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Engineered polymer flow solutions

Scalable cooling for high-density workloads

NETMOUNTAINS implements direct-to-chip liquid cooling for efficient data center operation

Complete piping scope from a single source, from the dry cooler to the in-rack manifolds.

From chiller to chip: Efficient cooling with engineered polymers

NETMOUNTAINS®

For a new colocation data center in Velbert, Germany, NETMOUNTAINS required a scalable cooling infrastructure to support high-density workloads. Rittal delivered the complete cooling infrastructure as a system integrator, while GF provided the engineered polymer piping system from the dry cooler to the chip. The scope covered the Facility Water System (FWS), Technology Cooling System (TCS), and other mission-critical hydronic systems, including design, engineering, pre-fabrication, on-site support, and the full bill of materials (BOM) from a single source.

Project background

NETMOUNTAINS' latest data center is designed for maximum flexibility, enabling seamless multi-megawatt expansion as customer demand grows. The cooling infrastructure supports rack densities of up to 66 kW and was implemented across the white space and the gray space within a tight construction schedule of only six weeks. To meet these requirements, the operator and project team selected experienced solution providers capable of delivering a complete, ready-to-install system within a short timeframe.

Selected technical solution

GF and Rittal delivered a coordinated cooling infrastructure, combining IT and cooling equipment with engineered piping. GF supplied ecoFIT (PE100) for the FWS and the LiquidCore solution for the TCS, including PROGEF (PP-H) distribution system, Quick Connect Valves 700, and SYGEF Standard (PVDF) in-rack manifolds with integrated IT connections. COOL-FIT (Pre-insulated PE100) was used for additional mission-critical hydronic applications. Essential third-party components were included to provide a complete BOM. All systems were designed, pre-fabricated, and quality tested, enabling fast installation on-site and reliable operation from startup.

Achieved improvements

By using engineered polymer piping in both primary and secondary cooling circuits, NETMOUNTAINS benefits from a corrosion-free system that maintains coolant purity and stable hydraulic performance over the long term. The smooth internal surfaces minimize pressure losses and support reliable operation of direct-to-chip cooling equipment. The lower thermal conductivity of thermoplastics compared to metals also reduces unwanted heat transfer to the surroundings, helping retain more heat within the liquid circuit and lowering the thermal load on the room environment in high-temperature direct liquid cooling applications.

ecoFIT is the reliable and maintenance-free solution for the primary cooling loop.

LiquidCore is engineered for efficient cooling in the white space, and its polymer components ensure ultimate coolant purity.

Customer benefits

- **Single-source solution through collaboration between GF and Rittal**
- **Scalable plug and play system for utmost efficient thermal management in high-density environment**
- **Corrosion-free piping across primary and secondary cooling loop for efficient, stable, pure flow and long-term reliability**

Where next?

Discover our Data Center solutions

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www.gfps.com/our-locations

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