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## Alfa Laval adds CO<sub>2</sub> gas coolers to its air heat exchanger range

**Alfa Laval is expanding its comprehensive programme of air heat exchangers with a range of CO<sub>2</sub> gas coolers. These replace traditional air-cooled condensers in refrigeration systems where CO<sub>2</sub> is used as a single refrigerant. The design of the new gas coolers is based on the well-proven and popular Alfa Laval axial condensers, AlfaBlue Junior, AlfaBlue and AlfaV. However, the new gas coolers have a design pressure of 120 bar and are fully optimized for CO<sub>2</sub> systems and conditions.**

In recent years Alfa Laval has focused on developing products that enable the transition from synthetic refrigerants with negative environmental impact to sustainable, energy efficient solutions utilizing natural, climate-neutral refrigerants. Of these, CO<sub>2</sub>, with its low global warming potential (GWP) and capability to recover heat at high temperature, is outstanding.

### **Traditional air-cooled condenser becomes a ‘gas cooler’**

The behaviour of CO<sub>2</sub> as a refrigerant in cooling installations is governed by the required operating conditions. At temperatures above 31°C (CO<sub>2</sub> critical point), this refrigerant does not behave in the same way as a traditional two-phase condensing fluid – turning from a superheated vapour into a subcooled fluid – but remains in a pseudo gaseous phase.

Thus, the traditional air-cooled condenser, the system component used to condense superheated refrigerant vapour into a subcooled fluid, becomes a “gas cooler”.

### **New pressure testing facility in Italy**

“The fact that CO<sub>2</sub> acts significantly differently from traditional refrigerants, such as HCF and ammonia, has had a large number of design and production implications for the new product range,” explains Paolo Dalle Pezze, Product Portfolio Manager, Alfa Laval.

“These include design parameters, such as coil and circuiting design, tube thickness, connections and all kinds of pressure issues. In order to deal with these high pressures, we



have made a substantial investment in our Italian production site at Alonte where we have set up a special reinforced pressure testing facility.”

### **A wide range of options**

According to Paolo Dalle Pezze, a wide range of options will be available to fulfill market demands. “Our gas cooler configurations using EC motors are particularly worth mentioning. They are the best choice available for our customers in terms of energy savings and environmentally friendly operation.”

#### **Editor’s Notes:**

Alfa Laval is a leading global provider of specialized products and engineering solutions based on its key technologies of heat transfer, separation and fluid handling.

The company’s equipment, systems and services are dedicated to assisting customers in optimizing the performance of their processes. The solutions help them to heat, cool, separate and transport products in industries that produce food and beverages, chemicals and petrochemicals, pharmaceuticals, starch, sugar and ethanol.

Alfa Laval’s products are also used in power plants, aboard ships, in the mechanical engineering industry, in the mining industry and for wastewater treatment, as well as for comfort climate and refrigeration applications.

Alfa Laval’s worldwide organization works closely with customers in nearly 100 countries to help them stay ahead in the global arena.

**For further information, please go to the press section at [www.alfalaval.com/refrigeration](http://www.alfalaval.com/refrigeration)**

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