F Gas Regulations

Put forward under EU Legislation, the F Gas Regulation 842/2006 came into force on 4th July 2007

The Montreal Protocol signed in 1987 started the process of reducing ozone depleting gases.As a result, ozone-depleting substances, such as chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), that were used extensively in air conditioning and refrigeration began being phased out. The primary CFC used in air conditioning was R12 and the vast majority of this was phased out years ago and replaced with R22 a HCFC. Whilst HCFCs are less damaging than CFCs they are still ozone-depleting.

R22, together with all HCFCs, ceased being used in new air conditioning installations in the UK in 2004. Non-ozone-depleting alternatives, hydroflurocarbons (HFCs) such as R410a and R407c are now being used instead.

Below is a timeline relating to R22 legislation:

2004 - The production and supply of new air con systems using R22 were banned
31 Dec 2009 - The supply of new R22 refrigerant used to service equipment was banned
1 Jan 2010 - 31 Dec 2014 – Only reclaimed or recycled R22 can be used
31 Dec 2014 - A complete ban of R22 refrigerant including reclaimed or recycled R22
31 Dec 2014 - Systems operating on R22 will be classed as 'not serviceable'

At the beginning of 2013 it was estimated that around 55% of the UK's air conditioning systems were using R22 refrigerant. In less than 2 years these systems, specifically the refrigerant circuit, will be unable to be repaired. This presents a potentially critical risk to many businesses. In addition to this risk, older R22 based systems use typically 30-40% more energy than a modern HFC based inverter systems making them much less efficient. What options are available?

1. Replace the existing system

Most old systems, especially those in poor condition, inefficient, or not meeting their heating/cooling load, should be replaced with a new HFC based system. As a new inverter based system is likely to be around 40% more efficient then considerable energy savings will result. The Carbon Trust have partnered with Siemens Financing to offer the Energy Efficiency Financing programme where energy savings wholly offset the cost of a new system installation.

2. Convert the existing system to use a HFC refrigerant

For newer systems, which are in good working order, it may be possible to convert. This covers a range of possibilities from a 'drop-in' HFC refrigerant compatible with the existing system to a more comprehensive modification. It should be noted though that the converted plant is likely to have reduced cooling capacity and be less efficient than the original system. Every conversion will need to be looked at individually to assess if and how the conversion could be done. Our team of highly experienced engineers will be able to provide you with the specific options for your system.

3. Do nothing

This option may be suitable for small non-critical installations such as an office split air conditioning system. Such systems are usually very reliable and could be replaced quickly and fairly cheaply with a new system when they become irreparable.Our team of engineers at **EHLUK** are here to help guide you through the process and find the best solution for your business.