

Refrigerant Regulations.

Your environmental chamber and the “F” gas regulations.

The European Union’s F-Gas Regulation No 842/2006 became law 4th July 2006. This imposed obligations on “operators” of equipment using refrigerants from 4th July 2007 that operators of environmental chambers should be aware of.

F-Gases include HFC’s which are the common most refrigerant. If your environmental chamber is no more than 15 years old then its refrigeration system is likely to contain at least one of these, most likely R404a, and R23. The regulation aims to minimise emissions of these gases, which effect global warming if they should escape into the atmosphere.

Some HFC refrigerant blends contain both HFCs and HCFCs (e.g. R408A), these blends fall under the EU Ozone regulation, they are also covered by the F-Gas Regulation providing the combined “global warming potential” of the F-Gas is 150 or more.

Older refrigerant systems may have R22 (a common HCFC), as an HCFC it is **not covered** by the F-Gas regulation, but does fall under the **EU Ozone Regulations** which are:

- Use of HCFCs for new refrigeration systems is banned.
- Use of virgin HCFC for servicing existing systems was banned 1st January 2010.
- Use of recycled HCFC for servicing existing systems will be banned after 2014. There is no guarantee that recycled supplies will be available at a reasonable price between 2010 and 2014.

Very old system may contain CFCs R502 and R13; these refrigerants are banned and no longer available.

Your responsibilities as a user / operator.

Under the F-Gas and EU Ozone Regulations “Operators” are defined as people or organisations that have actual control over the technical functioning of the equipment. The legal responsibility for compliance with the F-Gas and EU Ozone Regulation lies with the operator.

Any standard chamber with refrigerant systems (this may also include some systems that don’t specify significant cooling but use a system for closer temperature control or humidity management) less than 1000 Litres in size is likely to be excluded from the requirements (other than the overall obligation to prevent leakage and to repair leaks as soon as possible).

For refrigeration systems with a charge over 3Kg (6Kg if a “hermetically sealed” system) operators **MUST**:

- Take steps to prevent leaks, and repair any leaks as soon as possible (within 14 days for HCFC’s).
- Arrange proper refrigerant recovery by certified personnel during servicing, and arrange compliant disposal for “end of life” equipment and plant.
- Carry out leak checks to the schedule as shown below.
- Ensure that only certified competent personnel carry leakage checks.
- Maintain records of refrigerants and servicing.

Schedule for leak checking.

Leak checking (methods are not expressly defined in detail by the EC) varies depending on the amount of refrigerant in the system.

- Annually or more frequently for systems with 3Kg or more (unless it is “hermetically sealed” in which case the threshold is 6Kg or more).
- At least once every 6 months for systems with 30Kg or more.
- Systems must be rechecked within one month after a leak has been repaired to ensure that the repair has been effective.

Maintenance and servicing records

Operators of all systems containing 3Kg or more F-Gas must maintain records to include.

- Quantity and type of F-Gas installed, added or recovered.
- Identification of the company or technician carrying out the servicing.
- Dates and results of leakage checks.

It is the operator’s responsibility to ensure that the relevant servicing personnel have obtained the necessary certification showing that they understand the regulations and are competent.

Summary

As an operator of equipment with a gas containing refrigeration system you have a legal obligation to ensure you meet these requirements. Prosecutions for “failure to comply” are currently rare but the penalties are severe.

Most chambers up to a 1000 Litre in size will have a refrigerant charge less than 3Kg; however larger chambers, fast rate of temperature change and thermal shock chambers are likely to have systems with refrigerant charges over the 3Kg limit.

Customers who have an established service contract with QTP Environmental Ltd where the first service visit has been carried out will already meet the regulations as the contract ensures the system is regularly leak checked by competent personnel. A record log sheet will be included in your service manual supplied after your first service visit.

If you have any questions or doubts regarding these regulations and the refrigerant in your chamber please do not hesitate to contact us, we will be happy to discuss your current position and requirements regarding these regulations.

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