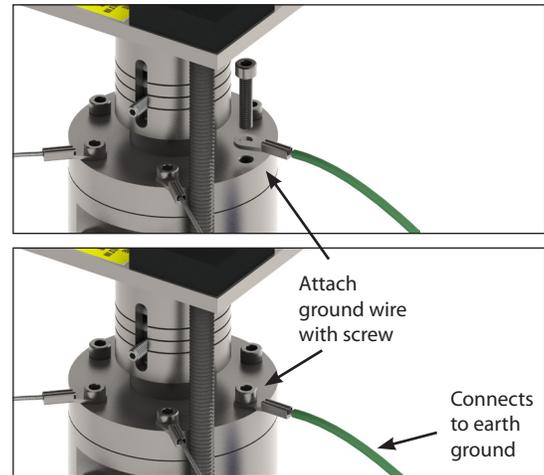


## STEP 13: Attaching the ground wire

The FPI meter is electrically continuous to a conductive (non PVC) pipe through the retaining rods. Additional grounding may be required to a dedicated earth ground via ring terminal and 10 AWG wire (not provided). (Figure 26)

VFD's and chemical injection mechanisms may have adverse effects on the electromagnetic signal. Contact the factory for further information on grounding effects.



**Figure 26. Attaching the Ground Wire**

## 3.0 SENSOR REMOVAL



### WARNING!

The pipe may be under pressure. Serious injury or death may result if proper procedures are not followed. Do not attempt to remove the short retaining rods without the long retaining rods properly installed. Do not attempt to remove the sensor with only the short retaining rods.

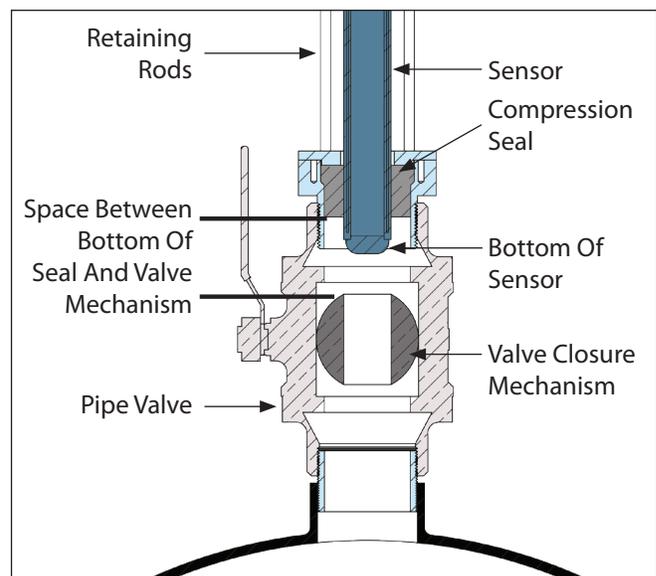


### IMPORTANT

Use the long retaining rods provided with the meter for removal. If the rods used for removal are shorter than those provided by the factory, the sensor cannot be removed without depressurizing the line.

Follow the steps below to safely remove the sensor:

1. Visually inspect the pipe and entire assembly for damage or corrosion paying close attention to any nipples and welded couplings. If there is any doubt as to the condition of any element of the pipe or meter, depressurize the line before attempting to remove the meter.
2. Reduce line velocity to 5 ft/s or less to prevent sensor vibration, or depressurize the line.
3. Thread a long retaining rod through the captive nut until the rod nears the compression assembly. Ensure that the bottom of the rod has the hole for the locking cotter pin.
4. Thread a 3/8" nut onto the bottom of the long retaining rod about an inch up from the bottom of the rod.
5. Continue rotating the long retaining rod until the bottom of the rod passes through the holes on the bottom plate.
6. Thread another 3/8" or 1/2" nut onto the bottom of the long retaining rod until it is flush with the bottom plate. Tighten the nuts above and below the bottom plate securely locking the long retaining rod in place. Attach the locking cotter pin into the hole through the bottom of the long retaining rod.
7. Repeat the process for the second long retaining rod.



**Figure 27. Cross-Section Of Meter Showing Sensor Removal**

8. Once both of the long retaining rods are securely in place, completely remove the short retaining rods.
9. Loosen the compression seal bolts until the seal just begins to leak. This will relieve the pressure on the compression seal allowing the sensor to be removed. Draping a towel around the compression seal can reduce any spraying water. NOTE: The compression seal may prevent immediate leakage on sensors installed for a long period of time until the sensor begins to rise.
10. Rotate the captive nuts on the top plate simultaneously. The sensor insertion tool is recommended. See Installation, STEP 10. This will cause the sensor to rise out of the pipe. If the line is under pressure do not remove the sensor from the compression seal completely. Only raise the sensor until it is clear of the valve, but still below the compression seal. See Figure 27. Once the sensor has cleared the valve mechanism, the valve can then be closed. Do not attempt to force the valve closed while the sensor is still passing through the valve as permanent damage to the sensor can occur.
11. Once the valve is closed, the entire sensor can be removed from the valve.

#### **4.0 ELECTRONICS INSTALLATION**

See the Installation, Operation and Maintenance Manual for the converter supplied with your system.

#### **5.0 MAINTENANCE**

The FPI Mag is essentially a maintenance free meter with no user serviceable parts. However, the metered fluid may contain solids or other contaminants which may coat the sensor electrodes. A periodic inspection may be recommended to ensure the sensor electrodes are clean. To clean the unit, remove the sensor following all of the instructions and safety warnings contained in Section 3.0. When the sensor is removed from the pipe, carefully wipe down the sensor with a soft cloth and rubbing alcohol.