

F Gas - What the laws are and what they mean to you.

Welcome

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Contractors and end users.

F Gas - What the laws are and what they mean to you.

End users of refrigeration and air conditioning systems are responsible for complying with;

- ***the ozone depleting substances (ODS) and***
- ***the fluorinated gas (F-Gas) Regulations***

because they are the "operator" of the systems

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The Regulation describes the "operator" (and typically a company) as being the natural or legal person exercising actual power over the technical functioning of the equipment and systems.

This includes system accessibility, day to day operation and running as well as the deciding power in respect of technical modifications, checks and repairs.

- Therefore the owner is generally accepted as being the person legally responsible for compliance under the Regulations

It is important to understand that even with maintenance contracts in place the service provider/contractor is not the operator.

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There is some overlap with the requirements under both ODS and F Gas Regulations, but the requirements under F-Gas are more onerous and as such will take precedence.

ODS came into force before F-Gas and its principle aim is the protection and restoration of the ozone layer through the control of emissions of ozone depleting substances and their ultimate phase out.

F-Gas aims to reduce greenhouse gas emissions through the containment and prevention of emissions. It is a European legislation since June 2006.

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ODS = HCFC and service HFC blends
(R22, R401a, MP66, FX10....)

F-Gas = HFC and HFC blends
(R134a, R407c, R410a....)

HFC refrigerants have a zero ODP.

Both HCFC and HFC have a GWP;

Eg: R22 has the effect of 1500 x CO₂,
R422d has the effect of 2230 x CO₂.

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Clarification regarding ODS gases and their phase out dates;

- 1st January 2001
 - The use of CFC's in maintenance banned.
 - The use of HCFC's in the manufacture of all new equipment banned.

- 1st January 2010
 - The supply of virgin HCFC's banned.
 - The use of virgin HCFC's in maintenance banned.

- 1st January 2015
 - The use of all HCFC's, reclaimed and recycled banned.

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What to expect as an end user?

- A Refrigeration Contractor may recover refrigerant providing the engineer is certified to do so
- How do I know if the Engineer is certified?
A register will exist to show a list of companies that employ qualified service Engineers and uses the correct tools. The operator needs to be satisfied that the engineer working on the system is certified under the correct category.
- Details of this list will be available soon and the IRI has been in consultation with the Department. This will be known as the F Gas register and is a self certification document.
- What happens to the gas when it has been removed?

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Removed (recovered) gas falls into a number of categories;

- **Recycling;** means the reuse of a recovered controlled substance following a basic cleaning process (can be carried out on site by qualified and certified companies)
- **Reclamation;** means the reprocessing of a recovered controlled substance in order to meet the equivalent performance of a virgin substance taking into account its intended use (currently not available in Ireland and must be sent over seas)
- **Destruction;** means the destruction of a recovered controlled substance (currently not available in Ireland and must be sent over seas)

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It is the responsibility of the operator to know what happens to the recovered refrigerant.

All systems in which recycled or reclaimed refrigerants are used during maintenance or servicing must be labelled with a record of source or supplier of the refrigerant, type used and quantity installed

Such records must be kept by the system operator and must be available for inspection by the EPA

How do I know if my system needs to be inspected?

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Operators must ensure a frequency of leak tests as follows: -

- at least once every 12 months for systems containing 3Kgs of refrigerant or more (*this does not apply to hermetically sealed systems containing less than 6Kgs of refrigerant and labelled as such*)
- * at least once every 6 months for systems containing 30Kgs of refrigerant or more *
- * at least once every 3 months for systems containing 300Kgs of refrigerant or more *
- The systems furthermore must be checked for leakage within one month after a leak has been repaired to ensure that the repair has been effective. *Commission Regulation (EC) no. 1516/2007 sets out details of leak testing requirements.*

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- They must also ensure: -
- a direct or indirect leak detection system is installed on any application containing 300Kgs of refrigerant or more and the system must be checked every 12 months to ensure it is operating correctly (a leak detection system is not mandatory on HCFC systems)
- * If a leak detection system is fitted the above frequency of leak tests can be halved *
- they maintain a logbook record of all leak tests and refrigerant usage on a system by system basis.
- they ONLY USE SUITABLY QUALIFIED ENGINEERS TO CARRY OUT THIS WORK.

- What information needs to be recorded for the EPA?

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The EPA as the competent authority will request to see log books on site. The responsibility stays with the operator, not the contractor, to make sure this is in place.

- The following is the requirement of what should be recorded in the **logbook**: -
 - Operators name and contact details.
 - Servicing engineer's Name and Certification ID Number.
 - Servicing Company Name/Certification Number.
 - System refrigerant type.
 - System refrigerant charge.
 - Quantities added.
 - Quantities recovered for recycling, reclamation or destruction.
 - Dates and results of leak checks.
 - Identification of cause of leaks.

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Does the service company / contractor have any responsibility?

- *Contracting companies do of course carry some of the legal responsibility for helping to find, fix and prevent the escape of refrigerant to the atmosphere.*
- *The minimum immediate interim qualification is City & Guilds 2078, but by July 2011 all personnel will need to have achieved the new F Gas qualification (City & Guilds 2079 or *approved equivalent*). * In Ireland FETAC Level 5 Certificate 5S0108 ~ available through Refrigeration Skillnet **
- Contractors will have to clearly label all new systems with the type of refrigerant in use and the total charge applied.

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Make sure your contractor / service engineer is suitably qualified to carry out the task in hand.

Category I; universal qualification ~ covers all activities on all systems
leak testing, servicing, maintenance, installation and recovery

Category II; system activity <3 kg (or <6 kg hermetically sealed systems)
leak testing, servicing, maintenance, installation and recovery
leak testing only on larger systems ~ without system break-in

Category III; system activity <3 kg (or <6 kg hermetically sealed systems)
recovery only

Category IV; all systems - *leak testing only ~ without system break-in*

Some exemptions include student trainees (for up to 2 years) and personnel undertaking brazing, soldering or welding on a piece of RAC equipment, providing they are working under the supervision of a person with the appropriate certification.

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Is it legal for a contractor with the correct qualifications to transport recovered refrigerant?

You must ensure that the contractor / service engineer is registered with the EPA and has been issued with a Prior Annual Notification (PAN). The procedure is very straight forward and there is no cost to apply.

You can check if a company is registered with the EPA by checking their web site www.ozone.ie

Very clear and concise guidance has been produced by the EPA regarding their position on the transport of waste refrigerant and this can be found on their web site.

Sample F Gas Log Book sheet (IOR web site)

General Information			
Plant Name	Reference No.		
Location of plant			
Plant Operator ⁷			
Operator Contact ⁸			
Cooling loads served			
Refrigerant Type	Refrigerant Quantity Installed (kg)		
Plant manufacturer	Year of installation		
Refrigerant Additions			
Date	Engineer ⁹	Amount Added, kg	Reason for addition
Refrigerant Removals			
Date	Engineer	Amount Removed, kg	Reason for removal. What was done with recovered refrigerant
Leak Tests			
Date	Engineer	Test Result	Follow up actions required
Follow-up Actions			
Date	Engineer	Related to test on	Actions Taken
Testing of Automatic Leak Detection System (if fitted)			
Date	Engineer	Test Result	Comments

⁷ Name and address of company operating the plant

⁸ Contact details for Operator's nominated person responsible for F-Gas compliance

⁹ Identify both the Company and the actual Technician carrying out the work, with contact details – to provide evidence of competence.

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Summary

Containment is the key message here and systems that do not leak will have no impact on Global Warming

Record keeping is no longer a 'nice to have' and fines will become part of the future for non compliance. The EPA are now actively enforcing these regulations.

Thank you for your attention

Questions

Contact;

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