



# UNICOe - 868 MHz

Singlejet meter



## Your benefits

- 2 communication technologies in one meter (Dual mode):  
**Investment security and efficient meter reading all the time with fall back to wireless M-Bus if LoRaWAN is not accessible**
- 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**
- Plug & Play:  
**Easy and fast on-site installation with automatic radio activation (no programming required)**
- Performance driven design:  
**Range up to several km (LoRaWAN) or up to several hundred meters (wireless MBus) depending on environment**
- Integrated monitoring of connectivity and reconnecting mechanism (LoRaWAN):  
**Robust operation with automatic repair options, e.g. due to gateway failures**

## Applications

- Residential consumption monitoring of water consumption within an entire building

## 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 10 years
- 18 monthly volume key date values
- **CE** Conformity according to European Measuring Instruments (MID)
- Radio transmission in license free 868 MHz frequency band
- Data transmission in accordance with LoRaWAN (v1.0.4) and wireless M-Bus acc. EN 13757-4 (OMS® Gen. 4, Issue 4.1.2) (Dual mode)
- Contactless NFC configuration and commissioning interface
- -----**LoRaWAN**-----
- 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
- Real-time clock synchronization with LoRaWAN-Network-DeviceTimeReq
- -----**Wireless M-Bus**-----
- AES128 encrypted wireless protocol security mode 5 (security profile A) or 7 (security profile B)
- Free route selection - no call-up required
- Migratable from walk-by/drive-by system to fixed network application

## Options

- Only LoRaWAN transmission mode
- Only Wireless M-Bus transmission mode

## Technical Data

Nominal diameter	DN	mm	15	20	20	20
Nominal pressure	PN	bar	16	16	16	16
Connection thread on meter	G...B	Inch	3/4	1	1	1
Connection thread on coupling	R...	Inch	1/2	3/4	3/4	3/4
Permanent flow rate	Q3	m <sup>3</sup> /h	2,5	2,5	2,5	4
Overload flow rate	Q4	m <sup>3</sup> /h	3,125	3,125	3,125	5
Transitional flow rate	Q2h	l/h	50	50	50	80
Minimum flow rate	Q1h	l/h	31.3	31.3	31.3	50
Maximum register reading		m <sup>3</sup>	1'000'000	1'000'000	1'000'000	1'000'000
Kvs-value		m <sup>3</sup> /h	3,4	3,4	3,4	5,3
Temperature range T90		°C	0,1...90 <sup>1)</sup>	0,1...90 <sup>1)</sup>	0,1...90 <sup>1)</sup>	0,1...90 <sup>1)</sup>
Measuring range horizontal			R80	R80	R80	R80
Measuring range vertical			R40	R40	R40	R40

1) T30: 0,1 - 30 °C; T50: 0,1 - 50 °C

### Dimensions and weights

Length without couplings	A	mm	110	110	130	130
Length with couplings		mm	184	202	222	222
Height	B	mm	94	94	94	94
Height from pipe centre line	C	mm	76	76	76	76
Installation depth from pipe centre line	W	mm	43	43	43	43
Weight without couplings		app. g	690	720	770	710
Weight with couplings		app. g	830	950	1000	940

### Ambient conditions

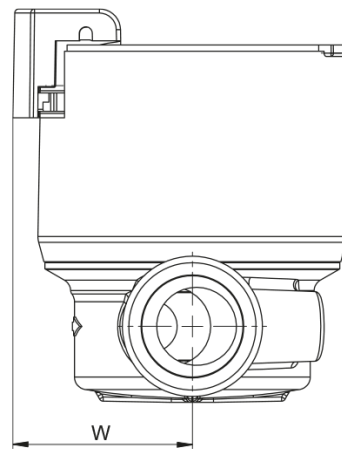
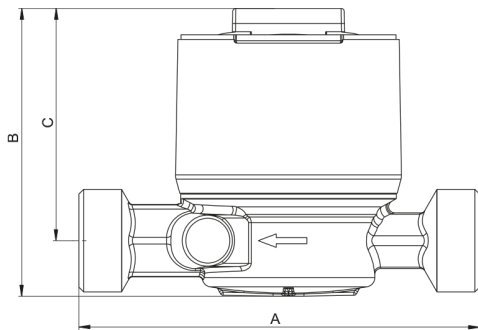
Ambient temperature	+ 5 °C bis + 55 °C
Transport & Storage temperature	- 20 °C bis + 70 °C
Register protection class	IP67
Environmental class	B
Electromagnetic environmental class	E1

Power supply	
Lithium/Mangan battery (not replaceable)	3 V DC
Typical battery lifetime (depending on environment and configuration conditions)	Up to 10 years

Type examination/Approval	
MI-001 No. CH-MI001-07004	■

Certifications	
SVGW / KTW/BWGL	■
LoRa Alliance Certification (1.0.4 spec.)	■
UL2043	■

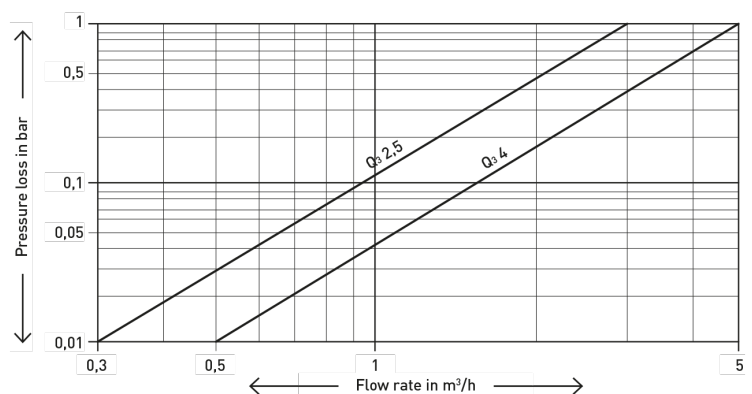
## Dimension Diagram



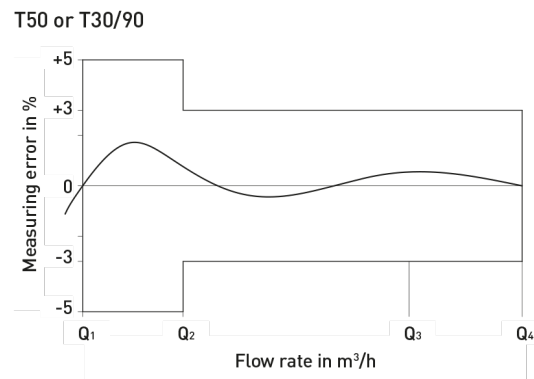
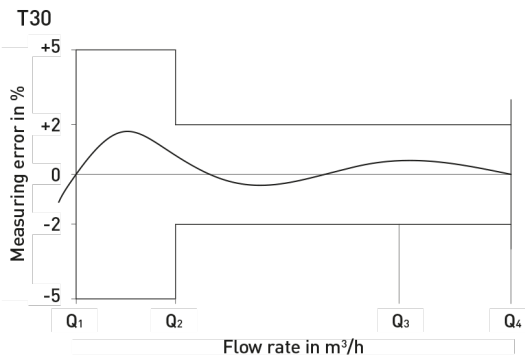
## Installation

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

## Typical Head Loss Curve

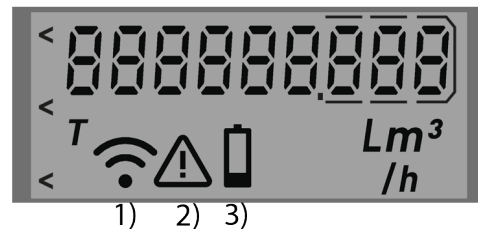


# Measuring error curve



## 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 bench mode	T
Icon for low battery	see image <sup>3)</sup>
Icon for warning and info codes	see image <sup>2)</sup>
Radio indicator (On(Off) and LoRaWAN connectivity status	see image <sup>1)</sup>



### Radio specifications

Frequency band	868 MHz
Transfer protocol (payload)	LoRaWAN: GWF specific Wireless M-Bus: Acc. EN 13757-4 (OMS@ Gen. 4, Issue 4.1.2)
Radiated power	max. 14 dBm (25 mW)
Class (LoRaWAN)	A
ADR (LoRaWAN)	Yes
Activation type (LoRaWAN)	OTAA
Mode (Wireless M-Bus)	C1, C2
Modulation (Wireless M-Bus)	FSK

Information data package	LoRaWAN <sup>1)</sup>	Wireless M-Bus <sup>1)</sup>
DevEUI	70B3D538700000AB	-
Meter manufacturer	GWF	GWF
Medium	Warm water	Warm water
Meter S/N	23132356	23132356
Absolute meter value	359.768 m <sup>3</sup>	359.768 m <sup>3</sup>
Absolute meter reading key date	-	343.417 m <sup>3</sup>
Date of key date reading	-	31.03.2022
Remaining battery life	Years	Days/Semester
Warnings	Meter alarms, Low Battery, Burst pipe, Potential leak, Backflow, No Usage, Max. flow rate exceeded, Min./Max. temperature	Meter alarms, Low Battery, Burst pipe, Potential leak, Backflow, No Usage, Max. flow rate exceeded, Min./Max. temperature

<sup>1)</sup> Other protocols (e.g. Privacy telegram) on request