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Alfa Laval AC74 brazed plate heat exchangers offer increased sustainability for cooling duties

Alfa Laval, the market's leading innovator of heat transfer technologies, has continued a focus on more sustainable heating and cooling systems with the launch of the Alfa Laval AC74: a new generation of brazed plate heat exchangers. Engineered as a flexible solution for air conditioning and process cooling duties, the AC74 includes unique technologies developed to improve energy efficiency and enable the use of refrigerants with low global warming potential (GWP).

"An increasing number of our customers are facing challenges as a result of legislation intended to limit the global greenhouse effect caused by fluorinated gases (F-gases)," explains Fredrik Ekström, President Business Unit Brazed & Fusion Bonded Heat Exchangers, Energy Division at Alfa Laval. "This has created growing demand for new solutions that can cope with today's low-GWP refrigerants."

While offering environmental benefits, many low-GWP refrigerants place high demands on heat exchanger technologies. Among other things, this can include low temperatures that result in freezing, which in turn damages the equipment. Some refrigerants, such as R-32 (Difluoromethane), also require high operating pressures that pose a challenge for many existing heat exchangers on the market.

"At the same time, we have also noted that energy efficiency continues to be a factor of growing importance across a wide range of both industries and heating and cooling applications," Ekström continues. "We thus designed the AC74 to help customers meet both of these demands – energy efficiency and new refrigerants – in the best possible way."

The right technology for today's demands

"The AC74 generation combines a number of unique technologies that Alfa Laval has developed based on our long experience in these applications," Ekström says. "This includes DynaStatic™, a flexible distribution system that can be tailored to match the properties of the media in question. So ensuring a perfect fit for example, with low-GWP refrigerants."

By ensuring ideal distribution for the media, DynaStatic further contributes to higher efficiency of the AC74 heat exchangers. AC74 also features a new channel plate that takes advantage of Alfa Laval's FlexFlow™, a patented asymmetrical plate design that enables more efficient thermal transfer through optimized pressure drop and increased turbulence.

"Another key feature is IceSafe, which involves a number of elements in our low temperature management and ensures controlled, non-destructive freezing when operating with sub-zero media" Ekström notes. "Additionally, one model in the product generation, the ACK74, is specifically optimized for use with R-32. The ACK74 features our proven PressureSecure design, providing for dependable operation at pressures up to 49 bar."

Flexibility for several positions

Alfa Laval has primarily designed AC74 heat exchangers for use in air conditioning and process cooling applications, but the sustainable design offers new possibilities for a wide range of duties. AC74 models also cover a higher kilowatt range than similar heat exchangers in the past, from 50 kW up to 160 kW.

“This is really an impressive capacity range that will create new flexible options for our customers,” Ekström says. “The ability to cover a wider operating range using the same compact frame size will simplify pipework for system builders, saving time and money that will ultimately be passed on to the end-customer.”

To learn more about Alfa Laval AC74 and Alfa Laval’s full range of solutions for heating and cooling duties, please visit: www.alfalaval.com/heating-and-cooling-hub

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Editor’s notes

Alfa Laval is active in the areas of Energy, Marine, and Food & Water, offering its expertise, products, and service to a wide range of industries in some 100 countries. The company is committed to optimizing processes, creating responsible growth, and driving progress – always going the extra mile to support customers in achieving their business goals and sustainability targets.

Alfa Laval’s innovative technologies are dedicated to purifying, refining, and reusing materials, promoting more responsible use of natural resources. They contribute to improved energy efficiency and heat recovery, better water treatment, and reduced emissions. Thereby, Alfa Laval is not only accelerating success for its customers, but also for people and the planet. Making the world better, every day. It’s all about *Advancing better™*.

Alfa Laval has 17,500 employees. Annual sales in 2019 were SEK 46.5 billion (approx. EUR 4.4 billion). The company is listed on Nasdaq OMX.

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