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Data Sheet
WDS-10026-06

ally® Smart Water Meter

Electromagnetic Flow Measurement with Remote Management Valve

Benefits
Control three states of water flow remotely (on, off, reduced)
Detect leaks to save money and conserve water

Features

- 5/8”, 5/8” x 3/4”, 3/4”, and 1” sizes available in potable and reclaim versions
- Starts registering flow as low as 0.03 gpm (0.007 m³/hr)
- Can be installed horizontally, vertically or diagonally
- Compatible with current Sensus AMI systems

The Sensus ally® water meter features an integrated 3-state valve, temperature and pressure sensors and alarms. ally has no moving parts and is based on our innovative electromagnetic flow measurement technology.

Industry Leading Performance

The patented measurement technology of the ally meter provides continuous and enhanced accuracy ranges at both low and high flows and perpetual accuracy over the life of the product. Accuracy is not effected by various flow conditions, disturbances, or particulates in the water system. The ally meter has a 15-year life cycle, along with a 15-year accuracy warranty.

Construction

The ally is an integrated unit that incorporates an electronic register, 3-state valve, temperature sensor, pressure sensor, and a measuring device encased in an external housing. A composite alloy flowtube with externally-threaded spud ends comprises the measuring device.

Shut-Off Valve

The shut-off valve has 3 states—open, closed, and reduced flow. Reduced flow mode allows approximately 0.5 GPM on average for life sustaining applications (based on 65 psig). The stainless steel ball valve is self cleaning and remains functional due to automatic seat exercising. The ally meter also contains a proprietary actuator to operate the valve.

Tamperproof

The integrated construction of the ally meter prevents removal of the register to obtain free water. The magnetic tamper and low field alarms will both indicate any attempt to tamper with the magnetic field of the ally meter. The meter communication alarm indicates a possible cut cable.

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Electronic Register

The high resolution 9-digit electronic register was designed to eliminate dirt and moisture contamination in pit settings. The tempered glass register cover displays readings with the AMI digits highlighted. Direction of flow, rate of flow and units of measure are also easily readable on the register display. The ally register features programmable AMI resolution and unit of measure, and integral customer data logging of up to120 days. The display includes battery life, empty pipe, forward/reverse flow, flow rate, leak and tamper, valve, pressure, and temperature indicators. Additionally, the register displays temperature and pressure values, valve state, and active and recent alarms.

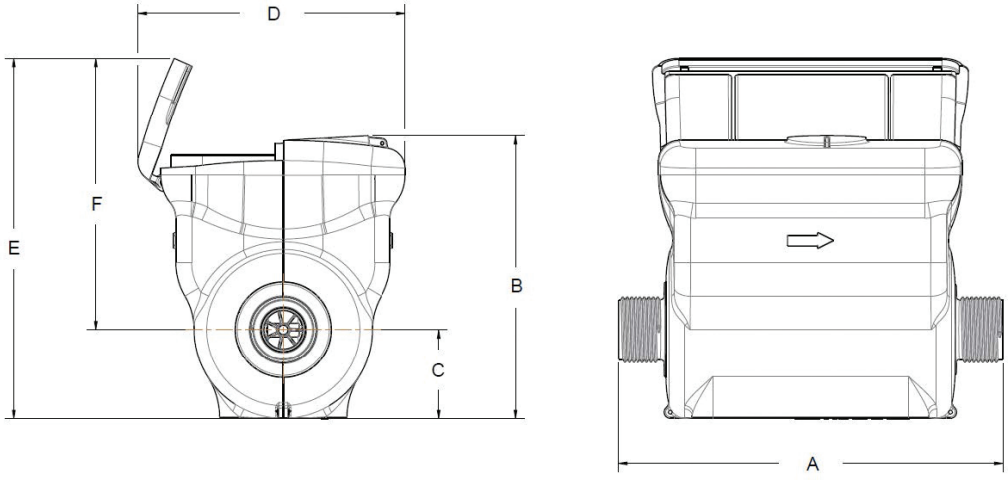
Smart Alarms

ally meters have many configurable smart alarms designed to protect your utility's investment, enhance customer service, and monitor/optimize distribution systems. These alarms include:

- Empty Pipe
  Detects the absence of water in the flow tube and sends an alert. Allows you to identify main breaks downstream and water shortages for quicker resolution to ensure water availability. This alarm can also indicate the water meter has been removed from service, or notify you of potential tamper.
- Tampering
  Detect magnetic interference to reduce apparent water losses and protect against unauthorized activities.
- Customer Leak
  Detect continual consumption of water over a period of time to indicate downstream leaks. This protects your utility, infrastructure and customers through alarm notifications that can reduce water loss and leak adjustment costs.
- Low Battery
  Replace your meters before they stop recording consumption through alerts indicating battery capacity to the meter or valve is running low.
- Reverse Flow
  Keep untreated water from re-entering your distribution system and deter tampering attempts through an alarm triggered when reverse flow is detected at the meter.
- High Flow
  Detect broken pipes and reduce property damage through an alert triggered by the detection of excessive flow rates.
- Pressure
  Get alerted when water pressure exceeds or falls below the pressure threshold to prevent potential disruptions of service.
- Temperature
  Get alerted when water temperature exceeds or falls below the temperature threshold so you can take action to better protect your meter and water network assets.

Flow Ranges

Size	Starting flow	Low flow range (±3%)	Normal operating flow range (±1.5%)
5/8" (DN 15 mm)	0.03 gpm (0.007 m^3h)	>0.10 gpm (0.025 m^3/hr) to <0.18 gpm (0.041 m^3/hr)	0.18 to 25 gpm (0.04 to 5.7 m^3/hr)
5/8" x 3/4" (DN 15x20 mm)	0.03 gpm (0.007 m^3h)	>0.10 gpm (0.025 m^3/hr) to <0.18 gpm (0.041 m^3/hr)	0.18 to 35 gpm (0.04 to 8.0 m^3/hr)
3/4" (DN 20 mm)	0.03 gpm (0.007 m^3h)	>0.10 gpm (0.025 m^3/hr) to <0.18 gpm (0.041 m^3/hr)	0.18 to 35 gpm (0.04 to 8.0 m^3/hr)
1" (DN 25 mm)	0.11 gpm (0.025 m3/h)	>0.3 gpm (0.068 m3/h) to <0.4 gpm (0.09 m3/hr)	0.4 to 55 gpm (0.09 to 12.5 m3/hr)



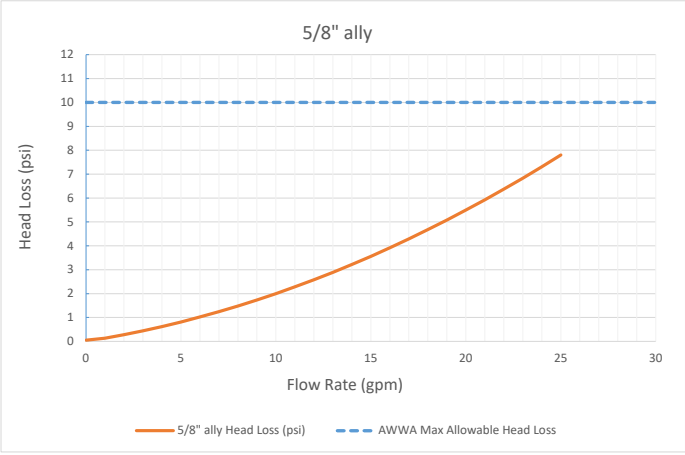
Dimensions and Net Weights

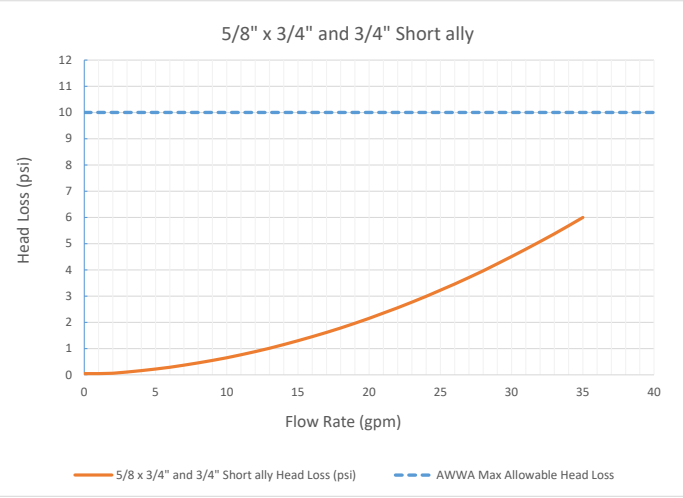
Size	A	B	C	D	E	F	Spud Ends	NPSM Thread Size	Width	Net Weight
5/8" (DN 15 mm)	7-1/2" (190 mm)	5-1/2" (140 mm)	1-3/4" (44 mm)	5-1/2" (140 mm)	7" (178 mm)	5-1/4" (133 mm)	5/8" (15 mm)	3/4" (20 mm)	4-3/4" (121 mm)	3.3 lb. (1.5 kg)
5/8" x 3/4" (DN 15 mm x 20 mm)	7-1/2" (190 mm)	5-1/2" (140 mm)	1-3/4" (44 mm)	5-1/2" (140 mm)	7" (178 mm)	5-1/4" (133 mm)	3/4" (20 mm)	1" (25 mm)	4-3/4" (121 mm)	3.3 lb. (1.5 kg)
3/4" Short (DN 20 mm)	7-1/2" (190 mm)	5-1/2" (140 mm)	1-3/4" (44 mm)	5-1/2" (140 mm)	7" (178 mm)	5-1/4" (133 mm)	3/4" (20 mm)	1" (25 mm)	4-3/4" (121 mm)	3.3 lb. (1.5 kg)
3/4" (DN 20 mm)	9" (229 mm)	5-1/2" (140 mm)	1-3/4" (44 mm)	5-1/2" (140 mm)	7" (178 mm)	5-1/4" (133 mm)	3/4" (20 mm)	1" (25 mm)	4-3/4" (121 mm)	3.4 lb. (1.54 kg)
1" (DN 25 mm)	10-3/4" (273 mm)	5-1/2" (140 mm)	1-3/4" (44 mm)	5-1/2" (140 mm)	7" (178 mm)	5-1/4" (133 mm)	1" (25 mm)	1-1/4" (32 mm)	4-3/4" (121 mm)	3.8 lb. (1.72 kg)

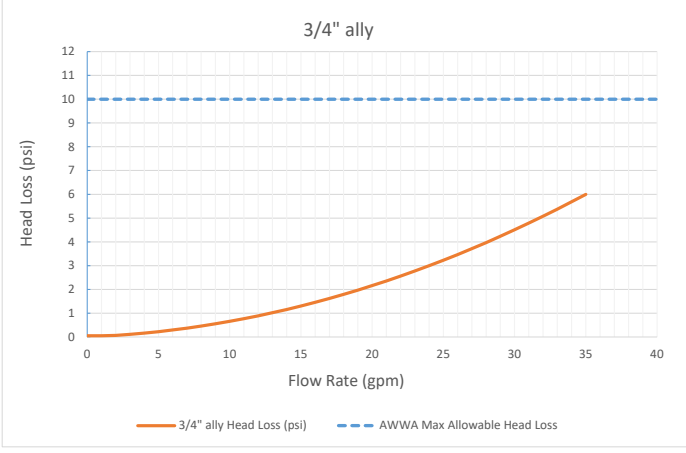
Specifications

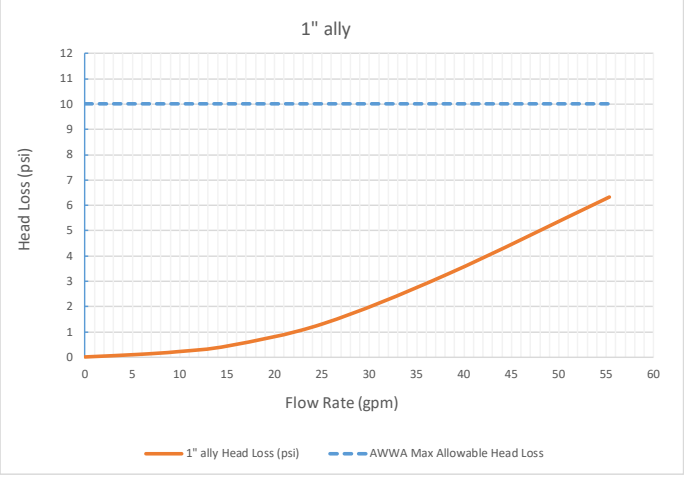
Service	Measurement of potable and reclaim water. 0-100% humidity. Fully submersible. IP68+ rated.		
Temperature Ranges	Water operating: 33 °F (0.55 °C) to 80 °F (26.7 °C)	Ambient air operating: -22 °F (-30 °C) to 140 °F (60 °C)	Storage air: -30 °F (-34.4 °C) to 158 °F (70 °C)
Sensor Accuracy	Pressure Sensor: ± 1.25% full scale for water temp 35-100 °F (0-200psi) Temperature Sensor: ± 2.00% full scale for water temp 35-100 °F (0-200psi)		
Maximum operating pressure	200 psi (13.8 bar)		
Measurement technology	Solid state electromagnetic flow		
Register	Hermetically sealed, 9-digit programmable electronic register		
Capacity	10,000,000 gallons, 1,000,000 cubic feet or 100,000 m^3 capacity.		
Register Resolution	.01 gallons/imperial gallons, .001 cubic foot, or .0001 m^3.		
Conformance to Standards	Meets the requirements of NSF 61, Annex G and NSF 372. Exceeds the most current revision of AWWA Standard C-715.		
Materials	External housing – Thermal plastic Register cover – Tempered glass	Flowtube – Polyphenylene sulfide polymer	Electrode – Silver/silver chloride

Head Loss Curves









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