DATA CENTER COOLING

Shaping tomorrow's digital world

LU·VE

Data Center cooling made in LUVE

Our cooling technology is shaped to optimize the functioning and growth of data centers, powering the demanding workloads of AI, cloud computing, crypto currency mining, IoT and online communities.

Combining top-tier performance and efficiency, our designs deliver the highest results with minimal energy and water consumption. This means major savings on essential resources, with a positive impact for the environment, future generations and business costs.

Data centers are energy-intensive by nature. Our commitment is to provide cooling solutions that meet their demanding requirements while reducing operational impact as much as possible.

Our expertise in innovation and rapid market delivery allows us to provide tailored solutions and guidance for each application, in every step of the design process:

- Rear Door Heat Exchangers
- Free Cooling
- White Space Cooling
- Back-up generator cooling

Decades of cooling expertise

Operating as LUVE since 1986 and building on earlier foundations in heat exchange technology, we've shaped the air heat exchanger sector to become one of the three largest manufacturers globally and second in Europe. We operate through 20 manufacturing facilities across 9 countries, supported by over 30 sales offices worldwide, exporting 83% of our solutions to 100 countries. This global presence ensures rapid deployment and local support for your data center needs.

Technical support

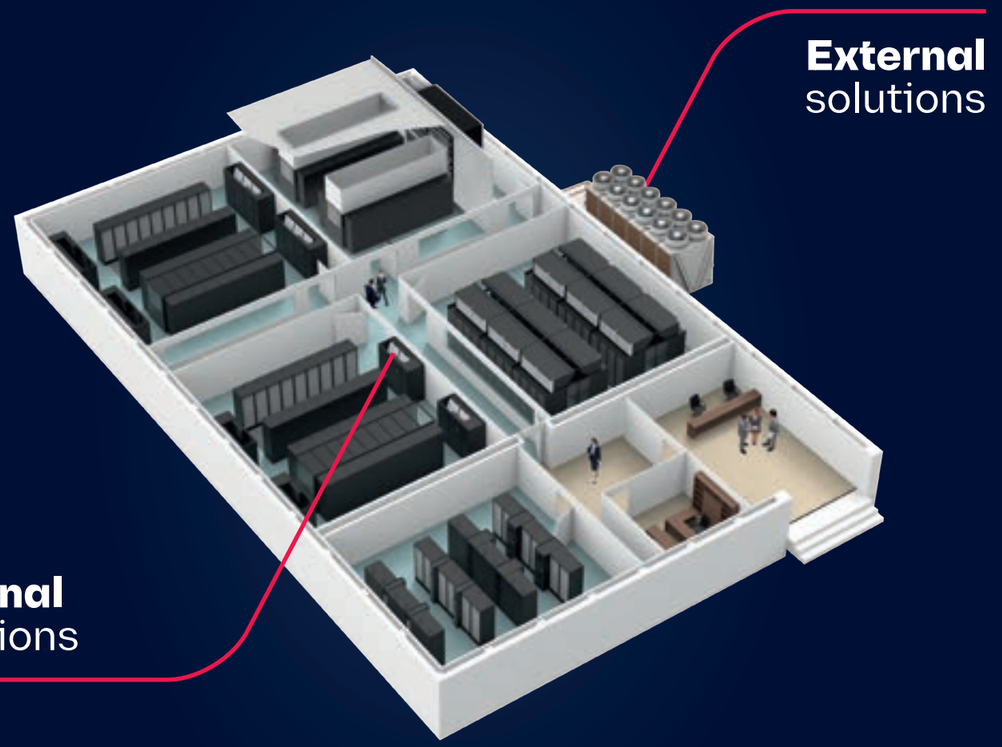
- Comprehensive project management from planning to installation
- On-site and remote supervision ensuring smooth installation
- Fast-track deployment with dedicated commissioning teams
- Performance optimization through our climatic chamber – the first and only European lab capable of testing large-scale dry coolers and adiabatic systems in their actual operating size
- Technical assistance throughout the entire lifecycle
- LUVE CARE service for extended reliability and peak performance

Benefits of our Data Center approach

- Flexible modular design for scalable growth
- Maximum cooling efficiency with measurable environmental benefits
- Fully customizable solutions with minimal water usage
- Heavy-duty engineering for 24/7 reliability
- Reduced total cost of ownership
- Factory-tested Plug&Play solutions

Free cooling applications

Free cooling delivers energy efficiency and cost optimization by using air as the primary cooling medium. This approach achieves up to 5:1 reduction in energy consumption compared to mechanical cooling.



Server cooling applications

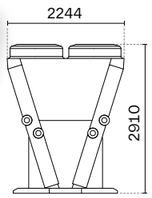
We engineer specialized data center air coolers based on low-speed ventilation technology. Our solutions install outside the server room and distribute cool air through flexible configurations:

- Hot and cold containment systems
- Raised floor or slab installations
- Closed-loop or fresh air systems

We also supply OEM heat exchangers for liquid cooling and direct expansion units.

EXTERNAL SOLUTIONS. Dry coolers

Alfa V Mega VXX3



HIGH CAPACITY, SMALL FOOTPRINT

- V-shape modular design delivering the best ratio between capacity and footprint
- Energy efficient for reduced total cost of ownership
- Performance guaranteed by Eurovent certification
- Cross-fin copper tubes for maximum heat transfer
- Aluminium fins: turbo for high performance or corrugated or for easy cleaning
- Simplified installation and minimal maintenance

Overall Length
2.1 - 13.4 m

Fan diameters
910 - 1,000 mm

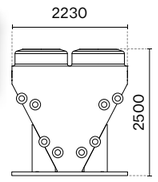
Cooling Capacity
200 kW up to 2 MW

Fan motors
High efficiency AC or EC

Number of fans
4 - 20

Certifications
Eurovent / ISO 9001 / PED regulations

Alfa V VDD



HEAVY DUTY ENGINEERING

- V-shape design for demanding industrial applications with water and glycol cooling
- Compact configuration suitable for container and truck transportation
- Available with corrosion resistance up to class C5-VH
- Silent operation with Eurovent-certified performance
- Cross-fin copper tubes ensuring reliability
- Industrial fins designed for easy cleaning
- Straightforward installation and low maintenance requirements

Overall Length
2.9 - 13.4 m

Fan diameters
910 - 1,000 mm

Cooling Capacity
100 kW up to 1.8 MW

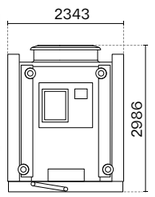
Fan motors
High efficiency AC, EC and IEC package

Number of fans
4 - 20

Certifications
Eurovent / ISO 9001 / PED regulations

EXTERNAL SOLUTIONS. Adiabatic coolers

Alfa Ecooler



ECO-FRIENDLY ADIABATIC COOLING

- Adiabatic pre-cooling technology with no water traps, minimizing legionella risk
- Energy efficiency through oval coil tubes and high-performance EC fans
- Silent operation with proven reliability
- Water recirculation system for minimal consumption
- Superior alternative to traditional cooling towers
- Enhanced corrosion resistance
- Straightforward installation with low maintenance requirements
- ECOOLER² Two Stages: double height and double performance, but half the footprint

Overall Length
2.2 - 12.8 m

Fan diameters
800-910-1250 mm

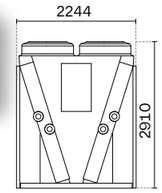
Cooling Capacity
Up to 3.5 MW

Fan motors
High efficiency AC or EC

Number of fans
Single row: 1-7
Dual row: 4-20

Certifications
ISO 9001 / PED regulations

Alfa V Mega VXX3 Wetwall



TOTAL CLIMATIC CONTROL

- Adiabatic pre-cooling with no water traps, ensuring minimal legionella risk
- High-performance EC fans
- Delivers up to 300% more capacity than standard dry exchangers
- Silent, reliable performance proven by numbers
- Water recirculation system capturing and reusing spray water, drastically reducing consumption
- Maintains consistent performance regardless of wind conditions
- Advanced alternative to cooling towers
- Superior corrosion resistance
- Simple installation and minimal maintenance

Overall Length
2.1 - 13.4 m

Fan diameters
910 - 1,000 mm

Cooling Capacity
400 kW up to 4 MW

Fan motors
High efficiency EC

Number of fans
4 - 20

Certifications
ISO 9001 / PED regulations

Shaping performance beyond expectations

INTERNAL SERVER COOLING SOLUTIONS

Whisperer Plus®

REDUCED NOISE AND POWER CONSUMPTION

Our 2nd generation silencer for LUVE dry coolers delivers measurable improvements:

- Up to -6 dB(A) sound level reduction
- Up to -19% energy consumption
- Reduced footprint
- Minimized warm air recirculation

Smart control systems

Our intelligent control solutions control both dry coolers and adiabatic systems through:

- Application-specific control logic for data center operations
- PLC-based controller with touch screen interface
- Floating activation set point adjusted to running conditions
- Delta temperature control
- Anti-condensation protection through external 3-way valve control
- Optimized 7-zone fan control for process cooling
- 3-way valve control: 0-10 V, 2-10 V or 4-20 mA
- 3-way valve feedback signal

OEM coils

LIQUID COOLING AND DIRECT EXPANSION UNITS

Our data center coils are engineered for efficiency and reliability across all refrigerants:

- Configurations tailored to specific application requirements
- High-performance coils for chillers and air handling units
- Rear Door Heat Exchangers optimizing server rack cooling
- Advanced software enabling precise performance simulations and selections
- Continuous R&D keeping you ahead of the curve

Alfa Arctigo LSV

HEAVY-DUTY LOW SPEED VENTILATION

- Low fan speed and air velocity ensuring minimal pressure differences
- Uniform cooling eliminates hot spots from high air speeds
- Heavy-duty coil and casing materials engineered for extended operational life
- Precise operational tuning through EC fan control
- Reduced total cost of ownership

Overall Length
1.1 - 6.65 m

Fan diameters
400 - 710 mm

Cooling Capacity
8.5 kW up to 347 kW

Fan motors
High efficiency EC

Number of fans
1 - 10

Certifications
ISO 9001 / PED regulations

Brine coolers

CLOSE CONTROL UNITS

- Engineered for demanding environmental conditions
- High-capacity TURBOFIN technology
- High-efficiency fans minimizing energy consumption
- Available in single or dual discharge configurations

Discover how we shape your data center performance.

Contact us to design the optimal solution for your needs. Visit **luvegroup.com** for complete contact information.

Engineered for sustainable excellence today.
Ready for what's next.

3180056 7EN-00

LU·VE

LUVE S.p.a. – The shape of cooling
Via Caduti della Liberazione, 53 – 21040 Uboldo (VA) – Italy
www.luvegroup.com