Panametrics
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Data Centers Cooling Systems

Data centers consume a significant amount of energy, which results in the generation of substantial heat that must be effectively dissipated.

Maintaining a controlled ambient temperature in the server rooms is crucial for ensuring the optimal performance of the facility.

Why flowmeters are critical to data center cooling systems

In the high-stakes world of data centers—where uptime is non-negotiable and servers run hot—**cooling systems are the unsung heroes.** And at the heart of these systems? **Flowmeters.**

Here's why they matter:

- **Prevent Overheating** Servers generate massive amounts of heat. Flowmeters ensure that chilled water or air is circulating properly, keeping temperatures in check and preventing costly hardware failures.
- **Boost Energy Efficiency** Cooling systems can be energy hogs. Flowmeters provide real-time data on flow rates, helping operators fine-tune performance and eliminate energy waste from overcooling or inefficient operation.
- **Enable Proactive Maintenance** By continuously monitoring flow, these devices detect anomalies early—like blockages or pump failures—allowing for timely intervention before issues escalate.
- **Support System Scalability** As data centers expand, cooling demands grow. Flowmeters help assess current capacity and guide upgrades, ensuring new servers don't overwhelm existing infrastructure.
- **Reduce Operational Costs** Optimized flow means less wear and tear on equipment, lower energy bills, and extended lifespan for cooling components.

Flowmeters aren't just sensors

They are strategic tools that help data centers stay cool, efficient, and resilient.

DF868

The DigitalFlow DF868 is a full-featured, fixed-installation liquid flowmeter designed to meet all your flow metering and energy measurement needs. Its patented Correlation Transit-Time™ digital signal processing provides drift-free measurements in ultraclean and most “dirty” liquids. This includes fluids with gas bubbles and entrained solids that have previously required Doppler-type meters.

Features

- Economical non-intrusive flow measurement
- Simple set-up and installation
- Suitable for wide range of pipe sizes and materials
- Two-channel/two-path version available
- Dual-LCD display, datalogger and a wide variety of I/O options
- Built-in energy measurement capability

Specs

Pipe sizes

- Using clamp-on transducers: 0.5 to 300 in (12.7 mm to 7.6 m) and larger
- Using wetted transducers: 1 to 200 in (25.4 mm to 5 m) and larger

Flow accuracy (velocity): ±0.5% of reading (achievable with process calibration)

Repeatability: ±0.1% to 0.3% of reading

Channel

- Standard: One-channel
- Optional: Two channels (for two pipes or two-path averaging)

Temperature ranges

- Standard: -40 to 302°F (-40 to 150°C)
- Optional: -328 to 752°F (-200 to 400°C)

AT600

The AquaTrans AT600 liquid flow ultrasonic transmitter combines state-of-the-art flow measurement capability with a low-cost transmitter package that can be installed right at the process measurement point. It’s designed specifically for water and wastewater applications in full pipes. The all- digital AquaTrans AT600 has no moving parts and requires minimal maintenance. An onboard microprocessor uses patented correlation transit-time™ technology for long-term, drift-free operation. Automatic adjustment to changing fluid properties and dynamically configured operating software simplify programming.

Features & Benefits

- Economical non-intrusive flow measurement
- Extremely simple setup and installation
- Suitable for a wide range of pipe sizes and materials
- Suitable for lined pipes
- Velocity, volumetric, and totalized flow outputs
- Clamp-on installations
- Permanent solid couplant for clamp-on applications

Specs

Pipe sizes: 0.5 to 300 in. (15 to 7600 mm)

Accuracy:

- ±1% of reading in application, ≥2 in. (50 mm) pipe and >1 ft/s (0.3 m/s) velocity
- ±2% of reading in application, <2 in. (50 mm) pipe and >1 ft/s (0.3 m/s) velocity
- ±0.5% in field calibration

Repeatability: ±0.2% of reading

Temperature ranges

- Standard: -40 to 302°F (-40 to 150°C)
- Optional: -328 to 752°F (-200 to 400°C)