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1 OBJECTIVE OF THIS TECHNICAL GUIDANCE BULLETIN

The objective of this note is to inform European refrigeration, air conditioning and heat pump installers of the next steps in service and placing on the market bans **coming into force on 1st January 2020** under the F-Gas Regulations.¹

Some of the product (placing on the market) and servicing bans will have major implications for the sector, and it is essential that service engineers understand what these changes will mean for them.

2 PRODUCT PLACING ON THE MARKET BANS

The F-gas Regulation 517/2014, Annex III sets out a timetable for various different sectors and uses of different refrigerants where the sale of these systems / applications becomes illegal after certain dates. For the purposes of clarity this note shall only consider those prohibitions coming into place on 1st January 2020:

Product or application ²	What does this mean?
Refrigerators and freezers for commercial use (hermetically sealed equipment) that contain HFC refrigerants with a GWP of 2500 or more.	Stand-alone self-contained freezers and refrigerators for commercial use: shops, supermarkets, any retail use, etc. can only be sold where they are using a refrigerant with a GWP < 2500. It does not apply to multipack systems or split type systems with an external condensing unit.
Stationary refrigeration equipment that contains, or whose functioning relies upon, HFC refrigerants with a GWP of 2500 or more except applications designed to cool products to below -50°C	Any new refrigeration system (including split type) can only be sold or installed where it uses a refrigerant with a GWP < 2500. Ultra-low temperature applications such as cryogenics to lower than -50°C are exempt from this prohibition.
Moveable room air conditioning equipment that contains HFC refrigerants with a GWP of 150 or more.	Portable AC units, self-contained and designed to be moveable by the end user – normally small units on wheels – can only be sold where they use a low GWP refrigerant < 150 GWP.

3 SERVICE BAN

The use of virgin fluorinated greenhouse gases with a GWP³ of 2500 or more to service or maintain refrigeration equipment with a charge of 40 tonnes CO₂ equivalent or more is prohibited from 1st January 2020.

¹ Regulation 517/2014 Article 13 and Annex III

² Products or equipment placed on the EU market as of 1st January 2020

³ GWP Global Warming Potential, based on the Intercontinental Panel on Climate Change (IPCC) 4th Assessment Report figures

There is no restriction on the servicing nor the long-term use of these systems, other than the prohibition on using virgin refrigerants after 1st January 2020. There are no current plans to prohibit the use of these systems in future.

Exemptions from this service ban apply to military equipment and also where equipment is intended for applications designed to cool products to below -50°C.

The table below summarises the minimum charge size corresponding to 40 tonnes CO₂-equivlent for the most common refrigerants ≥ 2500 GWP used in refrigeration

Refrigerant	GWP	Minimum charge size
404A	3922	10.20 kg
422D	2729	14.66 kg
507	3985	10.04 kg

An extension of the use of fluorinated greenhouse gases with a GWP of 2500 or more applies until 1st January 2030 for:

- **Reclaimed refrigerant** used for the service and maintenance of existing refrigeration equipment, provided the refrigerants have been labelled in accordance with Article 12(6)⁴. Note this is for existing equipment only – **reclaimed refrigerants cannot be used in new equipment being installed.**
- **Recycled refrigerant** used for the service or maintenance of existing refrigeration equipment provided they have been recovered from such equipment. Such recycled gases may only be used by the undertaking which carried out the recovery as part of maintenance or servicing or the undertaking for which the recovery was carried out. This means that the service company who carried out the recovery of the used refrigerant can recycle the recovered charge and re-use on the same systems, or the end user can retain the recycled refrigerant to re-use on their systems.

What should you do as a contractor?

As a refrigeration contractor, you have essentially 3 options:

1. You continue servicing existing equipment after 2020 and until 2030 using only reclaimed or recycled refrigerant under the specified conditions
2. You retrofit the existing equipment with a refrigerant <2500 GWP
3. You install new equipment with a refrigerant <2500 GWP

These options must be assessed and discussed with your customer. For options 2 and 3, you must take into consideration the current and future impact of the ongoing HFC phase-down on refrigerants' availability and prices.

Credits

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⁴ Regulation 517/2014, Article 12(6): Reclaimed or recycled refrigerants shall be labelled with an indication that the substance has been reclaimed or recycled, information on the batch number and the name and address of the reclamation or recycling facility. Note: this document is based on knowledge available at the time of publication and is meant for general purposes, not for reliance on in relation to specific technical or legal issues, in which case you should always seek independent advice. No responsibility of any kind for any injury, death, loss, damage or delay however caused, resulting from the use of the advice and recommendations contained herein, is accepted by the authors or others involved in its publication (including AREA). 13/12/2019