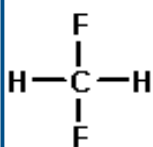


Fact Sheet | Working with R32

With recent changes to F-Gas regulations the use of R32 is on the increase.

R32 is a mildly flammable refrigerant and is similar in operating conditions to R410A, however R32 has a much lower GWP making it a more practical choice for companies looking to reduce their Carbon Footprint as well as following legislation changes.



R32 is difluoromethane (methylene fluoride) and is an HFC refrigerant. R32 has been used for a number of years as a component of both R407C and R410A.

R32 has a lower GWP than R410A (675 compared with 2,088); higher energy efficiency; uses similar technology, keeping costs similar and is relatively inexpensive to produce. However due to the mild flammability it requires different handling procedures.






R32 has a burning velocity of 6.7cm/s and tests show if ignited it generates a momentary small flame. A number of tests carried out by Daikin and Suwa Tokyo University of Science show that even if combustion of R32 occurs (at concentrations of more than 320g/m³), it is not explosive and the possibility of fire spreading is extremely low.

Working Safely

- **Keep the Area Clear:** Ensure there are no potential sources of ignition within 3m of the system.
- **Recovery Unit:** A recovery unit can move large quantities of R32 refrigerant and having a compliant unit is essential for safe work practice
- **Vacuum Pumps:** Although there should be minimal refrigerant in a system ready for vacuum, it is not guaranteed. With the pending increase in the size of R32 units on the market, it is recommended you use a R32 specific vacuum pump.
- **Extinguisher:** Always make sure there is a fire extinguisher in the immediate vicinity before carrying out any works.
- **Leak Prevention:** Minimising any leaks on an R32 system when installing or servicing should be high on your safe work practices list, one way to minimise the leak risk is to ensure you use a torque wrench set to the manufacturer's recommendations on your flare joints.
- **Pipework Compatibility:** When it comes to pipe work, stick to material that is R410A rated, as this is also suitable for R32.

As standard you should always have an electronic leak detector and manifolds

R410A	R32
 4.0kW	 High energy efficiency Efficiency: +6%
	 Reduced size Volume: -18% Charge: -20%

	GWP	Boiling Point	Ignition Temp	Lower flammability level (kg/m ³)	Practical Limit (Kg/m ³)
R32	675	-51	648	0.307	0.061
R407C	1610	-44 to -37	704	-	0.31
R410A	2090	-52	-	-	0.44
R290	3	-42	470	0.038	0.008