**What you need to know about the EU F-GAS Regulation**

***Alternative solution to Remote CO2 considering the F-GAS Regulation***

On 11th March 2024 the EU F-Gas Regulation came into force with a strict phase down on fluorinated gases (F-Gases) and product bans. It aims to reduce the greenhouse gases and foster the usage of natural refrigerant with a low global warming potential (GWP). Here is everything you need to know as a player in the food retail industry:

1. Commercial refrigerators & freezers: From 2025 onwards, only units with a refrigerant which does not exceed a GWP of 150 are allowed to be installed.
2. Closed commercial refrigeration systems: New systems can only be installed with a refrigerant with lower than 150 GWP (with some safety exceptions).
3. For stationary commercial refrigeration system, the GWP limit will be at 2500 until 2030. After that, the refrigerant must have a lower GWP as 150.
4. Commercially used composite (multipack) refrigeration systems with an output >40kW: No higher GWP than 150 allowed. Exception for the primary cooling circuit of cascade systems (GWP 1500).

All above mentioned bans and limits apply for new devices placed on the market. Devices that were already put into operation before the dates listed may continue to be used.

**Service Bans**

Maintenance and servicing of existing system with current refrigerants is possible throughout the life of the products, either with new, recycled, or remanufactured refrigerants. For systems put on the market after 11th March 2024 the following rules apply:

Since 2020 there is a limit for systems >40 tons CO2 equivalent with a GWP of 2500. From 2025 this will be active for all systems. From 2032 only stationary refrigeration systems with a GWP lower than 750 will be allowed to be serviced.

From 2030 onwards processed or recycled refrigerants with a higher GWP of 2500 will not be allowed to be serviced.

**Next steps in the EU FGAS Regulation**

From 2024 onwards: Existing legal acts and new legal acts will be updated.

Until 2030: All regulations will be reviewed and may be adjusted.

Until 2040: Evaluation if complete exit of F-Gases is possible until 2050

2050: Full ban on F-Gases

**F-GAS Regulation – the Solution**

To comply with the EU F-GAS Regulation, players in the food retail industry have the following options:

1. When a commercial refrigeration system or single units which are using F-Gases are installed before 11th March 2024, they still can be used and serviced (see service bans).
2. When replacing a commercial refrigeration system or installing a new system, the chosen refrigerant must have a lower GWP than 150 (except stationary commercial refrigeration systems = GWP2500 until 2030)

Natural refrigerants that can be used are Propane (R290), CO2 (R744) and Ammonia (R717).

1. Clearly evaluate which refrigerant is used in the offered system and ensure that the GWP is inline with the outlined GWP limits.
2. When in doubt, contact experts to ensure compliance with the EU F-GAS Regulation and seek for best practices.

AHT Cooling Systems has already transformed to natural refrigerants over a decade ago and thus is future proof in every aspect of commercial refrigeration.

**Alternative system solutions to remote CO2**

With the EU F-GAS Regulation in mind, a remote CO2 system is a commonly used commercial refrigeration system. Still, there are some challenges and important things to consider when choosing this system such as high pressures, transcritical operation on warmer weather conditions and a lack of skilled people to service these systems.

An alternative is the **AHT SPI System** – a remote system using the natural refrigerant R290 as primary refrigerant but with a much simpler system design.

Same as on the remote CO2 systems, all refrigeration and freezer cabinets are connected with pipes which contain a glycol-propylene mixture to transfer the heat from the cabinet to an outside dry cooler. A pumpstation ensures the transfer of the heat and can also be connected to the building heating system to effectively use the produced heat for warm water preparation or heating purposes.

The difference to remote CO2 systems? There is no high pressure and in case of a failure of a single cabinet the SPI system remains to work as not the whole system is affected. Even in higher outside temperature areas where CO2 systems are operating transcritical, the SPI system ensures best possible functionality up to 48°C without losing or compromising in efficiency.

Also, regarding energy efficiency, the SPI system can keep up and in same areas is also superior compared to the remote CO2 system.

As R290 is considered a natural refrigerant, the SPI system is a future proof solution that already now exceeds the EU F-Gas regulation. AHT has over 12 years of experience and over 12.000 systems running worldwide supporting our customers to be energy efficient and ensure compliance with the F-Gas regulation.

Get in contact now and learn more about our future proof solutions and how your supermarket can save energy costs.

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