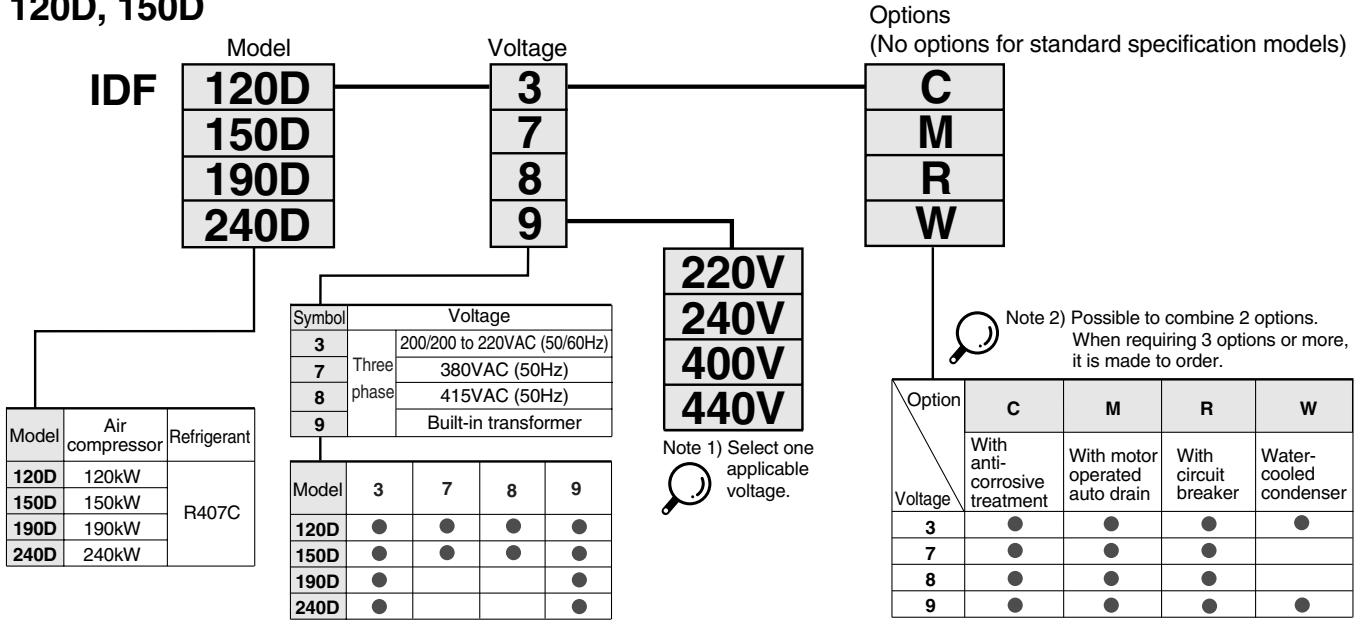
Series *IDF Large*

120D, 150D, 190D, 240D, 370B

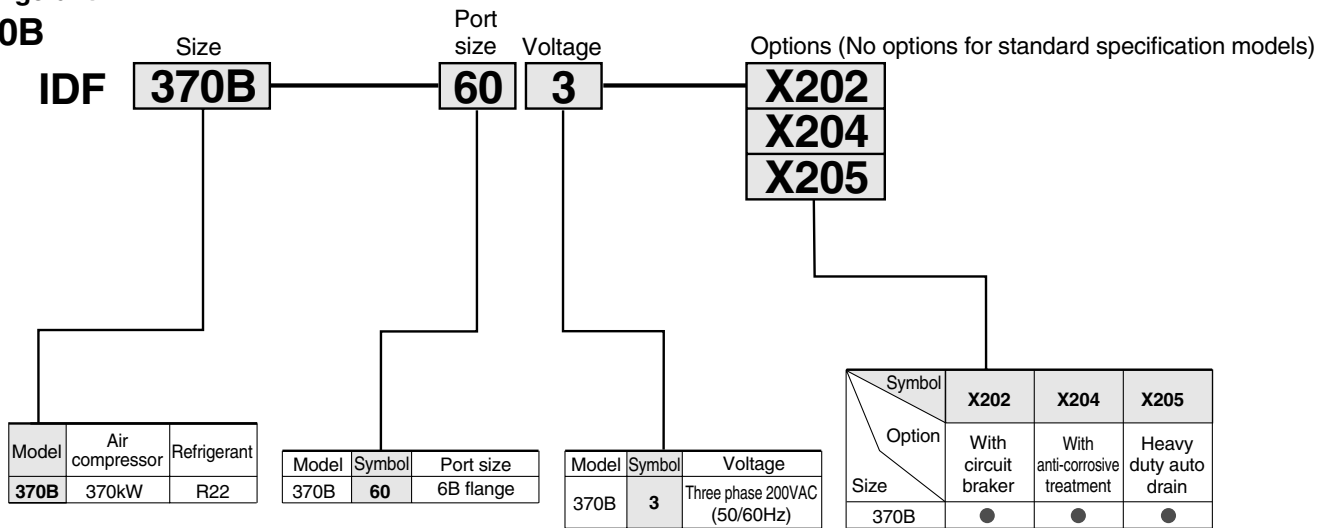
The models IDF1E to 11E and IDU3E to 6E have been revised. For details, refer to catalog no. ES30-8A. Similar updating for other IDF/IDU models is scheduled to follow shortly.

How to Order

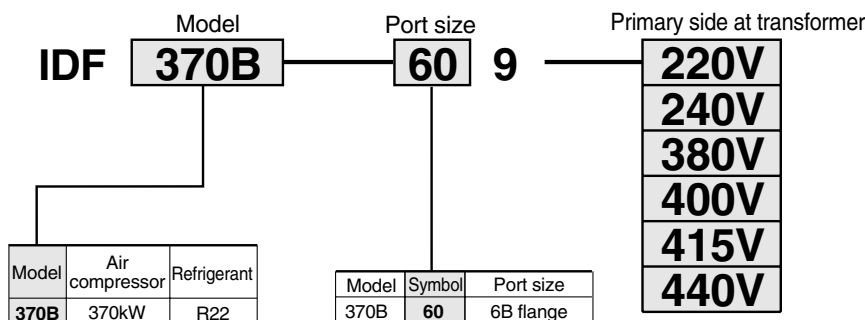
Refrigerant R407C 120D, 150D



Refrigerant R22 370B



Integrated with Transformer (Option)



- HA
- AT
- ID
- AMG
- AFF
- AM
- Misc.

Standard Specifications/Models

Specification		Model	IDF120D	IDF150D	IDF190D	IDF240D	IDF370B ^{Note 2)}	
Rated conditions	Air flow rate ^{Note 1)} (m ³ /min (ANR))	50Hz	20	25	32	43	54	
		60Hz	23	30	38	50	65	
	Inlet air pressure (MPa)		0.7					
	Inlet air temperature (°C)		40					
	Ambient temperature (°C)		32					
	Outlet air pressure dew point (°C)		10					
Operating ranges	Working fluid		Compressed air					
	Inlet air temperature (°C)		5 to 50					
	Inlet air pressure (MPa)		0.15 to 0.1					
	Ambient temperature (Humidity) (°C)		2 to 40 (Relative humidity of 85% or less)				2 to 43	
Electrical specifications	Power source		Three phase 200/220VAC (50/60Hz) Three phase 380VAC (50Hz) Three phase 415VAC (50Hz)		Three phase 200/220VAC (50/60Hz) Three phase 380VAC (50Hz) Three phase 415VAC (50Hz)		Three phase 200/220VAC (50/60Hz)	
	Power consumption (kw)	200AVC	50Hz	2.5	4.0	4.9	6.3	8.1
			60Hz	3.1	5.0	5.9	7.6	9.5
		380AVC 415AVC	50Hz	2.1	3.3	-	-	-
	2.2			3.4	-	-	-	
	Circuit breaker (A)	200AVC		30	50	50	60	80
		380AVC		15	20	-	-	-
		451AVC						
	Condenser			Air cooled				Water cooled
	Refrigerant			R407C				R22
Air connection			2 1/2B flange	3B flange	4B flange	6B flange		
Drain connection (Rc)			Rc 1/2				Rc 3/8	
Auto drain			ADH4000-04				ADM200-042-8	
Weight (kg)			330	350	450	660	1100	
Coating color			Body panel: Munsell 10Y8/0.5 (White) Base: Black				Front panel: Munsell 2.5PB5/8.5 (Blue) Other panels (Except base): Munsell N-8 (White)	
Applicable compressor (kw)			120	150	190	240	370	

Note 1) The data for l/min (ANR) refers to the conditions of 20°C, 1atm. pressure and relative humidity of 65%.
Note 2) This is made to order.

Water cooled condenser specifications (IDF370B)

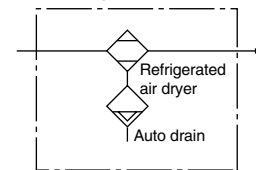
Condenser	Shell and tube system
Cooling water flow ^{Note 1)}	100 l/min
Cooling tower capacity ^{Note 2)}	10RT
Water flow regulator	Pressure style automatic water supply valve
Connection bore on water side	1 1/4B union

Note 1) Value for inlet water temperature of 32°C and rated load.
Note 2) Value calculated for 1RT = 3, 300kcal/h.

Auto drain

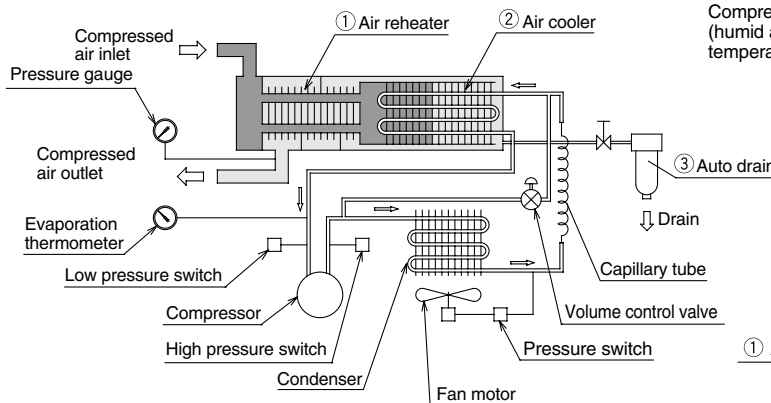
Model	Operation cycle	Operation time
IDF370B	4 cycles/min.	8 sec./min.
Power supply	200VAC 50/60Hz.	
Power consumption	4W	

JIS Symbol

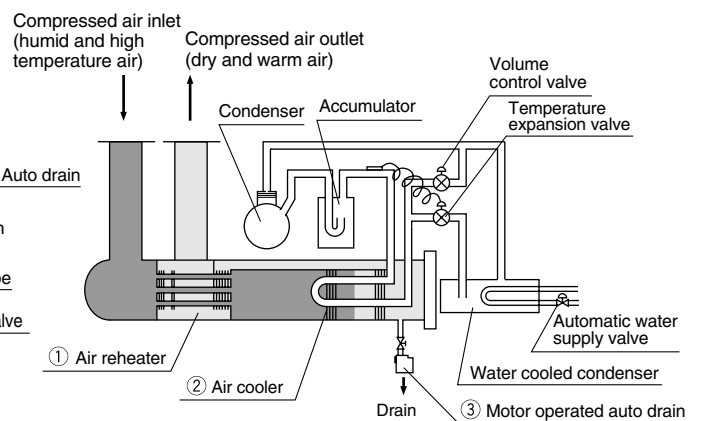


Operation Principles

IDF120D to 240D



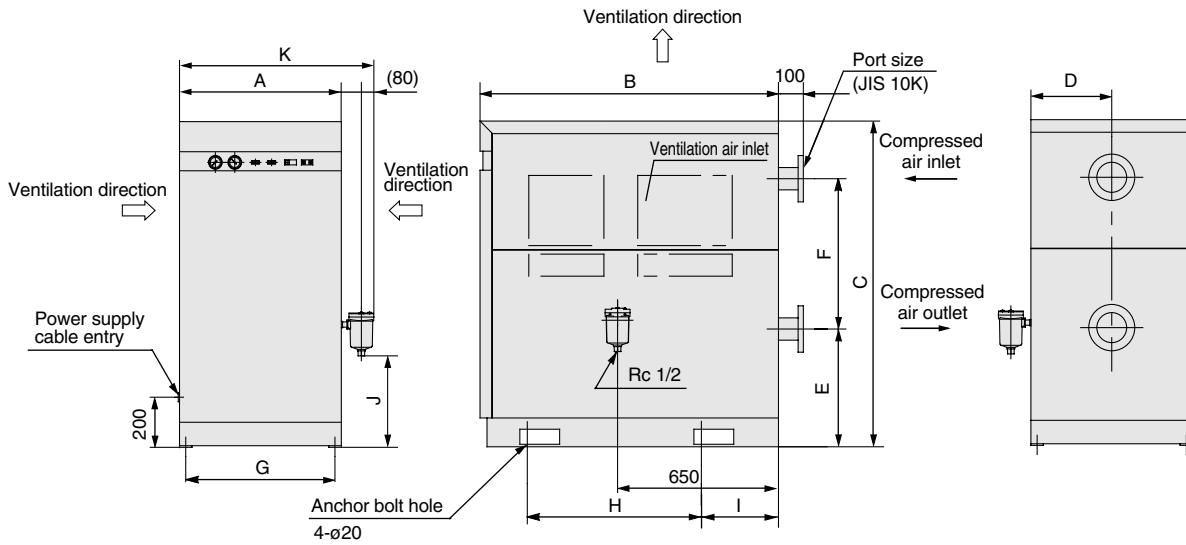
IDF370B



High temperature humid air is cooled in the reheater ①. Then it is further cooled to a specified temperature using the evaporation heat in the air cooler ②. The oil mist and moisture occurring due to condensation is exhausted through the auto drain ③. Cooled and dehumidified air is returned to the air reheater ① and heat is transferred from the incoming high temperature air. It is then exhausted out of the air dryer as dry air.

The models IDF1E to 11E and IDU3E to 6E have been revised. For details, refer to catalog no. ES30-8A. Similar updating for other IDF/IDU models is scheduled to follow shortly.

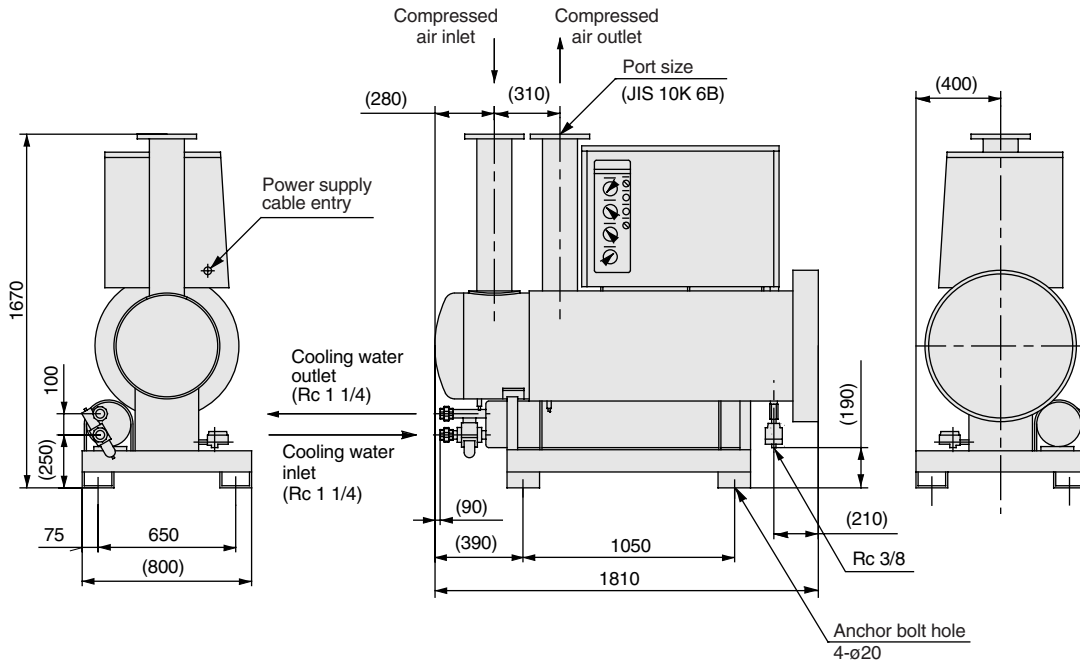
IDF120D, 150D, 190D, 240D



Model	Port size	A	B	C	D	E	F	G	H	I	J	K
IDF120D	JIS 10K 2B 1/2 Flange	650	1200	1300	325	470	600	600	660	330	365	780
IDF150D	JIS 10K 3B Flange											
IDF190D	JIS 10K 3B Flange	750	1510	1320	375	480	600	700	800	355	427	880
IDF240D	JIS 10K 4B Flange	770	1550	1640	385	703	730	700	800	355	592	900

* Auto drain is packed together with air dryer. (Some assembly is required.)

IDF370B



- HA
- AT
- ID**
- AMG
- AFF
- AM
- Misc.

Series IDU/IDF Option Specification

The models IDF1E to 11E and IDU3E to 6E have been revised. For details, refer to catalog no. ES30-8A. Similar updating for other IDF/IDU models is scheduled to follow shortly.

Refer to pages 14-17-8, 12,16,20 and 23 for "How to order" of options.

A Option symbol

Cool compressed air output at 10°C

The air flow with this option is lower than that of the standard dryer.

* On models IDF6D to 15C, the air inlet and outlet are reversed.

** Except for IDF1D to 4D, piping dimensions of the air inlet and outlet are different from standard. (Refer to pages 19, 22 and 25.)

Model		IDF1D	IDF2D	IDF3D	IDF4D
Air flow capacity (ℓ /min (ANR)) 50/60Hz	50Hz	85	120	180	215
	60Hz	100	140	210	250
Model		IDF6D	IDF8D	IDF11C	IDF15C
Air flow capacity (ℓ /min (ANR)) 50/60Hz	50Hz	320	425	650	1025
	60Hz	375	500	750	1200
Model		IDF22C1	IDF37C1	IDF55C	IDF75C
Air flow capacity (ℓ /min (ANR)) 50/60Hz	50Hz	1575	2600	3825	5250
	60Hz	1850	3050	4500	6200

[Condition IDF1D] Pressure: 0.7MPa, Saturation: 35°C
Ambient temperature: 32°C, Outlet air temperature: 10°C
[IDF2D to 75C] Pressure: 0.7MPa, Saturation: 40°C,
Ambient temperature: 32°C, Outlet air temperature: 10°C

C Option symbol

Anti-corrosive treatment

This minimizes the corrosion of the copper and copper alloy parts when the air dryer is used in an atmosphere containing hydrogen sulfide or sulfuric acid gas. This option extends the service life.

Special epoxy coating of 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 coating.

Note) For IDF370B, option C is assigned as X204.

E Option symbol

With evaporation thermometer

A thermometer (pressure gauge) indicating the evaporating temperature of the refrigerant is attached to the operation panel, facilitating maintenance and daily checks. IDU6D to 75C, IDF6D to 370B standard.

H Option symbol

For medium air pressure

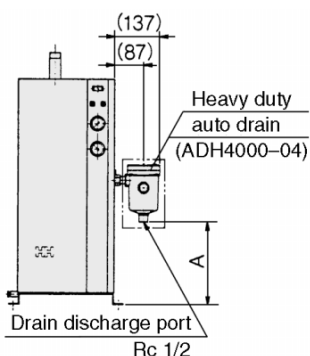
This option provides a heat exchanger, auto drain, air pressure gauge and ball valve, etc., with a medium pressure capability. This is different from the standard specifications. Maximum operating pressure is 1.5MPa.

L Option symbol

With heavy duty auto drain

A dryer with heavy duty auto drain (ADH4000-04) is installed instead of the float type auto drain (INA20-41-04), which is used for standard models to discharge drainage. IDF120D, 150D, 190D, 240D standard.

Note) For IDF370B, option L is assigned as X205.



Model	A	Model	A
IDU6D	210	IDF6D	210
IDU8D	210	IDF8D	210
IDU11C	208	IDF11C	208
IDU15C	258	IDF15C	258
IDU22C1	270	IDF22C1	250
IDU37C1	320	IDF37C1	300
IDU55C	318	IDF55C	298
IDU75C	368	IDF75C	348
		IDF120D	365
		IDF150D	365
		IDF190D	427
		IDF240D	592

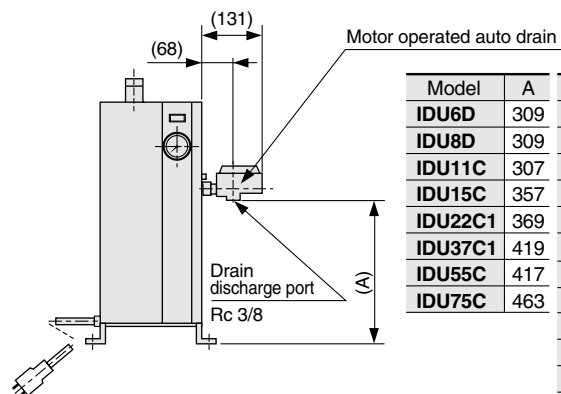
M Option symbol

With motor operated auto drain

This option changes the float style auto drain (INA-20-41-04) used by standard air dryers to a motor operated auto drain (ADM200-04) where by drainage is discharged more precisely.

Operating air pressure	Air discharge if no drainage
0.3MPa	6 ℓ (ANR) each time
0.5MPa	10 ℓ (ANR) each time
0.7MPa	14 ℓ (ANR) each time

* Operation cycle: 1 cycle/min. Operation time: 2 sec./min.
IDF220B to 370B standard.



Model	A	Model	A
IDU6D	309	IDF6D	309
IDU8D	309	IDF8D	309
IDU11C	307	IDF11C	307
IDU15C	357	IDF15C	357
IDU22C1	369	IDF22C1	349
IDU37C1	419	IDF37C1	399
IDU55C	417	IDF55C	397
IDU75C	463	IDF75C	447
		IDF120D	464
		IDF150D	464
		IDF190D	526
		IDF240D	690

* Motor operated auto drain is packed together with main unit. Assembly is required.

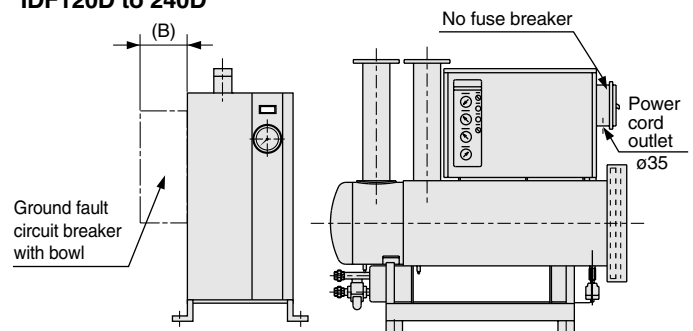
R Option symbol

With circuit breaker X202 (IDF220B, 370B)

A circuit breaker with bowl is attached to the side of the air dryer. This saves additional electrical wiring at the time of installation. (IDF120D to 370B do not have an electric leakage detection function.)

IDU6D to 75C
IDF6D to 75C
IDF120D to 240D

IDF370B



Model	B	Breaker capacity	Sensitivity current
IDU6D, IDF6D IDU8D, IDF8D IDU11C, IDF11C IDU15C, IDF15C	95	10A (100VAC) 5A (200VAC)	15 to 30mA
IDU22C1, IDF22C1 IDU37C1, IDF37C1		10A	
IDU55C, IDF55C IDU75C, IDF75C		15A	
IDF120D	69	30A	
IDF150D	94	45A	
IDF190D	95	50A	
IDF240D		60A	
IDF370B	156	80A	

The models IDF1E to 11E and IDU3E to 6E have been revised. For details, refer to catalog no. ES30-8A. Similar updating for other IDF/IDU models is scheduled to follow shortly.

Option Specification

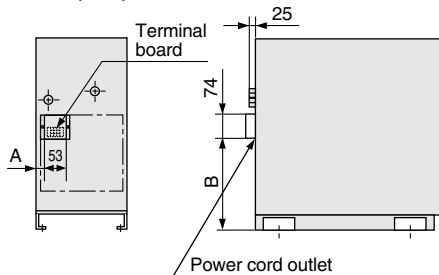
S

Option symbol

With power cord connection

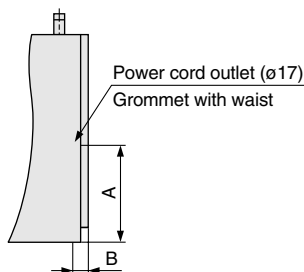
This option allows connection of the power supply to a terminal board (3P).

IDU3D, 4D, IDF1D to 4D



Model	A	B
IDU3D	24	247
IDU4D	20	298
IDF1D	47	123
IDF2D	55	123
IDF3D	37	173
IDF4D	45	197

IDU6D to 15C, IDF6D to 15C



Model	A	B
IDU6D	240	40
IDU8D	240	40
IDU11C	30	49
IDU15C	30	49
IDF6D	240	40
IDF8D	240	40
IDF11C	65	40
IDF15C	65	40

T

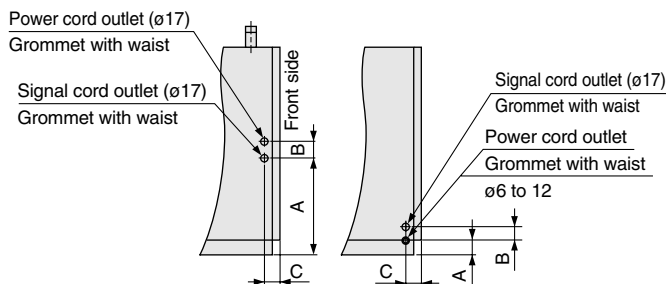
Option symbol

With terminal block for run & alarm signal and remote operation

With the optional terminal, in addition to connection of the power supply, the air dryer can be started and stopped by remote control and an operation failure signal can be obtained. (If no voltage contact is made, an operation failure signal will register.) IDF120D to 370B standard.

IDU6D, 8D IDF6D, 8D

IDU11C to 75C IDF11C to 75C



Model	A	B	C
IDU6D	240	38	70
IDU8D	240	38	70
IDU11C	30	50	49
IDU15C	30	50	49
IDU22C1	50	45	50
IDU37C1	50	45	50
IDU55C	50	45	50
IDU75C	50	45	50

Model	A	B	C
IDF6D	240	38	70
IDF8D	240	38	70
IDF11C	65	32	40
IDF15C	65	32	40
IDF22C1	30	45	50
IDF37C1	30	45	50
IDF55C	30	45	50
IDF75C	30	45	50

W

Option symbol

Water cooled condenser (IDF37C1 to 240D)

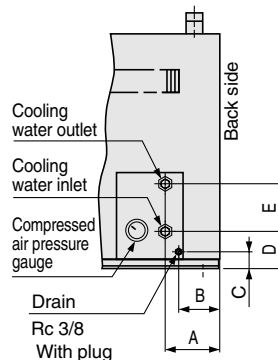
This option can be used where the ambient temperature is high (Max. 43°C), and does not reduce air flow capacity. It is also possible to use this option in an enclosed environment to prevent increasing of the surrounding temperature. IDF370B standard.

W: Water cooled condenser (IDF37C1 to 240D)

Model	IDF37C1	IDF55C	IDF75C	IDF120D	IDF150D	IDF190D	IDF240D
Condenser type	Shell & coil system						
Cooling water flow /min ^{Note 1)}	6	8	20	50	65	80	90
Cooling tower capacity RT ^{Note 2)}	2	2	3	5	7.5	7.5	7.5
Water flow regulator	Pressure auto feed valve						
Connection bore on water side (union)	1/2B	1/2B	3/4B	1B	1B	1B	1B

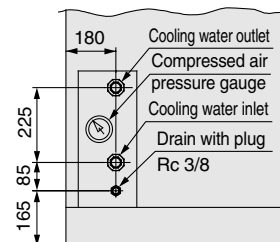
Note 1) Value for inlet water temperature of 32°C and rated load.
Note 2) Value calculated for 1RT = 3, 300kcal/h.

IDF75C



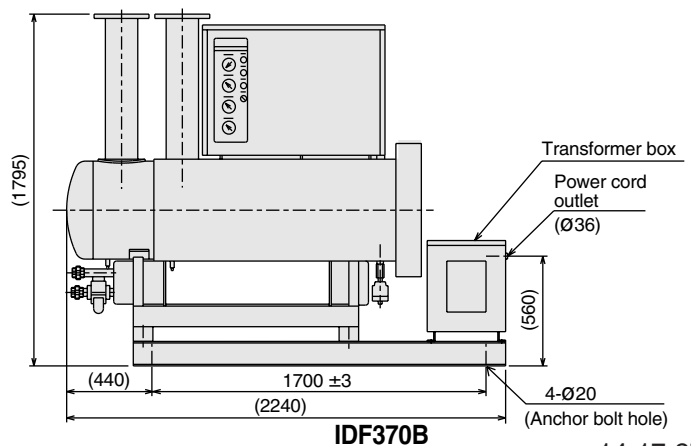
Model	A	B	C	D	E
IDF37C1	425	375	75	153	225
IDF55C	190	140	75	153	225
IDF75C	208	158	66	144	181

IDF120D to 240D



Transformer integrated

The power supply transformer can be integrated with an air dryer. It is used when a refrigerated air dryer is using a non-standard voltage specification. The power supply transformer for IDF120D to 240D is installed inside of the air dryer. Therefore, external dimensions are the same as the standard product.



HA

AT

ID

AMG





AFF

AM

Misc.

The models IDF1E to 11E and IDU3E to 6E have been revised. For details, refer to catalog no. ES30-8A. Similar updating for other IDF/IDU models is scheduled to follow shortly.

Accessories (Option)

Description	Features	Specifications	Applicable dryer	Dimensions
Transformer separately installed 	This is for power supply and voltage other than standard.	Max. ambient temperature 40°C (Relative humidity 85% or less)	All models	14-17-30
Base integrated with transformer 	This is the base for integrating the transformer and air dryer.	—	IDU3D to 15C IDF4D to 75C	14-17-30
Dust proof filter set 	Avoids decreasing of air dryer performance even in dusty atmosphere.	Max. ambient temperature 40°C	IDU3D to 75C IDF1D to 75C	14-17-30
Bypass piping set 	Easy bypass piping (connect this set to the air dryer), realizing substantial reduction of man-hours at the site.	Max. operating pressure 1.0MPa Max. operating temperature 60°C	IDU3D to 75C IDF1D to 75C	14-17-31

How to Order

Transformer separately installed

IDF — TR **1500** — **5**

Volume

Symbol	Volume	Applicable dryer
500	500 VA	IDU3D-1 to 11C-1, IDF1D-1 to 11C-1
1000	1 kVA	IDU15C-1, IDF15C-1
1500	1.5 kVA	IDU22C1-3, 37C1-3, IDF22C1-3, 37C1-3
4000	4 kVA	IDU55C-3, 75C-3, IDF55C-3, 75C-3
7000	7 kVA	IDF120D
9000	9 kVA	IDF150D
11000	11 kVA	IDF190D
13000	13 kVA	IDF240D
18000	18 kVA	IDF370B

Supply voltage

Symbol	Primary voltage	Secondary voltage	Model
1	110VAC (50Hz), 110 to 120VAC (60Hz)	100VAC (50Hz) 100 to 110VAC (60Hz)	Single phase Single turn
2	200, 220, 230, 240VAC (50Hz), 200 to 260VAC (60Hz)		
3	380, 400, 415VAC (50Hz), 380 to 420VAC (60Hz)		
4	420, 440, 480VAC (50Hz), 420 to 520VAC (60Hz)		
5	220VAC (50Hz), 220 to 240VAC (60Hz)	200VAC (50Hz) 200 to 220VAC (60Hz)	Three phase Single turn
6	380, 400, 415VAC (50Hz), 380 to 440VAC (60Hz)		
7	440, 460VAC (50Hz), 440 to 500VAC (60Hz)		
8	220, 240, 380, 400, 415, 440VAC (50/60Hz)	200VAC (50/60Hz)	Three phase Compound

Refer to page 14-17-29 for dimensions.

Base integrated with transformer

IDF — TB **2**

Size order

Symbol	Applicable dryer
1	IDU3D, IDF4D
2	IDU4D to 15C, IDF6D to 15C
3	IDF22C1
4	IDF37C1 to 75C

Not available for IDF1D to 3D, IDF22C to 75C. Refer to page 14-17-30 for dimensions.

Dust proof filter set

IDU — FL **22** C

Applicable dryer

Symbol	Dryer	Symbol	Dryer	Symbol	Dryer
3	IDU3D	6	IDU6D	22	IDU22C1
4	IDU4D	8	IDU8D	37	IDU37C1
		11	IDU11C	55	IDU55C
		15	IDU15C	75	IDU75C

IDF — FL **22** C

Applicable dryer

Symbol	Dryer	Symbol	Dryer	Symbol	Dryer
1	IDF1D	6	IDF6D	22	IDF22C1
2	IDF2D	8	IDF8D	37	IDF37C1
3	IDF3D	11	IDF11C	55	IDF55C
4	IDF4D	15	IDF15C	75	IDF75C

IDF — FL **120** D

Applicable dryer

Symbol	Dryer
120	IDF120D
150	IDF150D
190	IDF190D
240	IDF240D

Bypass piping set

IDU — BP **22** C

Applicable dryer

Symbol	Dryer	Symbol	Dryer	Symbol	Dryer
3	IDU3D	6	IDU6D	22	IDU22C1
4	IDU4D	8	IDU8D	37	IDU37C1
		11	IDU11C	55	IDU55C
		15	IDU15C	75	IDU75C

IDF — BP **22** C

Applicable dryer

Symbol	Dryer	Symbol	Dryer	Symbol	Dryer
1	IDF1D	6	IDF6D	22	IDF22C1
2	IDF2D	8	IDF8D	37	IDF37C1
3	IDF3D	11	IDF11C	55	IDF55C
4	IDF4D	15	IDF15C	75	IDF75C

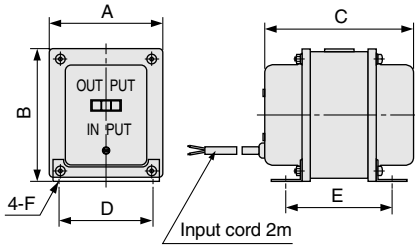
Cannot be mounted on models with option "A" (IDF6D to 75C). Available as Special Order Product.

The models IDF1E to 11E and IDU3E to 6E have been revised. For details, refer to catalog no. ES30-8A. Similar updating for other IDF/IDU models is scheduled to follow shortly.

Accessories (Options)

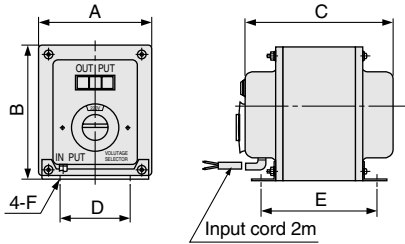
Transformers

IDF-TR-1



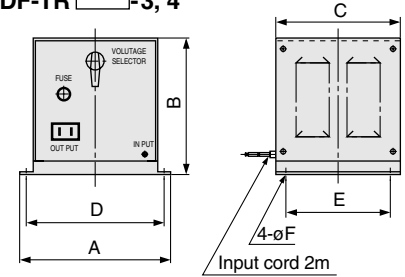
Part No.	Dryer	Capacity	Model	Primary voltage	Secondary voltage	A	B	C	D	E	F	Weight (kg)
IDF-TR500-1	IDF1D-1 to 11C-1 IDU3D-1 to 11C-1	500VA	Single phase Single turn	110VAC (50Hz) 110 to 120VAC (60Hz)	100VAC (50Hz) 100 to 110VAC (60Hz)	78	94	100	64	75	4.2 x 7 (Long hole)	1.5
	IDF-TR1000-1	IDF15C-1 IDU15C-1		1kVA			104	122	134	75	114	4.2 x 9 (Long hole)

IDF-TR-2



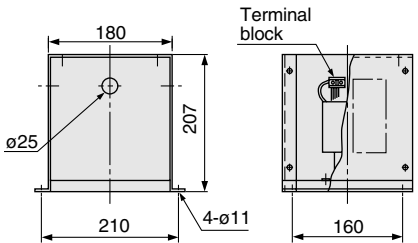
Part No.	Dryer	Capacity	Model	Primary voltage	Secondary voltage	A	B	C	D	E	F	Weight (kg)
IDF-TR500-2	IDF1D-1 to 11C-1 IDU3D-1 to 11C-1	500VA	Single phase Single turn	200, 220, 230, 240VAC (50Hz) 200 to 260VAC (60Hz)	100VAC (50Hz) 100 to 110VAC (60Hz)	118	140	163	70	112	5.5 x 10 (Long hole)	6
	IDF-TR1000-2	IDF15C-1 IDU15C-1		1kVA			118	140	208	70		157

IDF-TR-3, 4



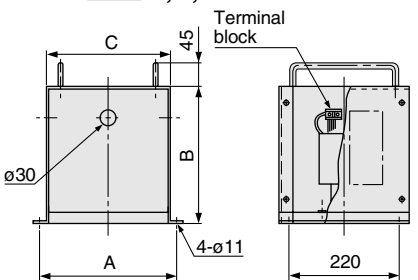
Part No.	Dryer	Capacity	Model	Primary voltage	Secondary voltage	A	B	C	D	E	F	Weight (kg)
IDF-TR500-3	IDF1D-1 to 11C-1 IDU3D-1 to 11C-1	500VA	Single phase Single turn	380, 400, 415VAC (50Hz) 380 to 420VAC (60Hz)	100VAC (50Hz) 110VAC (60Hz)	230	207	190	210	160	9	15
IDF-TR1000-3	IDF15C-1 IDU15C-1	1kVA										22
IDF-TR500-4	IDF1D-1 to 11C-1 IDU3D-1 to 11C-1	500VA	Single phase Single turn	420, 440, 480VAC (50Hz) 420 to 520VAC (60Hz)	100VAC (50Hz) 110VAC (60Hz)	230	207	190	210	160	9	15
IDF-TR1000-4	IDF15C-1 IDU15C-1	1kVA										22

IDF-TR1500-5



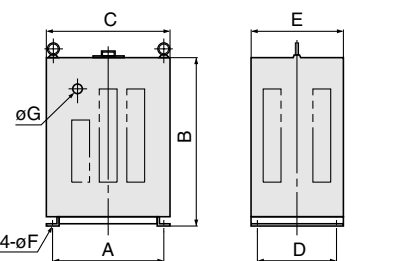
Part No.	Dryer	Capacity	Model	Primary voltage	Secondary voltage	Weight (kg)
IDF-TR1500-5	IDF22C1-3 IDF37C1-3 IDU22C1-3 IDU37C1-3	1.5kVA	Three phase Single turn	220V (50Hz) 220 to 240V (60Hz)	200V (50Hz) 200 to 220V (60Hz)	9

IDF-TR-5, 6, 7



Part No.	Dryer	Capacity	Model	Primary voltage	Secondary voltage	A	B	C	Weight (kg)
IDF-TR1500-6	IDF22C1-3, 37C1-3 IDU22C1-3, 37C1-3	1.5kVA	Three phase Single turn	380, 400, 415V (50Hz) 380 to 400, 400 to 415, 415 to 440V (60Hz)	200V (50Hz) 200 to 220V (60Hz)	275	259	240	18
IDF-TR1500-7	IDF22C1-3, 37C1-3 IDU22C1-3, 37C1-3	1.5kVA		440, 460V (50Hz) 440 to 460, 460 to 500V (60Hz)	200V (50Hz) 200 to 220V (60Hz)	275	259	240	18
IDF-TR4000-5	IDF55C-3, 75C-3 IDU55C-3, 75C-3	4kVA		220V (50Hz) 220 to 240V (60Hz)	200V (50Hz) 200 to 220V (60Hz)	275	259	240	14
IDF-TR4000-6	IDF55C-3, 75C-3 IDU55C-3, 75C-3	4kVA		380, 400, 415V (50Hz) 380 to 400, 400 to 415, 415 to 440V (60Hz)	200V (50Hz) 200 to 220V (60Hz)	355	299	320	35
IDF-TR4000-7	IDF55C-3, 75C-3 IDU55C-3, 75C-3	4kVA		440, 460V (50Hz) 440 to 460, 460 to 500V (60Hz)	200V (50Hz) 200 to 220V (60Hz)	355	299	320	42

IDF-TR-8



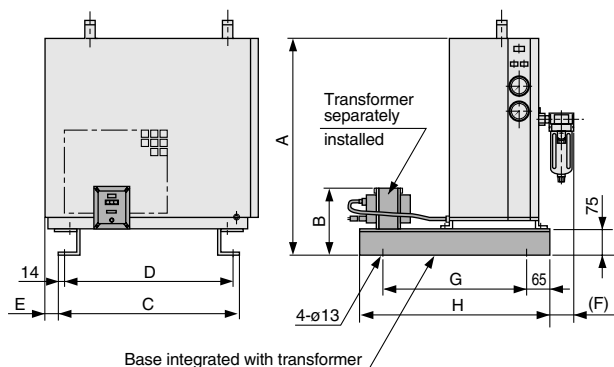
Part No.	Dryer	Capacity	Model	Primary voltage	Secondary voltage	A	B	C	D	E	F	G	Weight (kg)
IDF-TR7000-8	IDF120D	7kVA	Three phase compound	220, 240, 380, 400, 415, 440V (50/60Hz)	200V (50/60Hz)	360	540	400	260	300	11	30	94
IDF-TR9000-8	IDF150D	9kVA				400	650	450	300	350	13	40	109
IDF-TR11000-8	IDF190D	11kVA				550	450	600	350	400	13	60	131
IDF-TR13000-8	IDF240D	13kVA				400	600	450	300	350	13	60	138
IDF-TR18000-8	IDF370B	18kVA				400	650	450	300	350	13	40	179

- HA □
- AT
- ID □
- AMG
- AFF
- AM □
- Misc.

Accessories (Options)

The models IDF1E to 11E and IDU3E to 6E have been revised. For details, refer to catalog no. ES30-8A. Similar updating for other IDF/IDU models is scheduled to follow shortly.

Base Integrated with Transformer

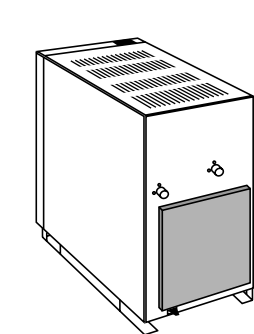


Part No.	Dryer	Transformer	A	B	C	D	E	F	G	H	Weight (kg)	
IDF-TB3	IDF22C1	IDF-TR1500-5		327							83	
		IDF-TR1500-6	755	379	628	600					92	
		IDF-TR1500-7										95
IDF-TB4	IDF37C1	IDF-TR1500-5	805	327	708	680					95	
		IDF-TR1500-6		379								104
		IDF-TR1500-7					51	69	675	805		142
	IDF55C	IDF-TR4000-5	925	379	728	700						163
		IDF-TR4000-6		419								170
		IDF-TR4000-7										154
IDF75C	IDF-TR4000-5	975	379	728	700						175	
	IDF-TR4000-6		419								182	

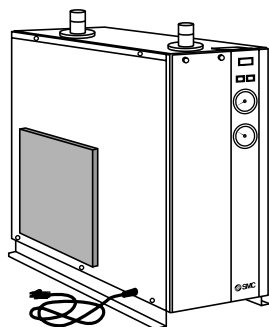
Part No.	Dryer	Transformer	A	B	C	D	E	F	G	H	Weight (kg)	
IDF-TB1	IDF4D-1	IDF-TR500-1		171							33	
		IDF-TR500-2	681	217	356	328					37	
		IDF-TR500-3.4		284				53				46
	IDU3D-1	IDF-TR500-1		171								30
		IDF-TR500-2	584	217	376	348						34
		IDF-TR500-3.4		284								43
IDF-TB2	IDF6D-1	IDF-TR500-1		171							39	
		IDF-TR500-2	595	217	470	442					44	
		IDF-TR500-3.4		284								53
	IDF8D-1	IDF-TR500-1		171								39
		IDF-TR500-2	595	217	470	442						44
		IDF-TR500-3.4		284				55	69			53
	IDF11C-1	IDF-TR500-1		171								54
		IDF-TR500-2	645	217	490	462						59
	IDF15C-1	IDF-TR500-3.4		284								68
		IDF-TR1000-1		199								60
	IDF15C-1	IDF-TR1000-2	695	217	490	462				427	557	66
		IDF-TR1000-3.4		284								78
	IDU4D-1	IDF-TR500-1		171								38
		IDF-TR500-2	681	217	466	438	53					43
		IDF-TR500-3.4		284								52
	IDU6D-1	IDF-TR500-1		171								50
		IDF-TR500-2	785	217	470	442						55
	IDU8D-1	IDF-TR500-3.4		284								64
IDF-TR500-1			171								54	
IDU11C-1	IDF-TR500-2	885	217	470	442						59	
	IDF-TR500-3.4		284				55	69			68	
	IDF-TR500-1		171								66	
IDU15C-1	IDF-TR500-2	985	217	490	462						71	
	IDF-TR500-3.4		284								80	
IDU15C-1	IDF-TR1000-1		199								76	
	IDF-TR1000-2	1035	217	490	462						82	
IDU15C-1	IDF-TR1000-3.4		284								94	

Note) Weight includes air dryer and transformer.
Not available for IDF1D to 3D, IDU22C to 75C.

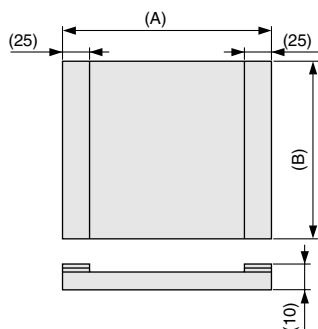
Dust proof filter set



(IDF-FL1C, 2C, 3C, 4C,
IDU-FL3C, 4C)



(IDF-FL6C, 8C, 11C, 15C)



Part No.	Dryer	A	B
IDF-FL1C	IDF1D	180	145
IDF-FL2C	IDF2D	180	145
IDF-FL3C	IDF3D	225	180
IDF-FL4C	IDF4D	225	180
IDF-FL6C	IDF6D	345	270
IDF-FL8C	IDF8D	345	270
IDF-FL11C	IDF11C	365	270
IDF-FL15C	IDF15C	385	310
IDF-FL22C	IDF22C1	430	310
IDF-FL37C	IDF37C1	555	380
IDF-FL55C	IDF55C	600	410
IDF-FL75C	IDF75C	640	510
IDF-FL120D	IDF120D	360	420
		440	420
IDF-FL150D	IDF150D	360	420
		440	420
IDF-FL190D	IDF190D	250	480
		750	480
IDF-FL240D	IDF240D	440	670
		600	670

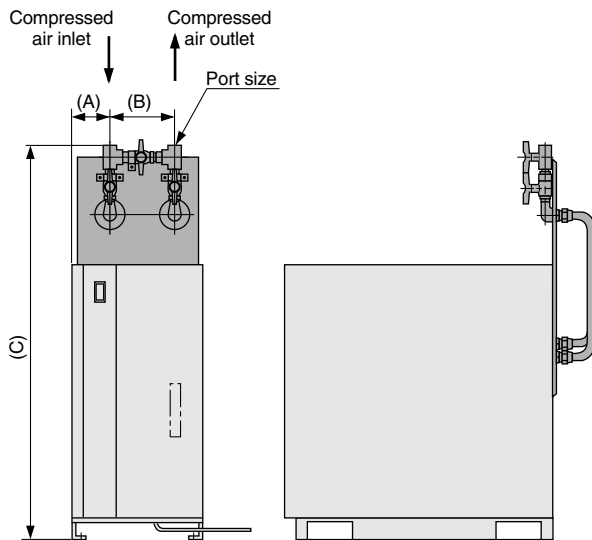
Part No.	Dryer	A	B
IDU-FL3C	IDU3D	245	265
IDU-FL4C	IDU4D	240	300
IDU-FL6C	IDU6D	400	170
		345	270
IDU-FL8C	IDU8D	405	270
		345	
IDU-FL11C	IDU11C	395	310
		365	270
IDU-FL15C	IDU15C	395	310
		385	
IDU-FL22C	IDU22C1	480	430
		430	310
IDU-FL37C	IDU37C1	605	475
		555	345
IDU-FL55C	IDU55C	605	475
		600	410
IDU-FL75C	IDU75C	625	550
		640	510

The models IDF1E to 11E and IDU3E to 6E have been revised. For details, refer to catalog no. ES30-8A. Similar updating for other IDF/IDU models is scheduled to follow shortly.

Accessories (Options)

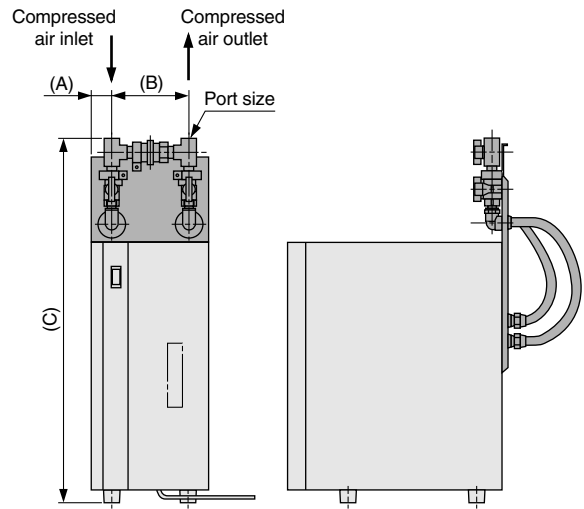
Bypass Piping Set

IDU3D, 4D



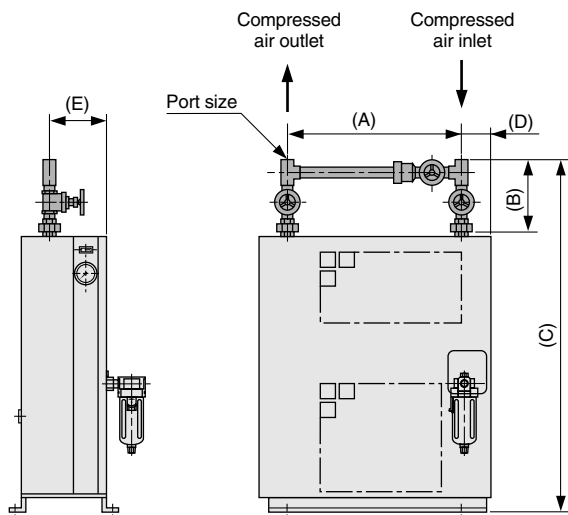
Part No.	Applicable dryer	Port size Rc	A	B	C
IDU-BP3C	IDU3D	3/8	77	112	706
IDU-BP4C	IDU4D		66	112	791

IDF1D, 2D, 3D, 4D



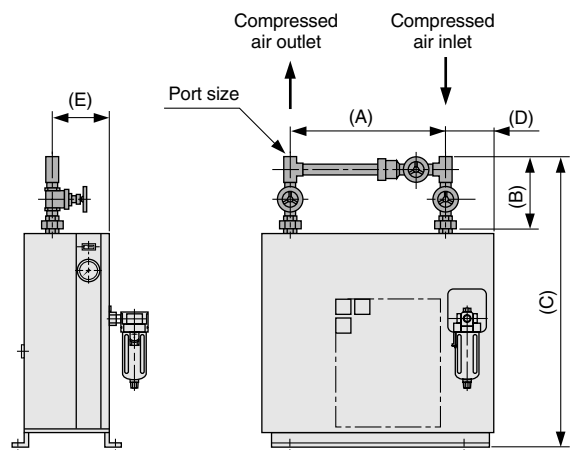
Part No.	Applicable dryer	Port size Rc	A	B	C
IDF-BP1C	IDF1D	3/8	34	112	563
IDF-BP2C	IDF2D		62	112	571
IDF-BP3C	IDF3D		57	112	632
IDF-BP4C	IDF4D		66	112	792

IDU6D, 8D, 11C, 15C, 22C1, 37C1, 55C, 75C



Part No.	Applicable dryer	Port size Rc	A	B	C	D	E
IDU-BP6C	IDU6D	1/2	445	165	915	85	141
IDU-BP8C	IDU8D	3/4	445	196	1045	85	141
IDU-BP11C	IDU11C	3/4	445	196	1155	91	152
IDU-BP15C	IDU15C	1	445	222	1230	91	175
IDU-BP22C	IDU22C1	1	445	222	1445	70	71
IDU-BP37C	IDU37C1	1 1/2	550	280	1615	136	112
IDU-BP55C	IDU55C	2	530	325	1750	155	87
IDU-BP75C	IDU75C	2	530	325	1885	220	87

IDF6D, 8D, 11C, 15C, 22C1, 37C1, 55C, 75C



Part No.	Applicable dryer	Port size Rc	A	B	C	D	E
IDF-BP6C	IDF6D	1/2	410	165	725	120	141
IDF-BP8C	IDF8D	3/4	410	196	755	120	141
IDF-BP11C	IDF11C	3/4	405	196	815	131	152
IDF-BP15C	IDF15C	1	405	222	890	131	175
IDF-BP22C	IDF22C1	1	405	222	970	91	183
IDF-BP37C	IDF37C1	1 1/2	405	280	1075	98	208
IDF-BP55C	IDF55C	2	405	325	1240	98	85
IDF-BP75C	IDF75C	2	405	325	1290	98	85

Cannot be mounted on models with option "A".

HA

AT

ID

AMG

AFF

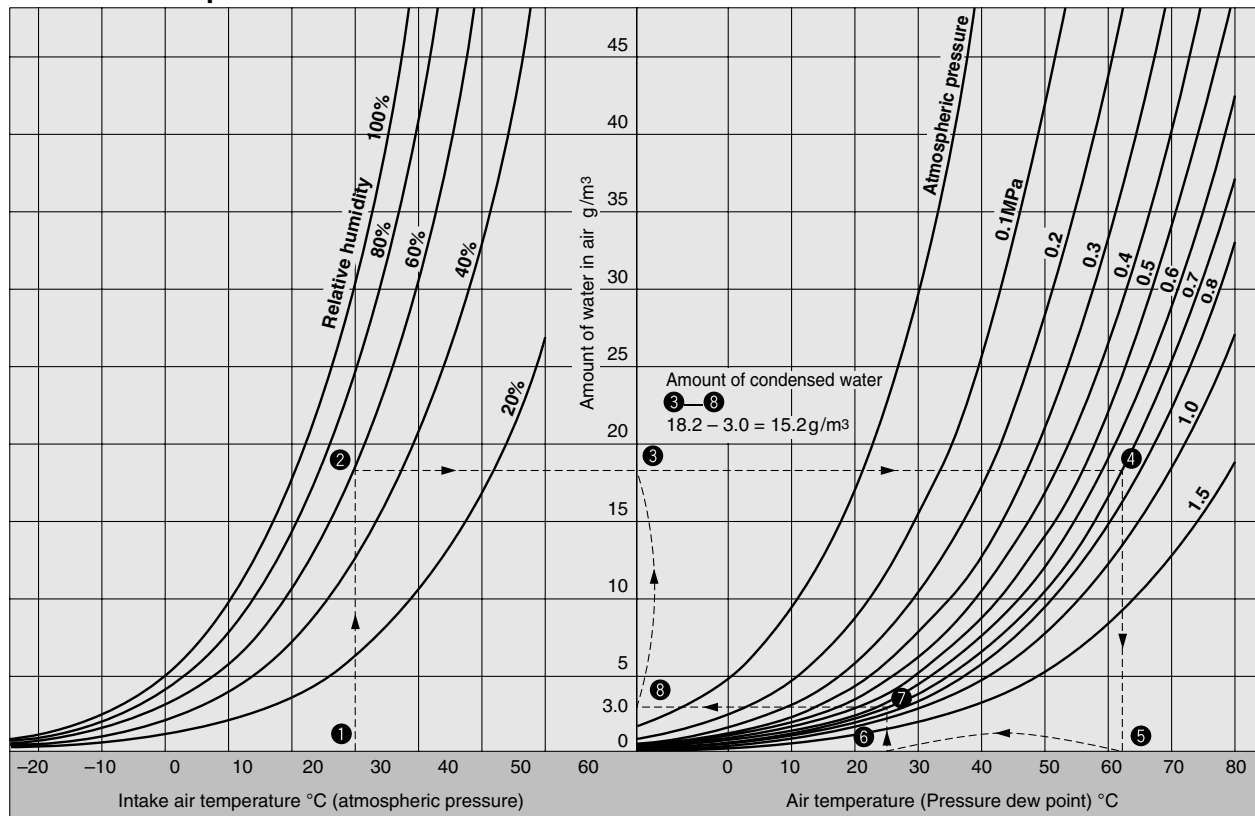
AM

Misc.

The models IDF1E to 11E and IDU3E to 6E have been revised. For details, refer to catalog no. ES30-8A. Similar updating for other IDF/IDU models is scheduled to follow shortly.

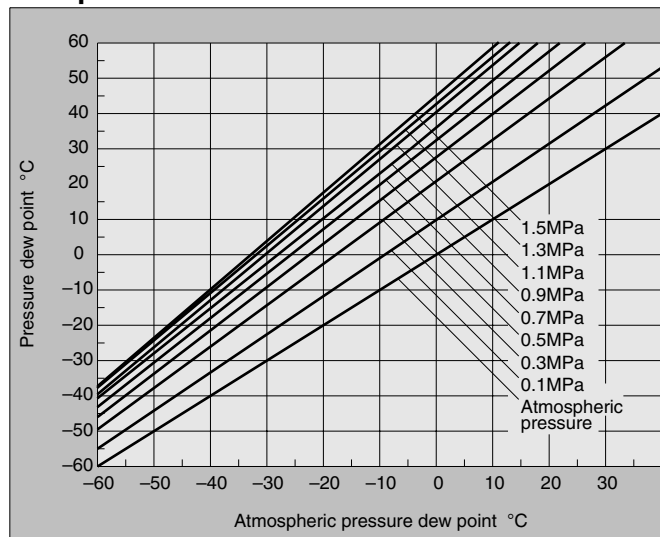
Technical Data

Pressure dew point — Condensed water calculation



[Example] If air at 30°C and 60% humidity is pressurized to 0.7MPa, the dew point of the air will be 62°C. (1→2→3→4→5) If this is cooled to 25°C, the amount of condensed water generated will be 15.2g/m³. (6→7→8→9) Therefore, with an air flow rate of 3m³/min (22kW equivalent compressor), the amount of condensed water per unit of time is 15.2 x 3 x 60 = 2736g/h.

Dew point conversion chart





Series IDU/IDF Specific Product Precautions 1 Air Preparation Equipment Precautions

Be sure to read before handling.

Installation Location

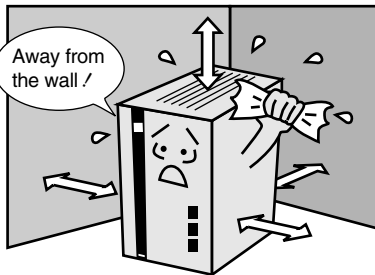
⚠ Caution

- Avoid locations where the air dryer will be in direct contact with wind and rain. (Places where relative humidity is more than 85%)
- Avoid exposure to direct sunlight.
- Avoid dusty or corrosive environments.

If it is used in the above environments, select option C (with anti-corrosive treatment).

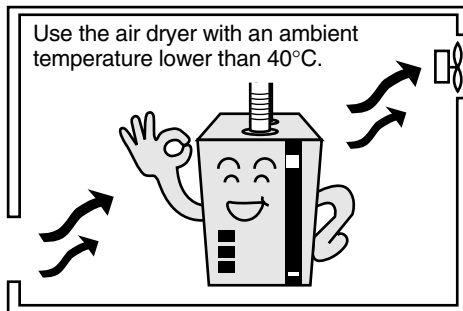


- Avoid places with poor ventilation and high temperature.



- Allow ample space around the air dryer.

- Avoid locations subjected to vibrations.
- Avoid locations where drainage can freeze.

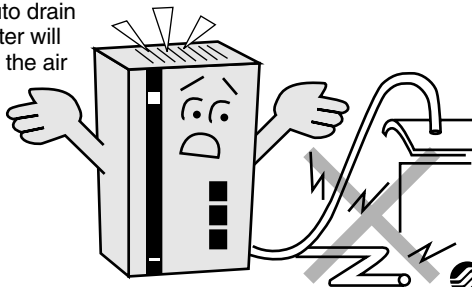


- Avoid installation on moving objects like trucks, ships, and so forth.

Drain Tube

⚠ Caution

- A polyurethane tube of 10mm outer diameter is attached as the drain tube for IDF1D to 4D and IDU3D, 4D. Use this tube to discharge drainage.
- Do not use the drain tube in an upward direction. Do not bend or crush the drain tube. (Operation of auto drain will stop and water will flow out through the air outlet.)



Power Supply

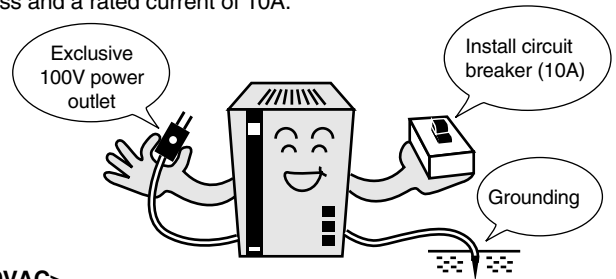
⚠ Caution

<100VAC>

- Insert the power supply plug into an exclusive 100VAC power outlet.
- Install a circuit breaker (10A)* at the power supply.
- Be sure to ground the power supply prior to use.
- Multiple-branch wiring is dangerous as it causes over-heating.
- Do not extend the power supply cord length using an extension cord.

A voltage drop may cause the air dryer to stop operating.

* Use a circuit breaker having a sensitivity current of 30mA or less and a rated current of 10A.



<200VAC>

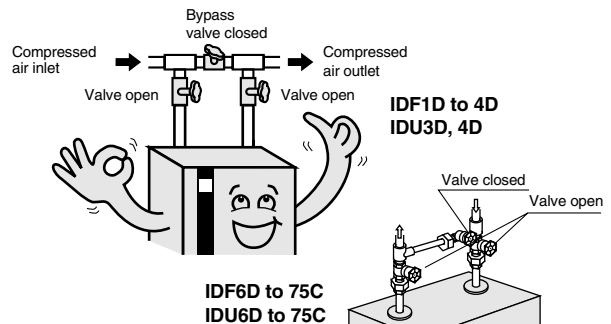
- Connect the power supply to the terminal block.
- Install a suitable circuit breaker applicable to each model.

When the voltage used is other than specified in the standard product specifications, use a transformer (page 14-17-28).

Air Piping

⚠ Caution

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



- When tightening piping at the air inlet/outlet tube, the nozzle should be held firmly with a pipe wrench. (IDF6D to 75C, IDU6D to 75C)
- Variation of operating conditions may cause condensate to form on the surface of the outlet piping. In the case of models larger than IDF6D and IDU6D, roll thermal insulation around piping to prevent condensate from forming.
- Vibration caused by the compressor should not be transmitted through air piping to the air dryer.
- Do not allow the weight of piping to be applied directly to the air dryer.

HA

AT

ID

AMG

AFF

AM

Misc.



Series IDU/IDF Specific Product Precautions 2 Air Preparation Equipment Precautions

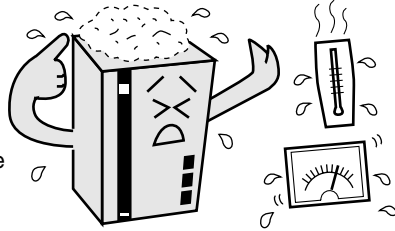
Be sure to read before handling.

Protection Circuit

⚠ Caution

When the air dryer is operated under the following conditions, the protection circuit is activated, the light goes off and operation stops.

- When compressed air temperature is too high
- When compressed air flow rate is too high
- When ambient temperature is too high (40°C or higher)
- When power supply is beyond rated voltage by $\pm 10\%$
- When ventilation port is obstructed by a wall or clogged with dust



Compressor Air Delivery

⚠ Caution

Use an air compressor of 100 ℓ /min or greater air delivery with IDF2D to 4D/IDU3D, 4D, and 300 ℓ /min or greater air delivery with IDF6D to 75C/IDU6D to 75C.

Since the auto drain of IDF2D to 75C/IDU3D to 75C is designed in such a way that the valve remains open unless the air pressure rises to 0.15MPa or higher, air will blow out from the drain discharge port when the air compressor starts up until the pressure increases. Therefore, if an air compressor has a low air delivery, the pressure may not be sufficient.

Auto Drain

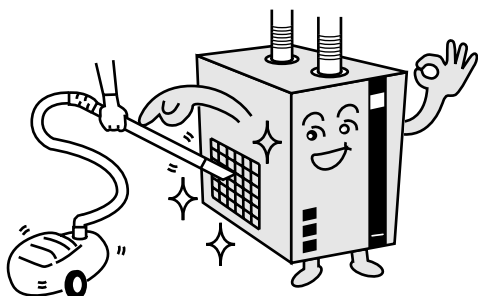
⚠ Caution

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

Cleaning of Ventilation Area

⚠ Caution

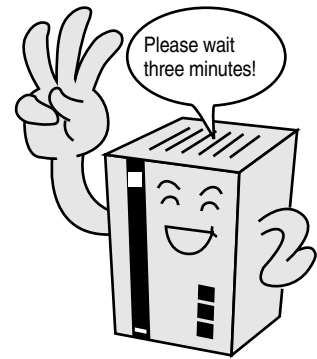
Remove dust from the ventilation area once a month using a vacuum cleaner or an air blow nozzle.



Time Delay for Restarting

⚠ Caution

Allow at least three minutes before restarting the dryer. If the air dryer is restarted within three minutes after being stopped, the protection circuit will be activated, the operating light goes off and the dryer will not be activated.



Crank Case Heater


⚠ Caution


A crank case heater is installed on IDF370B. Energize the crank case heater 12 hours prior to operation of the dryer to prevent trouble occurring in the refrigerant compressor.




Safety Instructions

These safety instructions are intended to prevent a hazardous situation and/or equipment damage. These instructions indicate the level of potential hazard by labels of "Caution", "Warning" or "Danger". To ensure safety, be sure to observe ISO 4414 ^{Note 1)}, JIS B 8370 ^{Note 2)} and other safety practices.

 **Caution** : Operator error could result in injury or equipment damage.

 **Warning** : Operator error could result in serious injury or loss of life.

 **Danger** : In extreme conditions, there is a possible result of serious injury or loss of life.

Note 1) ISO 4414: Pneumatic fluid power--General rules relating to systems.

Note 2) JIS B 8370: General Rules for Pneumatic Equipment

Warning

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

Since the products specified here are used in various operating conditions, their compatibility for the specific pneumatic system must be based on specifications or after analysis and/or tests to meet your specific requirements. The expected performance and safety assurance will be the responsibility of the person who has determined the compatibility of the system. This person should continuously review the suitability of all items specified, referring to the latest catalog information with a view to giving due consideration to any possibility of equipment failure when configuring a system.

2. Only trained personnel should operate pneumatically operated machinery and equipment.

Compressed air can be dangerous if an operator is unfamiliar with it. Assembly, handling or repair of pneumatic systems should be performed by trained and experienced operators.

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

1. Inspection and maintenance of machinery/equipment should only be performed once measures to prevent falling or runaway of the driver objects have been confirmed.
2. When equipment is to be removed, confirm the safety process as mentioned above. Cut the supply pressure for this equipment and exhaust all residual compressed air in the system.
3. Before machinery/equipment is restarted, take measures to prevent shooting-out of cylinder piston rod, etc.

4. Contact SMC if the product is to be used in any of the following conditions:

1. Conditions and environments beyond the given specifications, or if product is used outdoors.
2. Installation on equipment in conjunction with atomic energy, railway, air navigation, vehicles, medical equipment, food and beverages, recreation equipment, emergency stop circuits, clutch and brake circuits in press applications, or safety equipment.
3. An application which has the possibility of having negative effects on people, property, or animals, requiring special safety analysis.



Common Precautions

Be sure to read before handling.

For detailed precautions on every series, refer to main text.

Selection

Warning

1. Confirm the specifications.

Products represented in this catalog are designed for use in compressed air applications only (including vacuum), unless otherwise indicated.

Do not use the product outside their design parameters.

Please contact SMC when using the products in applications other than compressed air (including vacuum).

Mounting

Warning

1. Instruction manual

Install the products and operate them only after reading the instruction manual carefully and understanding its contents. Also keep the manual where it can be referred to as necessary.

2. Securing the space for maintenance

When installing the products, please allow access for maintenance.

3. Tightening torque

When installing the products, please follow the listed torque specifications.

Piping

Caution

1. Before piping

Make sure that all debris, cutting oil, dust, etc., are removed from the piping.

2. Wrapping of pipe tape

When screwing piping or fittings into ports, ensure that chips from the pipe threads or sealing material do not get inside the piping. Also, when the pipe tape is used, leave 1.5 to 2 thread ridges exposed at the end of the threads.

Air Supply

Warning

1. Operating fluid

Please consult with SMC when using the product in applications other than compressed air (including vacuum).

Regarding products for general fluid, please ask SMC about applicable fluids.

2. Install an air dryer, aftercooler, etc.

Excessive condensate in a compressed air system may cause valves and other pneumatic equipment to malfunction.

Installation of an air dryer, after cooler etc. is recommended.

3. Drain flushing

If condensate in the drain bowl is not emptied on a regular basis, the bowl will over flow and allow the condensate to enter the compressed air lines.

If the drain bowl is difficult to check and remove, it is recommended that a drain bowl with the auto-drain option be installed.

For compressed air quality, refer to "Air Preparation Equipment" catalog.

4. Use clean air

If the compressed air supply is contaminated with chemicals, synthetic materials, corrosive gas, etc., it may lead to break down or malfunction.

Operating Environment

Warning

1. Do not use in environments where the product is directly exposed to corrosive gases, chemicals, salt water, water or steam.

2. Do not expose the product to direct sunlight for an extended period of time.

3. Do not use in a place subject to heavy vibrations and/or shocks.

4. Do not mount the product in locations where it is exposed to radiant heat.

Maintenance

Warning

1. Maintenance procedures are outlined in the operation manual.

Not following proper procedures could cause the product to malfunction and could lead to damage to the equipment or machine.

2. Maintenance work

If handled improperly, compressed air can be dangerous.

Assembly, handling and repair of pneumatic systems should be performed by qualified personnel only.

3. Drain flushing

Remove drainage from air filters regularly. (Refer to the specifications.)

4. Shut-down before maintenance

Before attempting any kind of maintenance make sure the supply pressure is shut of and all residual air pressure is released from the system to be worked on.

5. Start-up after maintenance and inspection

Apply operating pressure and power to the equipment and check for proper operation and possible air leaks. If operation is abnormal, please verify product set-up parameters.

6. Do not make any modifications to be product.

Do not take the product apart.

Quality Assurance Information (ISO 9001, ISO 14001)

Reliable quality of products in the global market

To enable our customers throughout the world to use our products with even greater confidence, SMC has obtained certification for international standards “ISO 9001” and “ISO 14001”, and created a complete structure for quality assurance and environmental controls. SMC products pursue to meet its customers’ expectations while also considering company’s contribution in society.

Quality management system ISO 9001

This is an international standard for quality control and quality assurance. SMC has obtained a large number of certifications in Japan and overseas, providing assurance to our customers throughout the world.



Environmental management system ISO 14001

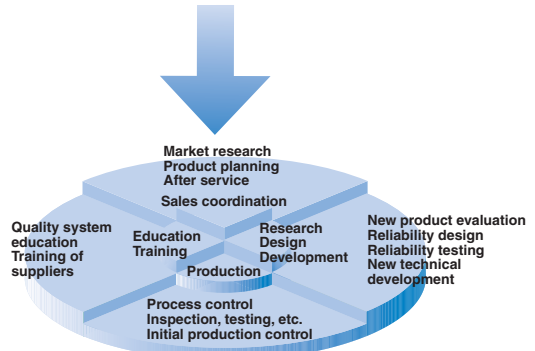
This is an international standard related to environmental management systems and environmental inspections. While promoting environmentally friendly automation technology, SMC is also making diligent efforts to preserve the environment.



SMC’s quality control system



Quality policies



Quality control activities

SMC Product Conforming to Inter

SMC products complying with EN/ISO, CSA/UL standards are supporting



The CE mark indicates that machines and components meet essential requirements of all the EC Directives applied.

It has been obligatory to apply CE marks indicating conformity with EC Directives when machines and components are exported to the member Nations of the EU.

Once “A manufacturer himself” declares a product to be safe by means of CE marking (declaration of conformity by manufacturer), free distribution inside the member Nations of the EU is permissible.

■ CE Mark

SMC provides CE marking to products to which EMC and Low Voltage Directives have been applied, in accordance with CETOP (European hydraulics and pneumatics committee) guide lines.

■ As of February 1998, the following 18 countries will be obliged to conform to CE mark legislation

Iceland, Ireland, United Kingdom, Italy, Austria, Netherlands, Greece, Liechtenstein, Sweden, Spain, Denmark, Germany, Norway, Finland, France, Belgium, Portugal, Luxembourg

■ EC Directives and Pneumatic Components

• Machinery Directive

The Machinery Directive contains essential health and safety requirements for machinery, as applied to industrial machines e.g. machine tools, injection molding machines and automatic machines. Pneumatic equipment is not specified in Machinery Directive. However, the use of SMC products that are certified as conforming to EN Standards, allows customers to simplify preparation work of the Technical Construction File required for a Declaration of Conformity.

• Electromagnetic Compatibility (EMC) Directive

The EMC Directive specifies electromagnetic compatibility. Equipment which may generate electromagnetic interference or whose function may be compromised by electromagnetic interference is required to be immune to electromagnetic affects (EMS/immunity) without emitting excessive electromagnetic affects (EMI/emission).

• Low Voltage Directive

This directive is applied to products, which operate above 50 VAC to 1000 VAC and 75 VDC to 1500 VDC operating voltage, and require electrical safety measures to be introduced.

• Simple Pressure Vessels Directive

This directive is applied to welded vessels whose maximum operating pressure (PS) and volume of vessel (V) exceed 50 bar/L. Such vessels require EC type examination and then CE marking.

national Standards

you to comply with EC directives and CSA/UL standards.



■ CSA Standards & UL Standards

UL and CSA standards have been applied in North America (U.S.A. and Canada) symbolizing safety of electric products, and are defined to mainly prevent danger from electric shock or fire, resulting from trouble with electric products. Both UL and CSA standards are acknowledged in North America as the first class certifying body. They have a long experience and ability for issuing product safety certificate. Products approved by CSA or UL standards are accepted in most states and governments beyond question.

Since CSA is a test certifying body as the National Recognized Testing Laboratory (NRTL) within the jurisdiction of Occupational Safety and Health Administration (OSHA), SMC was tested for compliance with CSA Standards and UL Standards at the same time and was approved for compliance with the two Standards. The above CSA NRTL/C logo is described on a product label in order to indicate that the product is approved by CSA and UL Standards.

■ TSSA (MCCR) Registration Products

TSSA is the regulation in Ontario State, Canada. The products that the operating pressure is more than 5 psi (0.03 MPa) and the piping size is bigger than 1 inch. fall into the scope of TSSA regulation.

Products conforming to CE Standard

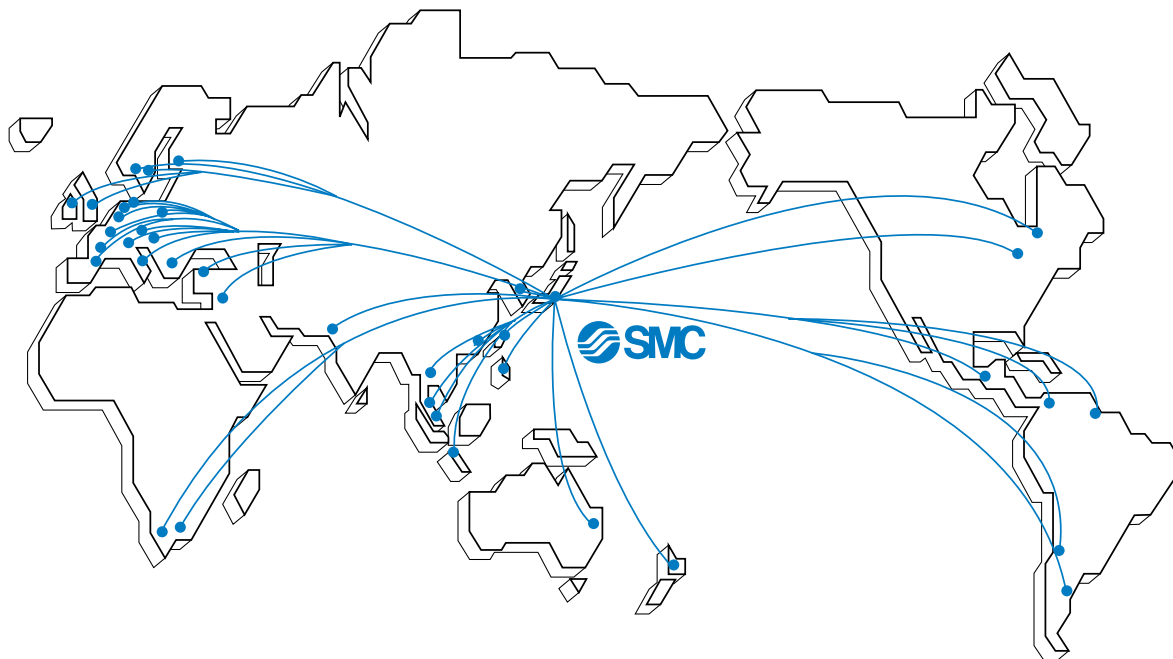


With CE symbol for simple visual recognition

In this catalog each accredited product series is indicated with a CE mark symbol. However, in some cases, every available models may not meet CE compliance. Please visit our web site for the latest selection of available models with CE mark.

<http://www.smcworld.com>

SMC's Global Service Network



America

U.S.A. **SMC Corporation of America**

3011 North Franklin Road Indianapolis, IN 46226, U.S.A.
TEL: 317-899-4440 FAX: 317-899-3102

CANADA **SMC Pneumatics (Canada) Ltd.**

6768 Financial Drive Mississauga, Ontario, L5N 7J6 Canada
TEL: 905-812-0400 FAX: 905-812-8686

MEXICO **SMC Corporation (Mexico), S.A. DE C.V.**

Carr. Silao-Trejo K.M. 2.5 S/N, Predio San Jose del Duranzo
C.P. 36100, Silao, Gto., Mexico
TEL: 472-72-2-55-00 FAX: 472-72-2-59-44/2-59-46

CHILE **SMC Pneumatics (Chile) S.A.**

Av. La Montaña 1,115 km. 16.5 P. Norte Parque
Industrial Valle Grande, Lampa Santiago, Chile
TEL: 02-270-8600 FAX: 02-270-8601

ARGENTINA **SMC Argentina S.A.**

Teodoro Garcia 3860 (1427) Buenos Aires, Argentina
TEL: 011-4555-5762 FAX: 011-4555-5762

BOLIVIA **SMC Pneumatics Bolivia S.R.L.**

Avenida Beni Numero 4665
Santa Cruz de la Sierra-Casilla de Correo 2281, Bolivia
TEL: 591-3-3428383 FAX: 591-3-3449900

VENEZUELA **SMC Neumatica Venezuela S.A.**

Apartado 40152, Avenida Nueva Granada, Edificio Wanlac,
Local 5, Caracas 1040-A, Venezuela
TEL: 2-632-1310 FAX: 2-632-3871

PERU (Distributor) **IMPECO Automatizacion Industrial S.A.**

AV. Canevaro 752, Lince, Lima, Peru
TEL: 1-471-6002 FAX: 1-471-0935

URUGUAY (Distributor) **BAKO S.A.**

Galicia 1650 esq. Gaboto C.P. 11200, Montevideo, Uruguay
TEL: 2-401-6603 FAX: 2-409-4306

BRAZIL **SMC Pneumaticos Do Brasil Ltda.**

Rua. Dra. Maria Fidelis, nr. 130, Jardim Piraporinha-Diadema-S.P.
CEP: 09950-350, Brasil
TEL: 11-4051-1177 FAX: 11-4071-6636

COLOMBIA (Distributor) **Airmatic Ltda.**

Calle 18 69-05 Apart. Aereo 081045 Santa Fe de Bogotá, Colombia
TEL: 1-424-9240 FAX: 1-424-9260

Europe

U.K. **SMC Pneumatics (U.K.) Ltd.**

Vincent Avenue, Crownhill, Milton Keynes, MK8 0AN, Buckinghamshire, U.K.
TEL: 01908-563888 FAX: 01908-561185

GERMANY **SMC Pneumatik GmbH**

Boschring 13-15 D-63329 Egelsbach, Germany
TEL: 06103-4020 FAX: 06103-402139

ITALY **SMC Italia S.p.A.**

Via Garibaldi 62 I-20061 Carugate Milano, Italy
TEL: 02-9271365 FAX: 02-9271365

FRANCE **SMC Pneumatique S.A.**

1 Boulevard de Strasbourg, Parc Gustave Eiffel, Bussy Saint Georges, F-77600
Marne La Vallee Cedex 3 France
TEL: 01-64-76-10-00 FAX: 01-64-76-10-10

SWEDEN **SMC Pneumatics Sweden AB**

Ekhagsvägen 29-31, S-141 05 Huddinge, Sweden
TEL: 08-603-07-00 FAX: 08-603-07-10

SWITZERLAND **SMC Pneumatik AG**

Dorfstrasse 7, Postfach 117, CH-8484 Weisslingen, Switzerland
TEL: 052-396-3131 FAX: 052-396-3191

AUSTRIA **SMC Pneumatik GmbH (Austria)**

Girakstrasse 8, A-2100 Korneuburg, Austria
TEL: 0-2262-6228-0 FAX: 0-2262-62285

SPAIN **SMC España, S.A.**

Zuazobidea 14 Pol. Ind. Júndiz 01015 Vitoria, Spain
TEL: 945-184-100 FAX: 945-184-510

IRELAND **SMC Pneumatics (Ireland) Ltd.**

2002 Citywest Business Campus, Naas Road, Saggart, Co. Dublin, Ireland
TEL: 01-403-9000 FAX: 01-466-0385

NETHERLANDS (Associated company) **SMC Pneumatics BV**

De Ruyterkade 120, NL-1011 AB Amsterdam, Netherlands
TEL: 020-5318888 FAX: 020-5318880

GREECE (Distributor) **S.Parianopoulos S.A.**

7, Konstantinoupoleos Street 11855 Athens, Greece
TEL: 01-3426076 FAX: 01-3455578

DENMARK **SMC Pneumatik A/S**

Knudsminde 4 B DK-8300
Odder, Denmark
TEL: 70252900 FAX: 70252901

Europe

FINLAND SMC Pneumatics Finland OY

PL72, Tiistiniityntie 4, SF-02231 ESP00, Finland
TEL: 09-8595-80 FAX: 09-8595-8595

NORWAY SMC Pneumatics Norway A/S

Vollsvæien 13C, Granfoss Næringspark N-1366 LYSAKER, Norway
TEL: 67-12-90-20 FAX: 67-12-90-21

BELGIUM (Distributor) SMC Pneumatics N.V./S.A.

Nijverheidsstraat 20 B-2160 Wommelgem Belgium
TEL: 03-355-1464 FAX: 03-355-1466

POLAND SMC Industrial Automation Polska Sp.z.o.o.

ul. Konstruktorska 11A, PL-02-673 Warszawa, Poland
TEL: 022-548-5085 FAX: 022-548-5087

TURKEY (Distributor) Entek Pnömatik San.ve Tic. Ltd. Sti

Perpa Tic. Merkezi Kat:11 No.1625 80270 Okmeydani Istanbul, Türkiye
TEL: 0212-221-1512 FAX: 0212-221-1519

RUSSIA SMC Pneumatik LLC.

36/40 Sredny prospect V.O. St. Petersburg 199004, Russia
TEL: 812-118-5445 FAX: 812-118-5449

CZECH SMC Industrial Automation CZ s.r.o.

Hudcova 78a, CZ-61200 Brno, Czech Republic
TEL: 05-4121-8034 FAX: 05-4121-8034

HUNGARY SMC Hungary Ipari Automatizálási kft.

Budafoki ut 107-113 1117 Budapest
TEL: 01-371-1343 FAX: 01-371-1344

ROMANIA SMC Romania S.r.l.

Str. Frunzei, Nr. 29, Sector 2, Bucharest, Romania
TEL: 01-3205111 FAX: 01-3261489

SLOVAKIA SMC Priemyselná automatizácia, s.r.o.

Nova 3, SK-83103 Bratislava
TEL: 02-4445-6725 FAX: 02-4445-6028

SLOVENIA SMC Industrijska Avtomatila d.o.o.

Grajski trg 15, SLO- 8360 Zuzemberk, Slovenia
TEL: 07388-5240 FAX: 07388-5249

LATVIA SMC Pneumatics Latvia SIA

Šmerļa ielā 1-705, Rīga LV-1006
TEL: 777 94 74 FAX: 777 94 75

SOUTH AFRICA (Distributor) Hyflo Southern Africa (Pty.) Ltd.

P.O.Box 240 Paardeneiland 7420 South Africa
TEL: 021-511-7021 FAX: 021-511-4456

EGYPT (Distributor) Saadani Trading & Ind. Services

15 Sebaai Street, Miami 21411 Alexandria, Egypt
TEL: 3-548-50-34 FAX: 3-548-50-34

Oceania/Asia

AUSTRALIA SMC Pneumatics (Australia) Pty.Ltd.

14-18 Hudson Avenue Castle Hill NSW 2154, Australia
TEL: 02-9354-8222 FAX: 02-9894-5719

NEW ZEALAND SMC Pneumatics (New Zealand) Ltd.

8C Sylvia Park Road Mt.Wellington Auckland, New Zealand
TEL: 09-573-7007 FAX: 09-573-7002

TAIWAN SMC Pneumatics (Taiwan) Co.,Ltd.

17, Lane 205, Nansan Rd., Sec.2, Luzhu-Hsiang, Taoyuan-Hsien, TAIWAN
TEL: 03-322-3443 FAX: 03-322-3387

HONG KONG SMC Pneumatics (Hong Kong) Ltd.

29/F, Clifford Centre, 778-784 Cheung, Sha Wan Road, Lai Chi Kok, Kowloon, Hong Kong
TEL: 2744-0121 FAX: 2785-1314

SINGAPORE SMC Pneumatics (S.E.A.) Pte. Ltd.

89 Tuas Avenue 1, Jurong Singapore 639520
TEL: 6861-0888 FAX: 6861-1889

PHILIPPINES SHOKETSU SMC Corporation

Unit 201 Common Goal Tower, Madrigal Business Park, Ayala Alabang Muntinlupa, Philippines
TEL: 02-8090565 FAX: 02-8090586

MALAYSIA SMC Pneumatics (S.E.A.) Sdn. Bhd.

Lot 36 Jalan Delima1/1, Subang Hi-Tech Industrial Park, Batu 3 40000 Shah Alam Selangor, Malaysia
TEL: 03-56350590 FAX: 03-56350602

SOUTH KOREA SMC Pneumatics Korea Co., Ltd.

Woolim e-BIZ Center (Room 1008), 170-5, Guro-Dong, Guro-Gu, Seoul, 152-050, South Korea
TEL: 02-3219-0700 FAX: 02-3219-0702

CHINA SMC (China) Co., Ltd.

7 Wan Yuan St. Beijing Economic & Technological Development Zone 100176, China
TEL: 010-67882111 FAX: 010-67881837

THAILAND SMC Thailand Ltd.

134/6 Moo 5, Tiwanon Road, Bangkadi, Amphur Muang, Patumthani 12000, Thailand
TEL: 02-963-7099 FAX: 02-501-2937

INDIA SMC Pneumatics (India) Pvt. Ltd.

D-107 to 112, Phase-2, Extension, Noida, Dist. Gautaim Budh Nagar, U.P. 201 305, India
TEL: (0120)-4568730 FAX: 0120-4568933

INDONESIA (Distributor) P.T. Riyadi Putera Makmur

Jalan Hayam Wuruk Komplek Glodok Jaya No. 27-28 Jakarta 11180 Indonesia
TEL: 021-625 5548 FAX: 021-625 5888

PAKISTAN (Distributor) Jubilee Corporation

First Floor Mercantile Centre, Newton Road Near Boulton Market P.O. Box 6165 Karachi 74000 Pakistan
TEL: 021-243-9070/8449 FAX: 021-241-4589

ISRAEL (Distributor) Baccara Automation Control

Kvutza Geva 18915 Israel
TEL: 04-653-5960 FAX: 04-653-1445

SAUDI ARABIA (Distributor) Assaggaff Trading Est.

P.O. Box 3385 Al-Amir Majed Street, Jeddah-21471, Saudi Arabia
TEL: 02-6761574 FAX: 02-6708173

Refrigerated Air Dryer

For use in North, Central & South America

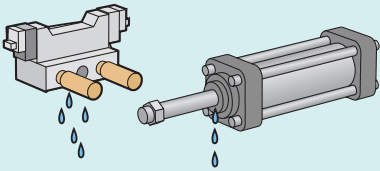


Protect Pneumatic Equipment from Moisture!

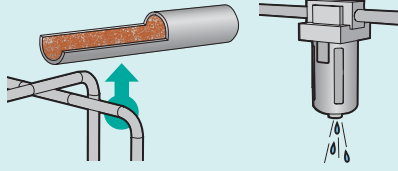
An air dryer removes the vapor from the moist compressed air delivered by the compressor, and prevents it from causing the pneumatic equipment to fail.

• 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



Refrigerant

R134a(HFC), R407C(HFC)

Coefficient of destruction for ozone is zero.

Improved corrosion resistance with the use of stainless steel, plate type heat exchanger (IDFB4E to 75E)

UL certified product

Power supply voltage:

Single-phase 115 VAC (60 Hz)

230 VAC (60 Hz)

Three-phase 460 VAC (60 Hz)

New

IDFB55E/75E
are added



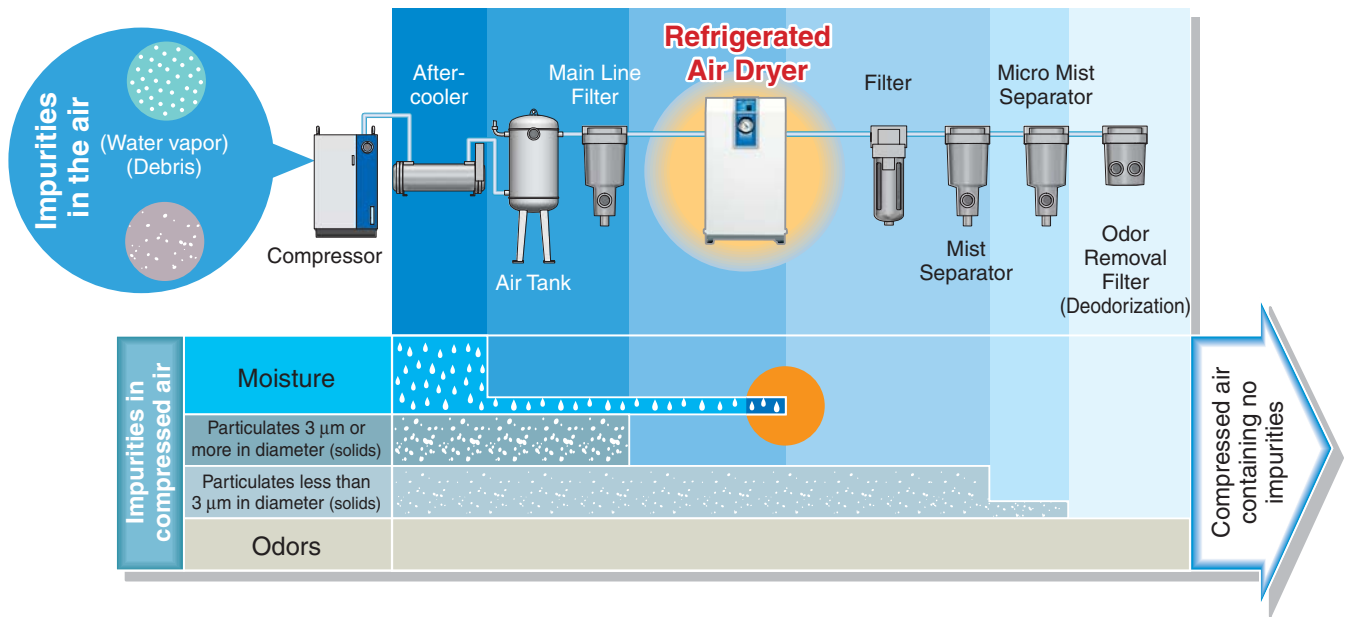
Series **IDFB**□**E**



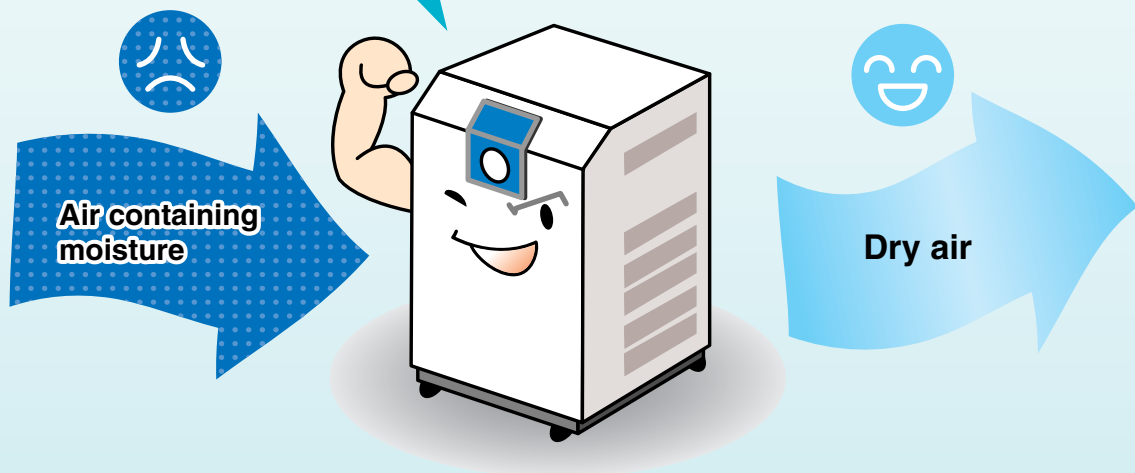
CAT.ES30-10B

The Importance of Dryers

Compressed air contains moisture (water vapor, droplets), oil, debris and other foreign matter. Filters and mist separators can be used to remove droplets, oil, debris, and so on, but a dryer is necessary to remove water vapor.



The primary job of a dryer is **dehumidification.**



SMC Air Preparation Equipment

Quick Reference Guide to Air Preparation Equipment

- * Shows standard combinations. The suffix numbers of the model indicate port size, power supply, etc. Refer to “How to Order” on pages 3 and 7 for details on dryers and refer to “SMC Best Pneumatics” Vol.14 catalog for other equipment.
- * The symbol “—” in the table indicates that no such equipment exists.
- * The figures for air flow capacity corresponding to air compressor output are provided for reference only.
- * The table below applies to the air pressure dew point (at 100 psi (0.7 MPa)) 50°F (10°C). In cases where other dew points are needed, please refer to page 2 (Model Selection) of this catalog.

For reciprocating compressors

Air compressor			Main line			Sub line		Local line				
Output (kW)	Air flow capacity		Air tank	Aftercooler ^{Note 1)}		Main line filter	Refrigerated air dryer ^{Note 2)} 60 Hz area	Mist separator	Micro mist separator with pre-filter	Micro mist separator	Super mist separator	Odor removal filter
	SCFM (ANR)	m ³ /h (ANR)		Air-cooled	Water-cooled							
2.2	10.6	18	AT6C-04	HAA7-06	HAW7-06	AFF2C-02	IDFB3E	AM150C-02	AMH250C-03	AMD250C-03	AME250C-03	AMF250C-03
3.7	17.7	30	AT6C-04	HAA7-06	HAW7-06	AFF4C-03	IDFB4E	AM250C-03	AMH250C-03	AMD250C-03	AME250C-03	AMF250C-03
5.5	24.7	42	AT6C-04	HAA7-06	HAW7-06	AFF4C-04	IDFB6E	AM250C-03	AMH350C-04	AMD350C-04	AME350C-04	AMF350C-04
7.5	35.3	60	AT11C-06	HAA15-10	HAW22-14	AFF8C-04	IDFB8E	AM350C-04	AMH350C-04	AMD350C-04	AME350C-04	AMF350C-04
11	53.0	90	AT11C-06	HAA15-10	HAW22-14	AFF8C-06	IDFB11E	AM350C-06	AMH450C-06	AMD450C-06	AME450C-06	AMF450C-06
15	70.6	120	AT22C-14	HAA22-14	HAW22-14	AFF11C-06	IDFB15E	AM450C-06	AMH450C-06	AMD450C-06	AME450C-06	AMF450C-06
22	105.9	180	AT22C-14	HAA37-14	HAW37-14	AFF22C-10	IDFB22E	AM550C-10	AMH550C-06	AMD550C-10	AME550C-10	AMF550C-10
27	123.6	210	AT37C-14	HAA37-14	HAW37-14	AFF22C-10	IDFB22E	AM550C-10	AMH550C-10	AMD550C-10	AME550C-10	AMF550C-10
37	176.5	300	AT37C-14	—	HAW55-20	AFF37B-14	IDFB37E	AM650-14	AMH650-14	AMD650-14	AME650-14	AMF650-14
55	264.7	450	AT55C-20	—	HAW75-20	AFF75 _B -20	IDFB55E	AM850-20	AMH850-20	AMD850-20	AME850-20	AMF850-20
75	353.0	600	AT75C-20	—	HAW110-30	AFF75 _B -20	IDFB75E	AM850-20	AMH850-20	AMD850-20	AME850-20	AMF850-20

For screw compressors (when an aftercooler is installed)

Air compressor			Main line		Sub line	Local line				
Output (kW)	Air flow capacity		Aftercooler ^{Note 1)}		Refrigerated air dryer ^{Note 2)} 60 Hz area	Mist separator	Micro mist separator with pre-filter	Micro mist separator	Super mist separator	Odor removal filter
	SCFM (ANR)	m ³ /h (ANR)	Air-cooled	Water-cooled						
2.2	10.6	18	HAA7-06	HAW2-04	IDFB3E	AM150C-02	AMH250C-03	AMD250C-03	AME250C-03	AMF250C-03
3.7	17.7	30	HAA7-06	HAW7-06	IDFB4E	AM250C-03	AMH250C-03	AMD250C-03	AME250C-03	AMF250C-03
5.5	26.5	45	HAA7-06	HAW7-06	IDFB6E	AM250C-03	AMH350C-04	AMD350C-04	AME350C-04	AMF350C-04
7.5	35.3	60	HAA7-06	HAW7-06	IDFB8E	AM350C-04	AMH350C-04	AMD350C-04	AME350C-04	AMF350C-04
11	53.0	90	HAA15-10	HAW22-14	IDFB11E	AM350C-04	AMH450C-06	AMD450C-06	AME450C-06	AMF450C-06
15	77.7	132	HAA15-10	HAW22-14	IDFB15E	AM450C-06	AMH550C-10	AMD550C-10	AME550C-10	AMF550C-10
22	116.5	198	HAA22-14	HAW22-14	IDFB22E	AM550C-10	AMH550C-10	AMD550C-10	AME550C-10	AMF550C-10
37	204.7	348	HAA37-14	HAW37-14	IDFB37E	AM650-14	AMH650-14	AMD650-14	AME650-14	AMF650-14
55	300.0	510	—	HAW55-20	IDFB55E	AM850-20	AMH850-20	AMD850-20	AME850-20	AMF850-20
75	423.5	720	—	HAW75-20	IDFB75E	AM850-20	AMH850-20	AMD850-20	AME850-20	AMF850-20



Note 1) Air-cooled aftercooler
Water-cooled aftercooler

Note 2) Series IDFB

Inlet air temperature 158.8°F (60°C)
Ambient temperature 84.7°F (32°C)
Inlet air temperature 476.2°F (180°C)
Cooling water inlet temperature 79.4°F (30°C)
Inlet air temperature 100°F (37.8°C) Saturation
Ambient temperature 84.7°F (32°C)

1. Standard Products

Series IDFB

Standard inlet air type

Rated inlet air temperature:
100°F (37.8°C)



Model	Air flow capacity SCFM (m ³ /h [ANR])			Refrigerant	Rated inlet condition	Port size
	Outlet air pressure dew point ^{Note}					
	37°F (2.8°C)	45°F (7.2°C)	50°F (10°C)			
IDFB3E	10 (17)	11 (19)	12 (20)	R134a (HFC)	100°F (37.8°C) 100 psi (0.7 MPa)	NPT 3/8
IDFB4E	15 (25)	16 (27)	17 (28)			NPT 1/2
IDFB6E	25 (43)	26 (45)	28 (47)			NPT 3/4
IDFB8E	41 (70)	43 (74)	45 (77)			NPT 1
IDFB11E	59 (100)	62 (106)	65 (110)			NPT 1 1/2
IDFB15E	71 (120)	80 (136)	86 (147)			NPT 2
IDFB22E	107 (182)	120 (205)	130 (221)			
IDFB37E	161 (273)	173 (294)	181 (308)			
IDFB55E	226 (384)	258 (438)	297 (504)	R407C (HFC)		
IDFB75E	300 (510)	353 (600)	406 (690)			

Page

P. 3 to 9

Note) Air flow capacity for each dew point is indicated.

2. Options

Optional specifications	Applicable model	Model (Suffix: Option symbol)
Cool compressed air output	IDFB3E to 11E	IDFB□E-11-A
For medium air pressure (up to 240 psi (1.6 MPa)) (Auto drain bowl: Metal bowl with level gauge)	IDFB6E to 37E	IDFB□E-□-K
With heavy duty auto drain (Suitable for medium air pressure)	IDFB55E, 75E	IDFB□E-46-L
With circuit breaker	IDFB4E to 75E	IDFB□E-□-R
With terminal block for power supply, run & alarm signal and remote operation	IDFB4E to 75E	IDFB□E-□-T
Timer type solenoid valve with auto drain (Suitable for medium air pressure)	IDFB4E to 75E	IDFB□E-□-V

Page

P. 10, 11

3. Accessory (Option)

Description	Page
Dust-protecting filter set	P. 12

4. Safety Instructions ... Back page 1, 2

Series IDFB□E

Model Selection

The corrected air flow capacity, which considers the user's operating conditions, is required for selecting the air dryer. Please select using the following procedures.

1 Read the correction factor.

Obtain the correction factor A to D suitable for your operating condition using the table below.

IDFB□E Selection Example

Condition	Data symbol	Correction factor ^{Note)}	
Inlet air temperature	110°F (43°C)	A	0.82
Ambient temperature	105°F (40.5°C)	B	0.98
Inlet air pressure	75 psi (0.53 MPa)	C	0.95
Air consumption	14 SCFM	—	—

Note) Values obtained from the table below.

2 Calculate the corrected air flow capacity.

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

$$\text{Corrected air flow capacity} = 14 \text{ SCFM} \div (0.82 \times 0.98 \times 0.95) = 18 \text{ SCFM}$$

3 Select the model.

Select the model which air flow capacity exceeds the corrected air flow capacity using the specification table. (For air flow capacity, refer to the data D below.)

According to the corrected air flow capacity of 18 SCFM, the **IDFB6E** will be selected because its air flow capacity at 60 Hz is 25 SCFM.

4 Option

Refer to page 3, 7.

5 Finalize the model number.

Refer to page 3, 7.

6 Select accessories sold separately.

Refer to page 12.

Data A: Inlet Air Temperature

Inlet air temperature		Correction factor	
°F	°C	IDFB3E to 37E	IDFB55E, 75E
90	32	1.31	1.08
100	37.8	1.00	1.00
110	43	0.82	0.83
120	49	0.66	0.46

Data B: Ambient Temperature

Ambient temperature		Correction factor
°F	°C	
77	25	1.24
90	32	1.09
95	35	1.04
100	37.8	1.00
105	40.5	0.98
110	43	0.95

Data C: Inlet Air Pressure

Inlet air pressure		Correction factor
psi	MPa	
75	0.53	0.95
100	0.70	1.00
110	0.76	1.04
120	0.83	1.07
125	0.86	1.09
150	1.03	1.13
175	1.21	1.18
200	1.38	1.22
250	1.72	1.24

Data D: Air Flow Capacity

Model		Air flow capacity SCFM (m ³ /h (ANR))									
		IDFB3E	IDFB4E	IDFB6E	IDFB8E	IDFB11E	IDFB15E	IDFB22E	IDFB37E	IDFB55E	IDFB75E
Outlet air pressure dew point	37°F (2.8°C)	10 (17)	15 (25)	25 (43)	41 (70)	59 (100)	71 (120)	107 (182)	161 (273)	226 (384)	300 (510)
	45°F (7.2°C)	11 (19)	16 (27)	26 (45)	43 (74)	62 (106)	80 (136)	120 (205)	173 (294)	258 (438)	353 (600)
	50°F (10°C)	12 (20)	17 (28)	28 (47)	45 (77)	65 (110)	86 (147)	130 (221)	181 (308)	297 (504)	406 (690)

Note) In case of "Option A (Cool compressed air output)", the air flow capacity is different. Refer to page 10 for details.

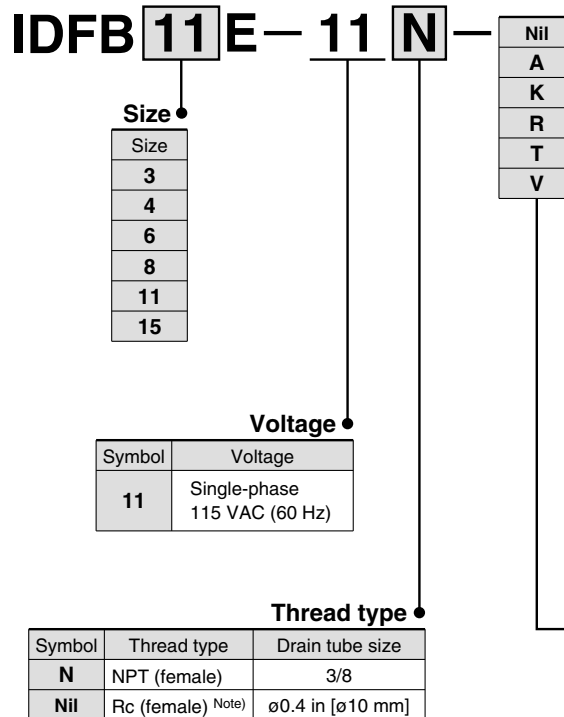
Refrigerant R134a (HFC) Standard Inlet Air

Series **IDFB** □ **E**

3E, 4E, 6E, 8E, 11E, 15E

(Inlet air temperature: 100°F [37.8°C])

How to Order



Note) An adapter for converting NPT to Rc is included if the thread symbol is "Nil".

Table of Options and Available Combinations (Size/Option)

Symbol ^{Note 1)}	Nil	A	K	R	T	V
Optional specifications	None	Cool compressed air output	For medium air pressure (Auto drain bowl: Metal case with level gauge)	With circuit breaker	With terminal block for run & alarm signal	Timer type solenoid valve with auto drain (Suitable for medium air pressure)
Size						
3	●	●	—	—	—	—
4	●	●	—	●	●	●
6	●	●	●	●	●	●
8	●	●	●	●	●	●
11	●	●	●	●	●	●
15	●	—	●	●	●	●

Note 1) Enter alphabetically when multiple options are combined. However, the following combination cannot be achieved.
• Combination of K and V (Only one or the other may be attached.)

Note 2) Refer to pages 10 and 11 for further information on options.

Standard Specifications

Specifications		Standard inlet air					
		IDFB3E	IDFB4E	IDFB6E	IDFB8E	IDFB11E	IDFB15E
Operating ranges	Fluid	Compressed air					
	Inlet air temperature °F (°C)	41 to 122 (5 to 50)					
	Inlet air pressure psi (MPa)	22 (0.15) to 150 (1.0)					
	Ambient temperature °F (°C)	36 to 104 (2 to 40) Relative humidity of 85% or less					
Air flow capacity SCFM <small>Note 1, 2)</small> (m ³ /h (ANR))	Outlet air pressure dew point 37°F (2.8°C)	10 (17)	15 (25)	25 (43)	41 (70)	59 (100)	71 (120)
	Outlet air pressure dew point 45°F (7.2°C)	11 (19)	16 (27)	26 (45)	43 (74)	62 (106)	80 (136)
	Outlet air pressure dew point 50°F (10°C)	12 (20)	17 (28)	28 (47)	45 (77)	65 (110)	86 (147)
Rated conditions	Operating pressure psi (MPa)	100 (0.7)					
	Inlet air temperature °F (°C)	100 (37.8)					
	Ambient temperature °F (°C)	100 (37.8)					
Electric specifications	Power supply voltage	Single-phase 115 VAC [voltage fluctuation ±10%] 60 Hz					
	Operating current (A)	2.7	3.0	3.0	3.5	6.5	7.5
	Power consumption (W)	240	260	260	310	550	750
	Applicable circuit breaker capacity <small>Note 3)</small> (A)	15					
Condenser		Forced air-cooled					
Refrigerant		R134a (HFC)					
Thread symbol and size	Symbol N	NPT 3/8 (female)	NPT 1/2 (female)	NPT 3/4 (female)		NPT 1 (female)	
	Symbol Nil	Rc 3/8 (female) With Rc conversion adapter	Rc 1/2 (female) With Rc conversion adapter	Rc 3/4 (female) With Rc conversion adapter		Rc 1 (female) With Rc conversion adapter	
Drain tube O.D.	Symbol N	3/8 inch					
	Symbol Nil	10 mm					
Coating color		White 1					
Mass	lbs (kg)	40 (18)	55 (25)	57 (26)	64 (29)	73 (33)	110 (50)
Compliant standards		UL, CSA					

Note 1) ANR is under the conditions of 68°F (20°C) at atmospheric pressure and relative humidity of 65%.

Note 2) Air flow capacity for each outlet air pressure dew point is indicated.

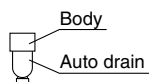
Note 3) Install a circuit breaker with a sensitivity of 30 mA.

Note 4) If this equipment suffers a short-term power outage (even if it is only momentary), it may require some time before normal operation resumes, and protective mechanisms may prevent normal operation even after the power supply has been restored.

Replacement Parts

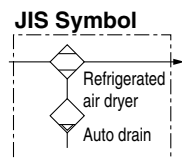
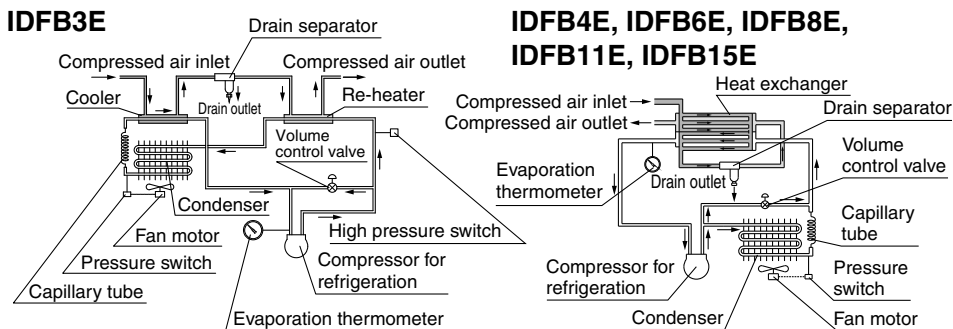
Model		IDFB3E	IDFB4E	IDFB6E	IDFB8E	IDFB11E	IDFB15E
Auto drain replacement part no. <small>Note 5)</small>	Thread symbol N	AD38N-Z			AD48N-Z		
	Thread symbol Nil	AD38			AD48		

Note 5) The part number for the auto drain components without including the body part. Body part replacement is impossible.



Construction Principle (Circuit for Air/Refrigerant)

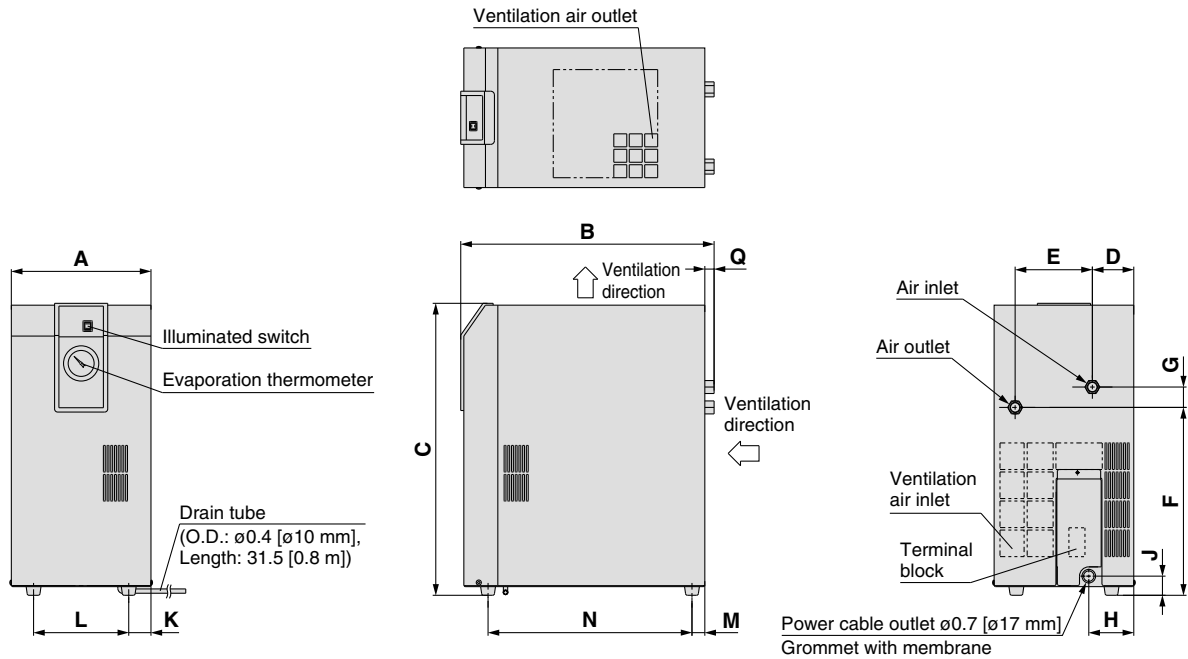
Humid, hot air coming into the air dryer will be cooled down by a cooler (heat exchanger). Water condensed at this time will be removed from the air by a drain separator (auto drain) and drained out automatically. Air separated from the water will be heated by a re-heater (heat exchanger) to obtain the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



Series IDFB□E

Dimensions

IDFB3E

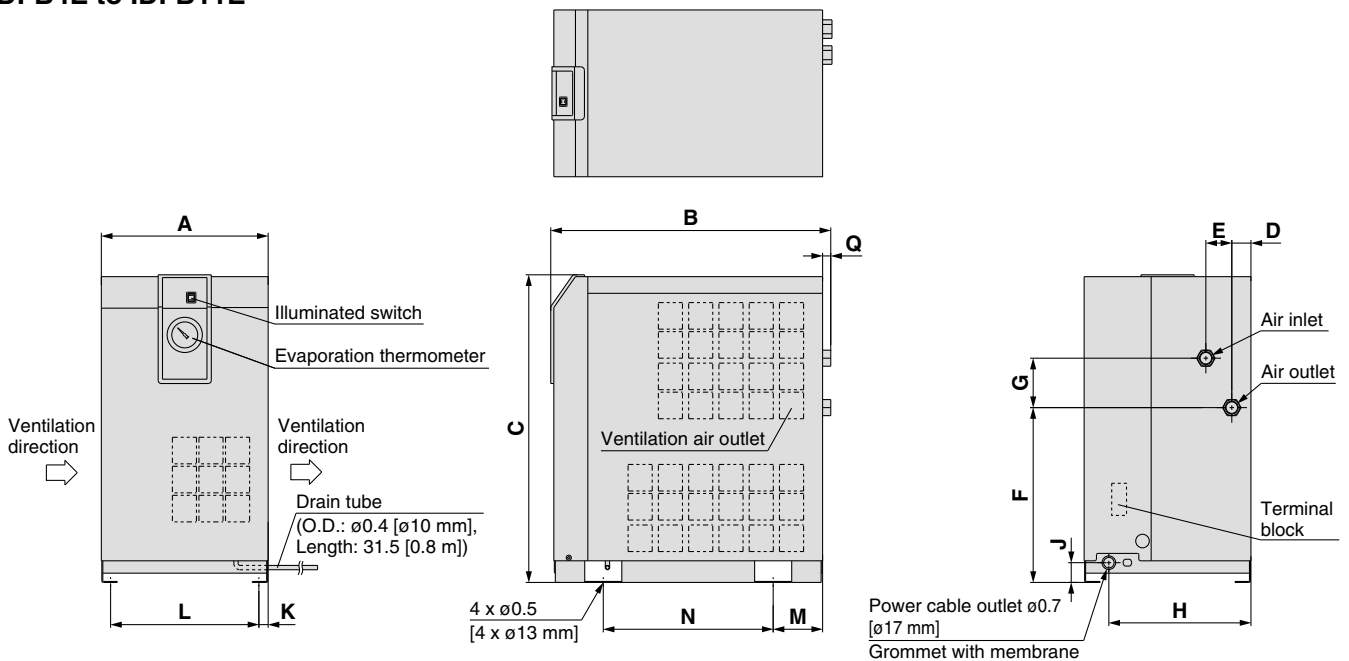


Dimensions

Model	Port size	A	B	C	D	E	F	G	H	J	K	L	M	N	Q
IDFB3E	3/8	8.9 [226]	16.1 [410]	18.6 [473]	2.6 [67]	4.9 [125]	12.0 [304]	1.3 [33]	2.9 [73]	1.2 [31]	1.4 [36]	6.1 [154]	0.8 [21]	13.0 [330]	0.6 [15]

Unit: inch [mm]

IDFB4E to IDFB11E



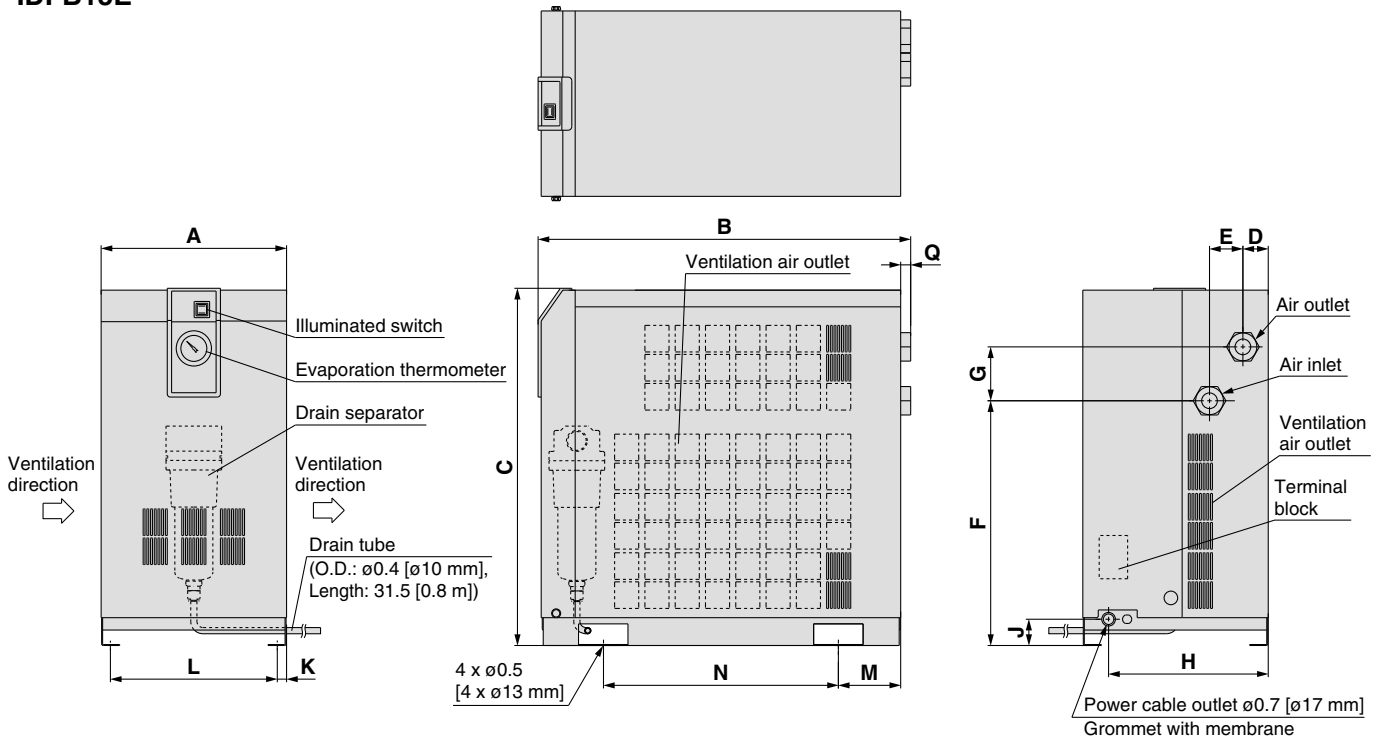
Dimensions

Model	Port size	A	B	C	D	E	F	G	H	J	K	L	M	N	Q
IDFB4E	1/2		17.8 [453]	19.6 [498]			11.1 [283]							10.8 [275]	
IDFB6E			17.9 [455]												
IDFB8E	3/4	10.6 [270]			1.2 [31]	1.7 [42]		3.1 [80]	9.1 [230]	1.3 [32]	0.6 [15]	9.4 [240]	3.1 [80]		0.5 [13]
IDFB11E			19.1 [485]	22.4 [568]			14 [355]							11.8 [300]	

Unit: inch [mm]

Dimensions

IDFB15E



Dimensions

Unit: inch [mm]

Model	Port size	A	B	C	D	E	F	G	H	J	K	L	M	N	Q
IDFB15E	1	11.8 [300]	23.7 [603]	22.8 [578]	1.6 [41]	2.1 [54]	16.6 [396]	3.4 [87]	10.2 [258]	1.7 [43]	0.6 [15]	10.6 [270]	4.0 [101]	15.0 [380]	0.6 [16]

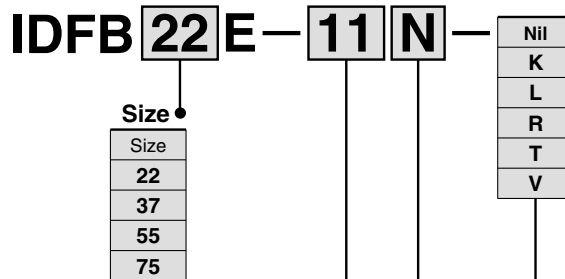
Refrigerant R134a (HFC), R407C (HFC) Standard Inlet Air

Series **IDFB** □ **E**

22E, 37E, 55E, 75E

(Inlet air temperature: 100°F [37.8°C])

How to Order



Symbol	Voltage	Applicable size			
		22	37	55	75
11	Single-phase 115 VAC (60 Hz)	●	—	—	—
23	Single-phase 230 VAC (60 Hz)	●	●	—	—
46	Three-phase 460 VAC (60 Hz)	—	—	●	●

Symbol	Thread type	Drain tube size
N	NPT (male)	3/8
Nil	R (male)	ø0.4 in [ø10 mm]

Table of Options and Available Combinations (Size/Option)

Symbol <small>Note 1)</small>	Nil	K	L	R	T	V
Optional specifications	None	For medium air pressure (Auto drain bowl: Metal case with level gauge)	With heavy duty auto drain (Suitable for medium air pressure)	With circuit breaker	With terminal block for run & alarm signal	Timer type solenoid valve with auto drain (Suitable for medium air pressure)
Size						
22	●	●	—	●	●	●
37	●	●	—	●	●	●
55	●	—	●	●	●	●
75	●	—	●	●	●	●

Note 1) Enter alphabetically when multiple options are combined.
However, the following combination cannot be achieved.

• Combination of K, L and V (All of them are auto drain and only one or the other may be attached.)

Note 2) Refer to pages 10 and 11 for further information on options.

Standard Specifications

Specifications		Standard inlet air			
		IDFB22E	IDFB37E	IDFB55E	IDFB75E
Operating ranges	Fluid	Compressed air			
	Inlet air temperature °F (°C)	41 to 122 (5 to 50)			
	Inlet air pressure psi (MPa)	22 (0.15) to 150 (1.0)			
	Ambient temperature °F (°C)	36 to 104 (2 to 40) Relative humidity of 85% or less			
Air flow capacity SCFM <small>(Note 1, 2)</small> (m ³ /h (ANR))	Outlet air pressure dew point 37°F (2.8°C)	107 (182)	161 (273)	226 (384)	300 (510)
	Outlet air pressure dew point 45°F (7.2°C)	120 (205)	173 (294)	258 (438)	353 (600)
	Outlet air pressure dew point 50°F (10°C)	130 (221)	181 (308)	297 (504)	406 (690)
Rated conditions	Operating pressure psi (MPa)	100 (0.7)			
	Inlet air temperature °F (°C)	100 (37.8)			
	Ambient temperature °F (°C)	100 (37.8)			
Electric specifications	Power supply voltage	Single-phase 115 VAC [voltage fluctuation ±10%] 60 Hz	Single-phase 230 VAC [voltage fluctuation ±10%] 60 Hz		Three-phase 460 VAC [voltage fluctuation ±10%] 60 Hz
	Operating current (A)	9	4.5	5.6	3.8
	Power consumption (W)	1000		1270	2400
	Applicable circuit breaker capacity <small>(Note 3)</small> (A)	15		10	
Condenser		Forced air-cooled			
Refrigerant		R134a (HFC)		R407C (HFC)	
Thread symbol and size	Symbol N	NPT 1 (male)	NPT 1½ (male)	NPT 2 (male)	
	Symbol Nil	R 1 (male)	R 1½ (male)	R 2 (male)	
Drain tube O.D.	Symbol N	3/8 inch			
	Symbol Nil	10 mm			
Coating color		White 1			
Mass	lbs (kg)	119 (54)	137 (62)	258 (117)	271 (123)
Compliant standards		UL, CSA			

Note 1) ANR is under the conditions of 68°F (20°C) at atmospheric pressure and relative humidity of 65%.

Note 2) Air flow capacity for each outlet air pressure dew point is indicated.

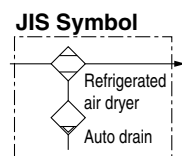
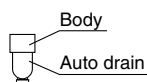
Note 3) Install a circuit breaker with a sensitivity of 30 mA.

Note 4) If this equipment suffers a short-term power outage (even if it is only momentary), it may require some time before normal operation resumes, and protective mechanisms may prevent normal operation even after the power supply has been restored.

Replacement Parts

Model		IDFB22E	IDFB37E	IDFB55E	IDFB75E
Auto drain replacement part no. <small>(Note 5)</small>	Thread symbol N	AD48N-Z			
	Thread symbol Nil	AD48			

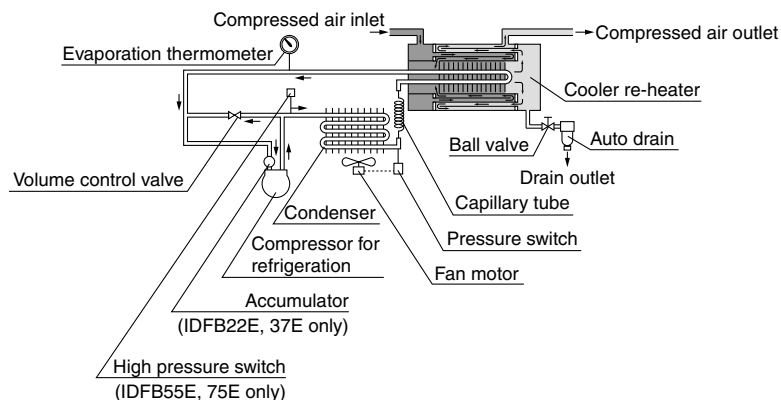
Note 5) The part number for the auto drain components without including the body part. Body part replacement is impossible.



Construction Principle (Circuit for Air/Refrigerant)

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 a drain separator (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.

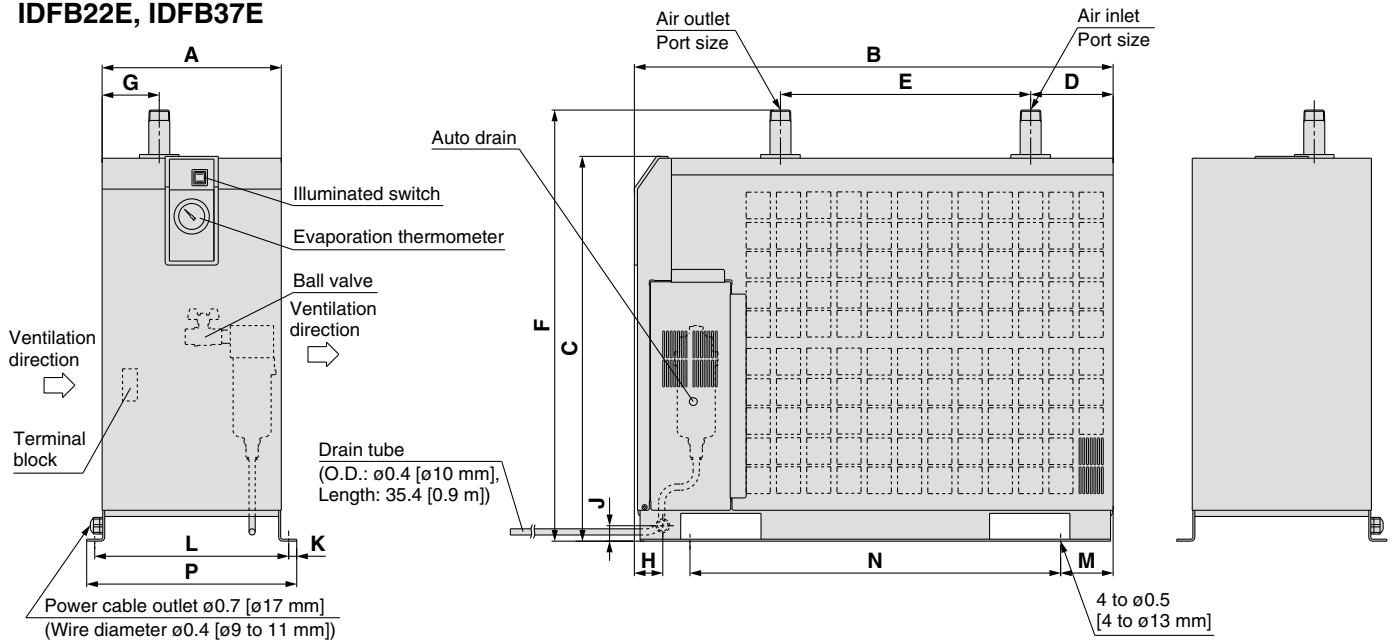
IDFB22E, IDFB37E



Series IDFB□E

Dimensions

IDFB22E, IDFB37E

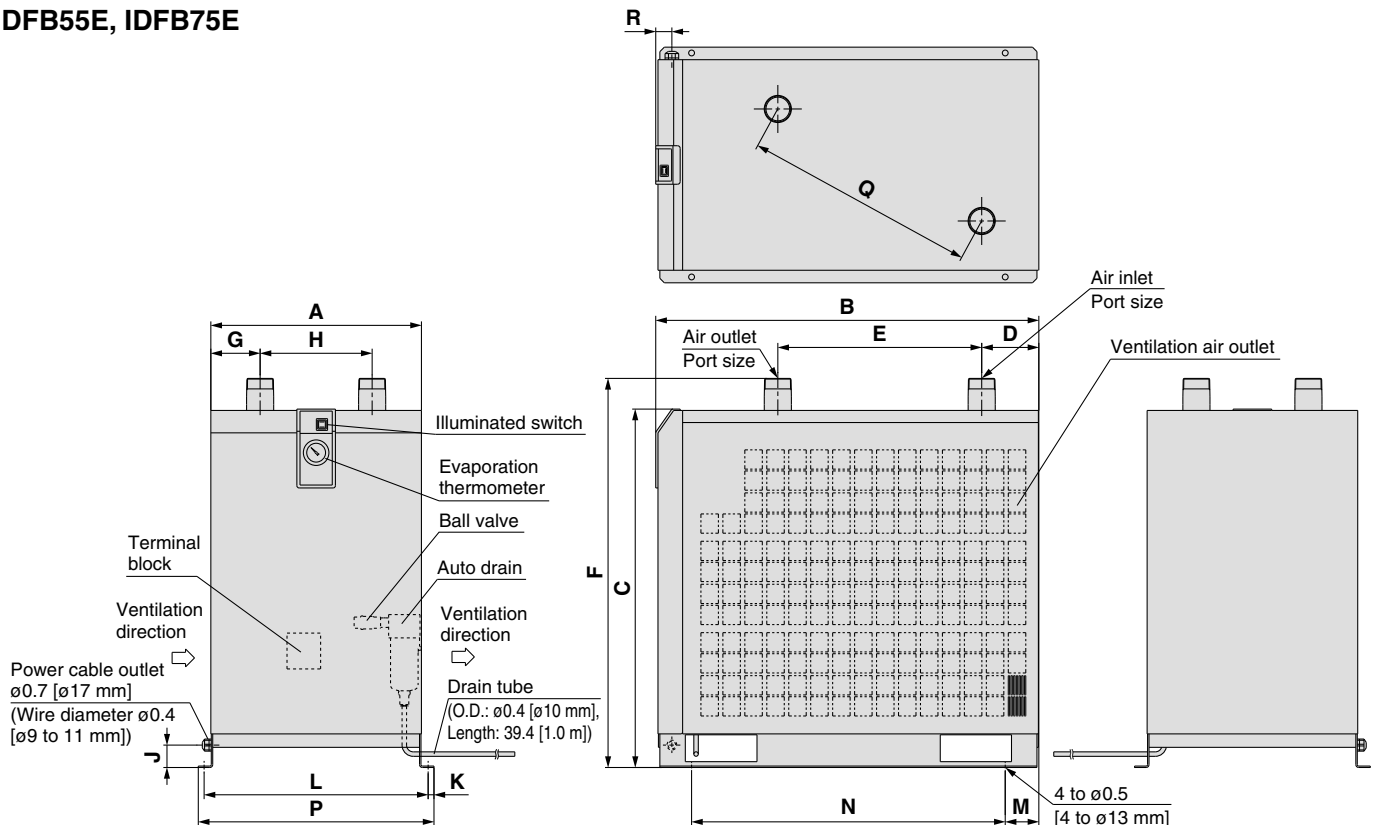


Dimensions

Unit: inch [mm]

Model	Port size	A	B	C	D	E	F	G	H	J	K	L	M	N	P
IDFB22E	1	11.4 [290]	30.5 [775]	24.5 [623]	5.3 [134]	15.9 [405]	27.5 [698]	3.7 [93]	1.8 [46]	1.0 [25]	0.5 [13]	12.4 [314]	3.3 [85]	23.6 [600]	13.4 [340]
IDFB37E	1½		33.7 [855]											26.8 [680]	

IDFB55E, IDFB75E



Dimensions

Unit: inch [mm]

Model	Port size	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R
IDFB55E	2	18.5 [470]	33.7 [855]	31.5 [800]	5.0 [128]	17.9 [455]	34.2 [868]	4.3 [110]	9.8 [250]	2 [50]	0.5 [13]	19.7 [500]	3.0 [75]	27.6 [700]	20.7 [526]	20.4 [519]	1.4 [36]
IDFB75E	2			35.4 [900]			38.1 [968]										

Series IDFB□E

Optional Specifications 1

Refer to “How to Order” pages 3 and 7 for optional models.

A Option symbol Cool compressed air output IDFB3E to 11E

There is no heating of cooled, dehumidified air as it leaves the air dryer. The air flow capacity with this option is smaller than that of the standard dryer. (The external dimensions are identical with the standard product.)
Note) Perform thermal insulation treatment for pipings and equipment installed after the dryer to prevent the formation of condensation.

Air Flow Capacity

Model	IDFB3E	IDFB4E	IDFB6E	IDFB8E	IDFB11E
Air flow capacity (ANR)	5 SCFM (8 m³/h)	13 SCFM (23 m³/h)	17 SCFM (29 m³/h)	19 SCFM (32 m³/h)	23 SCFM (39 m³/h)

Conditions: Inlet air pressure: 100 psi (0.7 MPa), Inlet air temperature: 100°F (37.8°C),
Outlet air temperature: 50°F (10°C), Ambient temperature: 100°F (37.8°C)

K Option symbol For medium air pressure (Auto drain bowl: Metal bowl with level gauge) IDFB6E to 37E

The auto drain is changed from the standard one to one with a medium 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: 240 psi (1.6 MPa)
2. Dimensions ... same as standard products

Replacement Parts

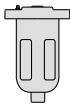

Model	Auto drain assembly part no.	Note
IDFB6E to 15E-11N	IDF-S0201	The AD48-8Z-X2110 auto drain, insulator, and one-touch fitting are included.
IDFB22E, 37E-□N	AD48-8Z-X2110	One-touch fitting (KQ2H11-02S) is not included.
IDFB6E to 15E-11	IDF-S0086	The AD48-8-X2110 auto drain, insulator, and one-touch fitting are included.
IDFB22E, 37E-□	AD48-8-X2110	One-touch fitting (KQ2H10-02S) is not included.

L Option symbol With heavy duty auto drain (Suitable for medium air pressure) IDFB55E, 75E

More thorough drain discharge can be achieved by replacing the float type auto drain (used with standard equipment) with a heavy duty auto drain (ADH4000-04).
(The external dimensions are identical with the standard product.)

Maximum operating pressure: 240 psi (1.6 MPa)

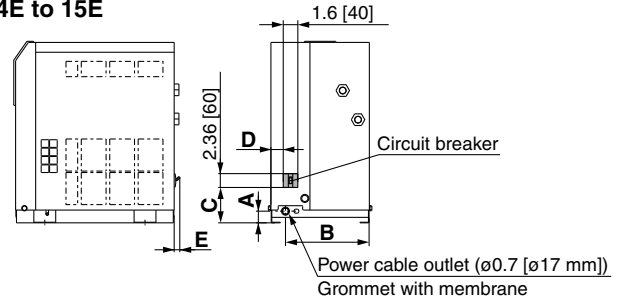
Replacement Parts

Model	Replacement part no. (Description)	Configuration
IDFB55E, 75E	ADH-E400 (Exhaust mechanism replacement kit)	 Exhaust mechanism replacement kit  Housing (a mounted unit is used)

R Option symbol With circuit breaker IDFB4E to 75E

A circuit breaker with cover is attached to the side of the air dryer. This saves additional electrical wiring at the time of installation.

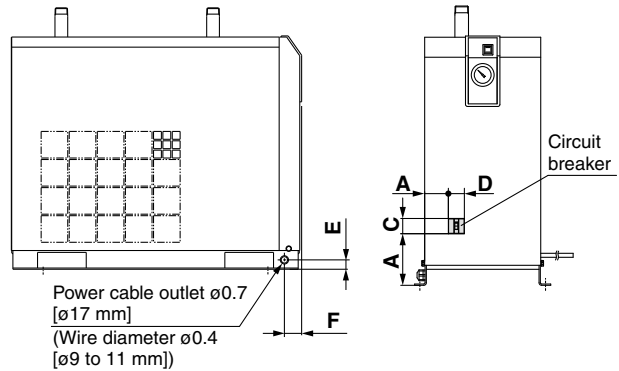
IDFB4E to 15E



Dimensions

Model	A	B	C	D	E
IDFB4E, 6E, 8E, 11E	1.3 [32]	9.0 [230]	3.8 [97]	1.3 [34]	0.6 [15]
IDFB15E	1.7 [43]	10.2 [258]	4.0 [102]	3.2 [82]	—

IDFB22E to 75E



Dimensions

Model	A	B	C	D	E	F
IDFB22E, 37E	4.9 [125]	2.3 [59]	2.4 [60]	1.6 [40]	1 [25]	1.8 [46]
IDFB55E, 75E	5.7 [145]	2.2 [56]	3.8 [96]	2.4 [60]	2 [50]	1.4 [36]

Breaker Capacity and Sensitivity Current

Model	Breaker capacity	Sensitivity current
IDFB4E to 37E	15 A	30 mA
IDFB55E, 75E	10 A	30 mA

Optional Specifications 2

Refer to “How to Order” pages 3 and 7 for optional models.

T Option symbol
With terminal block for power supply, run & alarm signal and remote operation IDFB4E to 75E

In addition to the terminals for the power supply, terminals for the operating signal and the error signal are also available. (No-voltage contact)

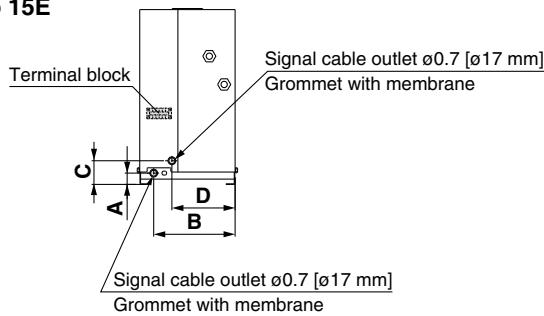
Also, in case of remote control, operate it from the power supply side while the air dryer switch remains ON.

Contact capacity: 230 VAC, 4 A 24 VDC, 5 A for operating and error signals.

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

Note) Please be sure to confirm the electric circuits with the drawings or instruction manual before using the output signal.

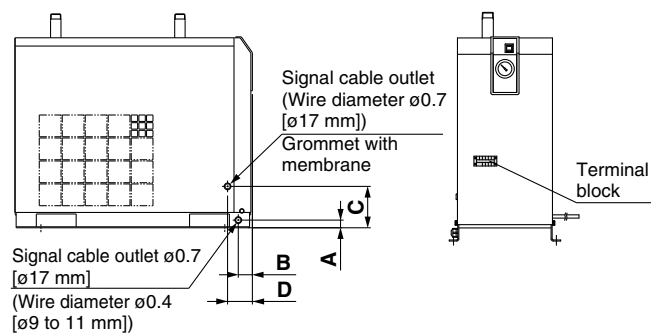
IDFB4E to 15E



Dimensions Unit: inch [mm]

Model	A	B	C	D
IDFB4E, 6E, 8E, 11E	1.3 [32]	9.0 [230]	2.6 [67]	7.0 [179]
IDFB15E	1.7 [43]	10.2 [258]	3.0 [77]	6.2 [158]

IDFB22E to 75E



Dimensions Unit: inch [mm]

Model	A	B	C	D
IDFB22E, 37E	1 [25]	1.8 [46]	5.3 [135]	3.2 [81]
IDFB55E, 75E	2 [50]	1.4 [36]	10.6 [270]	

V Option symbol
Timer type solenoid valve with auto drain (Suitable for medium air pressure) IDFB4E to 75E

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


Maximum operating pressure: 240 psi (1.6 MPa)

* The timer type solenoid valve actuates once (for 0.5 seconds) every 30 seconds.

Replacement Parts

Model	Part no.	Note
IDFB4E to 22E-11□	IDF-S0199	115 VAC
IDFB22E, 37E-23□	IDF-S0198	230 VAC
IDFB55E, 75E-46□	IDF-S0302	230 VAC

Accessory (Option)

		Features	Specifications	Applicable dryer
Dust-protecting filter set		Prevents a decline in the performance of the air dryer, even in a dusty atmosphere.	Max. ambient temperature 104°F (40°C)	IDFB3E to 75E

How to Order

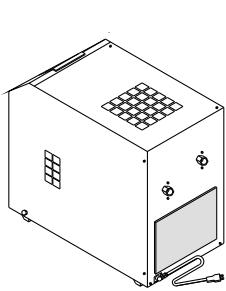
Dust-protecting filter set

IDF — FL 209

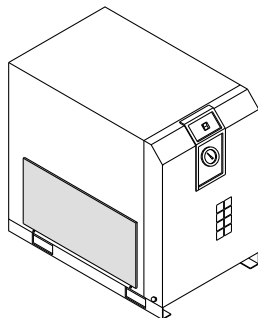
Applicable dryer

Symbol	Applicable dryer
209	IDFB3E
203	IDFB4E IDFB6E
204	IDFB8E
205	IDFB11E
206	IDFB15E
208	IDFB22E IDFB37E
213	IDFB55E
214	IDFB75E

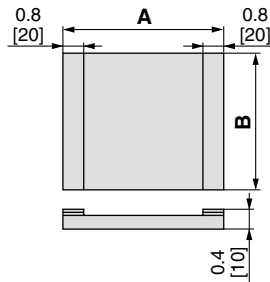
Dust-protecting Filter Set/Dimensions



(IDF-FL209)



(IDF-FL203 to 208, 213, 214)



Dimensions

Unit: inch [mm]


Part no.	Applicable dryer	A	B	Mass lb [g]
IDF-FL209	IDFB3E	8.7	9.4	0.08
		[220]	[240]	[35]
IDF-FL203	IDFB4E	14.8	7.7	0.12
	IDFB6E	[375]	[195]	[55]
IDF-FL204	IDFB8E	13.3	10.4	0.15
[340]	[265]	[70]		
IDF-FL205	IDFB11E	14.8		0.17
[375]		[75]		[75]
IDF-FL206	IDFB15E	12.2	10.6	0.15
[310]		[270]	[70]	[70]
IDF-FL208	IDFB22E	21.7	14.4	0.31
	IDFB37E	[550]	[365]	[140]
IDF-FL213	IDFB55E	28.3	15.7	0.39
[720]		[400]	[175]	[175]
IDF-FL214	IDFB75E	24	22	0.42
		[610]	[560]	[190]





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), Japan Industrial Standards (JIS)*1) and other safety regulations*2).

- * 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 10218-1992: Manipulating industrial robots -Safety.
JIS B 8370: General rules for pneumatic equipment.
JIS B 8361: General rules for hydraulic equipment.
JIS B 9960-1: Safety of machinery – Electrical equipment of machines. (Part 1: General requirements)
JIS B 8433-1993: Manipulating industrial robots - Safety.
etc.
- * 2) Labor Safety and Sanitation Law, etc.

 **Caution:** Operator error could result in injury or equipment damage.

 **Warning:** Operator error could result in serious injury or loss of life.

 **Danger :** In extreme conditions, there is a possibility of serious injury or loss of life.

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.

1. 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.

2. 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.

3. 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.

1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.

2. 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.

3. An application which could have negative effects on people, property, or animals requiring special safety analysis.

4. 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.



Safety Instructions

Caution

The product is provided for use in manufacturing industries.

The product herein described is basically provided for peaceful use in manufacturing industries.

If considering using the product in other industries, consult SMC beforehand and exchange specifications or a contract if necessary. If anything is unclear, contact your nearest sales branch.

Limited Warranty and Disclaimer/Compliance Requirements

The product used is subject to the following “Limited Warranty and Disclaimer” and “Compliance Requirements”. Read and accept them before using the product.

Limited Warranty and Disclaimer

1. The warranty period of the product is 1 year in service or 1.5 years after the product is delivered.*3)

Also, the product may have specified durability, running distance or replacement parts. Please consult your nearest sales branch.

2. 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.

3. Prior to using SMC products, please read and understand the warranty terms and disclaimers noted in the specified catalog for the particular products.

*** 3) 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

When the product is exported, strictly follow the laws required by the Ministry of Economy, Trade and Industry (Foreign Exchange and Foreign Trade Control Law).



Series IDFB□E

Specific Product Precautions 1

Be sure to read this before handling. For Air Preparation Equipment Precautions, refer to “Precautions for Handling Pneumatic Devices” (M-03-E3A).

Installation

⚠ Caution

- Avoid locations where the air dryer will be in direct contact with wind and rain. (Avoid locations where relative humidity is greater than 85%.)
- 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.
- Avoid locations of poor ventilation and high temperature.
- Allow ample space around the air dryer.
- Avoid locations where a dryer could draw in high temperature air that is discharged from an air compressor or other dryer.
- Avoid locations subjected to vibration.
- Avoid possible locations where the drain can freeze.
- Use the air dryer with an ambient temperature lower than 104°F (40°C).
- Avoid installation on machines for transporting, such as trucks, ships, etc.

Drain Tube

⚠ Caution

- A polyurethane tube is attached as a drain tube for the IDFB3E to 75E. Use this tube to discharge drainage.
- Do not use the drain tube in an upward direction. Do not bend or crush the drain tube. (The auto drain will not be activated and water will try to escape via the air outlet.)

Power Supply

⚠ Caution

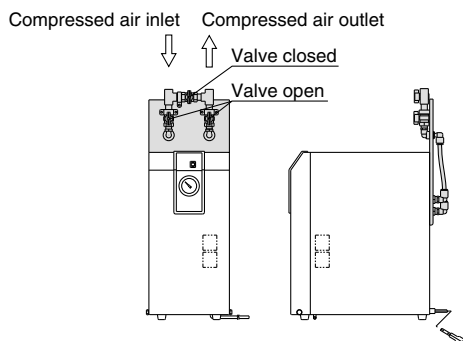
- Connect the power supply to the terminal block.
- Install a suitable circuit breaker applicable for the specific model.
- The voltage fluctuation should be maintained within $\pm 10\%$ of the rated voltage.

Air Piping

⚠ Caution

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

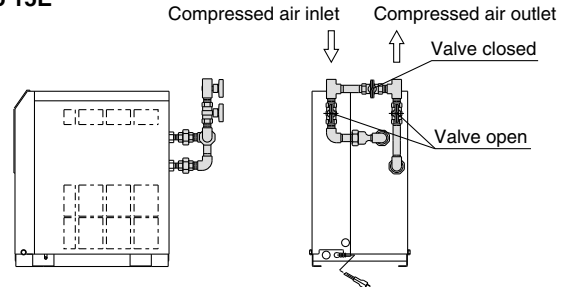
IDFB3E



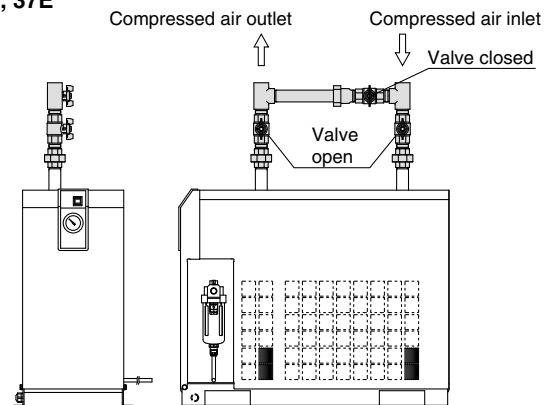
Air Piping

⚠ Caution

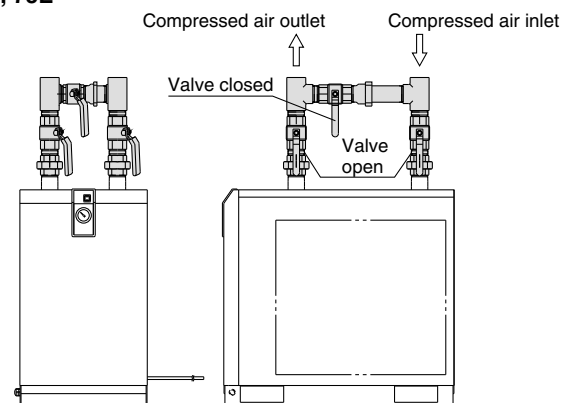
IDFB4E to 15E



IDFB22E, 37E



IDFB55E, 75E



- When tightening piping at the air inlet/outlet tube, the hexagonal parts of the port on the air dryer side or piping should be held firmly with a spanner or adjustable angle wrench.
- Variations in operating conditions may cause condensation to form at the surface of the outlet piping. Apply thermal insulation around the piping to prevent condensation from forming.
- Vibration resulting from the compressor should not be transmitted through air piping to the air dryer.
- Do not allow the weight of the piping to lie directly on the air dryer.



Series **IDFB□E**

Specific Product Precautions 2

Be sure to read this before handling. For Air Preparation Equipment Precautions, refer to “Precautions for Handling Pneumatic Devices” (M-03-E3A).

Protection Circuit

Caution

When the air dryer is operated under the following stated conditions, a protection circuit is activated, the light turns off and operation stops.

- When the compressed air temperature is too high.
- When the compressed air flow rate is too high.
- When the ambient temperature is too high. (104°F (40°C) or higher)
- When the fluctuation of the power supply is beyond the rated voltage $\pm 10\%$.
- When the dryer is drawing in high temperature air that is discharged from an air compressor or other dryer.
- The ventilation port is obstructed by a wall or clogged with dust.

Compressor Air Delivery

Caution

Use the air compressor with an air delivery of 3.5 SCFM (6 m³/h) or larger for the IDFB3E to 75E series.

Since the auto drain of the IDFB3E to 75E series is designed in such a way that the valve remains open unless the air pressure rises to 22 psi (0.15 MPa) or higher, air will blow out from the drain discharge port when the air compressor starts up until the pressure increases. Therefore, if the 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 dryer. If the air dryer is restarted within three minutes after being stopped, the protection circuit will be activated, operating light will turn off and the dryer will not be activated.

Air Dryers for Use in Japan

Complies with CFC restrictions **Refrigerated Air Dryer** *Series IDF*

Standard temperature air inlet type

Rated inlet air temperature:
35, 40°C



Model	Rated inlet condition	Air flow capacity (m ³ /min [ANR])		Applicable air compressor (kW)	Refrigerant	Port size
		50 Hz	60 Hz			
IDF1E	35°C 0.7 MPa	0.1	0.12	0.75	R134a (HFC)	Rc 3/8
IDF2E		0.2	0.235	1.5		
IDF3E		0.32	0.37	2.2		
IDF4E		0.52	0.57	3.7		Rc 1/2
IDF6E		0.75	0.82	5.5		
IDF8E		1.22	1.32	7.5		
IDF11E		1.65	1.82	11		
IDF15E	40°C 0.7 MPa	2.8	3.1	15	R407C (HFC)	Rc 1
IDF22E		3.9	4.3	22		R 1
IDF37E		5.7	6.1	37		R 1½
IDF55E		8.4	9.8	55		R 2
IDF75E		11.0	12.4	75		2 ½B flange
IDF120D		20.0	23.0	120		3B flange
IDF150D		25.0	30.0	150		
IDF190D		32.0	38.0	190		
IDF240D		43.0	50.0	240		

Complies with CFC restrictions **Refrigerated Air Dryer** *Series IDU*

High temperature air inlet type

Rated inlet air temperature:
55°C



Model	Rated inlet condition	Air flow capacity (m ³ /min [ANR])		Applicable air compressor (kW)	Refrigerant	Port size
		50 Hz	60 Hz			
IDU3E	55°C 0.7 MPa	0.32	0.37	2.2	R134a (HFC)	Rc 3/8
IDU4E		0.52	0.57	3.7		Rc 1/2
IDU6E		0.75	0.82	5.5		Rc 3/4
IDU8E		1.1	1.2	7.5		
IDU11E		1.5	1.7	11		
IDU15E		2.6	2.8	15		Rc 1
IDU22E		3.9	4.3	22		
IDU37E		5.7	6.1	37		
IDU55E		8.4	9.8	55		
IDU75E		11.0	12.5	75		R407C (HFC)
					R 1½	
					R 2	

* See separate catalog.

Air Dryers Compliant to Overseas Standards

Refrigerated Air Dryer Series IDFA□E

For use in Europe, Asia and Oceania



EC Directive compliant
(with CE marking)

Power supply voltage:
Single-phase 230 VAC (50 Hz)

Refrigerant:
R134a (HFC)
R407C (HFC)

Coefficient of destruction for
ozone is zero.

Improved corrosion
resistance with the
use of stainless steel,
plate type heat exchanger
[IDFA4E to 75E]



Model	Air flow capacity (m ³ /h [ANR])			Refrigerant	Rated inlet condition	Port size
	Outlet air pressure dew point					
	3°C	7°C	10°C			
IDFA3E	12	15	17	R134a (HFC)	35°C 0.7 MPa	Rc 3/8
IDFA4E	24	31	34			Rc 1/2
IDFA6E	36	46	50			Rc 3/4
IDFA8E	65	83	91			
IDFA11E	80	101	112			
IDFA15E	120	152	168			
IDFA22E	182	231	254	R407C (HFC)	R 1	
IDFA37E	273	347	382		R 1½	
IDFA55E	390	432	510			
IDFA75E	660	720	822		R 2	

* See separate catalog.

Related Products

Membrane Air Dryer *Series IDG*

(For use in cases where a power supply is not provided)

Dew point indicator for checking air drying condition at a glance

(Except IDG1)
(The IDG3, IDG5, IDG3H, IDG5H are semi-standard.)

- Compact
- Lightweight
- Space-saving

Fitting for discharging purge air available

Purge air can be discharged with a tube if it should not be discharged around the membrane air dryer (semi-standard).

Discharged air noise reduced with built-in silencer

[Except IDG1, IDG3, IDG3H, IDG5, IDG5H, IDG30, IDG30H, IDG30L, IDG50, IDG50H, IDG50L]



No need for a power supply

A power supply is not necessary at all. Saves time and effort for wiring, and there is no need to consider electrical standards.

No vibration nor heat discharge

No mechanically moving parts such as refrigerator

Suitable for a low dew point

Outlet air atmospheric pressure dew point: -40°C
[IDG30L, IDG50L, IDG60L]
[IDG75L, IDG100L]

Outlet air atmospheric pressure dew point: -60°C
[IDG60S, IDG75S, IDG100S]

**Outlet air flow rate
10 to 1000 ℓ/min (ANR)**

* See separate catalog.

Heatless Air Dryer *Series ID*

(For use in cases where a low dew point is necessary)

Heatless type ID series is ideal for applications that require dry air with a low dew point.

Supplies dry air with a low dew condensation point of -30°C or less.

Small and light without heater and electric control panel



Possible to check outlet dew point with indicator

(Self-regenerative style allows easy maintenance.)

**Outlet air flow rate
80 to 780 ℓ/min (ANR)**

* See separate catalog.

Record of changes

B edition * Addition of Refrigerated Air Dryers IDFB55E, 75E.
* Number of pages from 20 to 24.

MQ



Safety Instructions

Be sure to read "Precautions for Handling Pneumatic Devices" (M-03-E3A) before using.

SMC Corporation

Akihabara UDX 15F,
4-14-1, Sotokanda, Chiyoda-ku, Tokyo 101-0021, JAPAN
Phone: 03-5207-8249 Fax: 03-5298-5362
URL <http://www.smcworld.com>
© 2008 SMC Corporation All Rights Reserved

Specifications are subject to change without prior notice
and any obligation on the part of the manufacturer.

D-DN

1st printing KZ printing MQ 13500DN Printed in Japan.

This catalog is printed on recycled paper with concern for the global environment.