



Daikin Offers Worldwide Free Access to Patents for Equipment Using Next-Generation Refrigerant

⇒ **Facilitating global conversion to HFC-32 for air-conditioning, cooling and heat pump equipment**

Osaka | Washington | Brussels [September 10, 2015] - Daikin Industries, Ltd., the world's leading air conditioner and refrigerant manufacturer based in Osaka, Japan, announced today it is offering companies worldwide free access to 93 patents, to encourage companies to develop and commercialize air conditioning, cooling and heat pump equipment that use HFC-32 as a single component refrigerant. Daikin's action is aimed at encouraging manufacturers worldwide to adopt sustainable comfort cooling and heating technologies that use HFC-32, a refrigerant with a lower global warming impact than commonly-used refrigerants.

HFC-32 (difluoromethane) is a next generation refrigerant that addresses a range of environmental considerations in a balanced manner. It is a non-ozone depleting substance, is energy efficient, affordable, is easier to recycle, and has a global-warming potential (GWP) that is one-third of that of R-410A, the most commonly used refrigerant. Daikin believes that these advantages make it the most balanced and promising next-generation refrigerant solution to reduce the environmental footprint of residential and commercial air-conditioning, cooling and heat pump equipment.

The avoided carbon emission benefits of a transition to HFC-32 would be very significant. If all presently used R-410A refrigerant is replaced by HFC-32, the total CO₂ equivalent impact of HFCs could be reduced by up to 24% in 2030, compared to business as usual scenarios.

"Daikin has been offering free access to these patents in emerging markets since 2011 to accelerate the phase-out of ozone-depleting refrigerants, such as HCFC-22," said Shinya Okada, Daikin's Senior Executive Officer. "Given the urgent need to address climate change, Daikin believes that this is the right time to extend free access to certain HFC-32 equipment patents to manufacturers worldwide."

There is no patent that covers the HFC-32 chemical itself and it is readily available from suppliers other than Daikin. This free access to certain patents allows manufacturers to utilize Daikin's technologies for air-conditioning, cooling and heat pump equipment using HFC-32 single component refrigerant and encourages the global industry to grow responsibly as well as meet rising demand.

Conversion from high-GWP refrigerants is already underway. Last year, the European Union enacted the revised F-gas regulation* to reduce the global-warming impact of refrigerants. In the United States, the Environmental Protection Agency (EPA) is in the process of revising its regulations that establish acceptable alternatives for ozone depleting and high GWP refrigerants. In addition, Japan's Act on Rational Use and Proper Management of Fluorocarbons, which came into force in April 2015, encourages conversion from high-GWP refrigerants.

"Sharing environmentally beneficial air conditioning technologies without royalty payments can speed up environmental gains at a time when fast action is essential for climate protection," said Durwood Zaelke, president of

the Institute for Governance & Sustainable Development. “Free access to patented technologies sets a powerful precedent for other companies aiming to be environmental champions.”

Companies interested in obtaining access to these patents should contact Daikin Legal.

*EU Regulation 517/2014 of 16 April 2014 on fluorinated greenhouse gases

About Daikin

Daikin Industries, Ltd. is the world’s leading manufacturer of air conditioners and refrigerants. The company, leveraging its advanced core technologies for refrigerant control, inverters and heat pumps, develops innovative, high-quality air-conditioning solutions for homes, offices and industrial facilities. Founded in Osaka, Japan in 1924, Daikin and its affiliates now operate in more than 70 production bases worldwide and employ a global workforce of 59,000. Daikin products are available in more than 140 countries. For more information please visit, <http://www.daikin.com/>

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