

Department for Environment, Food and Rural Affairs

# Guidance for Stationary Refrigeration & Air-Conditioning

## Guidance: F Gas and Ozone Regulations

### Information Sheet RAC 5: Qualifications & Certificates

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This Information Sheet provides guidance on the 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. An interim period was allowed for those working with HFCs and systems designed to contain them. This interim period has now elapsed and only full Personnel and Company Certification apply. See Sections 4 & 5 for more details.

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:

<b>Type (a)</b> RAC systems containing: 3 kg or more of HFC refrigerant	<b>Type (b)</b> RAC systems containing: less than 3 kg of HFC refrigerant
<b>Type (c)</b> RAC systems containing: HCFC refrigerant such as R22	

# 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 stationary RAC systems applies both to in-house staff and to personnel employed by external refrigeration and air-conditioning contractors. The EU 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.

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

**Section 3** describes the categories of qualification that are specified in the EU 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 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 EU 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 GB Fluorinated Greenhouse Gases Regulations 2009 (Statutory Instrument No. 261) lists the certification and evaluation bodies providing stationary equipment qualifications that meet the requirements of EC/303/2008 for RAC.

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

For the stationary RAC sector an interim period was allowed which ended on 4<sup>th</sup> July 2011. This was to give technicians time to gain a full qualification.

### Ozone Regulations

The use of HCFC refrigerants (such as R22) must comply with the EU Regulation on substances that deplete the ozone layer (EC 1005/2009).

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 GB Controls on Ozone-Depleting Substances Regulation 2011 (Statutory Instrument No. 1745) sets out the offences and penalties applicable to infringements of the EU Ozone Regulation.

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

There were 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.

Two certification and evaluation bodies are named in the GB Fluorinated Greenhouse Gases Regulations 2009 (SI No. 261) - City and Guilds and the Construction Industry Training Board (CITB). Both offer 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 6187-01 City and Guilds Level 2 NVQ Diploma in installing, testing and maintaining air-conditioning and heat pump systems 6187-02 City and Guilds Level 2 NVQ Diploma in installing and maintaining refrigeration systems	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)

System type	Stationary RAC
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.

Personnel wishing to undertake leak checking, recovery, installation, servicing and maintenance on RAC systems containing or designed to contain 3 kg or more of an F gas refrigerant need to hold one of the Category I qualifications listed in Table 1 above.

Alternatively, personnel must hold an equivalent 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 EU F gas Regulation and Commission Regulation 303/2008.

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

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

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 either the Category I or Category II qualifications listed in Table 1 above.

Alternatively, personnel must hold an equivalent 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 EU F gas Regulation and Commission Regulation 303/2008.

## 6 Personnel Requirements: Equipment Type (c)

System type	Stationary RAC
Refrigerant type	HCFC
Refrigerant quantity	Any quantity

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 since 9<sup>th</sup> 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 EU 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 are sufficient for work on HFC systems. If personnel wish to work on HFC equipment as well as HCFC equipment they will need to hold one of the full F gas qualifications relevant to the activity being carried out as described in Sections 3, 4 & 5 above.



## 7 Company Certification Requirements under the F Gas Regulations

All businesses (this includes sole-traders) undertaking refrigeration and air-conditioning work must hold a full 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.

Failure to hold a full Company Certificate will be an offence under the Fluorinated Greenhouse Gases Regulations 2009 (Statutory Instrument No 261).

To gain a full Company Certificate, businesses 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 Sections 3, 4 and 5 above. In addition, businesses 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.

Company Certificates are valid for no less than three years from the date of issue and thereafter should be renewed or replaced if the activities mentioned above continue to be performed.

Defra has designated three Company Certification bodies. Others may be designated at a later date. To obtain a Company Certificate contact one of the designated bodies:

Body	Website	Telephone	Email
Bureau Veritas	<a href="http://www.bureauveritas.co.uk/fgas">www.bureauveritas.co.uk/fgas</a>	0207 661 0726	<a href="mailto:fgas.mail@uk.bureauveritas.com">fgas.mail@uk.bureauveritas.com</a>
Quidos	<a href="http://www.fgasregister.com">www.fgasregister.com</a>	01225 318 400	<a href="mailto:fgas@quidos.co.uk">fgas@quidos.co.uk</a>
Refcom	<a href="http://www.refcom.org.uk">www.refcom.org.uk</a>	01768 860 409	<a href="mailto:info@refcom.org.uk">info@refcom.org.uk</a>

## 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 EU F gas Regulation, namely leak checking, repair and recovery. A business 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 business who carries out an activity referred to in Article 3 or Article 4 of the EU F gas Regulation unless an employee of that business 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 EU 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 EU 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 F gas personnel qualification and must be enrolled on a training course to obtain one of the appropriate F gas qualifications.
- 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 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 the status of a non-UK personnel qualification?

The EU 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.

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

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

The information in this document is intended as guidance and must not be taken as formal legal advice or 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.

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