

R32 TOTAL BUILDING SOLUTIONS QUESTIONS & ANSWERS

Following our recent webinar, here is a summary of the questions asked on the day...

Question 1

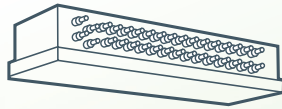
What does the abbreviation CSR stand for?



CSR means Corporate Social Responsibility. It includes a company's commitment to improve environmental practices and the uptake of renewable technologies.

Question 2

Is it difficult to install higher charges of R32?



In terms of Hybrid VRF, the refrigerant is only contained between the outdoor unit and the Hybrid Branch Controller (HBC) box, therefore monitoring the refrigerant is quite straight-forward. For example, the branch controller can be located in a locked cupboard or a plant area and you could place a leak detector with an alarm within this location.

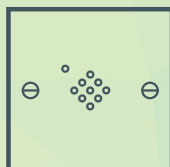
This avoids the probability of the R32 refrigerant leaking into the small-occupied spaces served by the indoor units, as the indoor units are actually served by water.

Question 3

What are the differences in the practical limit of R32 and R410A refrigerant and does this impact on any leak detection measures you need to take when dealing with these refrigerants in real-world applications?

R32 is classified as an A2L refrigerant. Standard EN378 includes a set of regulations covering the management of A2L refrigerants in buildings. What we have to do on site to mitigate against A2L is a little bit different to R410A.

To make it easier for installers, we have produced some calculation tools where you simply enter your refrigerant charge and what type of building or rooms you're installing the system in. It will then tell you what to do on site in terms of leak detection or any other digital measure, in terms of ventilation. These regulations all relate to the A2L nature of R32, whereas R410A is classed as an A1, which is zero flammability.



Question 4

Will you still sell R410A split systems or is R32 now the main refrigerant of choice?



Only systems which have not yet been released or developed in R32 will still be available using R410A. All ranges of Mr Slim are now available in R32, including Power Inverter and the recently released Standard Inverter and Inverter models.

All of our M series wall mounted systems are now available in R32. Where a model is available in R32, we will be phasing out the R410A equivalent.



Question 5

How easy/difficult is it to install the water in the R32 Hybrid VRF system?

With Hybrid VRF we have tried to make the installation as easy as possible. Essentially, we have engineered out all the difficult aspects involved with water.

The Hybrid VRF system has been designed and manufactured to remove all the manual commissioning aspects of a water system (such as selecting pumps, plate heat exchangers, water pipe sizing) and this is all automated within the product. We also provide extensive installation guides covering different aspects of water installations, different products that can be used and different ways of putting the R32 Hybrid VRF solution together. But crucially, R32 Hybrid VRF follows the same ethos as traditional VRF in the sense that it's a plug and play solution.



Question 6

Why does Mitsubishi Electric not use R32 in larger systems yet?

We've recently seen changes in the IEC regulations edition 6, which widens the envelope of usage of R32 or A2L refrigerants. However, currently EN378 has not reflected these changes, therefore the challenges for larger system capacities are still there. From our point of view, with good design and following the manufacturer's guidelines and regulations, high capacity R32 can be designed and installed in most commercial applications.

Currently for us, R32 Hybrid VRF allows for high capacity systems to be installed as we run water to each fan coil and therefore don't need to deal with a refrigerant within the occupied space. Larger split systems, such as the 20 and 25kW models, should be available using R32 by the end of 2019 / beginning of 2020. As consultants and air conditioning installers gain more experience with A2L refrigerants, the scope for larger capacity systems to be released into the UK and European markets can be realised.



Question 7

Should the water side of R32 Hybrid VRF be treated as a radiator system using expansion vessels and other components?

Essentially, yes. If you have experience in installing water-based systems, chilled water systems, radiator systems or other low pressure water systems; installing a Hybrid VRF solution is very similar. We use expansion vessels, isolation valves, drain cocks, air vents and so on. So most practices are transferrable to Hybrid VRF installations.

Question 8

You mentioned R32 VRF technology in the poll, will this be released this year?

Currently our main focus for R32 is in Hybrid VRF technology. We are expanding the capacities of our outdoor units to between 22 and 56kW, and these systems should be available mid-way through this year. As a company, Mitsubishi Electric are committed to releasing equipment in R32 and helping lower the GWP of refrigerant available for sale.

There will be further R32 releases to come in 2019. Please keep an eye on our website for further updates.



Question 9

Could you please explain the differences between the 3 Mr Slim ranges?

Mr Slim is available in three ranges:

- Power Inverter models are our top end range. They benefit from the highest energy efficiency and the longest pipe runs. The 10, 12.5 and 14kW models, have pipe runs up to 100m.



- Standard Inverter models have mid-range efficiency. They incorporate some excellent features and benefits.



- Inverter models are only available in 4 Way-Blow Ceiling Cassette types and are ideal for economical applications.



Question 10

Can R32 be used to produce hot water?

From our perspective (with our product range), we don't have products that are dedicated to hot water production using R32. In terms of the properties of the refrigerant, it's very similar to R410A. Using a vapour compression cycle and R410A, we can raise water temperature from 55 to 66°C. So in principle, R32 can be used to produce hot water, but we don't have a product specifically designed for that application currently. Please keep an eye on our website for further updates.

Question 11

Will Brexit impact R32 availability and regulation?

The F-Gas regulations are actually controlled by the EU. If we get a hard Brexit, we will come out of the EU and we will be no longer part of the F-Gas regulations. However, the UK government and DEFRA will take over running the F-Gas regulations. We will still follow EN378 and the IEC regulations.

Our factories manufacture globally, so the units brought into the UK will also need to be suitable for European installation.



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