



Irrimag

Proportional meter for untreated water measurement applications.

Irrimag is a proportional water meter which is ideally suited to untreated water measurement applications such as irrigation, equipped with the latest generation of register IP68. (copper can/ mineral glass).

FEATURES AND BENEFITS

- » Free bore hole meter particularly adapted for irrigation applications
- » Hermetically sealed register
- » Pre-equipped as standard for remote reading
- » Low headloss
- » Ease of installation and maintenance

Sturdy and Resistant

The bypass meter mechanism is outside the full flow area and is protected by a deflector which allows big particles to freely flow through the sleeve without damaging the meter. The proportional meter is single jet type, without any gearing in the metered water and featuring a self flushing turbine (Itron patent). This allows Irrimag to be particularly resistant to abrasive water met in direct pumping.

Ease of Maintenance

The bypass meter is easily interchangeable on site without a need for re-calibration. Irrimag is made of few parts, all of which are easily.

Ease of Installation

Irrimag features very low headloss at high flow-rates, its low sensitivity to various conditions of installation (see table page 4) allows flexible installation.

Communication Device

Irrimag is standard pre-equipped with Cyble technology. Various communication modules can be fitted to the meter. They allow Radio Frequency index remote read, pulse output transmission for flow-rate calculation, integration in remote control chains, etc.



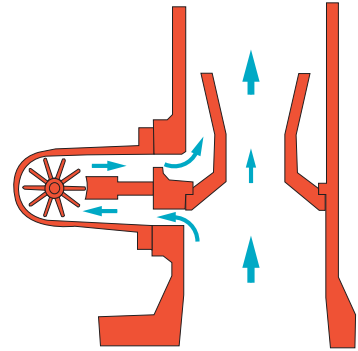
Cyble technology



Irimag equipped with a Cyble RF

WORKING PRINCIPLE

The nozzle divert a part of the flux into the bypass.
This diverted flux is measured by the bypass and recorded proportionally to the total volume passed through the meter.



COMMUNICATION

Irimag 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)

These Cyble modules allow Irimag to be connected with various associated systems if and when desired.

Cyble RF allow the index remote read by Radio Frequency for hard to access meter locations that are frequently met in irrigation applications.

Cyble allows pulse output for connection to flow-rate calculation devices, integration in remote control chains,...

KEY ADVANTAGES OF CYBLE TECHNOLOGY

- » No need for additional investment on the meter to implement remote reading.
- » Itron standardized meter interface, irrespective of the 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 for more than 5 years
- » Pre-equipment being immune to magnetic tampering

Metrological Characteristics

| Nominal diameter | mm | 65 | 80 | 100 | 125 | 150 | 200 |
|---------------------------------|---------------------|-----------------|------|-----------------|------|-------|-------|
| Maximum flow-rate (permanent) | m ³ /h | 80 | 120 | 200 | 200 | 500 | 500 |
| Maximum flow-rate (exceptional) | m ³ /h | 100 | 160 | 250 | 250 | 550 | 550 |
| Accuracy ± 5% | m ³ /h | 2.5 | 4.8 | 8 | 8 | 20 | 20 |
| Starting flow | m ³ /h | 0.8 | 1.8 | 3 | 3 | 7.5 | 7.5 |
| Δp at permanent flow-rate | bar | 0.5 | 0.44 | 0.58 | 0.58 | 0.75 | 0.75 |
| Maximum volume per 24 hours | m ³ /day | 1900 | 2800 | 4800 | 4800 | 12000 | 12000 |
| Maximum operating pressure | bar | 20 | | | | | |
| Maximum water temperature | °C | 80 | | | | | |
| Indicating range | m ³ | 10 ⁶ | | 10 ⁷ | | | |
| Minimum scale interval | L | 0.5 | | 5 | | | |



CONNECTION

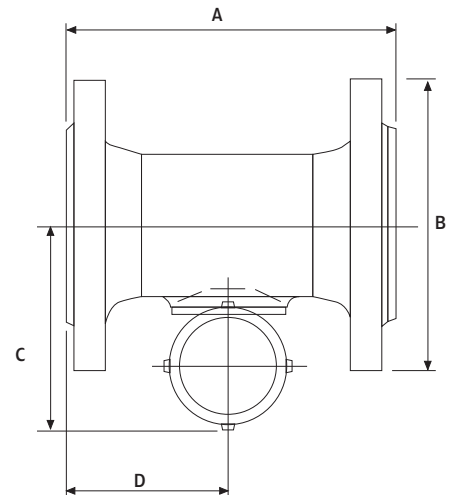
| | |
|---------|---------------------------------|
| DN60/65 | PN16, 4 oblong holes |
| DN80 | PN16, 4 or 8 holes |
| DN100 | PN16, 8 holes |
| DN125 | PN16, 8 holes |
| DN150 | PN16, 8 holes |
| DN200 | PN10, 8 holes or PN16, 12 holes |

Copper can register

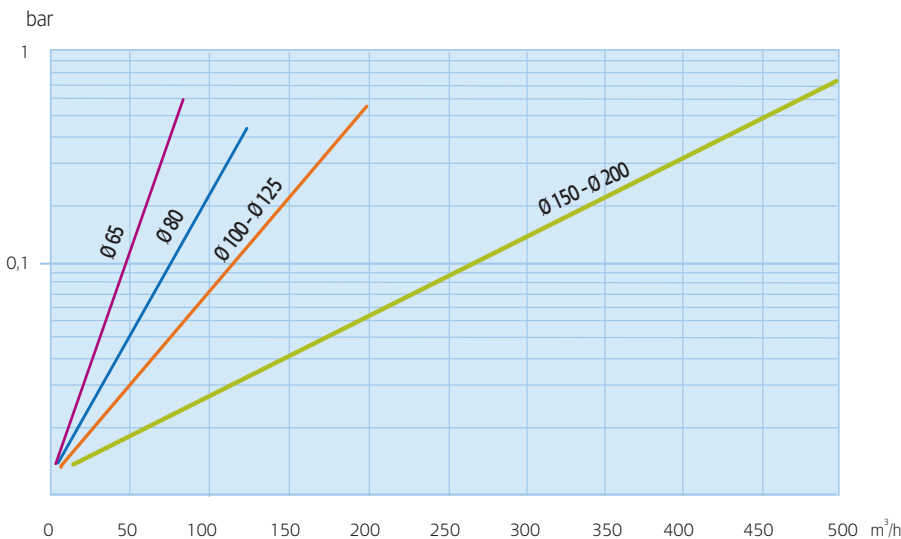
The hermetically sealed copper can/ mineral glass register is safeguarding the read and integrity of the indicator in the toughest environments (flooded pits, mechanical tampering attempts, ...)

Dimensions

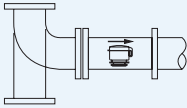
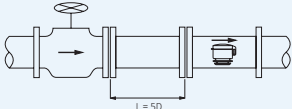
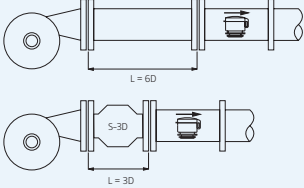
| Nominal diameter | mm | 65 | 80 | 100 | 125 | 150 | 200 |
|------------------|----|-----|-----|-----|-----|-----|-----|
| A | mm | 255 | 255 | 255 | 255 | 255 | 255 |
| B | mm | 185 | 200 | 220 | 250 | 285 | 340 |
| C | mm | 170 | 181 | 191 | 191 | 215 | 215 |
| D | mm | 155 | 155 | 135 | 135 | 135 | 135 |
| Weight | kg | 8 | 13 | 17 | 20 | 27 | 34 |

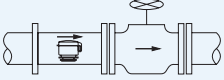


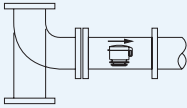
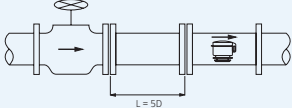
HEAD LOSS



INSTALLATION SCHEMATICS FOR IRRIMAG PROPORTIONAL METERS USED FOR METERING UNTREATED WATER.

| Disturbing elements located upstream | | |
|---|---|---|
| 90° Elbow 90° Elbow and cone 45° Elbow T piece |  | Accuracy maintained irrespective of the upstream element |
| Valve |  | Accuracy maintained irrespective of the degree of opening of the valve by introducing a 5 D upstream straight length D = nominal diameter of the meter |
| Pump |  | Optimal accuracy by introducing a 6 D upstream straight length A 3 D type flow straightener reducing the overall length D = nominal diameter of the meter |

| Disturbing elements located downstream | | |
|---|---|--|
| Diverging cone Valve Non-return valve |  | Accuracy maintained irrespective of the degree of opening of the valve |

| Disturbing elements located upstream | | |
|--------------------------------------|---|--|
| Inclined |  | Accuracy maintained irrespective of the angle of inclination |
| General conditions |  | <ul style="list-style-type: none"> » Install the meter at a low point of the pipework » Raise the upstream pipework in case of free water flow » Protect the meter against frost by installing a stop valve upstream and a drain point downstream |

COMMISSIONING

- > Purge the pipe-work before installation
- > Slowly increase the water flow in order to purge all the air from the system.

IMPORTANT

To protect meters installed outside from frost damage, it is essential to drain the meters before winter.

MAINTENANCE

The proportional meter can easily be changed on site. The Irrimag meter does not require any particular maintenance, except where the water is exceptionally highly loaded with fine solid particles, mud or silt.



Our company is the world's leading provider of smart metering, data collection and utility software systems, with over 8,000 utilities worldwide relying on our technology to optimize the delivery and use of energy and water.

To realize your smarter energy and water future, start here: www.itron.com

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