

Free access to 30 Daikin Europe HFC-32 patents for VRF systems

Daikin Europe N.V. released its **HFC-32 Patent Non-Assertion Pledge** which will provide free access for the entire market to 30 patents related to VRF systems¹⁾ combined with HFC-32 refrigerant, also known as R32. This will further promote the use of the non-blended, single-component HFC-32 refrigerant in VRF systems, which has a lower global warming impact than R410A, the refrigerant conventionally used in VRF systems.

Brussels, July 2022 – The decision of Daikin to provide free access to its patents happens against the background of global attempts to reduce the impacts of HFCs²⁾ on global warming, especially now that the Kigali Amendment to the Montreal Protocol³⁾ is being translated into actual country regulations.

F-Gas regulation in Europe

For the European Union, the European Commission is currently considering an update of the existing F-Gas Regulation, which might result in stricter requirements for the use of refrigerants. Also VRF systems will be subject to the new regulation, if it comes into effect. VRF systems heat and cool large buildings such as offices, schools or hospitals. To do this, multiple indoor units are connected to a single outdoor unit, and a closed refrigerant circuit flexibly moves through the system, allowing individual temperature control throughout the rooms of a building. The HFC refrigerant conventionally used in VRF systems is R410A.

The F-Gas regulation will force air conditioning and heating manufacturers to choose a refrigerant with a lower global warming potential (GWP). HFC-32 can provide a VRF solution with such a lower GWP refrigerant. This is where free access to Daikin's patents can accelerate the adoption of HFC-32.



“Daikin comprehensively evaluates a wide variety of refrigerants and promotes the selection of the appropriate refrigerant for each application, and currently considers HFC-32 to be the most suitable refrigerant for VRF systems”, says **Martin Dieryckx, General Manager Environmental Research Center at Daikin Europe**. “HFC-32 has many advantages that can help reduce the environmental impact of air-conditioning. HFC-32 is a non-ozone depleting refrigerant and its GWP is one-third⁴⁾ of conventional R410A refrigerant. It provides excellent system performance and is readily available. As a single-component refrigerant, it is easy to recover, recycle and reclaim, which reduces the need for additional production of virgin refrigerant.”

Kazuhide Mizutani, General manager of Daikin’s EMEA Research Center, says: “The patents that Daikin Europe pledged not to assert include those relating to the control of compressor rotation speed and safety systems such as refrigerant leakage sensors. The pledge will make it easier for other air conditioning and heating manufacturers to develop VRF systems using HFC-32. Furthermore, promoting the installation of safety systems in equipment reduces the burden on air-conditioning installers to inspect equipment.”

Daikin Industries pledged non-assertion of 90 new patents

Daikin Industries Ltd., the mother company of Daikin Europe N. V., has pledged the non-assertion of the patents in relation to applicable air conditioning equipment using HFC-32 from 2019 in order to contribute to the environment.

Apart from Daikin Europe's patents, the global Daikin group simultaneously pledged the non-assertion of 90 new patents in order to make further environmental contributions worldwide.

A list of the pledged patents and the specific controlling terms and conditions regarding the pledge is available on Daikin Industries website: <https://www.daikin.com/patent/r32>

References and abbreviations:

- 1) VRF systems = Variable Refrigerant Flow systems
- 2) HFC = Hydrofluorocarbons
- 3) The Kigali Amendment to the Montreal Protocol was adopted in the 28th Meeting of the Parties (MOP 28) in Kigali, Rwanda, in 2016. It targets to phase-down HFCs, with an 85% reduction of the CO₂ equivalent global warming impact for Group 1 countries from 2019 to 2036, an 80% reduction for Group 2 countries from 2024 to 2045, and an 85% reduction for some countries and regions from 2028 to 2047.
- 4) GWP values based on 100-year time horizon from IPCC Forth Assessment Report (AR4).

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About

Daikin Europe N.V.

Daikin Europe N.V. is a subsidiary of Daikin Industries Ltd. and the leading provider of heating, cooling, ventilation, air purification and refrigeration technology. The company designs, manufactures and brings to market a broad portfolio of equipment, as well as tailored-made solutions for residential, commercial and industrial purposes in Europe, Middle East and Africa. To date, Daikin Europe N.V. has over 12,000 employees across more than 59 consolidated subsidiaries. It has 12 major manufacturing facilities based in Belgium, the Czech Republic, Germany, Italy, Spain, Turkey, Austria and the UK. The headquarters of the Daikin Europe Group are in Belgium, Ostend. The company was established in 1972, production in Europe started in 1973.

Daikin Industries Ltd.

Daikin Industries Ltd. based in Osaka, Japan, employs around 89,000 people worldwide and achieved sales of around 23,7 billion Euro in fiscal year 2021 (April 21 – March 22). The company is the global market leader for heat pump and air conditioning systems, as well as air filtration. Daikin Industries Ltd. is the only air conditioning manufacturer in the world that develops and produces all important components such as refrigerants, compressors and electronics in-house.

Daikin Airconditioning Central Europe

Daikin Airconditioning Central Europe was founded in 1999 with headquarters in Vienna, Austria, as a subsidiary of Daikin Europe N.V.. The company's portfolio comprises products and solutions for heating, cooling, ventilation, air purification and refrigeration. More than 560 employees and 2,500 partners are responsible for sales and service activities in 16 countries in Central and Eastern Europe (Austria, Albania, Bosnia Herzegovina, Bulgaria, Croatia, Czech Republic, Hungary, Kosovo, Montenegro, Moldova, North Macedonia, Poland, Romania, Serbia, Slovakia and Slovenia). With Your Daikin World at the Vienna headquarters, the HVAC-R industry and the construction sector has access to a modern experience center for co-creating tailor-made solutions for hotels, retail, offices or large commercial applications. It also includes one out of 9 trainings-centers in the region of Daikin Central Europe.

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