

Introducing R32

Introducing the
move to R32
refrigerant gas

YoungAir
C o n d i t i o n i n g

How does this affect me?

If you are thinking of investing in air conditioning, you should consider switching to an R32 system. The Environmental benefits are big and the financial costs involved are small.

This is obviously a huge subject that we have condensed into a few of pages, highlighting information that we feel needs to be brought to the attention of our customers.



The Background on Refrigerant Gas

All air conditioning systems operate using some form of refrigerant gas. The majority of single split systems contain HFC R410A with a typical refrigerant charge of between 1kg and 5kg.

The F-Gas Regulation is an important piece of legislation that will result in significant reductions in the emissions of F-Gases. These are very powerful greenhouse gases, with global warming impacts that are several thousand times higher than CO₂ (per kg of gas emitted).

All EU Member States agree that it is important to reduce emissions of these gases. The new Regulation (EU) 517/2014 revokes and replaces the existing F-Gas Regulation (EC) 842/2006.

For more detailed information please contact DEFRA through GOV.UK or Daikin Airconditioning UK Ltd.



Why can't we keep using R410a?

The new EU Regulation rates gases on their Global Warming Potential or GWP. The F-Gas Regulation is a phase out process that will see the EU reducing the availability of HFCs by 79% between 2015 and 2030. There will be significant cuts by 2018 and by 2024 there will be a cut of nearly 70% from the 2015 quota. (www.gov.uk Guidance: HFC phase down in the EU)

A Proactive approach to Global Warming.

The use of HFCs with a GWP above 750 (including R410A) will be banned in single split systems containing less than 3 kg of refrigerant placed on the EU market after January 1st 2025 (EU 517/2014. L 150/223).

Clearly we have 9 years before this ban comes into effect. However at Young Air Conditioning we feel there is a moral obligation rather than a legal one to start switching now. We know R410A has a high GWP and there is a Daikin alternative readily available so we are doing our bit to get the message across starting from now. 9 years of doing nothing will have an impact that we cannot ignore.

Looking to the future

It sounds cliché but we really do only have One World and we can look after it better. Daikin have been market leaders in developing a range of air conditioning systems operating on R32 gas.



In April 2015 Young Air Conditioning was the first UK Company to install an R32 system – we really are passionate about playing our part in protecting our environment.

Why switch to R32 from R410A?

- ✓ R32 has a GWP of 675, one third of R410a (2,088)
- ✓ R32 is more energy efficient than R410a
- ✓ R32 needs a smaller charge. For example an R22 system requiring 1.2kg charge would only need 0.7kg of R32.
- ✓ Using R32 allows for more compact equipment. Due to smaller charges of gas the heat exchangers and other components can be smaller allowing for smaller equipment.
- ✓ R32 is a single component refrigerant gas, which means it can be easily reused and recycled. Unlike R410a which is a blend.
- ✓ R32 operating pressures are similar to R410a
- ✓ R32 and R410a systems use the same types of refrigerant oil.

R32 mildly flammable - the risks reviewed

Like most low GWP HFCs, R32 refrigerant gas is rated as A2L:

A = Low risk of accidents due to toxicity,
2L = Mildly flammable.

Daikin and Suwa, Tokyo University of Science carried out tests and concluded, “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.” (Daikin UK Ltd, White paper Introducing R32, page 08)

“If the current guidance for R32 in EN378 are followed and a complete charge were to leak into a confined space it is very unlikely to ignite from a spark created by operating a switch or capacitor. And when performing soldering/brazing work during maintenance, the small flame that occurs from remaining gas in the system is actually caused by the oil. Tests show the behavior is the same as with R410A systems.” (Daikin UK Ltd, White paper Introducing R32, page 08)





What are we doing starting from now?

- ✓ We are going through the process, where possible of re-issuing all open quotes to include the option for a system operating on R32 gas.
- ✓ Every new quote that we produce will automatically include, where possible an option for a system operating on R32 gas.
- ✓ Promoting the use of systems containing R32 gas through customer newsletters, blogs, information leaflets etc.



A joint partnership between Young Air Conditioning Ltd and Daikin UK Ltd

Since the UK voted to leave the EU, we have not been made aware that any of the above information has changed and we are still working with this current regulation.

We thank you for reading the above information and we hope that we have provided you with enough information. Further information can be found under the References

References:

- Access to European Union Law. Regulation (EU) No 517/2014 of the European Parliament and of the council. Retrieved November 17, 2016 from http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2014.150.01.0195.01.ENG
- DAIKIN UK LTD. White paper Introducing R32. Retrieved November 17, 2016 from: http://www.daikin.co.uk/binaries/3340_Introduction_of_R32_FINAL_tcm511-342471.pdf
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