

cimDROP



Billing of unmeasured
flows and the reduction
of apparent losses.

HYDROFLOW
LEADING WITH KNOWLEDGE



cim 250 UFR

Unmeasured flows

All domestic water meters are unable to accurately measure very low flow rates, especially those below 15 litres/hour. This inaccuracy increases with the life of the water meter.

These microscopic losses may originate from:

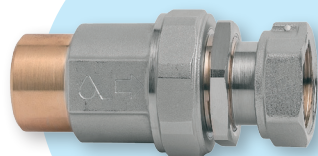
- 💧 Leaky taps, faulty WC cisterns, small intakes or leaks, whether visible or not, in the system downstream from the water meter.
- 💧 Low flow rates at the end of the filling cycle of flush boxes, accumulation tanks and generally whenever float valves are present.
- 💧 Small losses in the system upstream from the water meter.

The impossibility of measuring these microscopic flows or their incorrect measurement accounts for a lost revenue by the water company which can range from 5 to 10% of the total water supplied, depending on the type of water meter installed.

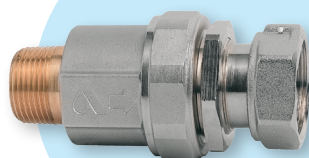
The loss of profits resulting from inaccurate measurement can lead to very substantial economic losses because the unmeasured flow generally falls with the highest fee brackets.

In addition, the use of this device guarantees full compliance with Italian law no. 36/1994 concerning the management of water resources, also known as the Galli Law, which is the most important law in the field of water management and is designed to establish full compliance with the "principles of efficiency, effectiveness and affordability of the service, the regular determination and regular adjusting of the fees".

A more accurate measurement helps water suppliers to increase their investments in distribution, which consequently optimizes the use of water as a "resource" and reduces the overall management costs of the distribution network.



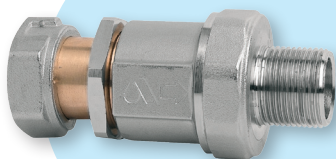
cim750 UFR
inlet



cim751 UFR
inlet



cim752 UFR
outlet



cim753 UFR
outlet

Unmeasured Flow Reducer

The **cimDROP** ball valves and fittings are equipped with a simple and smart device (**UFR***) that is installed on the water-meter line next to the water-meter. It converts microscopic flows into flow pulses that can be measured by the water-meter.

The **cimDROP** ball valves and fittings:

- operate when the flow rate is below the water-meter's detection and measuring threshold;
- adjust the water flow by continuously converting microscopic flows into pulsing flows that are large enough to be measured by the water-meter;
- when the flow rate increases and reaches approximately 30 litres/h, the **UFR*** works like an ordinary check valve.

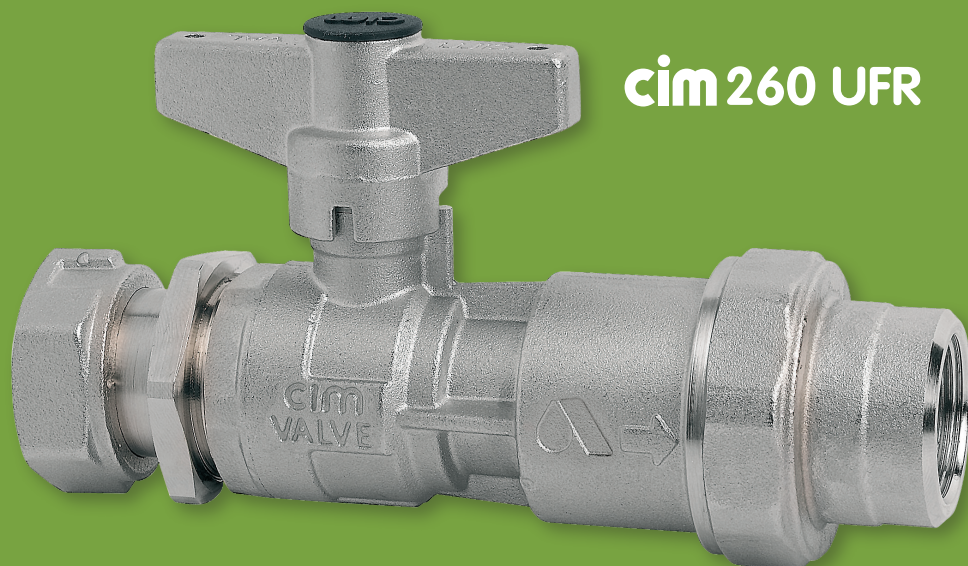
The validity of **cimDROP** ball valves and fittings have been demonstrated through a series of tests carried out in the laboratories of several Italian and foreign water suppliers, which have confirmed that the installation of this device helps to increase the turnover of distribution networks by approximately 5-10%.

Benefits

- Minimizes the amount of unmeasured flows to almost zero.
- Allows both apparent and real microscopic leaks to be measured and billed.
- Significantly increases the revenue of water supplies up to 10%.
- Works as an anti-contamination check valve preventing the entrance of contaminants recirculated from the water network.

The **cimDROP** ball valve allows:

- installation and management costs to be reduced;
- leaks caused by the coupling of multiple parts to be reduced.



cim260 UFR

* UFR is licensed by **A.R.I.** FLOW CONTROL ACCESSORIES LTD. - **PATENTED**



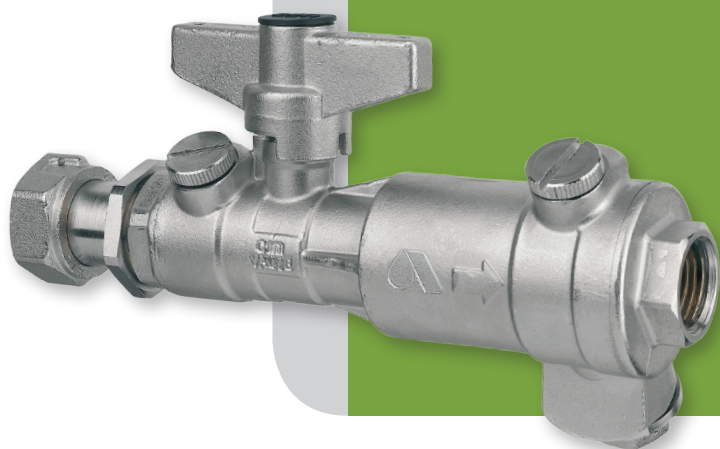
WRAS

irh
environnement



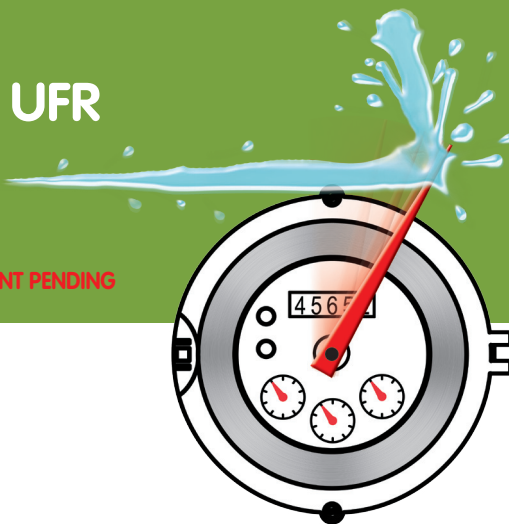
Besides having the same features as the UFR, the range of **cimDROP** ball valves and fittings provides several interesting technical and practical advantages such as:

- The incorporated swivel nut facilitates the assembling of the fitting onto the water-meter male thread, providing costs savings over a standard water-meter fitting.
- The ability to inspect the fitting/ball valve: the fitting can be disassembled without the use of any special tools thus allowing easy access to the UFR cartridge, for maintenance and/or replacement in the case of water-meter replacement.
- Fastening of the fitting/ball valve to the water-meter bracket by means of a lock ring.
- Ball valves installed upstream of the water-meter are equipped with a special tamperproof handle, ensuring that it is locked in either the open and/or closed position, so that it can only be unlocked with a special key.
- The special design of the valve body enables either a straight or angled installation, or both, by simply changing the location of the locking plug of the unused port (**CIM 270 UFR**).
- Two 1/4" pressure outlets, situated upstream of the ball valve and downstream of the anti-contamination UFR device, at an angle of 30° to enhance ergonomics, which allows: full control of the anti-contamination device, the draining of the system upstream and downstream of the valve and the in-line installation of an additional water-meter to check the efficiency of the installed water-meter (**CIM 270 UFR**).

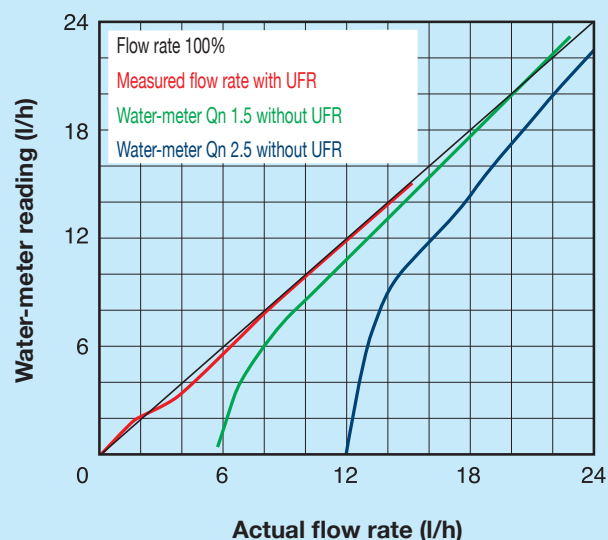


cim 270 UFR

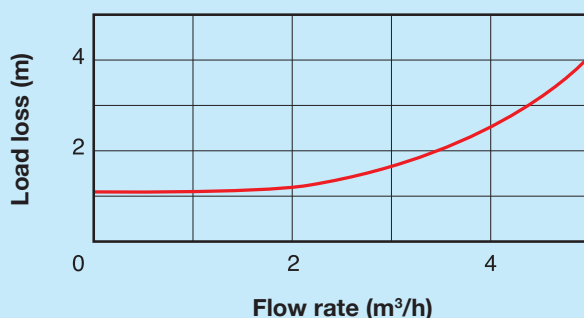
PATENT PENDING



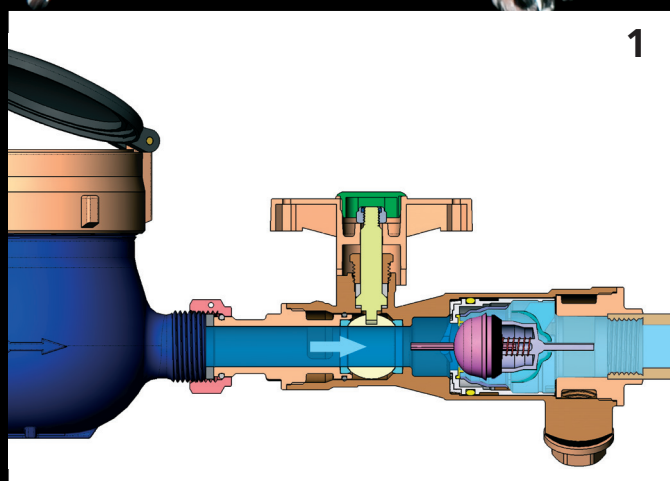
Water-meter accuracy with or without **UFR*** device



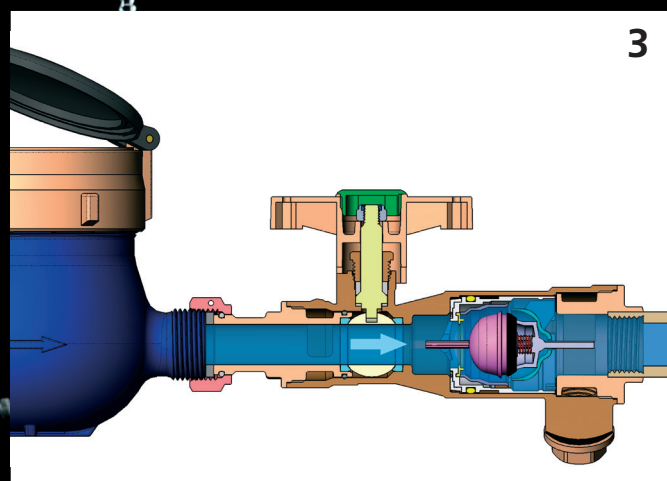
Load loss chart



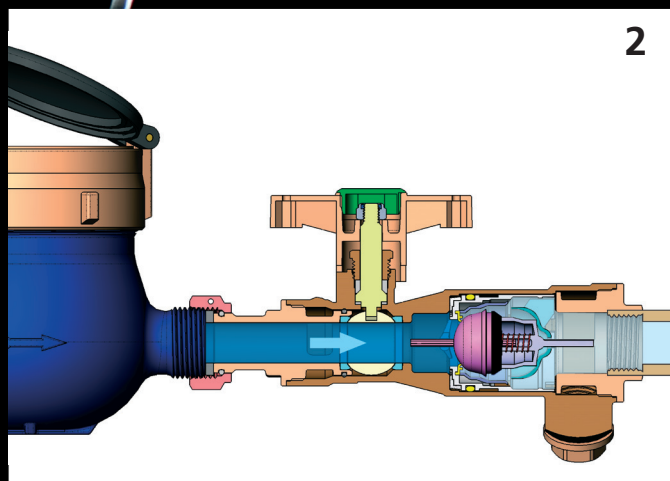
cimDROP



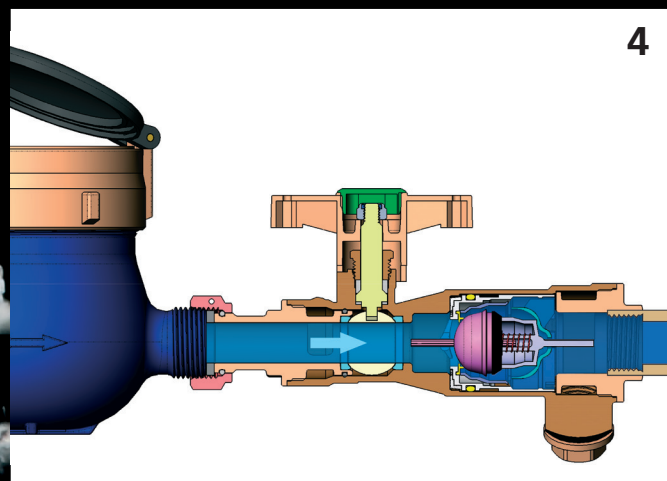
UFR* closed: the downstream pressure drops due to the presence of a leak.



UFR* opens: the downstream pressure equals the upstream pressure and balances it. The water meter measures the low flow rate.



UFR* still closed: the pressure drop downstream causes the shutter to start moving.



UFR* closes once again: the upstream and downstream pressures are the same.