

Alfa LU-VE in brief

Alfa LU-VE is a leading global provider of specialized products and engineered solutions.

Our equipment, systems and services are dedicated to helping customers optimize the performance of their processes. Time and time again.

We help our customers to cool products such as oil, water, chemicals, beverages, foodstuffs and pharmaceuticals.

Our worldwide organization works closely with customers to help them stay ahead.

How to contact Alfa LU-VE

Up-to-date Alfa LU-VE contact details for all countries are always available on our website alfa.luvegroup.com.



alfa.luvegroup.com

A complete range for all needs

Cooling solutions for electrical power converters



Cooling solutions from the technology leader that save energy and money

Alfa LU-VE is a global brand with a long tradition. The mission is to assist industries to refine and improve their products and to optimize the performance of their processes. Typical of our capability to help optimize process performance is our range of state-of-the-art cooling solutions for power conversion equipment.

Welcome to Alfa LU-VE, a truly dynamic company with the global resources to meet the needs of our customers in today's fiercely competitive business climate. Our reputation is based on our knowledge and experience.

The Alfa LU-VE brand stands for technical know-how, highly engineered, reliable products, efficient service and the finest process engineering skills. We are customer oriented, open, informal and flexible – and we dare to do things differently.

A wide range of air heat exchangers
Building power conversion equipment? When you consider cooling solutions, it is worth knowing that, as a market leading heat transfer specialist, Alfa LU-VE supplies a wide range of air heat exchangers. Whether it is transformers or rectifiers, we have the state-of-the-art cooling solutions you need.

You and, in turn, your customers can achieve substantial savings with Alfa LU-VE cooling solutions. With the smallest footprints and the

highest performance, the products presented on the following pages offer the financial and operational benefits of several decades of intensive product development.

Our partners include global market leaders and other well-known companies in the power conversion business. Alfa LU-VE's cooling solutions help them to build smaller systems and save energy.

Alfa LU-VE state-of-the-art cooling solutions are installed on transformers, and rectifiers throughout the world. Typical industries include: power, chemicals, metal-working, offshore, pulp and paper and steel mills.



Transformer cooling

By maintaining the oil at a low temperature, a higher electro load is allowed in the transformer on a constant basis or during periods of peak demand.

Alfa LU-VE offers a complete range of high-quality solutions for cooling transformer oil by forced air (OFAF).



Rectifier cooling

Compact rectifiers are cooled directly by air.

Rectifier systems are often manufactured to non-standard specifications and very specific end-customer demands. Alfa LU-VE has extensive experience in handling complex projects, so you can rely on us to find the right solution.

For transformer cooling Alfa LU-VE offers:

- AlfaBlue transformer oil coolers



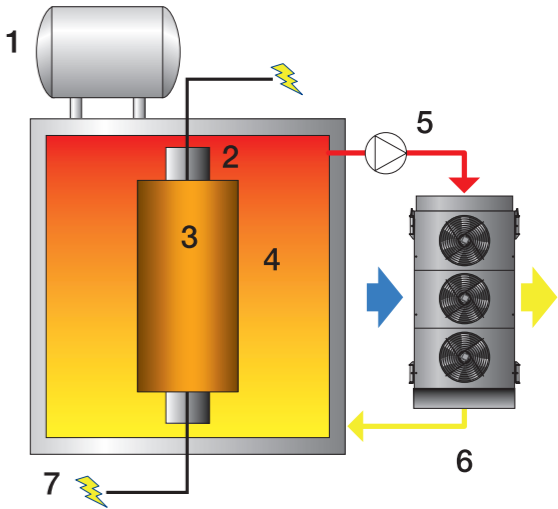
For rectifier cooling Alfa LU-VE offers:

- AlfaBlue air heat exchangers
- AlfaBlue Power air heat exchangers

Transformer cooling

Schematic illustration of transformer oil cooling by air

1. Oil expansion tank
2. Transformer iron core
3. Transformer windings
4. Transformer oil
5. Oil pump
6. Dry cooler
7. Electricity in/out



Innovative coil construction, the latest fan motor technology and a rugged casing to withstand the toughest conditions. This is the new AlfaBlue transformer oil cooler.



Whether it's a standard or non-standard rectifier system, there's an AlfaBlue dry cooler for efficient cooling. Choose from a range of capacities and noise levels.

AlfaBlue transformer oil cooler – advanced technology, rugged exterior

When we designed the AlfaBlue oil cooler, we asked transformer manufacturers to list their specific needs. At the top of the list was a rugged industrial design to withstand tough conditions. Based on their input, we designed the latest addition to our AlfaBlue air heat exchanger range, AlfaBlue oil coolers for transformer oil.



An AlfaBlue transformer oil cooler in the last stage of production at Alfa LU-VE's air heat exchanger factory in Italy.

Rugged casing to withstand the toughest conditions
The frame design and construction of the AlfaBlue oil cooler provide high rigidity for protection against vibration and thermal shocks. The casing is made in hot dip galvanized steel and painted with primer and top coating. All parts are painted separately before assembly to avoid any form of corrosion. As a result, the casing is available in corrosion class C4-H and C5-H.

Innovative coil construction
The AlfaBlue oil cooler offers high cooling efficiency thanks to optimized heat-transfer surfaces. The tube configuration comes in a variety of options. Give us the basic input data and we will calculate the optimal configuration according to your need.

We can supply the corrugated fins in various materials and treatments for longest lifetime in your application. Manufactured in aluminium as standard the fins can also be in Seaworthy aluminium (suitable for offshore installations), copper, epoxy coated aluminium or F-coated.

Latest fan motor technology
The AlfaBlue oil cooler incorporates the latest fan motor technology with

state-of-the-art, low-noise blade design. Several fan impeller profiles and rotation speeds are available to meet



AlfaBlue transformer oil cooler

the requested noise level. The fan and motor are a complete package that, if necessary, can be replaced simply and easily without dismantling.

The motor is equipped with an external rotor. Integrated thermo contacts provide reliable protection against thermal overload. Energy saving, variable-speed EC (Electrically Commutated) fans are available as an option.

AlfaBlue oil cooler – benefits

- Heavy duty design with high corrosion resistance
- Easily cleanable thanks to removable fan motors and industrial power fins
- Fully assembled: easy to connect to the transformer
- Reduced fan motor power consumption as a result of low static pressure
- Excellent sound characteristics
- Reliable performance
- Easy installation & maintenance
- Energy efficient – low total cost of ownership
- Two-year product guarantee

Dry coolers for rectifier cooling

AlfaBlue dry coolers
Suitable for standardized rectifier systems, AlfaBlue dry coolers are available in either single or dual coil execution. There is a range of capacities, fan diameters and noise levels.



Alfa LU-VE radiator platform

AlfaBlue Power dry coolers
AlfaBlue Power is a range of heavy duty radiators with stainless steel tubes for rectifier cooling. They are normally chosen for rectifier systems with non-standard specifications and very specific end-customer demands.



AlfaBlue air heat exchangers – benefits

- Optimized footprint with strong casing design
- Modular design
- Corrosion resistant casing
- Innovative fin corrugation design for increased heat transfer
- Noise levels to meet every demand
- EC fans option (Electronically Commutated)
 - Less power consumption during regulation
 - Best alternative for frequency converter control
- Optional coil treatment for aggressive environments
- Optional non-standard fin spacing for dusty environments.
- Reliable performance
- Easy installation and maintenance

Continuous product development ensures that we always have the state-of-the-art solutions you need. After installation, Alfa LU-VE world-class service organization is there to support you.



Alfa LU-VE's intensive product development activities generate a continuous flow of new heat transfer products.

Partners in performance

Alfa LU-VE invests heavily in product development. Hundreds of engineers and technicians develop a large number of products annually, with new capacities, materials and functions. There are currently hundreds of patents related to Alfa LU-VE products.

Today's advanced air exchangers, with their high performance and low space requirements, are excellent examples of these activities.

Tried and tested

Reliability is paramount. To ensure full reliability of Alfa LU-VE products, performance data and extensive testing, including regular performance checks of both existing product ranges and in-development products are carried out in Alfa LU-VE's R&D Thermal Laboratory. Our in-house testing facility is one of the best in the industry and complies with EN requirements. Alfa LU-VE's in-depth understanding of heat transfer technology ensures optimal design.

You talk, we listen

Alfa LU-VE became the technology leader by working closely with customers and partners and listening to their needs. You are our best source of information and inspiration.

Alfa LU-VE air heat exchangers solutions are designed using the latest techniques and testing methods, drawing on our huge reservoir of know-how and experience in the fields of thermal and mechanical engineering.

We have long experience, an impressive list of references, and a complete product portfolio. Our sales staff have advanced calculation tools, and we can recommend the best solution for your needs.

After installation, we are there to support you

Install Alfa LU-VE cooling solutions and you and your customers gain access to a world-class customer service organization. We have a global team of highly experienced field service engineers to support you. With Alfa LU-VE you can rely on genuine spare parts and knowledgeable service personnel dedicated to serving your heat transfer needs 24/7.

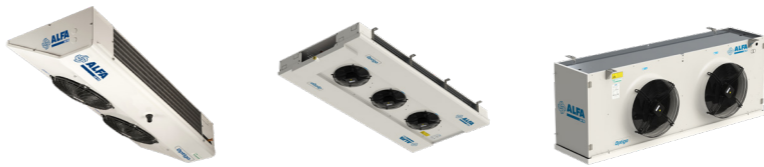
Installation and commissioning support

This ensures trouble-free start-up and helps you get the most from your Alfa LU-VE equipment in terms of performance and reliability.

Product information

Comprehensive product information is available at alfa.luvegroup.com including product leaflets, manuals, certificates and brochures. Our website also offers CAD drawings, high-resolution images and electrical connections available for download.

Alfa LU-VE air heat exchangers overview



Alfa LU-VE commercial air coolers

The Optigo range contains the following models: Optigo CS (low silhouette), Optigo CD (dual discharge) and Optigo CC and CCB (single discharge) air coolers for general application in cooling, freezing, storage, working and processing rooms.

A wide range of models are fitted with energy-efficient EC fans (as standard on the low silhouette range Optigo CS), making them especially suitable for refrigerated working, processing and storage rooms. Optigo offers dedicated ranges for HFO & HFC refrigerants, brine and CO₂ applications.



Alfa LU-VE industrial air coolers

The Arctigo industrial air cooler platform offers an extremely wide and flexible range of single (IS) and dual discharge (ID) industrial air coolers, shock cooling (IST),

banana ripening (HRCD) and data center cooling (LSV). The Arctigo range offers a wide variety of cooler configurations and options.



Commercial condensers, gas coolers and liquid coolers

AlfaBlue Junior is a competitive gas cooler, condenser and liquid cooler platform. AlfaBlue Junior offers excellent performance, allowing easy installation on site and easy integration with other components. Highly efficient fan motors combine excellent sound characteristics and low energy consumption. The range includes: XG gas coolers speci-

cally designed for CO₂ refrigerant systems, AG condensers and DG liquid coolers for commercial refrigeration and air-conditioning installations. The Alfa-V Single Row is designed to reject small to medium heat loads with a modest footprint in commercial refrigeration and air conditioning installations. It offers many features to meet the highest demands in state-of-the-art refrigeration installations.



Industrial liquid coolers

The Fincoil Solar, Alfa-V (VDD and VLD) and Fincoil FBL ranges cover dry coolers for HVAC & REF applications, for heavy industrial cooling applications in process and power industries. AlfaBlue BO is a dedicated range for transformer oil cooling.

Our industrial liquid coolers are available with either copper or stainless steel tubing. We supply both standardized and fully customized industrial liquid coolers. The Alfa LU-VE industrial product portfolio includes a variety of design options and accessories.