

DESCRIPTION

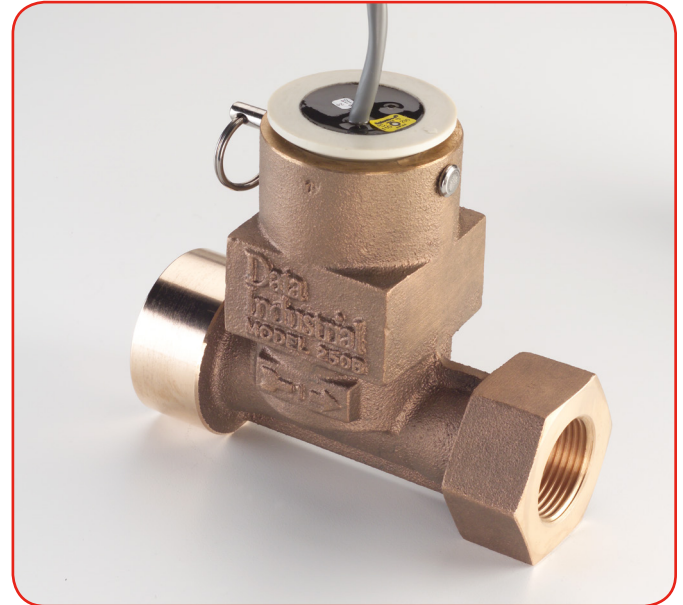
The Data Industrial® Series 250 flow sensor from Badger Meter® features a six-bladed impeller design with a proprietary non-magnetic sensing mechanism, mounted in a cast bronze housing with female NPT threads.

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 feet between the flow sensor and the receiving unit without the need for amplification. All sensors except irrigation versions are supplied with 20 feet of 2-conductor 20 AWG shielded UL type PTLC 105° C cable and meet CE standards for noise immunity and susceptibility.

ORDERING MATRIX

| | | Example: 2 | 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 | | CSA Approved | | | | | 4 | | | | | |
| | | 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 |

Series 250 metallic tee sensors 1/2...1-1/2 in. (13...25 mm)
 See Series 228 for pipe sizes 2...2-1/2 in. (51...64 mm)



FEATURES

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

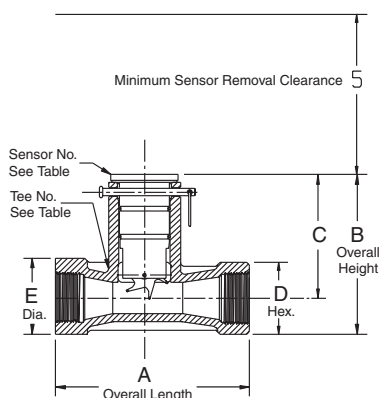
APPLICATIONS

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



SPECIFICATIONS

| | |
|---|--|
| Wetted Materials | See Ordering Matrix. |
| 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 |
| | 250BR 400 psi |
| Recommended Design Flow Range | 0.3...15 ft/sec (0.15...9 m/sec) for 250BR |
| 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 | Quiescent current 600 uA @ 8...35V DC max. |
| | Quiescent voltage (V_{High}) |
| | Supply voltage (600 uA supply impedance) |
| Electrical Cable for IR Sensor Electronics | 48 in (1219 mm) of UL style 116666 copper solid AWG 18 wire with direct burial insulation. Rated to 221° F (105° C). |
| | 20 ft (6 m) 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. |



| 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

Control. Manage. Optimize.

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