Opteon™

Klimatix Launches Opteon™ XL41 Chillers

Innovative Cooling Solutions for Sustainable Future

Chemours™

klimatix
Grupo Mecalor

Innovation & Technology

Klimatix, a Brazilian company of the Mecalor Group, specializes in manufacturing chiller and high precision air conditioners for data centers, industrial applications, commercial buildings, shopping malls and hospitals. With more than 60 years of experience in the refrigeration and air conditioning business, Klimatix has a strong presence in the national market and has been expanding its operations throughout Latin America, especially in Mexico. With a focus on technological innovation with quality equipment and differentiated after-sales services, Klimatix has developed a new line of variable capacity chillers with low global warming potential (GWP) refrigerants, combining technology and reliability with sustainability.

Goal

Due the ratification of the Kigali Amendment for Brazil and the increase in environmental, social and governance concerns, ESG practices have become a priority for Klimatix and its customers. Since then, Klimatix has been investing in the development of equipment with refrigerants that have a lower environmental impact, with a focus on the VLC (Variable Load Chiller) product line. The VLC chiller units are designed to be used in air conditioning and air treatment systems, engineered for continuous and reliable operation in long lifespan.

In Brazil, a large part of the installed air conditioning systems still use R-22 and R-410A refrigerants. R-22, being a hydrochlorofluorocarbon (HCFC), is an ozone depleting substance, and according to the Montreal Protocol, its use will be completely prohibited. On the other hand, R-410A is a hydrofluorocarbon (HFC) that has a high global warming potential and, therefore, will have its use regulated through the Kigali Amendment. In countries such as the United States, Canada and the European Union, the use of HCFCs is already banned and new HVAC systems no longer use high-GWP HFCs.

The solution found by Klimatix in partnership with Chemours, was to develop equipment with Opteon™ XL41, a hyrofluoroolefin (HFO) based refrigerant that does not degrade the ozone layer and has a very low GWP (GWP = 466). This makes it the ideal replacement for R-22 and R-410A in new equipment projects. The new VLC chiller line from Klimatix is already equipped with Opteon™ XL41, combining sustainability with integrated management of multiple units to optimize the available cooling capacity with thermal load demand and maximize energy efficiency.

Development and Results

The VLC line equipment seeks to fill a gap in the market for lower capacity applications, offering a versatile, efficient and sustainable solution. In addition to the use of low GWP refrigerant, the VLC has a great competitive advantage with the flexibility to combine 15-ton

refrigeration units (TRs) and 18 TRs to meet greater demands, with the possibility of interconnecting up to 14 machines, reaching up to 250 TRs of capacity. In addition, the equipment is compact, easy to install and maintain, and has automation of the chilled water system and pumps, along with the flow sensor integrated into the equipment to ensure reliable operation at all times. The result was an equipment with excellent energy efficiency and high modularity in line with the guidelines of the Montreal Protocol and Kigali Amendment.

Focus on Sustainability.

Opteon™ XL41 has a 78% lower GWP compared to R-410A.

Pioneering

Klimatix innovates as the first national industry of precision chillers with Opteon™ XL41.

"The launch of VLC demonstrates Klimatix's commitment to provide innovative and efficient solutions to the air conditioning market, taking energy efficiency and sustainability to new standards" , emphasizes George Szegö, Commercial Manager at Klimatix.

Opteon™ XL41

Opteon™ XL41 (R-454B) is a mildly flammable refrigerant (A2L safety classification) that does not degrade the ozone layer and has a low global warming potential (78% lower GWP versus R-410A), making it ideal for replacing R-410A in new equipment designs. Based on HFO technology, Opteon™ XL41 features the ideal balance of properties to ensure excellent performance in commercial and industrial HVAC applications.

ASHRAE Classification	R-454B
Composition	R-32/R-1234yf
Weight in %	68.9/31.1
Ozone depletion potential (CFC-11 = 1.0)	0
Global warming potential AR5 (CO2 = 1.0)	466
ASHRAE Safety Classification	A2L
Temperature Glide	~1.5K
Lubricating oil	POE

Learn more

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