

## Requirements for equipment containing ozone depleting or fluorinated greenhouse gases

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The regulations on gases used in refrigeration or chiller equipment are a mess, mainly due to there being several regulations, including EU regulations, instead of a more logical, single regulation. This white paper draws together the requirements that affect most organisations who have such equipment from these.

Note that HFCs are hydro-fluoro-carbons, and HCFCs are hydro-chloro-fluoro-carbons. HCFCs create more damage.

Regulation	Requirement																					
Fluorinated Greenhouse Gases Regs 2015	<p>Requires compliance with EU regulation EU 517/2014</p> <p>Specifies certification and evaluation bodies for personnel working on F gases where F gases are HFCs, PFCs. Does not include HCFCs.</p> <p>Specifically covers prevention of emissions.</p> <p>Whilst they do not mention leak checks and detection, EU 517/2014 does mention these and so leak checking is a requirement.</p>																					
EU 517/2014	<p>Requires equipment to be checked for leaks based on the GWP, expressed as equivalent tonnes of CO<sub>2</sub>. Applies if equipment is more than 5 tonnes CO<sub>2</sub> or 10 tonnes CO<sub>2</sub> if hermetically sealed. After 31 December 2016, equipment containing less than 3kg F gas are no longer excluded from this requirement. GWP values apply to the individual equipment. However, if several air conditioning units are joined together to be part of a system, then their individual GWP values must be added together to determine the leak test frequency.</p> <table border="1"> <thead> <tr> <th>GWP</th> <th>Equipment</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>&lt; 5 tonnes</td> <td>Any equipment</td> <td>Not required</td> </tr> <tr> <td rowspan="2">5 tonnes to &lt;50 tonnes</td> <td>Equipment without leakage detection</td> <td>12 months</td> </tr> <tr> <td>Equipment with leakage detection</td> <td>24 months</td> </tr> <tr> <td rowspan="2">50 tonnes to &lt;500 tonnes</td> <td>Equipment without leakage detection</td> <td>6 months</td> </tr> <tr> <td>Equipment with leakage detection</td> <td>12 months</td> </tr> <tr> <td rowspan="2">500 tonnes or more</td> <td>Equipment without leakage detection</td> <td>3 months</td> </tr> <tr> <td>Equipment with leakage detection</td> <td>6 months</td> </tr> </tbody> </table> <p>See free-to-use GWP calculator Fgas.xls available from the link below.</p>	GWP	Equipment	Frequency	< 5 tonnes	Any equipment	Not required	5 tonnes to <50 tonnes	Equipment without leakage detection	12 months	Equipment with leakage detection	24 months	50 tonnes to <500 tonnes	Equipment without leakage detection	6 months	Equipment with leakage detection	12 months	500 tonnes or more	Equipment without leakage detection	3 months	Equipment with leakage detection	6 months
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The Ozone-Depleting Substances Regs 2015	<p>Specifies qualifications and supervision, offences and powers of regulating authorities.</p> <p>For the servicing and maintenance of refrigeration, air conditioning and heat pump equipment which is stationary at all times when in operation, the required qualifications are:</p> <ul style="list-style-type: none"> <li>• City &amp; Guilds Certificate in Handling Refrigerants Scheme 2078(b), or</li> <li>• Construction Industry Training Board Safe Handling of Refrigerants (JOI)(c)</li> </ul>																					
The Energy Performance of Buildings (England and Wales) Regulations 2012, as amended 2012, 2013, 2014, 2015	<p>Requires company to regard individual air conditioning systems to be part of a single system.</p> <p>Where the output is over 12 kW, requires that the air conditioning system is inspected by an energy assessor at regular intervals not exceeding five years.</p> <p>This is commonly called a TM44 inspection.</p>																					

Further information on identifying what gases you've got, eg What is R410A?, is available in White Paper 10 "How do I know is my refrigerant is an HCFC?" <http://bit.ly/1NEkh41>.

Free-to-use calculators for GWP using the F gas type and its weight for each air conditioning unit are:

Individual units: <http://bit.ly/2w8tphh> Combined units: <http://bit.ly/2vakcl7>

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