# UFR (Unmeasured-Flow Reducer) – Instructions for Installation.

General – The "**UFR** - **U**nmeasured-**F**low **R**educer" should be installed in line, either in a horizontal or vertical position, before or after the water meter. It is very important that the **UFR** is installed so that the arrow on the **UFR** is in the direction of water flow.
The **UFR** - **U**nmeasured-**F**low **R**educer, does not require regular maintenance.

**Options for installation (by model):**

1. **UFR**s with a union nut connection can be connected directly to the water meter and the threaded male or female connection on the other side of the **UFR**, directly to the piping.
2. **UFR**s, with threaded male or female connections on either side of the UFR, can be installed directly to the piping.

**Installation instructions:**

1. Installation of the **UFR** with a union nut connection directly to the water meter:

    A. Close the shut off valves upstream and downstream of the region that the **UFR** is to be installed.
    B. Match the direction of the arrow on the **UFR** with the normal direction of water flow in the piping.
    C. Connect the **UFR's** male or female threaded connections to the piping, seal using a sealant that is generally used for potable water systems.
    D. Insert the attached seal (fiber, rubber or plastic) into the union nut of the **UFR**, connect the union nut to the water meter, and tighten the union nut to the water meter.
    E. Open the shut off valves upstream and downstream and check for seal tightness.

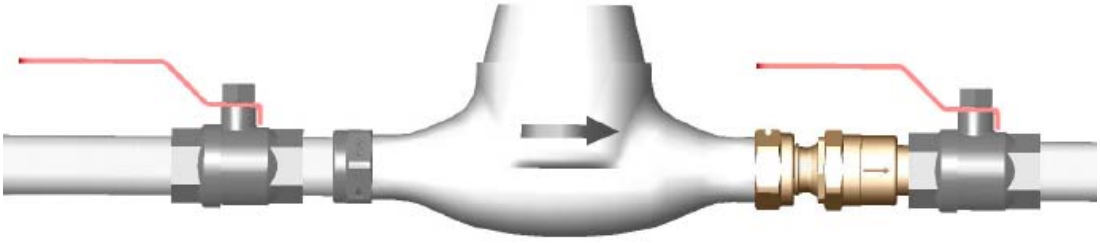

Figure 1 Connection of **UFR** with union nut connection, downstream of the water meter.

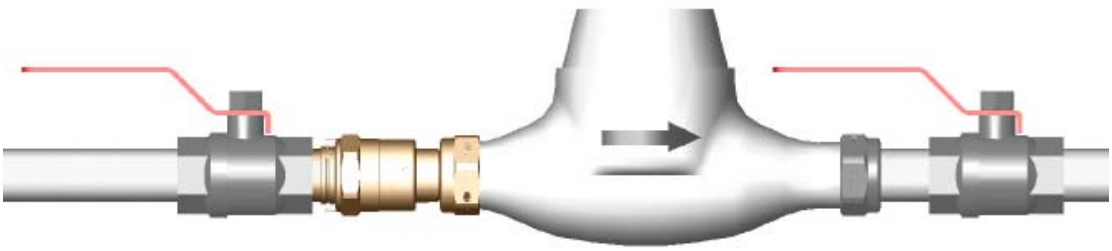

Figure 2 – Connection of **UFR** with union nut connection, upstream of the water meter.

2. Installation of the **UFR** with threaded male or female connections directly into the piping:

    A. Close the shut off valves upstream and downstream of the region that the **UFR** is to be installed.
    B. Match the direction of the arrow on the **UFR** with the normal direction of water flow in the piping.
    C. Connect the **UFR** with threaded male or female connections, or to the piping or shut off valve or water meter coupling. Use sealants that are generally used in potable water systems.
    D. Open the shut off valves upstream and downstream and check for seal tightness.

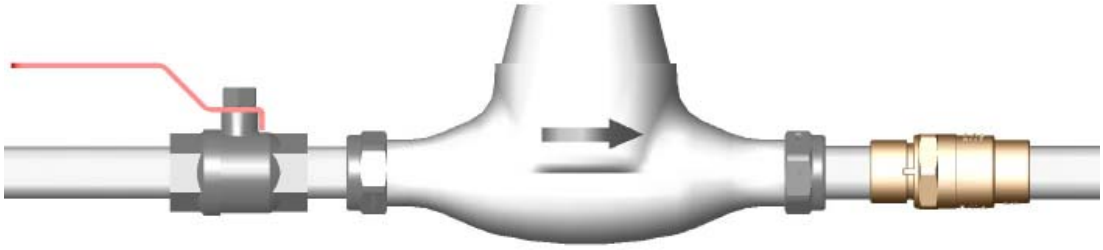

Figure 3 – Connection of **UFR** with threaded male or female connections, downstream of the water meter.

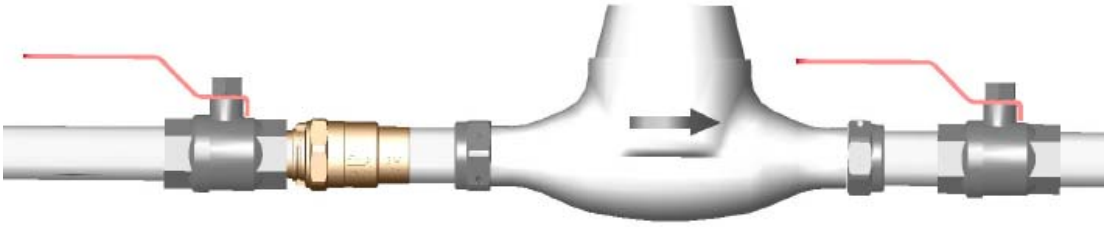

Figure 4 – Connection of **UFR** with threaded male or female connections, upstream of the water meter directly to the shut off valve and water meter coupling.

**Prevention of malfunctions in the product during installation:**

1. Rinse the pipe that you intend to attach the **UFR** to, in order to prevent large bodies from entering the **UFR**.
2. Make sure not to let any sealant enter the **UFR**, especially the sealing region inside the UFR.
3. Make sure to tighten the **UFR** using an appropriate wrench on the hexagon flats only.

**Troubleshooting:**

| Problem | Possible causes | Solutions. |
|---|---|---|
| No flow in the line | 1. Shut off valves have not been opened after installation.<br>2. The product is installed the wrong way round (against the flow direction).<br>3. Mains pressure is less than 1 bar. | 1. Check shut off valves.<br>2. Check direction of the product, and if necessary invert it in accordance with the flow direction.<br>3. The **UFR** requires a minimum mains pressure of 1 bar to work normally. |
| There is a leak in the house but the **UFR** is not working. | 1. There is a lot of air in the system following the installation.<br>2. The leak in the house is more than 30 liters per hour (cumulative).<br>3. Sealant has entered the sealing area of the **UFR**. | 1. Purge air from the system by opening the taps in the house and check again.<br>2. At more than 30 liters per hour, the **UFR** stops working, so there is no problem.<br>3. Remove the **UFR** from the line and clean out the sealant. |
| Leak between the two parts of the **UFR** | The **UFR** has opened up and the O-ring no longer seals. | Tighten the two parts of the **UFR**, open the water pressure again, and check for leaks. |