

DESCRIPTION

The Series 735 Impeller flow sensors feature a four-blade impeller design, using a proprietary, non-magnetic sensing technology. When used in conjunction with any Badger Meter® flow monitor or transmitter, the sensor provides an accurate reading of the rate of liquid flow as well as total accumulated flow. A number of sensor models are offered, which cover applications for a wide range of pipe sizes and pressure/temperature specifications.

OPERATING PRINCIPLE

As the liquid flow turns the impeller, a low impedance signal is transmitted with a frequency proportional to the flow rate. An internal preamplifier allows the pulse signal to travel up to 2000 ft (609.6 m) without further amplification. The impeller bearing assembly, shaft and O-rings are replaceable in the field. Sensors of similar type are interchangeable, so there is no need for recalibration after servicing or replacement.

FEATURES

- Modified PVC tee with solvent weld socket end connections and a removable PPS sensor insert.
- Available sizes include 1/2 in., 3/4 in. and 1 in.
- Threaded BSP adapters.

IR SENSOR

Designed for below grade applications such as irrigation, municipal and groundwater monitoring where the flow rates are between 2...20 ft/sec. (0.61...6.1 m/sec.) and temperatures are below 110° F (43.3° C). IR sensors are supplied with two single conductor, 18 AWG solid copper wire leads.

ORDERING MATRIX

Example: 87 35 PV 05 0 6 - 1 2 0 1									
STYLE	Tee Mounted Insert Sensor	35							
MATERIAL	PVC (.5", .75", 1" Sch 40 only)	PV							
SIZE	0.5"	05							
	0.75"	07							
	1"	10							
	0.5" with BSP Adapters	06							
	0.75" with BSP Adapters	08							
	1" with BSP Adapters	11							
ELECTRONICS HOUSING	PPS	0							
ELECTRONICS	IR-Irrigation	6							
O-RING	EPDM	1							
SHAFT	Tungsten Carbide	2							
IMPELLER	300 SST	0							
BEARING	UHMWPE	1							



Badger Meter

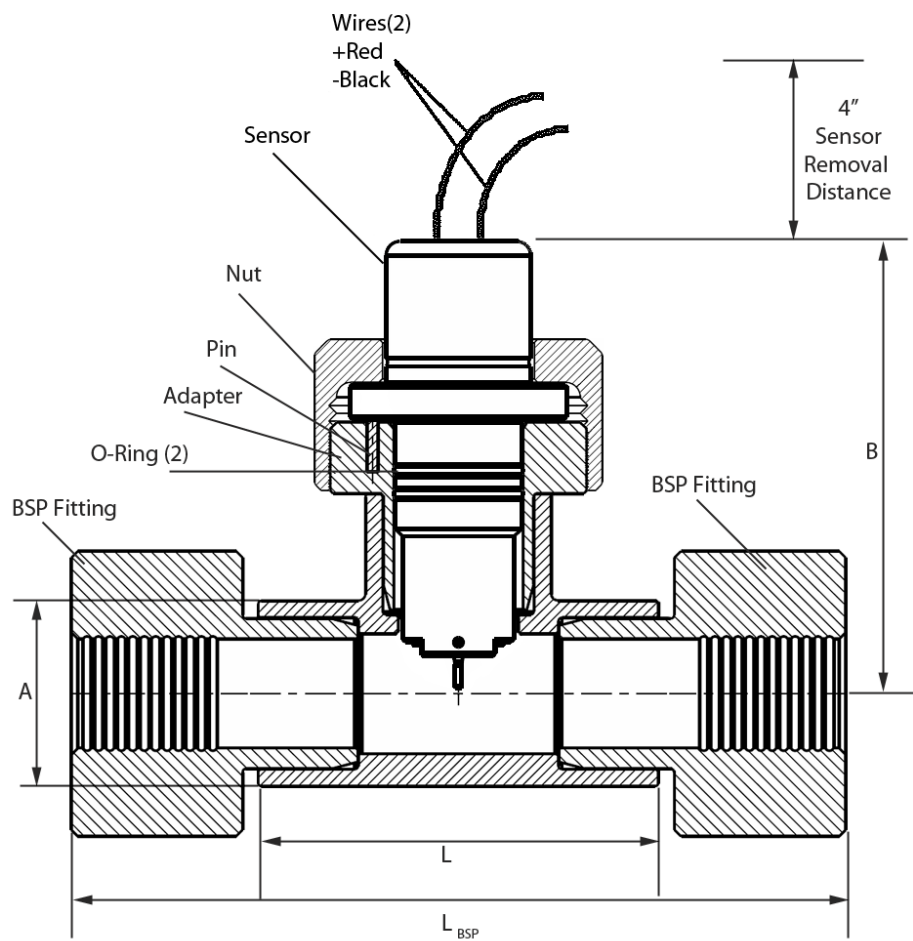
SEN-DS-00112-EN-06 (September 2024)



SPECIFICATIONS

Wetted Materials (except tees)	See "Ordering Matrix"
Materials	
Tee	PVC Type 1, white
Adapter	PVC Type 1, gray
BSP Fitting	PVC Type 1
Sensor Housing	PPS
Retaining Nut	Acetal copolymer, black
Locating Pin	300SST
Impeller	300SST
Shaft	Tungsten Carbide
Bearing	UHMWPE
O-Rings	EPDM
Wires	18 AWG Irrigation Wire (solid copper)
Pressure, Temperature Ratings	150 psig @ 73° F (22.8° C) 75 psig @ 110° F (43.3° C)
Recommended Design Flow Range	2...20 FPS
Accuracy	±3.0% of full scale over recommended design flow range
Repeatability	±1.5% of full scale over recommended design flow range
Linearity	±1.5% of full scale over recommended design flow range
Transducer Excitation	Quiescent current 600 uA @ 8...35V DC max. Quiescent voltage (Vhigh) Supply Voltage — (600 uA*Supply impedance) ON State (Vlow) Max. 1.2V DC @ 40 mA current limit (15W + 0.7V DC)
Output Frequency	3.2...200 Hz
Output Pulse Width	5 msec ±25%
Electrical Cable for IR Sensor Electronics	UL Style 116666 copper solid AWG 18 wire w/ direct burial insulation. Rated to 105° C.

DIMENSIONS



A Soc Size, NPS	B Centerline to Top	L	L _{BSP} Optional
1/2 in. [Ø 0.840"]	3.85 in. (97.8 mm)	3.06 in. (77.7 mm)	6.086 in. (154.6 mm)
3/4 in. [Ø 1.050"]	3.85 in. (97.8 mm)	3.31 in. (84.1 mm)	6.775 in. (172.1 mm)
1 in. [Ø 1.315"]	3.94 in. (100.1 mm)	3.50 in. (88.9 mm)	6.775 in. (172.1 mm)

Control. Manage. Optimize.

Data Industrial is a registered trademark of Badger Meter, Inc. Other trademarks appearing in this document are the property of their respective entities. Due to continuous research, product improvements and enhancements, Badger Meter reserves the right to change product or system specifications without notice, except to the extent an outstanding contractual obligation exists. © 2024 Badger Meter, Inc. All rights reserved.