Get ready for a new generation of Daikin innovations…
VRV IV sets the standard all over again

Daikin sets the standard yet again with the 4th generation of VRV. VRV IV achieves a new benchmark for efficiency, as it features major enhancements to the already industry-leading VRV solution. VRV IV offers three revolutionary innovations: variable refrigerant temperature, continuous heating on heat pump and the VRV configurator for simplified commissioning.

The new VRV IV heat pump units are being launched officially in May 2012 and will be available to buy from October 2012, with the heat recovery units becoming available in March 2013.

Variable refrigerant technology allows the installer to customise the system using a choice of presets, to optimise the energy and comfort balance for the individual project. In automatic mode, the system is configured for the highest efficiency levels throughout the year, while allowing rapid response on the hottest days, ensuring comfort at all times. This technology delivers a 25% increase in seasonal efficiency, because the system continually adjusts the refrigerant temperature according to the total required capacity and the external weather conditions.

For example, in mid season when little cooling is needed, the room temperature is already close to the setpoint. So a small difference between room and refrigerant temperature is sufficient for the system to operate effectively. Therefore, the system will change its refrigerant temperature from 6° (the current standard in the market) to a higher temperature. As a result, less energy is needed and seasonal efficiency is improved significantly.

Continuous heating during defrost is another revolutionary innovation that sets a new standard in heating comfort, making VRV IV the best heat pump alternative to traditional heating systems. Continuous heating finally overcomes any perceived disadvantages of specifying a heat pump, because the heat pump continues to provide heating even when in defrost mode.

Why is this important? All heat pumps accumulate ice during heating operation, which must be melted periodically. Previously, defrost operations reverse the refrigeration cycle, causing a temporary temperature drop within the room. VRV IV features a unique heat accumulating element, which provides dedicated energy for the defrost function, so the indoor units continue to provide heating and a comfortable indoor climate is maintained at all times.

The new VRV configurator completes the trio of innovations and offers an advanced software solution which simplifies commissioning and customisation. This means less time is required on the roof configuring the outdoor unit. Ongoing maintenance is easier too, thanks to a graphical interface that allows engineers to evaluate operational data and errors. The VRV configurator also allows multiple systems within multiple sites to be managed all in exactly the same way, thus offering simplified commissioning for key accounts.

VRV IV integrates with intelligent solutions

To complement the VRV IV system, Daikin's new Intelligent touch manager offers an intuitive user interface with a visible floorplan, which can manage up to 2560 groups of indoor units and provides energy management tools to maximise efficiency.

The VRV IV system can be used together with a wide range of ventilation units, hot water hydroboxes, Biddle air curtains and Daikin's latest round flow cassettes, which feature a daily auto-cleaning filter that reduces energy consumption over the year by up to 49%[1]. The round flow cassette is also available with a presence sensor that adjusts the set point or switches off the unit when nobody is in the room, saving a further 27% in energy consumption.

Daikin's track record for innovation

Daikin has continually set the standard for innovation in the air conditioning industry. In 1958 it developed the first Japanese rotary compressor. Then in 1969 it went on to create the first multi split air conditioning system and, more recently in 2009, the first heat pump obtaining the European Eco label: Daikin Altherma. Daikin was also the first to market heat pumps with new refrigerants such as R-407C, R-410A and R-744 (CO_2).

[1] Taken from case study of Coral in Wolverhampton during 12 month trial of auto-cleaning cassettes, installed in July 2010.

However, one of the greatest breakthroughs came in 1982, when Daikin created the first ever Variable Refrigerant Volume (VRV) system. This major innovation created a whole new category in the air conditioning market for Variable Refrigerant Flow systems. Next came the first heat recovery VRV, the water cooled VRV solution in 2005 and more recently the VRV replacement solution for systems originally designed using R-22 refrigerant. Today, VRV IV sets the standard again for efficiency and innovation.

www.daikin.eu

Editor's notes:

Daikin is renowned for its pioneering approach to product development and the unrivalled quality and versatility of its integrated solutions. With more than 50 years' experience in the design and manufacture of heating and cooling technologies, Daikin is a market leader in heat pump technology. Today Daikin VRV and Daikin Altherma are the most sold heat pump systems throughout Europe, with over 500,000 systems delivered to date.

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