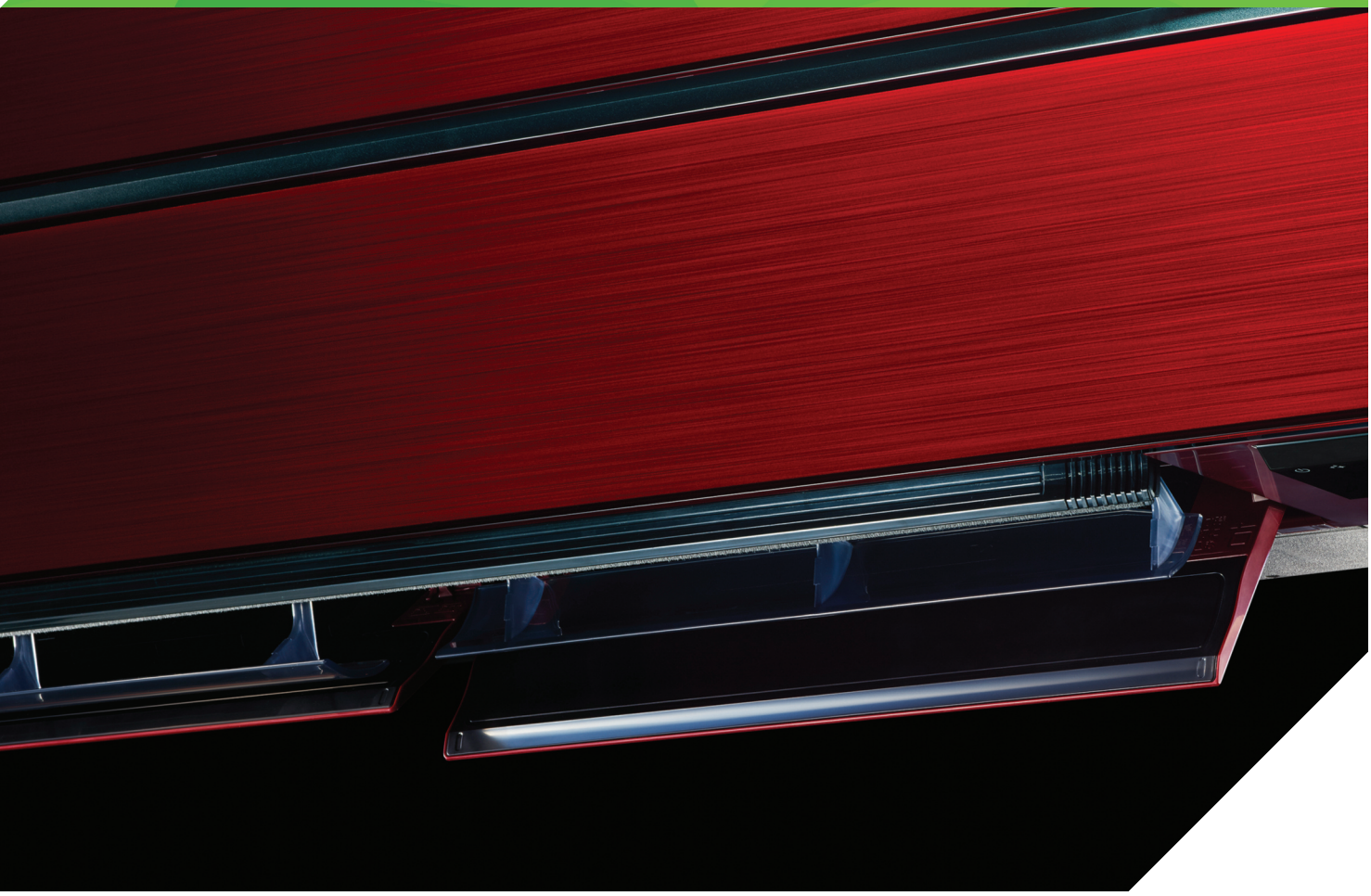
The Renewable Solutions Provider
Making a World of Difference

R32

Frequently Asked Questions



MITSUBISHI ELECTRIC
Airtech
Air Conditioning & Building Services

Q. Why are we moving to R32 refrigerant?

A. **The move to R32 refrigerant is driven by the latest set of F-Gas regulations and the phase down of high global warming potential (GWP) refrigerants for Europe and the United Kingdom.**

The decision by air conditioning manufacturers to transition to a new refrigerant is driven by many factors such as the impact on the environment, energy efficiency, safety and cost effectiveness.

Many major air conditioning manufacturers have determined that R32 is the optimum choice for use in their products and many Japanese manufacturers have been using R32 in their products since 2013.

The main driving factor in Europe to transition to a new refrigerant is the desire to reduce the use of high Global Warming Potential (GWP) refrigerants.

Q. What are the F-Gas Regulations?

A. **The F-Gas regulations are a set of rules to help control emissions from fluorinated greenhouse gases (F-Gases) commonly used in refrigeration, air conditioning, aerosols, foams and electrical switchgear.**

Their aim is to limit the damage to the atmosphere if refrigerants are leaked.

For contractors and users of equipment containing refrigerants, there are specific rules to repair leaks, report and log the use of refrigerants and recover refrigerants correctly at the end of equipment life.

There are also rules for manufacturers to look at alternative technologies and develop equipment using lower GWP refrigerants.

For air conditioning, R32 will be used as a new lower GWP refrigerant and will be introduced in stages over the coming years.

Q. When did the latest F-Gas regulations come into force?

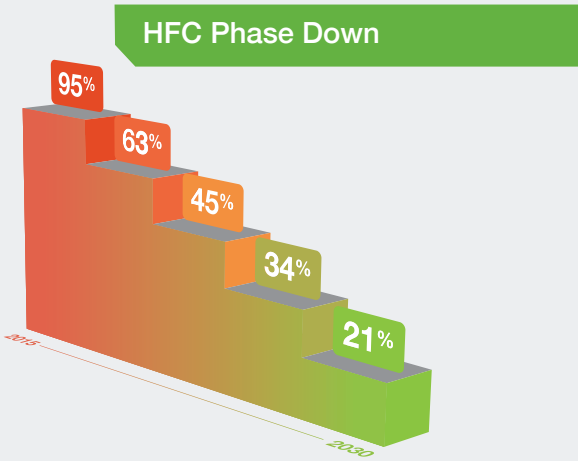
A. **The latest F-Gas regulations came into force on 1st January 2015, with the aim to reduce F-Gas emissions from leaked refrigerant by two-thirds of today's levels by the year 2030.**

Part of the new F-Gas regulations is a phase down of refrigerants based on the CO_2 equivalent.

Starting in 2015 with 100% base, this will steadily decrease (see graph) until a reduction of **79%** is reached by 2030.

This phase down will affect the refrigerants with the higher global warming potential and will limit the amount of these that can be placed on the open market.

The use of low GWP refrigerants will become more popular as the phase down takes effect.



Q. What is Global Warming Potential (GWP)?

A. **Global Warming Potential (GWP) is a measure of how much heat an F-Gas traps in the atmosphere.**

It compares the amount of heat trapped by a certain mass of refrigerant to the amount of heat trapped by a similar mass of carbon dioxide over a 100 year period.

GWP of CO_2 = **1**

GWP of R410A = **2088** (Current refrigerant used in air conditioning)

GWP of R32 = **675** (Two thirds less than R410A)

The introduction of R32 will help in the F-Gas phase down and allow the quantity of equipment available on the market to remain stable in the air conditioning sector.

Q. When will R32 equipment be available in the UK?

A. **Mitsubishi Electric will launch a comprehensive range of R32 direct expansion split equipment in both M Series (RAC) and Mr Slim (PAC) in 2017 including cassettes, ducted, ceiling suspended and wall mounted units in ranges from 2.5kW to 14kW depending on the model and type.**

Further ranges will also follow as the popularity of R32 grows and the need for lower GWP refrigerants strengthens.

A Hybrid VRF R32 variant will also follow in 2018 as the F-Gas phase down takes further effect on the industry.

Q. Will R410A equipment be banned in the UK?

A. **The F-Gas regulations are a phase down (not out) of higher GWP refrigerants.**

R410A equipment will still be readily available to buy from Mitsubishi Electric across all ranges. R32 will be introduced and will run alongside R410A equipment for the coming years.

R410A as a refrigerant will be available for many years for use in servicing and maintenance of equipment, so there is no need for concern when buying and installing equipment today or in the future.

Q. Is R32 more efficient than R410A?

A. **Overall R32 systems are more efficient than their equivalent R410A systems.**

This is because R32 has a slightly higher working pressure and is a slightly denser refrigerant than R410A.

R32 gives a better heating performance at lower ambient temperatures.

R32 systems also use less refrigerant per kilowatt of capacity delivered.

Q. Can the same tools be used for R32?

A. **Contractors can use many of the same installation tools as are currently used for R410A.**

The changes required are the reclaim unit (Atex II rated suitable for A2L refrigerants), vac pump (Atex II rated for A2L refrigerants), gauges and a suitable leak detector (for A2L refrigerants). These are available to work with both R32 and R410A refrigerants.

Reclaim cylinders will also have to be suitably classified for use with R32.

TIME FOR R32

MITSUBISHI ELECTRIC
Changes for the Better

Air Conditioning & Building Services

Effective as of March 2017

Green Gateway
www.greengateway.mitsubishielectric.co.uk
Mitsubishi Electric UK's commitment to the environment