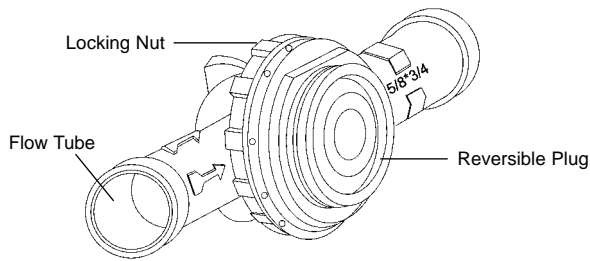


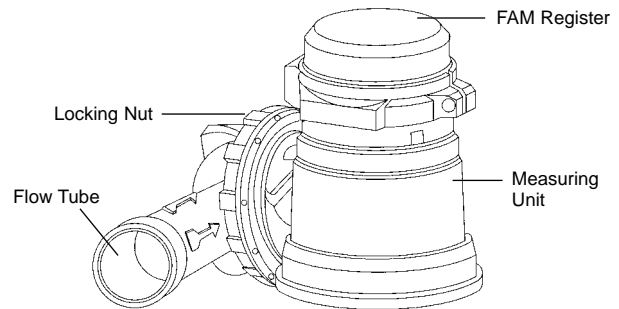
# Flexible Axis Meter (FAM)

# Installation Instructions

## A. FAM Configurations:



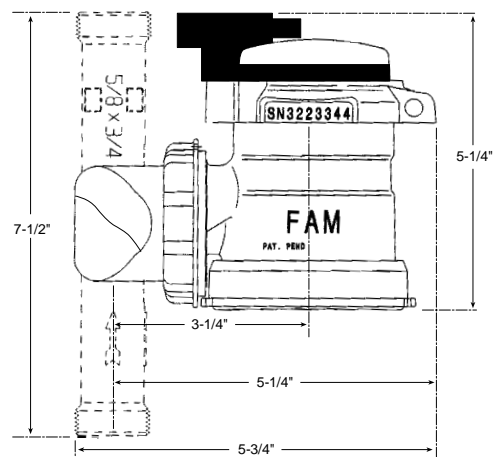
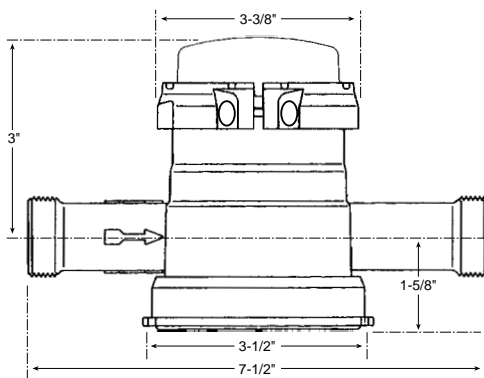
Flow Tube and Reversible Plug



Flow Tube and Measuring Unit

## B. In designing the installation, we recommend:

1. Allow adequate clearance for the meter and any associated electronics. Plan on placing the Measuring Unit away from the wall with the meter's register top horizontal and register facing up.



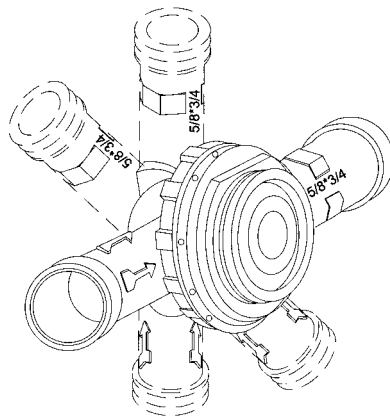
2. The installation should include a high quality, low pressure loss shutoff valve upstream of the meter. To prevent water damage to customer property when service is required, a downstream shutoff valve is likewise recommended.
3. The installation should be leak-tight, with properly sized gaskets. When meter couplings are ordered from Master Meter, gaskets are provided. Appropriate gaskets and couplings are also available from a qualified waterworks distributor. Whenever a meter is pulled from the line, discard and replace the old gaskets.
4. The Flexible Axis Meter can be installed using either meter couplings or solder-joint connections. When soldering take care not to apply heat to the polymer components of the meter. Any resulting damage will not be covered under warranty.
5. Although AWWA opposes the grounding of electrical systems to potable water delivery lines, such practices do exist. To prevent accidental harm to service personnel and residents, make certain that an electrical grounding strap is installed around the meter.

### C. At the time of installation:

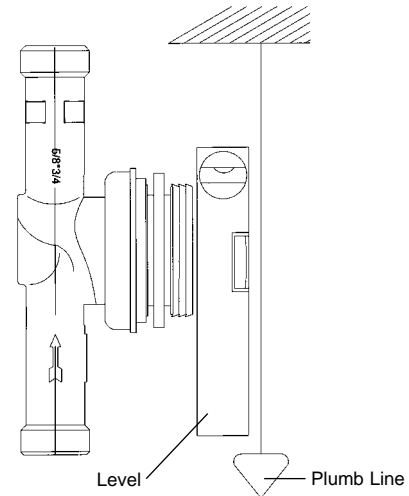
The FAM Flow Tube will be shipped with either a Plug or Measuring Element in place (shown in A on page 1). The Plug allows full flow through the tube for system pressure testing and line flushing. If the plug is in place when received, do not remove it until the Measuring Unit is to be installed (after pressure testing and line flushing). Removing the plug can damage the o-ring seals, causing leaks to occur. A new set of o-rings is shipped with the FAM Measuring Unit, for use when the Measuring Unit is connected to the Flow Tube.

1. If it is possible, thoroughly flush the service line upstream of the meter to remove dirt and debris.
2. Remove the Flow Tube spud thread protectors.  
(Note: to protect the meter spud threads, store the meter with the thread protectors in place.)
3. Orient the FAM in the service line:
  - a. The Flow Tube should be installed with the flow direction arrow on the Flow Tube corresponding to the direction of water flow through the line.
  - b. Set the meter in the line in the proper orientation for the configuration you are installing (as explained below). The Locking Nut can be loosened and tightened to allow rotation of the Measuring Unit to the proper orientation.

#### 1 Orienting Flow Tube and Plug



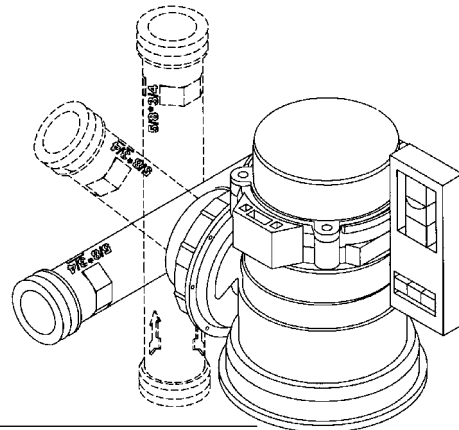
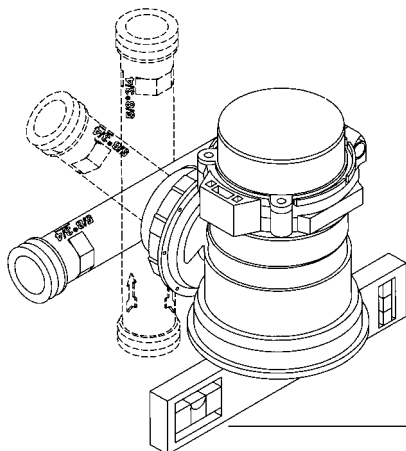
The Flow Tube and Plug can be installed at any angle that will allow the Plug to be in a vertical position.



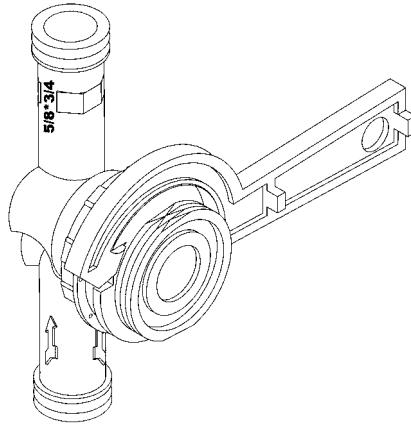
As shown, sight position or use a level or plumb line to position the Flow Tube so that the edge of the Flushing Plug is level vertically.

#### 2 Orienting Flow Tube and Measuring Unit

The Flow Tube and Measuring Unit can be installed at any angle that will allow the meter's register to be horizontally level. As shown, use a level or sight position the Flow Tube so that the meter's register is horizontally level both left to right and front to back.



c. Once the Plug or Measuring Unit is properly oriented, hand tighten the Locking Nut. Then, using the tool provided, turn the Locking Nut until snug. Do not overtighten. Do not use a pipe wrench.



4. Install the meter using either meter couplings or solder joint connections. Make certain that the Plug or Measuring Unit remains in the proper position (as illustrated in 3.b.1 or 3.b.2 on page 2). Loosen the Locking Nut if readjustment is necessary. Do not over-tighten connections; tighten only as required to seal. Do not use pipe sealant on meter threads.

5. *With upstream shutoff valve only:*

Open the shutoff valve slowly, to remove air from the meter and service line. Open faucet slowly to allow entrapped air to escape. Close the faucet.

*With both upstream and downstream shutoff valves installed:*

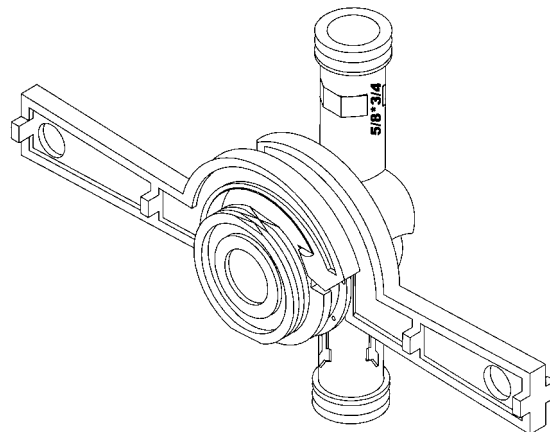
To test the installation for leaks: Close the outlet (downstream) shutoff valve. Open the inlet (upstream) shutoff slowly until the meter is full of water.

Open the outlet (downstream) valve slowly until air is out of the meter and service line. Open faucet slowly to allow entrapped air to escape. Close the faucet.

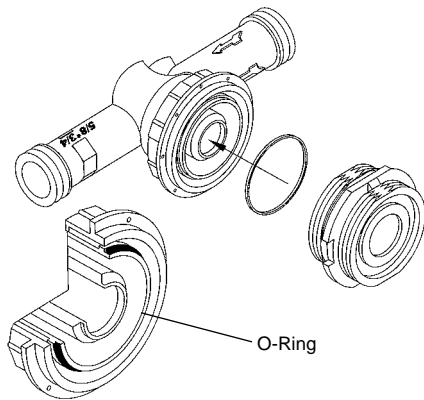
6. If the installation is complete, seal wire the FAM by wiring through a hole in the Locking Nut and the closest hole in the Measuring Unit bottom plate.

#### **D. Replacing the Flushing Plug with the Measuring Unit**

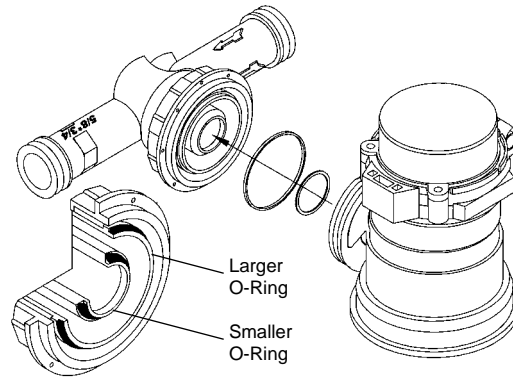
1. Using the wrenches supplied, remove the Flushing Plug from the Flow Tube. Discard o-ring.



- Two o-rings are supplied with the Measuring Unit. Place the smaller o-ring on the Flow Tube and the larger one on the Measuring Unit seat. (Note: a small amount of silicone grease will help hold o-rings in place during this process.)



O-Ring for Flushing Plug

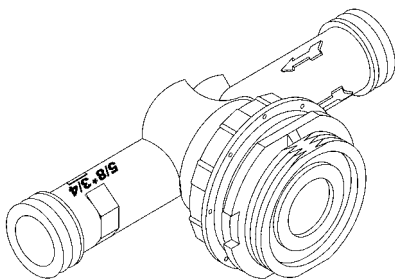


O-Rings for Measuring Unit

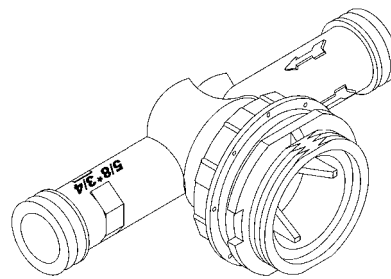
- Push the Locking Nut forward to contact the threads of the Measuring Unit. Thread the Locking Nut onto the Measuring Unit. Hand tighten then turn with the wrench supplied until snug. Do not over-tighten. Do not use a pipe wrench.
- With the Measuring Unit in place, seal wire the FAM by wiring through a hole in the Locking Nut and the closest hole in the Measuring Unit bottom plate.

#### **E. Replacing the FAM Measuring Unit with the Plug.**

- The Plug supplied with the FAM Flow Tube is reversible, either allowing or preventing flow through the line, depending on how it is installed.



Plug positioned to allow flow.



Plug positioned to prevent flow.

- When installing a Plug in the flow through position, remove the smaller o-ring to avoid it being dislodged into the water supply line.
- Follow the steps in D above, replacing the Measuring Unit with the Plug. You will need to replace the o-rings each time the Plug and Measuring Unit are exchanged.



100 E. 15th Street, Suite 350  
 Fort Worth, TX 76102  
 800-765-6518  
 817-336-3837 (817-33-METER)  
 FAX: 817-336-3840  
 e-mail: sales@mastermeterinc.com

Distributed by:

