# Refrigerated Air Dryers

## Protect Pneumatic Equipment from Moisture!

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

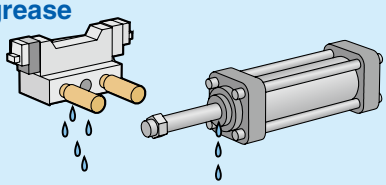
**The IDF22E to 75E series is to be discontinued as of the end of May 2022.**

Click here for details.

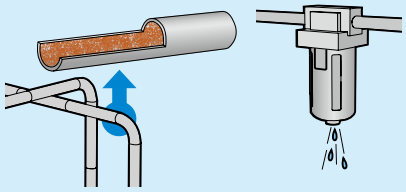
| Discontinued products | Substitute products |
|---|---|
| IDF22E | IDF60 |
| IDF37E | IDF60 or IDF70 |
| IDF55E | IDF80 |
| IDF75E | IDF80 or IDF90 |

### Effects of moisture on equipment

**Malfunctioning of valves and actuators caused by dripping grease**



**Decomposition of auto drain caused by rusting inside pipes**



**Generation of water droplets**

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

- Air flow capacity: Increased by **up to 40%** (SMC comparison)
- Power consumption: Reduced by **up to 40%** (SMC comparison)
- Improved corrosion resistance with the stainless steel heat exchanger*1

| Model | Rated inlet condition | Applicable air compressor [kW] | Port size |
|---|---|---|---|
| IDF1E | 35°C 0.7 MPa | 0.75 | Rc3/8 |
| IDF2E | | 1.5 | |
| IDF3E | | 2.2 | |
| IDF4E | | 3.7 | Rc1/2 |
| IDF6E | | 5.5 | Rc3/4 |
| IDF8E | | 7.5 | |
| IDF11E | | 11 | |
| IDF15E1 | | 15 | Rc1 |
| IDF22E | To be discontinued | 22 | R1 |
| IDF37E | | | R1 1/2 |
| IDF55E | | | R2 |
| IDF75E | 0.7 MPa | 75 | |

IDF□E

The air dryers (CE or UL compliant) conforming to the international standards are separately available.

*1 IDF4E to 75E/IDU3E to 75E

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

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

Air-cooled type Water-cooled type

IDF□F

IDF□D

## High inlet air temperature type *IDU□E Series*

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

IDU□E

* IDF4E to 75E/IDU3E to 75E

# *IDF/IDU Series*

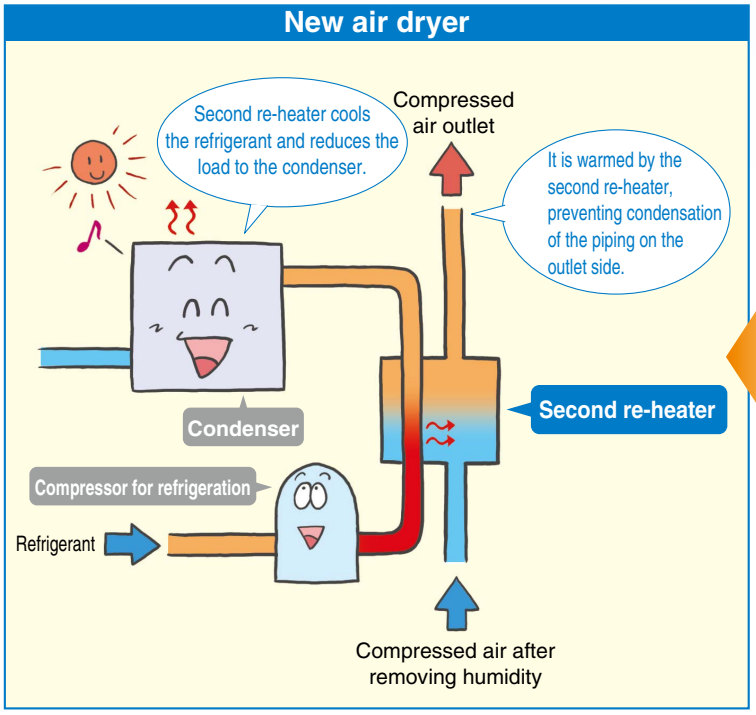
CAT.ES30-8J Ⓐ

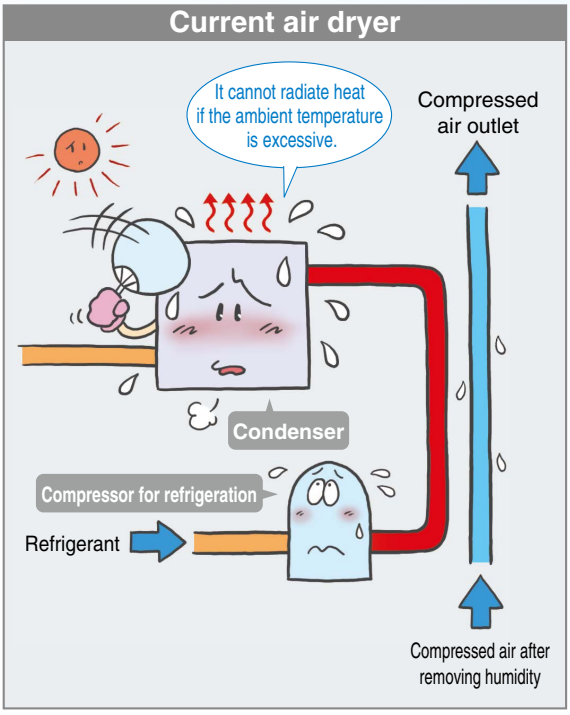
# *IDF100F/125F/150F Series*

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

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

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



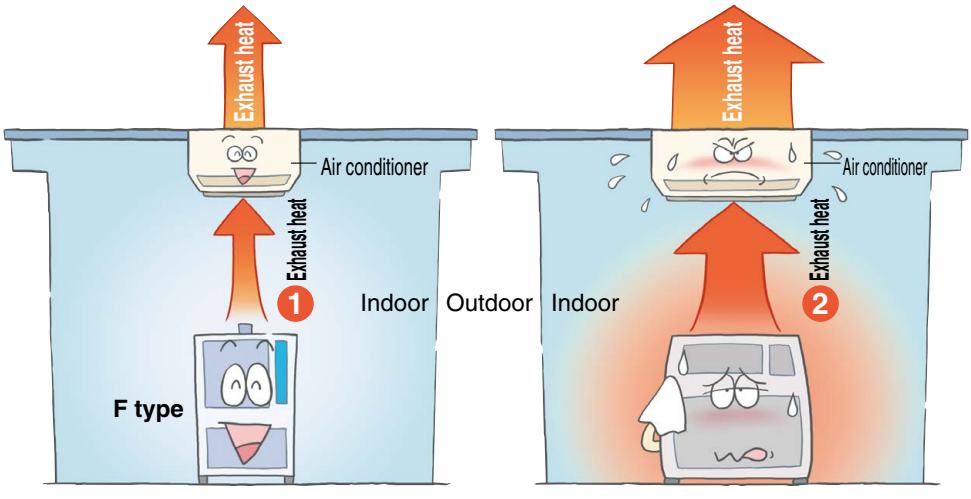




### Energy saving design: Reduces exhaust heat from air dryer by up to 25%.

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

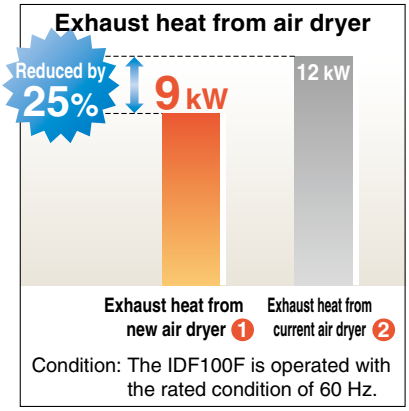
Second re-heater reduces the load to the condenser, and reduces exhaust heat from air dryer by up to 25%. (comparison with other SMC products)

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



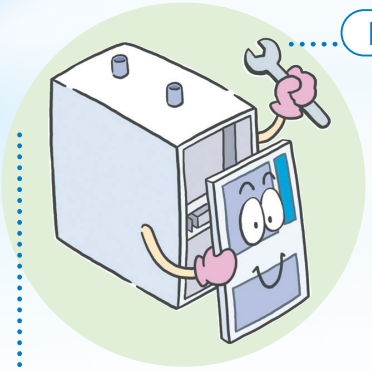

**New air dryer**
(With second re-heater)

**Current air dryer**
(Without second re-heater)



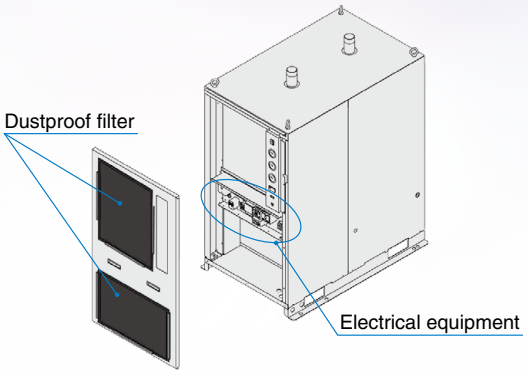


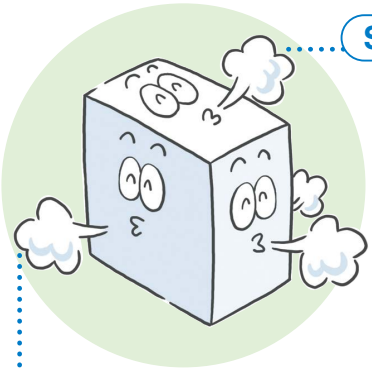

SMC



## Maintenance

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

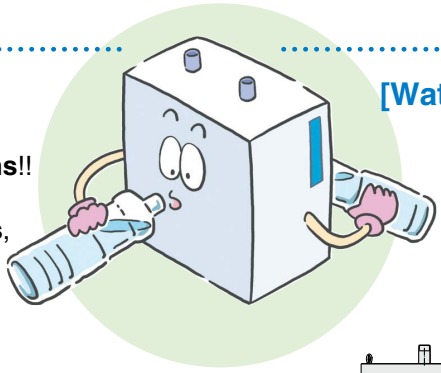


## Selection of layout

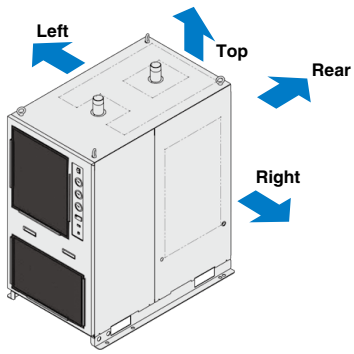
### [Air-cooled type]

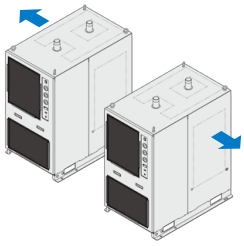
Exhausting direction can be selected from **four directions**!! Auto drain tube can be connected in **two directions**, left or right.



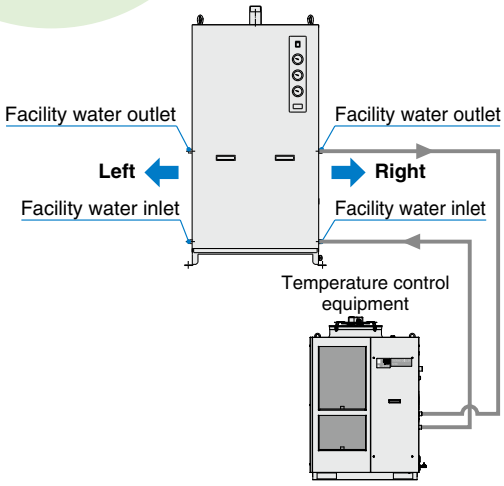
### [Water-cooled type]

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

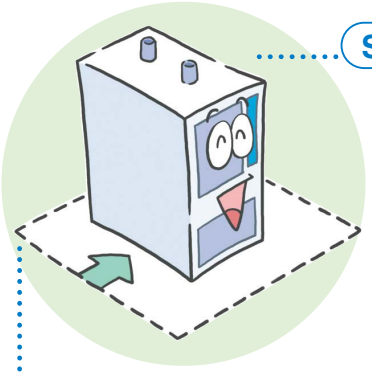


Avoid exhausting air onto adjacent equipment.




**HRS100/150 series**

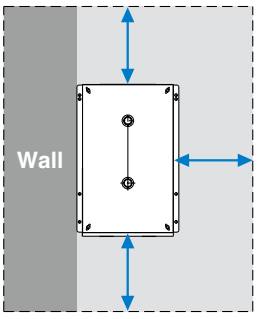


## Space saving

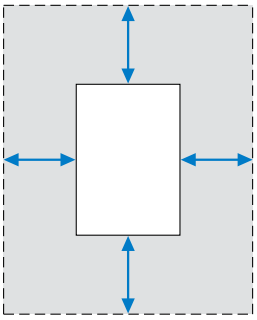
Either the left or right can be installed flat against a wall! *1 Installation space can be reduced by up to **1.5 m²**!!

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

**Leave at least 600 mm on the sides indicated with ⟷.**




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



Installation space of the current type

# Contents

## Standard Inlet Air Temperature Type — IDF□E/F/D Series

**Rated inlet air temperature: 35, 40°C**



## High Inlet Air Temperature Type — IDU□E Series

**Rated inlet air temperature: 55°C**



Refer to the **Web Catalog** for air dryer models conforming to international standards (CE and UL).

## Options

| Description | Applicable model | Model (Suffix: Option symbol) | Page |
|---|---|---|---|
| Cool compressed air output | IDF1E to 75E | DF□E-□-A | p. 28, 29 |
| Anti-corrosive treatment for copper tube | IDF1E to 75E | IDF□E-□-C | |
| | IDF100F to 150F | IDF□F-□-C | |
| | IDF190D to 370D | IDF□D-□(-□)-C | |
| | IDU3E to 75E | IDU□E-□-C | |
| With Chinese labels and a Chinese operation manual | IDF1E to 75E | IDF□E-□-G | |
| | IDU3E to 75E | IDU□E-□-G | |
| Moderate pressure specification (up to 1.6 MPa) | IDF6E to 37E | IDF□E-□-K | |
| | IDU3E to 15E1 | IDU□E-□-K | |
| | IDF100F to 150F | IDF□F-□-K | |
| With a heavy-duty auto drain*1 (applicable to moderate pressure) | IDF4E to 75E | IDF□E-□-L | |
| | IDF370D | IDF370D-□-L | |
| | IDU3E to 75E | IDU□E-□-L | |
| With a motor type auto drain*2 | IDF4E to 75E | IDF□E-□-M | p. 30 |
| | IDF190D, 240D | IDF□D-□(-□)-M | |
| | IDU3E to 75E | IDU□E-□-M | |
| With a metal name plate | IDF100F to 150F | IDF□F-□-P | p. 30 |
| With an earth leakage breaker | IDF4E to 75E | IDF□E-□-R | p. 31 |
| | IDF100F to 150F | IDF□F-□-R | |
| | IDF190D to 370D | IDF□D-3-R | |
| | IDU3E to 75E | IDU□E-□-R | |
| Power supply terminal block connection | IDF1E to 15E1-10 | IDF□E-10-S | p. 32 |
| | IDU3E to 15E1-10 | IDU□E-10-S | |
| With a terminal block for power supply, operating, and error signals*3 | IDF4E to 75E | IDF□E-□-T | |
| | IDU3E to 75E | IDU□E-□-T | |
| With a timer controlled solenoid valve type auto drain (applicable to moderate pressure) | IDU3E to 75E | IDU□E-□-V | |
| | IDF100F to 150F | IDF□F-□-V | |
| Water-cooled type*2 | IDF100F to 150F | IDF□F-□-W | p. 33 |
| | IDF190D, 240D | IDF□D-3-W | |

*1 The IDF100F to 150F, 190D, 240D standard types are equipped with a heavy-duty auto drain and a terminal block for remote operation, stop, operating, and error signal.

*2 The IDF370D standard type is the water-cooled type with a motor type auto drain.

*3 When switching from the previous air dryer and remote operation are required, select the Made to Order (IDF/U□E-□-X256) product.
The IDF100F to 150F and 190D to 370D standard types are equipped with a terminal block for remote operation, stop, operating, and error signals.

## Optional Accessories

| Description | Page |
|---|---|
| Separately installed power transformer | p. 34 to 43 |
| Dedicated base for separately installed power transformer | |
| Dust-protecting filter set | |
| Bypass piping set | |
| Foundation bolt set | |
| Piping adapter | |
| Mounting base adapter | |
| Conversion piping set | |
| Conversion bypass piping set | |

# *IDF/IDU Series*
# Model Selection

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

## 1 Select the IDF or IDU.

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

## 2 Read the correction factors.

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

### IDF Selection Example

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

*1 Values obtained from "Correction Factors" on page 6.

### IDU Selection Example

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

*1 Values obtained from "Correction Factors" on page 6.

## 3 Check the coefficient.

**IDF Selection Example**

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

**IDU Selection Example**

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

## 4 Calculate the corrected air flow capacity.

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

**IDF Selection Example**

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

**IDU Selection Example**

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

## 5 Select the model.

Select the model with air flow capacity which exceeds the corrected air flow capacity from the specification table. (For air flow capacity, refer to the data Ⓔ on page 6.)

**IDF Selection Example**

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

**IDU Selection Example**

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

## 6 Options

**IDF Selection Example**

Refer to pages 28 to 33.

**IDU Selection Example**

Refer to pages 28 to 32.

## 7 Finalize the model number.

**IDF Selection Example**

Refer to pages 7, 11, 14, 19.

**IDU Selection Example**

Refer to pages 22 and 25.

## 8 Select the optional accessories.

Refer to pages 34 to 43.

## Correction Factors

### Data Ⓐ: Inlet Air Temperature

#### IDF Series

**IDF1E to 37E**

| Inlet air temp. [°C] | Correction factor |
|---|---|
| **5 to 30** | 1.3 |
| **35** | 1 |
| **40** | 0.82 |
| **45** | 0.68 |
| **50** | 0.57 |

**IDF55E, 75E, 190D to 240D**

| Inlet air temp. [°C] | Correction factor |
|---|---|
| **5 to 30** | 1.35 |
| **35** | 1.25 |
| **40** | 1 |
| **45** | 0.8 |
| **50** | 0.6 |

**IDF100F to 150F**

| Inlet air temp. [°C] | Correction factor |
|---|---|
| **5 to 30** | 1.41 |
| **35** | 1.21 |
| **40** | 1 |
| **45** | 0.92 |
| **50** | 0.75 |
| **55** | 0.63 |
| **60** | 0.53 |

**IDF370D**

| Inlet air temp. [°C] | Correction factor |
|---|---|
| **5 to 30** | 1.25 |
| **35** | 1.00 |
| **40** | 0.83 |
| **45** | 0.70 |
| **50** | 0.60 |

#### IDU Series

**IDU3E to IDU37E**

| Inlet air temp. [°C] | Correction factor |
|---|---|
| **5 to 45** | 1.15 |
| **50** | 1.07 |
| **55** | 1 |
| **60** | 0.95 |
| **65** | 0.9 |
| **70** | 0.86 |
| **75** | 0.82 |
| **80** | 0.79 |

**IDU55E, 75E**

| Inlet air temp. [°C] | Correction factor |
|---|---|
| **5 to 45** | 1.21 |
| **50** | 1.10 |
| **55** | 1 |
| **60** | 0.87 |
| **65** | 0.76 |
| **70** | 0.74 |
| **75** | 0.72 |
| **80** | 0.70 |

### Data Ⓑ: Ambient Temperature *1

#### IDF Series

**IDF1E to 75E**

| Ambient temp. [°C] | Correction factor |
|---|---|
| **2 to 25** | 1.14 |
| **30** | 1.04 |
| **32** | 1 |
| **35** | 0.96 |
| **40** | 0.9 |

**IDF100F to 150F**

| Ambient temp. [°C] | Correction factor |
|---|---|
| **2 to 25** | 1.06 |
| **30** | 1.02 |
| **32** | 1 |
| **35** | 0.99 |
| **40** | 0.98 |
| **45** | 0.92 |

**IDF190D to 240D**

| Ambient temp. [°C] | Correction factor |
|---|---|
| **2 to 25** | 1.10 |
| **30** | 1.05 |
| **32** | 1 |
| **35** | 0.95 |
| **40** | 0.90 |

#### IDU Series

**IDU3E to IDU37E**

| Ambient temp. [°C] | Correction factor |
|---|---|
| **2 to 25** | 1.2 |
| **30** | 1.04 |
| **32** | 1 |
| **35** | 0.93 |
| **40** | 0.84 |

**IDU55E, 75E**

| Ambient temp. [°C] | Correction factor |
|---|---|
| **2 to 25** | 1.25 |
| **30** | 1.11 |
| **32** | 1 |
| **35** | 0.90 |
| **40** | 0.63 |

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

### Data Ⓒ: Outlet Air Pressure Dew Point

#### IDF Series

**IDF1E to 75E, 190D to 370D**

| Outlet air pressure dew point [°C] | Correction factor |
|---|---|
| **3** | 0.55 |
| **5** | 0.7 |
| **10** | 1 |
| **15** | 1.3 |

**IDF100F to 150F**

| Outlet air pressure dew point [°C] | Correction factor |
|---|---|
| **3** | 0.55 |
| **5** | 0.7 |
| **10** | 1 |
| **15** | 1.4 |

#### IDU Series

**IDU3E to IDU37E**

| Outlet air pressure dew point [°C] | Correction factor |
|---|---|
| **3** | 0.55 |
| **5** | 0.7 |
| **10** | 1 |
| **15** | 1.3 |

**IDU55E, 75E**

| Outlet air pressure dew point [°C] | Correction factor |
|---|---|
| **3** | 0.53 |
| **5** | 0.67 |
| **10** | 1 |
| **15** | 1.30 |

### Data Ⓓ: Inlet Air Pressure

#### IDF Series

**IDF1E to 75E**

| Inlet air pressure [MPa] | Correction factor |
|---|---|
| **0.2** | 0.62 |
| **0.3** | 0.72 |
| **0.4** | 0.81 |
| **0.5** | 0.88 |
| **0.6** | 0.95 |
| **0.7** | 1 |
| **0.8** | 1.06 |
| **0.9** | 1.11 |
| **1 to 1.6** | 1.16 |

**IDF100F to 150F**

| Inlet air pressure [MPa] | Correction factor |
|---|---|
| **0.2** | 0.84 |
| **0.3** | 0.87 |
| **0.4** | 0.9 |
| **0.5** | 0.93 |
| **0.6** | 0.96 |
| **0.7** | 1 |
| **0.8** | 1.03 |
| **0.9** | 1.06 |
| **1 to 1.6** | 1.09 |

**IDF190D to 370D**

| Inlet air pressure [MPa] | Correction factor |
|---|---|
| **0.2** | 0.68 |
| **0.3** | 0.77 |
| **0.4** | 0.84 |
| **0.5** | 0.90 |
| **0.6** | 0.95 |
| **0.7** | 1 |
| **0.8** | 1.03 |
| **0.9** | 1.06 |
| **1.0** | 1.08 |

#### IDU Series

**IDU3E to 37E**

| Inlet air pressure [MPa] | Correction factor |
|---|---|
| **0.2** | 0.62 |
| **0.3** | 0.72 |
| **0.4** | 0.81 |
| **0.5** | 0.88 |
| **0.6** | 0.95 |
| **0.7** | 1 |
| **0.8** | 1.06 |
| **0.9** | 1.11 |
| **1 to 1.6** | 1.16 |

**IDU55E, 75E**

| Inlet air pressure [MPa] | Correction factor |
|---|---|
| **0.2** | 0.62 |
| **0.3** | 0.69 |
| **0.4** | 0.77 |
| **0.5** | 0.85 |
| **0.6** | 0.93 |
| **0.7** | 1 |
| **0.8** | 1.08 |
| **0.9** | 1.16 |
| **1 to 1.6** | 1.23 |

### Data Ⓔ: Air Flow Capacity

#### IDF Series

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

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

* In the case of the Option A (cool compressed air output), the air flow capacity is different. Refer to page 28 for details.

#### IDU Series

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

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

## How to Order

**IDF 8E — 10 —** (Nil / A / C / G / K / L / M / R / S / T)

**Size**

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

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

**Voltage**

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

**Options**

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

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

*2 The maximum operating pressure is 1.6 MPa.

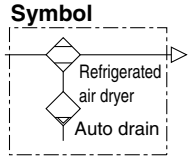
*3 Voltage symbol 20 (200 VAC) is the terminal block connection as standard. The Option S cannot be chosen.
Voltage symbol 10 (100 VAC) is the power cable with plug as standard.

*4 **To users who are considering switching from the previous air dryer:**

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

* Refer to pages 28 to 32 for further information on options.

**Symbol**




## Standard Specifications

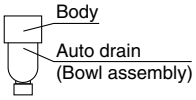
| Specifications \ Model | | | | Standard inlet air temperature | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | IDF1E | IDF2E | IDF3E | IDF4E | IDF6E | IDF8E | IDF11E | IDF15E1 |
| Operating range ※3 | Fluid | | | Compressed air | | | | | | | |
| | Inlet air temperature [°C] | | | 5 to 50 | | | | | | | |
| | Inlet air pressure [MPa] | | | 0.15 to 1.0 | | | | | | | |
| | Ambient temperature (Humidity) [°C] | | | 2 to 40 (Relative humidity 85% or less) | | | | | | | |
| Rated conditions ※4 | Air flow capacity [m³/min] | Standard condition (ANR) ※1 | 50 Hz | 0.10 | 0.20 | 0.32 | 0.52 | 0.75 | 1.22 | 1.65 | 2.8 |
| | | | 60 Hz | 0.12 | 0.235 | 0.37 | 0.57 | 0.82 | 1.32 | 1.82 | 3.1 |
| | | Compressor intake condition ※2 | 50 Hz | 0.11 | 0.21 | 0.34 | 0.55 | 0.8 | 1.3 | 1.75 | 3.0 |
| | | | 60 Hz | 0.13 | 0.25 | 0.39 | 0.61 | 0.87 | 1.4 | 1.93 | 3.3 |
| | Inlet air pressure [MPa] | | | 0.7 | | | | | | | |
| | Inlet air temperature [°C] | | | 35 | | | | | | | |
| | Ambient temperature [°C] | | | 32 | | | | | | | |
| | Outlet air pressure dew point [°C] | | | 10 | | | | | | | |
| | Power supply voltage (Frequency) ※5 | | | Single-phase: 100 VAC (50 Hz), 100/110 VAC (60 Hz) ※5<br>Single-phase: 200 VAC (50 Hz), 200/220 VAC (60 Hz) | | | | | | | |
| Electric specifications | Power consumption 50/60 Hz ※6 [W] | Single-phase 100 V | | 180/202 | 180/202 | 180/202 | 180/202 | 180/202 | 208/236 | 385/440 | 420/480 |
| | | Single-phase 200 V | | — | — | | | | | | |
| | Operating current 50/60 Hz ※6 [A] | Single-phase 100 V | | 2.4/2.5 | 2.4/2.5 | 2.4/2.5 | 2.4/2.5 | 2.4/2.5 | 3.0/3.1 | 5.7/5.7 | 4.3/4.6 |
| | | Single-phase 200 V | | — | — | 1.2/1.3 | 1.2/1.3 | 1.2/1.3 | 1.5/1.5 | 3.4/3.0 | 3.4/3.1 |
| Applicable earth leakage breaker capacity ※7 (Sensitivity of leak current of 30 mA) [A] | | | | 10 (100 VAC), 5 (200 VAC) | | | | | | | 10 (100 VAC)<br>10 (200 VAC) |
| Condenser | | | | Air-cooled | | | | | | | |
| Refrigerant | | | | R134a (HFC) | | | | | | | |
| Refrigerant charge [kg] | | | | 0.07 | 0.115 | 0.15 | 0.18 | 0.20 | 0.25 | 0.26 | 0.35 |
| Auto drain | | | | Float type (Normally closed) | Float type (Normally open) | | | | | | |
| Port size | | | | Rc3/8 | | | Rc1/2 | Rc3/4 | | | Rc1 |
| Weight [kg] | | | | 16 | 17 | 18 | 22 | 23 | 27 | 28 | 46 |
| Coating color | | | | Body panel: White 1<br>Base: Gray 2 | | | | | | | |
| Applicable air compressor output (Reference) For screw type [kW] | | | | 0.75 | 1.5 | 2.2 | 3.7 | 5.5 | 7.5 | 11 | 15 |

※1 Air flow capacity under the standard condition (ANR) [20°C, Atmospheric pressure, and 65% Relative humidity]
※2 Air flow capacity converted by the compressor intake condition [32°C, Atmospheric pressure, and 75% Relative humidity]
※3 The operation range does not guarantee the use with normal air flow capacity.
※4 Select the model in accordance with Model Selection (pages 5, 6) for models beyond the rated specifications.
※5 When selecting a power supply voltage, refer to the How to Order on page 7.
※6 These values are reference values under rated conditions, and are not guaranteed. Do not use these values for the thermal set values, etc.
※7 Product other than the Option R is not equipped with an earth leakage breaker. Purchase an appropriate earth leakage breaker separately.

**Replacement Parts**

| Model | | IDF1E | IDF2E | IDF3E | IDF4E | IDF6E | IDF8E | IDF11E | IDF15E1 |
|---|---|---|---|---|---|---|---|---|---|
| Auto drain replacement parts no. ※8 | New | AD37-A | AD38-A | | | AD48-A | | | |
| | Previous | AD37 | AD38 | | | AD48 | | | |

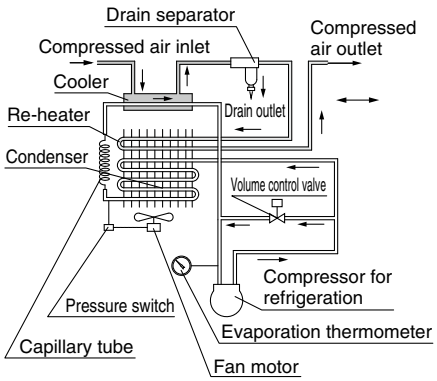
※8 The part number for the auto drain (Bowl assembly) components only excluding the body part.
Body part replacement is not possible.
In addition, a new line of auto drain models was recently introduced in March 2019. The previous models and the new models do not have mounting interchangeability. For details, refer to page 43-1.



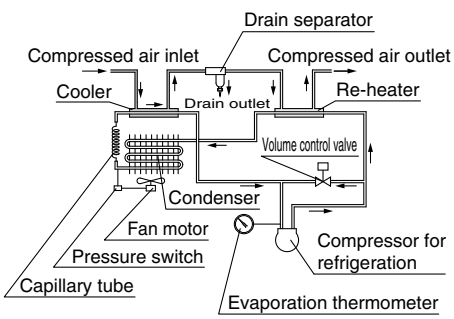

## Construction (Air/Refrigerant Circuit)

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

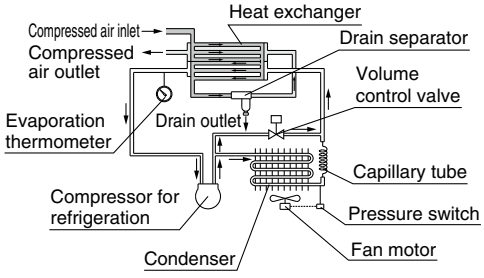
### IDF1E




### IDF2E, IDF3E

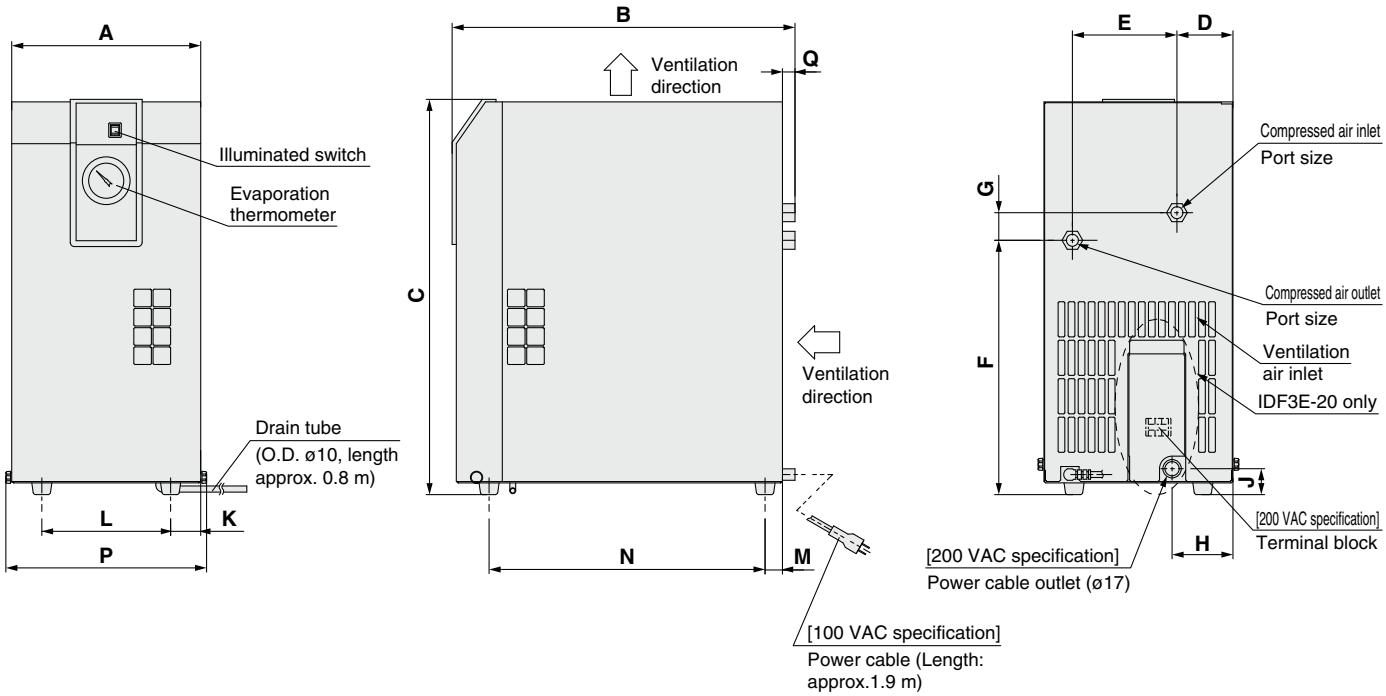



### IDF4E, IDF6E
### IDF8E, IDF11E, IDF15E1

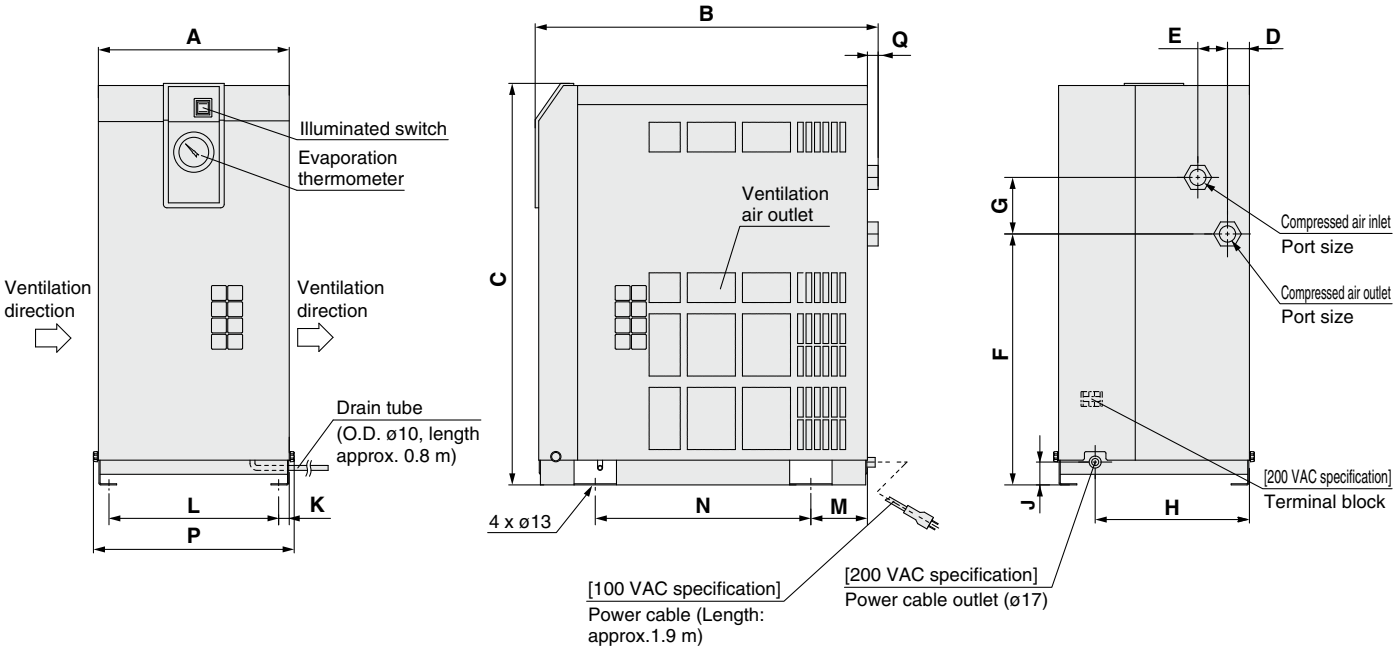


## Dimensions

### IDF1E to 3E




### IDF4E to 11E

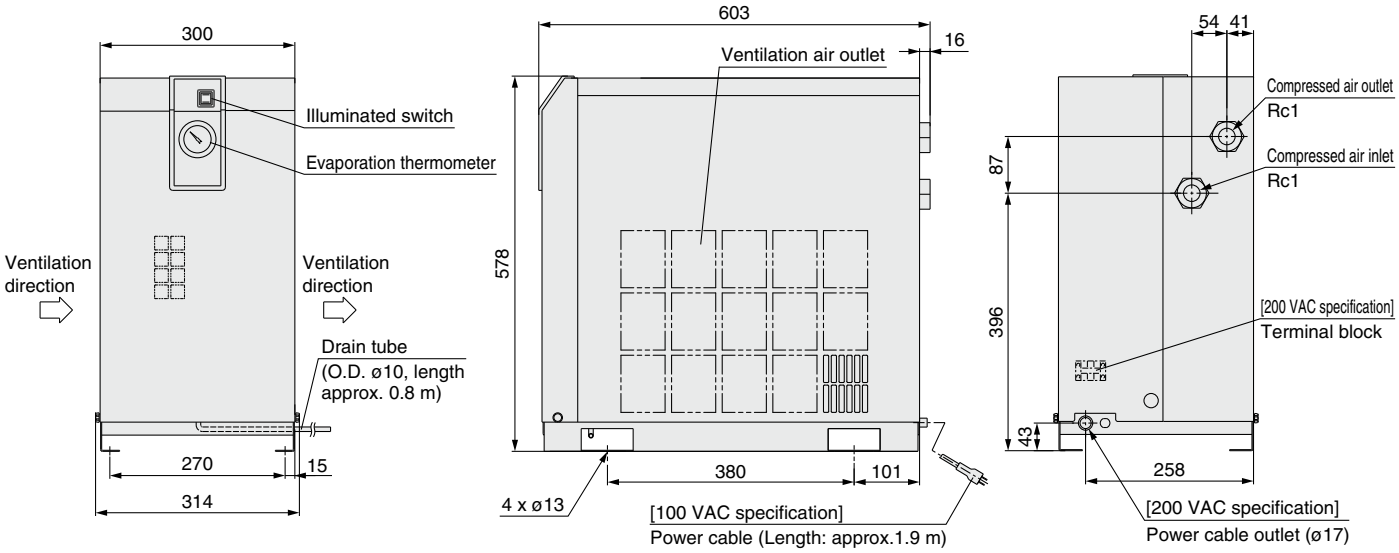



**Dimensions** [mm]

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

## Dimensions

### IDF15E1



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

## How to Order

**The IDF22E to 75E series is to be discontinued as of the end of May 2022.**

Click **here** for details.

| Discontinued products | Substitute products |
|---|---|
| IDF22E | IDF60 |
| IDF37E | IDF60 or IDF70 |
| IDF55E | IDF80 |
| IDF75E | IDF80 or IDF90 |

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

**Size**

| Symbol | Air compressor size ∗1 |
|---|---|
| **22E** | 22 kW |
| **37E** | 37 kW |
| **55E** | 55 kW |
| **75E** | 75 kW |

∗1 Note that the above values are for reference only. Check the actual compressor capacity.

**Voltage**

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

**Options**

| Symbol ∗1 / Description / Size | Nil | A | C | G | K | L | M | R | T |
|---|---|---|---|---|---|---|---|---|---|
| | None | Cool compressed air output | Anti-corrosive treatment for copper tube | With Chinese labels and a Chinese operation manual | Moderate pressure specification ∗2 (Auto drain bowl: Metal bowl with level gauge) | With a heavy-duty auto drain (applicable to moderate pressure) | With a motor type auto drain | With an earth leakage breaker | With a terminal block for power supply, operating, and error signals ∗4 |
| 22E | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 37E | ● | ● | ● | ● | ● | ● | ● | ● | ● |
| 55E | ● | ● | ● | ● | —∗3 | ● | ● | ● | ● |
| 75E | ● | ● | ● | ● | —∗3 | ● | ● | ● | ● |

∗1 When multiple options are combined, indicate symbols in alphabetical order.
However, the following combinations are not possible.
· The combination of K, L and M is not possible because an auto drain can only be attached to a single option.

∗2 The maximum operating pressure is 1.6 MPa.

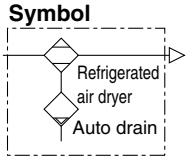
∗3 Select the Option L for the 55E and 75E which need moderate pressure.

∗4 **To users who are considering switching from the previous air dryer:**

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

∗ Refer to pages 28 to 32 for further information on options.

**Symbol**




## Standard Specifications

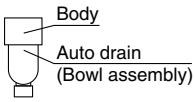
| Specifications \ Model | | | | Standard inlet air temperature | | | |
|---|---|---|---|---|---|---|---|
| | | | | **IDF22E** | **IDF37E** | **IDF55E** | **IDF75E** |
| Operating range ※3 | **Fluid** | | | Compressed air | | | |
| | **Inlet air temperature** | | **[°C]** | 5 to 50 | | | |
| | **Inlet air pressure** | | **[MPa]** | 0.15 to 1.0 | | | |
| | **Ambient temperature (Humidity)** | | **[°C]** | 2 to 40 (Relative humidity 85% or less) | | | |
| Rated conditions ※4 | **Air flow capacity [m³/min]** | Standard condition (ANR) ※1 | **50 Hz** | 3.9 | 5.7 | 8.4 | 11.0 |
| | | | **60 Hz** | 4.3 | 6.1 | 9.8 | 12.4 |
| | | Compressor intake condition ※2 | **50 Hz** | 4.1 | 6.1 | 8.9 | 11.7 |
| | | | **60 Hz** | 4.6 | 6.5 | 10.4 | 13.2 |
| | **Inlet air pressure** | | **[MPa]** | 0.7 | | | |
| | **Inlet air temperature** | | **[°C]** | 35 | | 40 | |
| | **Ambient temperature** | | **[°C]** | 32 | | | |
| | **Outlet air pressure dew point** | | **[°C]** | 10 | | | |
| | **Power supply voltage (Frequency)** ※5 | | | Single-phase/Three-phase: 200 VAC (50 Hz) ※5<br>Single-phase/Three-phase: 200/220 VAC (60 Hz) | | Three-phase: 200 VAC (50 Hz)<br>Three-phase: 200/220 VAC (60 Hz) | |
| Electric specifications | **Power consumption [W] 50/60 Hz** ※6 | | Single-phase 200 V | 810/940 | 810/940 | — | — |
| | | | Three-phase 200 V | 850/1070 | 850/1070 | 1450/1890 | 2000/2500 |
| | **Operating current [A] 50/60 Hz** ※6 | | Single-phase 200 V | 4.3/4.7 | 4.3/4.7 | — | — |
| | | | Three-phase 200 V | 3.3/3.5 | 3.3/3.5 | 6.0/6.6 | 7.2/8.0 |
| **Applicable earth leakage breaker capacity** ※7 **(Sensitivity of leak current of 30 mA)** | | | **[A]** | 10 (200 VAC) | | | 15 (200 VAC) |
| **Condenser** | | | | Air-cooled | | | |
| **Refrigerant** | | | | R407C (HFC) | | | |
| **Refrigerant charge [kg]** | | | Single-phase 200 V | 0.42 | 0.73 | — | — |
| | | | Three-phase 200 V | 0.47 | 0.83 | 0.55 | 0.72 |
| **Auto drain** | | | | Float type (Normally open) | | | |
| **Port size** | | | | R1 | R1 1/2 | R2 | |
| **Weight** | | | **[kg]** | 54 | 62 | 100 | 116 |
| **Coating color** | | | | Body panel: White 1<br>Base: Gray 2 | | | |
| **Applicable air compressor output (Reference) For screw type** | | | **[kW]** | 22 | 37 | 55 | 75 |

∗1 Air flow capacity under the standard condition (ANR) [20°C, Atmospheric pressure, and 65% Relative humidity]
∗2 Air flow capacity converted by the compressor intake condition [32°C, Atmospheric pressure, and 75% Relative humidity]
∗3 The operation range does not guarantee the use with normal air flow capacity.
∗4 Select the model in accordance with Model Selection (pages 5, 6) for models beyond the rated specifications.
∗5 When selecting a power supply voltage, refer to the How to Order on page 11.
∗6 These values are reference values under rated conditions, and are not guaranteed. Do not use these values for the thermal set values, etc.
∗7 Product other than the Option R is not equipped with an earth leakage breaker. Purchase an appropriate earth leakage breaker separately.

**Replacement Parts**

| Model | | IDF22E | IDF37E | IDF55E | IDF75E |
|---|---|---|---|---|---|
| Auto drain replacement parts no. ※8 | New | AD48-A | | | |
| | Previous | AD48 | | | |

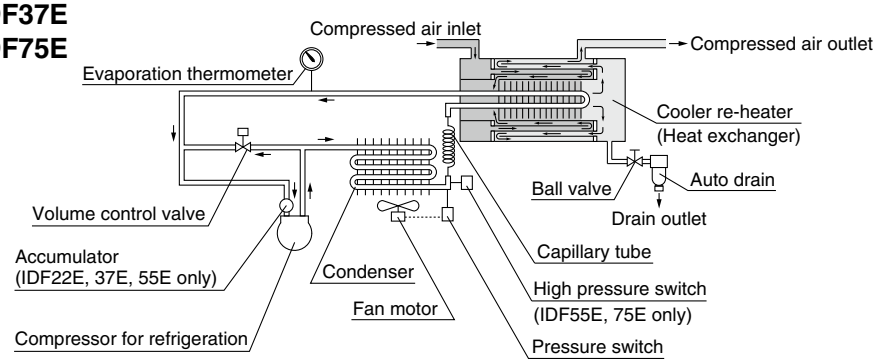
∗8 The part number for the auto drain (Bowl assembly) components only excluding the body part. Body part replacement is not possible.
In addition, a new line of auto drain models was recently introduced in either March or June 2019. The previous models and the new models do not have mounting interchangeability. For details, refer to page 43-1.




## Construction (Air/Refrigerant Circuit)

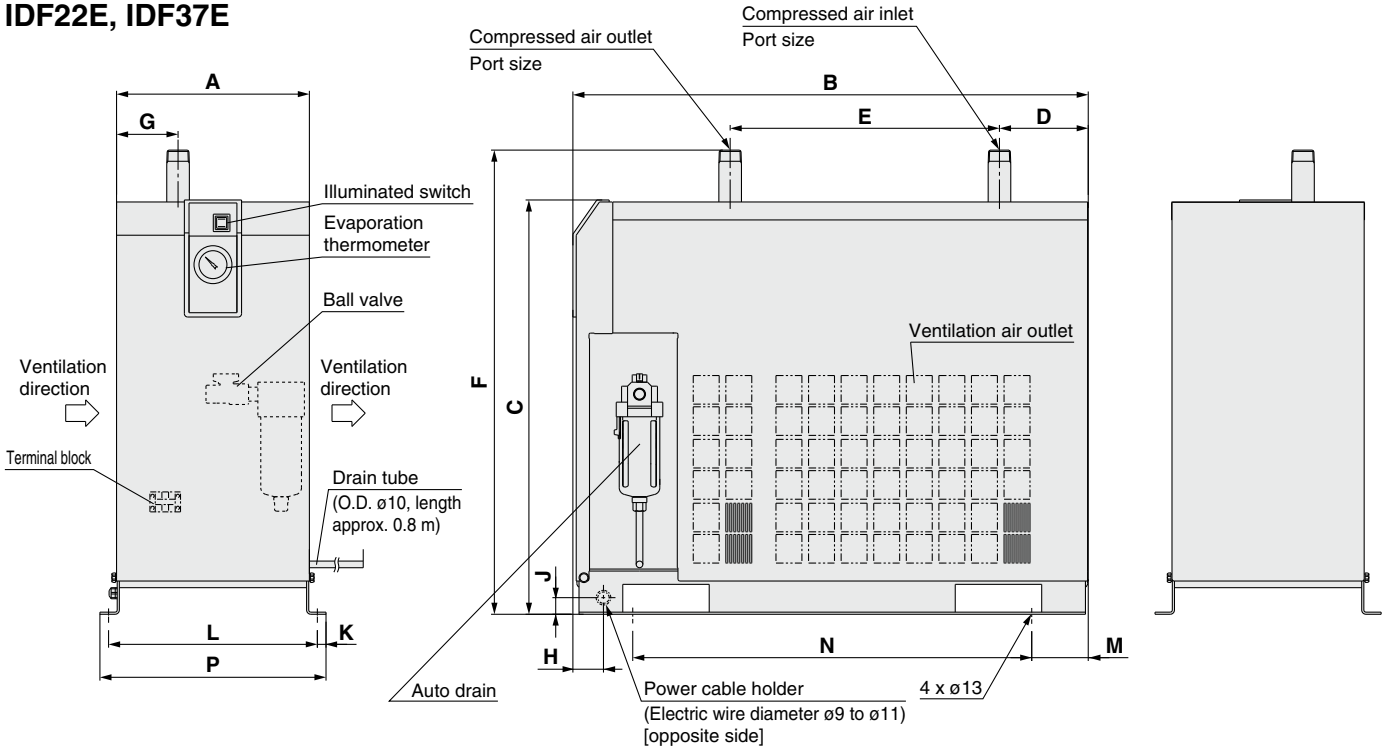
Humid, hot air coming into the air dryer will be cooled down by a cooler re-heater (heat exchanger). Water condensed at this time will be removed from the air by an auto drain and drained out automatically. Air separated from the water will be heated by a cooler re-heater (heat exchanger) to obtain the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

**IDF22E, IDF37E**
**IDF55E, IDF75E**

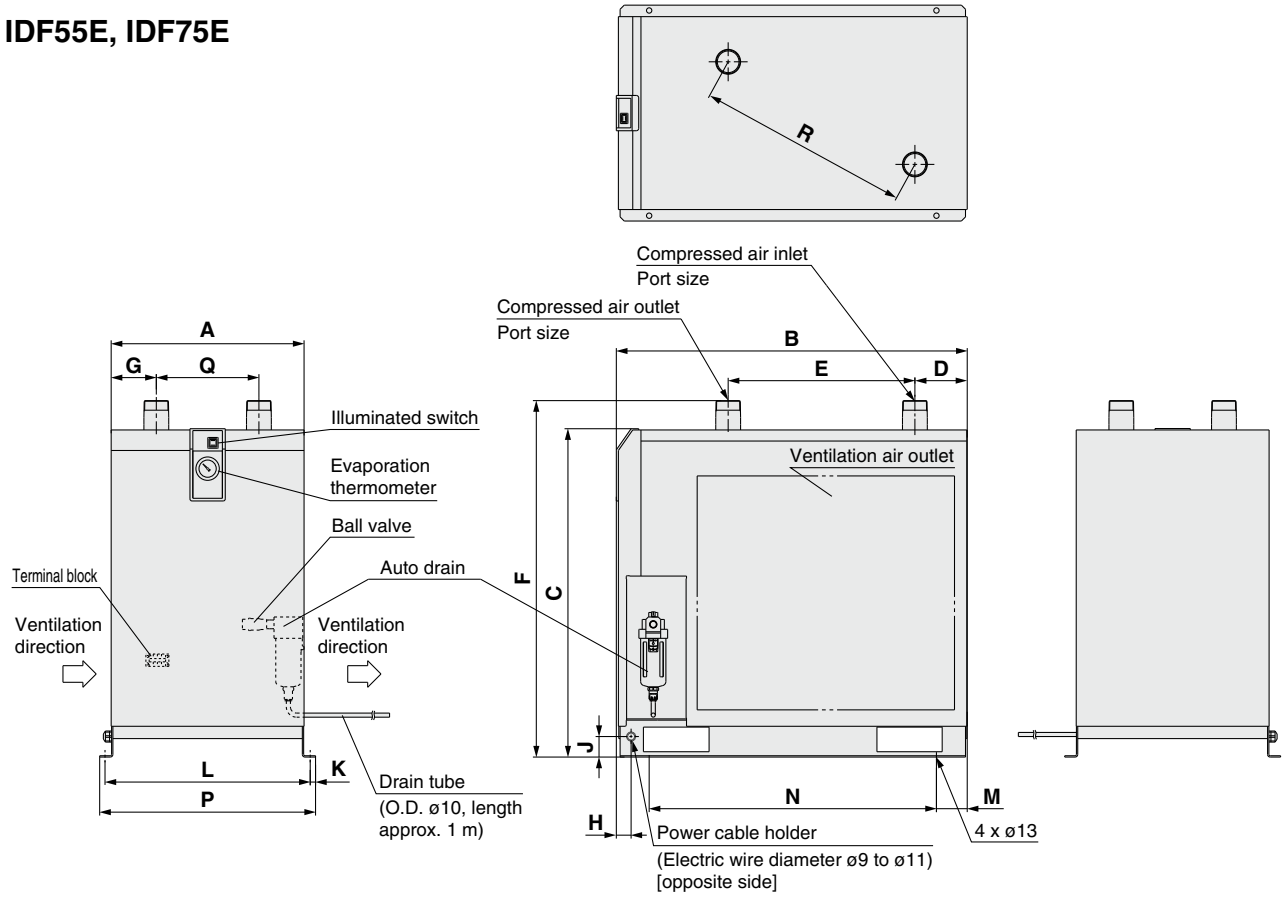


## Dimensions

### IDF22E, IDF37E




### IDF55E, IDF75E




**Dimensions** [mm]

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

# Refrigerant R407C (HFC)
# *IDF100F/125F/150F* Series
## Applicable Compressor Size: 100 kW, 125 kW, 150 kW
## (Max. inlet air temperature: 60°C, Max. ambient temperature: 45°C)

### How to Order

**Air-cooled** **IDF 100F – 30 –** | Nil / C / G / K / P / R / V | Nil / 1 / 2 / 3

**Size**

| Size | Air compressor size *1 |
|---|---|
| **100F** | 100 kW |
| **125F** | 125 kW |
| **150F** | 150 kW |

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

**Voltage**

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

**Options**

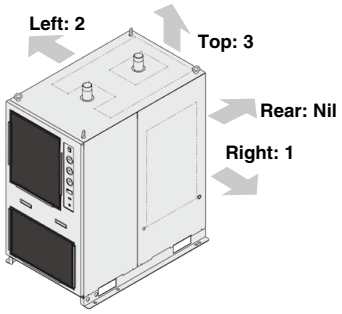
| Symbol *1 | Description |
|---|---|
| **Nil** | None |
| **C** | Anti-corrosive treatment for copper tube |
| **G** | With Chinese labels and a Chinese operation manual |
| **K** | Moderate pressure specification (Up to 1.6 MPa) |
| **P** | With a metal name plate |
| **R** | With an earth leakage breaker |
| **V** | With a timer controlled solenoid valve type auto drain |

*1 When multiple options are combined, indicate symbols in alphabetical order.
* A terminal block for remote operation, stop, operating, and error signals is included as standard equipment.
* Refer to pages 28 to 32 for further information on options.

**Heat exhausting direction**

| Symbol | Description |
|---|---|
| **Nil** | Heat exhaust from the rear |
| **1** | Heat exhaust from the right *1 |
| **2** | Heat exhaust from the left *1 |
| **3** | Heat exhaust from the top *1 |

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




**Water-cooled** **IDF 100F – 30 –** | Nil / C / G / K / P / R / V | **W** | 4 / 5

**Size**

| Size | Air compressor size *1 |
|---|---|
| **100F** | 100 kW |
| **125F** | 125 kW |
| **150F** | 150 kW |

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

**Voltage**

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

**Option**

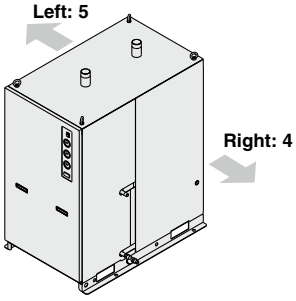
| Symbol *1 | Description |
|---|---|
| **Nil** | None |
| **C** | Anti-corrosive treatment for copper tube |
| **G** | With Chinese labels and a Chinese operation manual |
| **K** | Moderate pressure specification (Up to 1.6 MPa) |
| **P** | With a metal name plate |
| **R** | With an earth leakage breaker |
| **V** | With a timer controlled solenoid valve type auto drain |

*1 Enter alphabetically when multiple options are combined.
* A terminal block for remote operation, stop, operating, and error signals is included as standard equipment.
* Refer to pages 28 to 32 for further information on options.

**Piping direction**

| Symbol | Description |
|---|---|
| **4** | Facility water piping direction: Right *1 |
| **5** | Facility water piping direction: Left *1 |

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




**Cooling method**

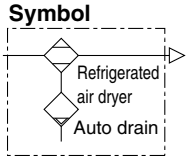
| Symbol | Cooling method |
|---|---|
| **W** | Water-cooled condenser |

## Standard Specifications: Air-cooled Type

| Specifications \ Model | | | | IDF100F-30 | IDF125F-30 | IDF150F-30 |
|---|---|---|---|---|---|---|
| Operating range ※3 | **Fluid** | | | Compressed air | | |
| | **Inlet air temperature** | | **[°C]** | 5 to 60 | | |
| | **Inlet air pressure** | | **[MPa]** | 0.15 to 1.0 | | |
| | **Ambient temperature (Humidity)** | | **[°C]** | 2 to 45 (Relative humidity 85% or less) | | |
| Rated conditions ※4 | **Air flow capacity [m³/min]** | **Standard condition (ANR)** ※1 | **50 Hz** | 16 | 20.1 | 25 |
| | | | **60 Hz** | 18.8 | 23.7 | 30 |
| | | **Compressor intake condition** ※2 | **50 Hz** | 17 | 21 | 27 |
| | | | **60 Hz** | 20 | 25 | 32 |
| | **Inlet air pressure** | | **[MPa]** | 0.7 | | |
| | **Inlet air temperature** | | **[°C]** | 40 | | |
| | **Ambient temperature** | | **[°C]** | 32 | | |
| | **Outlet air pressure dew point** | | **[°C]** | 10 | | |
| | **Exhaust heat from condenser (50/60 Hz)** | | **[kW]** | 8.0/9.0 | 10.0/11.5 | 12.0/15.0 |
| | **Air dryer outlet air temperature** | | **[°C]** | 37 | | |
| | **Power supply voltage (Frequency)** | | | Three-phase 200 VAC (50 Hz), 200/220 VAC (60 Hz) | | |
| Electric specifications | **Power consumption [kW] 50/60 Hz** ※5 | | | 2.9/3.5 | 4.0/4.7 | 4.0/4.8 |
| | **Operating current** ※5 **[A] 50/60 Hz** | | | 10.5/11.5 | 15.4/15.6 | 15.7/16.0 |
| **Applicable earth leakage capacity** ※6 **(Sensitivity of leak current of 30 mA)** | | | **[A]** | 30 | | |
| **Refrigerant** | | | | R407C (HFC) | | |
| **Refrigerant charge** | | | **[kg]** | 1.1 | 1.6 | 1.98 |
| **Auto drain** | | | | Heavy-duty auto drain (Normally open) | | |
| **Port size** | | | | R2 | JIS Flange 65A 10K | JIS Flange 80A 10K |
| **Weight** | | | **[kg]** | 245 | 270 | 350 |
| **Coating color** | | | | Body panel: White 1<br>Base: Gray 2 | | |
| **Applicable air compressor output (Reference) For screw type** | | | **[kW]** | 100 | 125 | 150 |

※1 Air flow capacity under the standard condition (ANR) [20°C, Atmospheric pressure, and 65% Relative humidity]
※2 Air flow capacity converted by the compressor intake condition [32°C, Atmospheric pressure, relative humidity 75%]
※3 The operation range does not guarantee the use with normal air flow capacity.
※4 Select the model in accordance with Model Selection (pages 5, 6) for models beyond the rated specifications.
※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. Purchase an appropriate earth leakage breaker separately.

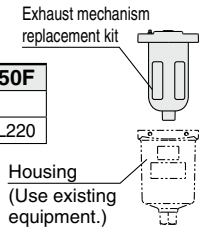
**Symbol**




**Replacement Parts**

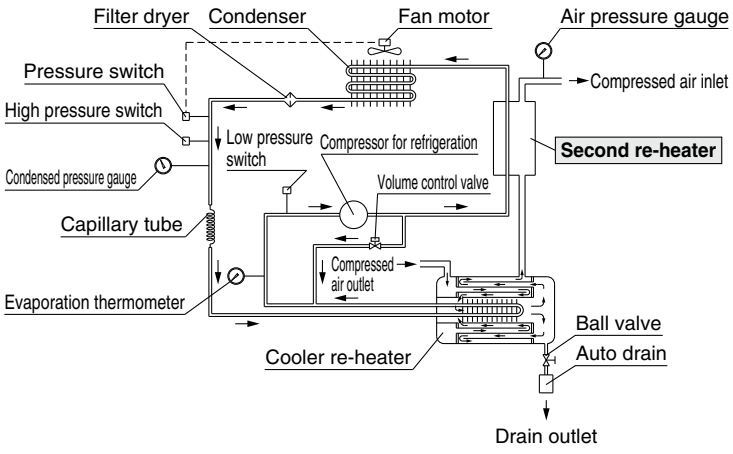
| Air dryer model | IDF100F | IDF125F | IDF150F |
|---|---|---|---|
| Heavy-duty auto drain replacement part no. ※7 | ADH-E400 | | |
| Dustproof filter set for condenser | IDF-FL219 | | IDF-FL220 |

※7 Part number of only the exhaust mechanism replacement kit excluding the housing
* A terminal block for remote operation, stop, operating, and error signal is included as standard equipment.




## Construction (Air/Refrigerant Circuit)

### IDF100F, IDF125F, IDF150F



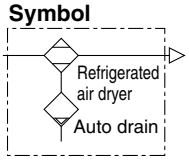

Hot and humid air entering the air dryer is cooled down by the cooler re-heater (heat exchanger). The moisture which is condensed and separated is automatically exhausted by the auto drain. The air which has had its moisture removed is heated in two stages by the re-heater (heat exchanger) in the cooler re-heater and by the second re-heater, and is supplied to the outlet side as warm and dry air.

**Second re-heater**

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

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

**Symbol**




## Standard Specifications: Water-cooled Type

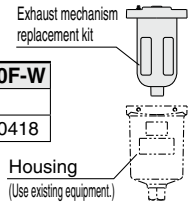
| Specifications | | | Model | IDF100F-30-W | IDF125F-30-W | IDF150F-30-W |
|---|---|---|---|---|---|---|
| Operating range *3 | Fluid | | | Compressed air | | |
| | Inlet air temperature [°C] | | | 5 to 60 | | |
| | Inlet air pressure [MPa] | | | 0.15 to 1.0 | | |
| | Ambient temperature (Humidity) [°C] | | | 2 to 45 (Relative humidity 85% or less) | | |
| Rated conditions | Air flow capacity [m³/min] | Standard condition (ANR) *1 | 50 Hz | 16 | 20.1 | 25 |
| | | | 60 Hz | 18.8 | 23.7 | 30 |
| | | Compressor intake condition *2 | 50 Hz | 17 | 21 | 27 |
| | | | 60 Hz | 20 | 25 | 32 |
| | Inlet air pressure [MPa] | | | 0.7 | | |
| | Inlet air temperature [°C] | | | 40 | | |
| | Ambient temperature [°C] | | | 32 | | |
| | Outlet air pressure dew point [°C] | | | 10 | | |
| | Air dryer outlet air temperature [°C] | | | 37 | | |
| | Facility water flow rate *4 (50/60 Hz) [m³/h] | | | 1.29/1.56 | 1.74/1.98 | 2.16/2.52 |
| | Facility water inlet temperature [°C] | | | 32 | | |
| | Facility water pressure drop *5 (50/60 Hz) [MPa] | | | 0.07/0.1 | | |
| | Cooling tower capacity *6 [kW(RT)] | | | 9 (2) | 11.5 (2.5) | 14.5 (3.2) |
| | Recommended chiller model *6 (made by SMC) | | | HRS100-A | HRS150-A | |
| Electric specifications | Power supply voltage (Frequency) | | | Three-phase 200 VAC (50 Hz), 200/220 VAC (60 Hz) | | |
| | Power consumption [kW] 50/60 Hz *7 | | | 2.4/2.8 | 2.4/2.8 | 2.8/3.3 |
| | Operating current [A] 50/60 Hz *7 | | | 8.5/9.0 | 8.5/9.0 | 10.2/11.5 |
| Facility water pressure range [MPa] | | | | 0.2 to 0.98 | | |
| Required facility water flow rate (50/60 Hz) [m³/h] | | | | 1.29/1.56 | 1.74/1.98 | 2.16/2.52 |
| Facility water inlet temperature range [°C] | | | | 5 to 40 | | |
| Facility water port size | | | | R1/2 | | R3/4 |
| Facility water amount adjusting equipment | | | | Pressure type water regulating valve | | |
| Condenser | | | | Plate type | | |
| Applicable earth leakage capacity *8 (Sensitivity of leak current of 30 mA) [A] | | | | 20 | | 30 |
| Refrigerant | | | | R407C (HFC) | | |
| Refrigerant charge [kg] | | | | 0.9 | 1.2 | 1.5 |
| Auto drain | | | | Heavy-duty auto drain (Normally open) | | |
| Port size | | | | R2 | JIS Flange 65A 10K | JIS Flange 80A 10K |
| Weight [kg] | | | | 226 | 250 | 322 |
| Coating color | | | | Body panel: White 1 Base: Gray 2 | | |
| Applicable air compressor output (Reference) For screw type [kW] | | | | 100 | 125 | 150 |

*1 Air flow capacity under the standard condition (ANR) [20°C, Atmospheric pressure, and 65% Relative humidity]
*2 Air flow capacity converted by the compressor intake condition [32°C, Atmospheric pressure, relative humidity 75%]
*3 The operation range does not guarantee the use with normal air flow capacity. Select the model in accordance with Model Selection (pages 5, 6) for models beyond the rated specifications.
*4 The facility water flow rate that satisfies the rated conditions with a facility water inlet temperature of 32°C and an output temperature of 37°C (⊿t = 5°C)
*5 These values are obtained under rated conditions with a rated facility water flow rate and a facility water inlet pressure of 0.2 MPa.
*6 These values are obtained under rated conditions (1 RT = 4.535 kW).
*7 These values are reference values under rated conditions, and are not guaranteed. Do not use these values for the thermal set values, etc.
*8 Product other than the Option R is not equipped with an earth leakage breaker. Purchase an appropriate earth leakage breaker separately.

**Replacement Parts**

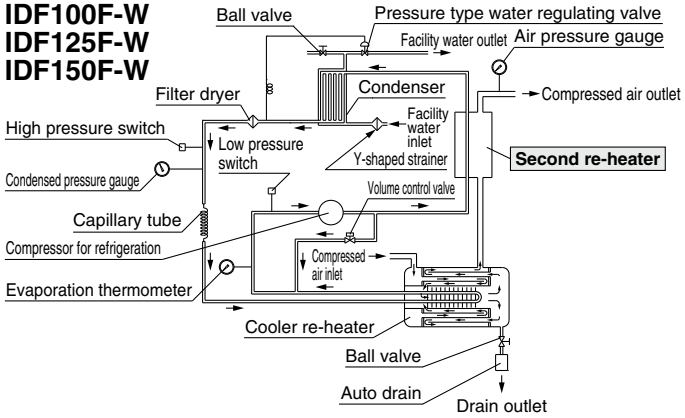
| Air dryer model | IDF100F-W | IDF125F-W | IDF150F-W |
|---|---|---|---|
| Heavy-duty auto drain replacement part no. *9 | ADH-E400 | | |
| Facility water piping strainer | IDF-S0406 | | IDF-S0418 |

*9 Part number of only the exhaust mechanism replacement kit excluding the housing
* A terminal block for remote operation, stop, operating, and error signal is included as standard equipment.




## Construction (Air/Refrigerant Circuit)

**IDF100F-W**
**IDF125F-W**
**IDF150F-W**




Hot and humid air entering the air dryer is cooled down by the cooler re-heater (heat exchanger). The moisture which is condensed and separated is automatically exhausted by the auto drain. The air which has had its moisture removed is heated in two stages by the re-heater (heat exchanger) in the cooler re-heater and by the second re-heater, and is supplied to the outlet side as warm and dry air.

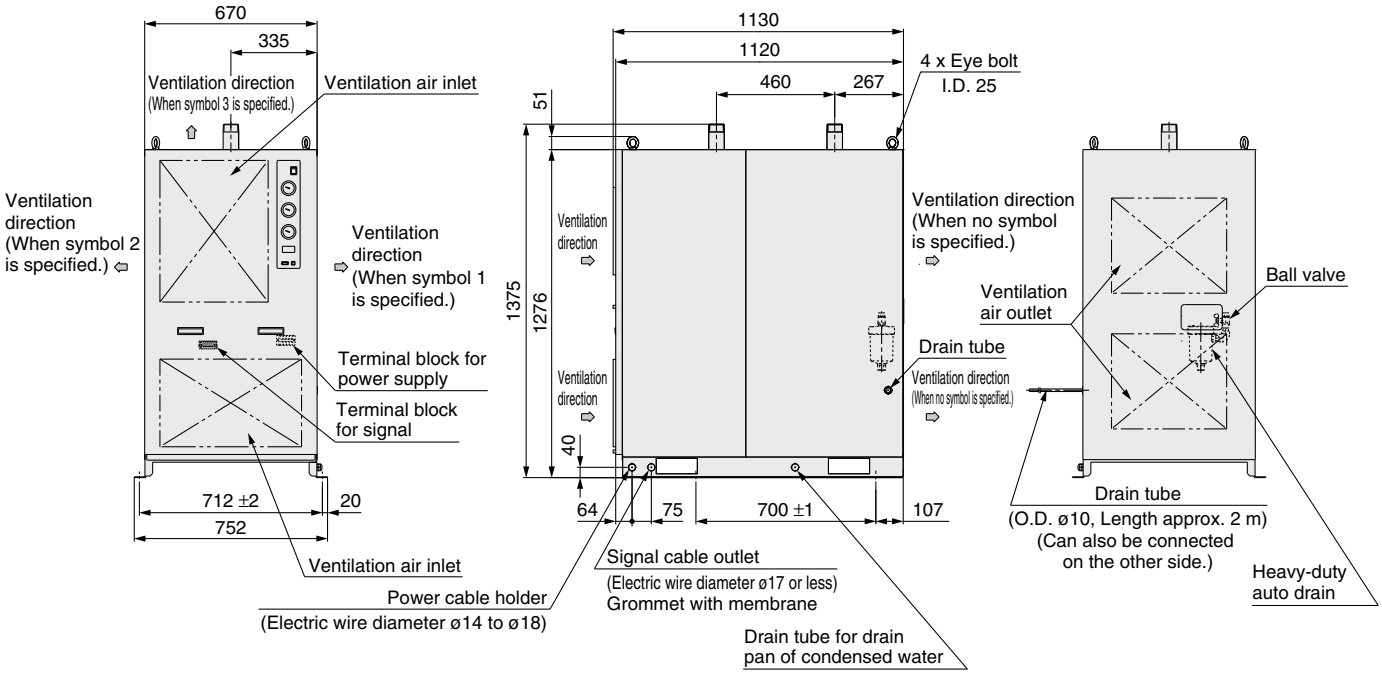
### Second re-heater

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

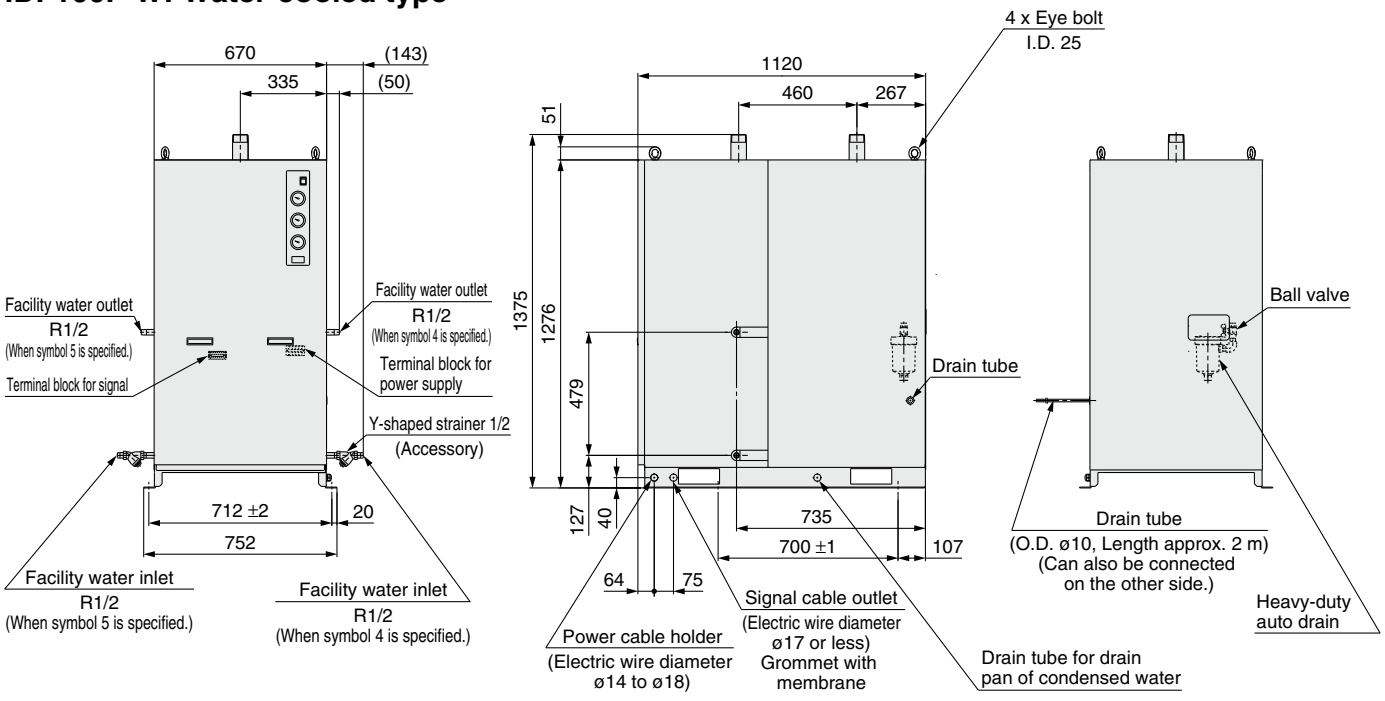
1. The outlet air temperature increases, preventing condensation of the piping on the outlet side.
2. The amount of heat exhausted from the condenser is reduced.
3. Energy saving operation of the air dryer is achieved by reducing the amount of heat exhausted from the condenser.

## Dimensions

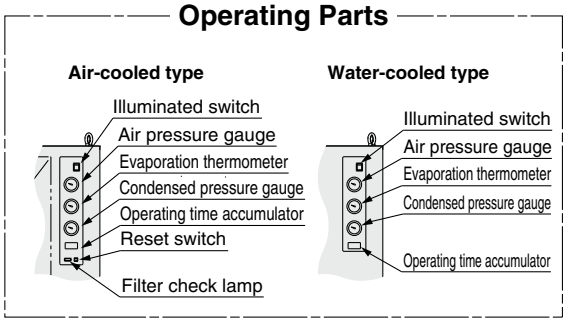
### IDF100F: Air-cooled type



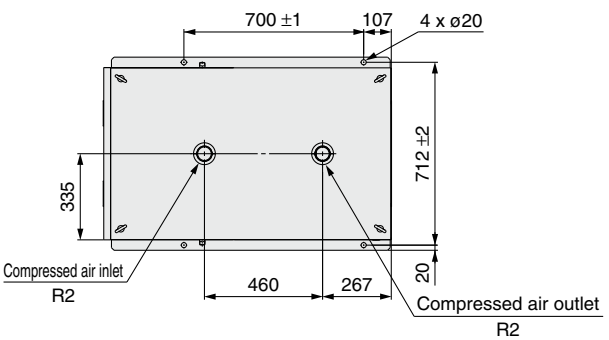

### IDF100F-W: Water-cooled type




### Operating Parts

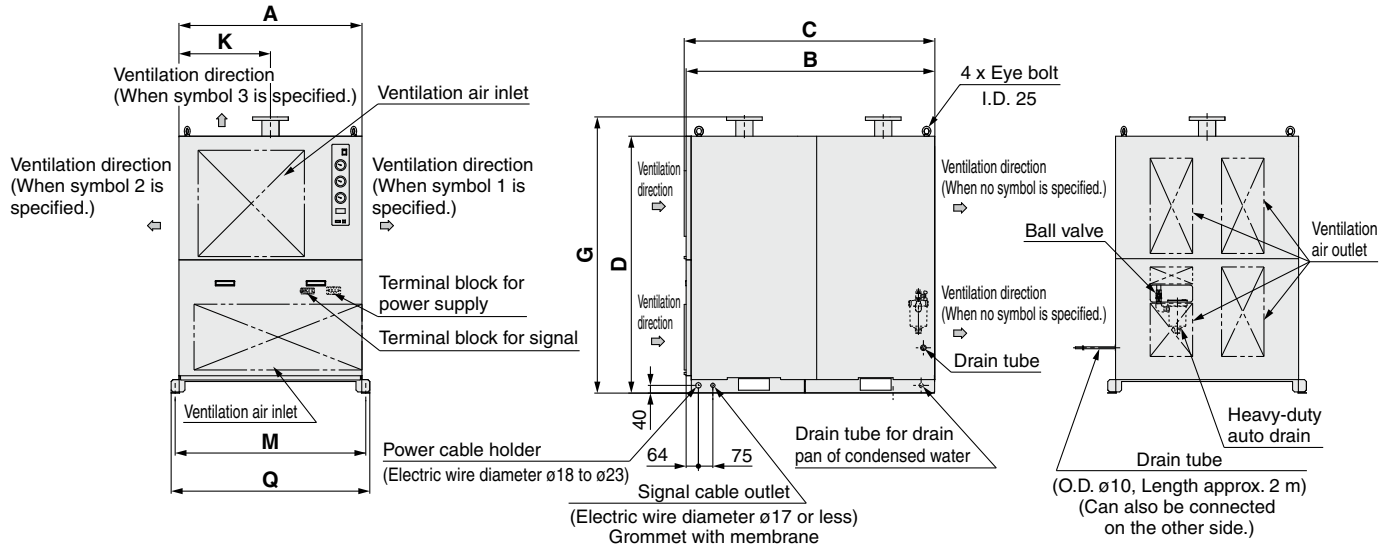



**Top view (Air-cooled/Water-cooled)**

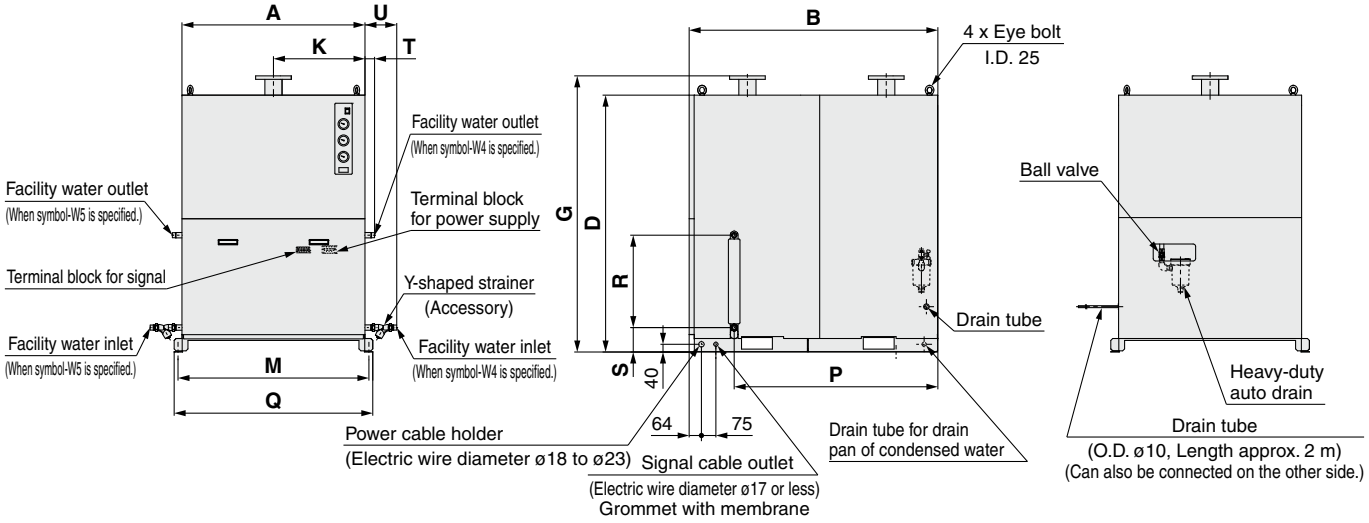


## Dimensions

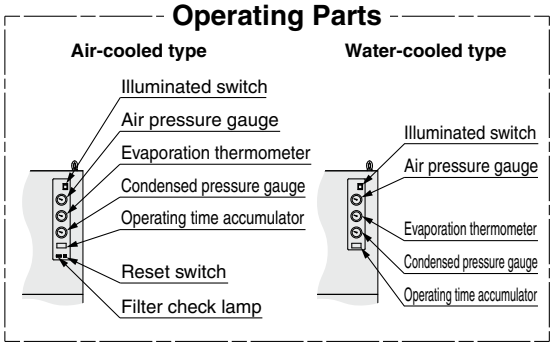
### IDF125F/150F: Air-cooled type

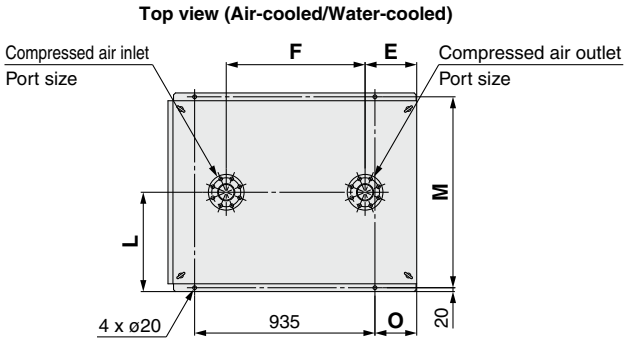



### IDF125F-W/150F-W: Water-cooled type




### Operating Parts




### Dimensions

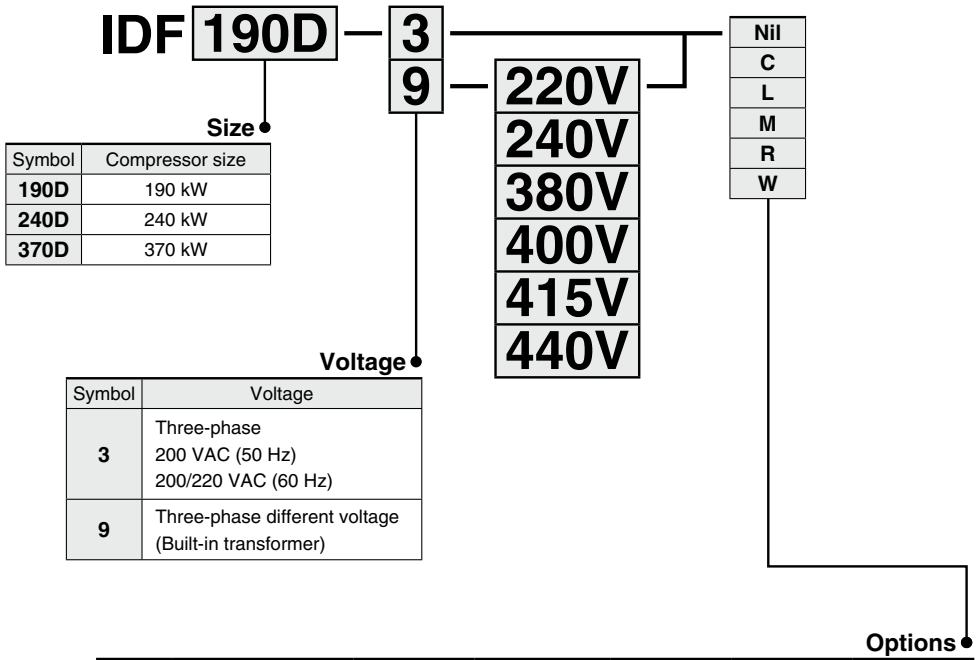
[mm]

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

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

## How to Order

**Refrigerant R407C**
### IDF190D to IDF370D




| Symbol | Compressor size |
|---|---|
| **190D** | 190 kW |
| **240D** | 240 kW |
| **370D** | 370 kW |

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

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

∗1 When multiple options are combined, indicate symbols in alphabetical order.
∗2 Purchase an appropriate earth leakage breaker suitable for the inlet voltage separately.
∗ Refer to pages 28 to 33 for further information on options.
∗ The standard type (Nil) is equipped with a terminal block for remote operation, stop, operating, and error signals.

## Standard Specifications

| Specifications \ Model | | | | Standard inlet air temperature | | |
|---|---|---|---|---|---|---|
| | | | | **IDF190D** | **IDF240D** | **IDF370D** |
| Operating range *3 | **Fluid** | | | Compressed air | | |
| | **Inlet air temperature** | | **[°C]** | 5 to 50 | | |
| | **Inlet air pressure** | | **[MPa]** | 0.15 to 0.97 | | |
| | **Ambient temperature (Humidity)** | | **[°C]** | 2 to 40 (Relative humidity 85% or less) | | 2 to 43 (Relative humidity 85% or less) |
| Rated conditions *4 | **Air flow capacity [m³/min]** | Standard condition (ANR) *1 | **50 Hz** | 32 | 43 | 54 |
| | | | **60 Hz** | 38 | 50 | 65 |
| | | Compressor intake condition *2 | **50 Hz** | 34 | 46 | 57 |
| | | | **60 Hz** | 40 | 53 | 69 |
| | **Inlet air pressure** | | **[MPa]** | 0.7 | | |
| | **Inlet air temperature** | | **[°C]** | 40 | | 35 |
| | **Ambient temperature** | | **[°C]** | 32 | | — |
| | **Outlet air pressure dew point** | | **[°C]** | 10 | | |
| | **Power supply voltage (Frequency)** *5 | | | Three-phase: 200 VAC (50 Hz), 200/220 VAC (60 Hz) | | Three-phase: 200 VAC (50/60 Hz) |
| Electric specifications | Power consumption 50/60 Hz *6 | | **[kW]** | Three-phase 200 V | 4.9 | 6.3 | 11.6 |
| | | | | | 5.9 | 7.6 | 11.6 |
| | Operating current 50/60 Hz *6 | | **[A]** | Three-phase 200 V | 19.5 | 26.1 | 36.5 |
| | | | | | 20.1 | 26.4 | 36.5 |
| **Applicable earth leakage capacity (Sensitivity of leak current of 30 mA)** | | | **[A]** | 50 | | |
| **Condenser** | | | | Air-cooled | | Water-cooled |
| **Air re-heater/Air cooler** | | | | Class 2 pressure vessel | | |
| **Refrigerant** | | | | R407C (HFC) | | |
| **Refrigerant charge** | | | **[kg]** | 2.48 | 4.5 | 11.0 |
| **Auto drain** | | | | ADH4000-04 | | ADM200-042-8 |
| **Port size** *8 | | | | 80 (3B) Flange | 100 (4B) Flange | 150 (6B) Flange |
| **Weight** | | | **[kg]** | 450 | 660 | 1100 |
| **Coating color** | | | | Body panel: White<br>Base: Black | | Operating panel: Sky blue<br>Other panel (except base): White |
| **Applicable air compressor output (Reference) For screw type** | | | **[kW]** | 190 | 240 | 370 |

∗1 Air flow capacity under the standard condition (ANR) [20°C, Atmospheric pressure, and 65% Relative humidity]
∗2 Air flow capacity converted by the compressor intake condition [32°C, Atmospheric pressure, and 75% Relative humidity]
∗3 The operation range does not guarantee the use with normal air flow capacity.
∗4 Select the model in accordance with Model Selection (pages 5, 6) for models beyond the rated specifications.
∗5 When selecting a power supply voltage, refer to the How to Order on page 19.
∗6 These values are reference values under rated conditions, and are not guaranteed. Do not use these values for the thermal set values, etc.
∗7 Product other than the Option R is not equipped with an earth leakage breaker. Purchase an appropriate earth leakage breaker separately.
∗8 JIS 10K FF is used as a flange.

## Water-cooled Condenser (IDF370D)

| Condenser | Shell and tube type |
|---|---|
| **Cooling water flow rate** *1 | 6 m³/h |
| **Cooling tower performance** *2 | 10 RT |
| **Water flow regulator** | Pressure type automatic water supply valve |
| **Port size for water side** | 1 1/4 union |

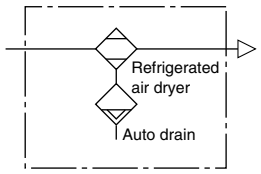
∗1 Value with rated load when cooling water inlet temperature is 32°C.
∗2 Calculated at 1 RT = 4.535 kW

## Motor Type Auto Drain

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

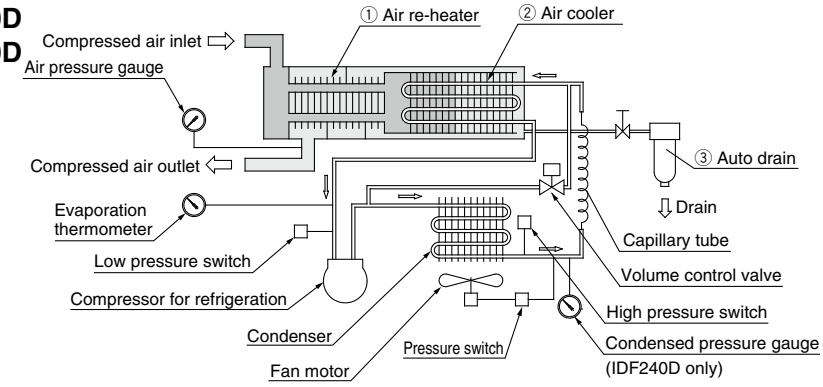
| | |
|---|---|
| **Power supply** | 200 VAC 50/60 Hz |
| **Power consumption** | 4 W |

**Symbol**

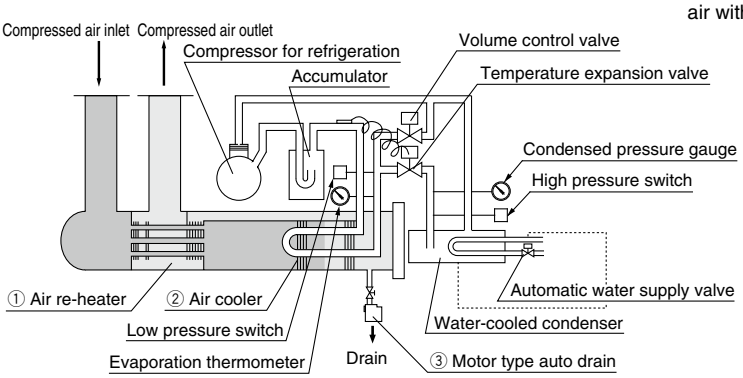



## Construction (Air/Refrigerant Circuit)

**IDF190D**
**IDF240D**




**IDF370D**

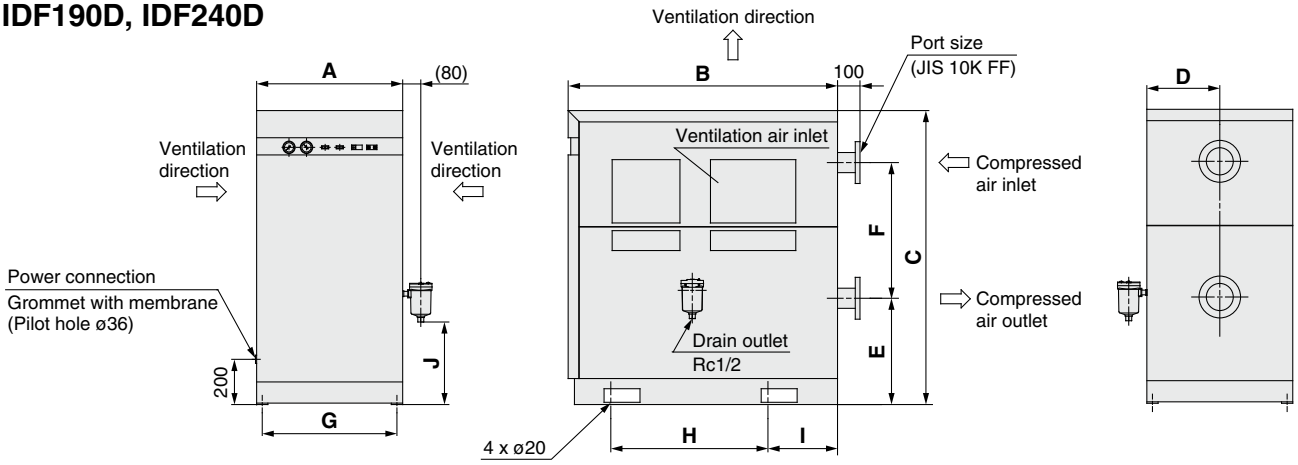



High temperature humid air from the air compressor passes through the air re-heater ① and is pre-cooled by dehumidified cool air. Then, it is cooled to the specified temperature by the air cooler ② using the evaporation heat of refrigerant.

At this time, the oil mist and moisture generated by condensation are automatically exhausted by the auto drain ③. The cooled and dehumidified air goes back to the air re-heater ① and heat is exchanged with hot air that flows into the air re-heater. It is supplied as dry warm air without "sweating" in the piping system.

## Dimensions

### IDF190D, IDF240D

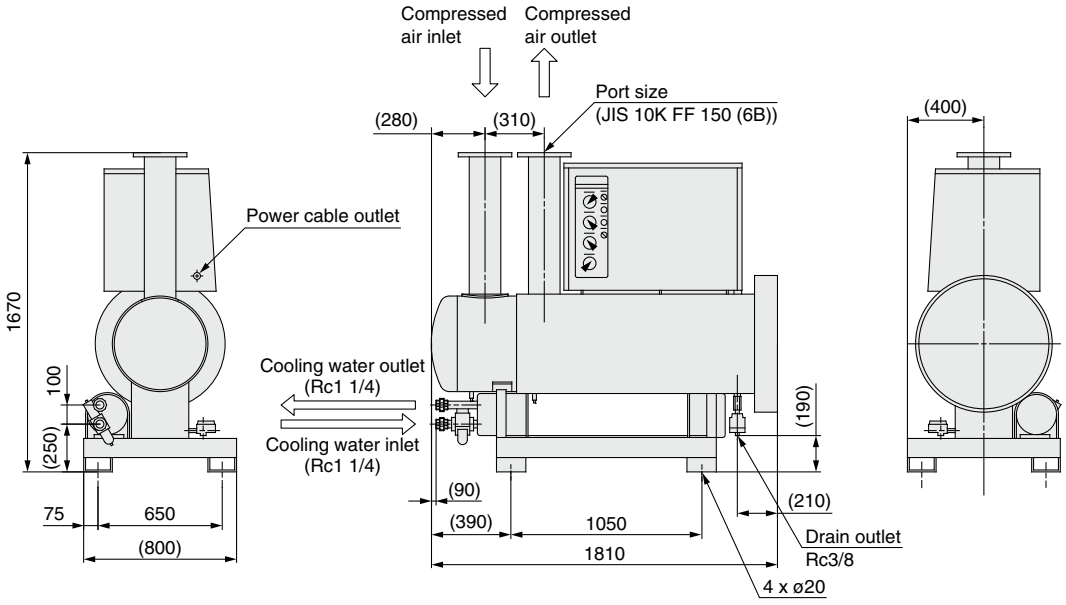



[mm]

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

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

### IDF370D



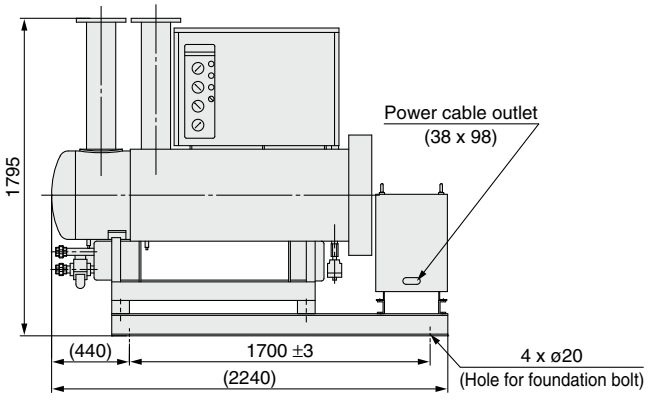

## Power Transformer Integrated Type

### IDF370D

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

### IDF190D to 240D

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



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



### How to Order

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

**Size**

| Symbol | Air compressor size ∗1 |
|---|---|
| **3E** | 2.2 kW |
| **4E** | 3.7 kW |
| **6E** | 5.5 kW |
| **8E** | 7.5 kW |
| **11E** | 11 kW |
| **15E1** | 15 kW |

∗1 Note that the above values are for reference only. Check the actual compressor capacity.

**Voltage**

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

**Options**

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

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

∗2 The maximum operating pressure is 1.6 MPa.

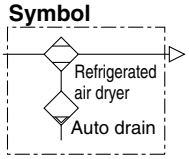
∗3 Voltage symbol 20 (200 VAC) and 23 (230 VAC) are the terminal block connection as standard. The Option S cannot be chosen.
Voltage symbol 10 (100 VAC) is the power cable with plug as standard.

∗4 **To users who are considering switching from the previous air dryer:**

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

∗ Refer to pages 28 to 32 for further information on options.

**Symbol**




## Standard Specifications

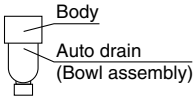
| Specifications \ Model | | | | High inlet air temperature | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | IDU3E | IDU4E | IDU6E | IDU8E | IDU11E | IDU15E1 |
| Operating range *3 | Fluid | | | Compressed air | | | | | |
| | Inlet air temperature [°C] | | | 5 to 80 | | | | | |
| | Inlet air pressure [MPa] | | | 0.15 to 1.0 | | | | | |
| | Ambient temperature (Humidity) [°C] | | | 2 to 40 (Relative humidity 85% or less) | | | | | |
| Rated conditions *4 | Air flow capacity [m³/min] | Standard condition (ANR) *1 | 50 Hz | 0.32 | 0.52 | 0.75 | 1.1 | 1.5 | 2.6 |
| | | | 60 Hz | 0.37 | 0.57 | 0.82 | 1.2 | 1.7 | 2.8 |
| | | Compressor intake condition *2 | 50 Hz | 0.34 | 0.55 | 0.8 | 1.2 | 1.6 | 2.8 |
| | | | 60 Hz | 0.39 | 0.61 | 0.87 | 1.3 | 1.8 | 3.0 |
| | Inlet air pressure [MPa] | | | 0.7 | | | | | |
| | Inlet air temperature [°C] | | | 55 | | | | | |
| | Ambient temperature [°C] | | | 32 | | | | | |
| | Outlet air pressure dew point [°C] | | | 10 | | | | | |
| | Power supply voltage (Frequency) *5 | | | Single-phase: 100 VAC (50 Hz), 100/110 VAC (60 Hz) *5<br>Single-phase: 200 VAC (50 Hz), 200/220 VAC (60 Hz)<br>Single-phase: 230 VAC ±10% (50 Hz) | | | | | |
| Electric specifications | Power consumption [W] 50/60 Hz *6 | Single-phase 100 V | | 180/202 | 208/236 | 385/440 | 250/290 *7 | 425/470 *7 | 460/530 *7 |
| | | Single-phase 200 V | | | | | | | |
| | | Single-phase 230 V (50 Hz) | | 210 | 220 | 400 | 260 | 425 | 450 |
| | Operating current [A] 50/60 Hz *6 | 100 V | | 2.4/2.5 | 3.0/3.1 | 5.7/5.7 | 3.4/3.5 | 5.7/6.0 | 4.6/4.9 |
| | | 200 V | | 1.2/1.3 | 1.5/1.5 | 3.4/3.0 | 1.7/1.7 | 3.5/3.2 | 3.6/3.4 |
| | | 230 V (50 Hz) | | 1.5 | 1.6 | 2.9 | 1.7 | 3.0 | 3.2 |
| Applicable earth leakage breaker capacity *8 (Sensitivity of leak current of 30 mA) [A] | | | | 10 (100 VAC), 5 (200 VAC, 230 VAC) | | | | | 10 (100 VAC)<br>10 (200 VAC) |
| Refrigerant | | | | R134a (HFC) | | | | | |
| Refrigerant charge [kg] | | Single-phase 100 V | | 0.2 | 0.25 | 0.26 | 0.28 | 0.29 | 0.35 |
| | | Single-phase 200 V | | 0.2 | 0.25 | 0.26 | 0.28 | 0.29 | 0.35 |
| | | Single-phase 230 V | | 0.23 | 0.27 | 0.29 | 0.28 | 0.29 | 0.35 |
| Auto drain | | | | Float type (Normally open) | | | | | |
| Port size | | | | Rc3/8 | Rc1/2 | Rc3/4 | | | Rc1 |
| Weight [kg] | | | | 23 | 27 | 28 | 44 | 47 | 71 |
| Coating color | | | | Body panel: White 1<br>Base: Gray 2 | | | | | |
| Applicable air compressor output (Reference) For screw type [kW] | | | | 2.2 | 3.7 | 5.5 | 7.5 | 11 | 15 |

*1 Air flow capacity under the standard condition (ANR) [20°C, Atmospheric pressure, and 65% Relative humidity]
*2 Air flow capacity converted by the compressor intake condition [32°C, Atmospheric pressure, and 75% Relative humidity]
*3 The operation range does not guarantee the use with normal air flow capacity.
*4 Select the model in accordance with Model Selection (pages 5, 6) for models beyond the rated specifications.
*5 When selecting a power supply voltage, refer to the How to Order on page 22.
*6 These values are reference values under rated conditions, and are not guaranteed. Do not use these values for the thermal set values, etc.
*7 For the IDU8E or larger models, cooling with the aftercooler helps save energy.
*8 Product other than the Option R is not equipped with an earth leakage breaker. Purchase an appropriate earth leakage breaker separately.

**Replacement Parts**

| Model | | IDU3E | IDU4E | IDU6E | IDU8E | IDU11E | IDU15E1 |
|---|---|---|---|---|---|---|---|
| Auto drain replacement parts no. *9 | New | AD48-A | | | | | |
| | Previous | AD48 | | | | | |

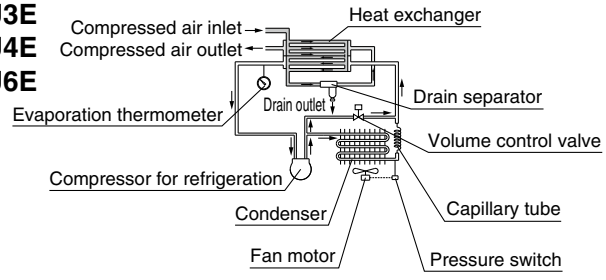
*9 The part number for the auto drain (Bowl assembly) components only excluding the body part. Body part replacement is not possible.
In addition, a new line of auto drain models was recently introduced in March 2019. The previous models and the new models do not have mounting interchangeability. For details, refer to page 43-1.



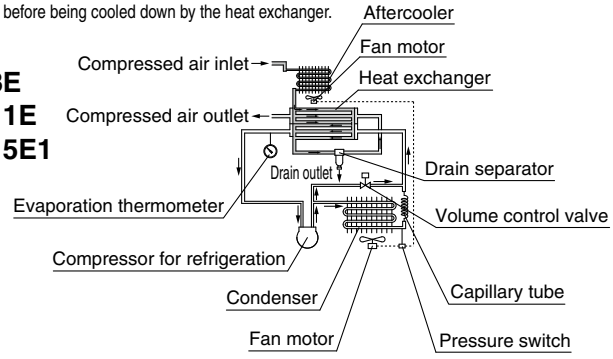

## Construction (Air/Refrigerant Circuit)

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

**IDU3E**
**IDU4E**
**IDU6E**

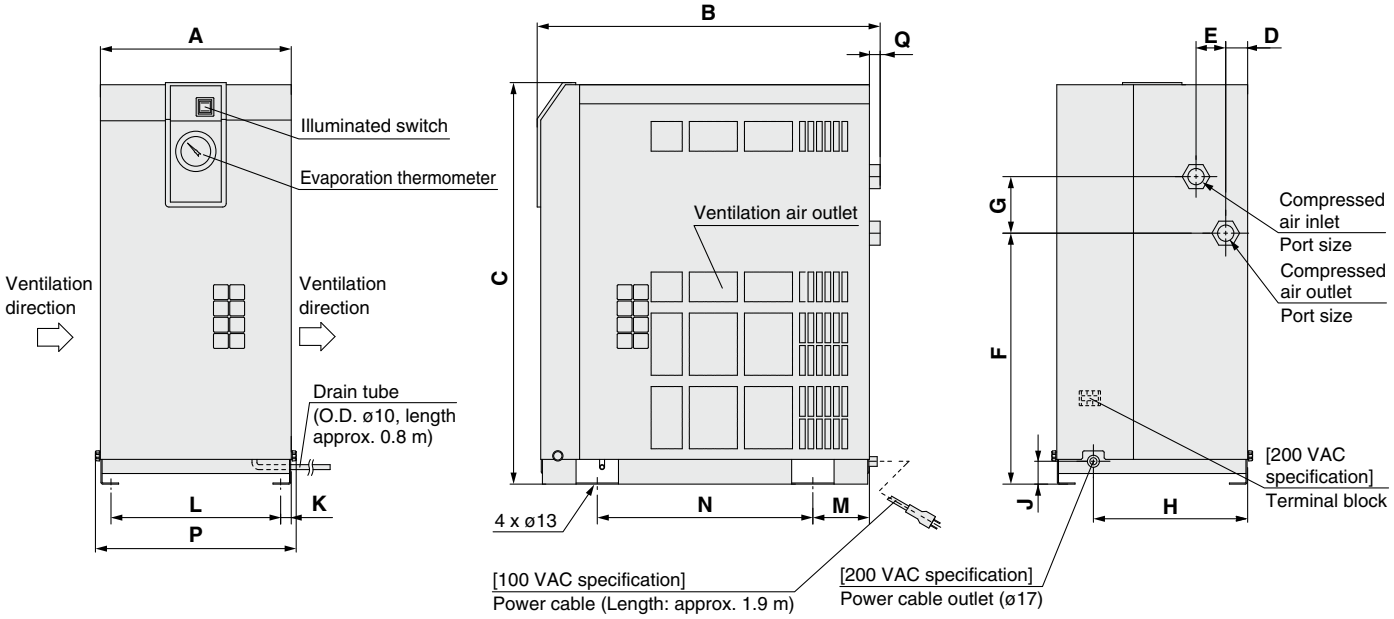



**IDU8E**
**IDU11E**
**IDU15E1**



## Dimensions

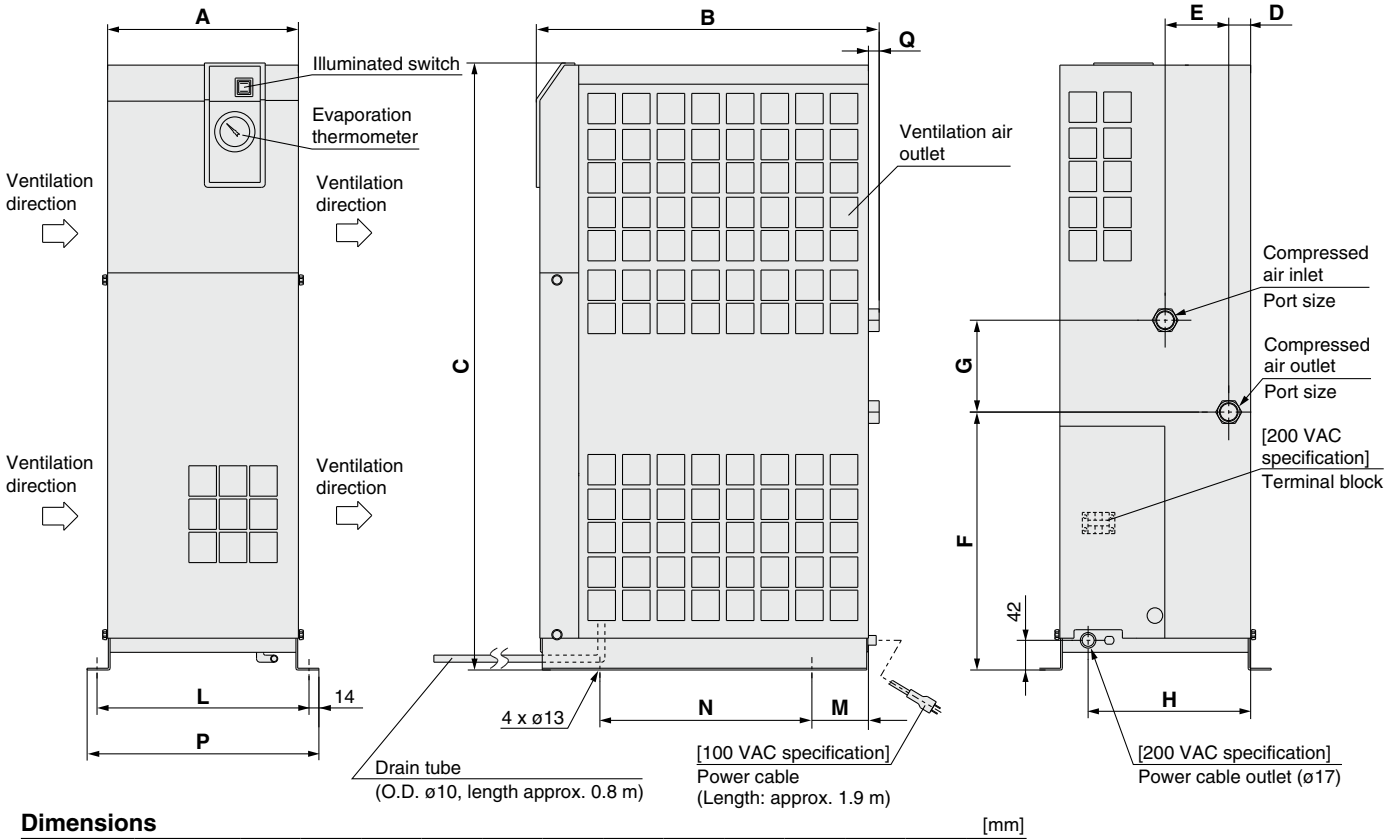
### IDU3E to IDU6E




**Dimensions** [mm]

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

### IDU8E to IDU15E1




**Dimensions** [mm]

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

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

## How to Order

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

**Size**

| Symbol | Air compressor size ∗1 |
|---|---|
| **22E** | 22 kW |
| **37E** | 37 kW |
| **55E** | 55 kW |
| **75E** | 75 kW |

∗1 Note that the above values are for reference only. Check the actual compressor capacity.

**Voltage**

| Symbol | Voltage |
|---|---|
| **23** | Single-phase<br>230 VAC (50 Hz) |
| **30** | Three-phase<br>200 VAC (50 Hz)<br>200/220 VAC (60 Hz) |

**Options**

| Symbol ∗1 / Description / Size | Nil<br>None | C<br>Anti-corrosive treatment for copper tube | G<br>With Chinese labels and a Chinese operation manual | L<br>With a heavy-duty auto drain (applicable to moderate pressure ∗2) | M<br>With a motor type auto drain (Voltage symbol 30 only) | R<br>With an earth leakage breaker | T<br>With a terminal block for power supply, operating, and error signals ∗3 | V<br>With a timer controlled solenoid valve type auto drain (Voltage symbol 23 only) (applicable to moderate pressure ∗2) |
|---|---|---|---|---|---|---|---|---|
| 22E | ● | ● | ● | ● | ● | ● | ● | ● |
| 37E | ● | ● | ● | ● | ● | ● | ● | ● |
| 55E | ● | ● | ● | ● | ● | ● | ● | ● |
| 75E | ● | ● | ● | ● | ● | ● | ● | ● |

∗1 When multiple options are combined, indicate symbols in alphabetical order.
However, the following combinations are not possible.
· The combination of L, M and V is not possible because an auto drain can only be attached to a single option.

∗2 The maximum operating pressure is 1.6 MPa.

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

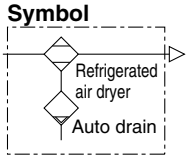
**When switching from the previous air dryer and remote operation are required, select the Made to Order (IDU□E-□-X256) product.**

∗ Refer to pages 28 to 32 for further information on options.

## Standard Specifications

| Specifications \ Model | | | | High inlet air temperature | | | |
|---|---|---|---|---|---|---|---|
| | | | | IDU22E | IDU37E | IDU55E | IDU75E |
| Operating range ∗3 | Fluid | | | Compressed air | | | |
| | Inlet air temperature [°C] | | | 5 to 80 | | | |
| | Inlet air pressure [MPa] | | | 0.15 to 1.0 | | | |
| | Ambient temperature (Humidity) [°C] | | | 2 to 40 (Relative humidity 85% or less) | | | |
| Rated conditions ∗4 | Air flow capacity [m³/min] | Standard condition (ANR) ∗1 | 50 Hz | 3.9 | 5.7 | 8.4 | 11.0 |
| | | | 60 Hz | 4.3 | 6.1 | 9.8 | 12.5 |
| | | Compressor intake condition ∗2 | 50 Hz | 4.1 | 6.1 | 8.9 | 11.7 |
| | | | 60 Hz | 4.6 | 6.5 | 10.4 | 13.3 |
| | Inlet air pressure [MPa] | | | 0.7 | | | |
| | Inlet air temperature [°C] | | | 55 | | | |
| | Ambient temperature [°C] | | | 32 | | | |
| | Outlet air pressure dew point [°C] | | | 10 | | | |
| | Power supply voltage (Frequency) | | | Single-phase: 230 VAC ±10% (50 Hz)<br>Three-phase: 200 VAC (50 Hz)<br>Three-phase: 200/220 VAC (60 Hz) | | | |
| Electric specifications | Power consumption 50/60 Hz ∗5 [W] | | Three-phase 200 V | 1100/1450 | | 1570/2050 | 2200/2850 |
| | | | Single-phase 230 V (50 Hz) | 960 | | 1570 | 2300 |
| | Operating current 50/60 Hz ∗5 [A] | | Three-phase 200 V | 4.2/4.8 | | 6.7/7.3 | 8.2/9.3 |
| | | | Single-phase 230 V (50 Hz) | 4.3 | | 6.9 | 10.7 |
| | Applicable earth leakage breaker capacity ∗6 (Sensitivity of leak current of 30 mA) [A] | | Three-phase 200 V | 10 | | | 15 |
| | | | Single-phase 230 V (50 Hz) | 10 | | | 20 |
| Refrigerant | | | | R407C (HFC) | | | |
| Refrigerant charge [kg] | | | Three-phase 200 V | 0.47 | 0.83 | 0.55 | 0.745 |
| | | | Single-phase 230 V | 0.45 | 0.76 | 0.55 | 0.745 |
| Auto drain | | | | Float type (Normally open) | | | |
| Port size | | | | R1 | R1 1/2 | R2 | |
| Weight [kg] | | | | 90 | 130 | 160 | 166 |
| Coating color | | | | Body panel: White 1<br>Base: Gray 2 | | | |
| Applicable air compressor output (Reference) For screw type [kW] | | | | 22 | 37 | 55 | 75 |

**Symbol**

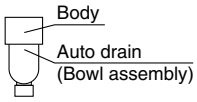



∗1 Air flow capacity under the standard condition (ANR) [20°C, Atmospheric pressure, and 65% Relative humidity]
∗2 Air flow capacity converted by the compressor intake condition [32°C, Atmospheric pressure, and 75% Relative humidity]
∗3 The operation range does not guarantee the use with normal air flow capacity.
∗4 Select the model in accordance with Model Selection (pages 5, 6) for models beyond the rated specifications.
∗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. Purchase an appropriate earth leakage breaker separately.

**Replacement Parts**

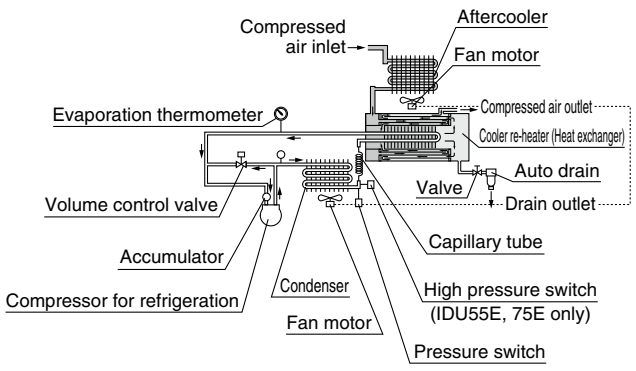
| Model | | IDU22E | IDU37E | IDU55E | IDU75E |
|---|---|---|---|---|---|
| Auto drain replacement parts no. ∗7 | New | AD48-A | | | |
| | Previous | AD48 | | | |

∗7 The part number for the auto drain (Bowl assembly) components only excluding the body part. Body part replacement is not possible.
In addition, a new line of auto drain models was recently introduced in either March or June 2019. The previous models and the new models do not have mounting interchangeability. For details, refer to page 43-1.




## Construction (Air/Refrigerant Circuit)

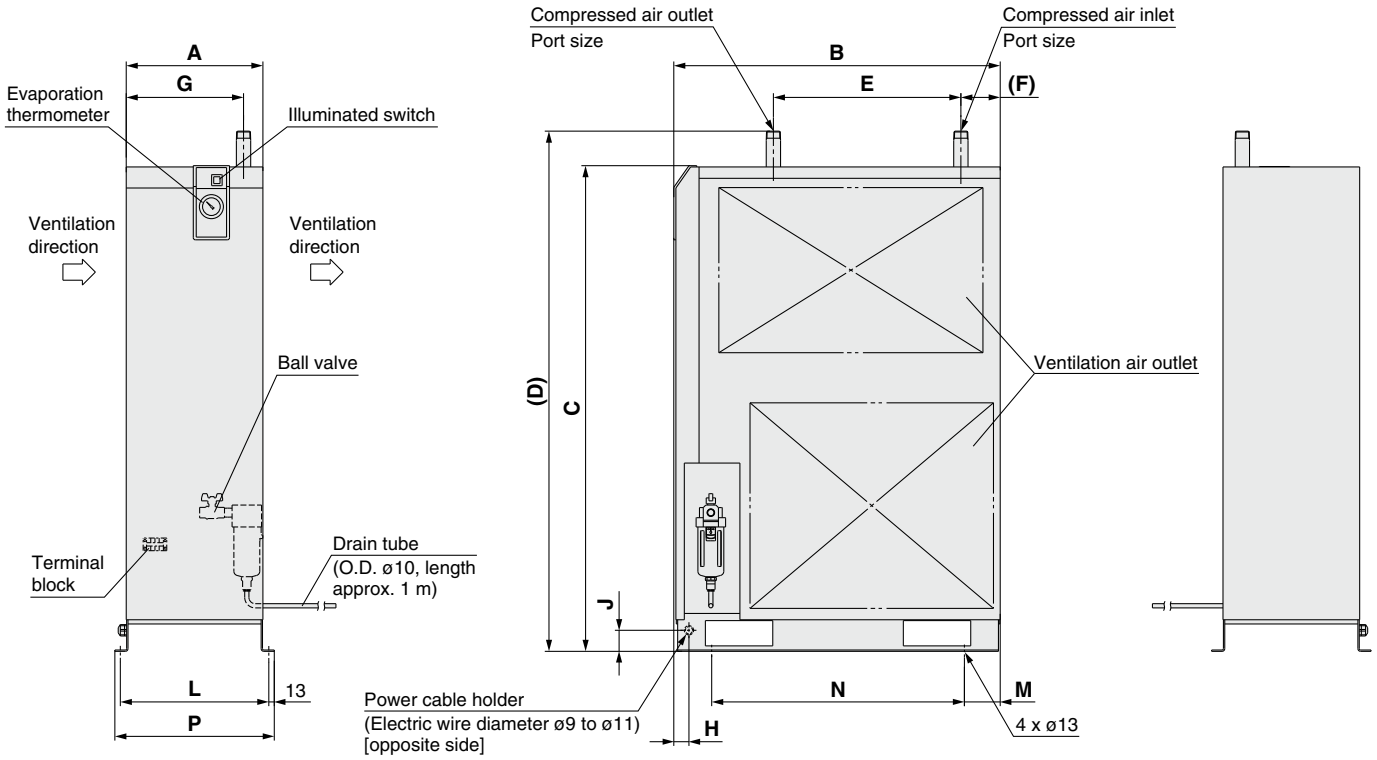
### IDU22E, IDU37E, IDU55E, IDU75E




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

## Dimensions

### IDU22E to 75E




**Dimensions** [mm]

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

# Options

**Refer to "How to Order" on pages 7, 11, 14, 19, 22, 25 for optional models.**

## A Option symbol
## Cool compressed air output

**IDF1E to 75E**

Cool outlet air (10°C) can be supplied.
The air flow with this option is smaller than that of the standard air dryer. (Refer to the table below.)
If the air dryer is used out of the scope of the rated specifications or conditions, select a model according to pages 5 and 6 and apply the air flow capacity shown in the tables below to the data Ⓔ.

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

### Air Flow Capacity

| Model | | IDF1E | IDF2E | IDF3E | IDF4E | IDF6E | IDF8E | IDF11E | IDF15E1 | IDF22E | IDF37E | IDF55E | IDF75E |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Air flow capacity [m³/min (ANR)] | 50 Hz | 0.085 | 0.12 | 0.18 | 0.26 | 0.32 | 0.5 | 0.65 | 1.2 | 1.7 | 2.6 | 3.85 | 5.35 |
| | 60 Hz | 0.1 | 0.14 | 0.21 | 0.29 | 0.375 | 0.55 | 0.75 | 1.3 | 1.9 | 3.05 | 4.5 | 6.2 |

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

## C Option symbol
## Anti-corrosive treatment for copper tube

**IDF, IDU all models**

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

∗ Corrosion is not covered under warranty.

## G Option symbol
## With Chinese labels and a Chinese operation manual

**IDF1E to 75E, IDU3E to 75E**

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

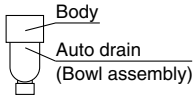
## K Option symbol
## Moderate pressure specification (Auto drain bowl: Metal bowl with level gauge)

**IDF6E to 37E, IDU3E to 15E1**

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

### Specifications

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




### Replacement Parts

| Model | Auto drain replacement parts no. | Note |
|---|---|---|
| **IDF6E to 15E1 IDU3E to 15E1** | IDF-S1926 | The AD48-8-A-X2112 auto drain (bowl assembly) excluding the body, One-touch fitting: KQ2H10-02AS, and insulator |
| **IDF22E, 37E** | AD48-8-A-X2112 | Single auto drain unit (Bowl assembly) |

∗ A new line of auto drain models was recently introduced in March 2019. The previous models and the new models do not have mounting interchangeability. For details, refer to page 43-1.

## K Option symbol
## Moderate pressure specification

**IDF100F to 150F**

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

### Specifications

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

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

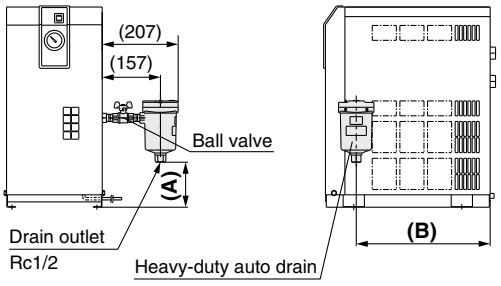
**IDF4E to 75E, IDF370D, IDU3E to 15E1, IDU22E to 75E**

Drainage including dust can also be exhausted.
The float type auto drain used in the standard air dryer is replaced with a heavy-duty auto drain (ADH4000-04).

∗ The IDF100F to 150F, 190D, 240D standard types are equipped with a heavy-duty auto drain.

Max. operating pressure: 1.6 MPa

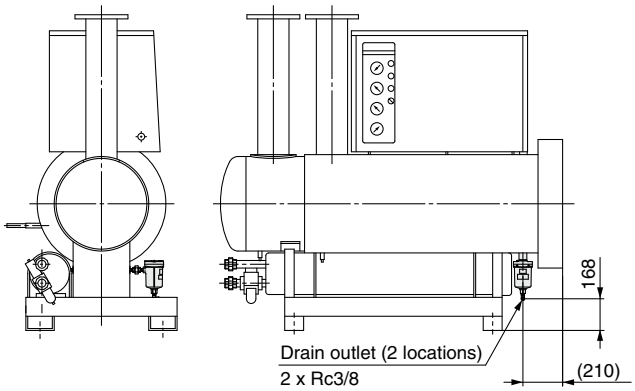
**IDF4E to 15E1**
**IDU3E to 15E1**




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

Max. operating pressure: 0.97 MPa

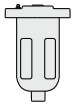
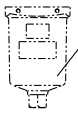
**IDF370D**



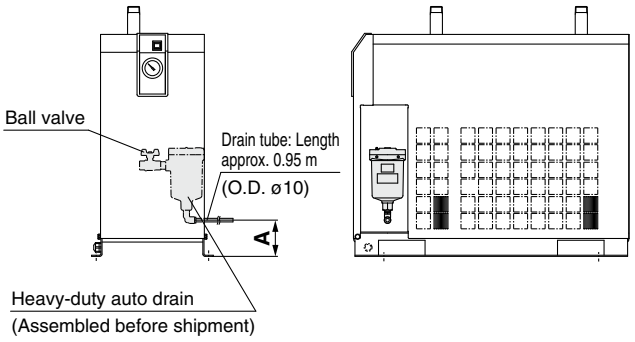

### Dimensions [mm]

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

### Replacement Parts: Heavy-Duty Auto Drain

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

### IDF22E to 75E, IDU22E to 75E




### Dimensions [mm]

| Model | A |
|---|---|
| **IDF22E, 37E**<br>**IDU22E, 37E** | Approx. 100 |
| **IDF55E, 75E**<br>**IDU55E** | Approx. 120 |
| **IDU75E** | Approx. 250 |

**M** Option symbol

## With a motor type auto drain

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

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

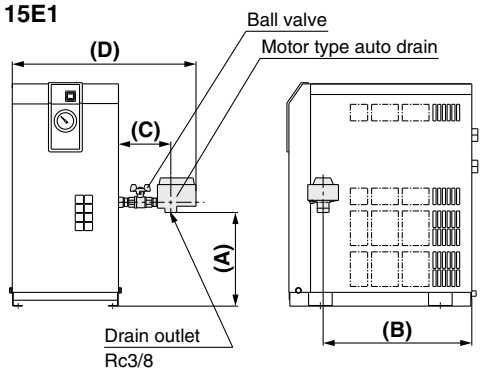
* The IDF370D standard type is equipped with a motor type auto drain.

### Air Discharge

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

* The motor type auto drain actuates for 2 seconds per cycle. The operating cycle is as follows. IDF4E to 75E, IDU3E to 37E: Once per minute, IDU55E, 75E: Twice per minute, IDF190D to 370D: 4 times per minute.

### IDF4E to 15E1
### IDU3E to 15E1

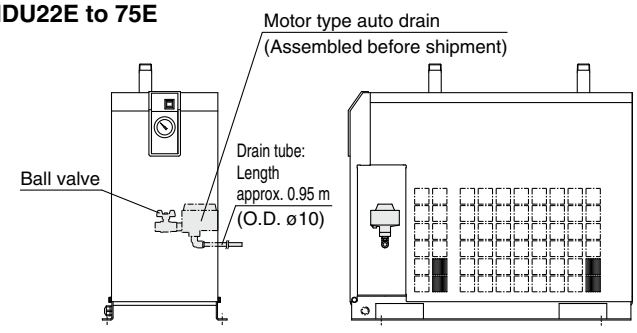



### Dimensions [mm]

| Model | A | B | C | D |
|---|---|---|---|---|
| **IDF4E** | 154 | 348 | 133 | 474 |
| **IDF6E, IDU3E** | 166 | | | |
| **IDF8E, 11E** | 238 | 378 | | |
| **IDU4E, 6E** | | | | |
| **IDU8E, 11E** | 248 | | | 496 |
| **IDF15E1** | 149 | 494 | 146 | 510 |
| **IDU15E1** | 150 | 533 | 137 | 530 |

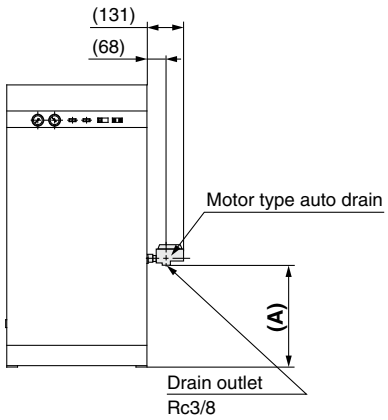
* The motor type auto drain and the ball valve are both enclosed in the same shipping package as the main body of the air dryer. Customers are required to mount the auto drain to the air dryer.
* Customers will need to supply the fitting (KQ2L10-03AS) and tubing (TU1065BU) for the drain piping.

### IDF22E to 75E
### IDU22E to 75E




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

### IDF190D, 240D




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

### Dimensions [mm]

| Model | A |
|---|---|
| **IDF190D** | 526 |
| **IDF240D** | 565 |

### Replacement Parts: Motor Type Auto Drain Assembly *1

| Model | Part no. | Note |
|---|---|---|
| **IDF4E to 15E1-10**<br>**IDU3E to 15E1-10** | IDF-S0087 | Assembly of Motor type auto drain: ADM200-041,<br>Plug housing assembly: 173090-2,<br>Receptacle: 173707-1,<br>Rubber plug: 172888-2 |
| **IDF4E to 37E-20**<br>**IDF22E to 75E-30**<br>**IDU3E to 15E1-20**<br>**IDU22E, 37E-30** | IDF-S0090 | Assembly of Motor type auto drain: ADM200-042,<br>Plug housing assembly: 173090-2,<br>Receptacle: 173707-1,<br>Rubber plug: 172888-2 |
| **IDU55E, 75E** | IDF-S0510 | Assembly of Motor type auto drain: ADM200-042-4,<br>Plug housing assembly: 173090-2,<br>Receptacle: 173707-1,<br>Rubber plug: 172888-2 |
| **IDF190D, 240D** | IDF-S0511 | Assembly of Motor type auto drain: ADM200-042-8,<br>Plug housing assembly: 173090-2,<br>Receptacle: 173707-1,<br>Rubber plug: 172888-2 |

*1 Including electric wire with connector on the end

**P** Option symbol

## With a metal name plate

**IDF100F to 150F**

The label identifying the model and specifications of the product is changed to a metal plate which has better endurance.

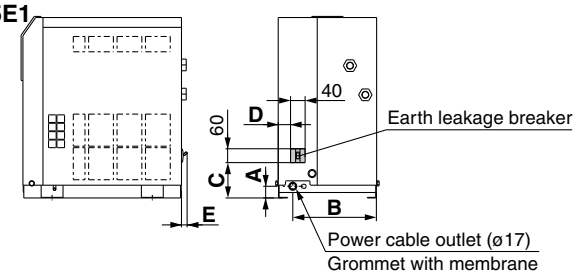
**R** Option symbol

## With an earth leakage breaker

**Except IDF1E, 2E, 3E**

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

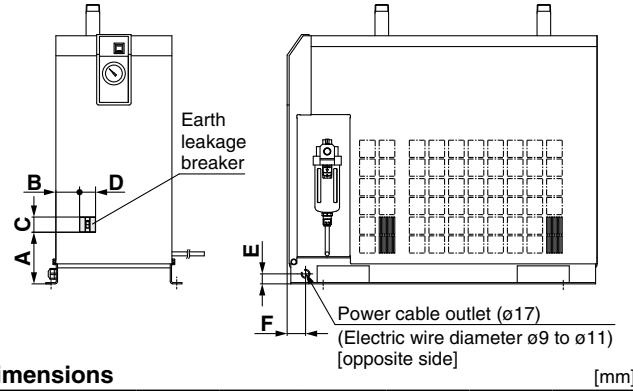
### IDF4E to 15E1
### IDU3E to 15E1




**Dimensions** [mm]

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

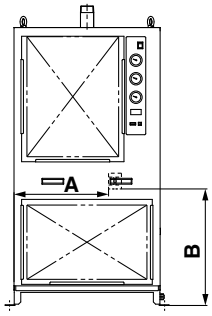
### IDF22E to 75E
### IDU22E to 75E




**Dimensions** [mm]

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

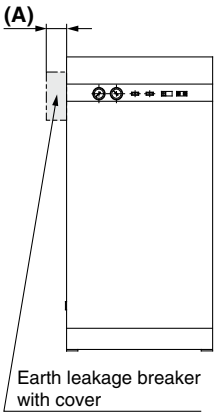
### IDF100F to 150F



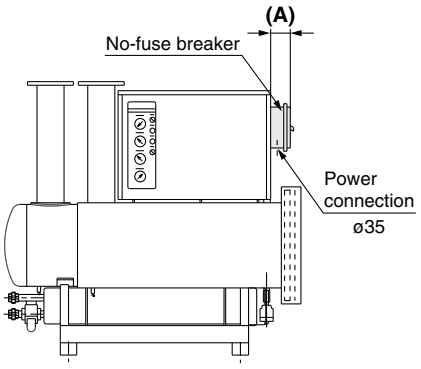

**Dimensions** [mm]

| Model | A | B |
|---|---|---|
| **IDF100F** | 434 | 535 |
| **IDF125F** | 448 | |
| **IDF150F** | 628 | 537 |

### IDF190D, 240D




### IDF370D




**Dimensions** [mm]

| Model | A |
|---|---|
| **IDF190D** | 95 |
| **IDF240D** | |
| **IDF370D** | 156 |

### Breaker Capacity and Sensitivity of Leak Current

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

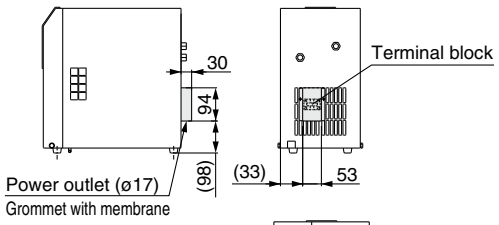
**S** Option symbol

## Power supply terminal block connection

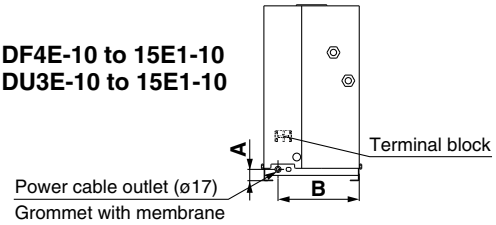
**IDF1E-10 to 15E1-10, IDU3E-10 to 15E1-10**

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

### IDF1E-10 to 3E-10




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




**Dimensions** [mm]

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

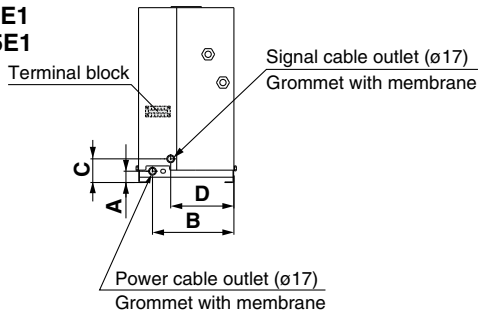
**T** Option symbol

## With a terminal block for power supply, operating, and error signals

**IDF4E to 15E1, IDU3E to 15E1**

In addition to power supply connection, entry of operating and error signals is available. (No-voltage contact)
Additionally, when using the remote operation, select the Made to Order (IDF8E to 15E1-□-X256, IDU8E to 15E1-□-X256) products.

### IDF4E to 15E1
### IDU3E to 15E1




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

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

∗ Be sure to confirm the electric circuits with the drawings or Operation Manual before using the operating and error signals.

**Dimensions** [mm]

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

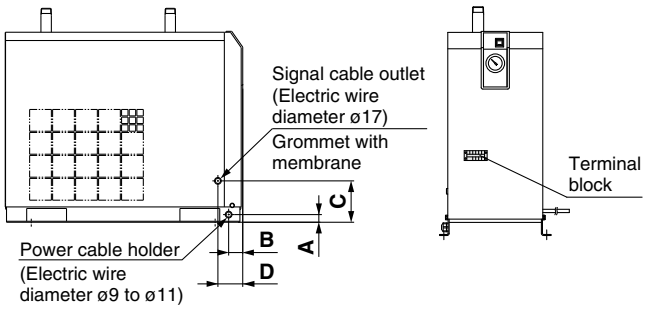
**T** Option symbol

## With a terminal block for power supply, operating, and error signals

**IDF22E to 75E, IDU22E to 75E**

In addition to power supply connection, entry of operating and error signals is available. (No-voltage contact) Additionally, when using the remote operation, select the Made to Order (IDF22E to 75E-□-X256, IDU22E to 75E-□-X256) products.

### IDF22E to 75E, IDU22E to 75E




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

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

**Dimensions** [mm]

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

**V** Option symbol

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

**IDU3E to 75E-23 IDF100F to 150F**

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

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

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

**Replacement Parts**

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

**W** Option symbol

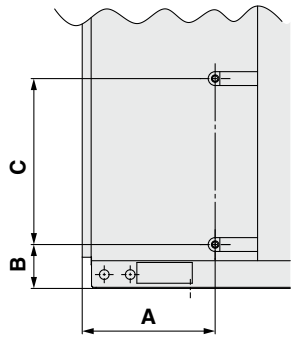
## Water-cooled type — IDF100F to 150F, 190D, 240D

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

| Model | IDF100F | IDF125F | IDF150F | IDF190D | IDF240D |
|---|---|---|---|---|---|
| **Condenser** | Plate system | | | Shell and coil system | |
| **Cooling water flow rate [m³/h] *1 50/60 Hz** | 1.29/1.56 | 1.74/1.98 | 2.16/2.52 | 4.8/4.8 | 5.4/5.4 |
| **Cooling tower performance [RT] *2** | 2 | 2.4 | 3 | 7.5 | 7.5 |
| **Water flow regulator** | Pressure type automatic water supply valve | | | | |
| **Port size for water side** | R1/2 | R3/4 | R1 | | |

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

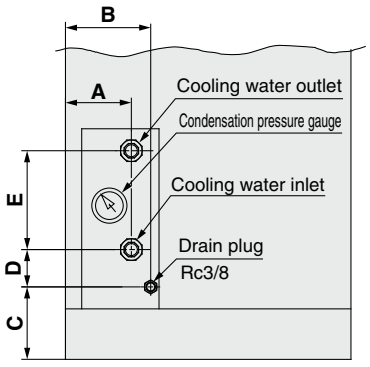
### IDF100F to 150F




**Dimensions** [mm]

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

### IDF190D, 240D




**Dimensions** [mm]

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

# *IDF/IDU Series*
# Optional Accessories

### Specifications

| Description | Features | Specifications | Applicable air dryer | Dimensions |
|---|---|---|---|---|
| **Separately installed power transformer** ∗1, 2  | Power supply and voltage for those other than the standard. | Max. ambient temperature 40°C (Relative humidity 85% or less) | IDF1E-10 to IDF15E1-10, IDF22E-20/30<br>IDF37E-20/30, IDF55E-30, IDF75E-30<br>IDU3E-10 to 15E1-10, IDU22E to 75E-30<br>IDF100F to 150F, IDF190D to 370D-3 | p. 36, 37 |
| **Dedicated base for separately installed power transformer** ∗2 [Separately installed power transformer is not attached. Order separately.] | For integrating the separately installed power transformer and the air dryer. | — | IDF4E to 15E1-10<br>IDF22E-20/30, IDF37E-20/30<br>IDF55E-30, IDF75E-30<br>IDU3E to 15E1-10 | p. 38 |
| **Dust-protecting filter set** ∗3  | For preventing a decline in the performance of air dryers, even in a dusty atmosphere. | Max. ambient temperature 40°C | IDF1E to 75E<br>IDF190D to 240D<br>IDU3E to 75E | p. 39 |
| **Bypass piping set**  | Easy bypass piping (connect this set to the air dryer), allowing substantial reduction in the installation time. | Max. operating pressure ∗4 1.0 MPa<br>Max. operating temperature IDF: 60°C IDU: 80°C | IDF1E to 75E<br>IDU3E to 75E | p. 40, 41 |
| **Foundation bolt set**  | For fixing the air dryer to the foundations. Easy to secure by striking the axle. | Stainless steel | IDF4E to 75E<br>IDU3E to 75E<br>IDF100F to 150F | p. 41 |
| **Piping adapter**  | For converting the thread type of an IN/OUT fitting for air dryers. | Brass | IDF1E to 75E<br>IDU3E to 75E<br>IDF100F to 150F | |
| **Mounting base adapter** | For ensuring conversion to the former models' (IDF22C and 37C) air piping. | — | IDF22E, 37E | p. 42 |
| **Conversion piping set** | [When bypass piping is already in place]<br>For ensuring conversion to the former models' (IDF6D to 15C) air piping. | Max. operating pressure ∗4 1.0 MPa<br>Max. operating temperature 60°C | IDF6E to 15E1 | |
| **Conversion bypass piping set** | [When there is no bypass piping]<br>For ensuring conversion to the former models' (IDF6D to 15C) air piping. | Max. operating pressure ∗4 1.0 MPa<br>Max. operating temperature 60°C | IDF6E to 15E1 | p. 43 |

∗1 When using a power transformer for the IDF1E to 15E1 and IDU3E to 15E1, select the air dryer of 100 V.
∗2 When using a power transformer for the IDF190D and 240D, built-in transformer type is also available. (Refer to the How to Order on page 19.)
∗3 This filter set is supplied with the IDF100F to 150F as a standard accessory.
∗4 Not applicable to the moderate pressure specification. Prepare a bypass, conversion or conversion bypass piping set suitable for the specification.

## How to Order

**[Separately installed power transformer]**

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

**Capacity**

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

**Power supply voltage**

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

∗ Refer to pages 36 and 37 for dimensions.

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

**Capacity**

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

**Power supply voltage**

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

∗ Refer to page 37 for dimensions.

## How to Order

**[Dedicated base for separately installed power transformer]**

**IDF — TB 403** (Size)

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

**IDU — TB 407** (Size)

| Symbol | Applicable air dryer |
|---|---|
| **407** | IDU8E, IDU11E |
| **408** | IDU15E1 |
| **410** | IDU22E |
| **411** | IDU37E |

∗ Not available for the IDF1E to 3E, IDU55E, 75E, IDF100F to 150F, IDF190D, 240D, 370D. In the case of the Option S, the part number will be different. Please consult with SMC separately. Refer to page 38 for dimensions.

**[Dust-protecting filter set]**

**IDF — FL 201** (Applicable air dryer)

| Symbol | Applicable air dryer |
|---|---|
| **200** ∗1 | IDF1E, 2E |
| **201** ∗1 | IDF3E |
| **202** | IDF4E |
| **203** | IDF6E, IDU3E |
| **204** | IDF8E, IDU4E |
| **205** | IDF11E, IDU6E |
| **206** | IDF15E1 |
| **207** | IDF22E |
| **208** | IDF37E |
| **213** | IDF55E |
| **214** | IDF75E |

**IDF — FL 190 D** (Applicable air dryer)

| Symbol | Applicable air dryer |
|---|---|
| **190** | IDF190D |
| **240** | IDF240D |

**IDU — FL 210** (Applicable air dryer)

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

∗1 This filter set is supplied with the IDF100F to 150F as a standard accessory. Refer to page 39 for dimensions.

**[Bypass piping set (Rc, R thread)]**

**IDF — BP 302** (Applicable air dryer)

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

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

**IDU — BP 305** (Applicable air dryer)

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

∗ Refer to pages 40 and 41 for bypass piping set dimensions.

**[Foundation bolt set]**

**IDF — AB 500** (Applicable air dryer)

| Symbol | Applicable air dryer |
|---|---|
| **500** | IDF4E to 75E |
| | IDU3E to 15E1 |
| **501** | IDF100F to 150F |
| | IDU22E to 75E |

∗ Refer to page 41 for dimensions.

**[Piping adapter]**

**IDF — AP 601** (Applicable air dryer)

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

∗ Refer to page 41 for dimensions.

**[Mounting base adapter]**

Applicable to the IDF22E and 37E.

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

∗ Refer to page 42 for dimensions.

**[Conversion piping set/ Conversion bypass piping set]**

Applicable to the IDF6E to 15E1.
Select Conversion Piping Set when bypass piping is already in place, and Conversion Bypass Piping Set when there is no bypass piping.

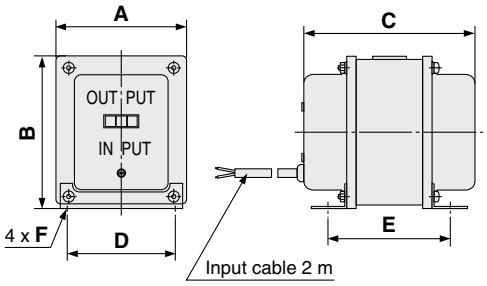
| Part no. | | Applicable air dryer |
|---|---|---|
| Conversion piping set | Conversion bypass piping set | |
| **IDF-S0186** | **IDF-S0183** | IDF6E |
| **IDF-S0203** | **IDF-S0202** | IDF8E |
| **IDF-S0187** | **IDF-S0184** | IDF11E |
| **IDF-S0188** | **IDF-S0185** | IDF15E1 |

∗ Refer to pages 42 and 43 for dimensions.

## Specifications/Dimensions

**[Separately installed power transformer]**

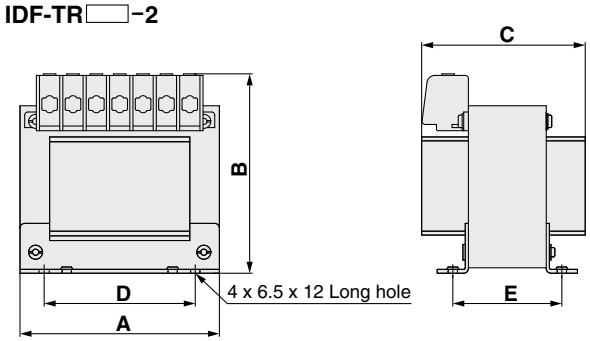
**IDF-TR□−1**




**Specifications/Dimensions** [mm]

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

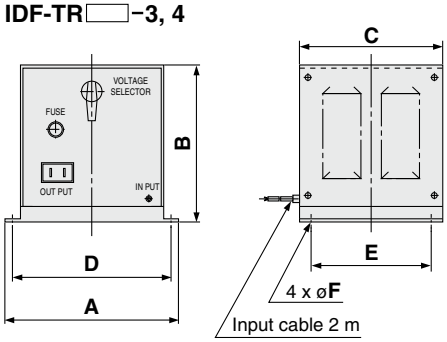
**IDF-TR□−2**




**Specifications/Dimensions** [mm]

| Part no. | Applicable air dryer | Capacity | Type | Inlet voltage | Outlet voltage | A | B | C | D | E | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **IDF-TR500-2** | IDF1E-10 to 8E-10<br>IDU3E-10, 4E-10, 8E-10 | 500 VA | Single-phase Single-turn | 200, 220 230, 240 VAC (50/60 Hz) | 100 VAC (50/60 Hz) | 128 | 131 | 105 | 97 | 70 | 5.8 kg |
| **IDF-TR1000-2** | IDF11E-10, 15E1-10<br>IDU6E-10, 11E-10, 15E1-10 | 1 kVA | | | | 146 | 143 | 132 | 110 | 82 | 9 kg |

**IDF-TR□−3, 4**



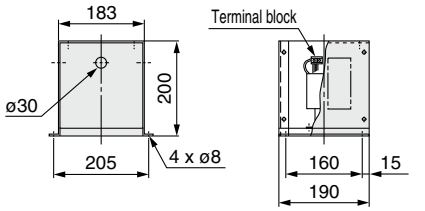

**Specifications/Dimensions** [mm]

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

## Specifications/Dimensions

**[Separately installed power transformer]**

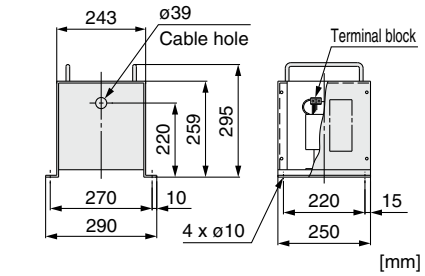
**IDF-TR1700-5**




**Specifications**

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

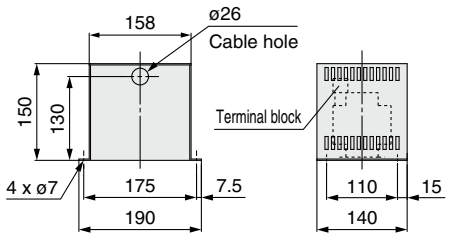
**IDF-TR1700-6,7**




**Specifications**

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

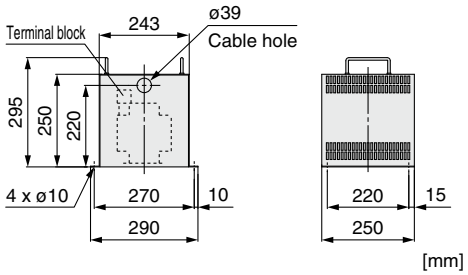
**IDF-TR2000-9**




**Specifications**

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

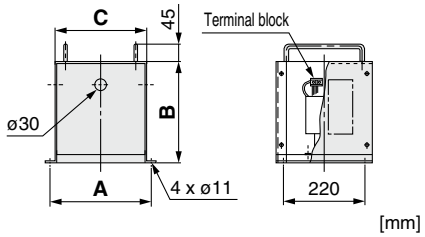
**IDF-TR2000-10,11**




**Specifications**

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

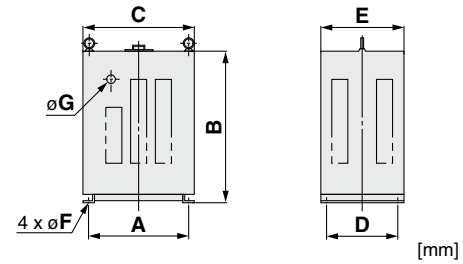
**IDF-TR4000-5,6,7**




**Specifications/Dimensions**

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

**IDF-TR□−8**

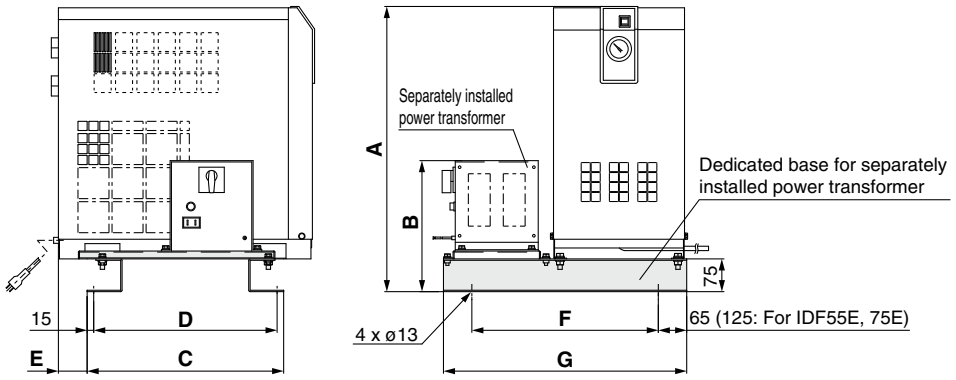



**Specifications/Dimensions**

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

## Dimensions

**[Dedicated base for separately installed power transformer]**
**IDF4E to 75E**
**IDU3E to 37E**




### IDF-TB□/Dimensions

[mm]

| Part no. | Applicable air dryer | Applicable transformer | A | B | C | D | E | F | G | Unit weight [kg] | Reference weight (including air dryer and transformer) [kg] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **IDF-TB403** | IDF4E-10 | IDF-TR500-1 | 573 | 171 | 345 | 315 | 45 | 385 | 515 | 6 | 29.5 |
| | | IDF-TR500-2 | | 208 | | | | | | | 34 |
| | | IDF-TR500-3 | | 284 | | | | | | | 43 |
| | | IDF-TR500-4 | | | | | | | | | 50 |
| | IDF6E-10<br>IDU3E-10 | IDF-TR500-1 | | 171 | | | | | | | 30.5 |
| | | IDF-TR500-2 | | 208 | | | | | | | 35 |
| | | IDF-TR500-3 | | 284 | | | | | | | 44 |
| | | IDF-TR500-4 | | | | | | | | | 51 |
| | IDF8E-10<br>IDU4E-10 | IDF-TR500-1 | 643 | 171 | 370 | 340 | | | | | 34.5 |
| | | IDF-TR500-2 | | 208 | | | | | | | 39 |
| | | IDF-TR500-3 | | 284 | | | | | | | 48 |
| | | IDF-TR500-4 | | | | | | | | | 55 |
| | IDF11E-10<br>IDU6E-10 | IDF-TR1000-1 | | 199 | | | | | | | 38 |
| | | IDF-TR1000-2 | | 220 | | | | | | | 44 |
| | | IDF-TR1000-3 | | 284 | | | | | | | 49 |
| | | IDF-TR1000-4 | | | | | | | | | 56 |
| **IDF-TB404** | IDF15E1-10 | IDF-TR1000-1 | 653 | 199 | 450 | 420 | 66 | 427 | 557 | 7 | 57 |
| | | IDF-TR1000-2 | | 220 | | | | | | | 63 |
| | | IDF-TR1000-3 | | 284 | | | | | | | 68 |
| | | IDF-TR1000-4 | | | | | | | | | 75 |
| **IDF-TB405** | IDF22E-30 | IDF-TR1700-5 | 773 | 300 | 630 | 600 | 70 | 675 | 805 | 12 | 75 |
| | | IDF-TR1700-6, 7 | | 352 | | | | | | | 84 |
| | IDF22E-20 | IDF-TR2000-9 | | 243 | | | | | | | 71 |
| | | IDF-TR2000-10, 11 | | 343 | | | | | | | 86 |
| **IDF-TB406** | IDF37E-30 | IDF-TR1700-5 | | 300 | 710 | 680 | | | | 13 | 84 |
| | | IDF-TR1700-6, 7 | | 352 | | | | | | | 93 |
| | IDF37E-20 | IDF-TR2000-9 | | 243 | | | | | | | 80 |
| | | IDF-TR2000-10, 11 | | 343 | | | | | | | 95 |
| **IDF-TB409** | IDF55E-30 | IDF-TR4000-5 | 943 | 397 | 730 | 750 | 60 | | 925 | 15 | 129 |
| | | IDF-TR4000-6 | | 437 | | | | | | | 150 |
| | | IDF-TR4000-7 | | | | | | | | | 157 |
| | IDF75E-30 | IDF-TR4000-5 | 1043 | 397 | | | | | | | 145 |
| | | IDF-TR4000-6 | | 437 | | | | | | | 166 |
| | | IDF-TR4000-7 | | | | | | | | | 173 |

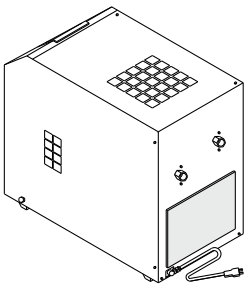
### IDU-TB□/Dimensions

[mm]

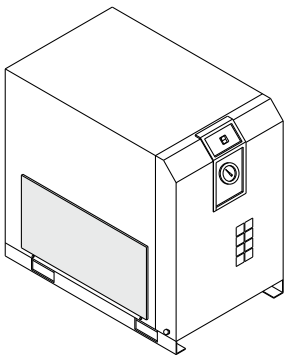
| Part no. | Applicable air dryer | Applicable transformer | A | B | C | D | E | F | G | Unit weight [kg] | Reference weight (including air dryer and transformer) [kg] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **IDU-TB407** | IDU8E-10 | IDF-TR500-1 | 934 | 171 | 370 | 340 | 45 | 475 | 605 | 6 | 51.5 |
| | | IDF-TR500-2 | | 208 | | | | | | | 56 |
| | | IDF-TR500-3 | | 284 | | | | | | | 65 |
| | | IDF-TR500-4 | | | | | | | | | 72 |
| | IDU11E-10 | IDF-TR1000-1 | 984 | 199 | | | | | | | 57 |
| | | IDF-TR1000-2 | | 220 | | | | | | | 63 |
| | | IDF-TR1000-3 | | 284 | | | | | | | 68 |
| | | IDF-TR1000-4 | | | | | | | | | 75 |
| **IDU-TB408** | IDU15E1-10 | IDF-TR1000-1 | 1035 | 199 | 540 | 510 | 31 | 487 | 617 | 10 | 85 |
| | | IDF-TR1000-2 | | 220 | | | | | | | 91 |
| | | IDF-TR1000-3 | | 284 | | | | | | | 96 |
| | | IDF-TR1000-4 | | | | | | | | | 103 |
| **IDU-TB410** | IDU22E-30 | IDF-TR1700-5 | 1310 | 293 | 630 | 600 | 70 | 715 | 845 | 12 | 111 |
| | | IDF-TR1700-6, 7 | | 352 | | | | | | | 120 |
| **IDU-TB411** | IDU37E-30 | IDF-TR1700-5 | 1425 | 293 | 710 | 680 | | 750 | 880 | 13 | 152 |
| | | IDF-TR1700-6, 7 | | 352 | | | | | | | 161 |

## Dimensions

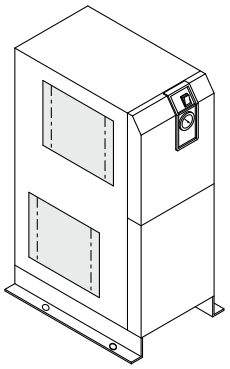
**[Dust-protecting filter set]**



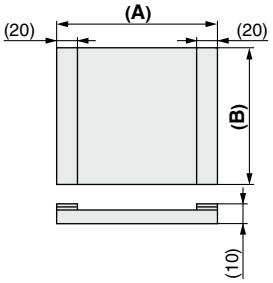
(IDF-FL200, 201)



(IDF-FL202 to 214)



(IDU-FL210 to 218)




**Dimensions** [mm]

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

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

**Dimensions** [mm]

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

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

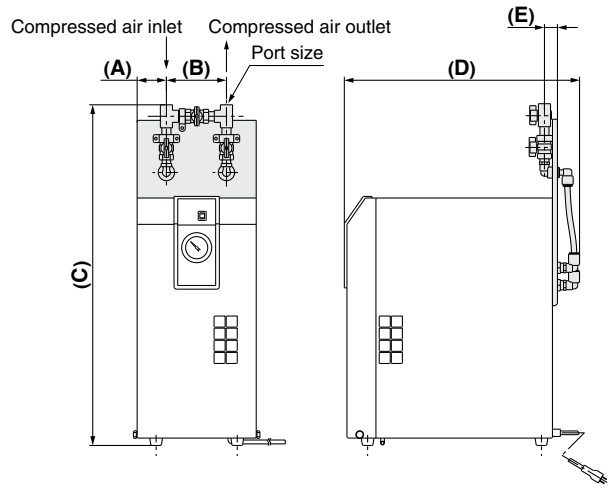
**Dimensions** [mm]

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

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

## Dimensions

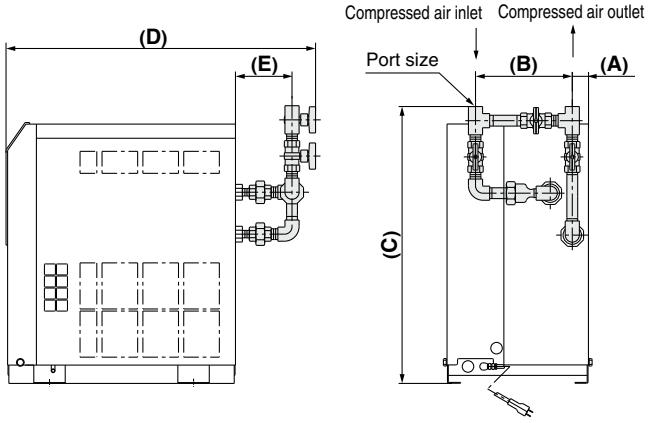
**[Bypass piping set]**
**IDF1E to 3E**




**Dimensions** [mm]

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

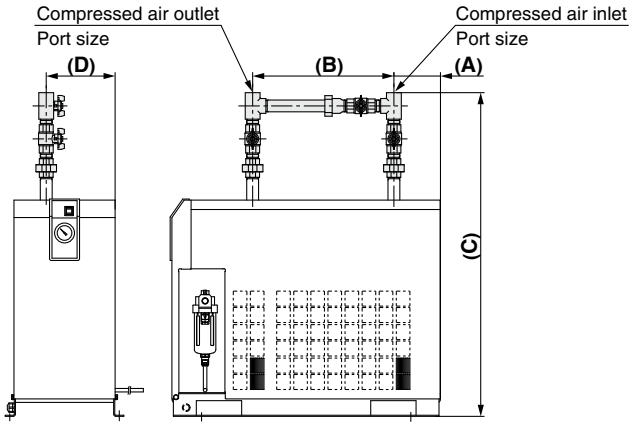
**IDF4E to 15E1**
**IDU3E to 6E**




**Dimensions** [mm]

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

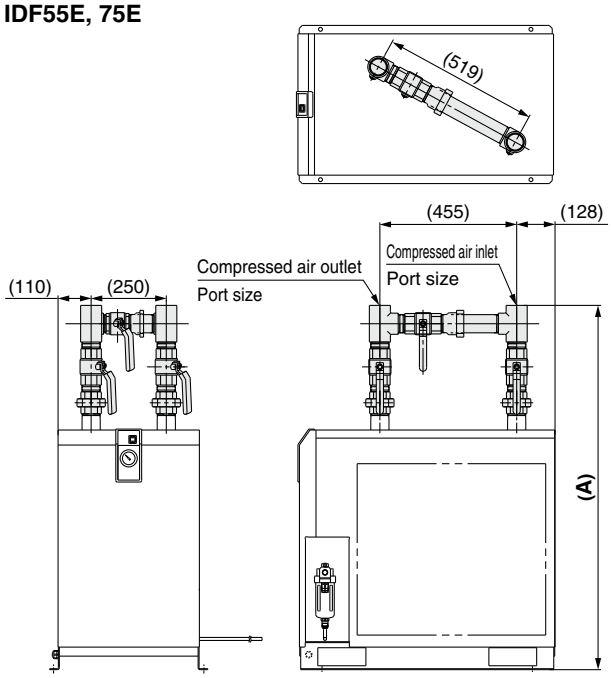
**IDF22E, 37E**
**IDU22E to 75E**




**Dimensions** [mm]

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

**IDF55E, 75E**

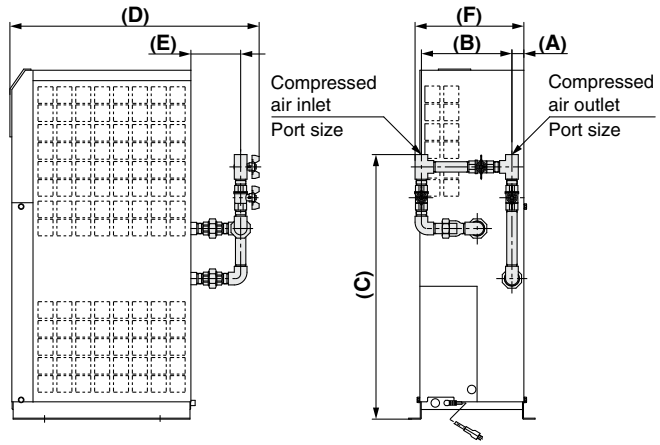



**Dimensions** [mm]

| Part no. | Applicable air dryer | Port size Rc | A | Weight [kg] |
|---|---|---|---|---|
| **IDF-BP325** | IDF55E | 2 | 1191 | 12.3 |
| | IDF75E | | 1291 | |

## Dimensions

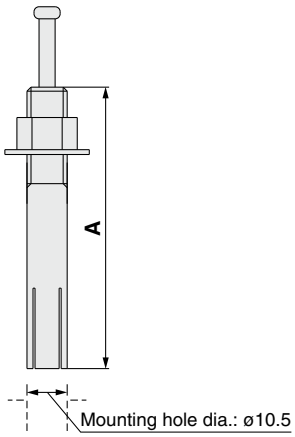
**[Bypass piping set]**
**IDU8E to 15E1**




**Dimensions** [mm]

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

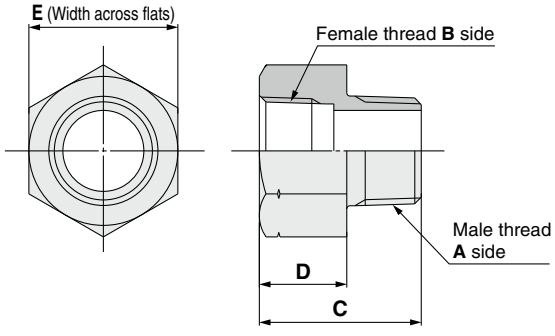
**[Foundation bolt set]**




**Dimensions** [mm]

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

**[Piping adapter]**

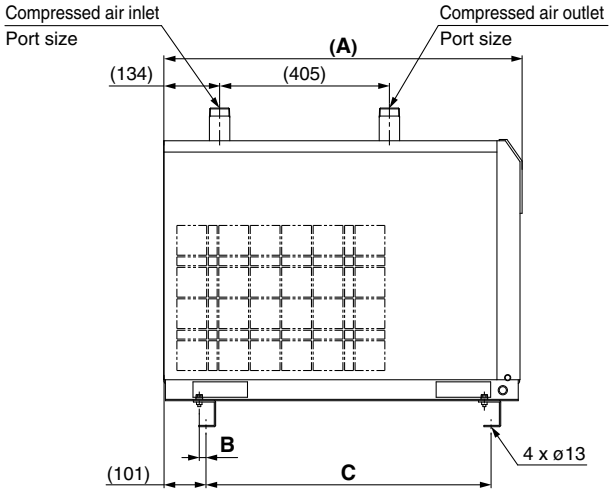



**Dimensions** [mm]

| Part no. | Thread type and port size | | Applicable air dryer | C | D | E | Material | Number of 1 set |
|---|---|---|---|---|---|---|---|---|
| | Male thread **A** side | Female thread **B** side | | | | | | |
| **IDF-AP601** | R1/2 | NPT1/2 | IDF4E<br>IDU4E | 38 | 20 | 26 | Brass | 2 |
| **IDF-AP603** | R3/4 | NPT3/4 | IDF6E to 11E<br>IDU6E to 11E | 43 | 23 | 32 | | |
| **IDF-AP604** | NPT1 | Rc1 | IDF22E, IDU22E | 50 | 27 | 46 | | |
| **IDF-AP605** | R1 | NPT1 | IDF15E1, IDU15E1 | | | | | |
| **IDF-AP606** | NPT1 1/2 | Rc1 1/2 | IDF37E, IDU37E | 55 | 31 | 54 | | |
| **IDF-AP607** | NPT2 | Rc2 | IDF55E, 75E, IDU55E, 75E<br>IDF100 to 150F | 65 | 35 | 70 | | |
| **IDF-AP609** | R3/8 | NPT3/8 | IDF1E to 3E<br>IDU3E | 30 | 15 | 22 | | |

## Dimensions

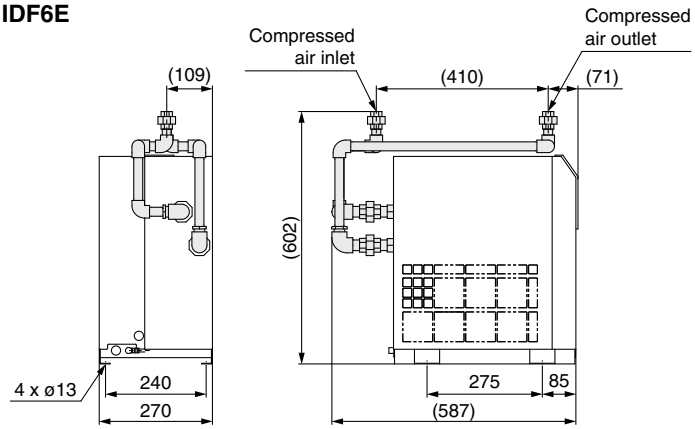
**[Mounting base adapter]**
**IDF22E, 37E**




**Dimensions** [mm]

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

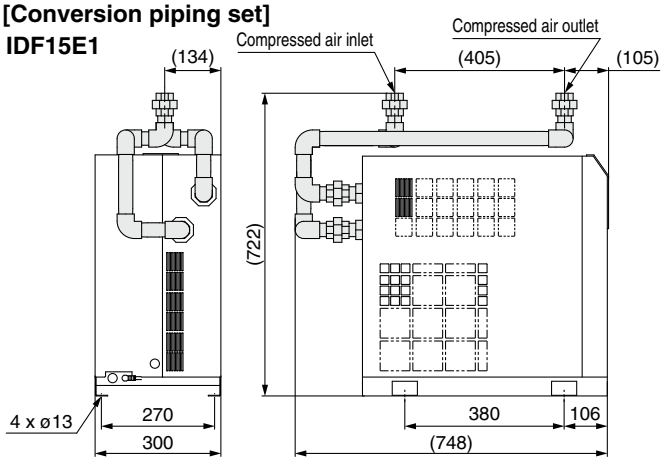
**[Conversion piping set]**
**IDF6E**




**Port Size**

| Part no. | Applicable air dryer | Port size Rc | Weight [kg] |
|---|---|---|---|
| **IDF-S0186** | IDF6E | 1/2 | 3.5 |

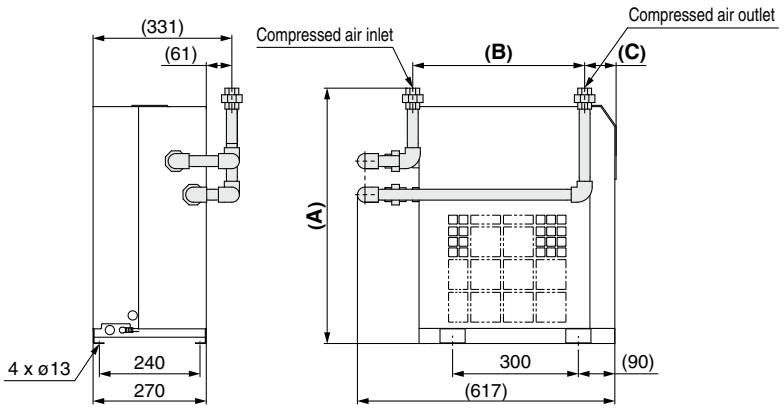
**[Conversion piping set]**
**IDF15E1**




**Port Size**

| Part no. | Applicable air dryer | Port size Rc | Weight [kg] |
|---|---|---|---|
| **IDF-S0188** | IDF15E1 | 1 | 6.7 |

**IDF8E, 11E**

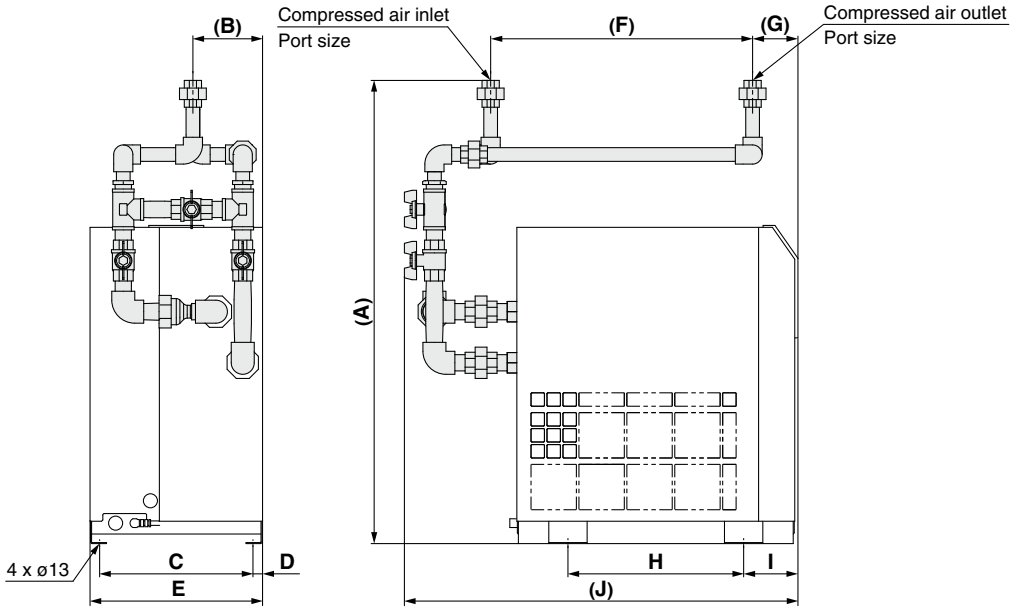



**Dimensions** [mm]

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

## Dimensions

**[Conversion bypass piping set]**
**IDF6E to 15E1**




**Dimensions** [mm]

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

# *IDF/IDU Series*
# Auto Drain Replacement Parts: Previous and New Model Product Nos.

A new line of auto drain models, which feature new product numbers and a new shape, was recently introduced, with manufacturing starting in either March or June 2019 (depending on the model). The previous auto drain models and the new auto drain models do not have mounting interchangeability. Please check the serial number on the dryer specification label before ordering.

## Auto drain (Bowl assembly)

**Previous model**

Metal bowl guard

**New model**

Transparent bowl guard (Polycarbonate)

| Dryer model | Auto drain (Bowl assembly) part no. | | Manufacturing date | SERIAL No. |
|---|---|---|---|---|
| IDF1E | Previous | **AD37** | Manufactured in February 2019 and before | **XP and before** |
| | New | **AD37-A** | Manufactured in March 2019 and after | **XQ and after** |
| IDF2E/3E/4E | Previous | **AD38** | Manufactured in February 2019 and before | **XP and before** |
| | New | **AD38-A** | Manufactured in March 2019 and after | **XQ and after** |
| IDF6E/8E/11E/15E1/22E/37E<br>IDU3E/4E/6E/8E/11E/15E1/22E/37E | Previous | **AD48** | Manufactured in February 2019 and before | **XP and before** |
| | New | **AD48-A** | Manufactured in March 2019 and after | **XQ and after** |
| IDF55E/75E<br>IDU55E/75E | Previous | **AD48** | Manufactured in May 2019 and before | **XS and before** |
| | New | **AD48-A** | Manufactured in June 2019 and after | **XT and after** |

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

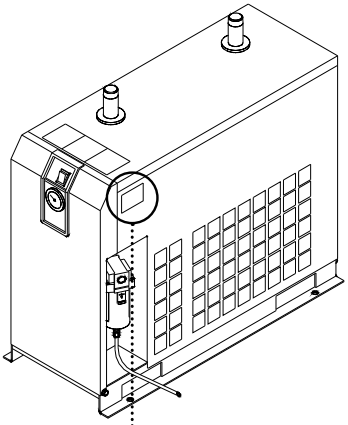
**Previous model**

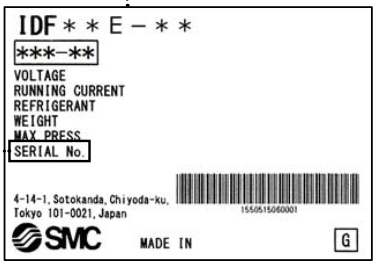
**New model**

| Dryer model | Auto drain (Bowl assembly) part no. | | Manufacturing date | SERIAL No. |
|---|---|---|---|---|
| IDF6E/8E/11E/15E1 -K<br>IDU3E/4E/6E/8E/11E/15E1 -K | Previous | **IDF-S0086**∗1 | Manufactured in February 2019 and before | **XP and before** |
| | New | **IDF-S1926**∗2 | Manufactured in March 2019 and after | **XQ and after** |
| IDF22E/37E -K | Previous | **AD48-8-X2110** | Manufactured in February 2019 and before | **XP and before** |
| | New | **AD48-8-A-X2112** | Manufactured in March 2019 and after | **XQ and after** |

∗1 Assembly of auto drain: AD48-8-X2110, One-touch fitting: KQ2H10-02AS, and insulator
∗2 Assembly of auto drain: AD48-8-A-X2112, One-touch fitting: KQ2H10-02AS, and insulator

## Dryer specification label 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 |

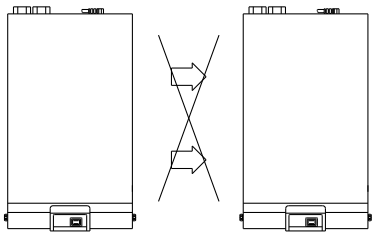
# *IDF/IDU Series*
# Specific Product Precautions 1

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

## Installation

### ⚠ Caution

- Avoid locations where the air dryer will be in direct contact with wind and rain. (Avoid locations where relative humidity is 85% or more.)
- Avoid exposure to direct sunlight.
- Avoid locations that contain much dust, corrosive gases, or flammable gases. Failure due to corrosion is not covered under warranty. However, when the risk of corrosion is high, select the Option C (anti-corrosive treatment for copper tube).
- Avoid locations of poor ventilation and high temperature.
- Avoid locations where the air dryer is too close to a wall, etc. Leave a sufficient space between the air dryer and the wall according to the Maintenance Space in the Operation Manual.
- Avoid locations where the air dryer could draw in high temperature air discharged from an air compressor or other dryer.



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

- Avoid locations where vibrations occur.
- Avoid possible locations where the drain can freeze.
- Avoid locations with an ambient temperature 40°C or higher (IDF100F to 150F: 45°C or higher).
- Avoid installation on machines for transporting, such as vehicles, ships, etc.
- Avoid locations where rapid pressure fluctuation or flow speed change is generated.

## Drain Tube

### ⚠ Caution

- A polyurethane tube is attached as a drain tube for the IDF1E to 150F, IDU3E to 75E. Use this tube to discharge drainage to a drain tank, etc.
- Do not use the drain tube in an upward direction. Do not bend or crush the drain tube. (Otherwise, the operation of an auto drain will stop and drainage will discharge through the air outlet.) If it is unavoidable that the tube goes upward, make sure it only goes as far as the position of the auto drain outlet.
- The drain tube comes with a tube fitting. Pipe a 10 mm O.D. tube with a length of 5 m or less.

## Power Supply

### ⚠ Caution

**<100 VAC>**

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

*1 Select an earth leakage breaker with a sensitivity of leak current of 30 mA and a rated current of 10 A.

**<200 VAC>**

- Connect the power supply to the terminal block.
- Install an earth leakage breaker*2 suitable to each model for the power supply.
- Maintain voltage range within ±10% of the rated voltage.

*2 Select an earth leakage breaker with a sensitivity of leak current of 30 mA.
As regards rated current, refer to Applicable Earth Leakage Breaker Capacity on pages 8, 12, 15, 16, 20, 23 and 26.

When using with other voltages than specified for a standard product, use a separately installed power transformer. (page 34)

# *IDF/IDU Series*
# Specific Product Precautions 2

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

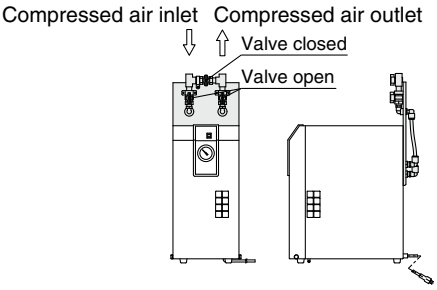
## Air Piping

### ⚠ Caution

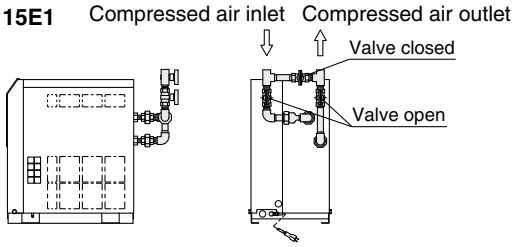
- Be careful to avoid an error in connecting the air piping at the compressed air inlet (IN) and outlet (OUT).
- Install bypass piping since it is needed for maintenance.

Use the bypass piping set on pages 40 and 41.

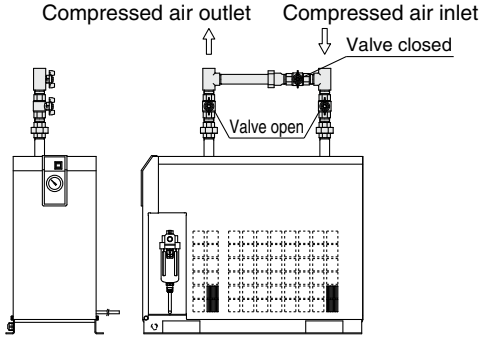
**IDF1E to 3E**



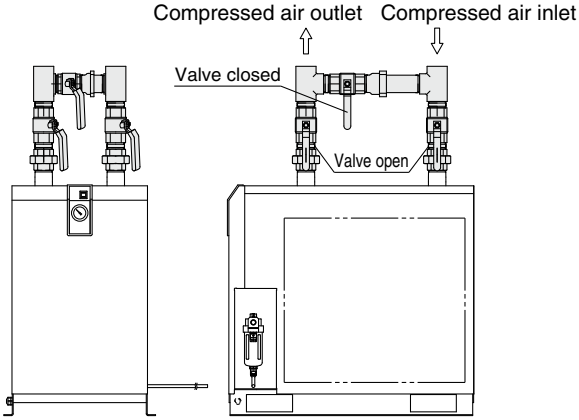

**IDF4E to 15E1**
**IDU3E to 15E1**




**IDF22E, 37E**
**IDU22E to 75E**




**IDF55E, 75E**




- When tightening the inlet/outlet air piping, firmly hold the hexagonal parts of the port on the air dryer side or piping with a wrench or adjustable angle wrench.
- Variations in operating conditions may cause condensation to form on the surface of the outlet piping. Apply thermal insulation around the piping to prevent condensation from forming.
- Confirm that vibrations resulting from the compressor are not transmitted through the air piping to the air dryer.
- Do not allow the weight of the piping to lie directly on the air dryer.
- If a metallic flexible tubing is used for the inlet/outlet air piping, abnormal noise might be generated in the piping. In that case, please change it to the steel tubing.

## 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. (40°C or higher (IDF100F to 150F: 45°C or higher))
- 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

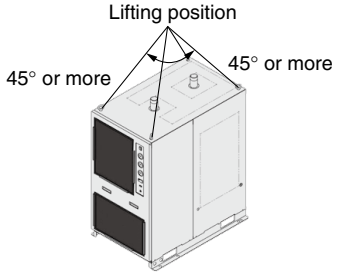
Be sure to follow the instructions below for transporting the product.

- The product is filled with refrigerant. Transport it (by land, sea or air) in accordance with laws and regulations specified.
- When carrying the product, be careful not to let it drop or fall over. Lift it by using a forklift or rope and lifting hook. The lifting angle should be 45° or more.

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

- Do not lift the product by holding the panel, fittings or piping.
- Never lay the product down for transportation. This may lead to damage to the product.

- The product is heavy and has potential dangers in transportation. Be sure to follow the instructions above.
- Be sure to use a forklift or lifting hook for transporting the product.



# Specific Product Precautions 3

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## Compressor Air Delivery

### ⚠ Caution

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

Since the auto drain of the IDF2E to 75E, IDU3E to 75E is designed in such a way that the valve remains open unless the air pressure rises to 0.1 MPa or higher, air will blow out from the drain outlet at the time of air compressor start up until the pressure increases. Therefore, if an air compressor has a small air delivery, the pressure may not be sufficient.

## Auto Drain

### ⚠ Caution

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

## Cleaning of Ventilation Area (Air-cooled)

### ⚠ Caution

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

## Time Delay for Restarting

### ⚠ Caution

- Allow at least three minutes before restarting the air dryer. Otherwise, the protection circuit will activate, the light will turn off and the air dryer will not start up.
- The residual drainage in the air dryer may splash over the outlet when the operation is re-started, so it is recommended to install a filter on the outlet of the air dryer.

## Modifying the Standard Specifications

### ⚠ Caution

Do not modify the standard product using any of the optional specifications once the product has been supplied to a customer. Check the specifications carefully before selecting an air dryer.

## Facility Water Supply (Water-cooled)

### ⚠ Warning

**1. Be certain to supply the facility water.**

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

### ⚠ Caution

**1. Facility water quality**

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

**<Facility Water Quality Standard>**

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

| | Item | Unit | Standard value |
|---|---|---|---|
| Standard item | pH (at 25°C ) | — | 6.5 to 8.2 |
| | Electric conductivity (25°C ) | [μS/cm] | 100∗1 to 800∗1 |
| | Chloride ion ($Cl^-$) | [mg/L] | 200 or less |
| | Sulfuric acid ion ($SO_4^{2-}$) | [mg/L] | 200 or less |
| | Acid consumption amount (at pH4.8) | [mg/L] | 100 or less |
| | Total hardness | [mg/L] | 200 or less |
| | Calcium hardness ($CaCO_3$) | [mg/L] | 150 or less |
| | Ionic state silica ($SiO_2$) | [mg/L] | 50 or less |
| Reference item | Iron (Fe) | [mg/L] | 1.0 or less |
| | Copper (Cu) | [mg/L] | 0.3 or less |
| | Sulfide ion ($S_2^-$) | [mg/L] | Should not be detected. |
| | Ammonium ion ($NH_4^+$) | [mg/L] | 1.0 or less |
| | Residual chlorine (Cl) | [mg/L] | 0.3 or less |
| | Free carbon ($CO_2$) | [mg/L] | 4.0 or less |

∗1 In the case of [MΩ·cm], it will be 0.00125 to 0.01.

### ■ Refrigerant with GWP Reference

| Refrigerant | Global Warming Potential (GWP) | |
|---|---|---|
| | Regulation (EU) No 517/2014 (Based on the IPCC AR4) | Revised Fluorocarbons Recovery and Destruction Law (Japanese law) |
| R134a | 1430 | 1430 |
| R404A | 3922 | 3920 |
| R407C | 1774 | 1770 |
| R410A | 2088 | 2090 |

∗ 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.

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

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

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

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

## ⚠ Warning

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

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

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

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

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

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.

## ⚠ Caution

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

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

## Limited warranty and Disclaimer/ Compliance Requirements

The product used is subject to the following "Limited warranty and Disclaimer" and "Compliance Requirements".
Read and accept them before using the product.

### Limited warranty and Disclaimer

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) **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

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.

## ⚠ Caution

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

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

**Revision History**

**Edition B**
* Added: Refrigerated Air Dryers IDF15E/22E/37E, IDU8E/11E/15E
* Deleted: Option H (Moderate pressure specification (Auto drain bowl: Metal bowl))
* Compressor Intake Condition to Air Flow Capacity has been added to the standard specifications.
* Number of pages has been increased from 20 to 24. JZ

**Edition C**
* Added: Refrigerated Air Dryers IDF55E/75E
* A Piping Adapter has been added as an optional accessory.
* Number of pages has been increased from 24 to 32. KV

**Edition D**
* Added: Refrigerated Air Dryers IDF120D to 240D, IDF370B
* Added: Refrigerated Air Dryers IDU22E/37E, IDU55C/75C
* Number of pages has been increased from 32 to 44. LS

**Edition E**
* Added: Refrigerated Air Dryers IDU55E/75E
* Deleted: Refrigerated Air Dryers IDU55C/75C
* Number of pages has been increased from 44 to 52. MR

**Edition F**
* The "Quick Reference Guide to Air Preparation Equipment" has been changed.
* Number of pages has been decreased from 52 to 48. ÖT

**Edition G**
* Not available

**Edition H**
* Excerpted page 21 to 67 from Best Pneumatics No. 5 (Ver. 5) RZ

**Edition I**
* Power consumption and operating current for the IDU37E-23 and IDU55E-23 have been changed. SZ

**Edition J**
* Excerpted from Best Pneumatics No. 6 (Ver. 6)
* Option G (With Chinese labels and a Chinese operation manual) has been added to the IDF100F/125F/150F series.
* The refrigerant charge has been added to the specifications table.
* The "Refrigerant with GWP Reference" has been added. VX