

## Guidance for Stationary Refrigeration & Air-Conditioning

This Information Sheet provides guidance on the interim and full minimum requirements for training and certification of personnel and companies working on stationary refrigeration, air-conditioning and heat pump equipment (RAC systems) that contain or are designed to contain HFC or HCFC refrigerants.

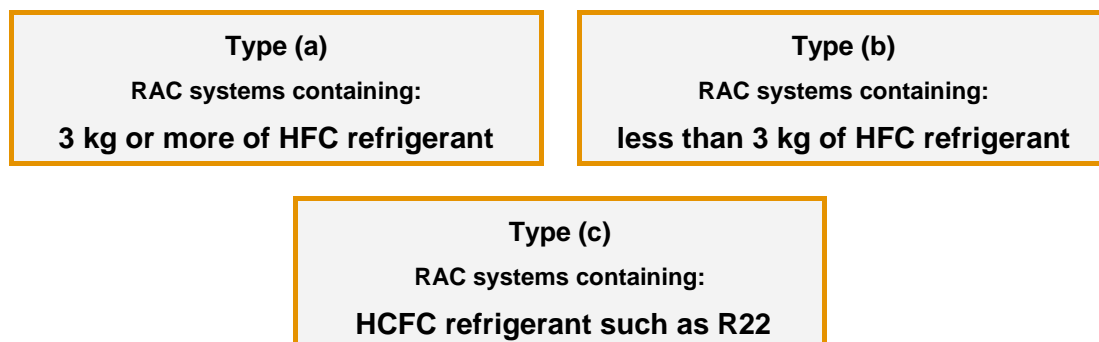
The training requirements for mobile air-conditioning systems (MACs) are different to those described in this Information Sheet. See Information Sheet MAC 5 for further details.

### Requirements for Working on Different Equipment and Refrigerants

The qualifications required by the Regulations (see section 2) may be different for the following refrigerants that might be used in RAC systems:

- ◆ Fluorinated greenhouse gases (F gases) - hydrofluorocarbons (HFCs)
- ◆ Ozone Depleting Substances (ODS) – hydrochlorofluorocarbons (HCFCs)

The size of equipment also affects the required qualifications. The following three types of stationary refrigeration and air-conditioning equipment each have different training and certification requirements:



### Activities Requiring Personnel Training and Certification

Personnel involved in certain activities on stationary RAC systems that contain or are designed to contain HFC or HCFC refrigerants already require a certificate to prove they have appropriate qualifications. In particular, this applies to:

- ◆ Leakage checking.
- ◆ Refrigerant recovery.
- ◆ Installation.
- ◆ Maintenance or servicing.

The requirement to hold a suitable externally awarded qualification for personnel working on RAC systems containing 3 kg or more applies both to in-house staff and to personnel employed by external refrigeration and air-conditioning contractors. The EC F gas Regulation has required new qualifications that meet the minimum requirements to be introduced in Great Britain.

## 1. Structure of this Information Sheet

This Information Sheet has sections that address personnel training and certification requirements for each of the 3 equipment types described above, together with a separate section dealing with company certification requirements. In each section we first describe the current requirements, which apply during the relevant interim period, and then describe the future requirements.

**Section 2** provides a summary of relevant European and British legislation that define current and future training and certification requirements.

**Section 3** describes the new categories of qualification that are specified in the EC F gas Regulation.

**Section 4** addresses requirements for personnel working on stationary RAC systems that contain or are designed to contain 3 kg or more of HFC refrigerant.

**Section 5** addresses requirements for personnel working on stationary RAC systems that contain or are designed to contain less than 3 kg of HFC refrigerant.

**Section 6** addresses requirements for personnel working on stationary RAC systems for HCFC refrigerant.

**Section 7** addresses requirements for company certification (this only applies to companies working on stationary systems that contain or are designed to contain containing HFCs).

**Section 8** addresses the requirements for companies taking delivery of F gases.

**Section 9** provides further explanations and definitions.

## 2. Summary of Relevant Legislation

### F Gas Regulations

For stationary RAC systems that contain or are designed to contain HFCs the basis of all personnel and company certification is set out in the EC Regulation on certain fluorinated greenhouse gases (the F gas Regulation, EC/842/2006).

A further Commission Regulation, EC/303/2008 provides extra details and defines the training and certification requirements for stationary RAC systems.

The relevant EC Regulations as listed above provide the basis for both interim and full requirements.

The GB Fluorinated Greenhouse Gases Regulations 2009 (Statutory Instrument No. 261) lists the minimum qualifications that are acceptable in the interim period (until July 2011) and also the certification and evaluation bodies providing stationary equipment qualifications that meet the full requirements of EC/303/2008 for RAC.

The above Regulations are collectively referred to as “the F gas Regulations”.

## Ozone Regulations

The use of HCFC refrigerants (such as R22) must comply with the EC Regulation on substances that deplete the ozone layer (EC/2037/2000).

The GB Ozone Depleting Substances (Qualifications) Regulations 2009 (Statutory Instrument No. 216) lists the qualifications that are suitable for working on systems containing HCFC refrigerants.

The above Regulations are collectively referred to as “the Ozone Regulations”.

There are no interim arrangements under “the Ozone Regulations” because the current requirements for personnel have been in force since 2006.

### 3. New Categories of Training in the F Gas Regulations

For RAC personnel, the European Commission Regulation 303/2008 refers to four different levels of certification, which allow personnel to carry out different activities. Note that Category I covers all activities whereas the other 3 categories are more restrictive:

**Category I** certificate holders may carry out all of the following activities for any size of RAC systems containing HFC refrigerants - leakage checking, refrigerant recovery, installation, maintenance and servicing.

**Category II** certificate holders may carry out refrigerant recovery, installation, maintenance and servicing, in relation to RAC systems containing less than 3 kg of fluorinated greenhouse gases (or less than 6 kg for systems that are hermetically sealed). Category II certificate holders may also carry out leak checks on any plant provided that it does not entail breaking into the refrigeration circuit containing fluorinated greenhouse gases.

**Category III** certificate holders may carry out refrigerant recovery in relation to RAC systems containing less than 3 kg of fluorinated greenhouse gases (or less than 6 kg for systems that are hermetically sealed).

**Category IV** certificate holders may carry out leak checks on any plant provided that it does not entail breaking into the refrigeration circuit containing fluorinated greenhouse gases.

RAC qualifications that meet the minimum requirements have been introduced. The two certification and evaluation bodies named in the GB Fluorinated Greenhouse Gases Regulations 2009 (SI No. 261) - City and Guilds and the Construction Industry Training Board (CITB) - both have courses that meet the minimum requirements of EC/303/2008, see Table 1.

**Table 1 Qualifications that meet the minimum requirements for RAC**

Level	City & Guilds	CITB
<b>Category I</b>	2079-11 City and Guilds Level 2 Award in F Gas and ODS Regulations: Category I	J11 Category I – leak checking, recovery, installation, service and maintenance of equipment
<b>Category II</b>	2079-12 City and Guilds Level 2 Award in F Gas and ODS Regulations: Category II	J12 Category II – installation, service and maintenance of equipment with a charge of less than 3kg, (6kg if hermetically sealed) and leakage checking
<b>Category III</b>	2079-13 City and Guilds Level 2 Award in F Gas and ODS Regulations: Category III	J13 Category III – recovery of refrigerant
<b>Category IV</b>	2079-14 City and Guilds Level 2 Award in F Gas and ODS Regulations: Category IV	J14 Category IV – leakage checking

#### 4. Personnel Requirements: Equipment Type (a)

<b>System type</b>	<b>Stationary RAC</b>
Refrigerant type	<b>HFC</b>
Refrigerant quantity	<b>3 kg or more</b>

Personnel working on RAC systems containing 3 kg or more of HFC refrigerant must comply with the requirements described below. Holders of these qualifications may also work on smaller HFC equipment and on HCFC equipment.

##### **Interim Certificate - Acceptable Qualifications, RAC, HFC Refrigerants, 3kg or more**

The interim period runs until 3 July 2011. During this period, in addition to the qualifications that meet the minimum requirements of EC/303/2008, as discussed in the “Full Certificate” section below, two alternative qualifications are acceptable as an interim certificate if gained before 9 March 2009. As specified in the GB Fluorinated Greenhouse Gases Regulations 2009 (Statutory Instrument No 261) these are:

- ◆ City & Guilds Certificate in Handling Refrigerants Scheme 2078
- ◆ Construction Industry Training Board (CITB) Safe Handling of Refrigerants J01 (also referred to as CITB 206710 in other Defra documentation).

Personnel holding one of these interim qualifications, obtained before the 9 March 2009, wishing to undertake installation, maintenance or servicing of RAC systems containing or designed to contain F gases have until 3 July 2011 to obtain a qualification that meets the minimum requirements of EC/303/2008, see Table 1 for more details.

##### **Full Certificate - Minimum Requirements, RAC, HFC Refrigerants, 3kg or more**

By the 3 July 2011 all personnel wishing to work on RAC systems containing or designed to contain F gases need to hold a full certificate that meets the minimum requirements for certification of personnel as set out in Commission Regulation 303/2008. These requirements go beyond the content of the two qualifications described above in the “Interim Certificate” section.

Personnel wishing to undertake leak checking, recovery, installation, servicing and maintenance on RAC systems containing or designed to contain 3 kg or more of F gas need to hold either of the two qualifications:

- ◆ 2079-11 City and Guilds Level 2 Award in F Gas and ODS Regulations: Category I
- ◆ Construction Industry Training Board (CITB) J11 Category I – leak checking, recovery, installation, service and maintenance of equipment

Or a European qualification recognised under mutual recognition provisions; see Section 9 for more details.

Holders of any of the stationary equipment qualifications detailed above are deemed holders of a valid certificate for the purposes of the EC F gas Regulation and Commission Regulation 303/2008.

## 5. Personnel Requirements: Equipment Type (b)

<b>System type</b>	<b>Stationary RAC</b>
Refrigerant type	<b>HFC</b>
Refrigerant quantity	<b>Less than 3 kg</b>

### Interim Certificate - Acceptable Qualifications, RAC, HFC Refrigerants, less than 3kg

The interim period runs until 3 July 2011. A number of qualifications are acceptable during the interim period. If gained before 9 March 2009 the following qualifications are deemed an interim certificate:

- ◆ City & Guilds Certificate in Handling Refrigerants Scheme 2078
- ◆ Construction Industry Training Board (CITB) Safe Handling of Refrigerants J01
- ◆ Personnel holding an in-house qualification (see Section 9 for more details)

Persons may have previous professional experience gained before the 15 February 2008 by working (without supervision) on equipment containing or designed to contain less than 3 kg of HFC refrigerant. Anyone relying on this option should have obtained an interim certificate before the 4 July 2009. The two bodies that issued these interim personnel certificates were:

- ◆ Domestic Appliance Service Association (DASA), contact details:
  - Website: [www.dasa.org.uk](http://www.dasa.org.uk), telephone: 0870 224 0343 or email: [office@dasa.org.uk](mailto:office@dasa.org.uk)
- ◆ Whitegoods Trade Association (WTA), contact details:
  - Website: [www.whitegoodstradeassociation.org](http://www.whitegoodstradeassociation.org), telephone: 0845 226 1272 or email: [admin@whitegoodstradeassociation.org](mailto:admin@whitegoodstradeassociation.org)

Personnel holding either an interim personnel certificate (obtained before the 4 July 2009) or one of the three qualifications listed above (gained before 9 March 2009) wishing to undertake installation, maintenance or servicing of RAC systems containing or designed to contain F gases have until 3 July 2011 to obtain a new qualification that meets the minimum requirements of EC/303/2008, see Table 1 for more details.

### Full Certificate - Minimum Requirements, RAC, HFC Refrigerants, less than 3kg

By the 3 July 2011 all personnel wishing to work on RAC systems containing or designed to contain F gases need to hold a full certificate that meets the minimum requirements for certification of personnel as set out in Commission Regulation 303/2008. These requirements go beyond the four options to gaining an interim certificate described above in the “Interim Certificate” section.

Personnel wishing to undertake leak checking, recovery, installation, servicing and maintenance on RAC systems containing or designed to contain less than 3 kg of F gas need to hold one of the following qualifications:

- ◆ 2079-11 City and Guilds Level 2 Award in F Gas and ODS Regulations: Category I
- ◆ 2079-12 City and Guilds Level 2 Award in F Gas and ODS Regulations: Category II
- ◆ Construction Industry Training Board (CITB) J11 Category I – leak checking, recovery, installation, service and maintenance of equipment
- ◆ Construction Industry Training Board (CITB) J12 Category II – installation, service and maintenance of equipment with a charge of less than 3kg, (6kg if hermetically sealed) and leakage checking

Or a European qualification recognised under mutual recognition provisions; see Section 9 for more details.

Holders of any of the stationary equipment qualifications detailed above are deemed holders of a valid certificate for the purposes of the EC F gas Regulation and Commission Regulation 303/2008.

## 6. Personnel Requirements: Equipment Type (c)

<b>System type</b>	<b>Stationary RAC</b>
Refrigerant type	<b>HCFC</b>
Refrigerant quantity	<b>Any quantity</b>

Personnel working on RAC systems containing any quantity of HCFC refrigerant must comply with the training requirements described below.

### Full Certificate - Minimum Requirements, RAC, HCFC Refrigerants

The full minimum qualifications that apply in Great Britain are specified in GB Ozone Depleting Substances (Qualifications) Regulations 2009 (Statutory Instrument No. 216) which has applied from 9 March 2009. This Regulation specifies a number of alternative qualifications:

- ◆ City & Guilds Certificate in Handling Refrigerants Scheme 2078
- ◆ Construction Industry Training Board (CITB) Safe Handling of Refrigerants Reference J01
- ◆ 2079-11 City and Guilds Level 2 Award in F Gas and ODS Regulations: Category I
- ◆ 2079-12 City and Guilds Level 2 Award in F Gas and ODS Regulations: Category II
- ◆ Construction Industry Training Board (CITB) J11 Category I – leak checking, recovery, installation, service and maintenance of equipment
- ◆ Construction Industry Training Board (CITB) J12 Category II – installation, service and maintenance of equipment with a charge of less than 3kg, (6kg if hermetically sealed) and leakage checking

The EC Ozone Regulation does not require any new qualifications to be introduced, so the above qualifications will be sufficient to work on any HCFC RAC systems in the future. Not all of these qualifications will be sufficient for work on HFC systems from 4 July 2011 because by then personnel working with F gases and F gas containing equipment will need to have obtained a new qualification. If personnel wish to work on HFC equipment as well as HCFC equipment, after 4 July 2011, they will need to have obtained one of the new F gas qualifications relevant to the activity being carried out.

## 7. Company Certification Requirements under the F Gas Regulations

All companies (this includes sole-traders) undertaking refrigeration and air-conditioning work, be that as an in-house function or acting as contractors on behalf of other companies, must hold a Company Certificate if they employ personnel that carry out the following activities on RAC systems containing or designed to contain HFCs:

- ◆ Installation,
- ◆ Maintenance or servicing.

Defra has designated three Company Certification bodies. Other certification bodies may be appointed at a later date.

The timetable specified in the Commission Regulation 303/2008 is as follows:

- ◆ An interim company certificate or full certificate must be held by 4 July 2009.
- ◆ A full company certificate must be held by 4 July 2011.

Failure to hold a certificate will be an offence under the Fluorinated Greenhouse Gases Regulations 2009 (Statutory Instrument No 261). All companies should apply for their certificate as soon as possible.

To obtain an interim Company Certificate companies will need to show that they employ appropriately certified personnel in a sufficient number to cover the expected volume of activities. During the interim period City & Guilds 2078, CITB J01, an in-house qualification or an interim personnel certificate issued by DASA or WTA (see section 5 above for more details) are all acceptable in an application for an interim Company Certificate.

To gain a full Company Certificate, companies need to show that they employ sufficient personnel to cover the expected volume of activities and those personnel need qualifications that meet the minimum requirements of EC/303/2008 as described in Section 3, 4 and 5 above. In addition, they will need proof that the necessary tools and procedures are available to the personnel engaged in activities for which certification is required.

For the purposes of Company Certification each separate legal 'person', including sole traders, needs to hold a Company Certificate.

To obtain a Company Certificate contact one of these bodies:

**Refcom:**

- ◆ Website: [www.refcom.org.uk](http://www.refcom.org.uk), telephone: 01768 860409 or email: [info@refcom.org.uk](mailto:info@refcom.org.uk)

**Bureau Veritas:**

- ◆ Website: [www.bureauveritas.co.uk/fgas](http://www.bureauveritas.co.uk/fgas) , telephone: 0207 661 0726 or email: [fgas.mail@uk.bureauveritas.com](mailto:fgas.mail@uk.bureauveritas.com)

**Quidos:**

- ◆ Website: <http://fgasregister.com>, telephone: 01225 318400 or email [fgas@quidos.co.uk](mailto:fgas@quidos.co.uk)

## 8. Taking Delivery

This obligation applies to an organisation taking delivery of F gases to undertake the activities described in Articles 3 and 4 of the EC F gas Regulation namely leak checking, repair and recovery. Companies involved in carrying out these activities can only take delivery of containers of F gas if it employs relevant personnel that are appropriately qualified and certificated.

Regulation 11(1) of the Fluorinated Greenhouse Gases Regulations 2009 (Statutory Instrument No 261) makes it an offence for any company who carries out an activity referred to in Article 3 or Article 4 of the EC F gas Regulation unless an employee of that company is a qualified person. However, the qualification obligation only applies to those personnel who are actually using the F gases to carry out the activities in Article 3 and 4 of the EC F gas Regulation. This does not prevent unqualified personnel from physically taking delivery of the F gases, providing that they do not carry out the activities in Articles 3 and 4 of the EC F gas Regulation.

## 9. Other Useful Information

This section provides further details of issues related to qualifications and certification of personnel.

### Exemptions from Personnel Qualifications

There are exemptions for three categories of personnel:

- 1) Trainees are exempt for up to 2 years, but they must work under the supervision of a person with an appropriate personnel qualification (including an interim certificate) and must be enrolled on a relevant training course.
- 2) Personnel only undertaking brazing, soldering or welding on a piece of RAC equipment would be exempt if they hold a nationally recognised qualification to undertake such activities and if they are supervised by a person holding an appropriate personnel certificate (including an interim certificate) to undertake installation of F gas containing equipment.
- 3) Personnel undertaking recovery of F gases from "waste equipment" under the WEEE Directive (Waste Electrical and Electronic Equipment) EC 96/2002 with an F gas charge less than 3 kg, in premises covered by a suitable permit, are exempt provided that they are employed by the company holding the permit and have completed a training course on the minimum skills and knowledge corresponding to Category III that is verified by an attestation of competence issued by the permit holder.

## Manufacturers

Personnel and Company Certification requirements do not apply to any RAC manufacturing and repairing activity undertaken at a manufacturer's sites.

### What is an in-house qualification?

**In-house qualification** is defined in the Fluorinated Greenhouse Gases Regulations 2009 (Statutory Instrument No 261) and means a qualification verified by a certificate of competence or other written confirmation issued by an employer to such of its employees who have successfully completed a course of training provided by that employer relating to the work in question.

A **course of training** provided by an employer must enable an employee who has been trained to carry out relevant work satisfactorily. An employer must keep a record of training must provide a copy to an employee which shows the name of employee trained, course provided, dates provided and date of completion or other confirmation that course was completed.

As with the other interim qualifications listed in Sections 4 and 5, personnel must have obtained an in-house qualification before 9 March 2009 in order for it to qualify as an interim qualification.

### What is the status of a non-UK personnel qualification?

The EC F gas Regulation requires that Member States give mutual recognition to certification of suitable qualifications from other EU countries. This will only apply to a "full certificate" that meets the minimum requirements specified in Commission Regulation EC/303/2008. In some EU countries the existing qualifications already meet or go beyond these minimum requirements. The European Commission will be compiling a list of qualifications that meet the new minimum requirements (not available at the time of writing this document).

Interim personnel certificates issued by other EU Member States will not be valid in the GB.

### What is the status of a non-UK Company Certificate?

As with personnel certificates, a Company Certificate issued in another EU Member State is valid in GB.

Interim Company Certificates from other Member States will not be valid in the GB.

### What is meant by "installation"?

Commission Regulation 303/2008 defines installation as follows:

*"installation" means joining two or more pieces of equipment or circuits containing or designed to contain fluorinated greenhouse gas refrigerant, with a view to assembling a system in the location where it will be operated, including the action by which refrigerant conductors of a system are joined together to complete a refrigerant circuit irrespective of the need to charge the system after assembly*

This is a wide ranging definition that covers all activities that involve joining individual parts of a refrigeration system together.

### What is meant by "maintenance or servicing"?

Commission Regulation 303/2008 defines maintenance or servicing as follows:

*"maintenance or servicing" means all activities, excluding recovery and checks for leakage, that entail breaking into the circuits containing or designed to contain fluorinated greenhouse gases, in particular supplying the system with fluorinated greenhouse gases, removing one or more pieces of circuit or equipment, re-assembling two or more pieces of circuit or equipment, as well as repairing leakages.*



### How to Contact F-Gas Support:

**Telephone Help Line:** 0161 874 3663 **Website:** [www.defra.gov.uk/fgas](http://www.defra.gov.uk/fgas)

**Email:** [fgas-support@enviros.com](mailto:fgas-support@enviros.com)

**Post:** F-Gas Support, P O Box 481, Salford, M50 3UD

This document has been prepared by F-Gas Support; the information provided is intended as guidance and must not be taken as formal legal advice nor as a definitive statement of the law. Ultimately only the courts can decide on legal questions and matters of legal interpretation. If you have continuing concerns you should seek legal advice from your own lawyers.

F-Gas Support is a Government funded team set up to help organisations understand their obligations under the EU Fluorinated Greenhouse Gases and Ozone Regulations. F-Gas Support is also working with Regulators to promote compliance. It is being run on behalf of Defra and the devolved administrations by the Local Authorities Coordinators of Regulatory Services (LACORS) and Enviro.