

## ELECTROMAGNETIC FLOW METER EARTH REQUIREMENTS

Magnetic flow meters require an earth connection to the flowing water inside the pipe to ensure reliable and accurate velocity and flow measurements. The earthing connection provides a signal ground for the signal output which eliminates any electrical noise or spurious readings. Earthing connection can be provided by several options dependent on the application.

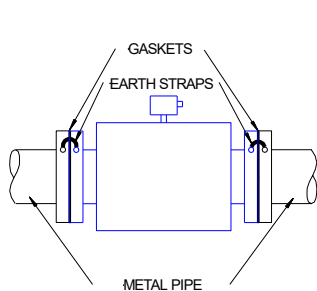
**All Aquamonix Flow Meters for irrigation and general water metering, are fitted with internal stainless steel earthing electrodes making them suitable for all pumped or gravity flow applications in any type of pipeline material.**

| Meter Type  | Metallic Pipeline (Conductive)<br>(Steel, Stainless, Alloy)                     | Non Conductive Pipeline<br>(Poly, ABS, PVC, Concrete)                           |
|---|---|---|
| <b>IR2020<br/>(Plastic Flow Meter)</b>                        | Fitted with internal earthing electrodes - No other external earthing required. | Fitted with internal earthing electrodes - No other external earthing required. |
| <b>IR1060/ 2060 &amp; IR2030<br/>(Steel Body Flow Meters)</b> | Fitted with internal earthing electrodes - No other external earthing required. | Fitted with internal earthing electrodes - No other external earthing required. |
| <b>Slurry , Aggressive Fluids, High Fouling Potential.</b>    | Earth Strap to adjoining flanges and / or earth disks (if pipework is lined).   | Earthing discs/rings fitted to either end of the flow meter.                    |

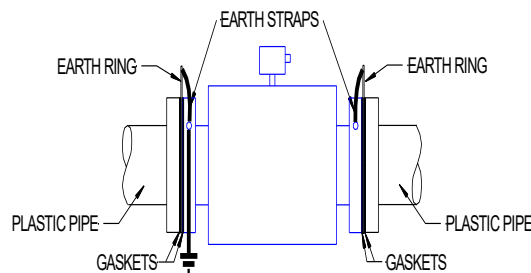
**Note – All Aquamonix Pattern Approved Flow Meters for Irrigation projects are fitted with Internal Earthing Electrodes in the bottom and top of the pipe to ensure accurate earthing in all applications and do not require additional earthing straps or disks to be fitted.**

Meters should always be designed and installed to minimise risk of excessive silt build up in the base of the meter and adjacent pipework so as not to impact on the cross sectional area of the pipe or operation of the earthing electrode. Meters should also be installed to ensure pipe full operation and minimise risk of air entrapment in the pipework in the vicinity of the flow meter.

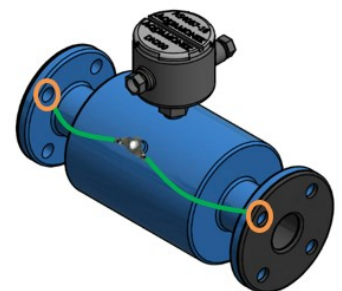
In some specific industrial applications where internal earthing electrodes are not suitable or not fitted to the meter (eg: slurries, chemically aggressive fluids or where electrode fouling may occur), it may be necessary to fit external earthing discs (rings) and / or earth straps to the adjoining pipework. All steel body flow meters are provided with an earth lug to allow connection to earth disk or strap.



*2060 Flow Meter installed in Non Conductive Pipe*



*2060 Flow Meter installed in Conductive Steel Pipe*



*Model 1060 Series with earth straps to flange bolts*