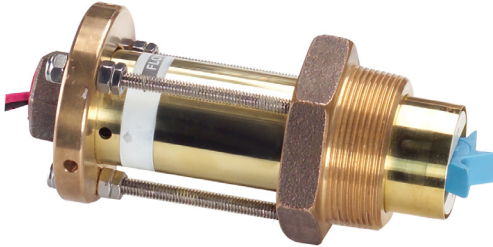




# ME-200 Series

Insertion Impeller Flow Sensors



## Overview

The ME-200 Series flow sensors feature a six bladed impeller design with a proprietary non-magnetic sensing mechanism. The sensor can be combined with an ME-300 Series transmitter to send values to a BAS.

## Applications

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

## Features & Benefits

- Forward curved shape coupled with the absence of magnetic drag provides improved operation and repeatability where the impeller is exposed to metallic or rust particles found in steel or iron pipes
- 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 the distance of 2000 feet
- Digital signal easily interfaced with transmitters, monitors, or PLC's

## Model Selection

ME-220BR0005-1211	Impeller Insertion Flow Sensor
ME-250BR0505-1211	Impeller Flow Sensor in 0.5" Bronze Tee
ME-250BR0705-1211	Impeller Flow Sensor in 0.75" Bronze Tee
ME-250BR1005-1211	Impeller Flow Sensor in 1" Bronze Tee
ME-250BR1205-1211	Impeller Flow Sensor in 1.25" Bronze Tee
ME-250BR1505-1211	Impeller Flow Sensor in 1.5" Bronze Tee
ME-228BR2005-1211	Impeller Flow Sensor in 2" Bronze Tee
ME-228BR2505-1211	Impeller Flow Sensor in 2.5" Bronze Tee

## Product Specifications

Wetted Materials for all Sensors \_\_\_\_\_ See Model Selection

Sensor Sleeve and Hex Adapter for ME-220BR:

Sleeve \_\_\_\_\_ Admiralty Brass, UNS C44300

Hex Adapter \_\_\_\_\_ Valve Bronze, UNS C83600

Temperature Ratings \_\_\_\_\_ 221° F (105° C) continuous service

Pressure Ratings:

ME-220BR & ME-250BR \_\_\_\_\_ 400psi at 100°F

ME-228BR \_\_\_\_\_ 200psi at 100°F

Recommended Design Flow Range:

ME-220BR & ME-228BR \_\_\_\_\_ 0.5 to 30ft/sec

ME-250BR \_\_\_\_\_ 0.3 to 15 ft/sec

Initial detection below 0.3 ft/sec

Accuracy \_\_\_\_\_ ± 1.0% of full scale over recommended design flow range

\_\_\_\_\_ ± 4.0% of reading within calibration range

Repeatability:

ME-220BR & ME-228BR \_\_\_\_\_ +/- 0.3% of full scale over recommended design flow range

ME-250BR \_\_\_\_\_ ± 0.7% of full scale over recommended design flow range

Linearity:

ME-220BR & ME-228BR \_\_\_\_\_ ± 0.2% of full scale over recommended design flow range

ME-250BR \_\_\_\_\_ ± 0.7% over recommended design flow range

Transducer Excitation:

Quiescent current \_\_\_\_\_ 600 uA @ 8V DC to 35V DC max.

Quiescent voltage (Vhigh) \_\_\_\_\_ Supply Voltage – (600 uA \* Supply impedance)

ON State (VLow) \_\_\_\_\_ Max. 1.2V DC @ 40 mA current limit (15Ω + 0.7V DC).

Output Frequency \_\_\_\_\_ 3.2 to 200 Hz

Output Pulse Width \_\_\_\_\_ 5 msec ± 25%

Electrical Cable for Standard Sensor Electronics \_\_\_\_\_ 20 feet of two-conductor AWG 20 with

\_\_\_\_\_ AWG 22 drain wire shielded UL type

\_\_\_\_\_ PTLC wire provided for connection to display or transmitter unit.

\_\_\_\_\_ Rated to 105° C. May be extended to a maximum of 2000 feet

\_\_\_\_\_ with similar cable and insulation appropriate for application.

Electrical Cable for IR Sensor Electronics \_\_\_\_\_ 48 inches of UL Style 116666 copper solid

\_\_\_\_\_ AWG 18 wire with direct burial insulation.

\_\_\_\_\_ Rated to 105° C.

# Dimensions

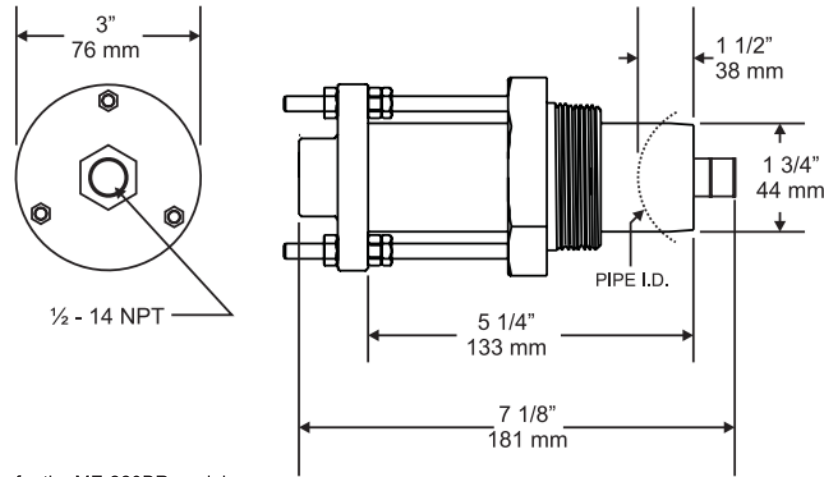


Figure 1: Dimensions for the ME-220BR model

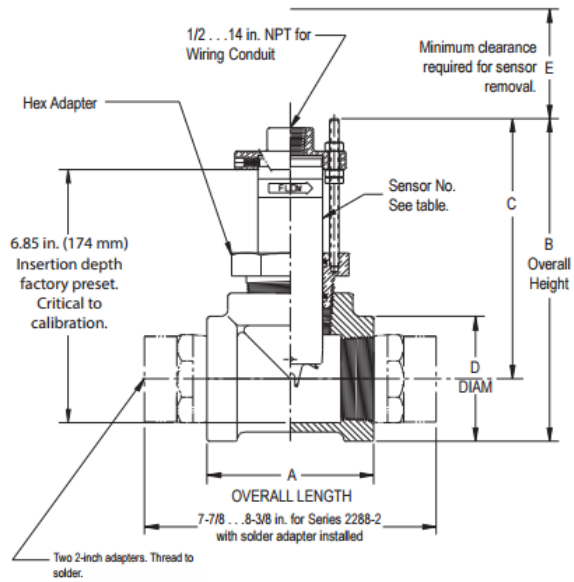


Figure 2: Dimensions for the ME-228 Series

Part Number	NPT	A	B <sup>1</sup>	C <sup>1</sup>	D	E
ME-228BR2005-1211	2.5-8	4.75 (121 mm)	8.78 (223 mm)	7 in. (178 mm)	3.56 (90 mm)	6 in. (152 mm)
ME-228BR2505-1211	2.11-8	4.25 (108 mm)	8.35 (212 mm)	5.88 (149 mm)	2.94 in. (75 mm)	6 in. (152 mm)

Notes:

1. Dimensions may vary ±0.25 in., depending on makeup of pipe threads.

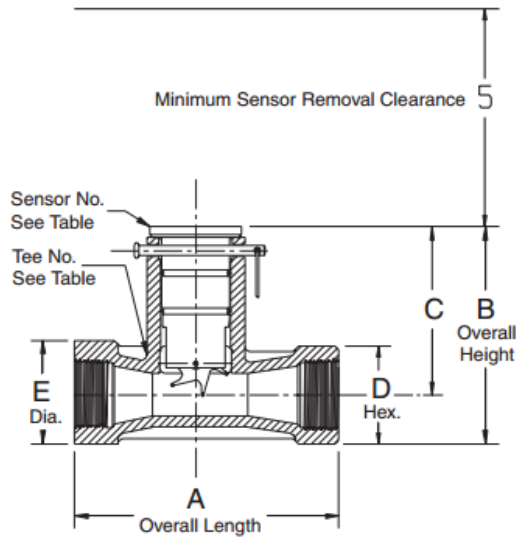


Figure 3: Dimensions for the ME-250 Series

Part Number	NPT	A	B	C	D	E
ME-250BR0505-1211	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)
ME-250BR0705-1211	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)
ME-250BR1005-1211	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)
ME-250BR1205-1211	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)
ME-250BR1505-1211	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)

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