

DESCRIPTION

The Series 250 flow sensor from Badger Meter® features a six-bladed impeller design with a proprietary non-magnetic sensing mechanism, mounted in a cast bronze housing, with female NPT threads.

The unique impeller design is less prone to be fouled by waterborne debris. The forward curved shape coupled with the absence of magnetic drag provides improved operation and repeatability even at lower flow rates. This is especially true where the impeller is exposed to metallic or rust particles found in steel or iron pipes. As the liquid flow turns the impeller, a low impedance square wave signal is transmitted with a frequency proportional to the flow rate. The signal can travel up to 2000 ft (610 m) between the flow sensor and the receiving unit without the need for amplification.

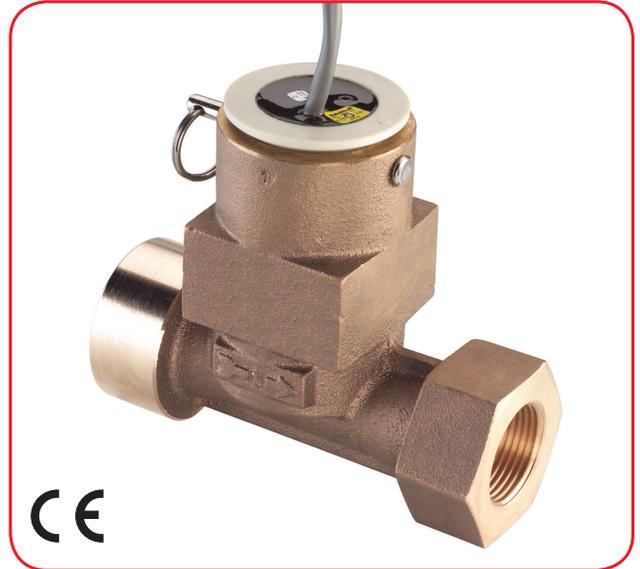
All sensors except irrigation versions are supplied with 20 ft (610 cm) of 2-conductor 20 AWG shielded UL type PTLT 221° F (105° C) cable and meet CE standards for noise immunity and susceptibility.

FEATURES

- Sensor electronics easily removed from the tee
- Impeller, bearing and shaft are easily replaced in the field, without changing calibration
- Two-wire sensor. Power and signal transmit on a single pair of wires, up to a distance of 2000 ft (610 m)
- Digital signal easily interfaced with transmitters, monitors or PLCs

APPLICATIONS

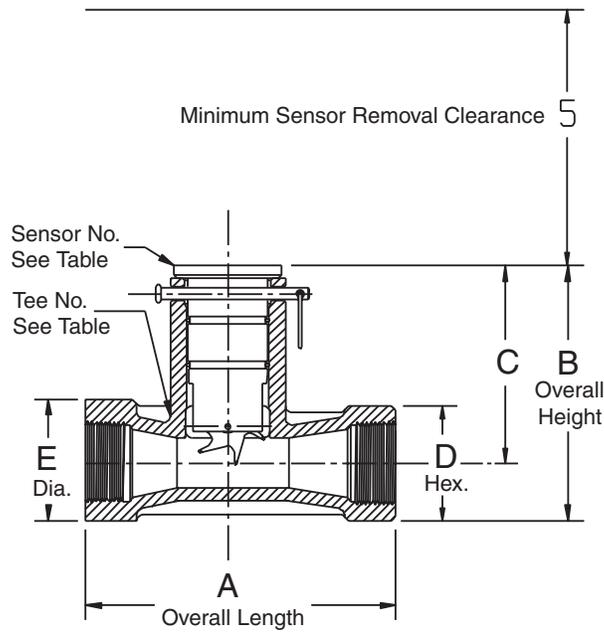
- Energy management and building management systems
- BTU sub-metering systems
- Cooling tower treatment systems
- Condensate return lines



SPECIFICATIONS

Wetted Materials	See "Part Number Construction" on page 3
Tee for 250B	Cast valve bronze, UNS C83600
Maximum Temperature	Standard electronics: 221° F (105° C) Irrigation electronics: 150° F (66° C)
Maximum Pressure at 100° F	400 psi
Recommended Design Flow Range	0.3...15 ft/sec (0.15...9 m/sec)
Accuracy	± 1.0% of rate
Repeatability	± 0.7% over recommended design flow range
Linearity	± 0.7% over recommended design flow range
Rangeability	60:1
Transducer Excitation	Supply voltage = 8V DC min. 35V DC max. Quiescent current = 600 uA (typical) OFF State (V_{High}) = Supply voltage - (600 uA * Supply impedance) ON State (V_{Low}) = 1.2V DC @ 40 mA (15 Ω + 0.7V DC)
Electrical Cable for IR Sensor Electronics	48 in (122 cm) of UL style 116666 copper solid AWG 18 wire with direct burial insulation. Rated to 221° F (105° C).
Electrical Cable for Standard Sensor Electronics	20 ft (610 cm) of 2-conductor AWG 20 with AWG 22 drain wire shielded UL type PTLT wire provided for connection to display or transmitter unit. Rated to 221° F (105° C). May be extended to a maximum of 2000 ft (610 m) with similar cable and insulation appropriate for application.
Certifications	CE certified

DIMENSIONS



Series No. Complete	Sensor No.	Tee No.	NPT	A	B	C	D	E
250B-0.5	See Matrix	813168T	1/2 - 14	4.0 in. (102 mm)	4.67 in. (119 mm)	3.61 in. (92 mm)	N/A	1.63 in. (41 mm)
250B-0.75	See Matrix	813169T	3/4 - 14	4.0 in. (102 mm)	4.67 in. (119 mm)	3.61 in. (92 mm)	N/A	1.63 in. (41 mm)
250B-1.0	See Matrix	81940T	1.00 - 11.5	5.45 in. (138 mm)	4.75 in. (121 mm)	3.75 in. (95 mm)	2.0 in. (51 mm)	2.12 in. (54 mm)
250B-1.25	See Matrix	81941T	1.25 - 11.5	6.06 in. (154 mm)	5.0 in. (127 mm)	3.88 in. (99 mm)	2.25 in. (57 mm)	2.38 in. (60 mm)
250B-1.5	See Matrix	811193T	1.50 - 11.5	6.5 in. (165 mm)	5.19 in. (132 mm)	3.94 in. (100 mm)	2.5 in. (64 mm)	2.62 in. (67 mm)

Figure 1: Dimensions

PART NUMBER CONSTRUCTION

Standard Sensor

	50	BR	05	0	5	-	1	2	1	1
STYLE										
Cast Bronze Tee	50									
MATERIAL										
Brass		BR								
SIZE										
0.5"			05							
0.75"			07							
1"			10							
1.25"			12							
1.5"			15							
ELECTRONICS HOUSING										
PPS				0						
ELECTRONICS										
Standard Flow (STANDARD)					5					
IR-Irrigation					6					
O-RING										
Viton®							0			
EPDM (STANDARD)							1			
Buna N							8			
SHAFT										
Zirconia Ceramic								0		
Tungsten Carbide (STANDARD)								2		
316 Stainless Steel								6		
IMPELLER										
Nylon (STANDARD)									1	
Tefzel®									2	
BEARING										
UHMWPE (STANDARD)										1
Tefzel®										2
Teflon®										3

High Temperature Sensor

	Example: 2	50	BR	05	4	8	-	0	2	2	3
STYLE											
Cast Bronze Tee		50									
MATERIAL											
Brass			BR								
SIZE											
0.5"				05							
0.75"				07							
1"				10							
1.25"				12							
1.5"				15							
ELECTRONICS HOUSING											
PEEK					4						
ELECTRONICS											
High Temperature						8					
O-RING											
Viton®								0			
SHAFT											
Tungsten Carbide									2		
IMPELLER											
Tefzel®										2	
BEARING											
Teflon®											3

Control. Manage. Optimize.

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www.badgermeter.com

The Americas | Badger Meter | 4545 West Brown Deer Rd | PO Box 245036 | Milwaukee, WI 53224-9536 | 800-876-3837 | 414-355-0400
México | Badger Meter de las Americas, S.A. de C.V. | Pedro Luis Ogazón N°32 | Esq. Angelina N°24 | Colonia Guadalupe Inn | CP 01050 | México, DF | México | +52-55-5662-0882
Europe, Eastern Europe Branch Office (for Poland, Latvia, Lithuania, Estonia, Ukraine, Belarus) | Badger Meter Europe | ul. Korfantego 6 | 44-193 Knurów | Poland | +48-32-236-8787
Europe, Middle East and Africa | Badger Meter Europa GmbH | Nurtinger Str 76 | 72639 Neuffen | Germany | +49-7025-9208-0
Europe, Middle East Branch Office | Badger Meter Europe | PO Box 341442 | Dubai Silicon Oasis, Head Quarter Building, Wing C, Office #C209 | Dubai / UAE | +971-4-371 2503
Slovakia | Badger Meter Slovakia s.r.o. | Racianska 109/B | 831 02 Bratislava, Slovakia | +421-2-44 63 83 01
Asia Pacific | Badger Meter | 80 Marine Parade Rd | 21-06 Parkway Parade | Singapore 449269 | +65-63464836
China | Badger Meter | 7-1202 | 99 Hangzhong Road | Minhang District | Shanghai | China 201101 | +86-21-5763 5412
Switzerland | Badger Meter Swiss AG | Mittelholzerstrasse 8 | 3006 Bern | Switzerland | +41-31-932 01 11