Check Components

- Meter with Indicator and hinged cover
- Saddle Assembly (Packaged Separately)
- Display Security Seal
- U-clip Retainer
- Saddle Gasket
- Cable Gland
- Power/Output Cable

Recommended Tools

**Recommended:**
- 3/32” or 2.5mm (small) flat head screw driver
- Crescent Wrench
- 5/32” Hex Key

**Optional:**
- Channel locks
- 6” Strap Wrench

Warnings

- Confirm that U-clip retainer is installed and never remove the U-clip retainer when pipe is under pressure—may result in serious injury.
- Saddle bolts must be tightened evenly. Do not over tighten.
- Install security seal during installation if regulations require.
- Improper sealing of cables or cable glands will void warranty.
- Ensure proper grounding when required.
- Programming pipe ID, pipe insertion hole size and straight pipe configuration is required for the meter to read.

Refer to instruction manual for further details.
Positioning

Choose a position that will ensure a full pipe.

Choose a position that will minimize flow distortion.

Side (3 o’clock) and top (12 o’clock) installations are acceptable.

BEFORE INSTALLING measure & record inside diameter (ID) of pipe.

1. Clean the mounting surface, remove any roughness from the area and cut a 1.75” hole into pipe. Place gasket centered over pipe opening.

2. Place saddle top over gasket.

3. Make sure saddle top covers entire gasket.

4. Place the saddle clamps under the pipe and align with the clamp guides on the saddle top.

5. Place saddle plates over saddle clamp threads. Attach nuts and tighten as shown below. Torque to 75 ft-lb in cross pattern.

6. Insert the EX90 sensor into the saddle fitting and secure with mounting clip or attach security clip and seals if required.
Wiring

Unscrew the display lid and remove it from the meter. Unsnap the display assembly and remove it from the meter exposing the internal wiring connector. Install the wires through the cable glands into the 2 pin screw connector. (C1 = power/output cable)

**With Pulse Output Only**

**Pulse with External DC Power Source**

9 - 36 VDC at 250mA max, 30mA average

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**With No External Output - If not using external output, no wiring is required.**

**EXTERNAL POWER WARNING!**

Ribbon cable must be connected BEFORE external power is applied. See Instruction manual for details.

**WARNING:** Improper sealing of glands or cables will invalidate any warranty. If plugs or cable glands are removed, reinstall using Teflon pipe sealant, or tape, to ensure maximum moisture protection.

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**Remove plug & o-ring. Insert cable gland/strain relief. Feed cable through cable gland.**

**Clamp cable with strain relief clips. Attach drain wire lug to bracket post.**

**CRITICAL! Torque cable gland sealing nut to 22 in-lbs.**
**Menu System**

The **HOME Screen** displays flow volume, direction of the flow total and flow rate along with status conditions such as Empty Pipe. Two buttons below the LCD display are used to access menu screens for viewing and changing meter setup parameters. These two buttons are light sensors which can detect when a finger is covering them and activate upon release. Only three button touch actions are needed to control navigation through the menus, settings changes and back to the home screen.

**Changing Settings**

**HOME SCREEN**

The Home Screen page on a new meter will indicate for you to SET ID, to move to the Passcode Screen.

**PASSCODE**

Set passcode if required, or to move to the Standard Menu Options Screen.

**T UNIT**

View or change TOTAL volume units.

**R UNIT**

View or change flow RATE units.

**SET P**

View or change pulse output scaling.

**DAMP**

View or change # of sample periods for rolling average* DAMP default set to 15

**EXIT**

Return to HOME SCREEN or Tap [ ] five times, to enter a SUBMENU screen from which you can access the required pipe setting functions

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**Enter Pipe Settings (Required)**

**INITIAL SETUP OF ID, HOLE, AND PIPE IS REQUIRED FOR THE METER TO OPERATE PROPERLY.**

**1. SETUP**

View or change meter configuration settings.

**2. SETUP (Menu Functionality)**

The highlighted value can be changed using the arrows. The value on the left is the menu name. Cycle through these by pressing[ ]. Press [ ] to highlight and change the value of the menus.

**3. ID (Required)**

View or change inner diameter of the pipe. Measurement in inches.

**4. HOLE (Required)**

View or change installation pipe hole size. Tap [ ] then [ ] to change setting from N/A (default) to small and large sizes.

**5. PIPE (Required)**

View or change pipe configuration based on installation. Tap [ ] then [ ] to change setting from N/A (default) to 10/2, 5/2 or STRAIGHT (conditions with 10 diameters or more)

INFO: Meter model, serial number, firmware version

SAMP: Sample rate (Default is set to 5 seconds. Battery life with a 5-second sampling rate is four years. Increase sampling interval to extend battery life. (May vary depending on environmental factors. See instruction manual for more details.)