Refrigerated Air Dryer

For Use in North, Central and South America

New

UL CERTIFIED SAFETY US-CA SA13222

IDFB3E to 15E/55E, 75E

Refrigerant

Model	New Low GWP Refrigerant	Standard
IDFB3E	R1234yf (HFO) (Not available for air transport)	R134a (HFC)
IDFB4E		
IDFB6E		
IDFB8E		
IDFB11E		
IDFB15E		
IDFB55E	–	R407C (HFC)
IDFB75E		

Power supply voltage: Single-phase 115 VAC (60 Hz)
Three-phase 460 VAC (60 Hz)

IDFB60/70/80/90

Refrigerant

Model	New Low GWP Refrigerant	Standard
IDFB60	R454C (HFC) (Not available for air transport)	R410A (HFC)
IDFB70		
IDFB80		
IDFB90		

Power supply voltage: Single-phase 230 VAC (60 Hz)
115 VAC (60 Hz)
* IDFB60 only

IDFB□ Series

SMC

Variations

IDFB3E to 15E/55E, 75E

- Max. inlet air temperature: 122°F (50°C)
- Max. ambient temperature: 104°F (40°C)

Model	Rated inlet condition	Air flow capacity SCFM [m³/h (ANR)]			Refrigerant		Port size	Page
		Outlet air pressure dew point*1			New Low GWP Refrigerant	Standard		
		37°F (2.8°C)	45°F (7.2°C)	50°F (10°C)				
IDFB3E	100°F (37.8°C) 100 psi (0.7 MPa)	10 (17)	11 (19)	12 (20)	R1234yf (HFO) (Not available for air transport)	R134a (HFC)	NPT3/8	p. 5▸11
IDFB4E		15 (25)	16 (27)	17 (28)			NPT1/2	
IDFB6E		25 (43)	26 (45)	28 (47)			NPT3/4	
IDFB8E		41 (70)	43 (74)	45 (77)				
IDFB11E		59 (100)	62 (106)	65 (110)				
IDFB15E		71 (120)	80 (136)	86 (147)			NPT1	
IDFB55E		226 (384)	258 (438)	297 (504)	–	R407C (HFC)	NPT2	p. 12▸14
IDFB75E		300 (510)	353 (600)	406 (690)				

*1 Air flow capacity for each dew point is indicated.

IDFB60/70/80/90

- Max. inlet air temperature: 149°F (65°C)
- Max. ambient temperature: 113°F (45°C)

Model	Rated inlet condition	Rated ambient temperature	Air flow capacity SCFM [m³/h (ANR)]			Refrigerant		Port size*1	Page
			Dew point 37°F (2.8°C)	Dew point 45°F (7.2°C)	Dew point 50°F (10°C)	New Low GWP Refrigerant	Standard		
IDFB60	100°F (37.8°C) 100 psi (0.7 MPa)	100°F (37.8°C)	113 (192)	155 (264)	177 (300)	R454C (HFC) (Not available for air transport)	R410A (HFC)	R1/ NPT1	p. 20▸27
IDFB70			166 (282)	215 (366)	251 (426)			R1 1/2/ NPT1 1/2	
IDFB80			247 (420)	314 (534)	353 (600)			R2/ NPT2	
IDFB90			335 (570)	406 (690)	459 (780)				

*1 Select port sizes when ordering the products.

CONTENTS

Refrigerated Air Dryer For Use in North, Central and South America
IDFB Series

IDFB□E Series
3E, 4E, 6E, 8E, 11E, 15E/55E, 75E
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 Ⓐ to Ⓓ suitable for your operating condition using the table below.

Condition		Data symbol	Correction factor*1
Inlet air temperature	110°F (43°C)	Ⓐ	0.82
Ambient temperature	105°F (40.5°C)	Ⓑ	0.98
Inlet air pressure	75 psi (0.53 MPa)	Ⓒ	0.95
Air consumption	14 SCFM	—	—

*1 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 Ⓐ x Ⓑ x Ⓒ)

Corrected air flow capacity = 14 SCFM ÷ (0.82 x 0.98 x 0.95)
= 18 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 Ⓓ 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 pages 15 to 17.

5 Finalize the model number.

Refer to pages 5, 7, and 12.

6 Select accessories sold separately.

Refer to page 18.

Data Ⓐ: Inlet Air Temperature

Inlet air temperature		Correction factor	
°F	°C	**IDFB3E to 15E**	**IDFB55E, 75E**
90	**32**	1.31	1.08
100	**37.8**	1.00	1.00
110	**43**	0.82	0.83
122	**50**	0.66	0.46

Data Ⓑ: 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
104	**40**	0.98

Data Ⓒ: 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
232	**1.60**	1.24

Data Ⓓ: Air Flow Capacity

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

* In case of Option A (Cool compressed air output), the air flow capacity is different. Refer to page 15 for details. (IDFB3E to 11E)
* The outlet air pressure dew point varies depending on the operating conditions.
Particularly when the outlet air pressure dew point is 37°F or 45°F, though this depends on the operating conditions, freeze protection functions may be activated, resulting in the dew point rising and becoming unstable.
If a stable low dew point is required, consider an IDG series membrane air dryer.

IDFB60/70/80/90 Series
Model Selection

Air dryers should be selected based on the corrected air flow capacity while taking operating environment and facility into account. Select the air dryer model in accordance with the following procedure.

1 Read the correction factors.

Read the correction factors Ⓐ to Ⓒ suitable to the operating conditions.

Condition		Data symbol	Correction factor*1
Inlet air temperature	110°F	Ⓐ	0.78
Ambient temperature	110°F	Ⓑ	0.78
Inlet air pressure	90 psi	Ⓒ	0.93
Air flow rate	130 SCFM	—	—
Outlet air pressure dew point	37°F	—	—

*1 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 flow rate ÷ (Correction factor Ⓐ x Ⓑ x Ⓒ)

Corrected air flow capacity
= 130 SCFM ÷ (0.78 x 0.78 x 0.93)
= 230 SCFM

3 Select the model.

Select the model with air flow capacity exceeding the calculated corrected air flow from data Ⓓ of the table below.

The model which exceeds the correct air flow capacity of 230 SCFM is IDFB80.

Data Ⓐ: Inlet Air Temperature

°F	80	90	100	110	120	130	140	149
°C	27	32	37.8	43	49	54	60	65
IDFB60/IDFB70	1.33	1.21	1.00	0.78	0.61	0.48	0.38	0.28
IDFB80/IDFB90	1.38	1.38	1.00	0.83	0.63	0.50	0.45	0.37

Data Ⓑ: Ambient Temperature

°F	80	90	100	110	113
°C	27	32	37.8	43	45
IDFB60/IDFB70	1.16	1.11	1.00	0.78	0.71
IDFB80/IDFB90	1.40	1.22	1.00	0.88	0.83

Data Ⓒ: Inlet Air Pressure

psi	50	60	70	80	90	100	120	140	145 to 232
MPa	0.35	0.41	0.48	0.55	0.62	0.69	0.83	0.97	1.00 to 1.60
IDFB60/IDFB70	0.71	0.77	0.82	0.87	0.93	1.00	1.09	1.20	1.22
IDFB80/IDFB90	0.77	0.82	0.86	0.90	0.94	1.00	1.07	1.16	1.18

Data Ⓓ: Air Flow Capacity

Model		Air flow capacity SCFM [m³/h (ANR)]			
		IDFB60	**IDFB70**	**IDFB80**	**IDFB90**
Outlet air pressure dew point	37°F (2.8°C)	113 (192)	166 (282)	247 (420)	335 (570)
	45°F (7.2°C)	155 (264)	215 (366)	314 (534)	406 (690)
	50°F (10°C)	177 (300)	251 (426)	353 (600)	459 (780)

* The outlet air pressure dew point varies depending on the operating conditions.
  Particularly when the outlet air pressure dew point is 37°F or 45°F, though this depends on the operating conditions, freeze protection functions may be activated, resulting in the dew point rising and becoming unstable.
  If a stable low dew point is required, consider an IDG series membrane air dryer.

* Refer to page 28 for options.

Low GWP Refrigerant **Refrigerant R1234yf (HFO)**

Standard Inlet Air

IDFB□E Series

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

(Max. inlet air temperature: 122°F [50°C], Max. ambient temperature: 104°F [40°C])

How to Order

Refrigerant

Symbol	Description
F	Low GWP refrigerant

∗ Not available for air transport

IDFB 11E – 11 N – Nil/A F Nil/K/R/S/T/V

Size

Size
3E
4E
6E
8E
11E
15E

Voltage

Symbol	Voltage
11	Single-phase 115 VAC (60 Hz)

Thread type

Symbol	Thread type	Drain tube size
N	NPT (female)	3/8
Nil	Rc (female)∗1	ø0.4 in [ø10 mm]

∗1 An adapter for converting NPT to Rc is included if the thread symbol is "Nil".

Table of Options and Available Combinations (Size/Option)

Symbol∗1 / Optional specifications∗4 / Size	Nil	A	K	R	S	T	V
	None	Cool compressed air output	Moderate pressure specification∗2 (Auto drain bowl: Metal bowl with level gauge)	With an earth leakage breaker	Power supply terminal block connection∗3	With a terminal block for operating and error signals	With a timer controlled solenoid valve type auto drain (Applicable to moderate pressure∗2)
3	●	●	–	–	●	–	–
4	●	●	–	●	●	●	●
6	●	●	●	●	●	●	●
8	●	●	●	●	●	●	●
11	●	●	●	●	●	●	●
15	●	–	●	●	●	●	●

∗1 Enter alphabetically when multiple options are combined.
However, the following combination cannot be achieved.
- Combination of S and T (Because S function is also included in T.)
- Combination of K and V (Only one or the other may be attached.)

∗2 The max. operating pressure is 240 psi (1.6 MPa).
∗3 Standard specification is the power cable with plug.
∗4 Refer to pages 15 and 17 for further information on options.

Standard Specifications

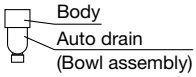
Specifications \ Model			Standard inlet air					
			IDFB3E-11□-F	IDFB4E-11□-F	IDFB6E-11□-F	IDFB8E-11□-F	IDFB11E-11□-F	IDFB15E-11□-F
Operating ranges*3	Fluid		Compressed air					
	Inlet air temperature	[°F (°C)]	41 to 122 (5 to 50)					
	Inlet air pressure	[psi (MPa)]	22 (0.15) to 150 (1.0)*7					
	Ambient temperature	[°F (°C)]	36 to 104 (2 to 40) Relative humidity of 85% or less					
Rated conditions*4	Air flow capacity SCFM*1, *2 / [m³/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)
	Operating pressure	[psi (MPa)]	100 (0.7)					
	Inlet air temperature	[°F (°C)]	100 (37.8)					
	Ambient temperature	[°F (°C)]	100 (37.8)					
Electrical characteristics	Power supply voltage (frequency)		Single-phase 115 VAC [voltage fluctuation ±10%] 60 Hz					
	Operating current*5	[A]	3.1	3.1	3.1	3.6	6.5	7.9
	Power consumption*5	[W]	240	260	260	310	550	700
	Applicable earth leakage breaker capacity*6 (sensitivity current 30 mA)	[A]	15					
Condenser			Forced air-cooled					
Refrigerant			R1234yf (HFO)*8					
Refrigerant charge		[oz (g)]	6.3 (180)	7.0 (200)	8.1 (230)	9.5 (270)	10.2 (290)	12.3 (350)
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					
Weight		[lbs (kg)]	40 (18)	55 (25)	57 (26)	64 (29)	73 (33)	110 (50)
Compliant standards			UL, CSA					

*1 ANR is under the conditions of 68°F (20°C) at atmospheric pressure and relative humidity of 65%.
*2 Air flow capacity for each outlet air pressure dew point is indicated.
*3 The operation range does not guarantee the use with normal air flow capacity.
*4 When operating conditions are different from the rated specifications, please select a model in accordance with the Model Selection (Page 3).
*5 These values are reference values under rated conditions, and are not guaranteed. Do not use these values for the thermal set values, etc.
*6 Product other than the option R is not equipped with an earth leakage breaker. Please purchase an appropriate earth leakage breaker separately.
*7 The max. operating pressure is 240 psi (1.6 MPa) as standard, but it is possible to achieve 1.6 MPa when selecting Option K or V.
*8 R1234yf is a slightly flammable refrigerant. Avoid using this product in proximity to open flames.
* 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.

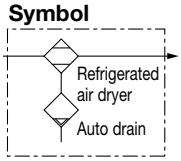
Replacement Parts

Model		IDFB3E	IDFB4E	IDFB6E	IDFB8E	IDFB11E	IDFB15E
Auto drain replacement part no.*1	Thread symbol N	AD38N-Z-D		AD48N-Z-D			
	Thread symbol Nil	AD38-D		AD48-D			

*1 The part number for the auto drain (bowl assembly) components without including the body part. Body part replacement is impossible.
In addition, note that the auto drain part number differs depending on the serial number on the dryer specification label. For details, refer to page 19.



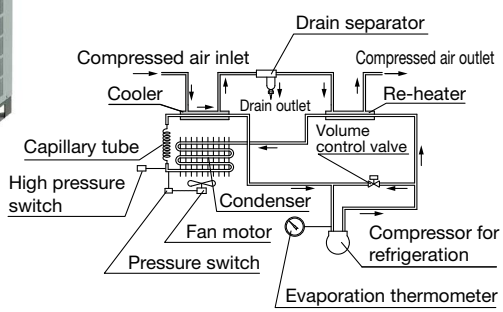
Symbol



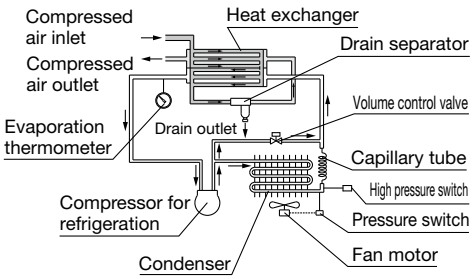
Construction Principle (Circuit for Air/Refrigerant)

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.

IDFB3E-11□-F



IDFB4E-11□-F to IDFB15E-11□-F



Refrigerant R134a (HFC)
Standard Inlet Air
IDFB□E Series
3E, 4E, 6E, 8E, 11E, 15E
(Max. inlet air temperature: 122°F [50°C], Max. ambient temperature: 104°F [40°C])

c UL us LISTED

How to Order

IDFB 11E — 11 N — (Nil / A / K / R / S / T / V)

Size

Size
3E
4E
6E
8E
11E
15E

Voltage

Symbol	Voltage
11	Single-phase 115 VAC (60 Hz)

Thread type

Symbol	Thread type	Drain tube size
N	NPT (female)	3/8
Nil	Rc (female)*1	ø0.4 in [ø10 mm]

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

Table of Options and Available Combinations (Size/Option)

Symbol*1 / Optional specifications*4 / Size	Nil	A	K	R	S	T	V
	None	Cool compressed air output	Moderate pressure specification*2 (Auto drain bowl: Metal bowl with level gauge)	With an earth leakage breaker	Power supply terminal block connection*3	With a terminal block for operating and error signals	With a timer controlled solenoid valve type auto drain (Applicable to moderate pressure*2)
3	●	●	–	–	●	–	–
4	●	●	–	●	●	●	●
6	●	●	●	●	●	●	●
8	●	●	●	●	●	●	●
11	●	●	●	●	●	●	●
15	●	–	●	●	●	●	●

*1 Enter alphabetically when multiple options are combined.
However, the following combination cannot be achieved.
- Combination of S and T (Because S function is also included in T.)
- Combination of K and V (Only one or the other may be attached.)

*2 The max. operating pressure is 240 psi (1.6 MPa).
*3 Standard specification is the power cable with plug.
*4 Refer to pages 15 to 17 for further information on options.

Standard Specifications

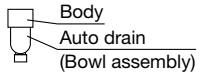
Specifications \ Model			Standard inlet air					
			IDFB3E	**IDFB4E**	**IDFB6E**	**IDFB8E**	**IDFB11E**	**IDFB15E**
Operating ranges*3	**Fluid**		Compressed air					
	Inlet air temperature	**[°F (°C)]**	41 to 122 (5 to 50)					
	Inlet air pressure	**[psi (MPa)]**	22 (0.15) to 150 (1.0)*7					
	Ambient temperature	**[°F (°C)]**	36 to 104 (2 to 40) Relative humidity of 85% or less					
Rated conditions*4	Air flow capacity SCFM*1, *2 [m³/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)
	Operating pressure	**[psi (MPa)]**	100 (0.7)					
	Inlet air temperature	**[°F (°C)]**	100 (37.8)					
	Ambient temperature	**[°F (°C)]**	100 (37.8)					
Electrical characteristics	**Power supply voltage (frequency)**		Single-phase 115 VAC [voltage fluctuation ±10%] 60 Hz					
	Operating current*5	**[A]**	2.7	3.0	3.0	3.5	6.5	8.5
	Power consumption*5	**[W]**	240	260	260	310	550	800
	Applicable earth leakage breaker capacity*6 (sensitivity current 30 mA)	**[A]**	15					
Condenser			Forced air-cooled					
Refrigerant			R134a (HFC)					
Refrigerant charge		**[oz (g)]**	6.3 (180)	7.0 (200)	8.1 (230)	9.5 (270)	10.2 (290)	12.0 (340)
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					
Weight		**[lbs (kg)]**	40 (18)	55 (25)	57 (26)	64 (29)	73 (33)	110 (50)
Compliant standards			UL, CSA					

∗1 ANR is under the conditions of 68°F (20°C) at atmospheric pressure and relative humidity of 65%.
∗2 Air flow capacity for each outlet air pressure dew point is indicated.
∗3 The operation range does not guarantee the use with normal air flow capacity.
∗4 When operating conditions are different from the rated specifications, please select a model in accordance with the Model Selection (Page 3).
∗5 These values are reference values under rated conditions, and are not guaranteed. Do not use these values for the thermal set values, etc.
∗6 Product other than the option R is not equipped with an earth leakage breaker. Please purchase an appropriate earth leakage breaker separately.
∗7 The max. operating pressure is 240 psi (1.6 MPa) as standard, but it is possible to achieve 1.6 MPa when selecting Option K or V.
∗ 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.

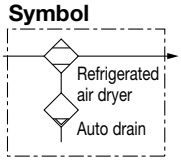
Replacement Parts

Model			IDFB3E	IDFB4E	IDFB6E	IDFB8E	IDFB11E	IDFB15E
Auto drain replacement part no.*1	Thread symbol N	New	AD38N-Z-D		AD48N-Z-D			
	Thread symbol Nil	New	AD38-D		AD48-D			
	Thread symbol N	Previous	AD38N-Z		AD48N-Z			
	Thread symbol Nil	Previous	AD38		AD48			

∗1 The part number for the auto drain (bowl assembly) components without including the body part. Body part replacement is impossible.
In addition, note that the auto drain part number differs depending on the serial number on the dryer specification label. For details, refer to page 19.



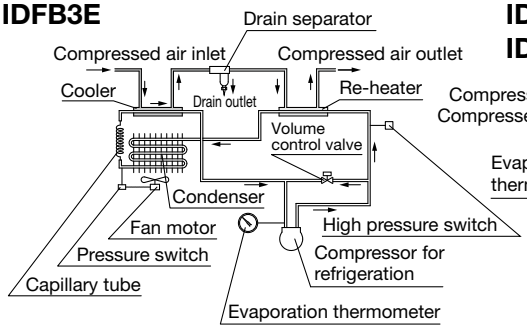
Symbol



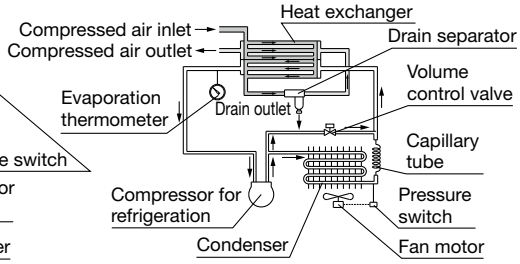
Construction Principle (Circuit for Air/Refrigerant)

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.

IDFB3E

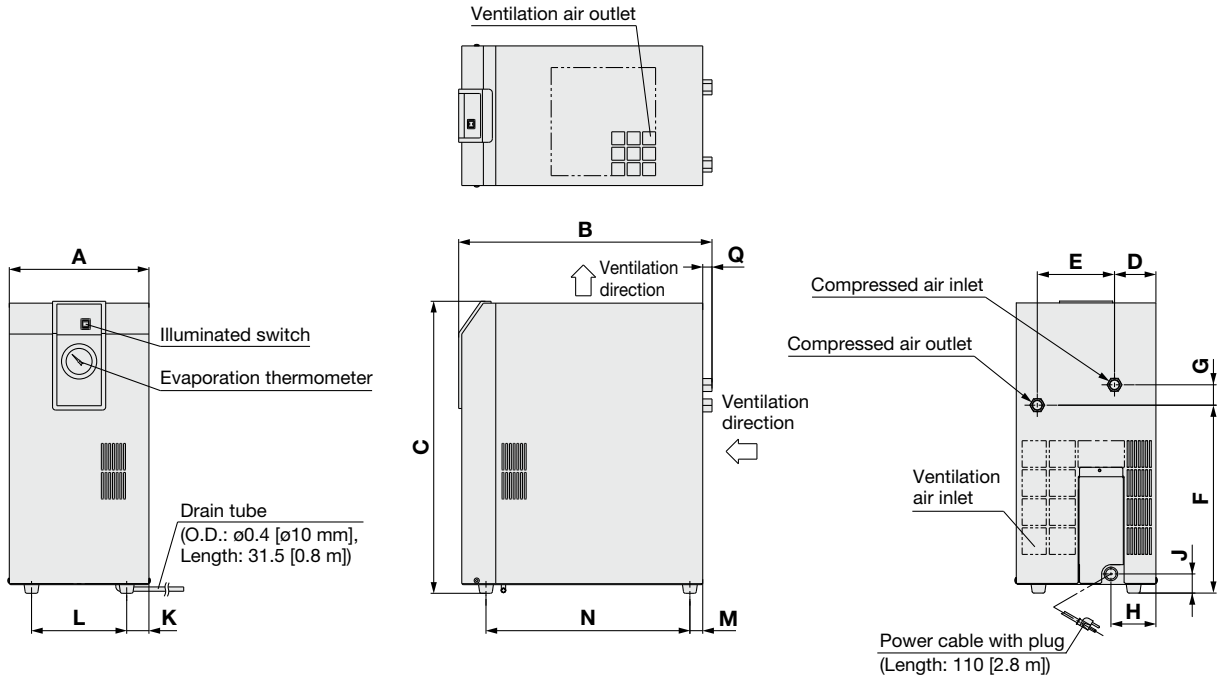


IDFB4E, IDFB6E, IDFB8E, IDFB11E, IDFB15E



Dimensions

IDFB3E/Refrigerant R134a (HFC)
IDFB3E-11-F/Refrigerant R1234yf (HFO)



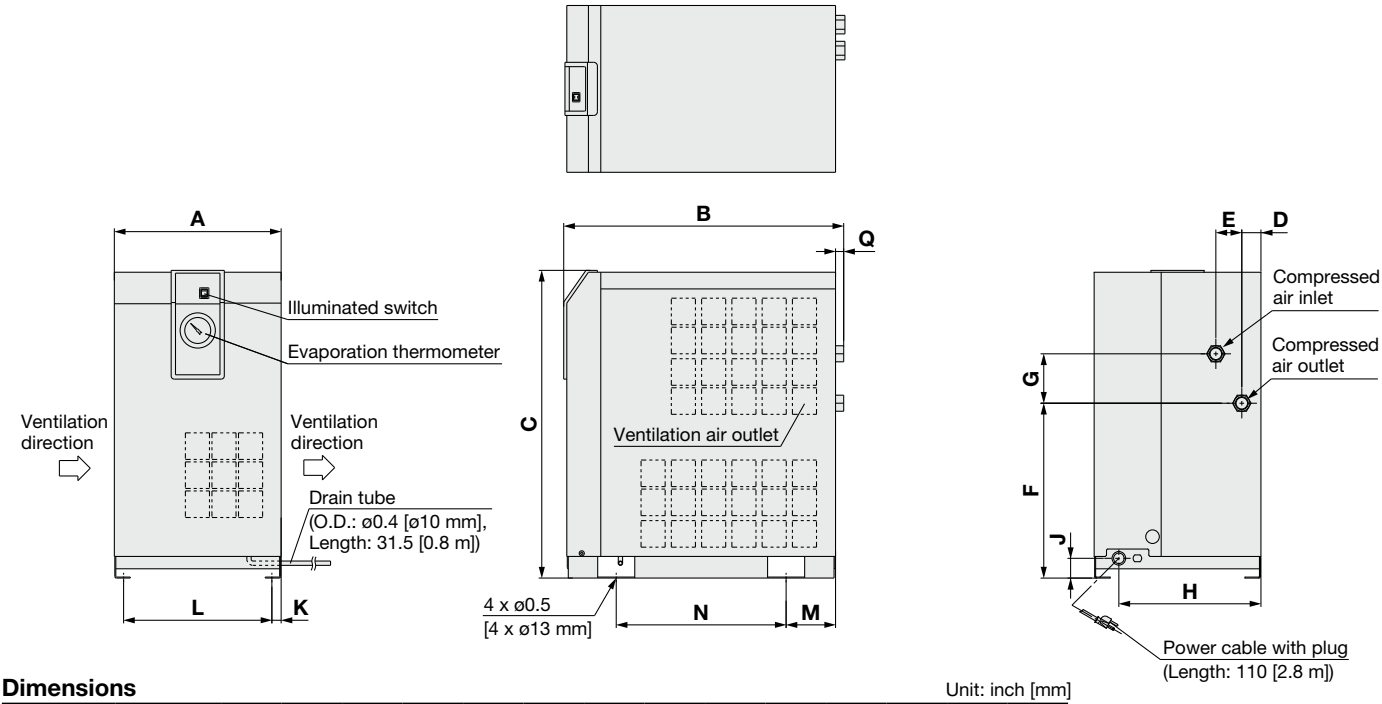
Dimensions

Unit: inch [mm]

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]

Dimensions

IDFB4E to IDFB11E/Refrigerant R134a (HFC)

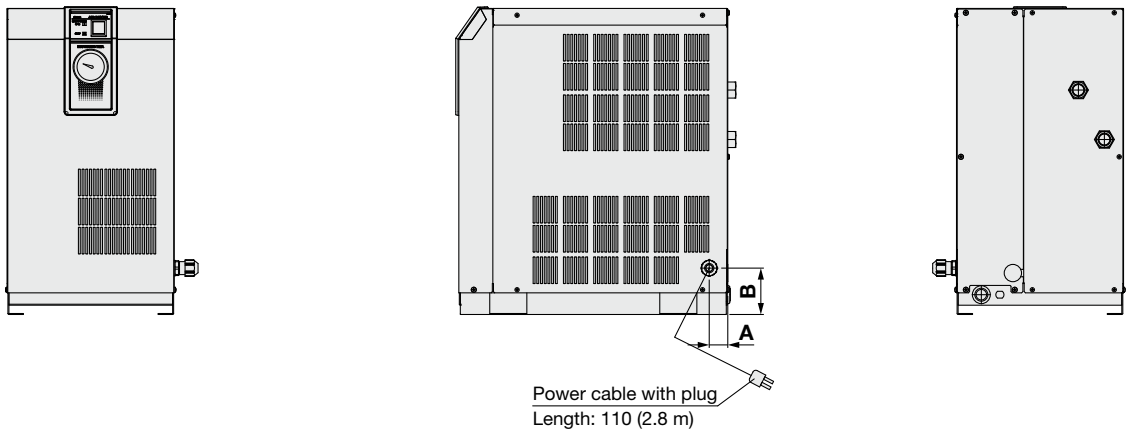


Dimensions Unit: inch [mm]

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

IDFB4E to 11E-11-F/Refrigerant R1234yf (HFO)

∗ Only the dimensions that differ from the IDFB4E to 11E are shown.

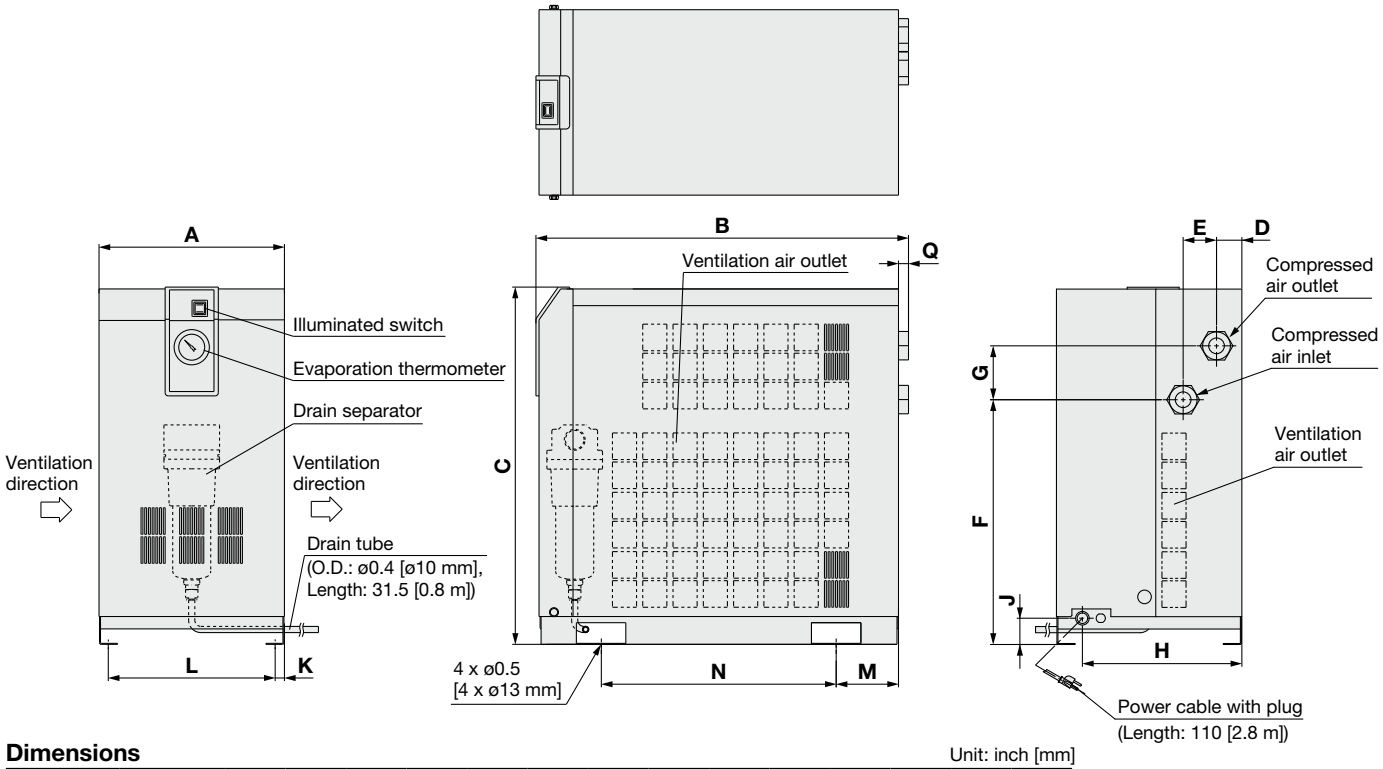


Dimensions Unit: inch [mm]

Model	A	B
IDFB4E-11-F	1.2 [30]	3.0 [75]
IDFB6E-11-F		
IDFB8E-11-F		
IDFB11E-11-F		

Dimensions

IDFB15E/Refrigerant R134a (HFC)

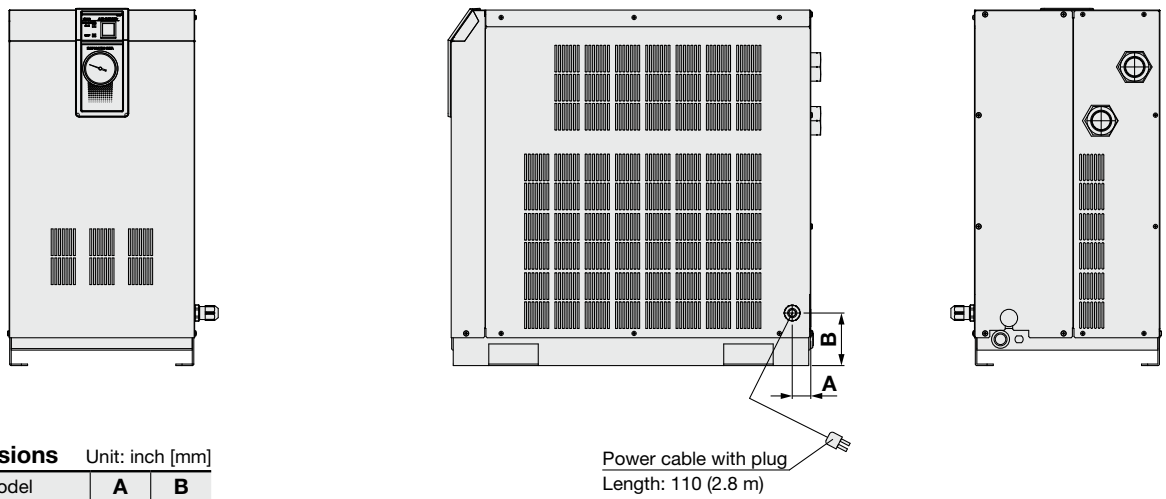


Dimensions Unit: inch [mm]

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]

IDFB15E-11-F/Refrigerant R1234yf (HFO)

∗ Only the dimensions that differ from the IDFB15E are shown.



Dimensions Unit: inch [mm]

Model	A	B
IDFB15E-11-F	1.2 [30]	3.3 [85]

Refrigerant R407C (HFC)
Standard Inlet Air
IDFB□E Series
55E, 75E
(Max. inlet air temperature: 122°F [50°C], Max. ambient temperature: 104°F [40°C])

c UL us LISTED

How to Order

IDFB 55E — 46 N — Nil / L / R / T / V

Size

Size
55E
75E

Voltage

Symbol	Voltage	Applicable size	
		55E	75E
46	Three-phase 460 VAC (60 Hz)	●	●

Thread type

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*1 / Optional specifications*3 / Size	Nil	L	R	T	V
	None	With a heavy-duty auto drain (Applicable to moderate pressure*2)	With an earth leakage breaker	With a terminal block for operating and error signals	With a timer controlled solenoid valve type auto drain (Applicable to moderate pressure*2)
55	●	●	●	●	●
75	●	●	●	●	●

*1 Enter alphabetically when multiple options are combined.
However, the following combination cannot be achieved.
• Combination of L and V (All of them are auto drain and only one or the other may be attached.)
*2 The max. operating pressure is 240 psi (1.6 MPa).
*3 Refer to pages 15 to 17 for further information on options.

Standard Specifications

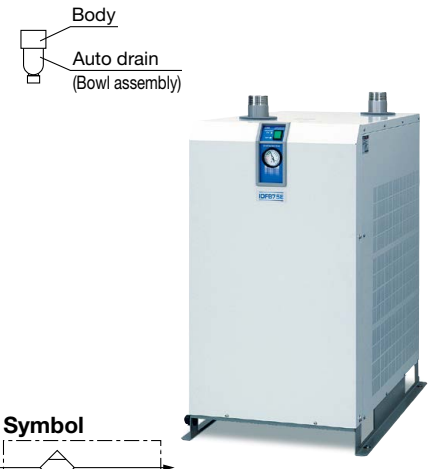
Specifications \ Model			Standard inlet air	
			IDFB55E	**IDFB75E**
Operating ranges*3	**Fluid**		Compressed air	
	Inlet air temperature	**[°F (°C)]**	41 to 122 (5 to 50)	
	Inlet air pressure	**[psi (MPa)]**	22 (0.15) to 150 (1.0)*7	
	Ambient temperature	**[°F (°C)]**	36 to 104 (2 to 40) Relative humidity of 85% or less	
Rated conditions*4	Air flow capacity SCFM*1, *2 [m³/h (ANR)]	**Outlet air pressure dew point 37°F (2.8°C)**	226 (384)	300 (510)
		Outlet air pressure dew point 45°F (7.2°C)	258 (438)	353 (600)
		Outlet air pressure dew point 50°F (10°C)	297 (504)	406 (690)
	Operating pressure	**[psi (MPa)]**	100 (0.7)	
	Inlet air temperature	**[°F (°C)]**	100 (37.8)	
	Ambient temperature	**[°F (°C)]**	100 (37.8)	
Electrical characteristics	**Power supply voltage (frequency)**		Three-phase 460 VAC [voltage fluctuation ±10%] 60 Hz	
	Operating current*5	**[A]**	3.8	
	Power consumption*5	**[W]**	2400	
	Applicable earth leakage breaker capacity*6 **(sensitivity current 30 mA)**	**[A]**	10	
Condenser			Forced air-cooled	
Refrigerant			R407C (HFC)	
Refrigerant charge		**[oz (g)]**	15.2 (430)	20.8 (590)
Thread symbol and size	**Symbol N**		NPT 2 (male)	
	Symbol Nil		R 2 (male)	
Drain tube O.D.	**Symbol N**		3/8 inch	
	Symbol Nil		10 mm	
Weight		**[lbs (kg)]**	258 (117)	271 (123)
Compliant standards			UL, CSA	

*1 ANR is under the conditions of 68°F (20°C) at atmospheric pressure and relative humidity of 65%.
*2 Air flow capacity for each outlet air pressure dew point is indicated.
*3 The operation range does not guarantee the use with normal air flow capacity.
*4 When operating conditions are different from the rated specifications, please select a model in accordance with the Model Selection (Page 3).
*5 These values are reference values under rated conditions, and are not guaranteed. Do not use these values for the thermal set values, etc.
*6 Product other than the option R is not equipped with an earth leakage breaker. Please purchase an appropriate earth leakage breaker separately.
*7 The max. operating pressure is 240 psi (1.6 MPa) as standard, but it is possible to achieve 1.6 MPa when selecting Option K or V.
* 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.

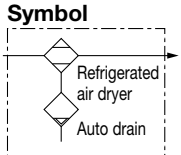
Replacement Parts

Model			IDFB55E	IDFB75E
Auto drain replacement part no.*1	Thread symbol N	New	AD48N-Z-D	
	Thread symbol Nil	New	AD48-D	
	Thread symbol N	Previous	AD48N-Z	
	Thread symbol Nil	Previous	AD48	

*1 The part number for the auto drain (bowl assembly) components without including the body part. Body part replacement is impossible.
In addition, note that the auto drain part number differs depending on the serial number on the dryer specification label. For details, refer to page 19.



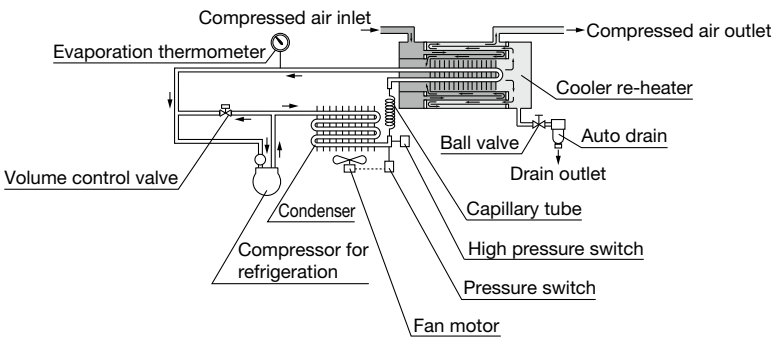
Symbol



Construction Principle (Circuit for Air/Refrigerant)

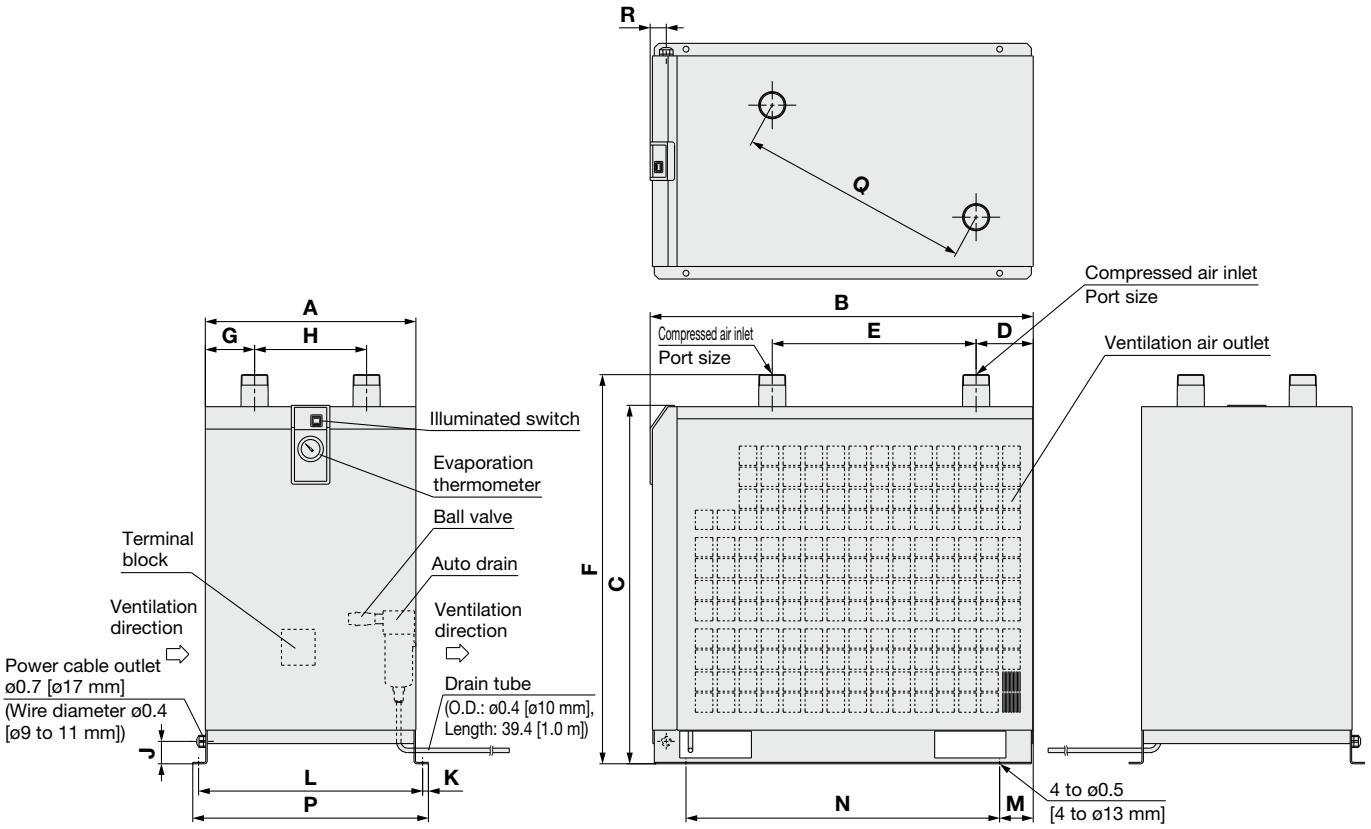
Humid, hot air coming into the air dryer will be cooled down by a cooler re-heater (heat exchanger). Water condensed at this time will be removed from the air by a drain separator (auto drain) and drained out automatically. Air separated from the water will be heated by a cooler re-heater (heat exchanger)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

IDFB55E, IDFB75E



Dimensions

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]										

Options 1

For "How to Order" optional models, refer to pages 5, 7, and 12. Only the dimensions that have been changed are shown.

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.)

* 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 m^3/h)	13 SCFM (23 m^3/h)	17 SCFM (29 m^3/h)	19 SCFM (32 m^3/h)	23 SCFM (39 m^3/h)

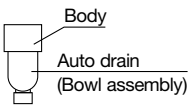
Conditions: Inlet air pressure: 100 psi (0.7 MPa), Inlet air temperature: 100°F (37.8°C), Outlet air temperature: 50°F (10°C), Ambient temperature: 100°F (37.8°C)

K Option symbol: Moderate pressure specification (Auto drain bowl: Metal bowl with level gauge) — IDFB6E to 15E

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

Specifications

1. Max. operating pressure: 240 psi (1.6 MPa)
2. Dimensions ··· same as standard products



Replacement Parts

Model	Auto drain assembly part no.*1	Note
IDFB6E to 15E-11N	IDF-S1927	The AD48N-8Z-A-X2112 auto drain (bowl assembly) excluding the body, insulator, and One-touch fitting are included.
IDFB6E to 15E-11	IDF-S1926	The AD48-8-A-X2112 auto drain (bowl assembly) excluding the body, insulator, and One-touch fitting are included.

*1 A new line of auto drain models was released in March 2019. The previous models and the new models do not have mounting interchangeability. Refer to page 19 for details.

L Option symbol: With a heavy-duty auto drain (Applicable to moderate 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.)

Max. operating pressure: 240 psi (1.6 MPa)

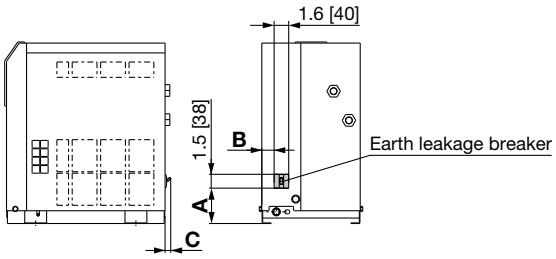
Replacement Parts

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 an earth leakage breaker — IDFB4E to 75E

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

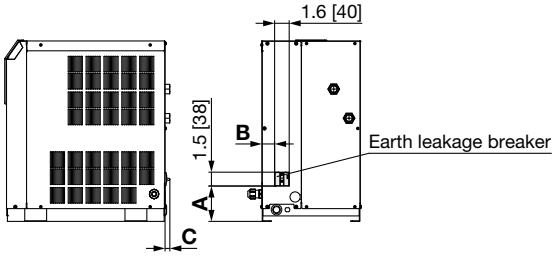
IDFB4E to 15E/Refrigerant R134a (HFC)



Dimensions Unit: inch [mm]

Model	A	B	C
IDFB4E, 6E, 8E, 11E	3.8 [97]	1.3 [34]	0.6 [15]
IDFB15E	4.0 [102]	3.2 [82]	—

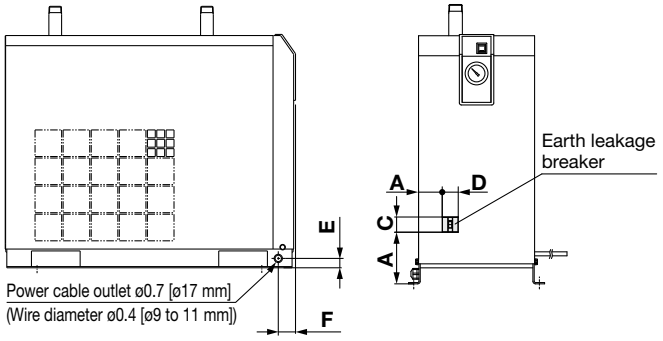
IDFB4E to 15E-11-F/Refrigerant R1234yf (HFO)



Dimensions Unit: inch [mm]

Model	A	B	C
IDFB4E-11□-F	3.8 [97]	1.3 [34]	0.6 [15]
IDFB6E-11□-F			
IDFB8E-11□-F			
IDFB11E-11□-F			
IDFB15E-11□-F	4.0 [102]	3.2 [82]	—

IDFB55E/75E



Dimensions Unit: inch [mm]

Model	A	B	C	D	E	F
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 15E	15 A	30 mA
IDFB55E, 75E	10 A	30 mA

IDFB□E Series
Options 2

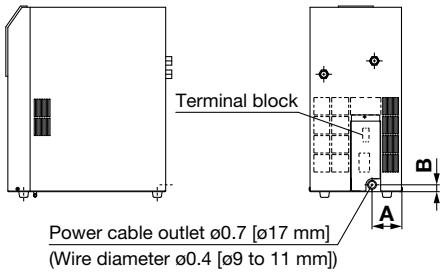
For "How to Order" optional models, refer to pages 5, 7, and 12. Only the dimensions that have been changed are shown.

S Option symbol

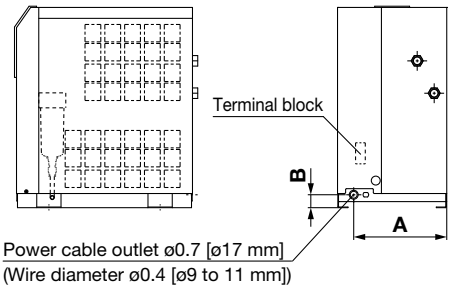
Power supply terminal block connection — IDFB3E to 11E

The option allows the connection of a power cable to a terminal block. 460 V specification is equipped as standard.

IDFB3E_Terminal block



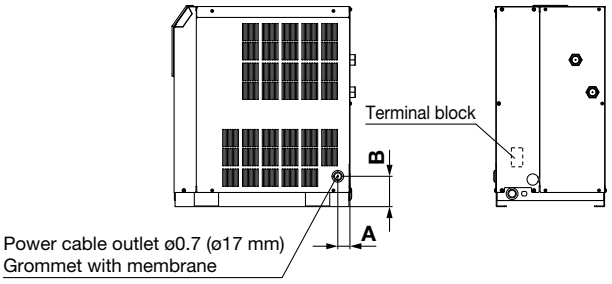
IDFB4E to 11E_Terminal block/Refrigerant R134a (HFC)



Dimensions Unit: inch [mm]

Model	A	B
IDFB3E	2.9 [73]	1.2 [31]
IDFB4E to 11E	9.1 [230]	1.3 [32]

IDFB4E to 11E-11□-F/Refrigerant R1234yf (HFO)



Dimensions Unit: inch [mm]

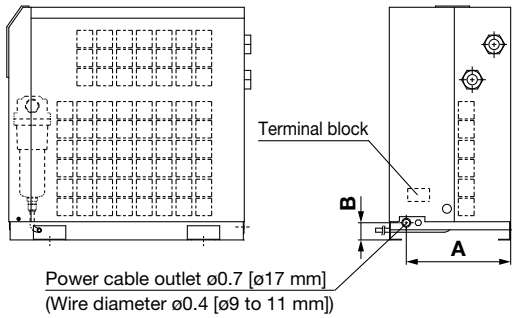
Model	A	B
IDFB4E-11□-F	1.2 [30]	3.0 [75]
IDFB6E-11□-F		
IDFB8E-11□-F		
IDFB11E-11□-F		

S Option symbol

Power supply terminal block connection — IDFB15E

The option allows the connection of a power cable to a terminal block. 460 V specification is equipped as standard.

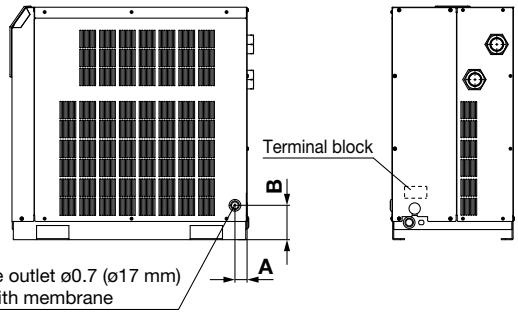
IDFB15E_Terminal block/Refrigerant R134a (HFC)



Dimensions Unit: inch [mm]

Model	A	B
IDFB15E	10.2 [258]	1.7 [43]

IDFB15E-11□-F/Refrigerant R1234yf (HFO)



Dimensions Unit: inch [mm]

Model	A	B
IDFB15E-11□-F	1.2 [30]	3.3 [85]

Options 3

For "How to Order" optional models, refer to pages 5, 7, and 12. Only the dimensions that have been changed are shown.

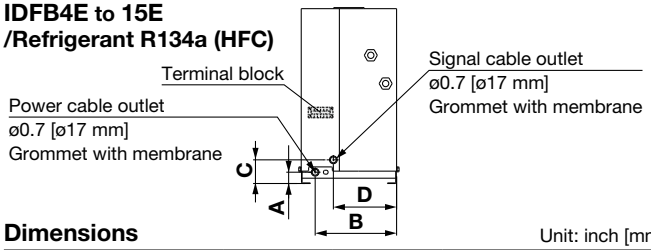
T Option symbol

With a terminal block for operating and error signals — 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.
Min. current value: 20 V, 5 mA (AC/DC) for operating and error signals.

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

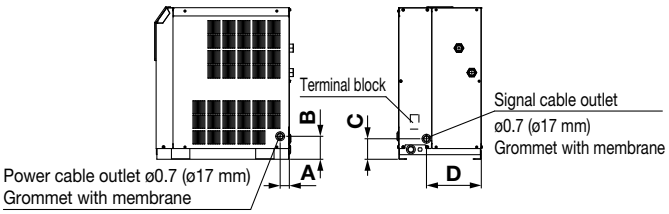
IDFB4E to 15E /Refrigerant R134a (HFC)



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]

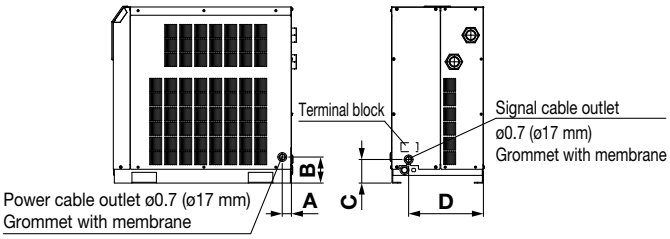
IDFB4E to 11E-11□-F/Refrigerant R1234yf (HFO)



Dimensions Unit: inch [mm]

Model	A	B	C	D
IDFB4E-11□-F	1.2 [30]	3.0 [75]	2.6 [67]	7.0 [179]
IDFB6E-11□-F				
IDFB8E-11□-F				
IDFB11E-11□-F				

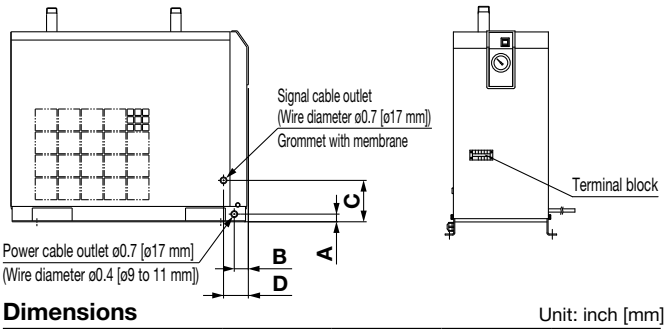
IDFB15E-11□-F/Refrigerant R1234yf (HFO)



Dimensions Unit: inch [mm]

Model	A	B	C	D
IDFB15E-11□-F	1.2 [30]	3.3 [85]	3.0 [77]	9.6 [244]

IDFB55E/75E



Dimensions Unit: inch [mm]

Model	A	B	C	D
IDFB55E, 75E	2 [50]	1.4 [36]	10.6 [270]	3.2 [81]

V Option symbol

With a timer controlled solenoid valve type auto drain (Applicable to moderate 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.)

Max. 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 15E-11□	IDF-S0199	115 VAC
IDFB55E, 75E-46□	IDF-S0302	230 VAC

IDFB□E Series
Optional Accessories

	Features	Specifications	Applicable dryer
Dustproof 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

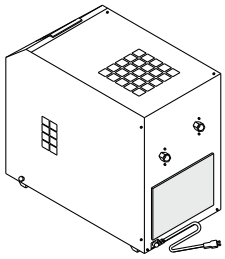
Dustproof filter set

IDF — FL 209

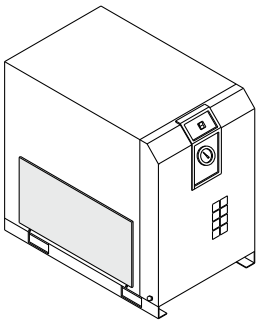
Applicable dryer

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

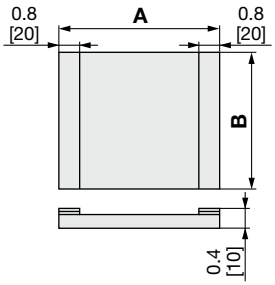
Dustproof Filter Set/Dimensions



(IDF-FL209)



(IDF-FL203 to 208, 213, 214)



Dimensions Unit: inch [mm]

Part no.	Applicable dryer	A	B	Weight lb [g]
IDF-FL209	IDFB3E	8.7 [220]	9.4 [240]	0.08 [35]
IDF-FL203	IDFB4E	14.8 [375]	7.7 [195]	0.12 [55]
	IDFB6E			
IDF-FL204	IDFB8E	13.3 [340]	10.4 [265]	0.15 [70]
IDF-FL205	IDFB11E	14.8 [375]		0.17 [75]
IDF-FL206	IDFB15E	[17.3] 440	[14.5] 370	[0.26] 120
IDF-FL213	IDFB55E	28.3 [720]	15.7 [400]	0.39 [175]
IDF-FL214	IDFB75E	24 [610]	22 [560]	0.42 [190]

IDFB□E Series
Auto Drain Replacement Parts: Previous and New Model Product Nos.

As the auto drain part number differs depending on the serial number on the dryer specification label, be sure to confirm before ordering. There is no mounting interchangeability between the previous and new auto drains.

Auto drain (Bowl assembly)

Previous model

Metal bowl guard

New model

Transparent bowl guard (Polycarbonate)

Thread type: NPT

Dryer model	Auto drain (Bowl assembly) part no.		Manufacturing date	SERIAL No.
IDFB3E/4E-11N	Previous	**AD38N-Z**	Manufactured in February 2019 and before	**XP and before**
	New	**AD38N-Z-D**∗1	Manufactured in March 2019 and after	**XQ and after**
IDFB6E/8E/11E/ 15E1/22E/37E-□N	Previous	**AD48N-Z**	Manufactured in February 2019 and before	**XP and before**
	New	**AD48N-Z-D**∗1	Manufactured in March 2019 and after	**XQ and after**
IDFB55E/75E-□N	Previous	**AD48N-Z**	Manufactured in May 2019 and before	**XS and before**
	New	**AD48N-Z-D**∗1	Manufactured in June 2019 and after	**XT and after**

Thread type: RC, R

Dryer model	Auto drain (Bowl assembly) part no.		Manufacturing date	SERIAL No.
IDFB3E/4E-11	Previous	**AD38**	Manufactured in February 2019 and before	**XP and before**
	New	**AD38-D**∗1	Manufactured in March 2019 and after	**XQ and after**
IDFB6E/8E/11E/ 15E1/22E/37E-□	Previous	**AD48**	Manufactured in February 2019 and before	**XP and before**
	New	**AD48-D**∗1	Manufactured in March 2019 and after	**XQ and after**
IDFB55E/75E-□	Previous	**AD48**	Manufactured in May 2019 and before	**XS and before**
	New	**AD48-D**∗1	Manufactured in June 2019 and after	**XT and after**

∗1 The following models have mounting interchangeability: AD38-A and AD38-D, and AD48-A and AD48-D. In addition, note that the AD38-A and AD48-A will no longer be able to be ordered after April 2025.

Option K: Moderate pressure specification (Auto drain bowl type: Metal bowl with level gauge)

Previous

New

Thread type: NPT

Dryer model	Auto drain (Bowl assembly) part no.		Manufacturing date	SERIAL No.
IDFB6E/8E/11E/ 15E-11N-K	Previous	**IDF-S0201**∗2	Manufactured in February 2019 and before	**XP and before**
	New	**IDF-S1927**∗3	Manufactured in March 2019 and after	**XQ and after**

∗2 Assembly of auto drain: AD48N-8Z-X2110, One-touch fitting: KQ2H11-35AS, and insulator
∗3 Assembly of auto drain: AD48N-8Z-A-X2112, One-touch fitting: KQ2H11-35AS, and insulator

IDFB22E/37E-□N-K	Previous	**AD48N-8Z-X2110**∗4	Manufactured in February 2019 and before	**XP and before**
	New	**AD48N-8Z-A-X2112**∗4	Manufactured in March 2019 and after	**XQ and after**

∗4 One-touch fitting: KQ2H11-35AS is not included.

Thread type: Rc, R

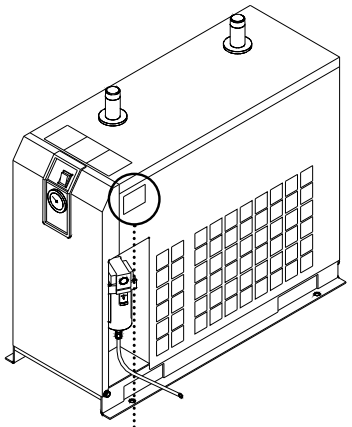
Dryer model	Auto drain (Bowl assembly) part no.		Manufacturing date	SERIAL No.
IDFB6E/8E/11E/ 15E-11-K	Previous	**IDF-S0086**∗2	Manufactured in February 2019 and before	**XP and before**
	New	**IDF-S1926**∗3	Manufactured in March 2019 and after	**XQ and after**

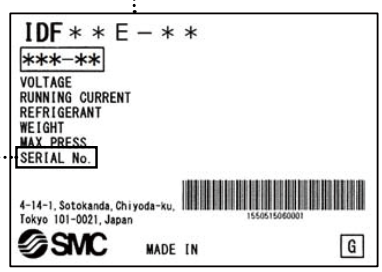
∗2 Assembly of auto drain: AD48-8-A-X2110, One-touch fitting: KQ2H10-02AS, and insulator
∗3 Assembly of auto drain: AD48-8-A-X2112, One-touch fitting: KQ2H10-02AS, and insulator

IDFB22E/37E-□-K	Previous	**AD48-8-X2110**∗4	Manufactured in February 2019 and before	**XP and before**
	New	**AD48-8-A-X2112**∗4	Manufactured in March 2019 and after	**XQ and after**

∗4 One-touch fitting: KQ2H10-02AS.

Manufacturing date Serial number confirmation method





Specification Label

SERIAL No.: X Q

Manufacturing year

Symbol	Year
A	1996
B	1997
⋮	⋮
W	2018
X	2019
Y	2020
⋮	⋮

Manufacturing month

Symbol	Month
o	1
P	2
Q	3
R	4
S	5
T	6
U	7
V	8
W	9
X	10
y	11
Z	12

Refrigerated Air Dryer *IDFB60/70/80/90*

For Use in North, Central and South America

Intertek
(UL, CSA Standards)

Applicable for the high-temperature environments

Ambient temperature: Max. 113°F (45°C)
Inlet air temperature : Max. 149°F (65°C)

Air flow capacity ＊ IDFB90-23, Dew point of 50°F (10°C)

459 SCFM (780 m³/h)
(13% increase compared to the existing model)

Power supply voltage

Single-phase 230 VAC (60 Hz)
Single-phase 115 VAC (60 Hz)
＊ IDFB60 only

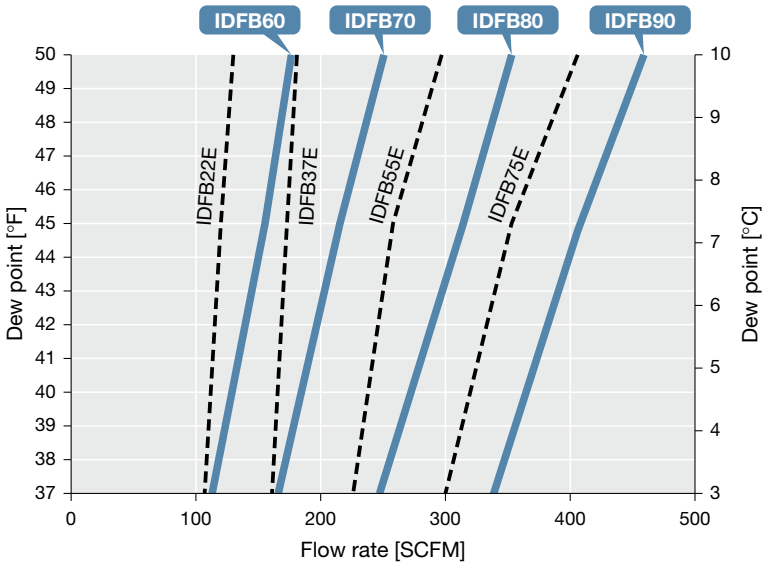
Refrigerant

Model	New Low GWP Refrigerant	Standard
IDFB60	R454C (HFC) (Not available for air transport)	R410A (HFC)
IDFB70		
IDFB80		
IDFB90		

Applicable for the high-temperature environments

	IDFB Series	Existing model IDFB Series
Ambient temperature	Max. **113**°F (**45**°C)	Max. **104**°F (**40**°C)
Inlet air temperature	Max. **149**°F (**65**°C)	Max. **122**°F (**50**°C)

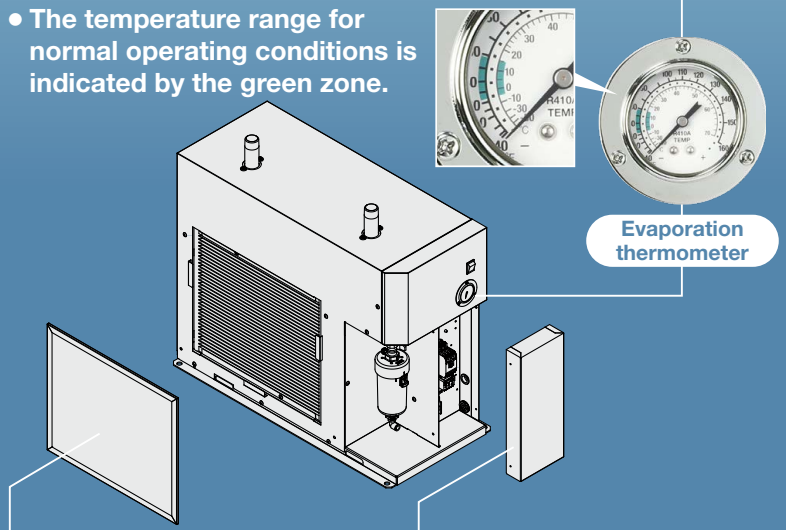
Increased air flow capacity



New stainless steel heat exchanger helps reduce the load of the compressor

Easier maintenance

- **The temperature range for normal operating conditions is indicated by the green zone.**



- **Dustproof filter provided as a standard accessory**

Prevents clogging of the condenser
Can be installed without tools

- **All electrical components are located in the front of the product.**

The electrical components can be checked by removing the front panel.

Series Variations

Model	Rated inlet condition	Rated ambient temperature	Air flow capacity SCFM [m³/h (ANR)]			Refrigerant		Port size*1	Page
			Dew point 37°F (2.8°C)	Dew point 45°F (7.2°C)	Dew point 50°F (10°C)	New Low GWP Refrigerant	Standard		
IDFB60	100°F (37.8°C) 100 psi (0.7 MPa)	100°F (37.8°C)	113 (192)	155 (264)	177 (300)	R454C (HFC) (Not available for air transport)	R410A (HFC)	R1/NPT1	p. 20▸27
IDFB70			166 (282)	215 (366)	251 (426)			R1 1/2/ NPT1 1/2	
IDFB80			247 (420)	314 (534)	353 (600)			R2/NPT2	
IDFB90			335 (570)	406 (690)	459 (780)				

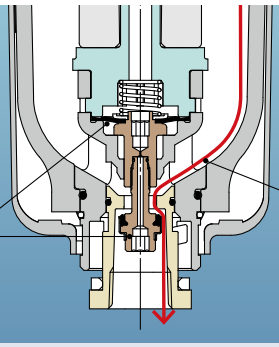
*1 Select port sizes when ordering the products.

Options p. 28

Auto Drain Valve
Longer life, Higher resistance to foreign matter

Non-sliding part reduces the catching of foreign matter

Diaphragm type
Poppet type



Shape prevents condensate accumulation

Condensate and foreign matter are discharged completely.

Easier maintenance

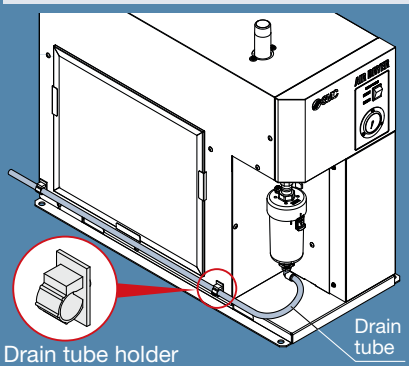
- **One-touch mounting and removal of the bowl is possible without using any tools.**

Release the lock by sliding the lock button down while holding the body. Then, rotate the bowl guard and pull down for removal.

Transparent bowl guard

- **Allows you to visually check the condensate condition in the bowl**
- **Improved environmental durability due to 2-layer construction**

Drain tube holder (Accessory)



Low GWP Refrigerant **Refrigerant R454C (HFC)**

Refrigerated Air Dryer

IDFB60/70/80/90 Series

Max. inlet air temperature: 149°F (65°C), Max. ambient temperature: 113°F (45°C)

How to Order

IDFB 60 – 23 N – □ F □

Refrigerant

Symbol	Description
F	Low GWP refrigerant

∗ Not available for air transport

Size

60
70
80
90

Voltage

Symbol	Voltage
23	Single-phase 230 VAC (60 Hz)

Thread type

Symbol	Thread type	Drain tube size
N	NPT (male)	O.D. 1/2 inch
Nil	R (male)	O.D. 12 mm

Option 1

Symbol	Description
Nil	None
C	Anti-corrosive treatment for copper tube

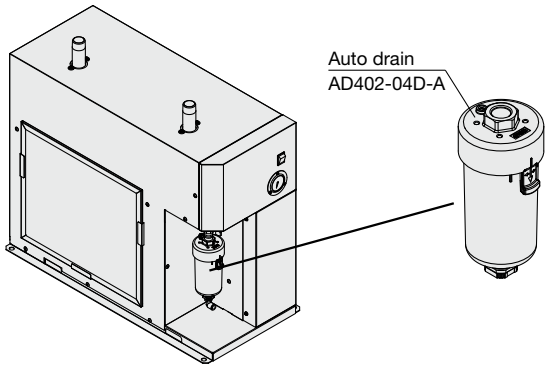
Option 2

Symbol	Description
Nil	None
L	With a heavy-duty auto drain [The max. operating pressure is 232 psi (1.6 MPa).]
R	With an earth leakage breaker
T	With a terminal block for operating, error, and remote operation signals
V	With a timer controlled solenoid valve type auto drain [The max. operating pressure is 232 psi (1.6 MPa).]

∗ When multiple options are combined, indicate symbols in alphabetical order.
∗ The combination of L and V is not available.

Replacement Parts

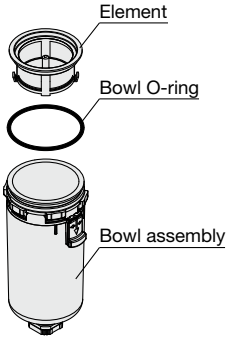
Auto drain



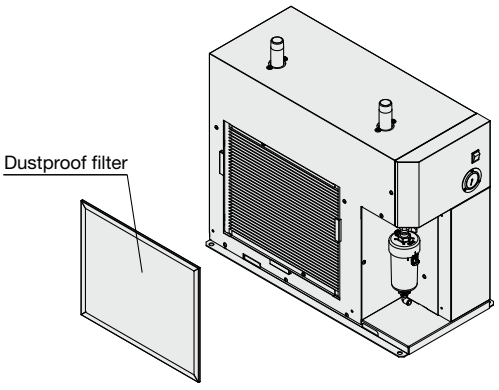
Auto Drain Replacement Part Nos.

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

∗1 A bowl O-ring is included.
A One-touch fitting for connecting the drain tube is not included.



Dustproof filter



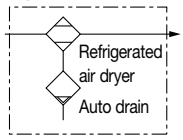
Dustproof Filter Replacement Part Nos.

Part no.	Qty.	Dimension [inch (mm)]	Applicable model
IDF-S0530	1	H14.6 x W17.3 (H370 x W440)	For IDFB60
IDF-S0531	1	H24.2 x W17.3 (H614 x W440)	For IDFB70
IDF-S0535	1	H24.2 x W21.9 (H614 x W556)	For IDFB80, IDFB90

Standard Specifications

Specifications \ Model				IDFB60-23-F	IDFB70-23-F	IDFB80-23-F	IDFB90-23-F
Operating range*1	Fluid			Compressed air			
	Inlet air temperature		[°F (°C)]	41 to 149 (5 to 65)			
	Inlet air pressure		[psi (MPa)]	22 to 150 (0.15 to 1.0)*7			
	Ambient temperature (Humidity)		[°F (°C)]	36 to 113 (2 to 45) (Relative humidity: 85% or less)			
Rated conditions*3	Air flow capacity*2 [SCFM (m³/h)]	Outlet air pressure dew point	37°F (2.8°C)	113 (192)	166 (282)	247 (420)	335 (570)
		Outlet air pressure dew point	45°F (7.2°C)	155 (264)	215 (366)	314 (534)	406 (690)
		Outlet air pressure dew point	50°F (10°C)	177 (300)	251 (426)	353 (600)	459 (780)
	Inlet air pressure		[psi (MPa)]	100 (0.7)			
	Inlet air temperature		[°F (°C)]	100 (37.8)			
	Ambient temperature		[°F (°C)]	100 (37.8)			
	Power supply voltage (Frequency)*4			Single-phase 230 VAC (60 Hz)			
Max. air flow capacity				Air flow capacity calculated with the correction factors			
Electric spec.	Power consumption*5		[W]	1300	1970	2840	4100
	Current consumption*5		[A]	7.0	9.5	13.1	19.5
Applicable earth leakage breaker capacity (Sensitivity current 30 mA)*6			[A]	15	15	20	30
Cooling method				Air-cooled refrigeration			
Refrigerant				R454C (HFC)*8			
Refrigerant charge			[oz (g)]	12.3 ±0.4 (350 ±10)	18 ±0.4 (510 ±10)	29.6 ±0.4 (840 ±10)	38.4 ±0.4 (1090 ±10)
Auto drain				Float type (Normally open, Min. operating pressure: 14.5 psi (0.1 MPa))			
Port size		Symbol N		NPT1	NPT1 1/2	NPT2	
		Symbol Nil		R1	R1 1/2	R2	
Drain tube O.D.		Symbol N		1/2 inch			
		Symbol Nil		12 mm			
Weight			[lbs (kg)]	112 (51)	161 (73)	245 (112)	266 (121)
Accessories				Drain tube (Length: 3.5 m) (O.D.: 1/2 inch [Thread symbol: N], 12 mm [Thread symbol: Nil]) Drain tube holder, Operation manual			
Compliant standards				UL, CSA			

Symbol



∗1 The operating range does not guarantee use with normal air flow capacity.
∗2 Air flow capacity under the standard condition (ANR) [atmospheric pressure 68°F (20°C), relative humidity 65%]
∗3 When the operating conditions are different from the rated values, select a model in accordance with Model Selection (page 4) or calculate the air flow capacity suitable to the operating conditions based on the Correction of Air Flow Capacity.
∗4 Do not use this product with continuous voltage fluctuations.
∗5 These values are reference values under rated conditions and are not guaranteed. Do not use these values for the thermal relay set values, etc.
∗6 Products other than Option R are not equipped with an earth leakage breaker. Purchase an appropriate earth leakage breaker separately. Use an earth leakage breaker with a leak current sensitivity of 30 mA.
∗7 The maximum operating pressure is 1.0 MPa as standard, but it is possible to achieve 232 psi (1.6 MPa) when selecting Option L or V.
∗8 R454C is a slightly flammable refrigerant. Avoid using this product in proximity to open flames.

Correction of Air Flow Capacity

Inlet air temperature [°C]

°F	80	90	100	110	120	130	140	149
°C	27	32	37.8	43	49	54	60	65
IDFB60/IDFB70	1.33	1.21	1.00	0.78	0.61	0.48	0.38	0.28
IDFB80/IDFB90	1.38	1.38	1.00	0.83	0.63	0.50	0.45	0.37

Ambient temperature [°C]

°F	80	90	100	110	113
°C	27	32	37.8	43	45
IDFB60/IDFB70	1.16	1.11	1.00	0.78	0.71
IDFB80/IDFB90	1.40	1.22	1.00	0.88	0.83

Inlet air pressure [MPa]

psi	50	60	70	80	90	100	120	140	145 to 240
MPa	0.35	0.41	0.48	0.55	0.62	0.69	0.83	0.97	1.00 to 1.60
IDFB60/IDFB70	0.71	0.77	0.82	0.87	0.93	1.00	1.09	1.20	1.22
IDFB80/IDFB90	0.77	0.82	0.86	0.90	0.94	1.00	1.07	1.16	1.18

Calculation example: The air flow capacity when the dew point of the IDFB60 is set to 50°F under the following conditions is calculated. [Operating conditions: Inlet air temperature: 100°F, Ambient temperature: 90°F, Inlet air pressure: 90 psi]
177 SCFM x 1.00 x 1.11 x 0.93 = 183 SCFM

Refrigerant R410A (HFC)
IDFB60/70/80/90 Series
Max. inlet air temperature: 149°F (65°C), Max. ambient temperature: 113°F (45°C)

How to Order

IDFB 60 – 23 N – ☐

Size

60
70
80
90

Voltage

Symbol	Voltage
23	Single-phase 230 VAC (60 Hz)
11	Single-phase 115 VAC (60 Hz)*1

*1 IDFB60 only

Thread type

Symbol	Thread type	Drain tube size
N	NPT (male)	O.D. 1/2 inch
Nil	R (male)	O.D. 12 mm

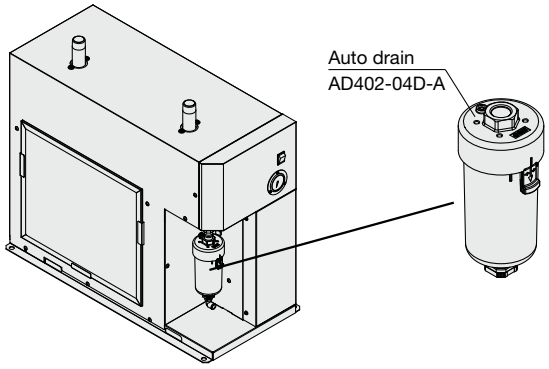
Options

Symbol	Description
Nil	None
C	Anti-corrosive treatment for copper tube
L	With a heavy-duty auto drain [The max. operating pressure is 232 psi (1.6 MPa).]
R	With an earth leakage breaker
T	With a terminal block for operating, error, and remote operation signals
V	With a timer controlled solenoid valve type auto drain [The max. operating pressure is 232 psi (1.6 MPa).]

* When multiple options are combined, indicate symbols in alphabetical order.
* The combination of L and V is not available.

Replacement Parts

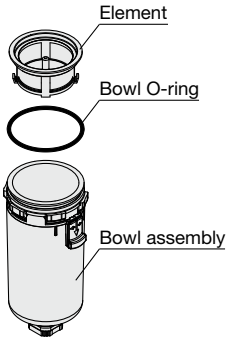
Auto drain



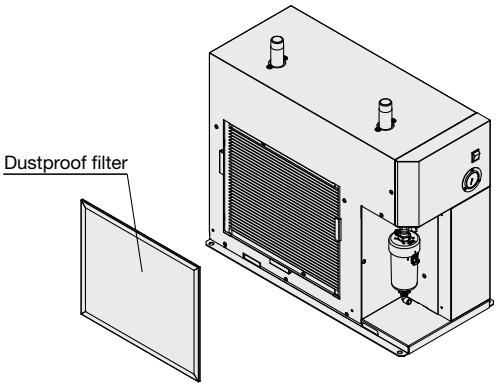
Auto Drain Replacement Part Nos.

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

*1 A bowl O-ring is included.
A One-touch fitting for connecting the drain tube is not included.



Dustproof filter



Dustproof Filter Replacement Part Nos.

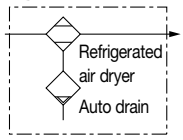
Part no.	Qty.	Dimension [inch (mm)]	Applicable model
IDF-S0530	1	H14.6 x W17.3 (H370 x W440)	For IDFB60
IDF-S0531	1	H24.2 x W17.3 (H614 x W440)	For IDFB70
IDF-S0535	1	H24.2 x W21.9 (H614 x W556)	For IDFB80, IDFB90

Standard Specifications

Specifications \ Model				IDFB60-11	IDFB60-23	IDFB70-23	IDFB80-23	IDFB90-23
Operating range*1	Fluid			Compressed air				
	Inlet air temperature		[°F (°C)]	41 to 149 (5 to 65)				
	Inlet air pressure		[psi (MPa)]	22 to 150 (0.15 to 1.0)*7				
	Ambient temperature (Humidity)		[°F (°C)]	36 to 113 (2 to 45) (Relative humidity: 85% or less)				
Rated conditions*3	Air flow capacity*2 [SCFM (m³/h)]	Outlet air pressure dew point	37°F (2.8°C)	113 (192)		166 (282)	247 (420)	335 (570)
		Outlet air pressure dew point	45°F (7.2°C)	155 (264)		215 (366)	314 (534)	406 (690)
		Outlet air pressure dew point	50°F (10°C)	177 (300)		251 (426)	353 (600)	459 (780)
	Inlet air pressure		[psi (MPa)]	100 (0.7)				
	Inlet air temperature		[°F (°C)]	100 (37.8)				
	Ambient temperature		[°F (°C)]	100 (37.8)				
	Power supply voltage (Frequency)*4			Single-phase 115 VAC (60 Hz)	Single-phase 230 VAC (60 Hz)			
Max. air flow capacity				Air flow capacity calculated with the correction factors				
Electric spec.	Power consumption*5		[W]	1100		1870	2490	3630
	Current consumption*5		[A]	10.0	4.8	8.2	10.9	15.9
Applicable earth leakage breaker capacity (Sensitivity current 30 mA)*6			[A]	15	10	15	20	30
Cooling method				Air-cooled refrigeration				
Refrigerant				R410A (HFC)				
Refrigerant charge			[oz (g)]	13.7 ±0.4 (390 ±10)		18.7 ±0.4 (530 ±10)	22.2 ±0.4 (630 ±10)	27.5 ±0.4 (780 ±10)
Auto drain				Float type (Normally open, Min. operating pressure: 14.5 psi (0.1 MPa))				
Port size		Symbol N		NPT1		NPT1 1/2	NPT2	
		Symbol Nil		R1		R1 1/2	R2	
Drain tube O.D.		Symbol N		1/2 inch				
		Symbol Nil		12 mm				
Weight			[lbs (kg)]	108 (49)		150 (68)	209 (95)	243 (110)
Accessories				Drain tube (Length: 3.5 m) (O.D.: 1/2 inch [Thread symbol: N], 12 mm [Thread symbol: Nil]) Drain tube holder, Operation manual				
Compliant standards				UL, CSA				

∗1 The operating range does not guarantee use with normal air flow capacity.
∗2 Air flow capacity under the standard condition (ANR) [atmospheric pressure 68°F (20°C), relative humidity 65%]
∗3 When the operating conditions are different from the rated values, select a model in accordance with Model Selection (page 4) or calculate the air flow capacity suitable to the operating conditions based on the Correction of Air Flow Capacity.
∗4 Do not use this product with continuous voltage fluctuations.
∗5 These values are reference values under rated conditions and are not guaranteed. Do not use these values for the thermal relay set values, etc.
∗6 Products other than Option R are not equipped with an earth leakage breaker. Purchase an appropriate earth leakage breaker separately. Use an earth leakage breaker with a leak current sensitivity of 30 mA.
∗7 The maximum operating pressure is 1.0 MPa as standard, but it is possible to achieve 232 psi (1.6 MPa) when selecting Option L or V.

Symbol



Correction of Air Flow Capacity

Inlet air temperature [°C]

°F	80	90	100	110	120	130	140	149
°C	27	32	37.8	43	49	54	60	65
IDFB60/IDFB70	1.33	1.21	1.00	0.78	0.61	0.48	0.38	0.28
IDFB80/IDFB90	1.38	1.38	1.00	0.83	0.63	0.50	0.45	0.37

Ambient temperature [°C]

°F	80	90	100	110	113
°C	27	32	37.8	43	45
IDFB60/IDFB70	1.16	1.11	1.00	0.78	0.71
IDFB80/IDFB90	1.40	1.22	1.00	0.88	0.83

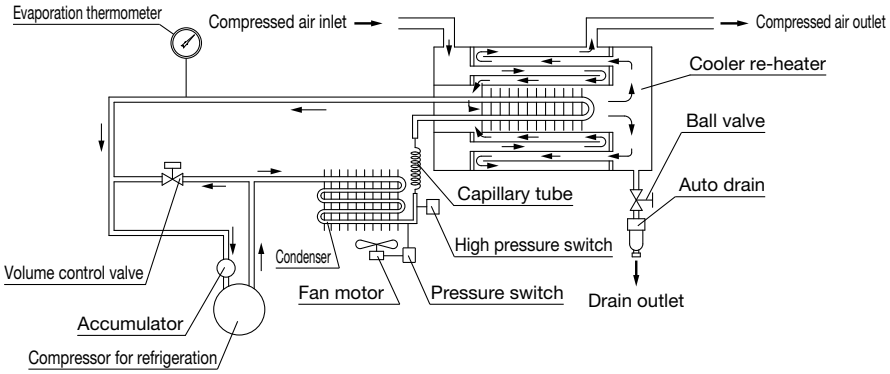
Inlet air pressure [MPa]

psi	50	60	70	80	90	100	120	140	145 to 232
MPa	0.35	0.41	0.48	0.55	0.62	0.69	0.83	0.97	1.00 to 1.60
IDFB60/IDFB70	0.71	0.77	0.82	0.87	0.93	1.00	1.09	1.20	1.22
IDFB80/IDFB90	0.77	0.82	0.86	0.90	0.94	1.00	1.07	1.16	1.18

Calculation example: The air flow capacity when the dew point of the IDFB60 is set to 50°F under the following conditions is calculated. [Operating conditions: Inlet air temperature: 100°F, Ambient temperature: 90°F, Inlet air pressure: 90 psi]
177 SCFM x 1.00 x 1.11 x 0.93 = 183 SCFM

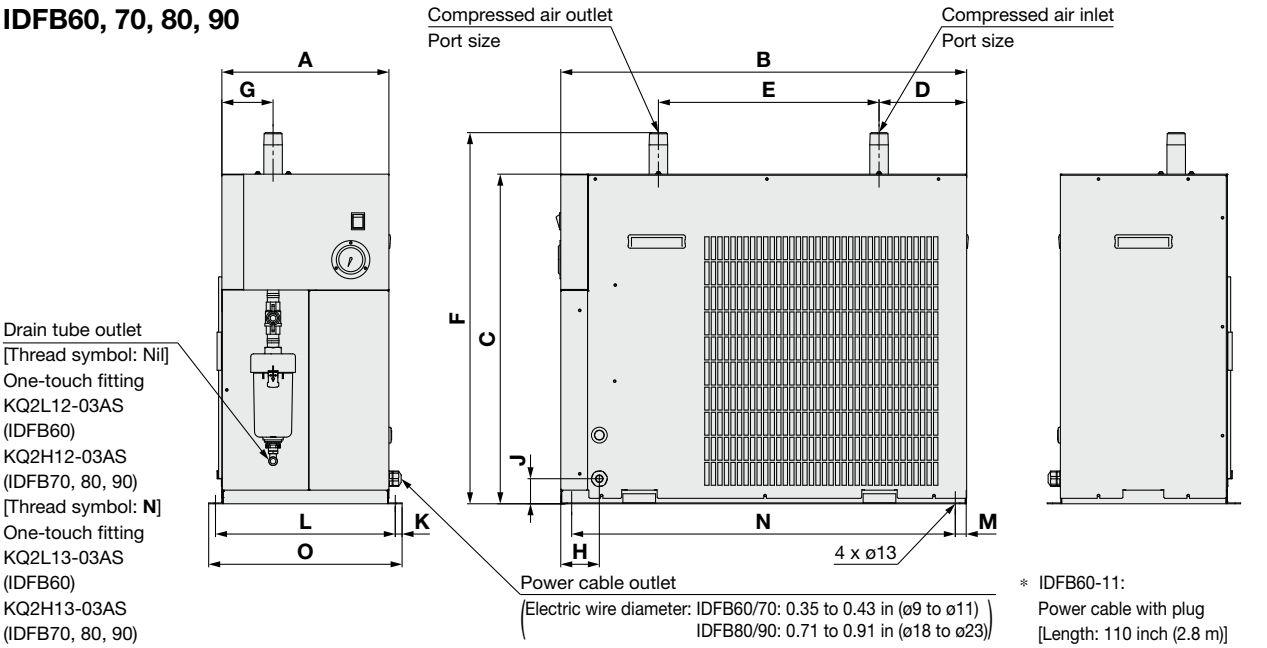
Construction (Air/Refrigerant Circuit)

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



Dimensions

IDFB60, 70, 80, 90



∗ IDFB60-11:
Power cable with plug
[Length: 110 inch (2.8 m)]

[inch (mm)]

Model	Port size	A	B	C	D	E	F	G	H	J	K	L	M	N	O
IDFB60	1	12.1 (307)	29.3 (745)	23.8 (605)	6.3 (161)	15.9 (405)	26.8 (681)	3.7 (94)	2.8 (71)	1.8 (46)	0.5 (13)	13.0 (330)	0.8 (20)	27.7 (704)	14.0 (355)
IDFB70	1 1/2	13.5 (342)	35.0 (890)	32.5 (825)	6.9 (176)	18.9 (480)	35.6 (905)		2.7 (68)			14.4 (365)		33.4 (849)	15.4 (390)
IDFB80	2	17.2 (438)	37.7 (957)	34.0 (863)	6.7 (169)	18.9 (480)	37.7 (958)	8.6 (219)	3.1 (78)	3.9 (100)	0.4 (11)	18.2 (463)		36.1 (916)	19.1 (485)
IDFB90															

IDFB Series
Options

C Option symbol

Anti-corrosive treatment for copper tube

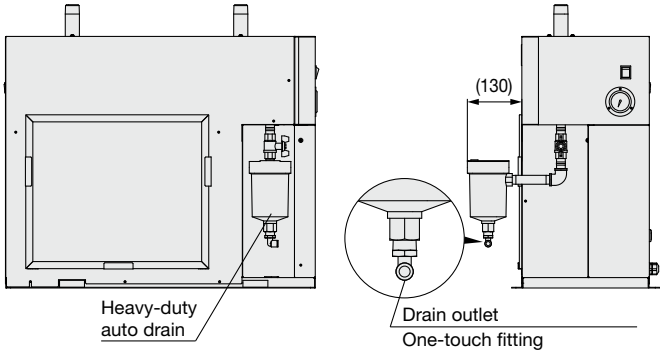
This minimizes the corrosion of the copper and copper alloy parts when the air dryer is used in an atmosphere containing hydrogen sulfide or sulfurous acid gas. (Corrosion cannot be completely prevented.)
Special epoxy coating: Copper tube and copper alloy parts. The coating is not applied on the heat exchanger or around electrical parts, where operation may be affected by the coating.

∗ Failure due to corrosion is not covered under warranty.

L Option symbol

With a heavy-duty auto drain (Applicable to moderate pressure)

The float type auto drain used in the standard air dryer is replaced with a heavy-duty auto drain (ADH4000-04) which enables the condensate to discharge more efficiently. The product can be used for moderate pressure with this option.
Max. operating pressure: 232 psi (1.6 MPa)



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

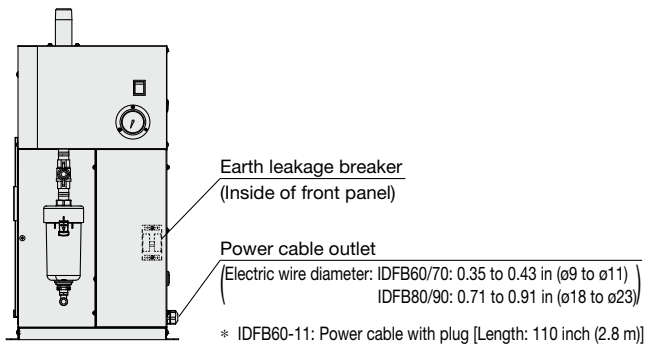
Replacement Parts: Heavy-Duty Auto Drain

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

R Option symbol

With an earth leakage breaker

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



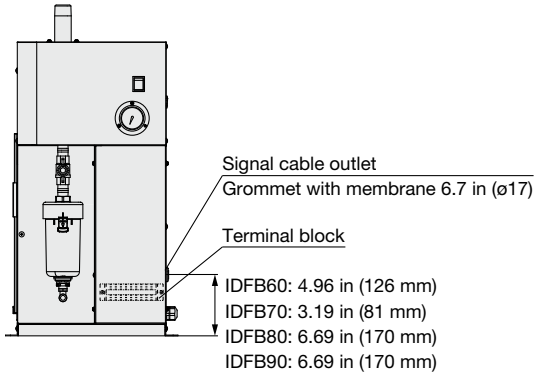
∗ IDFB60-11: Power cable with plug [Length: 110 inch (2.8 m)]

T Option symbol

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

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

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



V Option symbol

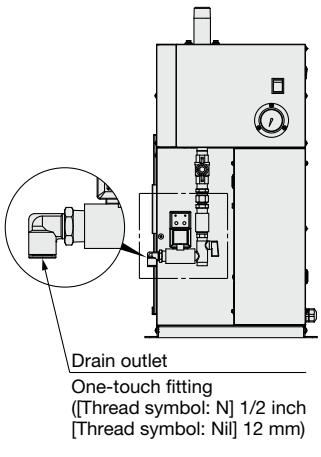
With a timer controlled solenoid valve type auto drain (Applicable to moderate pressure)

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

Max. operating pressure: 232 psi (1.6 MPa)

Replacement Parts

Part no.	Note
IDF-S0534	200 VAC to 230 VAC
IDF-S1966	115 VAC



IDFB Series
Specific Product Precautions 1

Be sure to read this before handling the products. For safety instructions and air preparation equipment precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

Design

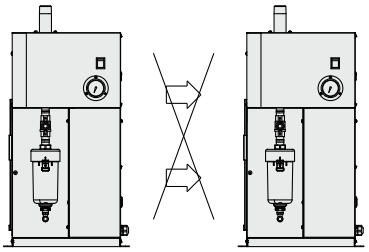
⚠ Warning

- Products with option "F" (low GWP refrigerant) selected use a slightly flammable refrigerant (R1234yf, R454C). Therefore, be sure to avoid using the products in close proximity to open flames.
  Ensure compliance with local laws and regulations regarding the use and application of this product.

Installation

⚠ Caution

- Avoid locations where the air dryer will be in direct contact with wind or rain. (Avoid locations where relative humidity is 85% or more.)
- Avoid locations where water, water vapor, salt water, or oil may splash on the product.
- Avoid locations where dust or other particles are present.
- Avoid locations where flammable or explosive gases are present.
- Avoid locations where corrosive gases, solvents, or combustible gases are present.
- Avoid locations which receive direct sunlight or radiated heat.
- Avoid locations where the ambient temperature exceeds the limits as mentioned below.
  During operation: 36°F (2°C) to 104°F (40°C) (36°F (2°C) to 113°F (45°C) for the IDFB60 to 90)
  During storage: 32°F (0°C) to 122°F (50°C) (when there is no drain water inside of the piping)
- Avoid locations where temperature substantially changes.
- Avoid locations where strong magnetic noise occurs. (Avoid locations where strong electric fields, strong magnetic fields, or surge voltages occur.)
- Avoid locations where static electricity occurs or conditions which make the product discharge static electricity.
- Avoid locations where high frequencies occur.
- Avoid locations where damage is likely to occur due to lightning.
- Avoid installation on machines used for transporting, such as vehicles, ships, etc.
- Avoid locations at altitudes of 6562 feet (2000 meters) or higher.
- Avoid locations where strong impacts or vibrations occur.
- Avoid conditions where a massive force strong enough to deform the product is applied or the weight from a heavy object is applied.
- Avoid locations with insufficient space for maintenance.
- Avoid locations where the ventilation grille is obstructed.
- Avoid locations where the air dryer will draw in high-temperature air discharged from an air compressor or other dryer.



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

Installation

⚠ Caution

- Avoid pneumatic circuits where rapid pressure fluctuations or flow speed changes are generated.
- When installing in locations where the dripping of condensation is a problem
  Depending on the operating conditions, the product and its downstream pipes could drip water due to condensation formed by supercooling.
  If this is a problem, install a drain receiver below this product or the condensation points and empty it regularly.
  Alternatively, wind additional insulation around the condensation points.

Drain Tube

⚠ Caution

- A tube with an outside diameter of 0.4 in (10 mm) (an O.D. of 0.47 in (12 mm) for the IDFB60 to 90) is attached as a drain tube. Use this tube to discharge condensate to a drain tank, etc.
- Do not use the drain tube in an upward direction. Do not bend or crush the drain tube. If it is unavoidable that the tube goes upward, make sure it only goes as far as the position of the auto drain outlet. The drain tube to be prepared should be 5 m or less in length. Otherwise, the auto drain will not operate correctly, which may cause air to be blown constantly or moisture not to be exhausted.

Power Supply

⚠ Caution

- Connect the power supply to the power cable with a plug or to the terminal block.
- Install an earth leakage breaker*1 suitable to each model for the power supply.
- Maintain a voltage range within ±10% of the rated voltage. (Do not use this product with continuous voltage fluctuations.)

*1 Select an earth leakage breaker with a leak current sensitivity of 30 mA.
Regarding the rated current, refer to the Applicable Earth Leakage Breaker Capacity.

- When a short-term interruption of the power supply (including momentary interruptions) occurs in this equipment, the restarting of normal operations may require some time or may be impossible due to the operation of protective devices even after the supply of power returns.

IDFB Series
Specific Product Precautions 2

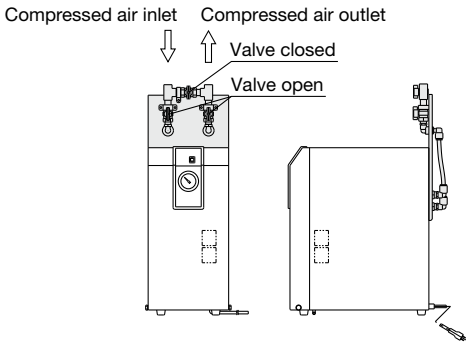
Be sure to read this before handling the products. For safety instructions and air preparation equipment precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

Air Piping

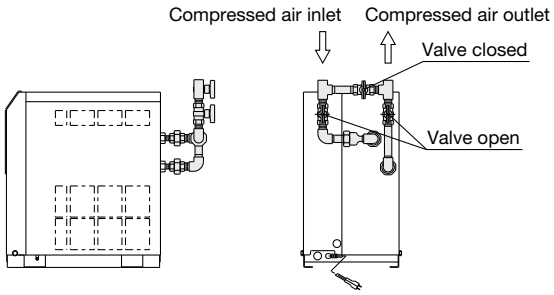
⚠ Caution

- Be careful to avoid any errors in connecting the air piping at the compressed air inlet (IN) and outlet (OUT).
- Flush the piping sufficiently in order to avoid any foreign matter such as dust, sealant tape, liquid gasket, etc., before connecting piping. Foreign matter in the piping can cause cooling failure or drainage failure.
- Inlet and outlet compressed air connections should be made removable by using a union, etc.
- Provide bypass piping to make it possible to do maintenance without stopping the air compressor.
- When tightening the inlet/outlet air piping, firmly hold the port on the air dryer with a pipe wrench, etc.
- Use pipes and fittings that can endure the operating pressure and temperature. Connect them firmly to prevent air leakage.
- Do not allow the load of the piping to lie directly on the air dryer. When mounting any part, such as an air filter, on the fitting at the compressed air inlet or outlet port, support the part to prevent excessive force from being applied to the product.
- Be careful not to let the vibrations of the air compressor transmit.
- If a metallic flexible tubing is used for the inlet/outlet air piping, abnormal noise might be generated in the piping. In such cases, please use steel tubing instead.
- If the temperature of the compressed air on the inlet side is over the max. operating temperature, place an aftercooler after the air compressor. Or, lower the temperature of the place where the air compressor is installed so as not to exceed the max. operating temperature.
- If the air supply generates high pressure fluctuations (pulsations), take appropriate countermeasures, such as installing an air tank.
- If rapid pressure fluctuations or flow changes occur, install a filter on the dryer outlet to prevent condensate from splashing.
- Variations in operating conditions may cause condensation to form on the surface of the outlet piping. Apply thermal insulation around the piping to prevent condensation from forming.

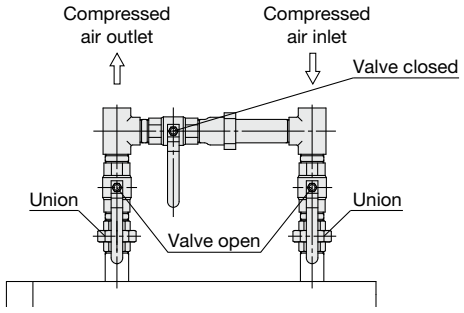
IDFB3E



IDFB4E to 15E



IDFB60 to 90



IDFB Series
Specific Product Precautions 3

Be sure to read this before handling the products. For safety instructions and air preparation equipment precautions, refer to the "Handling Precautions for SMC Products" and the "Operation Manual" on the SMC website: https://www.smcworld.com

Protection Circuit

⚠ Caution

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

- The compressed air temperature is too high.
- The compressed air flow rate is too high.
- The ambient temperature is too high. (104°F (40°C) or higher (113°F (45°C) or higher for the IDFB60 to 90))
- The fluctuation of the power supply voltage is beyond ±10% of the rated voltage.
- The air dryer is drawing in high temperature air exhausted from an air compressor or other dryer.
- The ventilation grille is obstructed by a wall or clogged with dust.

Transportation and Installation

⚠ Warning

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

- The product is filled with refrigerant. Transport it (by land, sea or air) in accordance with laws and regulations specified. Products with option "F" (low GWP refrigerant) selected cannot be transported by air as the products use a slightly flammable refrigerant (R1234yf, R454C).
- When carrying the product, be careful not to let it drop or fall over, and use a forklift.
- Do not lift the product by holding the panel, fittings or piping.
- Never lay the product down for transportation. This may lead to damage to the product.

- The product is heavy and has potential dangers in transportation. Be sure to follow the instructions above.

Compressor Air Delivery

⚠ Caution

Since the auto drain is designed in such a way that the valve remains open unless the air pressure rises to 14.5 psi (0.1 MPa) or higher, air will blow out from the drain outlet at the time of air compressor start up until the pressure increases. Therefore, if an air compressor has a small air delivery, the pressure may not be sufficient.

Auto Drain

⚠ Caution

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

Cleaning of Ventilation Area

⚠ Caution

If the dustproof filter becomes clogged with dust or debris, a decline in cooling performance can result.
In order to avoid deforming or damaging the dustproof filter, clean it with a long-haired brush or air gun once a month.

Time Delay for Restarting

⚠ Caution

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

Modifying the Standard Specifications

⚠ Caution

Do not modify the standard product using any of the optional specifications once the product has been supplied to a customer. Check the specifications carefully before selecting an air dryer.
In addition, do not disassemble or modify the product. Products which have been disassembled and/or modified cannot be guaranteed.

■ Refrigerant with GWP Reference

Refrigerant	Global Warming Potential (GWP)			
			Fluorocarbon Emissions Control Act (Japan)	
	Regulation (EU) 2024/573	AIM Act 40 CFR Part 84	GWP value labeled on products	GWP value to be used for reporting the calculated amount of leakage
R134a	1,430		1,430	1,300
R404A	3,922		3,920	3,940
R407C	1,774		1,770	1,620
R410A	2,088		2,090	1,920
R448A	1,386		1,390	1,270
R454C	146		145	146
R32	675		675	677
R1234yf	0.501	1	—	—

* This product is hermetically sealed and contains fluorinated greenhouse gases (HFC). When this product is sold on the market in the EU after January 1, 2017, it needs to be compliant with the quota system of the F-Gas Regulation in the EU.
* See specification table for refrigerant used in the product.

⚠ Safety Instructions

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

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

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

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

*1) ISO 4414: Pneumatic fluid power - General rules and safety requirements for systems and their components
ISO 4413: Hydraulic fluid power - General rules and safety requirements for systems and their components
IEC 60204-1: Safety of machinery - Electrical equipment of machines - Part 1: General requirements
ISO 10218-1: Robots and robotic devices - Safety requirements for industrial robots - Part 1:Robots
etc.

⚠ Warning

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

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

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

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

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

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. SMC products cannot be used beyond their specifications. They are not developed, designed, and manufactured to be used under the following conditions or environments. Use under such conditions or environments is not allowed.

1. Conditions and environments outside of the given specifications, or use outdoors or in a place exposed to direct sunlight.
2. Use for nuclear power, railways, aviation, space equipment, ships, vehicles, military application, equipment affecting human life, body, and property, combustion equipment, entertainment equipment, emergency shut-off circuits, press clutches, brake circuits, safety equipment, etc., and use for applications that do not conform to standard specifications such as catalogs and operation manuals.
3. Use for interlock circuits, except for use with double interlock such as installing a mechanical protection function in case of failure. Please periodically inspect the product to confirm that the product is operating properly.

⚠ Caution

SMC develops, designs, and manufactures products to be used for automatic control equipment, and provides them for peaceful use in manufacturing industries.
Use in non-manufacturing industries is not allowed.
Products SMC manufactures and sells cannot be used for the purpose of transactions or certification specified in the Measurement Act of each country. The new Measurement Act prohibits use of any unit other than SI units in Japan.

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, whichever is first.*2)
   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.

*2) **Suction cups (Vacuum pads) are excluded from this 1 year warranty.**
A suction cup (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 suction cup (vacuum pad) or failure due to the deterioration of rubber material are not allowed by the limited warranty.

Compliance Requirements

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

⚠ Safety Instructions	Be sure to read the "Handling Precautions for SMC Products" (M-E03-3) and "Operation Manual" before use.