



Media Release

Schaffhausen

28 July 2025

GF redefines direct-to-chip cooling with first-ever full polymer Quick Connect Valve

The Quick Connect Valve 700 is a patented dual ball valve engineered to enhance safety, efficiency, and sustainability in Direct Liquid Cooling (DLC) systems. As the first all-polymer quick connect valve for data center applications, it is 50% lighter and facilitates 25% better flow compared to conventional metal alternatives while offering easy, ergonomic handling.

As demand for high-density, high-performance computing grows, DLC is becoming the preferred method for thermal management in next-generation data centers. By transporting coolant directly to the chip, DLC significantly improves thermal efficiency compared to air-based methods. A key component in this setup is the Technology Cooling System (TCS), which distributes coolant from the Cooling Distribution Unit (CDU) to individual server racks. To support this shift, GF has developed the Quick Connect Valve 700, a fully plastic, dual ball valve engineered specifically for direct-to-chip liquid cooling environments. Positioned at the interface between the main distribution system and server racks, the valve enables fast, safe, and durable coolant connections in mission-critical settings.

Built on GF's proven Ball Valve 546 Pro platform, the Quick Connect Valve 700 features two identical PVDF valve halves and a patented dual-interlock lever. This mechanism ensures the valve can only be decoupled when both sides are securely closed, minimizing fluid loss and maximizing operator safety during maintenance. Its two-handed operation further reduces the risk of accidental disconnection.

The valve is made of corrosion-free polymer and therefore offers the same benefits as the rest of GF's thermoplastic valve line-up. It is over 50% lighter than metal alternatives, while delivering enhanced performance and providing a UL 94 V-0 flammability rating. Combined with the ergonomic design of its interlocking mechanism, the valve is easy to handle during installation and operation. At the same time, its full-bore valve design ensures an optimal flow profile and a reduced pressure drop of up to 25% compared to similar metal products. Thanks to a full quality inspection and a proven design, the Quick Connect Valve 700 has a minimum expected service life of 25 years.

"With the Quick Connect Valve 700, we've created a critical link in the DLC cooling loop that's not only lighter and safer, but more efficient," says Charles Freda, Global Head of Data Centers at GF. "This innovation builds on our long-standing thermoplastic expertise to help operators achieve the performance and uptime their mission-critical environments demand."

For more transparency and to support project planning, the Quick Connect Valve 700 has been assessed with an Environmental Product Declaration (EPD) according to ISO 14025 and EN 15804. An EPD is a standardized, third-party verified document that uses scientifically quantified data from Life Cycle Assessments to estimate environmental impacts and enable comparisons between similar products.

Find out more about the Quick Connect Valve 700 by GF: www.gfps.com/dlc

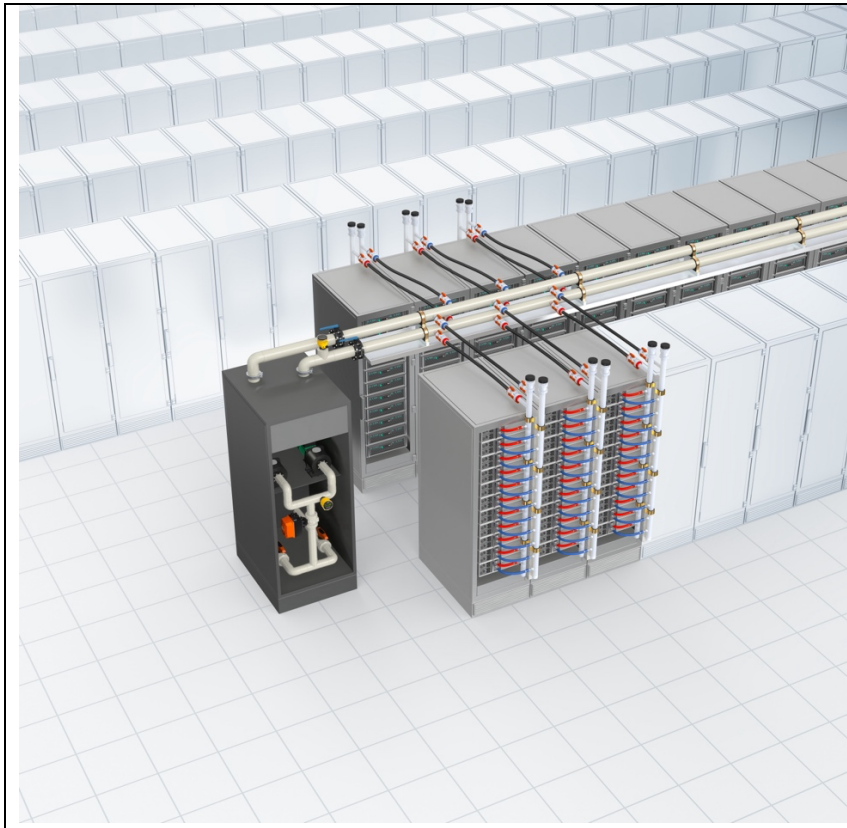
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Corporate Profile

GF, with a rich history in industrial innovation since 1802, is actively reshaping itself to become the global leader in Flow Solutions for Industry, Infrastructure and Buildings. GF delivers Excellence in Flow by providing essential products and solutions that enable the safe and sustainable transport of fluids worldwide. As part of its strategic transformation, GF divested GF Machining Solutions on 30 June 2025 and is evaluating strategic options for its GF Casting Solutions division. Headquartered in Switzerland, GF employs about 15'700 professionals and is present in 46 countries. In 2024, GF generated sales of CHF 4'776 million. GF is listed on the SIX Swiss Exchange.
www.gfps.com

Pictures



The full polymer Quick Connect Valve 700 applies the benefits of thermoplastics to direct-to-chip cooling for the first time and was specifically designed for mission-critical environments.

Source: GF



50% less weight and 25% better flow: The Quick Connect Valve 700 is a more durable and capable alternative to conventional metal valves.

Source: GF



The patented dual-interlock lever can only be decoupled when both valves are securely closed, leading to a safer operation and streamlined maintenance.

Source: GF