DESCRIPTION

Measuring very low flow rates, the RS-900w Polymer Ultrasonic Flow Sensor is well suited for mixed zone irrigation applications: drip, rotors and spray heads. The simple design makes the sensor installation straightforward and cost effective.

Benefits

- Measure a wide flow range accurately and cost effectively
- Easy to install single-piece threaded body
- Low maintenance—robust, no moving parts
- Compatible with irrigation controllers, including the FC-5000 flow display from Badger Meter
- No straight-run requirements

Features

- Three sizes with NPT or BSP tapered threads
- Forward flow accuracy ± 2% of reading
- 200 psi (13.8 bar) pressure rating
- Submersible IP 68 with fully potted electronics
- No moving parts to wear
- NSF/ANSI/CAN 61 and 372 certified option
- Same two-wire power/pulse output as impeller flow sensors
- Forward and reverse flow flashing LED indicators

APPLICATIONS

Managing water usage in irrigation requires reliable flow sensoring. The wider the flow range and more accurate the sensor, the easier it is to detect leaks and respond quickly. As a critical part of water management, the RS-900w flow sensor reads consistently and does not degrade over time due to wear and tear.

- Commercial turf irrigation
- Golf course irrigation
- Agricultural irrigation
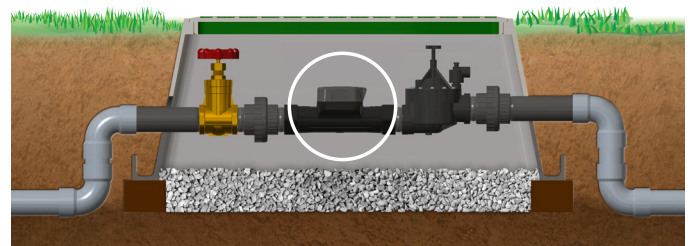- Irrigation pump stations

OPERATION

The RS-900w flow sensor transmits ultrasonic signals through the moving water to measure the velocity of the water flow. Two transducers generate and receive the ultrasound signals; one signal moving upstream and the other downstream. The difference in the transit time equates to the velocity of water flowing through the pipe. The sensor will not measure flow in partially filled or empty pipes.
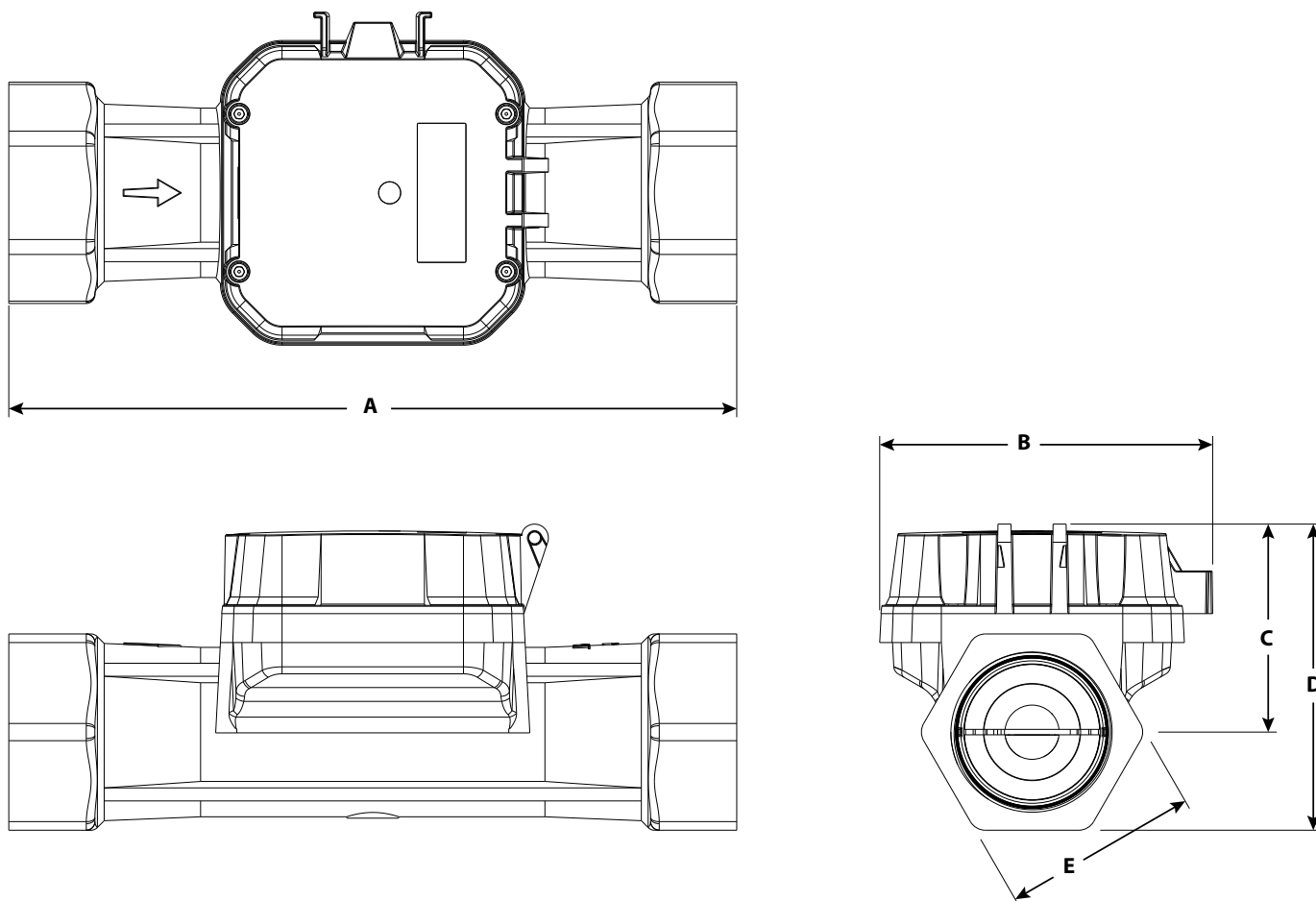
SENSOR INSTALLATION

The RS-900w flow sensor is submersible and can be installed in horizontal or vertical pipes. To ensure the pipe is completely full, flow should be in the up direction in vertical pipes. Straight runs before or after the sensor are not required.

Badger Meter®

Product Data Sheet

SPECIFICATIONS

Materials	Body: glass filled nylon
	Upper: polyphenylene oxide
Sizes	1 in. female taper threaded (NPT or BSP)
	1-1/2 in. female taper threaded (NPT or BSP)
	2 in. female taper threaded (NPT or BSP)

Flow Range & Accuracy	Sensor Size	Normal Flow Range		Extended Low Flow Range	
		Flow Range gal/min (liters/min)	Accuracy	Flow Range gal/min (liters/min)	Accuracy gal/min (liters/min)
	1 in.	1.30…50.0 (4.92…189)	± 2% of reading	0.26…1.30 (0.98…4.92)	± 0.05 (± 0.19)
	1-1/2 in.	3.09…125 (11.7…473)	± 2% of reading	0.62…3.09 (2.35…11.7)	± 0.13 (± 0.47)
	2 in.	5.13…200 (19.4…757)	± 2% of reading	1.03…5.13 (3.90…19.4)	± 0.20 (± 0.76)

| LED Indicators	Power (On/Off indication)
	Reverse Flow (Flashing proportional to flow rate)
	Forward Flow (Flashing proportional to flow rate)
Pressure Rating	200 psi (13.8 bar) working pressure
Fluid Temperature	32…140° F (0…60° C)
Ambient Temperature	32…140° F (0…60° C)
Power/Output	Supply voltage = 8V DC min; 28V DC max.
	Quiescent current = 600 µA (typical)
	OFF state (VHigh) = Supply voltage – (600 µA * Supply impedance)
	ON state (VLow) = 1.2V DC @ 40 mA (15 Ω + 0.7V DC)
Output Frequency	0.5…200 Hz
Output Pulse Width	5 msec ±25%, 50% duty cycle above 100 Hz
Environmental	Suitable for outdoor use below grade
	IP 68 / NEMA 4X
	Suitable for use in submerged installations (< 3 ft water, 24 hours)
	Suitable for pollution degree 4 environments
	Altitude: <2000 m (6560 ft)
	Relative Humidity: 0…90%, non-condensing
Electrical Cable	4 ft of 2-conductor AWG 18 drain wire; shielded UL type PTLC wire provided for connection to display, monitor or controller; rated to 221° F. May be extended to a maximum of 2000 feet with 20 AWG (or larger) copper wire suitable for direct burial, or appropriate for installation.
Water System Certification	NSF/ANSI/CAN 61 and 372 certified option
Compliance	CE EMC Directive 2014/30/EU

PHYSICAL DIMENSIONS

| Size	A	B	C	D	E
1 in.	10.57 in. (268.5 mm)	4.84 in. (123.0 mm)	2.88 in. (73.2 mm)	3.75 in. (99.3 mm)	1.75 in. (44.5 mm)
1-1/2 in.	10.57 in. (268.5 mm)	4.84 in. (123.0 mm)	3.02 in. (77.0 mm)	4.25 in. (108.0 mm)	2.5 in. (63.5 mm)
2 in.	10.57 in. (268.5 mm)	4.84 in. (123.0 mm)	3.02 in. (77.0 mm)	4.45 in. (113.0 mm)	2.85 in (72.4 mm)

PART NUMBERS

Description	Part Number
RS-900w flow sensor, 1 in. NPT tapered threads	D8-C-010NAAP9SS-BMXX
RS-900w flow sensor, 1-1/2 in. NPT tapered threads	D8-C-015NAAP9SS-BMXX
RS-900w flow sensor, 2 in. NPT tapered threads	D8-C-020NAAP9SS-BMXX
RS-900w flow sensor, 1 in. NPT tapered threads, NSF certified	D8-C-010NAAP9SS-BMNS
RS-900w flow sensor, 1-1/2 in. NPT tapered threads, NSF certified	D8-C-015NAAP9SS-BMNS
RS-900w flow sensor, 2 in. NPT tapered threads, NSF certified	D8-C-020NAAP9SS-BMNS
RS-900w flow sensor, 1 in. BSP tapered threads	D8-C-010BBAP9SS-BMXX
RS-900w flow sensor, 1-1/2 in. BSP tapered threads	D8-C-015BBAP9SS-BMXX
RS-900w flow sensor, 2 in. BSP tapered threads	D8-C-020BBAP9SS-BMXX
RS-900w flow sensor, 1 in. BSP tapered threads, NSF certified	D8-C-010BBAP9SS-BMNS
RS-900w flow sensor, 1-1/2 in. BSP tapered threads, NSF certified	D8-C-015BBAP9SS-BMNS
RS-900w flow sensor, 2 in. BSP tapered threads, NSF certified	D8-C-020BBAP9SS-BMNS

PRESSURE DROP CHARTS

Flow (gal/min.)

RS-900w Typical Pressure Loss

Flow (m³/h)

RS-900w Typical Pressure Loss
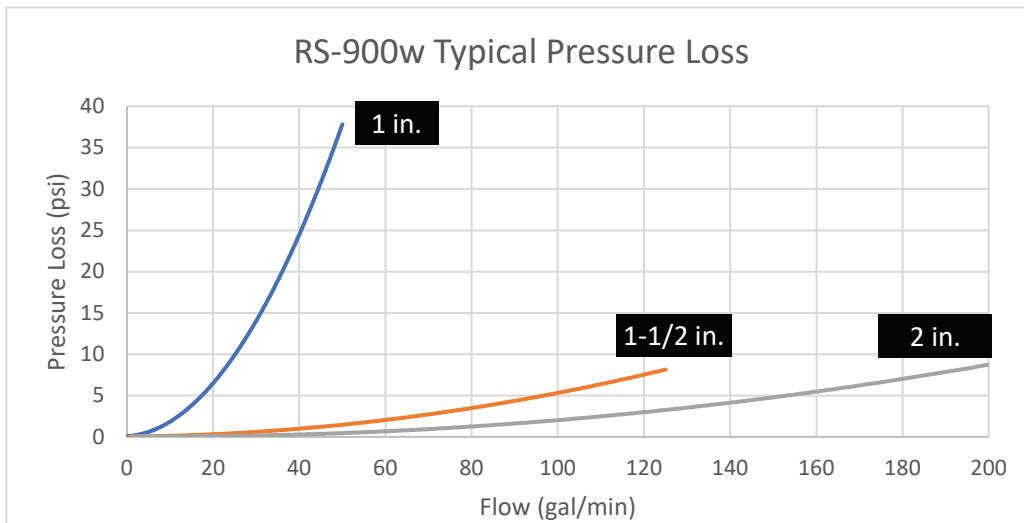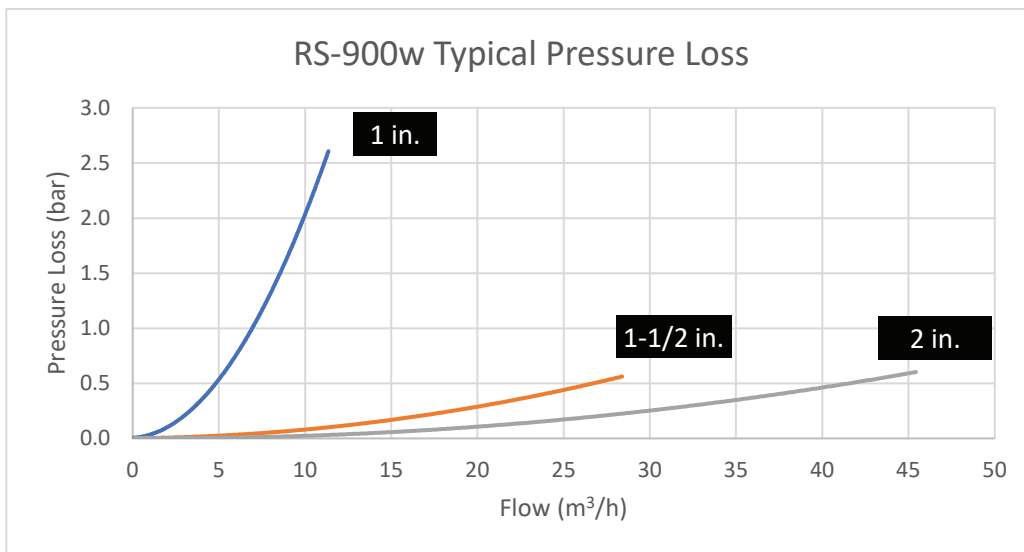
Control. Manage. Optimize.

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