Technical Guide FM2.13

# Aquadis+

Rotary piston volumetric type water meter - Now with extended flow range

Aquadis+ is an 2014/32/EU module H1 approved piston type meter for commercial & industrial billing applications.

## FEATURES AND BENEFITS

- MID approved
- Very low starting flow
- Pre-equipped for communication

### The Technology

Aquadis+ combines the advantages of piston type technology together with proven reliability of the extra dry registers. No gear is in contact with water.

The high technology implemented to manufacture measuring chambers ensures stable and durable accuracy of Aquadis+ meter.

### Metrological Performances

- Very low starting flow allows leakage detection
- Large measuring range

### Robustness

- Robust hermetically sealed IP68 register TVM (copper can/mineral glass enclosure) to withstand all field conditions.
- Plastic register TSN equipped with wiper to ensure readability in tough humid conditions (optional for DN25/30)
- Maximum admissible working pressure is 16 bar

### Easy Reading

- Rotation close to 360° on site
- Large numbered rollers with good contrast for excellent reading capability

### Communication Device

Pre-equipped for communication through Cyble.

## WORKING PRINCIPLE

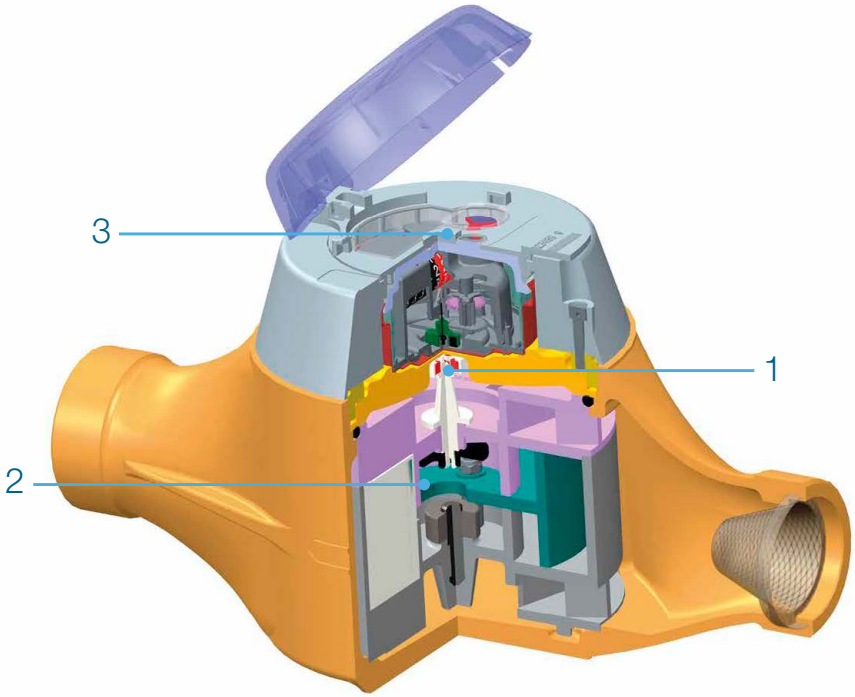
The Aquadis+ has two main components: the hydraulics that allows measurement of the water and the register that displays the measured water volume.

Transmission interface between those components is achieved by a strong magnetic coupling 1.

Aquadis+ is a piston type volumetric meter 2. Each rotation of the piston in the measuring chamber represents a given volume of water passing through.

With extra-dry registers 3, gears are protected by water and air proof enclosure.

Copper can/mineral glass register (TVM)





Glass Metal register (TVM)
DN25 to 65 meters

## COMMUNICATION

### The Aquadis+ is supplied pre-equipped with Cyble Target

Allows communication and remote reading through:

- Pulse output (Cyble Sensor)
- M-Bus protocol (Cyble M-Bus)
- Radio frequency wireless link (Cyble AnyQuest and EverBlu)

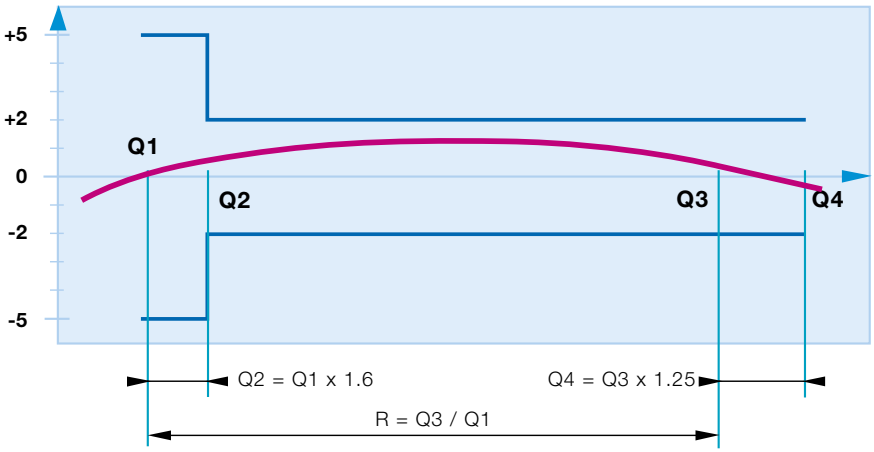
### Key Advantages of Cyble Technology

- No need for additional investment on the meter to implement remote reading
- Itron standardized meter interface, irrespective of meter technology and widely spread on Itron water meters range
- Reliability brought by electronic switch (no wear or bouncing)
- Reverse flow management
- Principle proven on the field with a 20 years experience
- Pre-equipment being immune to magnetic tampering

EverBlu Cyble fitted on Aquadis+ meter

## Metrological Characteristics

| Nominal diameter (DN) | | mm | 25 | | 30 | | 40 | 65 |
|---|---|---|---|---|---|---|---|---|
| | | inches | 1" | | 1" ¼ | | 1" ½ | 2" ½ |
| Register version | | | Extra-dry plastic *or* Glass copper can | Glass copper can | Extra-dry plastic *or* Glass copper can | Glass copper can | Glass copper can | Glass copper can |
| MID Type Approval Number | | | LNE - 24811 | LNE-23697 | LNE - 24811 | LNE-23697 | LNE-23697 | LNE - 23701 |
| Dynamic range MID (R) - all positions | | | 315 | 200 | 315 | 200 | 315 | 160 |
| Permanent flow rate | (Q3) | $m^3/h$ | 6.3 | 10 | 6.3 | 10 | 16 | 25 |
| Standard ratio | (Q3/Q1) | | 160 | 160 | 160 | 160 | 160 | 160 |
| Minimum flow rate - R160 | (Q1) | l/h | 39 | 63 | 39 | 63 | 100 | 156 |
| Transitional flow rate - R160 | (Q2) | l/h | 63 | 100 | 63 | 100 | 160 | 250 |
| Overload Flow Rate | (Q4) | $m^3/h$ | 7.9 | 12.5 | 7.9 | 12.5 | 20 | 31.5 |
| Pressure Loss Class at Q3 | | bar | < 0.63 | | | | | |
| Pressure loss at Q4 | | bar | < 1 | | | | | |
| Maximum admissible pressure | (MAP) | bar | 16 | | | | | |
| Maximum admissible temperature | | °C | + 0.1.... + 30 | | | | | + 0.1.... + 50 |
| Operating temperature | | °C | + 5.... + 55 | | | | | |
| Starting flow rate | | l/h | 4 | 11 | 4 | 11 | 11 | 30 |




Aquadis+ DN25 Q3=10

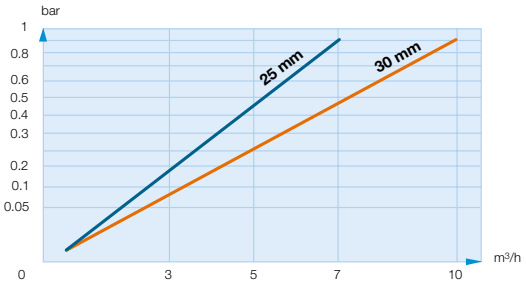
According to MID, ISO standard and OIML recommendation, the metrology classes A, B, C, D are replaced by the value of the ratio (R) between nominal flow (Q3) and minimum flow (Q1).

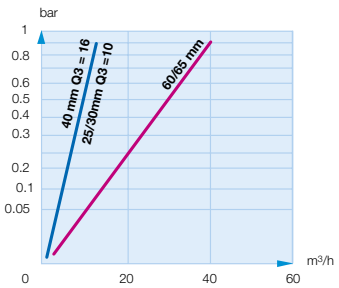
Aquadis+ DN65

## Pulse Value

| | HF Signal | LF Signal (according to K factor for Cyble Sensor Module) | | | | | |
|---|---|---|---|---|---|---|---|
| Meter range | | K = 1 | K = 2.5 | K = 10 | K = 25 | K = 100 | K = 1000 |
| DN 25 to 40 | 1 L | 1 L | 2.5 L | 10 L | 25 L | 100 L | 1 $m^3$ |
| DN 60/65 | 10 L | 10 L | 25 L | 100 L | 250 L | 1 $m^3$ | 10 $m^3$ |

## HEAD LOSS



## Technical Specifications

| Nominal diameter (DN) | mm | 25 | 25 | 30 | 30 | 40 | 65 |
|---|---|---|---|---|---|---|---|
| Register version | | TSN/TVM Q3 = 6,3 | TSN/TVM Q3 = 10 | TSN/TVM Q3 = 6,3 | TSN/TVM Q3 = 10 | TVM | TVM |
| Meter thread | inches<br>mm | G 1" ¼ B<br>33x42 | G 1" ¼ B<br>33x42 | G 1" ½ B<br>40x49 | G 1" ½ B<br>40x49 | G 2" B<br>50x60 | Flanges<br>PN 10/16 |
| A | mm | 200/260 | 260 | 200/260 | 260 | 300 | 420 |
| B | mm | 143 | 178 | 143 | 178 | 180 | 254 |
| C | mm | 42 | 55 | 42 | 55 | 57 | 93 |
| D | mm | 104 | 140 | 104 | 140 | 140 | 202 |
| Weight | Kg | 2.6 | 5.4 | 2.6 | 5.4 | 6.2 | 22.6 |

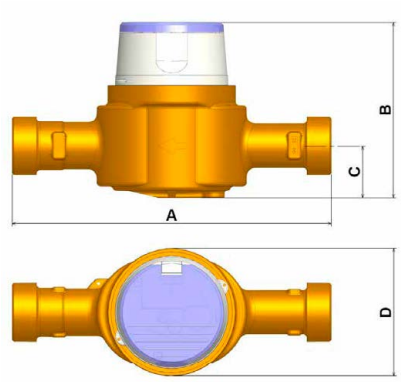
## OPTIONS (NON EXHAUSTIVE LIST)

Aquadis+ meters may be fitted with:

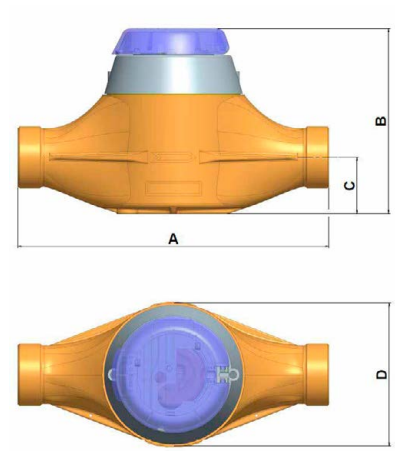
» Cyble modules from the factory (please refer to specific leaflet),

» Non return-valve for outlet pipe 25, 30 and 40 mm,

» Removable cap for DN 25 & 30.




Version Q3=6.3 Dn 25 /30"




Version Q3=10 Dn 25/30 and Q3=16 Dn 40

Scan for more information



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