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Summary Guidance for Garages who Service Mobile Air Conditioning (MAC) Units

Mobile Air Conditioning (MAC) units are Air Conditioning (AC) units in cars, buses, trucks and other vehicles designed to cool the vehicle for the comfort of passengers. MACs generally run on **F-gases**, such as R134a, which are powerful greenhouse gases.

In addition, refrigeration equipment in trucks and trailers can run on Fluorinated Greenhouse gases (F-gases) or Ozone Depleting Substances (ODS). There is a separate guidance note '[Summary Guidance for Operators of Refrigerated Trucks and Trailers](#)' available for these operators.

F-gases in MACs are governed by the F-gas Regulations¹ which are concerned with the **phase down** of F-gases and also **preventing their release** into the atmosphere.

This guidance document summarises the key requirements and obligations specified in the Regulations for **garages that recover** F-gas from MACs of all road vehicles² and in particular:

- Garages/companies and personnel involved in servicing and repairing MACs.
- Garages/companies and personnel involved in vehicle dismantling.

¹ Regulation (EU) No 517/2014 of the European Parliament and of the Council of 16 April 2014 on fluorinated greenhouse gases and repealing Regulation (EC) No 842/2006

² This does not include the refrigeration units of trucks and trailers which are covered separately under the F-gas Regulations (see [Guidance document on Refrigeration Trucks and Trailers](#)) but does include the MAC units cooling the cab of the trucks themselves.

Table 1: Key Requirements

| Requirement/Obligation to: | For Passenger Cars & Small Vans ³ | For Larger Road Vehicles (e.g. buses, trucks) Trains, Ships and Aircraft |
|---|--|--|
| 1. Prevent Emissions | Yes | Yes |
| 2. Recover F-gas | Yes | Yes |
| 3. Hold a training certificate, appropriate qualifications to recover F-gas | Yes | Yes |
| 4. Hold a Company Certificate | No | No |
| 5. Manage Waste F-gases as a hazardous waste | Yes | Yes |
| 6. Maintain Specified Records | Yes | Yes |

It should be noted that MAC units which contain F-gas must be **labelled** in accordance with the F-gas Regulations before they are placed on the market.

Occasionally, MACs running on Ozone Depleting Substances (ODS), such as CFC 12, can be found in some older vehicles imported from outside of European Union (EU). If the equipment you service contains ODS please refer to the Guidance Note titled "[Guidance Note for Contractors of Equipment Containing F-gases and ODS](#)".

Key Obligations

1. Prevent Emissions

The intentional release of F-gases into the atmosphere is prohibited. The F-gas Regulation does not require leak checks to be carried out on MACs. However, in cases where MAC units in cars and light vans are showing abnormal leakage, companies and personnel servicing those vehicles **must** identify and repair the leak prior to refilling the system.

2. F-gas Recovery

F-gases must be recovered from MACs in all vehicles prior to dismantling and disposed of appropriately.

F-gases removed from all MAC systems during servicing, maintenance, repair or vehicle dismantling must be recovered to ensure they are recycled or destroyed.

³ Cars and light vans covered by the 2006 MAC Directive(Directive 2006/40/EC relating to emissions from air-conditioning systems in motor vehicles and amending Council Directive 70/156/EEC) include:

- Vehicles type M1: "for carriage of passengers and having no more than 8 seats in addition to the driver's seat"
- Vehicle type N1: "for carriage of goods and having a max weight not exceeding 3.5 tonnes"

Refrigerant recovery equipment must be used to remove refrigerant, and the work must be carried out by appropriately qualified personnel (see **3 Training Requirements** below).

3. Training Requirements to Recover F-gases

Personnel carrying out gas recovery during MAC maintenance must have the following qualification:

- a. For MAC units of **cars and light vans**⁴ personnel must hold:
 - FETAC Special Purpose Certificate in Handling F-gas Mobile Aircon Systems Award Code 5S0109 or equivalent
 - City & Guilds Certificate 5101-01 in Safe Handling of Refrigerants for Mobile Air Conditioning Systems (MAC); or
 - Equivalent courses that fulfil the requirements of (EC) No 307/2008⁵

Alternatively personnel can hold a qualification to recover refrigerants from MACs that is recognised by another EU Member State. Trainee personnel are exempt for up to 1 year, but they must work under the supervision of qualified personnel and must be enrolled on a relevant training course; and

- b. For Larger Road Vehicles (e.g. buses, trucks) trains, ships and aircraft personnel must hold an 'appropriate' qualification - this may be the relevant industry standard.

While no specific qualifications are required for companies and personnel under the F-gas Regulations, the obligation to prevent emissions requires a high level of competence that appropriate certification provides.

4. Requirements to Purchase F-gases

F-gases for use in MACs in cars and small vans can only be sold to personnel (or companies employing personnel) that hold the correct training qualifications. However, it is not necessary for a person to hold a training qualification in order to physically take receipt of the F-gases. These training

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- Vehicles type M1: "for carriage of passengers and having no more than 8 seats in addition to the driver's seat"
- Vehicle type N1: "for carriage of goods and having a max weight not exceeding 3.5 tonnes"

⁵ Commission Regulation (EC) No 307/2008 defines the minimum requirements as to the skills and knowledge to be covered in certification programmes; the FETAC Certificate is listed in Schedule 1 of the Irish [Fluorinated Greenhouse Gas Regulations 2011 \(SI No. 279 of 2011\)](#). The F-gas Regulation requires that Member States give mutual recognition to certification of suitable qualifications from other EU countries.

qualifications do not apply to the purchase of F-gas for use in MACs in larger road vehicles (e.g. buses, trucks) trains, ships and aircraft.

5. Manage Recovered Gases as Hazardous Waste

Recovered F-gas for which there is no further use is a **hazardous waste** and must be disposed of correctly⁶. A garage should use an authorised waste contractor to take the waste gas away for treatment.

If the garage wishes to dispose the gas itself, it must do so at an authorised waste facility and must have a **Prior Annual Notification** (PAN) from the Environmental Protection Agency ([Ozone.ie](http://www.epa.ie)) before allowing any waste gas to be removed.

Important: all recovered ODS **must be discarded and managed as a hazardous waste** - as you can no longer add ODS to any equipment.

6. Maintain Records

Written records must be kept to prove that waste F-gas has been managed legally and disposed of accordingly.

For further information including a detailed set of guidance documents please see www.ozone.ie or www.fgases.ie.

Disclaimer

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⁶ i.e. in accordance with the [Irish Waste Management Act of 1996](http://www.irishstatutebook.ie/1996/act-11/).