NEWSLETTER FOR THE REFRIGERATION INDUSTRY ISSUE 2-2013

near

EDITORIAL

Providing tomorrow's solutions, today

Driving the future in heat transfer technologies means continuously monitoring market trends and anticipating future needs.

As you'll read in this issue of near, when Alfa Laval anticipates a trend or growing need, we don't wait – we act now. Currently we expect increased demand for R407F due to stricter legislative requirements, so we've already ensured our air heat exchangers, brazed plate heat exchangers, shell-and-tube and semi-welded plate heat exchangers, are fully compatible with the refrigerant. Similarly, all our evaporators, condensers and dry coolers are already ErP 2015 compliant – more than a year before the new strident EU regulations are implemented.

In this issue of near, you can read about how we supported a Korean customer with the construction of the largest logistics centre in Asia. You can also read about how we delivered the perfect solution to a customer in India who needed to expand capacity and add a new product line without expanding their facilities. This is because we're already preparing tomorrow's solutions, today.

TOMMY ÅNGBÄCK,
MARKET UNIT MANAGER, REFRIGERATION

The Hyundai Logistics Osan Center is a 200,466 m² warehouse, logistics and storage centre located in Gyeonggi Province in South Korea.

ADVANCED COOLING FOR MODERN COLD STORAGE

CUSTOMER VISIT **The single largest logistics centre in Asia requires a truly state-of-the-art cold-storage refrigeration system. In 2011, Alfa Laval Korea supplied 184 blow-through unit coolers to support the construction of the brand-new Hyundai Logistics Osan Center – marking the largest industrial refrigeration air cooler order ever for Alfa Laval.**

TEXT **ISABELLE KLIGER** PHOTO **HYUNDAI LOGISTICS**

The Hyundai Logistics Osan Center is a 200,466 m² warehouse, logistics and storage centre located in Gyeonggi Province in South Korea, operated by Korean logistics giant Hyundai Logistics. The total size of the centre, which can house up to 561 cargo vehicles at a time, is equivalent to 28 soccer stadiums. The centre serves as a hub for the 30 smaller logistics centres run by Hyundai Logistics in and around the Korean capital, Seoul.

ByungKook Jeon, Refrigeration Sales Manager at Alfa Laval Korea, was responsible for the project from Alfa Laval's side. He explains that the centre has a dedicated facility for storing a variety of frozen foods, in which the temperature crucially needs to be maintained at -25 degrees Celsius. The logistics centre also has the capacity to store extensive volumes of fruit and vegetables at the required temperature.

"THE BLOW-THROW UNIT COOLERS we supplied to the Hyundai Logistics Osan Center have a unique ability to distribute air evenly throughout a large facility. This is crucial for ensuring reliable refrigeration," explains Jeon. "The diffusor on the Alfa Laval Helpman units

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Equipped with diffusors, 184 Alfa Laval Helpman blow-through unit coolers can deliver regulated air-flow up to 65 metres, ensuring consistent temperatures throughout the Hyundai Logistics Osan Center, despite its size.

– the industrial cooler type we selected for this project – can deliver regulated air flow up to 65 meters away from the cooling unit. This is a key feature when seeking to minimise temperature variations in a cold-storage facility of this magnitude."

THE INSTALLATION of 184 Alfa Laval Helpman units at the Hyundai Logistics Osan Center represents the largest industrial refrigeration air cooler order to date for Alfa Laval.

"Alfa Laval is a partner that can be relied on to take responsibility for the important aspects of refrigeration and frozen storage," comments Hyundai Logistics' Utility Manager, OongJoon Lee. "Alfa Laval provided a quick response, along with accurate case analysis. In addition, we can know that we will receive active support from Alfa Laval to provide accurate information about the latest global trends in the market."

"At first, there were a lot of different opinions on how best to build the refrigeration system for Korea's largest logistics centre," says ByungKook Jeon. He goes on to explain that, while most engineers favoured a refrigeration solution based on a textile duct system – widely accepted as a simple solution for distributing air across large cold-storage facilities – Alfa Laval was convinced that its Helpman system would offer superior performance and reduced cost.

TO DEMONSTRATE the superior capabilities of this system, Alfa Laval organised a trip to Europe, where customer representatives were able to witness the performance of the refrigeration solution at three fruit storage centres.

"Having seen the Alfa Laval coolers at work in three large cold-storage facilities, the customers were satisfied that Alfa Laval could offer the best solution, in terms of both performance and quality," explains Jeon. "I also believe our quick technical support, as well as the documentation we provided to show the difference in maintenance costs and payback time when comparing a textile duct product with our solution, played a major part in sealing the deal.

"I recently received a temperature measurement report from the cold storage unit at the Osan Center," he continues. "According to the report, room temperature variations are better than expected and the customers have confirmed that they are satisfied." ■

FACT FILE

ABOUT THE OSAN LOGISTICS CENTER

The Osan Logistics Center was commissioned by Osan Logistics in 2011 and built by construction company, Halla Construction & Engineering. When Hyundai signed an exclusive contract to run the Osan Logistics Center in 2012, it was officially re-named the Hyundai Logistics Osan Center. The centre, which opened in November 2012, is the single largest logistics centre in Asia, while its cold-storage facility is the largest of its kind in Korea.

COMMENTS

OongJoon Lee, Utility Manager, Hyundai Logistics
"This complex logistics centre, which has been optimised for both low and room-temperature products, represents the latest trend in the market. Alfa Laval supported this project by providing the most recent technology from the global refrigeration and cold storage market."

ByungKook Jeon, Refrigeration Sales Manager at Alfa Laval Korea
"Being able to take our customers to Europe, to demonstrate how the Helpman cooler was operating in another similarly sized facility, satisfied them that Alfa Laval's solution delivered what it promised and was best option for the job."

THE SOLUTION

The refrigeration system provided consisted of 184 Alfa Laval Helpman THOR blow-through unit coolers. Alfa Laval Helpman THOR is a wide, flexible type of heavy-duty industrial air cooler, suitable for both cooling and freezing applications in medium to large cold rooms. It can be used for a wide range of applications, with a special focus on meat storage, agricultural produce and processing rooms.
For more product information, visit:
www.alfalaval.com/thor

ABOUT HYUNDAI LOGISTICS

Hyundai Logistics is the logistics arm of the South Korean Hyundai Group. Established in 1988, the company is headquartered in Seoul, Korea. Today, Hyundai Logistics offers ground and air transportation, along with South Korean rail and road freight services, international trade management, customs brokerage, consulting and supply chain design, logistics and distribution, cargo containing, shipping, and a variety of financial services. Its massive international network enables it to offer global access to a comprehensive range of transport and supply chain management solutions.

CUSTOMER VISIT When Gadre Marine Export decided to add a new product line to their business, they turned to Alfa Laval to help implement refrigeration equipment for a new fish processing plant. In response, Alfa Laval provided a highly customised solution which saved the client installation time, money, energy and space.

TEXT **LISA MIKULSKI** PHOTO **MATTON**

Seafood chilled to perfection

Gadre Marine Export, located in Ratnagiri and Veraval on the western coastline of India, is one of the largest exporters of marine seafood products in India. The company approached Alfa Laval seeking a new solution for chilling water from an ambient temperature of 30°C to 4°C. Gadre Marine Export also required additional capacity to compliment the existing refrigeration system, and needed to implement an ammonia system to match its existing system.

BECAUSE THE NEW PLANT was to be located in the existing facility, space considerations were a premium concern. If the right solution couldn't be found, Gadre Marine would be forced to alter existing buildings and modify overhead electrical systems and piping.

Rising to the challenge, Alfa Laval proposed a unique solution which addressed these stringent requirements and offered the semi-welded evaporator (model MK15-BWFGR) with attached U-Turn module.

Thanks to the unique design of Alfa Laval's U-Turn, the new system can fit into the existing plant.

CONSULTANT

Ramesh Paranjpey
Renowned consultant in the refrigeration industry in India. Mr Paranjpey has been working closely with Gadre Marine for the last thirty years.

Ramesh Paranjpey, a renowned consultant in the refrigeration industry in India, has been associated with Gadre Marine for the last thirty years and has been involved in the design of all its refrigeration projects. Paranjpey is known for introducing innovative energy efficient solutions to his customers. It was because of his long association with Alfa Laval and his confidence in its products that he was able to recommend this system to Gadre Marine. It was the first successful installation of its kind in India.

"The owners of Gadre Marine are forward-looking people and always encourage the implementation of the latest technologies which reduce hazards and energy consumption," explains Paranjpey. "With this technology the designer is assured that he gets both the heat exchanger as well as accumulator from same source and thus design and field installation errors are eliminated. Prior to this technology being available, every designer was making their own accumulators. I will always recommend this new technology and use it in all my future plant designs."

"This innovative energy efficient concept has contributed to a reasonable saving in operating cost for our client. For example, a reduced power bill. Minimum use of refrigerant - ammonia in this case - has enhanced the safety aspect of the plant," says Rohit Kulkarni, Sales Manager, Alfa Laval.

USE OF THE U-TURN allowed the client to successfully fit the new system into the existing area and also provided the added benefit of a more spacious layout. The reduced installation height played a vital role as it eliminated the need to modify overhead cabling and the low ammonia charge requirement allowed Gadre Marine to utilise the existing system, thus reducing costs. While there was no project deadline pressure, the use of the ready-to-install U-Turn allowed complete installation in minimal time with less downtime for the existing systems.

Gadre Marine was receptive to the solutions offered by Alfa Laval, not only in terms of equipment but customer service and support as well. Founder and owner Deepak Gadre says, "We are very happy with the equipment, service, and concerns of Alfa Laval. We are planning similar systems from them for use in our forthcoming projects." ■

FACT FILE

THE SOLUTION

The U-Turn is a liquid separator especially designed for use with plate heat exchangers in ammonia applications, which ensures minimum pressure drop losses and maximum energy efficiency. The module provides an effective and compact installation with less vertical rise and smaller overall dimensions than any other solution.
For more product information, visit:
www.alfalaval.com/u-turn

news update

New selection tool helps identify R407F compatibility

NEW F-GAS REGULATION proposals from the European Union are putting pressure on the industry to find environmentally friendlier refrigerants, and Alfa Laval is anticipated increased demand for R407F.

"With no ODP (ozone depletion potential) and lower GWP (global warming potential), R407F is probably the synthetic refrigerant that best meets the market's current needs in medium and low temperature applications," says Patrice Bourrier, Product Portfolio & Application Manager, Industrial Equipment, Alfa Laval. "Accordingly, we've already ensured that all of our air heat exchangers, brazed plate heat exchangers, shell-and-tube and semi-welded plate heat exchangers, are now fully compatible with the refrigerant."

Alfa Laval's external selection tool has also been updated, so that customers can check performance of every Alfa Laval product. To access the latest version and to make sure you are always up-to-date, simply ask your local Alfa Laval sales contact.

For contact information, visit:
www.alfalaval.com/contact-us

CO_2 range obtains UL approval

ALFA LAVAL'S CO_2 RANGE of brazed plate heat exchangers has received UL approval, which now opens up the North American market for CO_2 applications. The renowned American safety organisation has certified the CBX P27 and CBXP52 models for 1190 PSI (82 bar) 400°F (204°C), and the AXP27 and AXP52 models are now certified for 1885 PSI (130bar) 302°F (150°C).

"The UL approval is official validation for the high safety standards of our brazed plate heat exchangers," says Patrice Bourrier, Product Portfolio & Application Manager, Industrial Equipment, Alfa Laval. "We can now offer these products for CO_2 systems to our North American customers."

Alfa Laval's brazed heat exchangers are specially designed for high-pressure applications including CO_2, and already have approvals from PED, KHK, and CRN. The UL approval was implemented in June 2013.

Full air heat exchanger range now ErP 2015 compliant

DESPITE BEING OVER A YEAR until implementation, Alfa Laval can already guarantee that all evaporators, condensers and dry coolers are ErP 2015 compliant. The new EU directive concerning energy efficiency, which will come into force in 2015, will affect all fan motors used in air heat exchangers with electrical power input between 0.125kW and 500kW.

"We don't want to wait until 2015 and then act – we want to be proactive and respond to these requirement now," says Sebastiano DiLena, Product Manager Air Heat Exchangers, Alfa Laval. "We have already cross-checked our complete product range and can offer 100 percent ErP compliant products for the current technical requirements of all our customers."

Under the ErP 2015 regulation, any fan motor below level N40 efficiency will no longer be permitted. The directive is part of EU's wider target to reduce emissions by 20 percent by 2020.

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