



F-Gas Regulations

The Background

Fluorinated greenhouse gases (F-Gases) are a group of chemicals containing fluorine.

The most common F-Gases in use with Europe are HFCs, such as R134a, R404A and R410A. These gases have a number of applications, the largest being as a refrigerant.

HFCs are ozone friendly, energy efficient refrigerants that are generally of low toxicity and non-flammable. However F-Gases have a relatively high GWP, and thus contribute to global warming when released to the atmosphere.

The European Union is aiming to reduce the environmental impact of fluorinated gases via regulation. The first F-Gas regulation EC 842/2006 focused on reducing emissions mostly by preventing leaks in systems, and in the responsible end-of-life recovery and destruction of gases

F-Gas Regulations Update

The EU has recently published an updated regulation EC 517/2014. This regulation replaces 842/2006 and came into force on 1 January 2015. The changes include:

Cap and Phase Down	A reduction on the placing of the market of F-Gases via a cap, and phase down on the supply of HFCs.
New Product and Equipment Bans	Restrictions on certain refrigeration and air conditioning equipment, foams and propellants using F-Gases.
Service and Maintenance Bans	Limits on the use of higher GWP gases, such as R404A and R507A, in existing refrigeration and air conditioning equipment from 2020.
Leakage Control	An increased need for leak checks, leak detection systems, and associated record-keeping.
Responsible Supply	A requirement that F-Gases are only to be used by, and sold to, trained and certified users.
Labelling	A need for products and equipment to carry more information on the CO ₂ e of the f-gas contained within the installation.

Use trained technicians

Only trained technicians can carry out work on equipment containing F gases, including:

- ✓ installation
- ✓ testing for leaks
- ✓ general maintenance
- ✓ disposal or decommissioning when you no longer need the product

Check for leaks

You are responsible for stopping leaks from your equipment.

Contractors that install, maintain or dispose of equipment share responsibility for trying to stop leaks with the operators of equipment.

You must check all equipment for leaks.

For equipment that contains F-Gas above certain thresholds, you must check for leaks at specific intervals.

Thresholds at which leaks check intervals are specified

The thresholds at which leak check intervals are specified are expressed in terms of CO₂ equivalent.

They take into account both the quantity of F-Gas in the equipment and the 'global warming potential' of the F-Gas (how much the F-Gas contributes to global warming).

This table sets out the:

- ✓ F-Gas thresholds, in tonnes CO₂ equivalent, at which leak check intervals are specified
- ✓ maximum allowed interval between leaks checks for equipment that meets each threshold
- ✓ quantities of commonly used HFCs equal to each threshold

Maximum interval between leak checks	CO ₂ (tonnes)	HFC 23 (kg)	HFC 227ea (kg)	HFC 404A (kg)	HFC 410a (kg)	HFC 134a (kg)
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1 year	5	0.3	1.6	1.3	2.4	3.5
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6 months	50	3.4	15.5	13	24	35
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3 months	500	34	155	127	240	350
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You can find out global warming potentials of other F-Gases in the [list of F-Gases regulated by the EU](#), and use global warming potentials to [calculate the CO₂ equivalent of an F-Gas](#).

Keep records

The operator of equipment, and the company that services it, must keep the following records about any equipment that has to be checked for leaks (ie any equipment that contains F-Gas equivalent to more than 5 tonnes of CO₂):

- ✓ quantity and type of gas in the equipment when it is installed
- ✓ quantity and type of gas added during any maintenance (eg leak repairs)
- ✓ details (name, address and certificate number if relevant) of any companies that install, service or decommission the equipment
- ✓ dates and results of all mandatory leak checks
- ✓ measures taken to recover and dispose of gases when you dispose of the equipment (eg disposing of it through a [registered waste carrier](#))

You must also record if the gas used in the equipment has been recycled or reclaimed and if so the:

- ✓ details of the recycling or reclamation facility (name, address and certificate number if it has one)
- ✓ quantity of any gases recovered

You must keep records for 5 years and make them available to government officials if they ask for them.