What’s new
LU-VE Group is an international enterprise with its headquarters in Uboldo, Varese, along with its main offices and principle production facility. The strength of the Group lies in its 10 production plants located in 6 different countries: Italy, China, Poland, Czech Republic, Russia and Sweden. The companies which make up the Group are:

- **AIA/LU-VE Sweden (Asarum, Sweden):** heat exchangers for refrigeration, air conditioning and industrial applications;
- **HTS Heat Transfer Systems (Novosedly, Czech Republic):** coils for air conditioning, refrigeration and for special applications (trains and means of transport in particular);
- **LU-VE Heat Exchangers (Changshu, China):** heat exchangers for refrigeration and air conditioning, destined for the Chinese and Asian markets;
- **LU-VE Exchangers/LU-VE SpA (Uboldo, VA, Italy):** exchangers for refrigeration, air conditioning and industrial applications;
- **SEST (Limana, BL, Italy), SEST LU-VE Polska (Gliwice, Poland), “OOO” SEST LU-VE (Lipetsk, Russia) and SEST LU-VE China (Changshu, China):** heat exchangers and condensers for refrigerated cabinets and finned heat exchanger coils for commercial refrigeration and air conditioning.
- **TECNAIR LV (Uboldo, VA, Italy):** close control air conditioning for applications in surgical rooms, white rooms, data centres and telephone exchangers;
- **TGD - Thermo Glass Door (Travacò Siccomario, PV, Italy):** glass doors and closing systems for professional, domestic and industrial refrigeration equipment.

LU-VE Group in numbers:

- 1,450 employees;
- consolidated turnover of over €220 million (€240 million aggregated);
- 340,000 sqm. of total surface area (140,000 covered);
- 2,350 sqm. of R&D laboratories (the largest in Europe and one of the few capable of testing CO2 applications);
- over 70% of production sold in 90 countries.
Over the years, LU-VE Group has assumed a leadership role. The motto of the Group is “Leadership with Passion”, which is transformed into “Leadership in Action” for each individual company within it.

Research and innovation are distinctive elements of the company philosophy of LU-VE Group. The major strong point of the Group is the large-scale investments in R&D which have enabled the creation of a considerable range of innovative products that represent a point of reference for major constructors of heat exchangers at global level.

LU-VE Group has the largest Research and Development laboratory in the sector in Europe (one of the few capable of testing CO₂ applications) and has been collaborating closely with the Polytechnic University of Milan for years. Numerous other important collaborations have taken place also with the Universities of Brno, Chemnitz, Grenoble, Padova, Trento, Ulster and the Danish Technological Institute in Århus.

For the future, LU-VE Group intends to restate its leadership role which is based on research and development, technology and attention to environmental matters. All of this comes together in the use of natural refrigerant fluids, the maximization of energy savings and the traditional maximum attention paid by the company to Life Cycle Cost. To recap: reduce the ecological impact, to the advantage of the environment, the customers and the users. The market trend is towards an ever growing use of natural fluids (CO₂, propane, ammonia etc.). Many are now taking up this approach. LU-VE Group has been doing so for almost 30 years and was the precursor in the field of energy consumption reduction, reduced refrigerant usage, low noise levels, high reliability over time and reduced footprint.

*Life Cycle Thinking* is the principle operating instrument of LU-VE Group: evaluation and quantification of energy and environment loads and of the potential impacts associated with a product throughout its entire life cycle, from the cradle to the grave. A factor of competitiveness as well as an ethical value. An added value in a period such as this, when many have lost sight of some fundamental values.

LU-VE Group: the natural leader.
MINIMAGIC: FOR SMALL COLD ROOMS

Minimagic is the new range of unit coolers created by LU-VE Exchangers especially dedicated to the OEM - HORECA market. The ideal solution for the new generation of small cold rooms, bottle coolers and kitchen equipment.

Suitable for all refrigerants thanks to its small internal volume, Minimagic represents the most advanced solution combining the long experience of LU-VE with new market needs.

Main features
- Capacity: 293 - 1719 W
- Refrigerants: HCFC, CO$_2$, propane
- No. Models: 14
- Fin spacing: 4.5 - 7 mm
- Fans: from 1 to 2 fans, Ø 254 mm - EC available
- Defrost: air, electrical
- Casing: epoxy-polyester powder-coated galvanized steel.

Manufactured by: LU-VE Exchangers (Italy).

NEW FHC WITH ELECTRONIC EXPANSION VALVE

The new FHC range can be now provided with the brand new electronic expansion valve with sealed overmoulding driver which gives several advantages:
- customer time saving / factory assembling
- defrost and compressor energy saving.

All the FHCs can also use green refrigerants:
- available for glycol and CO$_2$ DX
- PMS 40 bar, 60 bar and 85 bar
- Complete range available already on LU-VE Refriger selection software.

Manufactured by: LU-VE Exchangers (Italy), LU-VE Changshu (China), OOO SEST- LU-VE (Russia) and AIA (Sweden) under the range name NEX.

Electronic expansion valve with sealed overmoulding driver:
- Plug&play: Customer time saving / factory assembling
- Defrost and compressor energy saving
- Driver mounted on-board and settable with simple display direct on the cooler
- Competitive price.

NEW RAD63V RADIAL CONDENSER

For applications which require air to be ducted for air conditioning and refrigeration, LU-VE presents the new RAD63V radial condenser: a more flexible and competitive solution compared to traditional centrifugal units. In comparison to previous solutions, the innovative RAD63V.

In comparison to previous solutions, the innovative RAD63V guarantees further advantages:
- 30% reduction of energy consumption;
- 3 dB(A) reduction of sound level;
- 30% reduction of footprint.

The new RAD63V range is fitted with EC motors which permit:
- simple and practical fan speed regulation (already included within the motor itself);
- maximum reduction of maintenance interventions (no belts and pulleys);
- use of evolved communication protocols (MODBUS and other BMS systems).

The radial condensers in the RAD63V family extend the thermal power of the standard range up to 444kW (as against the 39 - 375 kW of the previous ones) with available residual static pressure up to 360Pa. The condensers are available in gas cooler CO$_2$ and dry cooler versions and can be supplied in various configurations (vertical or horizontal air flow).

As is usual for LU-VE units, also this new range is equipped with high-efficiency heat exchangers with specialized external surfaces and reduced interval volume. The range can be selected from Refriger.
LSX: THE HARVEST VALUE DEFENDER

The new LSX range is specially dedicated to fruit and vegetable conservation where humidity plays a key role in the quality of food preservation and weight loss reduction.

Tests carried out by LU-VE in collaboration with the most important Italian apple producer showed a reduction of weight loss, under the same conditions, of more than 18% with a reduction of 11% of humidification.

This new range enlarges the already wide offer for industrial customized products dedicated to industrial refrigeration.

**LSX: unit coolers for fruit preservation**

- Product weight loss reduction about -25%
- Fewer humidification hours/year (-11%) thanks to a more uniform velocity distribution at the unit cooler outlet
- More uniform air velocity distribution and increased flow rate (about +15 to 20%)
- Inclined fan (45°), reduces the space between unit cooler and wall; more space for the product
- EC fans for reduced energy consumption -19% (-34% during initial cool-down period)
- Same product quality after conservation.

**Main features**

- Range: LS45X – LS50X
- Capacity: 7.6 – 135.9 kW
- Refrigerants: HFC, CO, glycol, NH3
- Fin spacing: 4.5 mm - 6 mm - 7.5 mm – 10 mm - 12 mm
- Fans: blow-through inclined fans, from 1 to 6 fans, Ø 450 - 500
- Defrost: air, electrical, hot gas, hot glycol

Manufactured by: LU-VE Exchangers (Italy).

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NEW DUAL DISCHARGE FHD FOR CO2

In the field of commercial refrigeration for CO2 applications, LU-VE proposes the new FHD dual discharge unit cooler in a direct expansion CO2 version.

The heat exchanger is equipped with specific circuiting for carbon dioxide, with tubes which have thicker walls to withstand maximum working pressures of up to 60 bar in the standard version. As an option, there is also a version for maximum working pressures of up to 85 bar. The product range has thermal power from 2070 W to 19100 W (DT1=10K), with available fin spacing of 3 - 4.5 - 7 mm.

As with all the other versions in the FHD series (unit coolers and air coolers), the CO2 range (in standard version) is equipped with:

- 2-speed EC motors (S - 1100rpm and L - 870rpm with low energy consumption)
- New, carefully designed “Safeshell” casing in reinforced shock-resistant material.

In addition, low noise levels are guaranteed.

The CO2 version of FHD can be selected with the Refriger software.

Manufactured by: LU-VE Exchangers (Italy), LU-VE Changhsu (China) and AIA (Sweden).
AIA: DRY COOLERS RANGE

The X3, VX3 and VXX3 series are a modular based dry cooler range optimized for best balance between environment, economy and performance.

The tube configuration is designed to work in a perfect harmony with modern environmental friendly brine coolants in different applications like air-conditioning, process, commercial and industrial cooling.

The X3, VX3 and VXX3 series are produced up to 20 fan-modules. The wide range of EC fans and control systems gives a perfect match, in both residential and industrial areas.

- Cooling capacity: 201-2066 kW.
- Fans: Maintenance free EC-fans.
- Coil: Turbofin® Aluminium fins 0,15 mm, copper tubes diameter 12 or 16 mm, fin spacing 2,1 mm.
- Cooling media: Water/glycol mixes and others.
- Accessories: Control systems, epoxy-coated fins, copper fins, water spray systems, Whisperer® etc.

LMC: THE MOST ADVANCED SOLUTION

Thanks to the work of the LU-VE Group Research and Development Laboratory, LMC is the most advanced solution now available on the market. The Minichannel® technology is a miniaturized solution in copper-aluminium (5mm Ø) which, due to consolidated production processes, provides maximum flexibility and reliability in specific cases (also available for propane applications).

The new LMC condensers can be supplied (on request) with special Nanocoating protection which gradually slows down the deposit of dust and pollution on the fin surface, keeping the heat exchange surface clean and at maximum efficiency and giving an additional resistance against corrosion.

Low energy consumption and low noise level: air cooled condensers are fitted as standard with new electronic fans developed with EC fan technology; this dramatically reduces energy consumption.

Main features:
- LMC Ø 350 - 9.3 to 44.0 kW - 1 to 4 fans - dBA 41 to 47;
- LMC Ø 500 - 17.5 to 105.9 kW - 1 to 3 fans - dBA 36 to 58;
- LMC Ø 630 - 24.8 to 247.2 kW - 1 to 4 fans - dBA 35 to 65.

www.htsystems.cz

Sweden

www.aia.se
SEST 40TH ANNIVERSARY

40 years a leader. Today SEST is the largest European company specializing in the production of heat exchangers and condensers for refrigerated cabinets. SEST is the largest producer on the Continent of finned heat exchanger coils for the sectors of commercial refrigeration and for air conditioning. The success of SEST is based on its “customer-oriented policy” which has led the company - lean and flexible - not only to develop new products but also to construct them in co-design partnership with its customers in terms of technologies, geometries, applications and the use of the new natural fluids (CO2, propane, etc.).

SEST coils are used in various fields:
- Air conditioning: a vast range of final units; co-design service and products for fan coils, cassettes, chillers, heat pumps, roof tops and AHUs;
- refrigeration: to satisfy the all-round requirements of the market with innovative, personalized solutions;
- industrial applications: solutions available for refineries, oil extraction plants, special applications in general etc;
- home appliances: for a market with a rigorous respect for all the parameters of construction, high reliability and outstanding performance.

TGD: “LOW ENERGY FRAME”

TGD specializes in the customized design and production of doors and glass closing systems for all areas of refrigeration. The TGD “0 Energy Door” has been engineered and constructed in order to meet stringent requirements:
- aluminium frame made of a special combination of several materials with different thermal conductivity, able to stop cold migration to the metal external layer;
- transparent section made of high performance heating reflective glass layers, joined by warm edge with an extremely low cold transfer rate (Ug=0.16); both these factors take the whole glass pane unit Ug value to = 0.8;
- these special features enable TGD 0 Energy Doors to comply with EN441 standard class 3, without the need for any electrical anti-condensation device.

The 2014 “Low Energy Frame” is the brand new Line-up master frame with optimized energy saving features:
- the low energy frame permits the saving of at least 50% of the energy needed to safely guarantee EN441 class 3 compliance;
- its structure has been engineered with special materials and design, in order to guarantee a perfect seal between the outer surface of the frame and the internal one;
- no more air flow through the frame structure considerably reduces frost inside the cabinet and extends the time between anti-defrost cycles;
- incredibly fast pay-back time for a new cabinet;
- the frame is so strong that it can be used as a structural part to support the roof of the cabinet, saving time and money on production lines.