FAST MOVING TECHNOLOGY

STÄUBLI

IT Cooling

Connectors | Liquid cooling

A FAST-GROWING MARKET

Trends with significant impacts...

1 EXPONENTIAL DATA GROWTH

With increased internet usage, the proliferation of IoT devices, and the rise of big data analytics, the demand for data storage and processing has grown exponentially, **leading to larger and more data-intensive workloads** for data centers and supercomputers.

2 AI AND MACHINE LEARNING WORKLOADS

Artificial Intelligence (AI) and Machine Learning (ML) applications generally require **high-performance GPUs and CPUs that generate considerable heat.** Efficient cooling is crucial to maintain performance and prevent thermal throttling.

3 CLOUD COMPUTING AND VIRTUALIZATION

The shift towards cloud services and the virtualization of hardware resources have resulted in **more densely packed server environments.** These dense configurations often have higher heat output.

4 EDGE COMPUTING

The movement towards edge computing means that data is being processed closer to the source of data generation. These edge data centers may be located in various climates with different cooling needs, **leading to a demand for more versatile and robust cooling solutions.**

5 HIGH-PERFORMANCE COMPUTING (HPC) ADVANCEMENTS

The continuous advancement in HPC, with supercomputers breaking new barriers in computational power, requires innovative cooling technologies to **manage the extreme heat loads** produced by such powerful machines.

6 SUSTAINABLE AND GREEN COMPUTING

Environmental concerns and sustainability goals are leading to regulations and targets for reducing energy consumption and carbon footprints. This has spurred the **development of more energy-efficient cooling solutions and the use of renewable energy** in data centers.

7 HIGHER ENERGY COSTS

As the cost of energy rises, the financial burdens of inefficient cooling become more severe. Data centers aim to **reduce operating expenses** by implementing **more energy-efficient cooling technologies.**

8 INFRASTRUCTURE SCALABILITY AND ADAPTABILITY

Data centers need to scale up their capacity quickly to meet demand without disrupting existing operations. Cooling solutions must be able to adapt to changing computing environments and hardware.

... lead to many challenges

BLADE DENSIFICATION & POWERFUL RACKS
With more power-packed in less space, cooling becomes a critical challenge.

TEMPERATURE SURGE
High-temperature systems need reliable components for easy maintenance and a flawless service continuity.

ENERGY EFFICIENCY
Optimizing cooling systems is crucial for reducing energy consumption and lowering PUE (Power Usage Effectiveness).

MODULARITY
Flexible, scalable cooling systems allow for easy expansion and adaptability in the face of rapidly changing technology.

Liquid cooling, the new standard

Gain in efficiency
Liquid cooling handles heat from dense data center growth, enabling more potent, compact computing without overheating.

Meet the AI requirements
Liquid maintains optimal temperatures for AI workloads and HPC, preventing thermal throttling and enabling peak performance.

Still efficient in high density
Liquid cooling effectively combats the heat in dense server environments, which is ideal for cloud and virtualized systems.

Control your temperature
It provides consistent temperature control across various edge computing settings, ensuring dependable operations.

Optimize your PUE
Liquid cooling is energy-efficient, aligns with green initiatives, and can reuse waste heat, reducing environmental impact.

Decrease your operation costs
As energy costs rise, liquid cooling's greater efficiency lowers operating expenses and supports modular data center scalability.

Discover how liquid cooling answers actual data centers and supercomputers challenges

STÄUBLI HISTORY

A legacy of excellence in IT cooling

30

years in electronic cooling

A strong expertise in electronic cooling for many businesses such as Railway and Aerospace (Radar cooling, Air conditioning circuits, engine, etc).

10

years in IT cooling

With more than 10 years of IT cooling experience and a robust 70-year history of expertise in critical environments, including hydrogen and Formula 1, we are exceptionally qualified to meet your requirements.

3

center of production

and expertise on 3 continents, close to your needs, to offer you a complete range of solutions for all liquid cooling applications.

> "Stäubli's commitment is clear and unwavering: to provide unparalleled value and dependability in IT cooling. With our robust supply chain and strong production capabilities spread across Europe, the United States, and China, we ensure excellence and timely delivery to our international clientele."

Jean-Christophe DUISIT
Sales & Marketing Head for IT cooling

For over 30 years, Stäubli has been an innovator in electronic and IT cooling solutions, leveraging our 70-year history of expertise in demanding environments like hydrogen and Formula 1 technology.

Our deep knowledge of critical systems is now the bedrock of our advanced liquid cooling capabilities for IT infrastructures.

Quick couplings in photovoltaic systems and critical components in data centers and supercomputers share the same DNA—absolute reliability crafted by Stäubli.

Our role in significant initiatives like the OCP underscores our commitment to pioneering supercomputing advancements.

Our hands-on approach strengthens our collaboration with CSPs, cooling system specialists, and OEMs. Stäubli's sales and engineering teams offer personalized support, ensuring the successful integration of liquid cooling solutions tailored to each client's needs.

Trust Stäubli to keep the critical backbone of IT reliably cool.

Advanced liquid cooling connection solutions

Products & services

Discover Stäubli's IT cooling range: quick, efficient, and reliable couplings that offer a glimpse into the future of thermal management. Key advantages include superior performance and a robust design for the needs of tomorrow's data centers.

Global sales & engineering

Our IT Cooling experts are worldwide, always close at hand, providing tailored engineering solutions. With Stäubli, expertise meets locality.

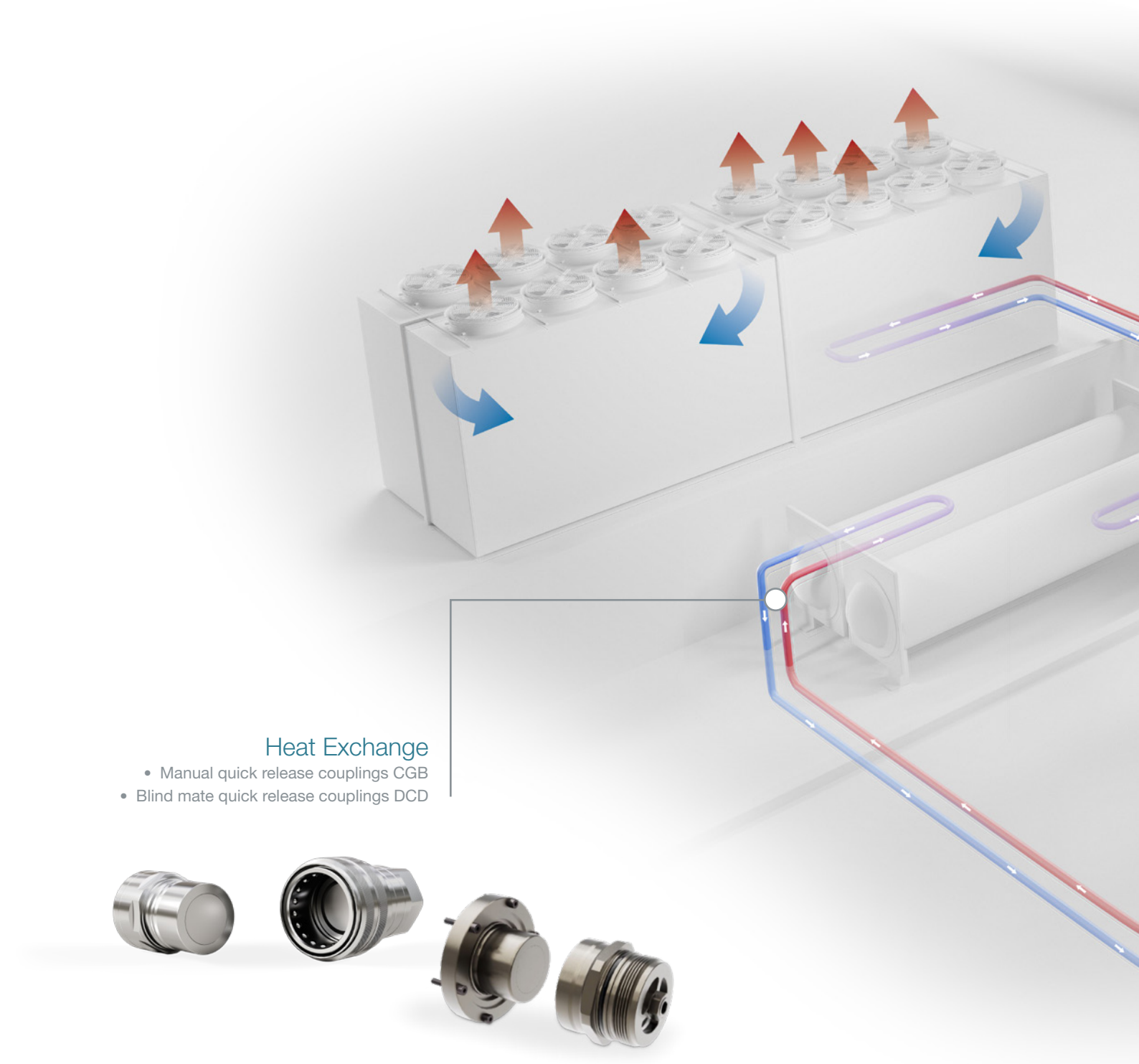
Global supply chain

Swift deliveries are crucial, and Stäubli's supply chain excels at it. We're expanding our strategic production sites to keep pace with the high demands of the market.

Stäubli provides advanced connection solutions for liquid cooling, specifically designed to meet the challenges of critical data center and supercomputer environments, meeting the needs for high density, continuity of service and modularity imposed by the latest market developments.

APPLICATION

Solutions for your liquid cooling systems



Heat Exchange

- Manual quick release couplings CGB
- Blind mate quick release couplings DCD

Connection point to your infrastructure (Water facility...)

- high-flow quick release coupling TDU

Manifold/Blade

- blind mate quick release couplings DDG/UQDB

Manifold/Blade

- manual quick release couplings SCG/UQD

Success story

RZ8260300D

● Stäubli Units ○ Representatives/Agents

Global presence of the Stäubli Group

www.staubli.com

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