

### 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

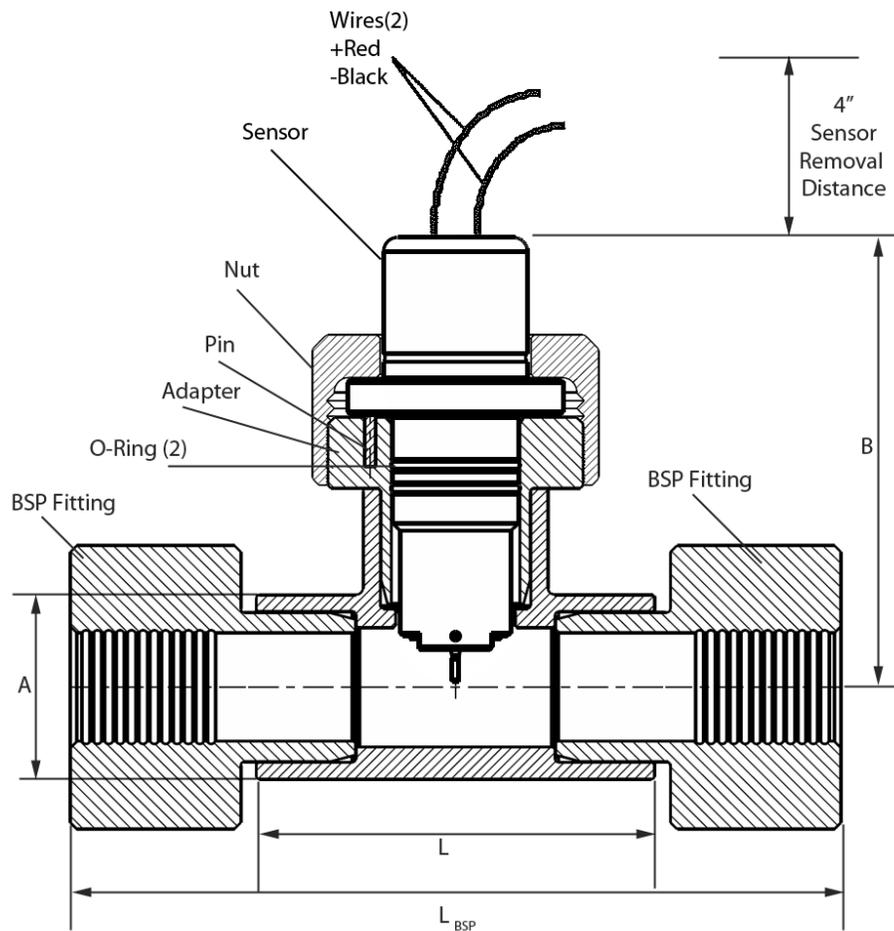
<b>STYLE</b>	Example: 7   35   PV   05   0   6   1   2   0   1
Tee Mounted Insert Sensor	35
<b>MATERIAL</b>	PV
PVC (.5", .75", 1" Sch 40 only)	PV
<b>SIZE</b>	
0.5"	05
0.75"	07
1"	10
0.5" with BSP Adapters	06
0.75" with BSP Adapters	08
1" with BSP Adapters	11
<b>ELECTRONICS HOUSING</b>	
PPS	0
<b>ELECTRONICS</b>	
IR-Irrigation	6
<b>O-RING</b>	
EPDM	1
<b>SHAFT</b>	
Tungsten Carbide	2
<b>IMPELLER</b>	
300 SST	0
<b>BEARING</b>	
UHMWPE	1



### SPECIFICATIONS

<b>Wetted Materials (except tees)</b>	See "Ordering Matrix"
<b>Materials</b>	
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)
<b>Pressure, Temperature Ratings</b>	150 psig @ 73° F (22.8° C) 75 psig @ 110° F (43.3° C)
<b>Recommended Design Flow Range</b>	2...20 FPS
<b>Accuracy</b>	± 3.0% of full scale over recommended design flow range
<b>Repeatability</b>	± 1.5% of full scale over recommended design flow range
<b>Linearity</b>	± 1.5% of full scale over recommended design flow range
<b>Transducer Excitation</b>	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)
<b>Output Frequency</b>	3.2...200 Hz
<b>Output Pulse Width</b>	5 msec ± 25%
<b>Electrical Cable for IR Sensor Electronics</b>	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 <sub>BSP</sub> 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)

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