

DESCRIPTION

OptiMETER

Prefabricated hydraulic OptiMETER kit for applications of domestic water distribution and consumption measurement (hot or cold) in centralized hydraulic systems. Equipped with:

- Distribution manifold
- 52METR or 52MET series ball valves
- Templates for domestic water meters
- 42METR or 42MET series ball valves with built-in check valve
- Wall mounting brackets

The OptiMETER kit is a perfect solution for metering and recording domestic water consumption in individual apartments within a centralized distribution system. The distribution manifold allows for perfect modularity in any installation condition: the distribution per floor can be adapted to specific requirements, adding units wherever it is needed. The distribution of both hot and cold circuits requires the use of two separate kits.

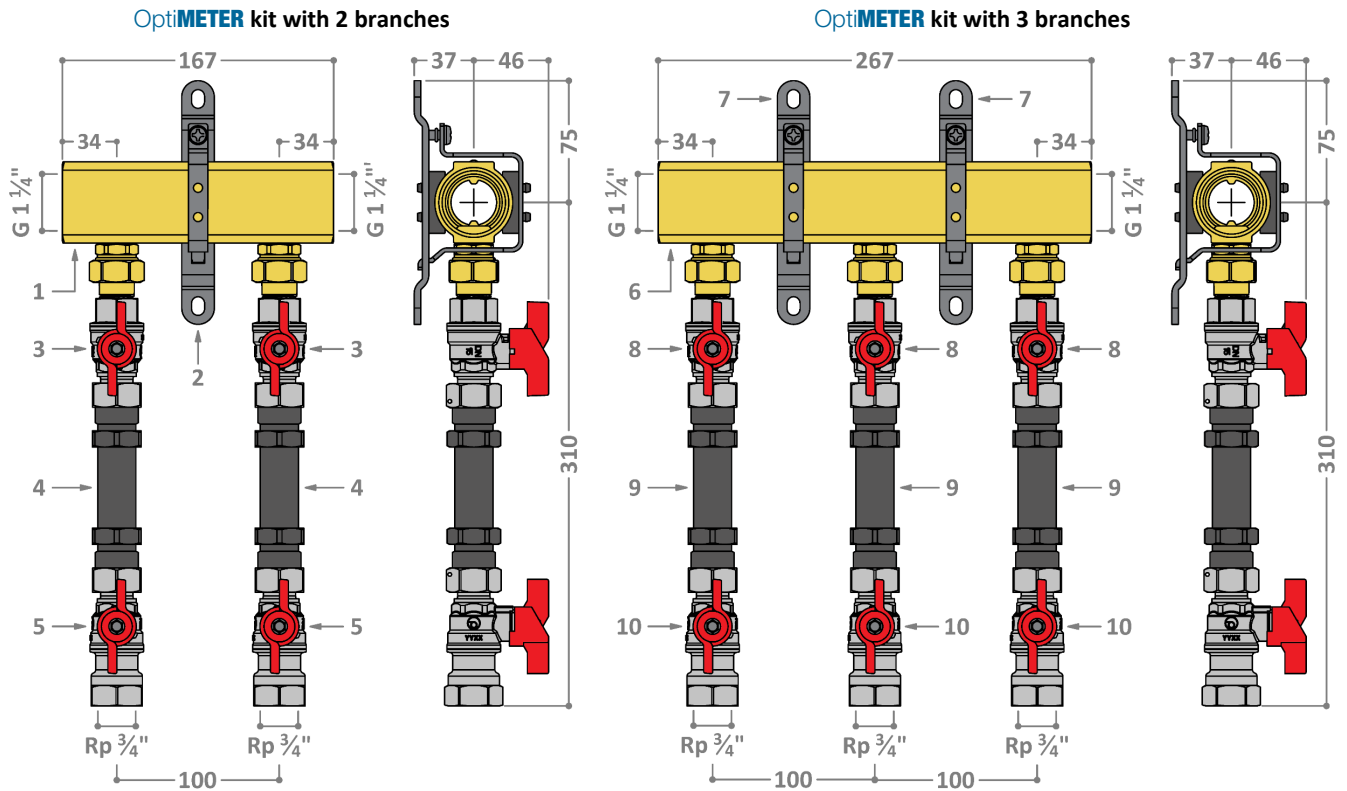
Each kit is 100% factory tested against leakage: this way the risk of leakages due to assembling phases on the construction site is eliminated.

Soft thermal insulation case available, if included the product part number becomes UC/C# / UC/F#. For further information please refer to the "INSULATION" chapter.

BENEFITS

- ✓ **Quick installation:** all components are pre-assembled and factory-tested
- ✓ **Flexible installation:** riser pipe can be connected both on the right or on the left of the manifold
- ✓ **Direct coupling:** each manifold, and so each kit, can be connected in series with another one by means of a dedicated connection fitting not included with the product
- ✓ **Compact solution:** using a distribution manifold minimizes the dimensions of the kit (centre to centre distance between users' circuits equal to 100 mm)
- ✓ **Removable template:** the domestic water meters can be installed when necessary, before or after system commissioning. This way it is possible to install the kit and the meters in two different stages
- ✓ **Maximum security:** each user's circuit is equipped with a ball valve with built-in check valve. This prevents any return water from the secondary circuits from contaminating the main distribution network
- ✓ **Easy maintenance:** each user's circuit is equipped with two ball valves. This allows each secondary circuit to be isolated for maintenance or domestic water meter replacement operations
- ✓ **Additional accessories:**
 - Insulation
 - Shut-off valves
 - Components and connection fittings

DIMENSIONS



Dimensions in mm

| | | | |
|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| UC/C2 – 1 1/4" x 3/4" – 2 branches | UC/F2 – 1 1/4" x 3/4" – 2 branches | UC/C3 – 1 1/4" x 3/4" – 3 branches | UC/F3 – 1 1/4" x 3/4" – 3 branches |
| 3 kg | 3 kg | 4 kg | 4 kg |

MATERIAL LIST

| # | Article* | Description | QTY | Material |
|----|-------------------------|--------------------------------------|-----|------------------|
| 1 | 7000M 1 1/4" x 3/4" x 2 | Distribution manifold | 1 | CuZn39Pb3 CW614N |
| 2 | P271 | Wall mounting bracket | 1 | Steel |
| 3 | 52MET 3/4" x 1/2" | Ball valve | 2 | CuZn40Pb2 CW617N |
| 4 | DIMA 3/4" x 110 mm | Template for meter | 2 | Nylon PA66-GF30 |
| 5 | 42MET 3/4" x 3/4" | Ball valve with built-in check valve | 2 | CuZn40Pb2 CW617N |
| 6 | 7000M 1 1/4" x 3/4" x 3 | Distribution manifold | 1 | CuZn39Pb3 CW614N |
| 7 | P271 | Wall mounting bracket | 2 | Steel |
| 8 | 52MET 3/4" x 1/2" | Ball valve | 3 | CuZn40Pb2 CW617N |
| 9 | DIMA 3/4" x 110 mm | Template for meter | 3 | Nylon PA66-GF30 |
| 10 | 42MET 3/4" x 3/4" | Ball valve with built-in check valve | 3 | CuZn40Pb2 CW617N |

*For further information about components and their maintenance please refer to their dedicated technical specifications.

TECHNICAL FEATURES

| Features | |
|---|---------------|
| Pressure rating | PN10 |
| Working temperature range | 0÷90°C |
| Medium | Water |
| Connections* | 1 ¼" F x ¾" F |
| Centre to centre distance users' circuits | 100 mm |
| Domestic water meters dimensions | ¾" x 110 mm |
| Kv ball valve with built-in check valve | 7,4 m³/h |
| Minimum opening pressure ball valve with built-in check valve | 1,5 kPa |
| Minimum internal diameter | 12,2 mm |

*Riser pipe side: G female connections (ISO 228-1). – Users' circuits side: Rp female connections (EN 10226-1).

CODING LOGIC

The logic behind the product name is shown in the following table:

| Model □ □ □ | Type □ | N° of branches □ | Insulation □ |
|----------------|-----------|---------------------|--|
| | | | I = With insulation No character = Without insulation |
| | | | 2 = 2 branches kit 3 = 3 branches kit |
| | | | F = Model for cold water (blue levers) C = Model for hot water (red levers) |
| | | | UC/ = OptiMETER kit (only option) |

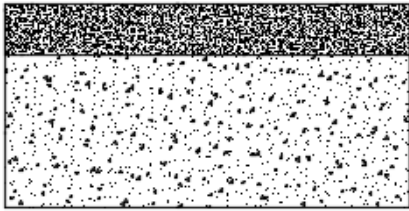
Example: UC/F3I

OptiMETER kit for cold water with 3 branches and insulation.

INSULATION

Class 1 fire rated insulation case made by **2 shells** connected with **Velcro®** (multiple opening and closing). Realized with a sandwich structure with a total thickness of 20 mm and composed by two layers:

External layer: polyethylene cross linked foam with high density (80 kg/m³). This layer gives rigidity to the structure of the case.



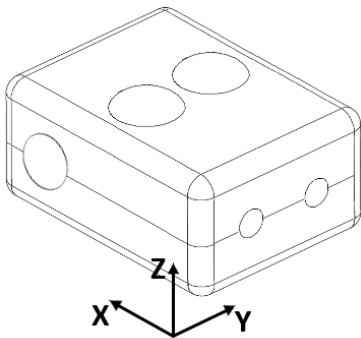
Internal layer: polyethylene cross linked foam with low density (29 kg/m³). This layer increases the insulation performances of the case.

For the properties of the insulation materials see the following table:

| | Standard | Insulation material | | Unit of measure |
|------------------------------------|------------|---------------------|---------------|-------------------|
| Density | ISO 845 | 29 | 80 | Kg/m ³ |
| Compression stress (5% deflection) | ISO 3386/1 | 88 | 260 | kPa |
| Tensile longitudinal strength | ISO 1798 | 0,18 | 0,80 | MPa |
| Extension longitudinal stretch | ISO 1798 | 120 (rupture) | 170 (rupture) | % |
| Residual distortion 22h at 23°C | ISO 1856 | 13 | 1,5 | % |
| Operating temperature range | - | -60÷90 | -60÷90 | °C |
| Thermal conductivity at 40°C | EN 12667 | 0,040 | 0,049 | W/mK |
| Fire resistance | UL94 | HF1 | HF2 | - |

Once installed, the case completely envelops the **OptiMETER** kit, thus ensuring a high degree of insulation. The only part that remains uncovered is the clockwork of the domestic water meters.

If the insulation case is included with the **OptiMETER** kit the product part number becomes **UC/C#I / UC/F#I**. Insulation cases dimensions are shown below:



| Kit | X [mm] | Y [mm] | Z [mm] |
|---------------------------------|--------|--------|--------|
| UC/C2I – 1 ¼" x ¾" – 2 branches | 400 | 200 | 95 |
| UC/F2I – 1 ¼" x ¾" – 2 branches | 400 | 200 | 95 |
| UC/C3I – 1 ¼" x ¾" – 3 branches | 400 | 300 | 95 |
| UC/F3I – 1 ¼" x ¾" – 3 branches | 400 | 300 | 95 |



Picture shown is for illustration purposes only. The real shape of the insulation case will vary depending on the type of kit.

INSTALLATION

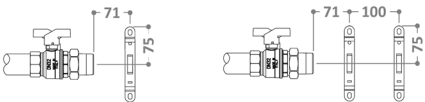
The manifold of the OptiMETER kit is symmetrical and can be connected to the riser pipe on the right or left. The number of manifolds, and therefore circuits, that can be installed together depends on the available pressure in the network: check that this value is high enough to guarantee the required flow rate. To ensure proper operation of the kit and its components, please follow these steps during the installation phase:

Step 1

Depending on the size of the kit to be installed, fix the mounting brackets in the suggested position (mm).

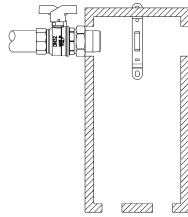
Kit OptiMETER with 2 branches

Kit OptiMETER with 3 branches



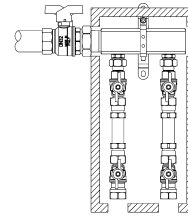
Step 2

Install the lower shell of the case. If necessary, widen the cutout in the shell to make installation easier.



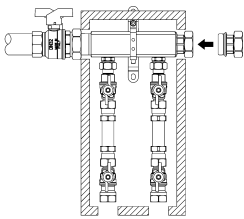
Step 3

Install the kit and secure it to the bracket. Connect the riser pipe to the manifold.



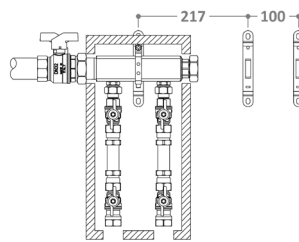
Step 4

If another kit has to be connected in series, screw the MxH union of the OUC/C fitting onto the installed kit.



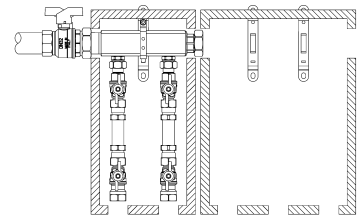
Step 5

Fix the mounting brackets of the next kit in the suggested position (mm).



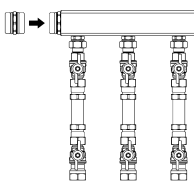
Step 6

Install the lower shell of the case. If necessary, widen the cutout in the shell to make installation easier.



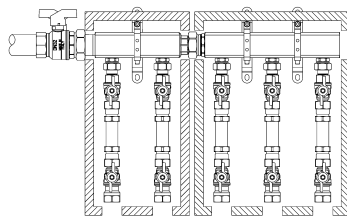
Step 7

Screw the MxM nipple of the OUC/C fitting to the kit to be installed.



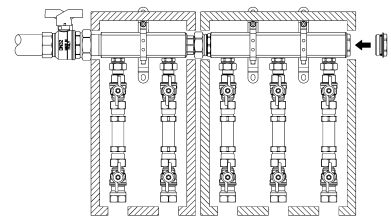
Step 8

Install the second kit and secure it to the brackets.



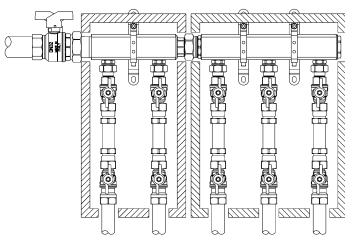
Step 9

Install the 3522M+O terminal cap.



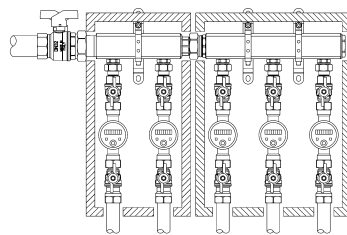
Step 10

Connect the branches of the users' circuits.



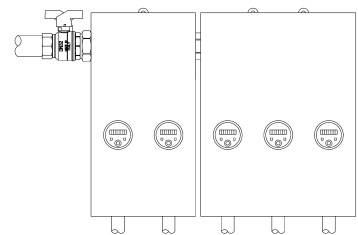
Step 11

After checking that the system is clean, remove the templates and install the meters.



Step 12

Place the upper shell of each case. It is equipped with holes for the meters (Ø80 mm).






The OUC/C connection fitting and the 3522M+O terminal cap are intended as additional accessories. They are not included with the kit and must be ordered separately.

ACCESSORIES

SHUT-OFF VALVES





Shut-off valves that can be installed directly on the manifold of the OptiMETER kit to shut off water distribution to all the users' circuits connected to it. Available in the following versions:


| 52CE/3 | 52CE/3B |
|---|---|
| Ball valve with union (red lever) | Ball valve with union (blue lever) |
|  |  |
| M ISO 7-1 x F ISO 228 | M ISO 7-1 x F ISO 228 |
| 1 1/4" x 1 1/4" → All the kits | 1 1/4" x 1 1/4" → All the kits |

 Shut-off valves are intended as additional accessories. They are not included with the kit and must be ordered separately based on system requirements.

COMPONENTS AND CONNECTION FITTINGS

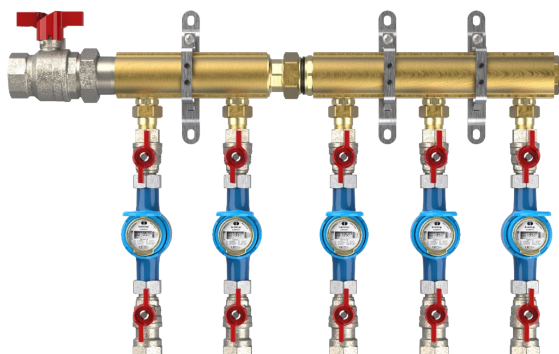
Components and connection fittings made out of brass that can be used to simplify the installing or connecting operations of the OptiMETER Kit. Available in the following versions:

| 0UC/C | 3522M+O | 701 | 700 |
|---|---|--|---|
| 3 pieces straight union with O-ring | Terminal cap with O-ring | 3 pieces straight union with sealing material | 3 pieces elbow union with sealing material |
|  |  |  |  |
| M ISO 228-1 x M ISO 228-1 | M ISO 228-1 | M ISO 7-1 x F ISO 7-1 | M ISO 7-1 x F ISO 7-1 |
| 1 1/4" x 1 1/4" → All the kits | 1 1/4" x 1 1/4" → All the kits | 1 1/4" x 1 1/4" → All the kits | 1 1/4" x 1 1/4" → All the kits |

 Components and connection fittings are intended as additional accessories. They are not included with the kit and must be ordered separately based on system requirements.

APPLICATION EXAMPLE

Installation with riser pipe on the left



Installation with riser pipe on the right

