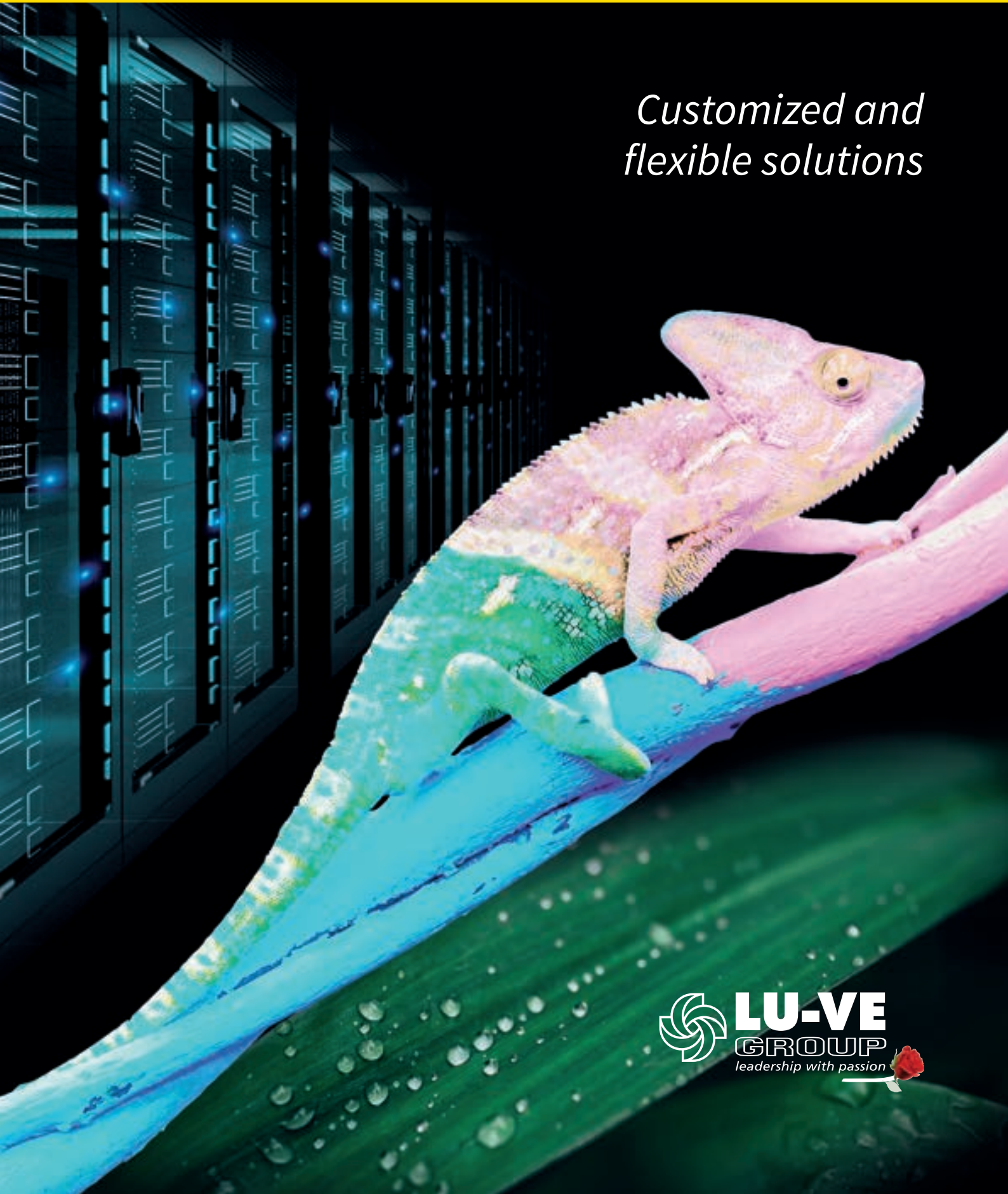


Data center cooling



*Customized and
flexible solutions*





Enhancing data center cooling with customized and flexible solutions

The data center industry is a large and expanding sector, driven in particular by cloud computing technology and social media.

Key requirements in this demanding market segment are: high reliability, energy savings, compact footprint and low maintenance.

As a leading pioneer in cooling solutions for specialised applications, the LU-VE Group has many ways of helping to ease this burden.

We understand the importance of uninterrupted availability. We know how to balance cost and environmental considerations and tailor our complete offering accordingly, using the highest quality materials and engineering to deliver advanced solutions that save time, money and make life easier for you.

Proper data center cooling ensures that an entire facility is provided with sufficient cooling, ventilation and control to keep all equipment within the desired temperature ranges.

Traditionally, data centers have been cooled using relatively small integrated cooling units located within the server room.

LU-VE Group coolers can strongly improve cooling performance compared to a conventional solution. This efficiency is due to the cooler's high cooling and very compact machine dimensions.



BENEFITS

- **Modular design** to suit project requirements
- **Fully customisable** with wide range of options
- **Heavy duty products** with high quality components
- Committed to products **sustainability**
- **Lowest energy use** possible, thanks to optimized design
- **Low total cost** of ownership
- Excellent solution **in combination with free cooling**
- **Advanced regulation** for optimised performances
- Worry-free performance
- Fully factory assembled for plug and play installation

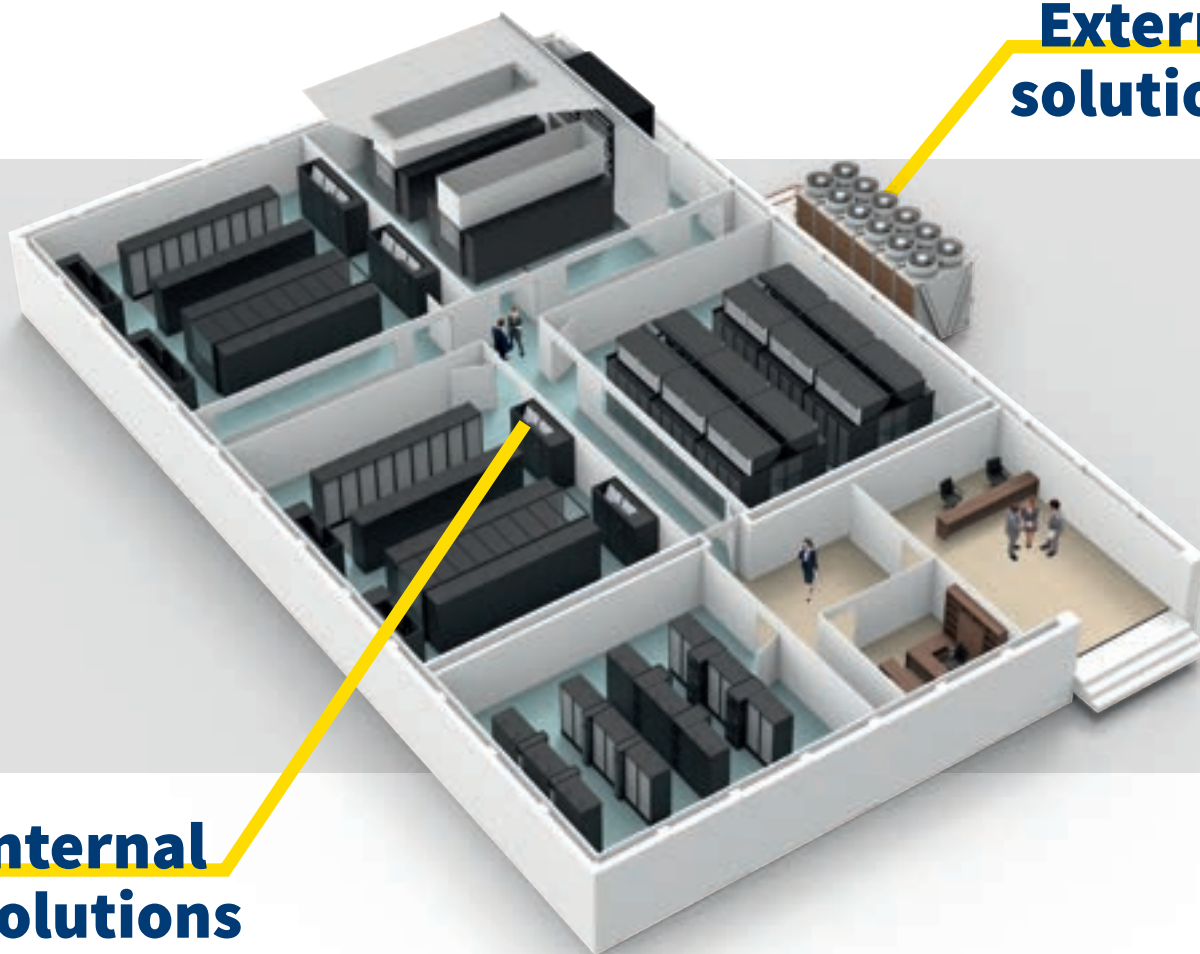
LU-VE Group can provide a wide range of solutions specifically designed for **data center cooling**.



Free cooling application

Free cooling plays a vital role in the running costs of data centers. LU-VE Group free cooling equipment utilises the low-cost cooling medium of air. In terms of energy savings, the ratio between mechanical cooling and free cooling is approximately 5 to 1.

External solutions



Internal solutions



Server cooling application

Arctigo LSV air coolers are designed specifically for data centers and are based on the **Low Speed Ventilation** concept: coolers are installed outside the sensitive server room, drawing return air from the upper plenum and quietly distributing sufficient cool air throughout the server room. The system ensures that sufficient air is supplied. It works with hot and cold containments, with or without raised floors, in closed-loop systems or using outside air.



EXTERNAL SOLUTIONS - Dry coolers

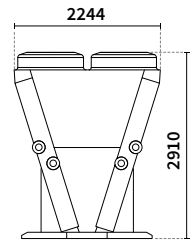
Dry coolers are a smart way to take advantage of free cooling when the surrounding temperature allows for it. They are made with cross-fin copper tubes and advanced corrugated or turbo aluminium fins resulting in a combination of compact dimensions and high capacity.



VXX3

Ideal for ...

VXX3 is specially designed for very high capacity on small footprint. The VXX3 series is a wide range of heavy-duty V-type dry coolers, based on modular design and optimized to achieve the best balance between environment, economy and performance.



Overall Length
2.1 - 13.4 m



Fan diameters
910 - 1,000 mm



Cooling Capacity
200 kW up to 2 MW



Fan motors
High efficiency AC or EC



Numbers of fan
4 - 20



Certifications
Eurovent / ISO 9001
PED regulations

BENEFITS

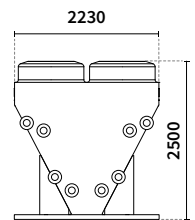
- > Best capacity/footprint ratio
- > Reliable performance
- > Energy efficient: low total cost of ownership
- > Heavy duty design with high corrosion resistance
- > Available with easily cleanable industrial fins
- > Easy installation and maintenance



VDD

Ideal for ...

The VDD series is a wide range of heavy duty V-type dry coolers for various industrial applications requiring water/glycol cooling. VDD dry coolers have compact design allowing both container and truck transport.



Overall Length
2.9 - 13.4 m



Fan diameters
910 - 1,000 mm



Cooling Capacity
100 kW up to 1.8 MW



Fan motors
High efficiency AC, EC
and IEC package



Numbers of fan
4 - 20



Certifications
Eurovent / ISO 9001 /
PED regulations

BENEFITS

- > Heavy duty design
- > Available with corrosion resistance class up to C5-VH
- > Available with easily cleanable industrial fins
- > Excellent sound characteristics
- > Reliable performance, Eurovent certified
- > Easy installation and maintenance
- > Energy efficient - low total cost of ownership
- > Suitable for container transport

EXTERNAL SOLUTIONS - Adiabatic coolers

Adiabatic coolers are highly engineered product featuring different types of operational mode:

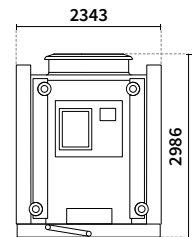
- in cold conditions the unit works as a pure closed loop dry cooler.
 - when the ambient temperature goes up the adiabatic chamber is activated to pre-cool the air before it enters the heat exchanger coil.
- The smart design and patent gives no stagnant water and drops the risk of dangerous legionella to a minimum.



Ecooler

The eco-friendly adiabatic product range

Units designed to meet the increasing demand for free-cooling applications. The Ecooler range combines high-value key elements as: the unique oval coil tube, the large adiabatic pads, high efficiency EC fans and the water recirculation system resulting in performance maximisation.



Overall Length
2.2 - 12.8 m



Fan diameters
800-910-1250 mm



Cooling Capacity
Up to 3.5 MW



Fan motors
High efficiency
AC or EC



Numbers of fan
Single row: 1-7
Dual row: 4-20



Certifications
ISO 9001 /
PED regulations

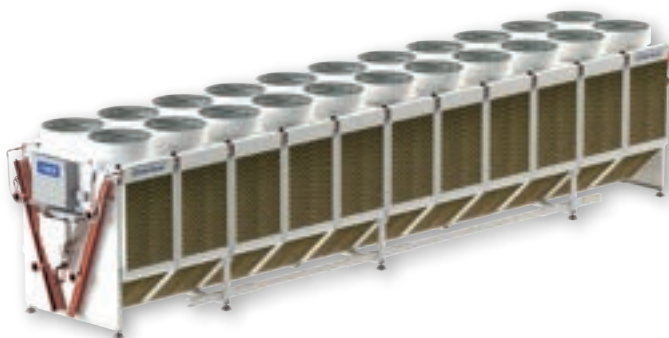
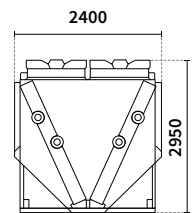
BENEFITS

- > Highest adiabatic efficiency solution
- > Minimised water consumption
- > Strong and stable frame
- > Components suitable for corrosive environments
- > Maintenance door protected by a security switch
- > User friendly control system
- > Reduced noise levels
- > Reduced maintenance and operating costs

Emeritus®

Up to 400% more capacity than dry exchangers

Compared to dry solutions, the adiabatic system increases performance in warm climatic conditions. Emeritus® combines the advantages of evaporative panels with a water spray, managed by a sophisticated control system. Emeritus® systems have tighter requirements on water quality and hardness than other adiabatic systems.



Overall Length
2.8 - 13.1 m



Fan diameters
910 - 950 mm



Cooling Capacity
200 kW up to 3 MW



Fan motors
High efficiency
EC



Numbers of fan
4 - 22



Certifications
ISO 9001 /
PED regulations

BENEFITS

- > Favorable capacity/footprint ratio
- > Silent operation
- > Energy efficient - low total cost of ownership
- > Reduced water consumption VS cooling tower
- > Intelligent control system
- > Also available in container version (2.5 m height)



EXTERNAL SOLUTIONS - Accessories

LU-VE Group offers an unparalleled range of accessories, allowing easy tailoring to meet your unique requirements. Our cutting-edge control systems ensure optimal performance and efficiency for seamless performance all-year-around.



Whisperer plus®

Have you ever heard the sound of silence?

Whisperer Plus® is the second generation of silencer specifically designed for LU-VE dry coolers:

- > **sound level reduction - up to -6 dB(A)**
- > **reduction of electricity consumption - up to 19%**

BENEFITS

- > Energy saving
- > Extremely quiet operation
- > Smaller unit footprint
- > Reduction of warm air recirculation

Smart control systems

LU-VE advanced control softwares are designed for dry coolers with EC fans:

- > **advanced functions**
- > **adaptable to all kinds of plants/installations**



Technical support

Experience the LU-VE Group service: a hallmark of reliability and expertise, guiding you through every phase of your product's lifecycle.

Supervision and integration

Achieving peak performance with LU-VE Group ventilated units begins with flawless installation. Our technicians meticulously supervise installations, whether on-site or remotely, ensuring adherence to your requirements while optimizing unit configurations based on the actual operating parameters.

Commissioning

Our dedicated team is ready to conduct the inaugural commissioning of your cooling units. Through rigorous assessments of all functionalities, we guarantee optimal performance. Each intervention is certified by a detailed commissioning report.

INTERNAL SOLUTIONS - Server cooling application

Experience unparalleled efficiency and reliability in cooling tailored to the demands of your infrastructure, backed by our commitment to excellence and technological leadership.



Arctigo LSV

Green Data Center design with low speed ventilation

Arctigo LSV air coolers are heavy duty industrial air coolers specifically designed for cooling down server heat production in Data Centers that have been built according to the “Low Speed Ventilation” concept. LSV air coolers operate with low fan speed, low air velocities and minimal pressure differences along the route of the air flow, achieved by the building itself being part of the system.

BENEFITS

- > Simple, stable and reliable climate control system
- > Cooling equipment removed from white space
- > Exclusion of ‘hot spots’ related to high air speed
- > Heavy duty coil and casing materials, resulting in a long operational product life
- > Operational fine tuning thanks to EC fans
- > Low total cost of ownership



Brine coolers range

LU-VE Group brine coolers are a good alternative to close control units for telecommunications and data center cooling.

Industrial air coolers for server cooling

LU-VE industrial air coolers are based on modular design and are optimized for installations in demanding environments. The range includes both single discharge and dual discharge units.

Maximised thermal performance thanks to the high capacity TURBOFIN fins and low energy consumption thanks to high efficiency fans.

Reliable performance thanks to extensive R&D testing both in our inhouse laboratories and on field, with over 30,000 units sold over the last decade.



www.luvegroup.com