



Itrimag

Proportional meter for untreated water measurement applications.



- > 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

Itrimag 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).

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 Itrimag 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. Itrimag is made of few parts, all of which are easily.

Ease of Installation

Itrimag 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

Itrimag 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

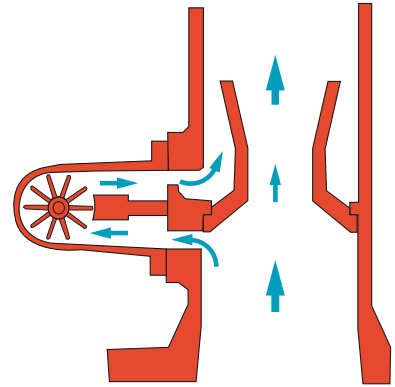


> Irrimag equipped with a Cyble RF



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

Irrimag 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 Irrimag 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		

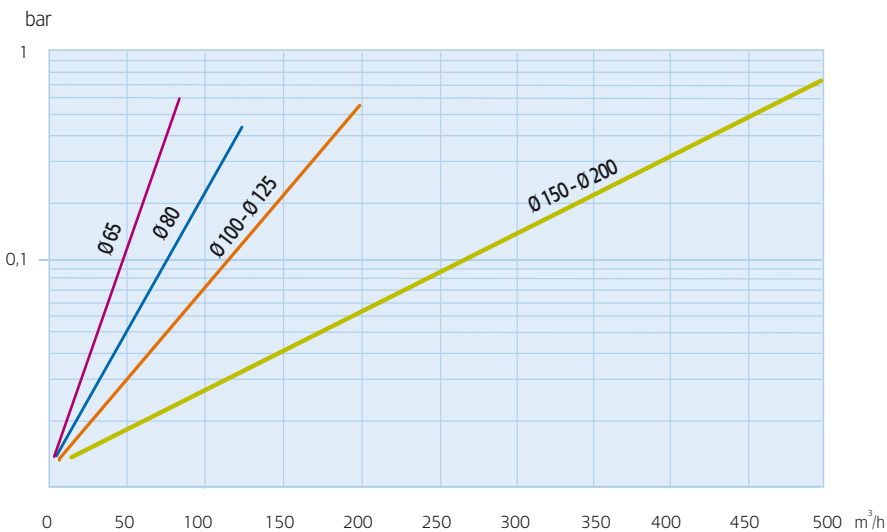
Connection

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

Dimensions

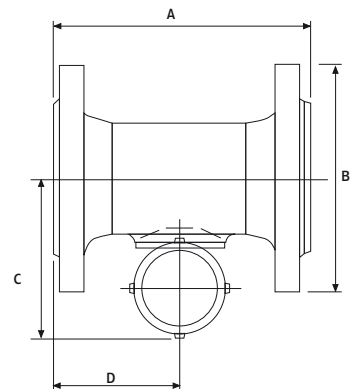
Nominal diameter	mm	65	80	100	125	150	200
A	mm	255	255	255	255	255	255
B	mm	185	200	220	250	285	340
C	mm	170	181	191	191	215	215
D	mm	155	155	135	135	135	135
Weight	kg	8	13	17	20	27	34

Head Loss



> Copper can register

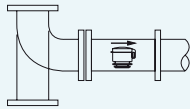
The hermetically sealed copper can/mineral glass register is safeguarding the read and integrity of the indicator in the toughest environments (flooded pits, mechanical tampering attempts, ...)



Installation schematics for Irimag proportional meters used for metering untreated water.

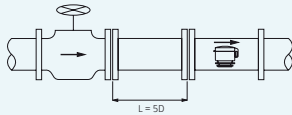
Disturbing elements located upstream

90° Elbow
90° Elbow and cone
45° Elbow
T piece



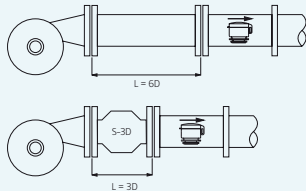
Accuracy maintained irrespective of the upstream element

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

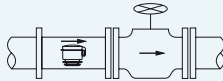
Pump



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

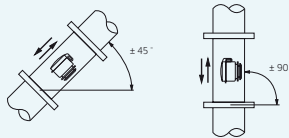
Diverging cone
Valve
Non-return valve



Accuracy maintained irrespective of the degree of opening of the valve

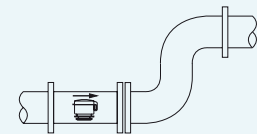
Disturbing elements located upstream

Inclined



Accuracy maintained irrespective of the angle of inclination

General conditions



- > 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 Irimag meter does not require any particular maintenance, except where the water is exceptionally highly loaded with fine solid particles, mud or silt.

About Itron Inc.

Itron Inc. is a leading technology provider to the global energy and water industries. Our company is the world's leading provider of metering, data collection and utility software solutions, with nearly 8,000 utilities worldwide relying on our technology to optimize the delivery and use of energy and water. Our products include electricity, gas and water meters, data collection and communication systems, including automated meter reading (AMR) and advanced metering infrastructure (AMI); meter data management and related software applications; as well as project management, installation, and consulting services. To know more, start here: www.itron.com

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