



Rosemount™ Magnetic Flow Meters for Data Centers

Rosemount Magnetic Flow Meters

Trusted Flow Measurement Supporting Data Center Reliability



Smarter Flow Measurement for Reliable, Efficient Data Center Operations



Data center teams face constant pressure to protect uptime, efficiency, and control across critical cooling systems. Emerson understands these challenges firsthand, from tight installation windows and complex piping to the real consequences of unreliable measurement. That is why our flow solutions are designed around how data centers operate: helping teams install faster, verify performance, and maintain visibility into system health. When flow issues go unnoticed, risks escalate quickly. Waiting to act can compromise reliability, efficiency, and ultimately uptime.



Grounding Fault diagnostics **quickly identify installation issues** during commissioning so teams can correct problems before startup, while built-in Smart Meter Verification Basic confirms the meter is operating properly and reduces uncertainty from day one.



With proven production capacity for large data center projects and **fast standard lead times**, we simplify ordering through optimized model configurations while still offering flexibility for custom requirements.



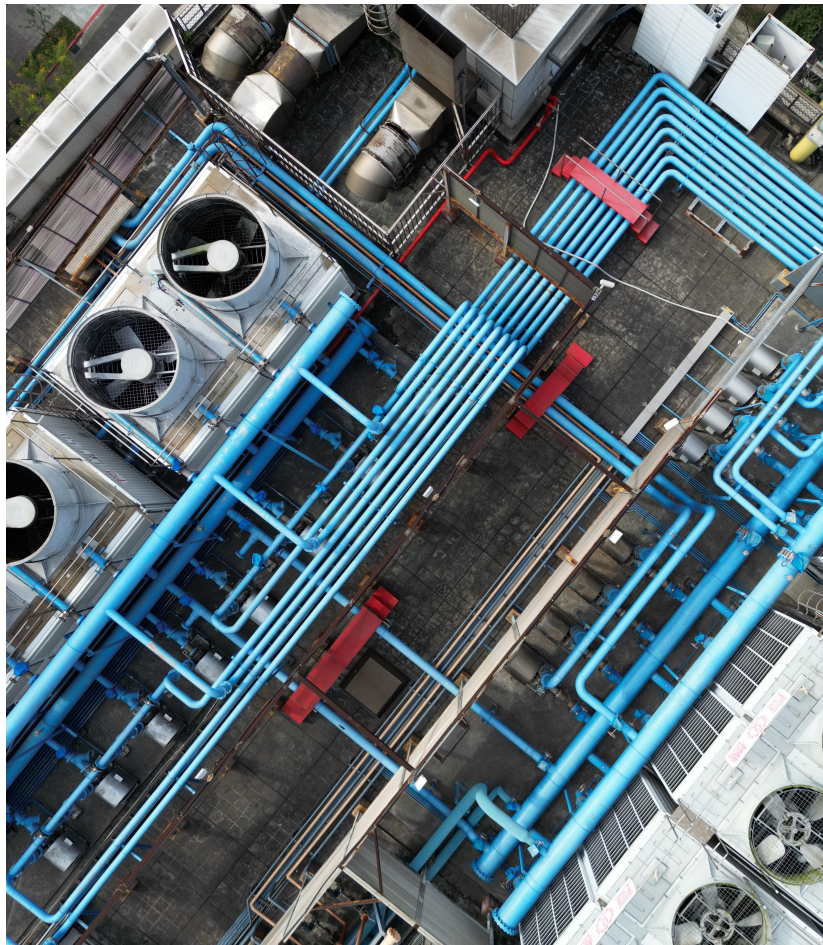
High **system accuracy of 0.2% + 2mm/s**, ensures reliable measurement, while strong repeatability and flow stability maintain performance even in short runs where accuracy is often challenged.



Optional Short Run Installation software enables **assured 0.5% accuracy regardless of straight run piping** ahead of flow meter, including zero diameters. Available on Rosemount 9732 with no additional leak points, reduced bore, pressure loss, or complicated configuration required.



Flow Technology Designed to Support Continuous Data Center Operations



Smart Meter Verification Professional

- Allows verification of the flow meter calibration without removing the sensor for the process
- Supports faster troubleshooting and reduced uncertainty
- Additional flexibility above SMV Basic including customizable test criteria, schedule analysis or set to analyze continuously, and ability to print reports
- Free 90 day trial included

Smart Meter Verification Basic

- Included as a standard diagnostic on 9732 transmitters
- Provides simple pass/fail results of meter health
- Achieves quick and accurate flow meter troubleshooting without the use of external tools through Sensor Health Test
- Provides access to SMV measurement values

Rosemount Magnetic Flow Meters

Data center cooling systems depend on accurate, stable flow measurement to support continuous operation and efficiency. Rosemount magnetic flow meters are widely used across critical water and water-glycol applications, trusted for their reliability, diagnostic capabilities, and performance in demanding installations. Built-in verification and condition-based diagnostics help teams maintain visibility into measurement quality, identify developing issues early, and act before flow problems impact system reliability or uptime.

Major System Integrator Meets Aggressive Hyperscaler Timeline with Rapid-Delivery Rosemount Magnetic Flow Meters



Maintained aggressive project timelines with rapid delivery



Enabled reliable, **high-accuracy measurement** for continuous cooling performance



Simplified installation and reduced commissioning risk while improving operational confidence

Background

A hyperscale data center depends on highly reliable cooling systems to maintain continuous uptime and protect mission-critical IT assets. Cooling water flow measurement is a key control and diagnostic variable, and any measurement failure or downtime can introduce unacceptable operational risk. In this case, the project was also driven by an aggressive construction and commissioning schedule, where instrumentation delivery delays could directly impact time to operation.

Challenge

The system integrator required a flow measurement solution that could be delivered quickly to meet an aggressive project schedule, install easily with minimal commissioning effort, and operate reliably with limited on-site automation expertise. Supply chain predictability and vendor responsiveness were critical, as extended lead times or inconsistent

delivery could jeopardize project timelines and increase costs.

The selected instrumentation needed to significantly exceed performance requirements to ensure long-term accuracy, enable early detection of abnormal conditions, and provide confidence in uninterrupted cooling loop operation. In addition, the system integrator needed a partner with the technical expertise to specify the correct instrumentation and provide long term global support for the customer's current and future data center projects.

Solution

The system integrator selected the Rosemount™ Magnetic Flow Sensor paired with the Rosemount™ 8712 Magnetic Flow Transmitter for cooling loop flow measurement at the hyperscale data center. Rosemount magnetic flow meters were chosen for their proven reliability, superior accuracy, and ease of installation. The meters were provided as factory

configured assemblies, enabling fast, drop in installation and simplified commissioning.

Emerson's technical experts supported instrument selection to ensure the solution exceeded application requirements and delivered dependable performance in this critical cooling application. Most importantly, Emerson was able to ship the complete, preconfigured solution in two weeks, meeting the project schedule without compromise. The system integrator selected Emerson based on our ability to deliver high-performance flow measurement solutions quickly, reliably, and with the technical expertise required to support aggressive data center timelines. By partnering with Emerson, the integrator delivered a cooling system solution that the hyperscale data center operator can trust to run continuously, identify issues early, and operate without disruption.

Rosemount Magnetic Flow Meters in Data Center Applications

Data center cooling systems depend on accurate, stable flow measurement to support continuous operation and efficiency. Rosemount magnetic flow meters are widely used across critical water and water-glycol applications, trusted for their reliability, diagnostic capabilities, and performance in demanding installations. The following pages outline the configurable options of the model string for the sensor and transmitter possibilities.

Specifications for Rosemount 9732 Transmitter and Rosemount 8795 Sensor	
Accuracy	0.2% ± 2mm/s for 0.01m/s to 12m/s
Zero Diameter Accuracy	0.5% at 0D with Short Run Install; 0.1% repeatability
Minimum Conductivity	5µS/cm
Approvals	IEC 61010; IPX7; NEMA 4
Process Temperature	-20°C to 60°C; -4°F to 140°F
Ambient Temperature	-20°C to 60°C; -4°F to 140°F
Maximum Pressure	284 PSI
Remote Installation	Not Available
Standard Diagnostics	Grounding and Wiring Fault Detection; Smart Meter Verification Basic
Optional Software	Smart Meter Verification; Historian with Real Time Clock; Data Logger



Specifications for Rosemount 8700 Transmitter and Rosemount 8795 Sensor	
Accuracy	0.2% ± 2mm/s for 0.01m/s to 12m/s
Zero Diameter Accuracy	~1.0% at 0D; 0.1% repeatability
Minimum Conductivity	5µS/cm
Approvals	IEC 61010; IPX7; NEMA 4
Process Temperature	-20°C to 60°C; -4°F to 140°F
Ambient Temperature	-20°C to 60°C; -4°F to 140°F
Maximum Pressure	284 PSI
Remote Installation	500 ft / 152,4m maximum distance
Standard Diagnostics	Grounding and Wiring Fault Detection
Optional Software	Smart Meter Verification



Rosemount 8795 Sensor Selection

Rosemount 8795 Magnetic Flow Meter Sensor		
Line Size	LS	6, 8, 12 in 150, 200, 300mm
Liner Material	LM	PTFE
Electrode Material	EM	316L stainless steel
Electrode Type	ET	Two Measurement Electrodes
Flange Material	FM	Carbon Steel
Flange Type	FT	Slip On Raised Face
Flange Rating	FR	ASME B16.5 Class 150; EN 1092-1 PN10, PN16
Mounting Configuration	MC	Integral mount transmitter; Remote mount transmitter (transmitter configured separately)
Conduit Entries	CE	½-14 NPT; M20; None, Integral Mount Configuration
Safety Approval	SA	Ordinary Location (non-hazardous)

Model	LS	REV	LM	EM	ET	FM	FT	FR	HSG	MC	CE	SA
8795		A	T	S	A	C	A		W0			U0

LS	Line Size
060	6.0" / 150 mm
080	8.0" / 200 mm
120	12.0" / 300 mm

FR	Flange Rating
1	ASME B16.5, Class 150
D	EN1092-1, PN10
E	EN1092-1, PN16

MC	Mounting Configuration
T8	Integral Mount 8700 Transmitter
R8	Remote Mount 8700 Transmitter
T9	Integral Mount 9000 Transmitter

CE	Conduit Entries
1	½-14 NPT
2	M20
Z	None, Integral Mount Configuration

Rosemount 9732 Transmitter Selection

Rosemount 9732 Series Magnetic Flow Meter Transmitter		
Mounting	MTG	Integral Field Mount
Housing Material	MTL	Aluminum Housing
Power Supply	PS	Universal Power (18 - 100 VDC; 85 - 240 VAC, 50/60 Hz), Automatic Switching
Display Option	DO	Backlit Graphical Display with Four Button Interface
Output	OHB	Configurable Outputs, 3 Channels; dual 4-20mA plus Modbus
Conduit Entries	CE	½-14 NPT; M20
Approvals	SA	Ordinary Locations (non-hazardous)

Model	REV	MTG	MTL	PS	DO	OHB	OA	OB	OC	CE	SA	FO	Optional
9732	A	T	A	U	G	A					U0	Z	

OA	Output Channel A
A	4-20mA HART, FO, DO
Z	Channel Off

OB	Output Channel B
A	4-20mA, FO, DI, DO
Z	Channel Off

OC	Output Channel C
A	RS-485 Modbus
Z	Channel Off

CE	Conduit Entries
1	½-14 NPT
2	M20

Optional	
MV	Smart Meter Verification
HS	Historian with Real Time Clock
SR1, SR2, SR3	Short Run Install
C1	Custom Configuration

Rosemount Magnetic Flow Meters in Data Center Applications

Rosemount 8700 Series Magnetic Flow Meter Transmitter		
Power Supply	PS	Dedicated AC (90 to 250VAC, 50-60Hz); Dedicated DC (12 to 42VDC)
Output	TO	4-20mA Digital HART-7 + Pulse; Dual 4-20mA with Splitter; Ethernet + Pulse; Modbus + Pulse
Conduit Entries	CE	½-14 NPT; M20
Approvals	SA	Ordinary Locations (non-hazardous)
User Interface	M4	Local Operator Interface; ProLink III

		Model	PS	TO	CE	SA	Optional	
						U0	M4	
Model	Transmitter							
8732 EMT	Integral Field Mount							
8732 EMR	Remote Field Mount							
8712 EMR	Remote Wall Mount							
PS	Power Supply							
1	AC (90 to 250 V AC, 50-60Hz)							
2	DC (12 to 42V DC)							
TO	Output							
A	4-20mA + Pulse							
E	Ethernet + Pulse (8732 only)							
M	Modbus + Pulse							
CE	Conduit Entries							
1	½-14 NPT							
2	M20							
Optional								
DA2	Smart Meter Verification							
C1	Custom Configuration							
Q4	Calibration Certificate per ISO 10474 3.1B/EN 10204 3.1							
AS1	Dual 4-20mA Output with Splitter – External Powered							
AS2	Dual 4-20mA Output with Splitter – Loop Powered							

Rosemount Magnetic Flow Meter Offering for Data Center Applications



Fast and Painless Installations

Rosemount Magnetic Flow Meters simplify installation and commissioning in demanding data center environments. Factory pre-configuration and the Local Operator Interface (LOI) enable fast setup without special tools, while ProLink software supports efficient transmitter cloning to replicate configurations across multiple devices and streamline commissioning at scale. Suitable for limited straight run piping installations, maintaining measurement confidence even when piping constraints exist.



Grounding Fault Detection Included

Built-in Grounding Fault Detection alerts installers immediately to any grounding issues during installation. This diagnostic enables teams to identify and correct problems early, helping ensure proper installation and reducing commissioning delays before the system enters operation.



Trimable Cable Options

Flexible cabling options help streamline installation and control costs. Choose pre-cut cable lengths to save time during installation, or select continuous lengths for on-site trimming to reduce material waste across large data center projects.



Emerson is More than a Vendor. We Are Your Global Partner.

Data center projects demand consistency, scale, and reliability across every phase of the lifecycle. Emerson works alongside data center teams to support design, installation, operation, and long-term maintenance. Our global presence and proven experience help reduce risk, simplify execution, and maintain confidence as systems scale.



Global Production Capability

Emerson operates multiple production facilities worldwide that work together to support high-volume requirements and compressed delivery timelines. Standard offerings are designed to meet common data center needs while maintaining flexibility for site-specific requirements.



Global Support Across the Lifecycle

From early design through installation and ongoing operation, Emerson provides local technical support backed by global product expertise. Standardized configurations simplify ordering and help reduce errors, ensuring teams receive the right instruments when they are needed to support predictable startup and long-term reliability.

Maintain critical cooling flow with accurate, low-maintenance magnetic flow measurement.



Fast Delivery. Simplified Procurement. One Trusted Partner

Emerson's short lead times, modular install options, and complete instrumentation portfolio simplify procurement into a single order – accelerating startup, enabling phased commissioning, and streamlining specification approval. **Expedited delivery is available to meet your accelerated schedule and keep your project execution on track.**

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