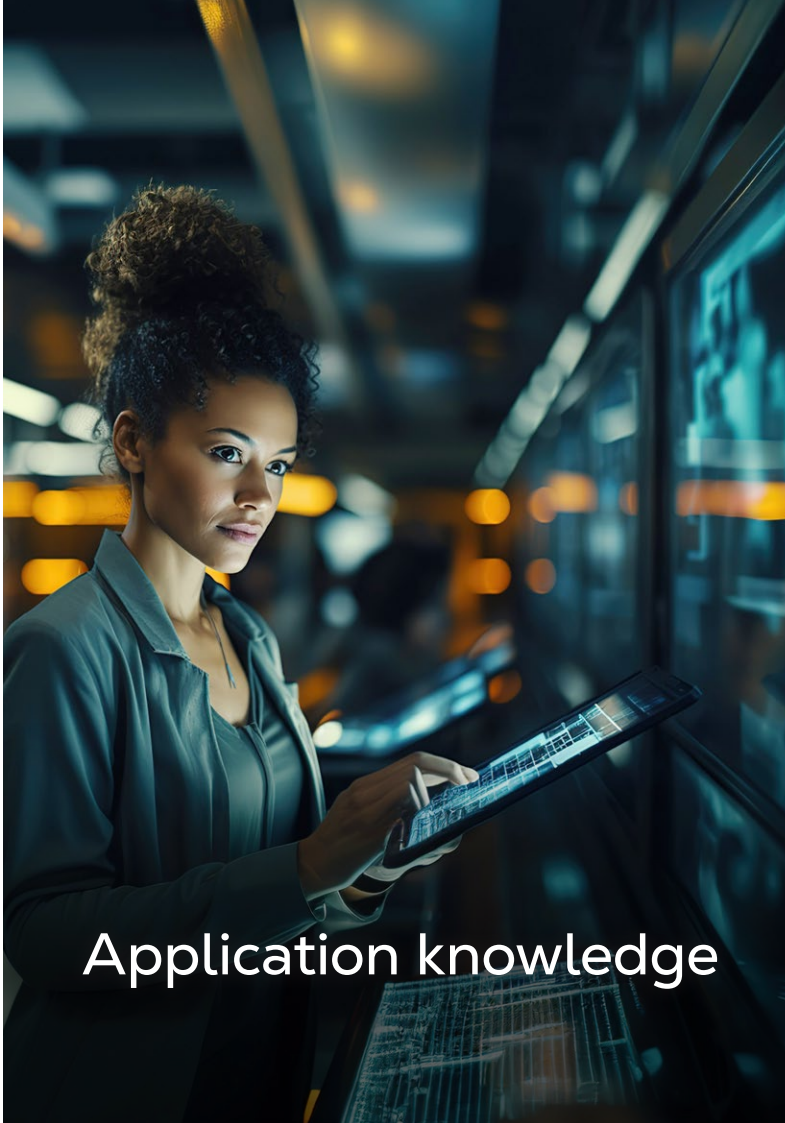




Energy-efficient
and adaptable air and
liquid cooling solutions
for data centers



Application knowledge



Project management

Data center cooling and humidification is constantly evolving

High-performance computing is transforming the data center industry, increasing the need for energy- and water-efficient cooling systems. Adaptability, innovation and operational continuity are essential. Since 1955, Munters has pioneered climate control solutions in mission critical facilities, helping the data center industry manage rising capacities and heat loads.

Our unmatched project management, global reach, extensive R&D, delivery accuracy, and comprehensive support keep you at the forefront of sustainable, advanced data center cooling. Stay prepared to meet future challenges today.

Stay cool – and up and running
Choosing the right data center cooling solution depends on factors like ambient climate, water availability, air quality, temperature and building design. Munters works closely with owners and operators to optimize climate control solutions tailored to each data center's unique requirements. These customized systems maximize uptime, enhance efficiency and lift performance while saving energy and water and reducing costs and carbon footprint.



Energy efficient and adaptable



Broad solutions and services

Adaptive air and liquid data center cooling solutions

Futureproofing heat management from end to end

Driving efficiency

As high-performance computing (HPC) and AI-driven workloads reshape the industry, your cooling technologies must evolve. Keep pace by seamlessly transitioning from conventional air cooling systems to advanced hybrid air-and-liquid solutions to meet the demands. Stay ahead of infrastructure advancements by optimizing performance – today and tomorrow.

Cooling solutions for every need

Munters provides a one-stop solution for heat management, from heat capture and reuse to rejection. Get everything you need – from a one-off CRAC, CRAH, chiller or liquid cooling system to comprehensive end-to-end solutions – from Munters. Beyond advanced cooling technologies, you get dedicated engineering expertise, skilled project management, optimized software, full commissioning, tailored services and maintenance solutions.

Tailored for maximum efficiency, anywhere in the world

Every data center is unique, and your cooling system should be, too. With solutions customized to your location and operational needs – whether in the mountains of South America, the deserts of the Middle East, the cold climates of Scandinavia, or the tropics of Southeast Asia – you can achieve lower energy consumption and meet even your most critical demands. Stay sustainable and efficient, no matter where you operate.

Futureproofing your data center requires flexibility

Futureproofing your data center requires flexibility. Gain the versatility you need to meet your data center's unique cooling requirements using Munters broad portfolio. Build flexibility into your operations using air or liquid cooling, or a combination of both.

- **For air cooling:** Choose from air-cooled and water-cooled chillers, dry air coolers and hybrid dry air coolers, and single- and two-phase air-cooling units like CRACS, CRAHs and fan wall units.
- **For liquid cooling:** Opt for single-phase, liquid-to-liquid CDUs, chillers and dry coolers. Or select the award-winning SyCool liquid-cooled evaporators and condensing units for single- and two-phase heat rejection.

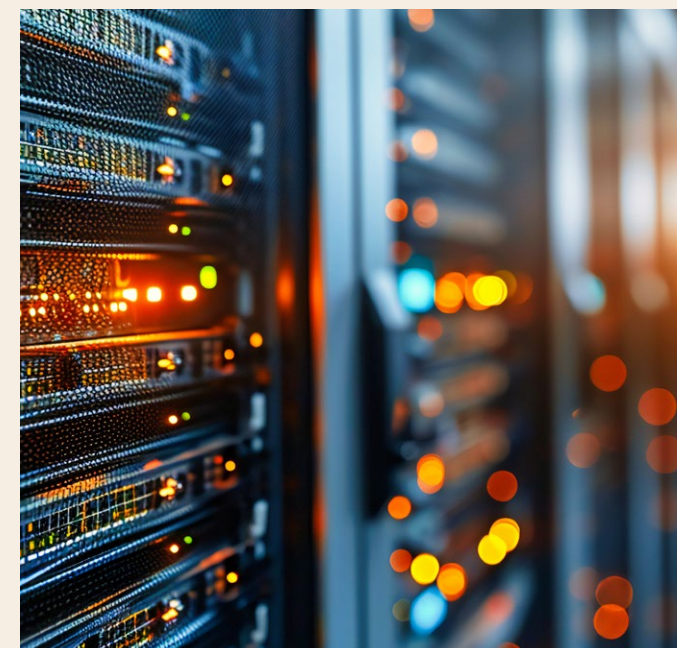
With Munters, you can scale your cooling system as needed to handle higher rack densities, easily integrating solutions for heat rejection and heat capture, ensuring your data center remains efficient, reliable, and ready for future demands.

Enhancing adaptability

Easily upgrade from conventional cooling units to liquid cooling solutions with Munters, always optimizing technology to meet future demands. As rack densities rise, you can seamlessly transition from CRAHs to CDUs as liquid cooling technology gains traction. Or replace CRAHs with the SyCool LCE liquid-cooled evaporator or LCX CDUs and chiller systems for efficient, scalable cooling to offset higher server rack densities.

Embracing heat reuse for a more sustainable future

Keep pace as legislation for heat reuse gains momentum. With Munters advanced cooling solutions, you can capture and reuse heat from your data center, reducing energy costs, boosting efficiency, ensuring compliance, and advancing your sustainability goals.



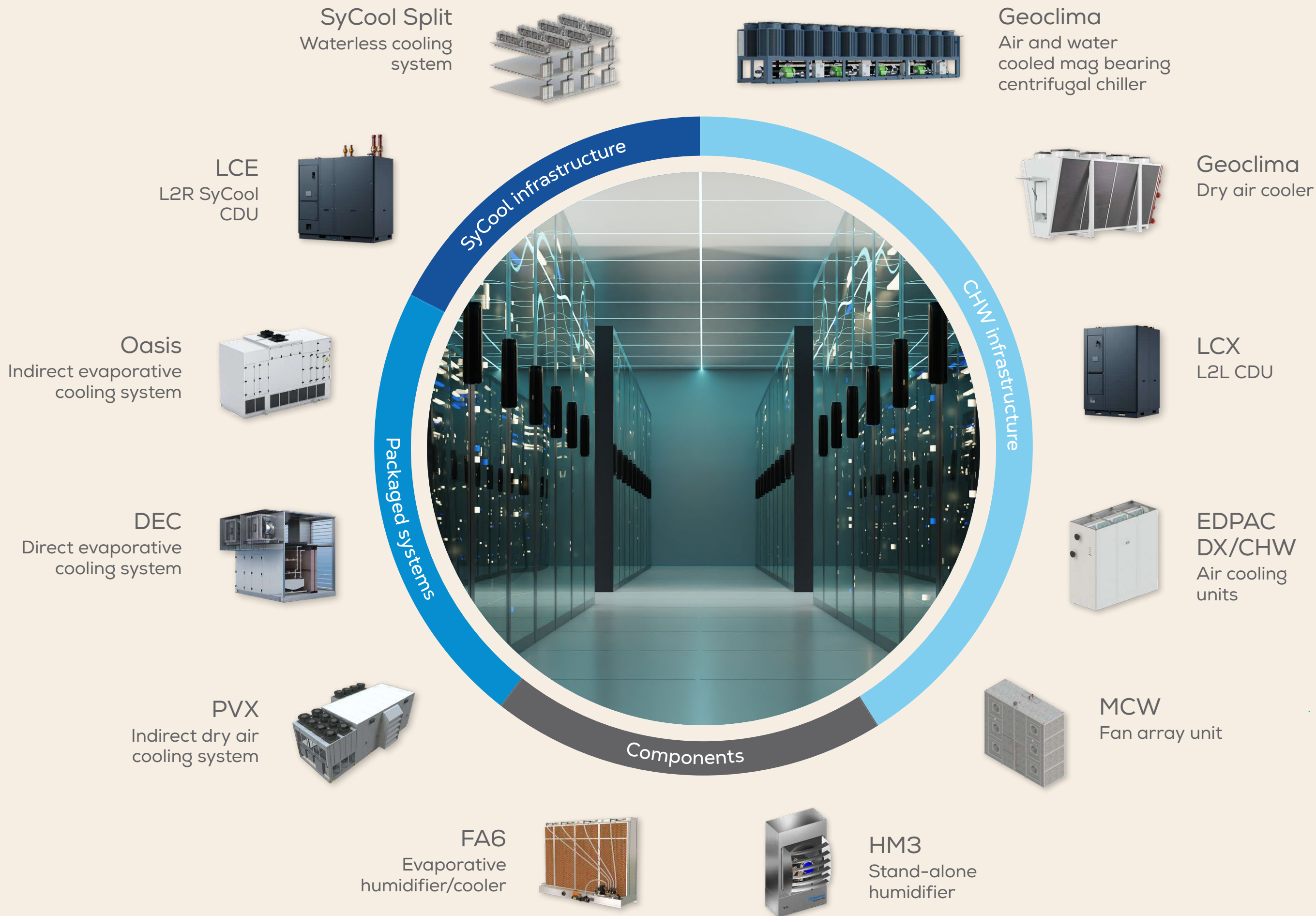
Beyond cooling to ensure long-term success

Futureproof your operations with solutions that meet today's demands and adapt to tomorrow's challenges. Ensure peak data center performance with Munters advanced climate control technologies for unmatched efficiency and sustainability. Rely on Munters expertise to design, plan and maintain the optimal indoor climate, combining cutting-edge cooling technologies with advanced humidification and ventilation solutions.

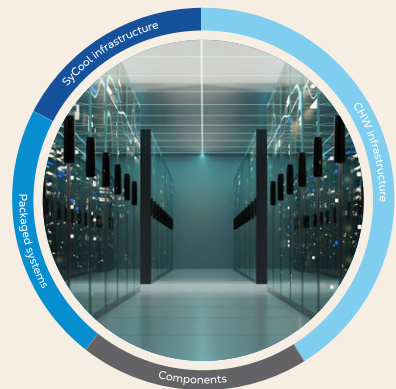
Munters portfolio

Push data center efficiencies higher, evolving your operations while staying ahead of fast-changing technologies. We can optimize your operating conditions with innovative solutions – from complete split and packaged systems to close control and fan wall units to evaporative media and humidifiers. With Munters, you're ready for whatever the future brings.





Adaptable and energy-efficient air and liquid data center cooling



Heat Rejection

Geoclimate air and water cooled mag bearing centrifugal chiller

Maximize the efficiency and reliability of your chilled water systems with the advanced Geoclimate Turbomiser air- and water-cooled chillers. These oil-free chillers optimize temperature control, while reducing energy use and operating costs. They also deliver quiet, dependable, scalable performance and extend equipment lifespan. Get flexibility for hybrid air- and liquid-cooling systems, with room for future expansion. Boost performance further with cylindrical condensers, which provide up to 45% more heat exchange surface than traditional heat exchangers.



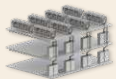
Geoclimate dry air cooler

Optimize economizing time with Geoclimate dry air coolers, engineered to handle most of your annual cooling needs with exceptional efficiency. Optimize performance with options like cylindrical water cores, providing up to 40% more heat exchange surface, or the Intellibatic adiabatic cooling system, which maximizes free cooling potential and reduces the reliance on mechanical chillers.



SyCool Split waterless cooling system

Harness the power of ambient air with the industry's leading dry indirect economizer. Use the high-efficiency Munters SyCool™ Split cooling system with thermosyphon technology to remove server heat without using water.



CDU's

LCX L2L CDU

Munters LCX is a range of coolant distribution units (CDUs) that complement Geoclimate Turbomiser chillers and cool any liquid cooling system. Modular, adaptable and scalable, the LCX works with either single- or two-phase liquid cooling solutions. It provides a flexible upgrade path, allowing you to replace air-cooled systems like CRAHs or fan array units with efficient liquid cooling solutions as your needs evolve.



LCE L2R SyCool CDU

Unlock the potential of liquid cooling with the Munters SyCool Liquid Cooling Evaporator (LCE). This versatile, waterless solution is compatible with any liquid-cooled equipment, providing a cost-effective upgrade for your facility. Easily replace a SyCool air-cooling evaporator to transition to liquid cooling and secure a future-ready cooling strategy.



Air Cooling Distribution

EDPAC DX/CHW air cooling units

Efficiently control server room temperatures with Munters EDPAC CRACs and CRAHs. Strategically positioning these units near the heat source lets you maximize cooling efficiency. These save valuable space, reduce energy consumption, and optimize cooling performance, boosting system reliability and ensuring consistent, high-performance operations.



MCW fan array unit

Ensure precise temperature control in server rooms with Munters Modular ChilledWall (MCW) cooling unit. Compact, scalable and energy-efficient, it optimizes cooling in facilities equipped with chilled water systems.



Packaged Air Cooling Systems

Oasis indirect evaporative cooling system

Maximize energy savings and remove heat from your data center without adding moisture to the air with the Munters Oasis™ systems. Featuring evaporative polymer exchanger (EPX) technology, these compact, fully packaged systems use up to 80% less energy than conventional cooling systems to maintain optimal temperatures. Operating dry eliminates freeze concerns and provides a balanced approach to water and energy use. Choose either the Oasis Standard or DCIE containerized systems.



DEC direct evaporative cooling system

Utilising FA6 evaporative coolers, these units offer the most efficient method of cooling the air your data center. Often used in Cloud applications, these units are modular and can be built to any size to meet any data center requirements.



PVX indirect dry air cooling system

Keep your data centers cool and free from ambient air pollution and humidity with Munters Packaged Plate indirect cooler. This indirect dry integrated system provides energy-efficient operation in cooler climates or areas where water is not readily available, helping you achieve your cooling and sustainability goals. Rely on this plate aluminum heat exchanger with waterless technology for sensible-only heat transfer.



Units and Components

HM3 stand-alone humidifier

Automatically control relative humidity indoors wherever moisture regulation is critical with Munters Humimax HM3 stand-alone humidifier units. Equipped with intelligent controllers, the HM3 delivers thermal efficiency, humidity stability and energy savings.



FA6 evaporative humidifier/cooler

Enhance data center climate control with the Munters FA6™ evaporative humidifier and cooler. Tested and certified, it offers either single-coated, flame-retardant media or fire-rated, ceramic-coated evaporative media to prevent the spread of legionella. Standard sizes seamlessly integrate into air-handling units for energy-efficient temperature and humidity control. Custom sizes are available upon request.



Controlling temperature and humidity

Properly controlling the server room environment or the liquid temperature from Munters CDUs is a business imperative. Effectively manage the heat load in your data center in real time with Munters control systems. Balance efficiency and uptime effortlessly by optimizing temperature and humidity levels to keep your IT equipment running smoothly.

Munters stand-alone control units connect individual cooling and humidification units to third-party building management systems. To manage data center cooling capacity and efficiency, rely on our virtual management system to monitor and control all Munters cooling components and systems within

a specified area or throughout your entire data center with a centralized control system. With Munters data hall controller, you can manage your entire data hall using a single dashboard for a comprehensive overview of all Munters cooling components and systems.

- Performance metrics and trends overview
- Maximized uptime and availability
- Optimized cooling efficiency
- Reduced service costs
- Extended data center lifespan



Secure more uptime with Munters Services

Get the expertise and support you need throughout the lifecycle of your equipment. Our experienced technicians optimize your data center assets, optimizing temperature, humidity and uptime throughout your equipment's lifecycle. With our global reach and local presence, the Munters Service team helps protect your investment, equipment, and, above all, your peace of mind – wherever you operate.

Service Agreements

Get industry-leading lifecycle care tailored to your needs, optimizing performance.

Installation, startup and commissioning

Ensure optimal performance from day one with our installation, startup, and commissioning services. Leveraging Munters' expertise and support helps ensure long-lasting, reliable equipment performance.

Maintenance and repairs

Finetuning your routine, proactive or preventive maintenance schedules can boost performance and prolong the lifespan of your equipment.

Retrofit and upgrade

Revitalize and extend the lifespan of your equipment, while reducing energy consumption and maximizing uptime.

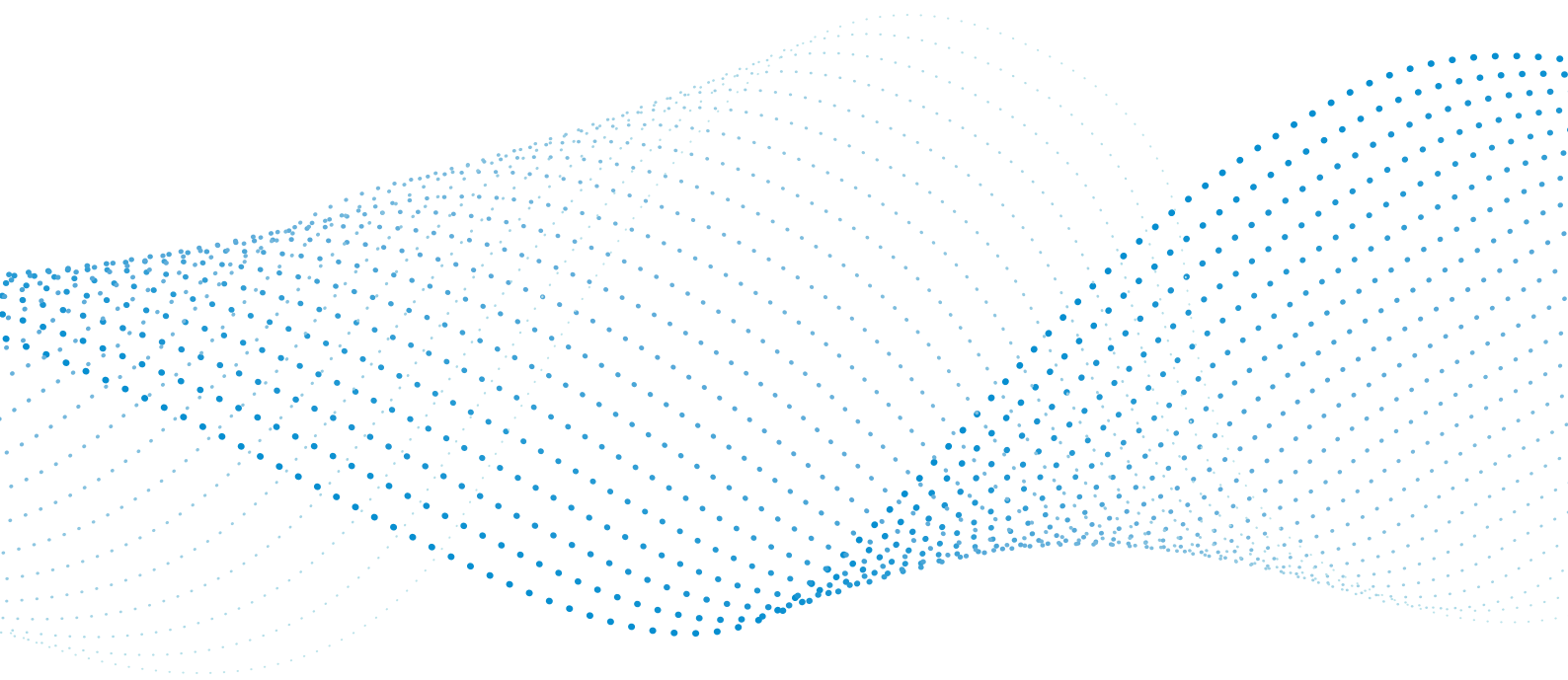


Operational excellence

Munters optimizes operations by understanding customer needs and implementing lean business practices, which reduce waste, maximize customer value, and enhance overall performance. Our commitment to excellence is evident at our facilities in Selma, Texas; Daleville, Virginia; Cork, Ireland, Trieste; Italy and Bangkok; Thailand. High employee retention keeps our operations strong, reliable, and consistent.

We constantly assess operations to improve resource efficiency and respond to customer needs. Our new LEED-certified factory in Cork expands our capacity while reducing our carbon footprint, meeting the growing demand for increased output and sustainable cooling solutions. We also prioritize reduced lead times and ensure 100% delivery accuracy.





Munters is a global leader in climate control solutions for mission-critical processes. Through innovative technologies, we create optimal climates for demanding industrial and agricultural applications where controlling moisture, temperature and air quality is essential. Munters provides cutting-edge industrial climate control systems from battery and pharmaceutical manufacturing to data center cooling and food production. Our efficient, innovative products and solutions secure critical operations, ensure production quality and conserve energy and water.