

F-Gas Regulation has announced **more** stringent measures.



EU F-Gas Regulation (2024/573)



EU F-Gas Regulation
More information
can be viewed here.



From January 1, 2017

Importers of refrigeration equipment using HFC refrigerants, such as refrigerated Thermo-chillers and Air dryers into the European Union (EU) must be registered in the EU F-gas Portal and be part of the EU Quota system. SMC holds 'Authorization Quota' from the EU Quota system. (Refer to FAQ 6 on page 2.)



From January 1, 2020

The import of **products that use refrigerants with a GWP value*1 of 2500 or more** into the EU is prohibited.
SMC temperature control equipment and refrigerated air dryers use refrigerants with a GWP value of less than 2500.



From January 1, 2025

• **Refrigerated air dryers that use refrigerants with a GWP value of 150 or more**
➔ **Import into the EU will be prohibited.**



From January 1, 2027

• **Temperature control equipment of 12 kW*2 or less that uses refrigerants with a GWP value of 150 or more**
• **Temperature control equipment of over 12 kW that uses refrigerants with a GWP value of 750 or more**
➔ **Import into the EU will be prohibited.**



From January 1, 2032

• **Temperature control equipment of 12 kW or less that uses refrigerants other than natural refrigerants**
➔ **Import into the EU will be prohibited.**

*1 The GWP values are values based on EU F-Gas Regulation 2024/573.

*2 Rated cooling capacity (Based on SMC's research and judgement)

EU F-Gas Regulation Compatible Products

Temperature Control Equipment

EU F-Gas Regulation Compatible Products

Low GWP Refrigerant Compatible Thermo-chiller

HR□F Series*1

R454C (GWP 146)

- HRSF Series
- HRLF Series
- HRRF Series
- HRZF Series (Currently available)

GWP value
Max. 96% reduction

Products subject to regulation Thermo-chiller

HR□ Series

R404A (GWP 3922)
R407C (GWP 1774)
R448A (GWP 1386)

R134a (GWP 1430)
R410A (GWP 2088)



HRS Series



HRL Series



HRS Series



HRR Series



HRZ/HRZ-F Series

Non F-Gas (CO₂ Refrigerant) Thermo-chiller

HR□C Series

CO₂*2 (GWP 1)

GWP value
Max. 99% reduction

Thermo-dryer

IDHA Series

R134a (GWP 1430)



EU F-Gas Regulation Compatible Products

Low GWP Refrigerant Compatible Thermo-dryer

IDHA Series (Option: F)*1

R1234yf (GWP < 1)

GWP value
Max. 99% reduction

Refrigerated Air Dryers

EU F-Gas Regulation Compatible Products

Low GWP Refrigerant Compatible Air Dryer

IDFA Series (Option: F)*1

R1234yf (GWP < 1)

R454C (GWP 146)

GWP value
Max. 99% reduction

Products subject to regulation Air Dryer

IDFA Series

R134a (GWP 1430)
R407C (GWP 1774)
R410A (GWP 2088)



*1 Scheduled to be released in 2024 or later. Contact your local SMC sales office for further details.

*2 The refrigerant number that indicates the type of refrigerant specified by ISO 817 (International Organization for Standardization) is "R744."

*3 The GWP values are values based on EU F-Gas Regulation 2024/573.

Global Warming Potential (GWP) Comparison

Slightly flammable
refrigerant

146

R454C

Impact on global warming
Max. 96% reduction

Non-flammable
refrigerant

3922

R404A

Refrigerant Regulations Overview

| Item | EU F-Gas Regulation | |
|---|--|---|
| | Temperature Control Equipment (including IDHA) | Refrigerated Air Dryers |
| Subject of regulation | Products using refrigerants with a GWP value exceeding the regulation limit | |
| GWP value limit | ① GWP ≥ 150 (12 kW or less) ② All fluorinated refrigerants (12 kW or less) ③ GWP ≥ 750 (Over 12 kW) | GWP ≥ 150 |
| Regulation implementation date | ①③ From January 1, 2027 ② From January 1, 2032 | From January 1, 2025 |
| Regulation details | Ban on customs clearance of products subject to the EU F-Gas Regulation into the EU | |
| Sale of inventory of products subject to regulation | Can be sold for 1 year from the regulation implementation date (within the EU) Export from the EU prohibited after the regulation implementation date | |
| Maintenance | From January 1, 2025: Use of F-gases with a GWP of 2500 or more will be prohibited. Until January 1, 2030: Regenerated refrigerants can be used. | From January 1, 2025: Use of F-gases with a GWP of 2500 or more will be prohibited. From January 1, 2032: Use of F-gases with a GWP of 750 or more will be prohibited. Until January 1, 2030: Regenerated refrigerants can be used. |
| Refrigerant GWP | Non-flammable refrigerants; R134a: 1430, R404A: 3922, R407C: 1774, R410A: 2088 Slightly flammable refrigerants; R454C: 146, R1234yf: < 1 | |

* The GWP values are values based on EU F-Gas Regulation 2024/573.



Q1 Does the EU F-Gas Regulation (2024/573) apply only to EU member states?

A1 Yes, it only applies to EU member states. North, Central, and South America, Japan, Asia, and Oceania are not subject to the EU F-Gas Regulation.
* For regions outside of the EU, be sure to comply with each region's refrigerant regulations.

Q2 Which F-gases (refrigerants) will be affected by the ban?

A2 The F-gases used in SMC products subject to the regulations are as shown in the table below.

| Refrigerant | GWP value |
|-------------|-----------|
| R134a | 1430 |
| R404A | 3922 |
| R407C | 1774 |
| R410A | 2088 |

Q3 What exactly does "Import into the EU will be prohibited" mean?

A3 It means there will be no customs clearance into EU Member States and the United Kingdom.

Q4 Will it be possible to have maintenance done on temperature control equipment imported into the EU on December 31, 2026 or earlier and refrigerated air dryers imported into the EU on December 31, 2024 or earlier?

A4 There are restrictions relating to maintenance. Refer to the "Refrigerant Regulations Overview" page for further details.

Q5 Can products subject to the EU F-Gas Regulation be transported by aircraft?

A5 As R454C and R1234yf are slightly flammable refrigerants, SMC products that use these refrigerants (with a refrigerant charge of 100 g or more) cannot be transported by aircraft. As CO2 is a non-flammable refrigerant, SMC products that use this refrigerant (with a refrigerant charge of less than 12 kg) can be transported by aircraft.

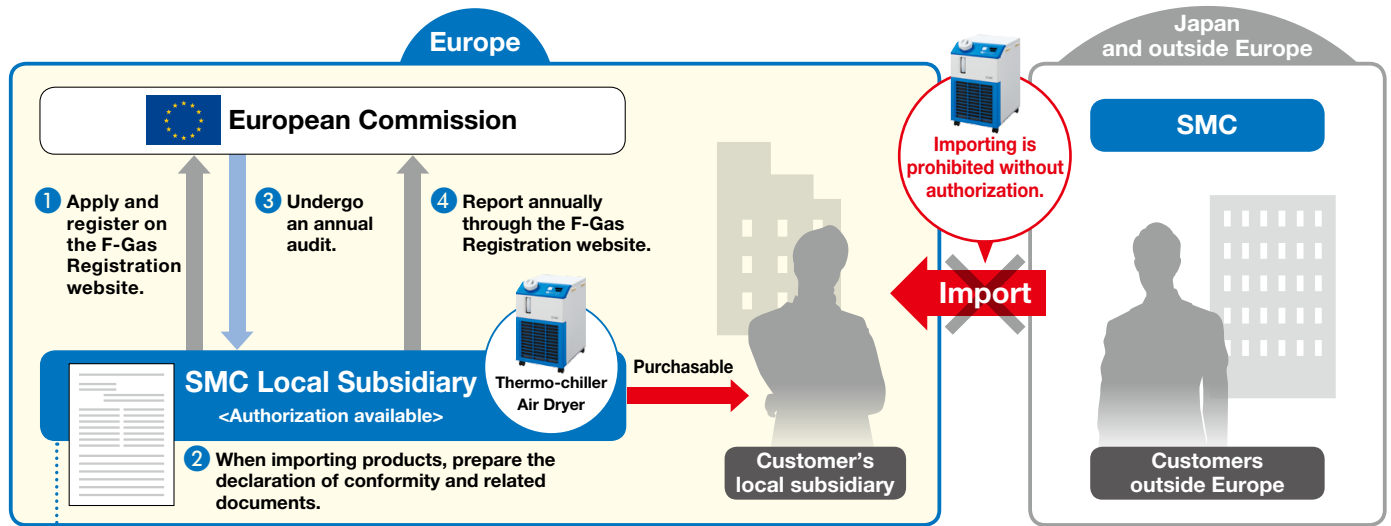
Q6 How can I learn more about the refrigerants used in SMC products?

A6 The refrigerant used in each product is specified in the catalog, external appearance drawings, and on the label attached to the product.

Q7 What is actually required to export temperature control equipment/refrigerated air dryers to the EU?

A7 The importer must apply and register on the F-Gas Registration website, obtain an "Authorization," prepare a "Declaration of Conformity," undergo an audit, and provide an annual report. Especially for customer's products intended for use in the EU that use a refrigerant with an annual CO2 conversion amount of 10 t or more, an "Authorization" is required. SMC Europe has already been granted an "Authorization" for import. Therefore, we suggest purchasing such products from an SMC local subsidiary in order to avoid the troublesome import process.

SMC's response to the EU F-Gas Regulation



List of local subsidiaries of SMC Europe (with import quota licenses available)

| | | | |
|---------|---|----------------|--------------------|
| Austria | SMC Austria GmbH | Italy/Greece | SMC Italia S.p.A. |
| Belgium | SMC Belgium B.V. | Latvia | SMC Automation SIA |
| Denmark | SMC DANMARK A/S | Netherlands | SMC Nederland B.V. |
| Finland | SMC Automation Oy | Romania | SMC Romania S.r.l. |
| France | SMC France | Spain/Portugal | SMC España S.A.U. |
| Germany | SMC Deutschland GmbH | Sweden | SMC Automation AB |
| Ireland | SMC Industrial Automation (Ireland) Limited | | |

* SMC Corporation (U.K.) Ltd. also possesses a UK quota.

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

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