

Independent Guide

F-Gas (HFCs refrigeration and air conditioning)



Independent workplace compliance

Why is it important?

Fluorinated greenhouse gases (F gases) can significantly contribute to global warming if released into the atmosphere. Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs) and Sulphur Hexafluoride (SF6) are all types of F gas. The effect of these gases on our atmosphere, when released, is far greater than Carbon dioxide HFCs, they are the most common type of F gases and are mainly used as refrigerants in air conditioning and other refrigeration systems. F gases can also be found in other equipment, such as fire protection systems, high voltage switchgear and specialised industrial processes as well as solvents and types of aerosols.

Applicable legislation

- Fluorinated Greenhouse Gas Regulations 2015 as amended 2018
- The Ozone-Depleting Substances and Fluorinated Greenhouse Gases (Amendment Etc) (EU Exit) Regulations 2020

The 2018 amendment updated the 2015 regulations for the enforcement of five new EU commission implementing regulations & introduced civil penalties for infringements from April 2018 in England. Since January 2020, there has been a ban on using virgin HFCs to service refrigeration equipment that uses a refrigerant with a GWP above 2500, this affects R-404A containing equipment, but is also relevant to plant using refrigerants such as R-507, R-434A and R-422D. There is an exemption for very small equipment (e.g. containing less than 10 kg of R-404A) and for plants that cool a product to below -50°C. EU Exit Regulations were made in order to ensure that legislation continues to operate effectively following the UK leaving the EU.

Frequency of tasks for refrigeration and air conditioning systems

1. Take steps to prevent F gas leakage and repair detected leakage as soon as possible on all stationary systems.
2. Regularly check for leakage- check for leakage within one month after a leak has been repaired to ensure that the repair has been effective.

Normal systems

- CO₂ equivalent 5 tonnes to 50 tonnes: at least every 12 months
- CO₂ equivalent 50 tonnes to 500 tonnes: at least every 6 months
- CO₂ equivalent more than 500 tonnes: at least every 3 months

Hermetically sealed systems benefit from more lenient sets of requirements for example as regards leak checks, always under the condition that the term "hermetically sealed system" is indicated on the label of the equipment. Since 31st December 2016 equipment that contains less than 3 kg F-gases (less than 6 kg if hermetically sealed) is no longer exempt from leak checks.

3. Fit automatic leak detection system for stationary systems above 500 tonnes of CO₂ equivalent.
4. Keep records about refrigeration plant that uses F gases for stationary systems of 3Kg or more, to include:
 - The quantity and type of F gas refrigerant installed in each system
 - Any quantities of refrigerant added
 - The quantity of refrigerant recovered (during service, maintenance or final disposal)
5. Recover F gases during plant servicing and maintenance and at end of plant life for all stationary systems



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6. Use appropriately qualified personnel to carry out installation, servicing and maintenance, and leakage checking on all stationary systems.

Have company certification if employing personnel to undertake installation, maintenance or servicing of RAC systems. There are further obligations for companies employing these personnel or wishing to take delivery of containers of F gas.

7. Label new equipment adjacent to service point/information & in instruction manuals for all stationary systems.
8. The placing on the market of non-refillable containers used to service equipment was banned from July 2007, except for those shown to be manufactured before that time, this is relevant to all systems.
9. Since 2019 you must not use virgin (unused) F gases to refill existing refrigeration systems when both of the following apply:
 - the refrigeration system contains F gas equivalent to 40 tonnes or more of carbon dioxide
 - the F gas has a global warming potential above 2,500

What does compliance look like?

- An up to date register of all refrigeration and air conditioning systems;
- A record of each system covering, types and quantities of F gas contained and further information on addition or recovery, through to end of life;
- A plan of leakage detection checks including frequency of checks;
- The names of the companies undertaking any installation, servicing, and maintenance or leak detection work;
- Relevant competency details and qualifications for all personnel installing, servicing, maintaining refrigeration or air conditioning systems or wishing to take delivery of containers of F gas;
- The results of all inspection, leak test, servicing etc. for each system; and
- Copies of all relevant certificates, service reports etc. relevant to each system. The up to date labelling of any new systems installed stating type and quantity of HFC refrigerant used.

This guide is of a general nature; specific advice can be obtained from Assurity Consulting. Assurity Consulting is the UK's leading independent compliance consultancy specialising in workplace health, safety and environmental solutions. We have over 30 years' experience of helping customers of all sizes, from across all sectors, manage their compliance responsibilities, making sure that their organisation is compliant, their employees are safe, their processes are cost effective and their management team is in control.



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