



Data Center

Reliable Fluid Systems for Data Center Liquid Cooling Drops

Supporting performance and scalability in high-density environments

As data center compute density increases, reliable liquid cooling becomes critical to performance and scalability. Swagelok partners with operators, engineers, and EPCs to deliver leak-tight fluid systems for liquid cooling drops—supporting consistent cooling as facilities expand and evolve.

The Challenge: Precision Cooling Leaves No Room for Error

Liquid cooling drops operate in close proximity to sensitive IT equipment, where even minor leaks can pose serious risk. These systems must manage continuous flow, pressure changes, and temperature variation while maintaining precise control and cleanliness.

Inconsistent component selection, low-quality connection technology, or improper assembly can introduce leak points that compromise reliability and delay deployment. Because liquid cooling systems are designed to operate continuously, planned downtime for repairs may be limited. As a result, header reliability depends on both robust component design and disciplined fluid system execution from the outset.

Swagelok Solutions for Liquid Cooling Drops

Swagelok supports header-based cooling architectures with engineered components and system-level support to reduce risk as liquid cooling scales.

- Tube fittings designed to help maintain leak-tight performance in continuous-flow cooling systems
- Valves that support isolation, balancing, and control within header assemblies
- Tubing and hose options compatible with common coolants and temperature ranges



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Support That Goes Beyond the Component

- Application insight to help maximize heat dissipation within confined data center environments by improving flow control and overall system efficiency
- Guidance to support reliable operation in next-generation systems, including managing pressure dynamics during liquid-to-gas phase transitions in two-phase cooling applications
- Support in evaluating material compatibility and corrosion resistance with potentially more aggressive coolants

By combining engineered products with practical, field-informed support, Swagelok helps data center operators, engineers, and EPCs improve cooling reliability, simplify expansion, and protect critical IT infrastructure.

Confidence as Cooling Demands Increase

Liquid cooling drops play a critical role in enabling high-density computing. Swagelok helps ensure those systems are ready—through reliable components, proven designs, and expert support—so cooling performance can scale with confidence as demands grow.



Let's talk about your cooling system reliability

Let's strengthen your liquid cooling system reliability—connect with your local Swagelok team to reduce leak risk through engineered components, standardized designs, and application expertise built for high-density performance.

Please visit Swagelok Southern California at www.socal.swagelok.com. You may also reach them via phone at (800) 252-7087 or email info@socal.swagelok.com.