

### DESCRIPTION

The TFX-500w transit time ultrasonic flow meter measures volumetric flow of clean water in pipes 10 in. (DN250) or smaller. By clamping on the outside of the pipe, the ultrasonic meter installs without cutting or tapping the pipe, leading to significant cost savings.

### FEATURES

- Cost-effective, non-invasive flow meter
- Bidirectional flow measurement system
- Measures flow rate, total and velocity of water flow
- Set up the meter through keypad interface or with SoloCUE® Flow Device Manager software
- Compact enclosure uses large, easy-to-read graphical display
- Modbus RTU or BACnet MS/TP (BTL certification) over RS485 and BEACON®/AquaCUE® connectivity

### BENEFITS

- Reduces installation costs, especially retrofits
  - ◊ Installs without cutting into the pipe
  - ◊ Eliminates flanges and pipe fittings
  - ◊ Eliminates draining and air purging
- Eliminates ingress or leak points in pipes
- No moving parts to maintain
- No pressure head loss

### APPLICATION

The TFX-500w meter is well suited for building automation, water distribution in new and retrofit applications. In addition to having lower installation costs than an inline flow meter, the TFX-500w meter can be installed while the system continues to operate without interruption.

The TFX-500w meter is suitable for:

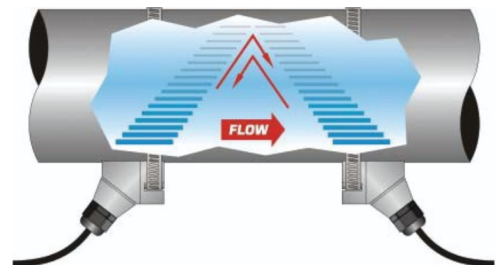
- Potable water
- Reclaimed water
- Chiller water
- Boiler feed water
- Make-up water



By connecting the TFX-500w meter to Badger Meter® AquaCUE or BEACON analytics cloud service, the meter becomes part of a system that tracks and monitors water use for commercial buildings, campuses and other large facilities.

### OPERATION

Transit time flow meters use two transducers that function as both ultrasonic transmitters and receivers. The flow meters operate by alternately transmitting and receiving a frequency-modulated burst of sound energy between the two transducers. The burst is first transmitted in the direction of fluid flow and then against fluid flow. Since sound energy in a moving liquid is carried faster when it travels in the direction of fluid flow (downstream) than it does when it travels against fluid flow (upstream), a differential in the times of flight will occur. The sound's time-of-flight is accurately measured in both directions and the difference in time-of-flight calculated.



## SPECIFICATIONS

### System

|                                  |                                                                                 |                                                                                                                                                                                                                                         |
|----------------------------------|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Liquid Types</b>              | Water containing small amounts of suspended solids or gas bubbles               |                                                                                                                                                                                                                                         |
| <b>Velocity Range</b>            | Up to 0.1...40 ft/s (0.03...12 m/s), depending on pipe and fluid, bidirectional |                                                                                                                                                                                                                                         |
| <b>Flow Accuracy</b>             | JZ, KZ, NZ, RZ, WZ<br>UZ, CA-CT                                                 | > 2 in. (50 mm) $\pm 1\%$ of reading or $\pm 0.01$ ft/s (0.003 m/s), whichever is greater<br>1...2 in. (25...50 mm) $\pm 1\%$ of reading $\pm 0.03$ ft/s (0.01 m/s)<br>3/4 in. (20 mm) and smaller are accurate to $\pm 1\%$ full scale |
| <b>Repeatability</b>             | $\pm 0.2\%$ of reading                                                          |                                                                                                                                                                                                                                         |
| <b>Transducer Type</b>           | Clamp-on ultrasonics                                                            |                                                                                                                                                                                                                                         |
| <b>Certifications</b>            | Remote mount transmitter and integral mount transmitter with transducers        | General Safety (option): FM Class 3810:2018, ANSI/ISA 61010-1:2012, ANSI/IEC 60529:2004, CAN/CSA-C22.2 No. 61010-1:2012, CSA C22.2 No. 60529:2005<br>CE: EMC Directive 2014/30/EU                                                       |
| <b>Straight Run Requirements</b> | 10 diameters upstream, 5 diameters downstream from single elbow.                |                                                                                                                                                                                                                                         |

### Transmitter

|                            |                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Power Requirements</b>  | DC                                                                                                   | Class II power supply is required; 9...28V DC @ 5 W maximum                                                                                                                                                                                                                                                                                                                                            |
|                            | Protection                                                                                           | Reverse polarity and transient suppression                                                                                                                                                                                                                                                                                                                                                             |
| <b>Display</b>             | Keypad                                                                                               | 4-button navigation, membrane keypad with domed tactile feedback                                                                                                                                                                                                                                                                                                                                       |
|                            | Resolution                                                                                           | 128 x 64 pixel LED backlit graphical display; adjustable brightness and timeout                                                                                                                                                                                                                                                                                                                        |
| <b>Enclosure</b>           | IP66; polycarbonate                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Ambient Temperature</b> | Operational ambient                                                                                  | With display: $-4...140^{\circ}\text{F}$ ( $-20...60^{\circ}\text{C}$ ); without display: $-40...158^{\circ}\text{F}$ ( $-40...70^{\circ}\text{C}$ )                                                                                                                                                                                                                                                   |
|                            | Storage                                                                                              | $-40...176^{\circ}\text{F}$ ( $-40...80^{\circ}\text{C}$ )                                                                                                                                                                                                                                                                                                                                             |
| <b>Units of Measure</b>    | Velocity                                                                                             | feet/second, meters/second                                                                                                                                                                                                                                                                                                                                                                             |
|                            | Totals                                                                                               | US Gallons, Million Gallons, Imperial Gallons, Million Imperial Gallons, Acre-Feet, Barrels, Liters, Hectoliters, Cubic Meters, Cubic Feet                                                                                                                                                                                                                                                             |
|                            | Flow rate                                                                                            | Acre Feet/Day, Liters/Second, Liters/Minute, Liters/Hour, Cubic Meters/Second, Cubic Meters/Minute, Cubic Meters/Hour, Cubic Feet/Minute, Cubic Feet/Minute, Cubic Feet/Hour, Gallons/Second, Gallons/Minute, Gallons/Hour, Million Gallons/Day, Imperial Gallons/Second, Imperial Gallons/Minute, Imperial Gallons/Hour, Barrel/Minute, Million Imperial Gallons/Day, Barrel/Day                      |
| <b>Mounting</b>            | Wall or pipe remote mount or integral mount; Enclosure can be rotated in $90^{\circ}$ increments     |                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Inputs</b>              | Digital input                                                                                        | 5...30V DC, 3.48k Ohm impedance, externally or internally sourced; totalizer reset or alarm unlatch                                                                                                                                                                                                                                                                                                    |
| <b>Outputs</b>             | Pulse / Frequency / Digital /                                                                        | Two outputs, each selectable as frequency, pulse, forward/reverse flow or alarm output; isolated open collector, 5...30V DC, 50 mA maximum, externally or internally sourced with pullup resistor<br>Digital alarm output: configurable high or low<br>Frequency output: 63 Hz...10 kHz maximum<br>Pulse (totalizer) output: 100 Hz maximum output open collector, pulse width 5...500 ms programmable |
|                            | Analog Output                                                                                        | 0...20 mA and 4...20 mA drive up to 800 Ohms; minimum 16-bit resolution, isolated                                                                                                                                                                                                                                                                                                                      |
| <b>Networks</b>            | EIA-485 with selectable protocols                                                                    | Modbus RTU, baud rates 9600, 19200, 38400, 57600, 76800, 115200<br>BACnet MS/TP, baud rates 9600, 19200, 38400, 57600, 76800, 115200                                                                                                                                                                                                                                                                   |
|                            | Endpoints                                                                                            | Connectivity to AquaCUE or BEACON cellular endpoints                                                                                                                                                                                                                                                                                                                                                   |
| <b>Configuration Port</b>  | USB, Type mini-B                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Alarms</b>              | Buffer previous alarms, warnings or errors                                                           |                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Languages</b>           | English, French, German and Spanish selectable                                                       |                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Security</b>            | Four levels: Read-only, Operator, Service and Admin; 6-digit passcode number; selectable auto logout |                                                                                                                                                                                                                                                                                                                                                                                                        |

## Transducers

| Model                                         | Construction                                                                                                                                                 | Cable Length       | Pipe/Tubing Sizes <sup>2,3</sup>                          |
|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-----------------------------------------------------------|
| CA...CT, Fixed small pipe                     | CPVC, Ultem, Nylon cord grip<br>Polyethylene cable jacket; -40...194° F (-40...90° C) <sup>1</sup>                                                           | 100 ft (30 m) max. | 0.5...2 in.                                               |
| RZ (IP54), Standard pipe                      | PBT glass filled, Ultem®, Nylon cord grip<br>PVC cable jacket; -40...250° F (-40...121° C)                                                                   | 300 ft (90 m) max. | 2.5...10 in. (DN65...DN250)                               |
| NZ (IP67), Standard pipe                      | CPVC, Ultem, Nylon cord grip<br>Polyethylene cable jacket; -40...194° F (-40...90° C)                                                                        | 300 ft (90 m) max. | 2.5...10 in. (DN65...DN250)                               |
| WZ (IP68), Standard pipe, Submersible         | CPVC, Ultem, Nylon cord grip<br>Polyethylene cable jacket; -40...194° F (-40...90° C)                                                                        | 300 ft (90 m) max. | 2.5...10 in. (DN65...DN250)                               |
| JZ, KZ (IP54), Standard pipe, Integrated rail | PBT glass filled, Ultem®, Nylon cord grip<br>PVC cable jacket; -40...250° F (-40...121° C)                                                                   | 300 ft (90 m) max. | 2.5...6 in. (DN65...DN150)<br>2.5...10 in. (DN65...DN250) |
| UZ Adjustable small pipe                      | CPVC, Ultem, and anodized<br>aluminum track system; Nickel-plated<br>brass connector with Teflon insulation; PVC cable<br>jacket, -40...194° F (-40...90° C) | 100 ft (30 m)      | 0.5...2 in. (15...50 mm)                                  |

<sup>1</sup> CA...CT integral mount temperature is limited by the transmitter temperature rating.

<sup>2</sup> Recommendations based on unlined, new pipes with water. Recommended pipe or tubing sizes vary with pipe conditions and fluid.

<sup>3</sup> PVC, CPVC, HDPE, PTFE, PDVF, stainless steel, ductile iron, aluminum, brass naval, carbon steel copper. Conduit not available with Easy Rail.

## Configuration Software

The flow meter can be programmed and configured with the SoloCUE Flow Device Manager software for Windows®. The software also has troubleshooting tools for diagnosing and correcting installation problems. English, French, German, Italian and Spanish languages can be selected in the software.

|                |                                                                                               |
|----------------|-----------------------------------------------------------------------------------------------|
| <b>SoloCUE</b> | Used to configure and troubleshoot flow meter. Software is compatible with Windows® 8, 10, 11 |
|----------------|-----------------------------------------------------------------------------------------------|

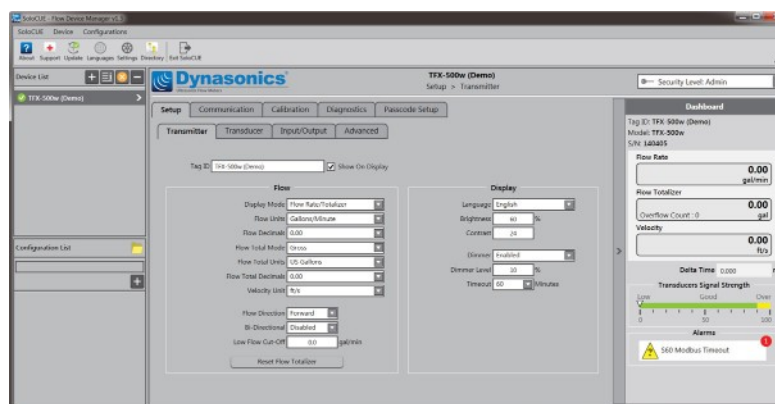


Figure 1: SoloCUE setup screen

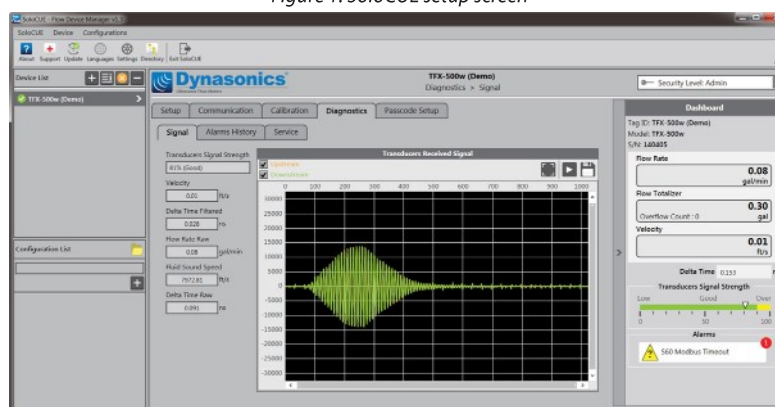


Figure 2: SoloCUE diagnostics screen

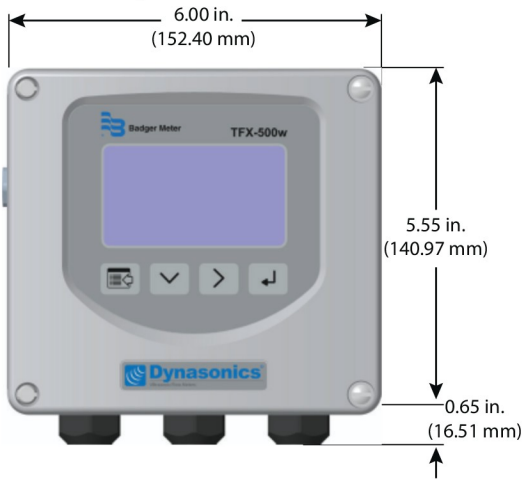
## Additional Parts Required for Configuration

| Part Number | Description                                                      |
|-------------|------------------------------------------------------------------|
| RC820648    | USB Type A to mini B software cable (shielded to minimize noise) |

DIMENSIONS

TFX-500w Meter

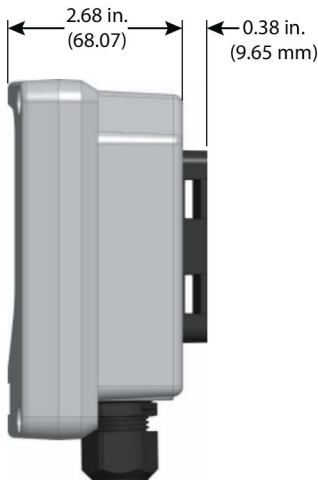
Enclosure, Integral and Remote, Front View



Integral Enclosure Side View



Remote Enclosure Side View



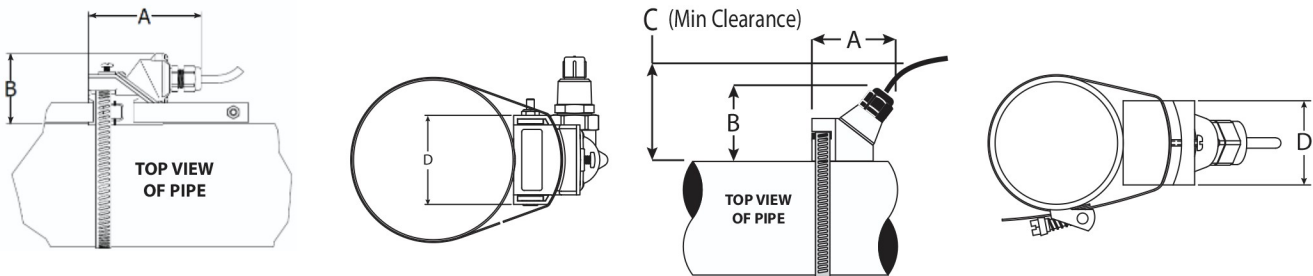
Transducers

Remote System with Standard Pipes

NZ/RZ/WZ (W, V or Z mount)

RZ (optional alignment rail)

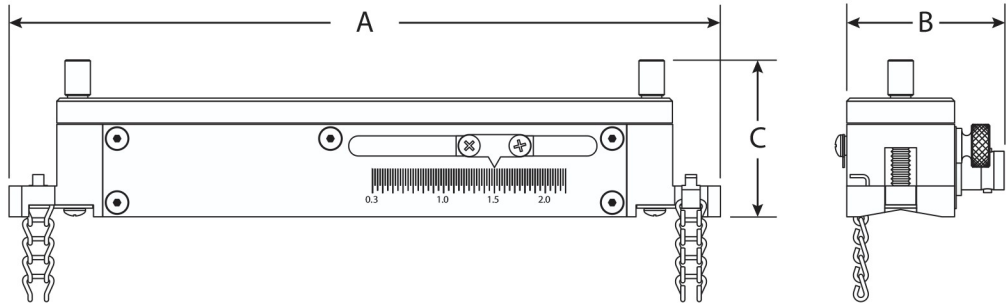
NZ/WZ



| Model  | A                   | B                   | C                  | D                   |
|--------|---------------------|---------------------|--------------------|---------------------|
| RZ     | 3.75 in. (95.25 mm) | 2.35 in. (59.69 mm) | —                  | 2.19 in. (55.63 mm) |
| NZ, WZ | 2.95 in. (74.93 mm) | 2.75 in. (69.8 mm)  | 3.00 in. (76.2 mm) | 1.70 in. (43.2 mm)  |

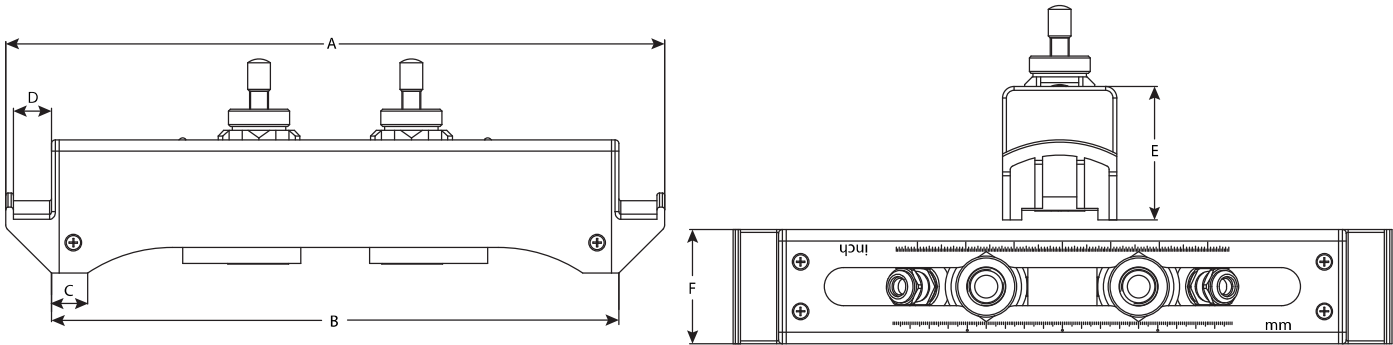
UZ (W or V mount)

Adjustable Small Pipe



| Model | A              | B               | C               | D | E | F |
|-------|----------------|-----------------|-----------------|---|---|---|
| UZ    | 7 in. (178 mm) | 1.6 in. (42 mm) | 1.5 in. (39 mm) | — | — | — |

Easy Rail JZ/KZ (W or V mount)



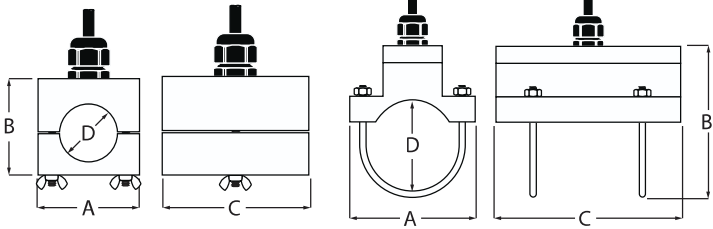
| Model | A                     | B                     | C                   | D                   | E                   | F                   |
|-------|-----------------------|-----------------------|---------------------|---------------------|---------------------|---------------------|
| JZ    | 13.62 in. (345.95 mm) | 11.73 in. (297.94 mm) | 0.75 in. (19.05 mm) | 0.79 in. (20.06 mm) | 2.76 in. (70.10 mm) | 2.36 in. (59.94 mm) |
| KZ    | 19.92 in. (505.97 mm) | 18.03 in. (457.96 mm) | 0.75 in. (19.05 mm) | 0.79 in. (20.06 mm) | 2.76 in. (70.10 mm) | 2.36 in. (59.94 mm) |

Remote System with Fixed Size for US/Canada Small Pipes

CA...CT

CA...CT (except CF and CL)  
Pipes and Tubing  
1/2...2 in.

CF and CL U-Bolt Connections  
ANSI Pipe and Copper Tubing  
2 in. Models

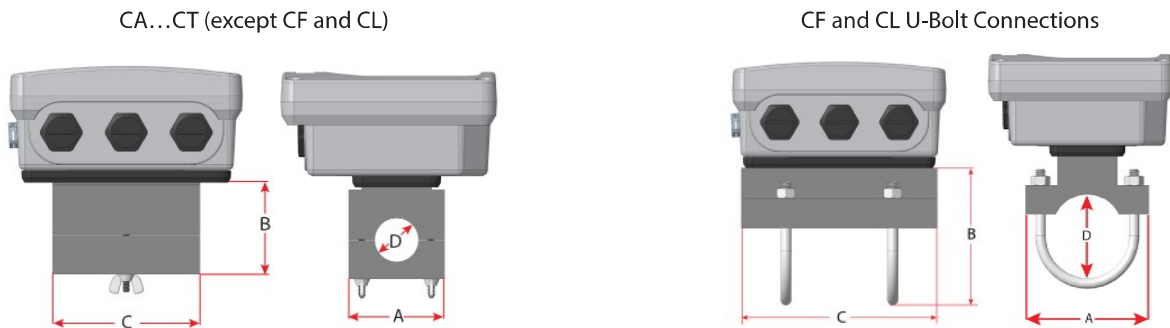


Flow Rates

| I.D. (in.) | Max. Flow Rate |     |
|------------|----------------|-----|
|            | GPM            | LPM |
| 1/2        | 24             | 91  |
| 3/4        | 55             | 208 |
| 1          | 95             | 360 |
| 1-1/4      | 125            | 473 |
| 1-1/2      | 150            | 568 |
| 2          | 210            | 795 |

Integral System

CA...CT



| Pipe Size | Pipe Material | A                   | B                    | C                    | D                    |
|-----------|---------------|---------------------|----------------------|----------------------|----------------------|
| 1/2 in.   | ANSI/DN       | 2.46 in. (62.48 mm) | 2.36 in. (59.94 mm)  | 2.66 in. (67.56 mm)  | 0.84 in. (21.34 mm)  |
|           | Copper        | 2.46 in. (62.48 mm) | 2.36 in. (59.94 mm)  | 3.33 in. (84.58 mm)  | 0.63 in. (16.00 mm)  |
|           | Tubing        | 2.46 in. (62.48 mm) | 2.28 in. (57.91 mm)  | 3.72 in. (94.49 mm)  | 0.50 in. (12.70 mm)  |
| 3/4 in.   | ANSI/DN       | 2.46 in. (62.48 mm) | 2.57 in. (65.28 mm)  | 2.66 in. (67.56 mm)  | 1.05 in. (26.67 mm)  |
|           | Copper        | 2.46 in. (62.48 mm) | 2.50 in. (63.50 mm)  | 3.56 in. (90.42 mm)  | 0.88 in. (22.35 mm)  |
|           | Tubing        | 2.46 in. (62.48 mm) | 2.50 in. (63.50 mm)  | 3.56 in. (90.42 mm)  | 0.75 in. (19.05 mm)  |
| 1 in.     | ANSI/DN       | 2.46 in. (62.48 mm) | 2.92 in. (74.17 mm)  | 2.86 in. (72.64 mm)  | 1.32 in. (33.53 mm)  |
|           | Copper        | 2.46 in. (62.48 mm) | 2.87 in. (72.90 mm)  | 3.80 in. (96.52 mm)  | 1.13 in. (28.70 mm)  |
|           | Tubing        | 2.46 in. (62.48 mm) | 2.75 in. (69.85 mm)  | 3.80 in. (96.52 mm)  | 1.00 in. (25.40 mm)  |
| 1-1/4 in. | ANSI/DN       | 2.80 in. (71.12 mm) | 3.18 in. (80.77 mm)  | 3.14 in. (79.76 mm)  | 1.66 in. (42.16 mm)  |
|           | Copper        | 2.46 in. (62.48 mm) | 3.00 in. (76.20 mm)  | 4.04 in. (102.62 mm) | 1.38 in. (35.05 mm)  |
|           | Tubing        | 2.46 in. (62.48 mm) | 3.00 in. (76.20 mm)  | 4.04 in. (102.62 mm) | 1.25 in. (31.75 mm)  |
| 1-1/2 in. | ANSI/DN       | 3.02 in. (76.71 mm) | 3.40 in. (86.36 mm)  | 3.33 in. (84.58 mm)  | 1.90 in. (48.26 mm)  |
|           | Copper        | 2.71 in. (68.83 mm) | 2.86 in. (72.64 mm)  | 4.28 in. (108.71 mm) | 1.63 in. (41.40 mm)  |
|           | Tubing        | 2.71 in. (68.83 mm) | 3.31 in. (84.07 mm)  | 4.28 in. (108.71 mm) | 1.50 in. (38.10 mm)  |
| 2 in.     | ANSI/DN       | 3.70 in. (93.98 mm) | 3.42 in. (86.87 mm)* | 5.50 in. (139.70 mm) | 2.38 in. (60.45 mm)* |
|           | Copper        | 3.70 in. (93.98 mm) | 3.38 in. (85.85 mm)* | 5.50 in. (139.70 mm) | 2.13 in. (54.10 mm)* |
|           | Tubing        | 3.21 in. (81.53 mm) | 3.85 in. (97.79 mm)  | 4.75 in. (120.65 mm) | 2.00 in. (50.80 mm)  |

\*Varies due to U-bolt configuration

**NOTE:** For remote transducers, allow for 3 in. for cable gland and bending radius of the cable.

## PART NUMBER CONSTRUCTION

|                                                                                                                                           |  |  |  |  |  |  |  |  |  |
|-------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|--|--|--|--|--|--|
| Fixed Size for US/Canada Small Pipes                                                                                                      |  |  |  |  |  |  |  |  |  |
| <div> <div>DW</div> <div>G</div> <div></div> <div></div> <div></div> <div></div> <div></div> <div>XX</div> <div></div> <div></div> </div> |  |  |  |  |  |  |  |  |  |
| <b>CERTIFICATION</b>                                                                                                                      |  |  |  |  |  |  |  |  |  |
| General Area, CE                                                                                                                          |  |  |  |  |  |  |  |  |  |
| <b>TRANSDUCER TYPE</b>                                                                                                                    |  |  |  |  |  |  |  |  |  |
| 1/2 in. ANSI pipe                                                                                                                         |  |  |  |  |  |  |  |  |  |
| 3/4 in. ANSI pipe                                                                                                                         |  |  |  |  |  |  |  |  |  |
| 1 in. ANSI pipe                                                                                                                           |  |  |  |  |  |  |  |  |  |
| 1-1/4 in. ANSI pipe                                                                                                                       |  |  |  |  |  |  |  |  |  |
| 1-1/2 in. ANSI pipe                                                                                                                       |  |  |  |  |  |  |  |  |  |
| 2 in. ANSI pipe                                                                                                                           |  |  |  |  |  |  |  |  |  |
| 1/2 in. Copper Tube                                                                                                                       |  |  |  |  |  |  |  |  |  |
| 3/4 in. Copper Tube                                                                                                                       |  |  |  |  |  |  |  |  |  |
| 1 in. Copper Tube                                                                                                                         |  |  |  |  |  |  |  |  |  |
| 1-1/4 in. Copper Tube                                                                                                                     |  |  |  |  |  |  |  |  |  |
| 1-1/2 in. Copper Tube                                                                                                                     |  |  |  |  |  |  |  |  |  |
| 2 in. Copper Tube                                                                                                                         |  |  |  |  |  |  |  |  |  |
| 1/2 in. Stainless Steel Tube                                                                                                              |  |  |  |  |  |  |  |  |  |
| 3/4 in. Stainless Steel Tube                                                                                                              |  |  |  |  |  |  |  |  |  |
| 1 in. Stainless Steel Tube                                                                                                                |  |  |  |  |  |  |  |  |  |
| 1-1/4 in. Stainless Steel Tube                                                                                                            |  |  |  |  |  |  |  |  |  |
| 1-1/2 in. Stainless Steel Tube                                                                                                            |  |  |  |  |  |  |  |  |  |
| 2 in. Stainless Steel Tube                                                                                                                |  |  |  |  |  |  |  |  |  |
| <b>TRANSMITTER TYPE</b>                                                                                                                   |  |  |  |  |  |  |  |  |  |
| 24V DC   Meter Mounted                                                                                                                    |  |  |  |  |  |  |  |  |  |
| 24V DC   Remoted Mounted                                                                                                                  |  |  |  |  |  |  |  |  |  |
| <b>DISPLAY</b>                                                                                                                            |  |  |  |  |  |  |  |  |  |
| Standard                                                                                                                                  |  |  |  |  |  |  |  |  |  |
| No display with keypad                                                                                                                    |  |  |  |  |  |  |  |  |  |
| <b>REMOTE CABLE LENGTH</b>                                                                                                                |  |  |  |  |  |  |  |  |  |
| None (Meter Mounted)                                                                                                                      |  |  |  |  |  |  |  |  |  |
| 15 ft (4.57 m)                                                                                                                            |  |  |  |  |  |  |  |  |  |
| 30 ft (9.14 m)                                                                                                                            |  |  |  |  |  |  |  |  |  |
| 50 ft (15.24 m)                                                                                                                           |  |  |  |  |  |  |  |  |  |
| 75 ft (22.86 m)                                                                                                                           |  |  |  |  |  |  |  |  |  |
| 100 ft (30.48 m)                                                                                                                          |  |  |  |  |  |  |  |  |  |
| <b>CONDUIT TYPE AND LENGTH</b> <sup>1</sup>                                                                                               |  |  |  |  |  |  |  |  |  |
| None                                                                                                                                      |  |  |  |  |  |  |  |  |  |
| 15 ft (4.57 m)                                                                                                                            |  |  |  |  |  |  |  |  |  |
| 30 ft (9.14 m)                                                                                                                            |  |  |  |  |  |  |  |  |  |
| 50 ft (15.24 m)                                                                                                                           |  |  |  |  |  |  |  |  |  |
| 75 ft (22.86 m)                                                                                                                           |  |  |  |  |  |  |  |  |  |
| 100 ft (30.48 m)                                                                                                                          |  |  |  |  |  |  |  |  |  |
| <b>RESERVED</b>                                                                                                                           |  |  |  |  |  |  |  |  |  |
| Standard                                                                                                                                  |  |  |  |  |  |  |  |  |  |
| <b>UNITS OF MEASURE: TOTALIZER / FLOW RATE</b>                                                                                            |  |  |  |  |  |  |  |  |  |
| Gallons/gallons per minute                                                                                                                |  |  |  |  |  |  |  |  |  |
| Gallons/cubic feet per minute                                                                                                             |  |  |  |  |  |  |  |  |  |
| Cubic Meters/cubic meters per minute                                                                                                      |  |  |  |  |  |  |  |  |  |
| Cubic Meters/cubic meters per hour                                                                                                        |  |  |  |  |  |  |  |  |  |
| Cubic Feet/gallons per minute                                                                                                             |  |  |  |  |  |  |  |  |  |
| Cubic Feet/cubic feet per minute                                                                                                          |  |  |  |  |  |  |  |  |  |
| Liters/liters per second                                                                                                                  |  |  |  |  |  |  |  |  |  |
| Liters/liters per minute                                                                                                                  |  |  |  |  |  |  |  |  |  |
| Liters/liters per hour                                                                                                                    |  |  |  |  |  |  |  |  |  |
| Million Gallons/gallons per minute                                                                                                        |  |  |  |  |  |  |  |  |  |
| Acre Feet/gallons per minute                                                                                                              |  |  |  |  |  |  |  |  |  |
| <b>TESTING &amp; TAGGING</b>                                                                                                              |  |  |  |  |  |  |  |  |  |
| Factory Calibrated                                                                                                                        |  |  |  |  |  |  |  |  |  |
| Factory Calibrated/ID Tag                                                                                                                 |  |  |  |  |  |  |  |  |  |

<sup>1</sup> Conduit length must be less than or equal to cable length. Submersible Conduit limited to 100 ft (30 m). Conduit not available with Easy Rail.



## Univeral Transducers

**TRANSDUCER TYPE**

|                                                                                       |    |
|---------------------------------------------------------------------------------------|----|
| Small Rail   (15...50 mm) Pipes <sup>1</sup>                                          | UZ |
| Easy Rail   2.5...6 in. (65...150 mm) Pipes                                           | JZ |
| Easy Rail   2.5...10 in. (65...250 mm) Pipes                                          | KZ |
| Standard 194° F (90° C) Max.   2.5...10 in. (65...250 mm) Pipes                       | NZ |
| Submersible   2.5...10 in. (65...250 mm) Pipes                                        | WZ |
| Standard 250° F (121° C) Max.   2.5...10 in. (65...250 mm) Pipes Alignment Rail Ready | RZ |

**TRANSMITTER TYPE**

|                                                            |   |
|------------------------------------------------------------|---|
| 24V DC Remote Mounted for 2.5 in. (65 mm) and Larger Pipes | F |
| 24V DC Remote Mounted for Small Rail Transducer            | G |

**DISPLAY**

|                        |   |
|------------------------|---|
| Standard               | S |
| No display with keypad | W |

**REMOTE CABLE LENGTH**

|                  |    |
|------------------|----|
| 15 ft (4.57 m)   | AC |
| 30 ft (9.14 m)   | AF |
| 50 ft (15.24 m)  | AK |
| 75 ft (22.86 m)  | AR |
| 100 ft (30.48 m) | BW |
| 150 ft (45.72 m) | BK |
| 200 ft (60.96 m) | DW |
| 250 ft (76.20 m) | DK |
| 300 ft (91.44 m) | EW |

**CONDUIT AND CABLE LENGTH<sup>2</sup>**

|                  |    |
|------------------|----|
| None             | WW |
| 15 ft (4.57 m)   | AC |
| 30 ft (9.14 m)   | AF |
| 50 ft (15.24 m)  | AK |
| 75 ft (22.86 m)  | AR |
| 100 ft (30.48 m) | BW |
| 150 ft (45.72 m) | BK |
| 200 ft (60.96 m) | DW |
| 250 ft (76.20 m) | DK |
| 300 ft (91.44 m) | EW |

**RESERVED**

|          |    |
|----------|----|
| Standard | XX |
|----------|----|

**UNITS OF MEASURE: TOTALIZER / FLOW RATE**

|                                      |   |
|--------------------------------------|---|
| Gallons/gallons per minute           | G |
| Gallons/cubic feet per minute        | B |
| Cubic Meters/cubic meters per minute | T |
| Cubic Meters/cubic meters per hour   | H |
| Cubic Feet/gallons per minute        | F |
| Cubic Feet/cubic feet per minute     | J |
| Liters/liters per second             | N |
| Liters/liters per minute             | P |
| Liters/liters per hour               | Q |
| Million Gallons/gallons per minute   | M |
| Acre Feet/gallons per minute         | A |

**TESTING & TAGGING**

|                           |   |
|---------------------------|---|
| Factory Calibrated        | F |
| Factory Calibrated/ID Tag | S |

<sup>1</sup> Small Rail limited to 100 ft (30.48 m) cables or shorter.<sup>2</sup> Conduit length must be less than or equal to cable length. Submersible Conduit limited to 100 ft (30 m). Conduit not available with Easy Rail or Small Rail.



## PARTS AND ACCESSORIES

### Couplant

| Part Number   | Description                                                    |
|---------------|----------------------------------------------------------------|
| D002-2011-001 | Dow Corning® Molykote® 111 Grease; 5.3 oz Tube; 150° F (65° C) |
| D002-2011-002 | Dow Corning 732; Permanent Mount; 356° F (180° C)              |

Dow 111 grease is included with transducers.

### Power Supplies

| Part Number | Description                                          |
|-------------|------------------------------------------------------|
| 68334-001   | Wall Plug; 100...264V AC In; 24V DC Out; -20...50° C |
| 68334-002   | Module; 85...264V AC In; 24V DC Out; -30...70° C     |

For ordering transducers and transmitter separately, please contact factory.

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**Control. Manage. Optimize.**

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