



# UNICOe - MI-001 - 915 MHz

Singlejet meter



## Your benefits

- Utility grade and sustainable technology (robust & high grade wear resistant materials with brass body):  
**Excellent measuring stability and reliability over meter lifetime and awareness of using a recyclable product**
- NFC Tap and go:  
**Simple commissioning process**
- Plug & Play:  
**Easy and fast on-site installation with automatic radio activation (no programming required)**
- Performance driven design:  
**Range up to 10 miles (line of sight)**
- Integrated monitoring of connectivity and reconnecting mechanism:  
**Robust operation with automatic repair options, e.g. due to gateway failures**

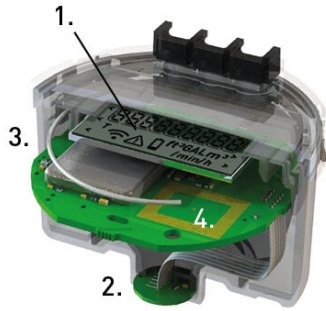
## Applications

- Multi-Family residential and Retail/Commercial applications for consumption monitoring of water and identification of critical events

## Properties

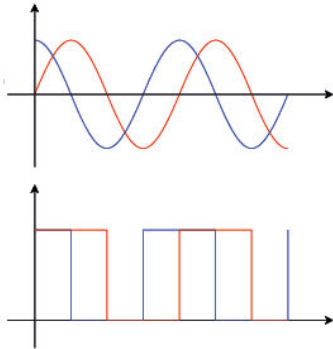
- Singlejet dry-dial meter with magnetic coupling
- Inlet strainer
- Permanent flow rate Q<sub>3</sub> 2,5 or Q<sub>3</sub> 4
- Max. operating pressure 16 bar
- Max. operating temperature 90 °C
- Horizontal or vertical installation
- Measuring range: horizontal R80, vertical R40
- Typical battery lifetime up to 15 years
- 18 monthly volume key date values
- **CE** Conformity according to European Measuring Instruments (MID)
- NSF/ANSI 61-G & 372 certified and marked
- LoRaWAN transmission in license free 915 MHz frequency band
- Data security via AES-128-bit end-to-end encryption over 2 independent security layers
- ADR (adaptive data rate) support gives higher transmission intervals with consistent battery life

# Electronic Register - Hybrid - Technology



- (1) LCD
- (2) Sensors
- (3) Communication antenna
- (4) NFC interface

## Signal Processing:



- The ERH register is designed to detect the rotations of either two or four-pole magnets. Its electronic filter protects it from external magnetic disturbances, while two sensors filter and digitally convert the magnetic field.
- A highly efficient microcontroller is responsible for determining the rate and direction of flow while also having the capability to detect a range of events and alarms, such as backflow. Furthermore, the LCD display allows for maximum flexibility when viewing the measurement data.
- Lastly, the ERH register is fitted with an energy-saving, access-protected NFC interface for parameterization and activation, as well as a wireless communication transceiver for LoRaWAN 915 MHz.

# Technical Data

<b>Nominal diameter</b>	<b>DN</b>	<b>mm</b>	<b>20</b>	<b>20</b>
<b>Nominal pressure</b>	<b>PN</b>	<b>bar</b>	<b>16</b>	<b>16</b>
Connection thread on meter (NPSM)		Inch	1	1
<b>Permanent flow rate</b>	<b>Q3</b>	<b>m<sup>3</sup>/h</b>	<b>2,5</b>	<b>4</b>
Overload flow rate	Q4	m <sup>3</sup> /h	3,125	5
Transitional flow rate	Q2	m <sup>3</sup> /h	50	80
Minimum flow rate	Q1	m <sup>3</sup> /h	31,3	50
Max. register reading		m <sup>3</sup>	1'000'000	1'000'000
Kvs-value		m <sup>3</sup> /h	3,4	3,4
Temperature range T90		°C	0,1...90 <sup>1)</sup>	0,1...90 <sup>1)</sup>
Measuring range horizontal			R80	R80
Measuring range vertical			R40	R40

1) T30: 0,1 - 30 °C

Dimensions and weights				
Length without couplings	A	mm	130	130
Height	B	mm	94	94
Height from pipe centre line	C	mm	76	76
Installation depth from pipe centre line	W	mm	43	43
Weight without couplings		app. g	770	710

Ambient conditions	
Ambient temperature	+ 5 °C to + 55 °C
Transport & Storage temperature	- 20 °C to + 70 °C
Register protection class	IP67

Power supply	
Lithium/Mangan battery (not replaceable)	3 V DC
Typical battery lifetime (depending on environment and configuration conditions)	Up to 15 years

Type examination/Approval	
MI-001 No. CH-MI001-07004	■
IC: 28165-ERH	■

Certifications	Unico2e
NSF/ANSI 61-G & 372 D.Hot / incl. cold	■
LoRa Alliance Certification (1.0.4 spec.)	■
UL2043	■



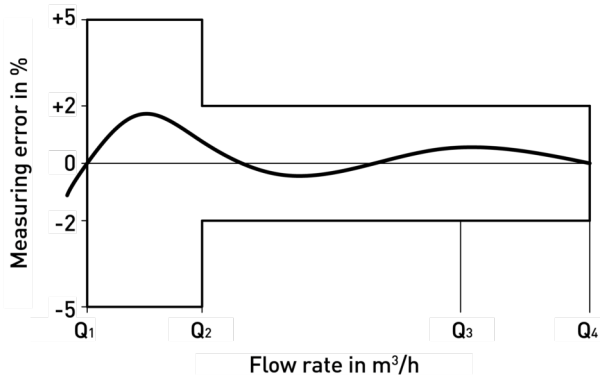
**LoRa Alliance Certified™**



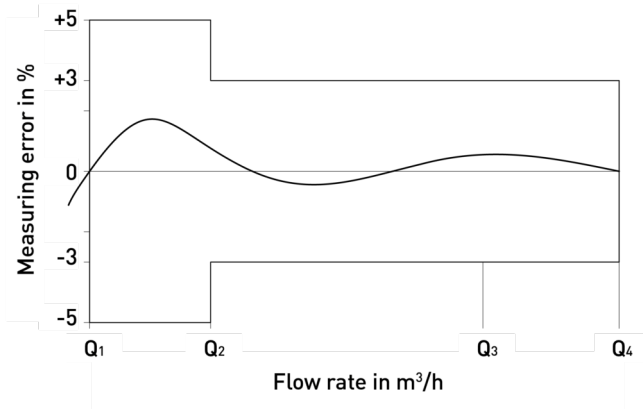
Certified to  
NSF/ANSI 61-G & 372

## Measuring error curve

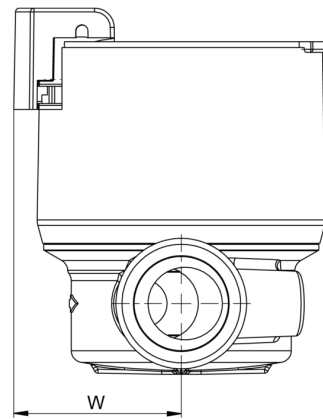
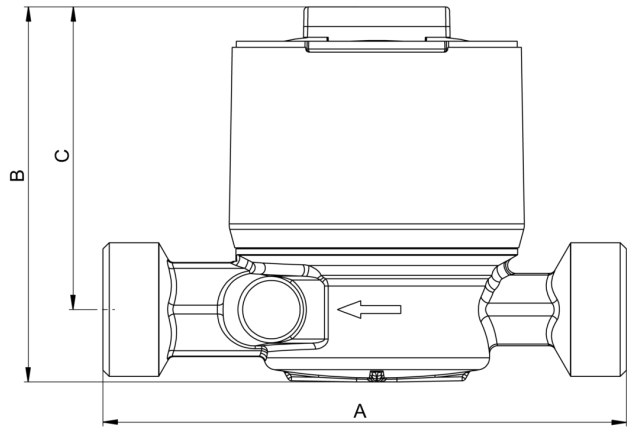
T30



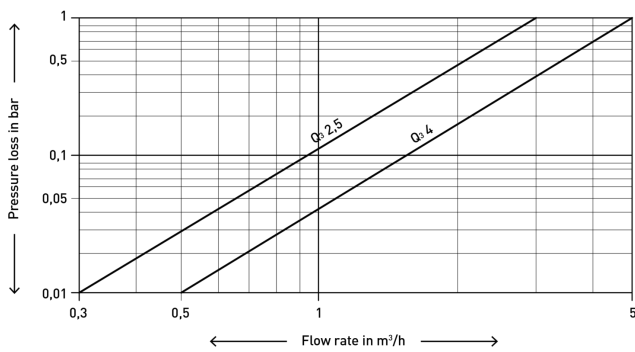
T90



## Dimension Diagram



## Typical Head Loss Curve

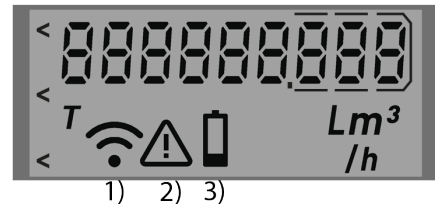


## Installation

<b>Pipeline:</b>	horizontal	—
	vertical	⊥
<b>Meter head:</b>	facing up	↑
	sideways	↔

# Technical Data

Display	
LCD	9 digits
Volume unit	m <sup>3</sup>
Volume resolution	0.001 m <sup>3</sup>
Flow rate unit	m <sup>3</sup> /h or L/h
Test mode	T
Low battery Icon	see image 3)
Alarm Icon	see image 2)
Radio indicator (On/Off) and LoRaWAN connectivity status	see image 1)



LoRaWAN specifications	
Regional parameters (Frequency band)	US902-928 MHz ISM Band (902 - 928 MHz)
Transfer protocol (payload)	GWF specific
Radiated power	max. 20 dBm (100 mW)
Class	A
ADR (Adaptive data rate)	Yes
Activation type (LoRaWAN)	OTAA

Information data package	
DevEUI	70B3D538700000AB
Meter manufacturer	GWF
Medium	Water
Meter S/N	23132356
Absolute meter reading (down to 15 min values)	359.761 m <sup>3</sup>
Remaining battery life	Years
Alarms	Meter alarms, Low Battery, Burst pipe, Potential leak, Backflow, No Usage, Max. flow rate exceeded, Min./Max. temperature