

Daikin introduces innovative new oil-free chiller

July 23, 2018

Consolidating the competitiveness of its Oil Free Centrifugal chiller portfolio, Daikin has launched a new highly advanced Centrifugal Oil Free water-cooled inverter chiller series with R-134a and R-1234ze(E) refrigerants. Offering increased capacities and expanded applications possibilities, the new chillers are the latest in an array of innovative products developed by Daikin to help specifiers and end users stay one step ahead of EU legislation and rising energy costs.

The extremely compact DZ chiller series incorporates advanced technology features that are unique in the market. Presenting up to 32% reduction in footprint if compared to the previous series, the new chiller provides a low noise solution with dedicated compressor sound proof cabinet to ensure outstanding flexibility to match any application.

The series is available in a wide range of capacities offering the widest possible choice in use. All models are fitted with a single refrigerant circuit.

The R134a range (EWWD-DZ) offers a choice of cooling capacity from 320 kW up to 1,478 kW at nominal conditions, with single compressor models providing an output up to 742 kW and dual compressor models between 610 kW to 1,478 kW.

The R-1234ze(E) range (EWWH-DZ) is available in cooling capacities from 230 kW up to 952 kW at nominal conditions, including single compressor models up to 478 kW and dual compressor models between 430 kW to 952 kW.

Future proof

The use of R-1234ze(E) offers an environmentally friendly solution, combining a low Global Warming Potential (GWP) with high energy efficiency. R-1234ze(E) is an HFO refrigerant (Hydro Fluoro Olefins). Its Ozone Depletion Potential (ODP) is equal to zero (0) and the GWP is 7 (according to the EU F-gas Regulation based on IPCC's Fourth Assessment Report). The GWP value is less than 1 according to the IPCC Fifth Assessment Report.



The introduction of the new R-1234ze(E) range provides a long-term solution that supports the HFC phase down schedule of the F-gas Regulation.

Magnetic Bearing Technology

The new DZ Series Water-Cooled Oil Free Centrifugal chiller is fitted with centrifugal compressors which utilize frictionless magnetic bearings for oil-free operation. Its highly advanced design also incorporates integrated variable-frequency drives and high-speed direct drive technology.

Industry leading part-load efficiency

The DZ Series is the result of careful design, aimed at optimizing the energy efficiency of the chiller to reduce operating costs.

High efficiency compressors and heat exchangers are combined to achieve an impressive performance. The absence of oil in the refrigerant circuit delivers higher heat exchanger performance compared to traditional oiled centrifugal chillers.

With a SEER score of up to 9.35, the EWWD-DZ series not only meets but betters 2021 Ecodesign requirements by 43%.

Increased reliability

The frictionless magnetic bearing design needs no oil management system, resulting in increased reliability and reduced maintenance.

Green building design

With the EU low carbon roadmap now targeting an 80% reduction overall in CO₂ emissions by 2050 and F-Gas legislation driving a reduction in direct emissions, there is more demand than ever for high efficiency HVAC systems that reduce consumption in use.

The new DZ chiller series has been developed to achieve maximum efficiency and is future-proofed to comply with existing design and regulatory standards as well as meeting longer-term EU energy goals.

With up to 50% of building energy usage accounted for by HVAC equipment, the new DZ can help boost the environmental credentials of buildings to achieve a high BREEAM or LEED score with lower running costs, making assets more attractive to building owners and tenants.



Designed for compactness

The DZ series' unique design with stacked heat exchangers presents a minimal footprint. Standard two-passes configuration and availability of single- and three-passes options ensures maximum flexibility for low and high delta temperature applications.

The slimline profile of the unit, plus optional knockdown panel, makes it ideal for installation through existing doorways.

Application flexibility

The DZ Series includes models suitable for both high condensing operation (Dry Cooler application) and low condensing operation (Cooling Tower applications), with a wide range of additional options, such as the Rapid Re-Start, which allows the unit to restart after a power failure within 26 seconds following power restoration. Together with an automatic transfer switch to backup generator, the new chiller series offers a comprehensive solution for data centers applications.

Enabled for operation via the Daikin On Site platform, the DZ series can be monitored remotely, with one-click access for system optimization and preventative maintenance. Supplied with an App specifically designed to operate on the unit by remote smart device (tablet, smartphone, PC, the DZ offers simplicity and ease of use, with a graphical display of the main data and unit operating parameters.

Ends

Daikin's Refrigerant Policy:

Daikin has a long history of continually reducing the environmental impact of cooling, heating and refrigeration products, as well as having a unique expertise that comes from manufacturing both refrigerants and equipment. This position is a result of the company's corporate philosophy to "Be a Company that Leads in Applying Environmentally Friendly Practices".

Regarding refrigerant choice, Daikin has expertise in using fluorinated (HFC, HFO) as well as non-fluorinated gases (ammonia, carbon dioxide, hydrocarbons), because the company believes in diversity of refrigerant choice to allow the best suited solution to be used in each application.

For a complete overview see: ["Daikin's Policy and Comprehensive Actions on the Environmental Impact of Refrigerants"](#)



EDITOR NOTES

About Daikin Europe N.V.

Daikin Europe N.V. is a major European producer of air conditioners, heat pumps and refrigeration equipment, with approximately 5,500 employees throughout Europe and 10 major manufacturing facilities based in Belgium, the Czech Republic, Germany, Italy, Turkey and the UK.

Globally, Daikin is renowned for its pioneering approach to product development and the unrivalled quality and versatility of its integrated solutions. With more than 90 years' experience in the design and manufacture of heating and cooling technologies, Daikin is a market leader in heat pump technology. Daikin VRV and Daikin Altherma are the most sold heat pump systems in Europe, with over 500,000 systems delivered to date.

FURTHER INFORMATION

Contacts

Anju Sarpal: +44 7980 785572 Daikin-News@sheremarketing.co.uk

