



# **Woltex M**

Horizontal Woltmann meter with extended accuracy range for water distribution applications

Woltex M is a horizontal Woltmann meter available in sizes from DN 50 to 500. With its extended accuracy range it is dedicated to all applications around water distribution where high reliability and accuracy is requested.

#### **FEATURES AND BENEFITS**

- » Hermetically sealed register (copper can/mineral glass envelope)
- » Extended range approval
- » Interchangeable approved mechanisms without re-calibration
- » Pre-equipped through Cyble as a standard

#### **Extended Approved Range**

Variable Qn EEC/ISO approval of Woltex M ensures an unmatched approved range of 107:1 (from Qmin to Qmax) instead of 66:1 for standard class B meters. This is ensuring accurate and reliable data collection in a large scope of flow-rates typical of water network applications. Leakage detection as far as peak demands are accurately monitored initially and over time.

#### **Endurance & Peak Flow Resistance**

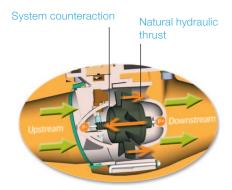
This extended approval is the result of more than twenty years experience in Horizontal Woltmann design, from the first hydrodynamically balanced helix patent in 1985 still resulting in unmatched endurance capabilities to the use of high quality materials.

### Ease of Installation, Read and Maintenance

Woltex M range is available in various lengths and connections to minimize installation costs. Interchangeable approved mechanisms allows easy maintenance without re-calibration. Ease of read in the toughest environments (ie: flooded pits) is secured by orientable hermetically sealed register (copper can/mineral glass envelope).

#### **Communication Device**

Pre-equipped for future communication through Cyble.



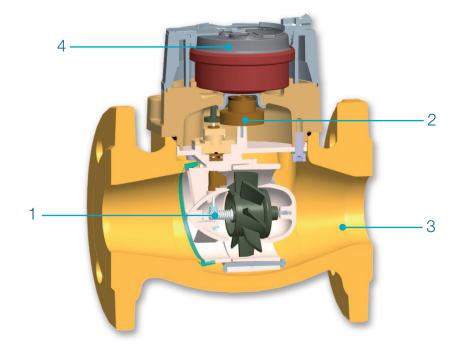
Hydrodynamic balance of helix



The water velocity is rotating the horizontal axis propeller. Special shape of its inlet and outlet bearing 1 is counteracting the natural hydraulic thrust applied on the propeller then preventing any downstream pivot wear.

This hydrodynamic balance was firstly patented on Woltex range in 1985 and still features Woltex with unmatched enduring capacities. This results in a meter able to withstand sustained high flows without impacting low flow accuracy.

This allows Woltex to be approved according the provisions of EEC/ISO with variable Qn extended range. The propeller rotation is transmitted by a protected transmission and direct magnetic coupling 2 to the register. The cast iron body 3 is durably protected against the effects of corrosion by epoxy powder coating. The hermetically sealed copper can/mineral glass register 4 is safeguarding the read and integrity of the indicator in the toughest environments (flooded pits, mechanical tampering attempts, ...).



#### COMMUNICATION

## Woltex M 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 RF)

Compatible with Itron complete offer for Metering Point Management (Automated Remote Reading, Metering Point Analyser, Automated Meter Data Collection):

- » AnyQuest
- » EverBlu
- » WaterMind

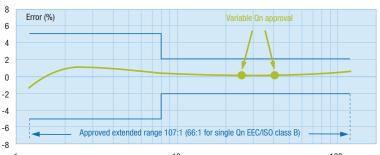
These Cyble modules allow the Woltex M meter to be connected with various associated systems if and when desired.

They are particularly adapted to commercial and industrial applications where a need for frequent meter monitoring is expressed especially in hard-to-read locations.



Cyble RF fitted on Woltex M with specific lid

#### **VARIABLE ON APPROVED RANGE**



Flow-rate (m3/h)

100

#### **METROLOGICAL CHARACTERISTICS**

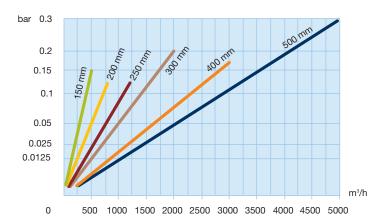
#### **Typical Performance**

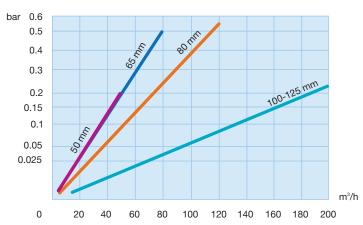
| Nominal diameter (DN)                 | mm           | 50   | 65           | 80   | 100      | 125  | 150  | 200     | 250  | 300  | 400  | 500  |
|---------------------------------------|--------------|------|--------------|------|----------|------|------|---------|------|------|------|------|
|                                       | inches       | 2"   | <b>2</b> " ½ | 3"   | 4"       | 5"   | 6"   | 8"      | 10"  | 12"  | 16"  | 20"  |
| Starting flowrate*                    | m³/h         | 0.19 | 0.22         | 0.3  | 0.38     | 0.4  | 1    | 1.6     | 3    | 10   | 15   | 20   |
| Accuracy ± 2% from*                   | m³/h         | 0.4  | 0.6          | 1.2  | 1.5      | 1.5  | 3    | 3.5     | 5    | 15   | 30   | 40   |
| Accuracy ± 5% from*                   | m³/h         | 0.35 | 0.5          | 0.75 | 0.9      | 1.2  | 1.5  | 2.5     | 3.5  | 12   | 25   | 30   |
| Admissible peak flow (10' max)        | m³/h         | 90   | 200          | 250  | 300      | 300  | 700  | 1000    | 1500 | 2500 | 4500 | 7000 |
| Max. admissible flowrate (continuous) | m³/h         | 50   | 80           | 120  | 200      | 200  | 500  | 800     | 1200 | 2000 | 3000 | 5000 |
| Head loss at Qmax                     | bar          | 0.2  | 0.5          | 0.55 | 0.23     | 0.23 | 0.15 | 0.12    | 0.12 | 0.2  | 0.17 | 0.3  |
| Max. admissible temperature           | °C           |      |              |      |          |      | 50   |         |      |      |      |      |
| Max. admissible pressure              | bar          |      |              |      |          |      | 20   |         |      |      |      |      |
| Min. scale interval                   | L            |      |              | 0.2  |          |      | 2    |         |      | 20   |      |      |
| Indicating range                      | m³ 999999.99 |      | 9            |      | 999999.9 |      |      | 9999999 |      |      |      |      |
| Cyble HF pulse weight                 | L 10         |      |              |      |          | 100  |      |         |      | 1000 |      |      |
| *Average values.                      |              |      |              |      |          |      |      |         |      |      |      |      |

#### **EEC Approval Values**

| LLO Approvar values               |        |          |              |          |           |           |            |            |            |             |              |              |
|-----------------------------------|--------|----------|--------------|----------|-----------|-----------|------------|------------|------------|-------------|--------------|--------------|
| Nominal diameter (DN)             | mm     | 50       | 65           | 80       | 100       | 125       | 150        | 200        | 250        | 300         | 400          | 500          |
|                                   | inches | 2"       | <b>2</b> " ½ | 3"       | 4"        | 5"        | 6"         | 8"         | 10"        | 12"         | 16"          | 20"          |
| EEC/ISO class approval            |        |          |              |          |           | Class     | B all pos  | sitions    |            |             |              |              |
| Nominal flow rate Qn (variable)   | m³/h   | 25<br>15 | 25<br>40     | 40<br>60 | 60<br>100 | 100*<br>- | 150<br>250 | 250<br>400 | 400<br>600 | 600<br>1000 | 1000<br>1500 | 1500<br>2500 |
| Max. flow rate Qmax               | m³/h   | 50       | 80           | 120      | 200       | 200       | 500        | 800        | 1200       | 2000        | 3000         | 5000         |
| Accuracy ± 2% class B: Qt from    | m³/h   | 3        | 5            | 8        | 12        | 20        | 30         | 50         | 80         | 120         | 200          | 300          |
| Accuracy ± 5% class B: Qmin from  | m³/h   | 0.45     | 0.75         | 1.2      | 1.8       | 3         | 4.5        | 7.5        | 12         | 18          | 30           | 45           |
| Max. working pressure             | bar    |          |              |          |           |           | 20         |            |            |             |              |              |
| Max. temperature                  | °C     |          |              |          |           |           | 30         |            |            |             |              |              |
| EEC approval certificate          |        |          |              |          |           | F         | -02-G07    | 1          |            |             |              |              |
| * DN 125 single Qn approval only. |        |          |              |          |           |           |            |            |            |             |              |              |

#### **HEAD LOSS**







Woltex M DN100



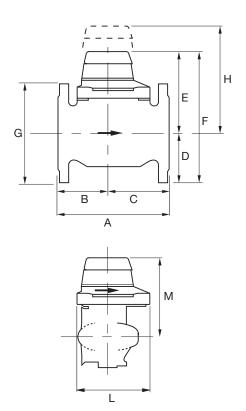
Woltex M DN500 with Everblu module

#### **Dimensions**

| Nominal diameter (DN)       |   | mm                   | 50                       | 65                     | 80                       | 100                    | 125                | 150               | 200                  | 250                | 300                | 400                | 500                |  |  |
|-----------------------------|---|----------------------|--------------------------|------------------------|--------------------------|------------------------|--------------------|-------------------|----------------------|--------------------|--------------------|--------------------|--------------------|--|--|
|                             |   | inches               | 2"                       | <b>2</b> " ½           | 3"                       | 4"                     | 5"                 | 6"                | 8"                   | 10"                | 12"                | 16"                | 20"                |  |  |
| End connection*             |   |                      | Flange PN 10/16          |                        |                          |                        |                    |                   |                      | Flange PN 10 or 16 |                    |                    |                    |  |  |
| > Meter                     |   |                      |                          |                        |                          |                        |                    |                   |                      |                    |                    |                    |                    |  |  |
| A (lenght)                  | ISO<br>DIN<br>ISO long<br>AS (Australia/UK) | mm<br>mm<br>mm<br>mm | 200<br>200<br>300<br>311 | 200<br>200<br>300<br>- | 200<br>225<br>350<br>413 | 250<br>250<br>350<br>- | 250<br>-<br>-<br>- | 300<br>300<br>500 | 350<br>350<br>-<br>- | 450<br>-<br>-<br>- | 500<br>-<br>-<br>- | 600<br>-<br>-<br>- | 800<br>-<br>-<br>- |  |  |
| В                           |   | mm                   | 100                      | 100                    | 100                      | 111                    | 111                | 139               | 164                  | 214                | 200                | 250                | 350                |  |  |
| С                           |   | mm                   | 100                      | 100                    | 100                      | 139                    | 139                | 161               | 186                  | 236                | 300                | 350                | 450                |  |  |
| D                           |   | mm                   | 82.5                     | 92.5                   | 100                      | 110                    | 110                | 142.5             | 171                  | 204                | 230                | 290                | 357.5              |  |  |
| E                           |   | mm                   | 160                      | 160                    | 160                      | 169                    | 169                | 194               | 220                  | 195                | 342                | 342                | 342                |  |  |
| F                           |   | mm                   | 243                      | 253                    | 261                      | 279                    | 279                | 336               | 391                  | 399                | 572                | 632                | 699                |  |  |
| G                           |   | mm                   | 165                      | 185                    | 200                      | 220                    | 220                | 285               | 340                  | 405                | 460                | 580                | 715                |  |  |
| Н                           |   | mm                   | 262                      | 262                    | 262                      | 309                    | 309                | 395               | 420                  | 395                | 729                | 729                | 729                |  |  |
| Weight                      |   | Kg                   | 11.4                     | 12.6                   | 14.1                     | 19.5                   | 19.5               | 34                | 55                   | 75                 | 175                | 255                | 390                |  |  |
| > Mechanism                 |   |                      |                          |                        |                          |                        |                    |                   |                      |                    |                    |                    |                    |  |  |
| L                           |   | mm                   | 123                      | 123                    | 123                      | 166                    | 166                | 212               | 332                  | 256                | 350                | 350                | 350                |  |  |
| I (max. width)              |   | mm                   | 148                      | 148                    | 148                      | 182                    | 182                | 273               | 276                  | 276                | 426                | 426                | 426                |  |  |
| M                           |   | mm                   | 160                      | 160                    | 160                      | 169                    | 241                | 194               | 195                  | 195                | 342                | 342                | 342                |  |  |
| Weight                      |   | Kg                   | 3                        | 3                      | 3                        | 5.4                    | 5.4                | 7.8               | 8.5                  | 8.5                | 54                 | 54                 | 54                 |  |  |
| *Other drillings are availa | ble, under request                          |                      |                          |                        |                          |                        |                    |                   |                      |                    |                    |                    |                    |  |  |

#### **INSTALLATION REQUIREMENTS**

- » Woltex M could be installed regardless of position (EEC/ISO approval class B all positions).
- » Installation of a strainer upstream of the meter is recommended to protect the hydraulics against raw particles (see Itron strainer leaflet).
- » We recommend the installation of a flow straightener directly upstream of the meter to cancel the effects of hydraulic perturbations on Horizontal Woltmann accuracy (see ltron straightener leaflet).





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