BERMAD Meters

Merging monitoring & control

GSM ready

Insertion
Electromagnetic flowmeter

MUT1222
MC406

BERMAD

Bluetooth™

The MUT1222 with MC406 is a battery powered insertion electromagnetic water meter for use in water network management systems, leakage control, district metering, flow surveys, profiling and many other applications. The MUT1222 alternative comes in three different sizes (small, medium, and large) suitable to use in pipe size from DN 50 to 2600 (2"-102" respectfully) . Delivering highly accuracy bi-directional measurement for water distribution and raw water pipelines, the insertion meter is robust and has no moving parts therefore, reliable and suitable to measure a wide range of flows. The MUT1222 can be used as a portable or a dedicated / permanent instrument; with its "hop tapping" application it is very easy and quick to install without the need to stop the flow under full working pressure conditions. With optional pressure and temperature sensors, GSM/GPRS integrated modem and 12...24Vdc power source, the insertion meter is a cost-effective alternative to full-bore meters.

Applications

- Water network management
- Leakage control
- District metering
- Flow surveys
- Flow profiling
- Checking on-site flowmeters
- Data capture reporting and analysis

Key advantages

- No moving parts
- Neglectable pressure drop
- Long lasting stability and precision
- Zero maintenance
- Extremely sturdy structure
- Bi-deirectional measure

Product's benefit

Multiple outputs: pulse, analog 4-20mA, Modbus, frequency, Hart protocol and programmable output

No data lost: Data automatically stored in the internal EEPROM memory. Up to 100.000 lines of active datalogging

Information always available: Add-on communication module GSM/GPRS automatically sends the information via SMS, e-mail or on a website portal www.euromagdata.com with personal ID and password. Accessible also from smart phones and tablets. Configurable FTP communication.

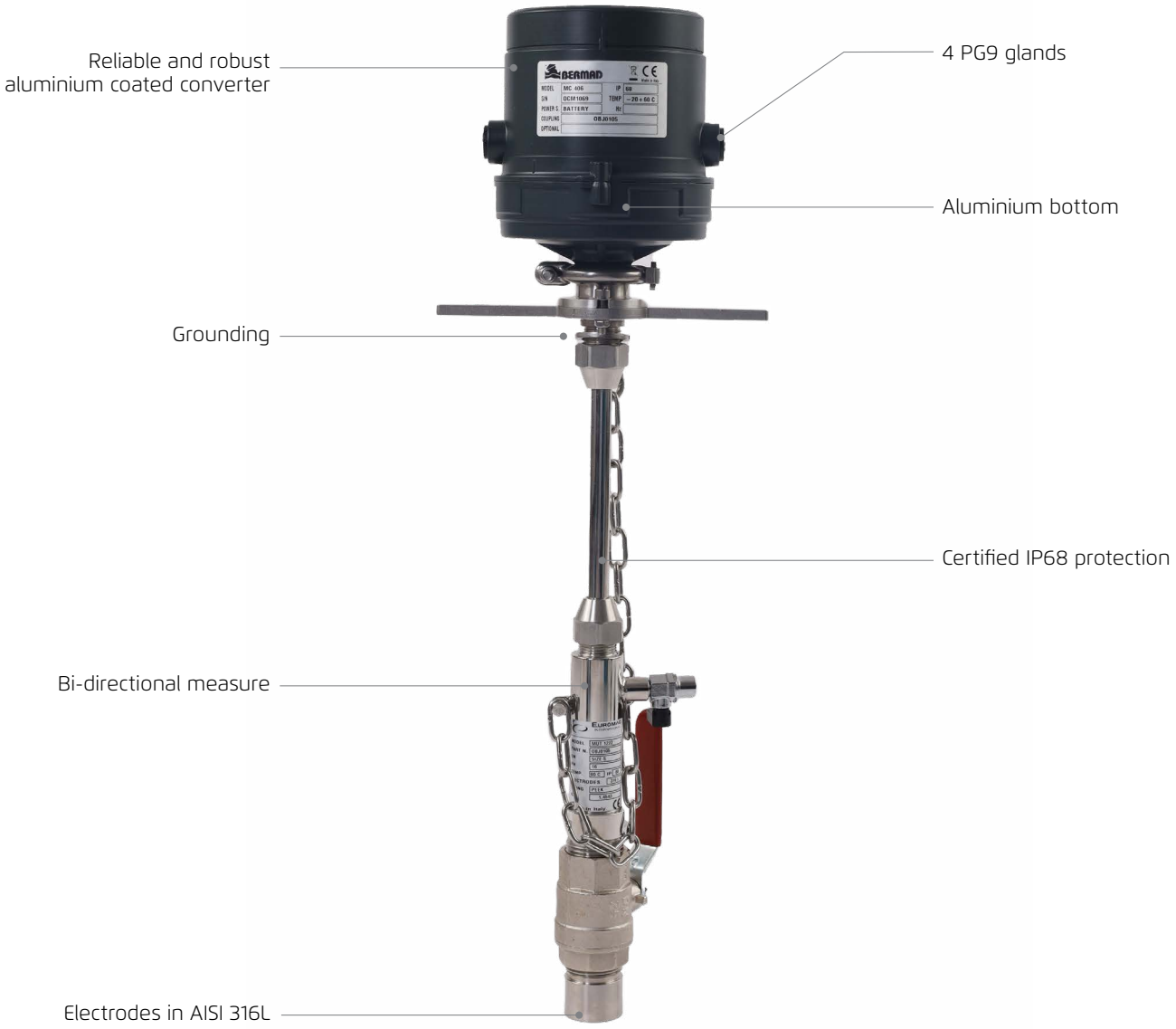
Flow - pressure – temperature: all at the same time: Add on modules of temperature and pressure readying make the MUT1222 with MC406 one of the most complete electromagnetic flowmeter available in the market

Easy management, easy programming: A software is supplied with the unit to allow users to communicate with the MC406 via IRCOM port to any pc, lap top or windows tablet.

Certifications and compliance:
- 2014/35/EU - EN 61010-1:2013 (LVD)
- 2014/30/EU - EN 61326-1:2013 (EMC)
- 2014/34/UE - IEC 60079 - 0, IEC 60079 - 18 (ATEX - IECEx) Separate version

Always verified: The Euromag FIELD VERIFICATOR is available for full on-site verification, without interruption of the process

Features



— The electromagnetic insertion flowmeterdesigned for the toughest applications —

DS340-4-ENG

Features

IrCOM communication
GSM/GPRS (optional)
Modbus / Bluetooth (optional)

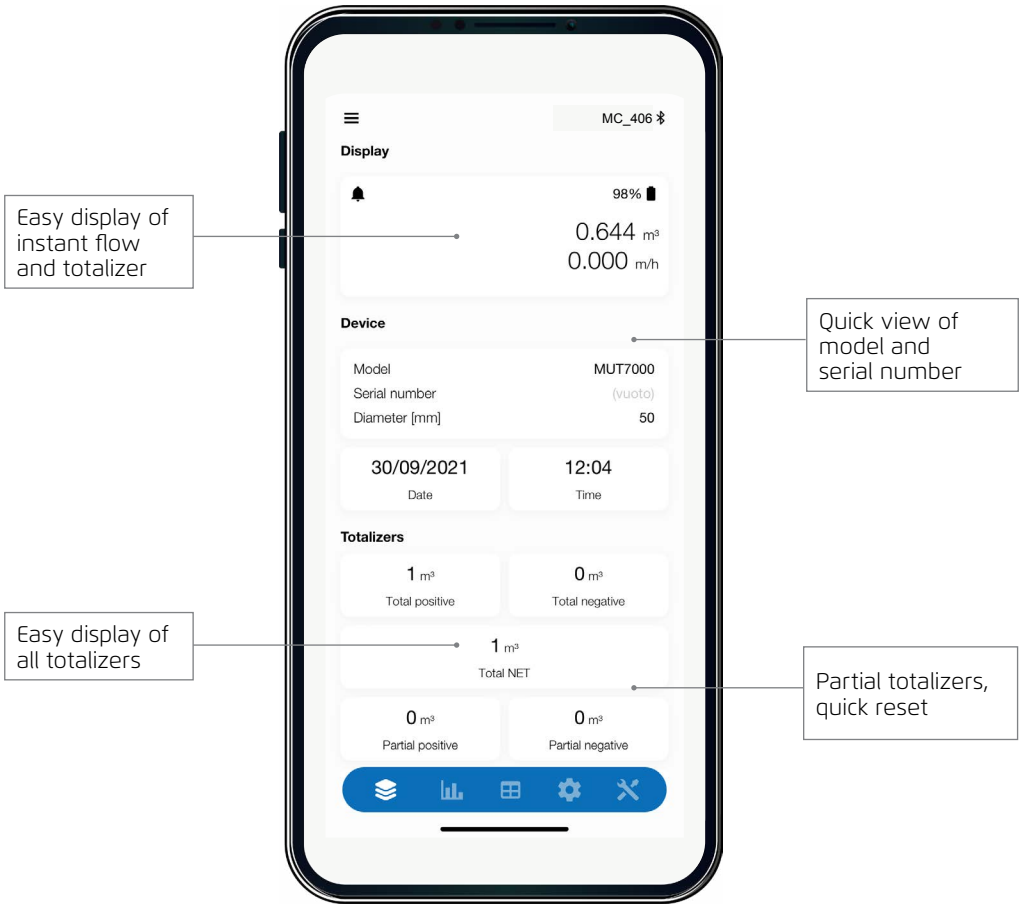
LCD display
Live flowrate
Battery powered
Bidirectional flow reading
Advanced self-diagnostic
Excellent data security
Temperature module (optional)
Pressure module (optional)
Compact or separate installation

4 Push buttons

Easy and intuitive interface

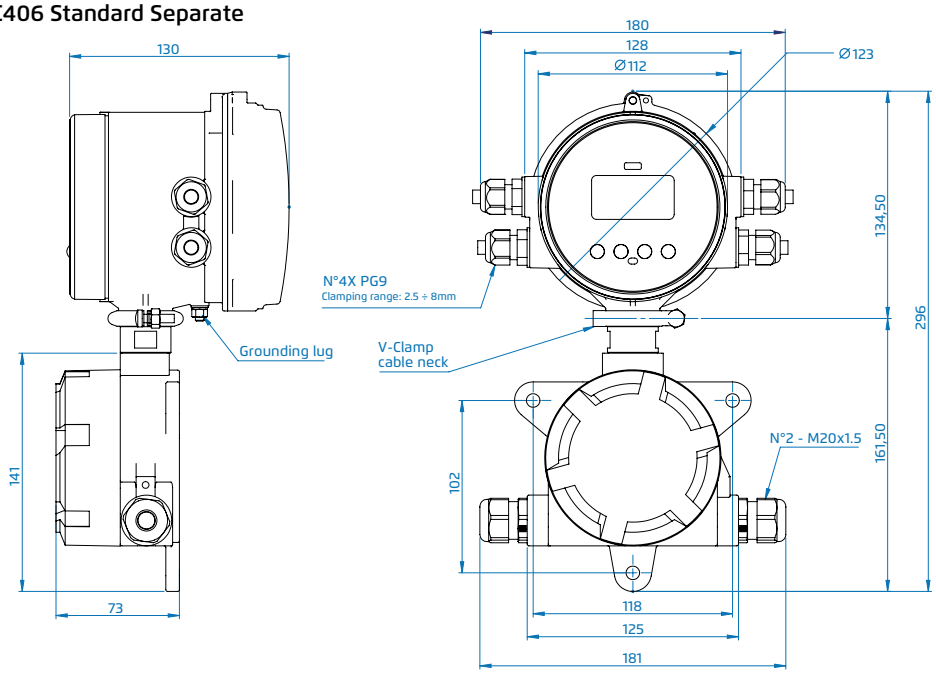
Everything you need from your flowmeter with a blink of an APP.

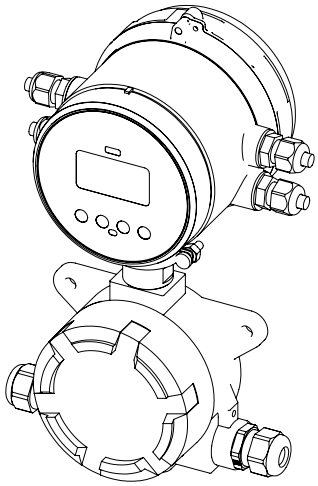
In a fast developing and interconnected world, data must be available and exchanged quick and easy Mag-Net app is the Euromag solution.



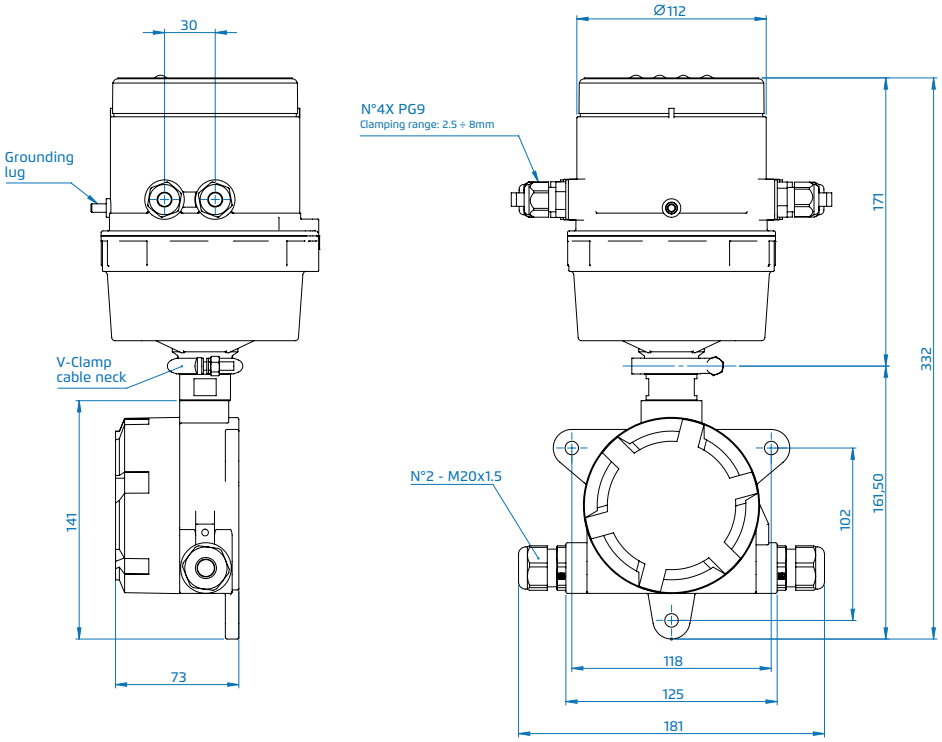
Overview Separate Converter

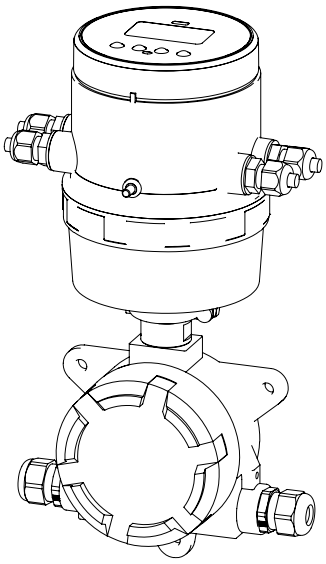
MC406 Standard Separate





MC406 Separate with GSM/GPRS





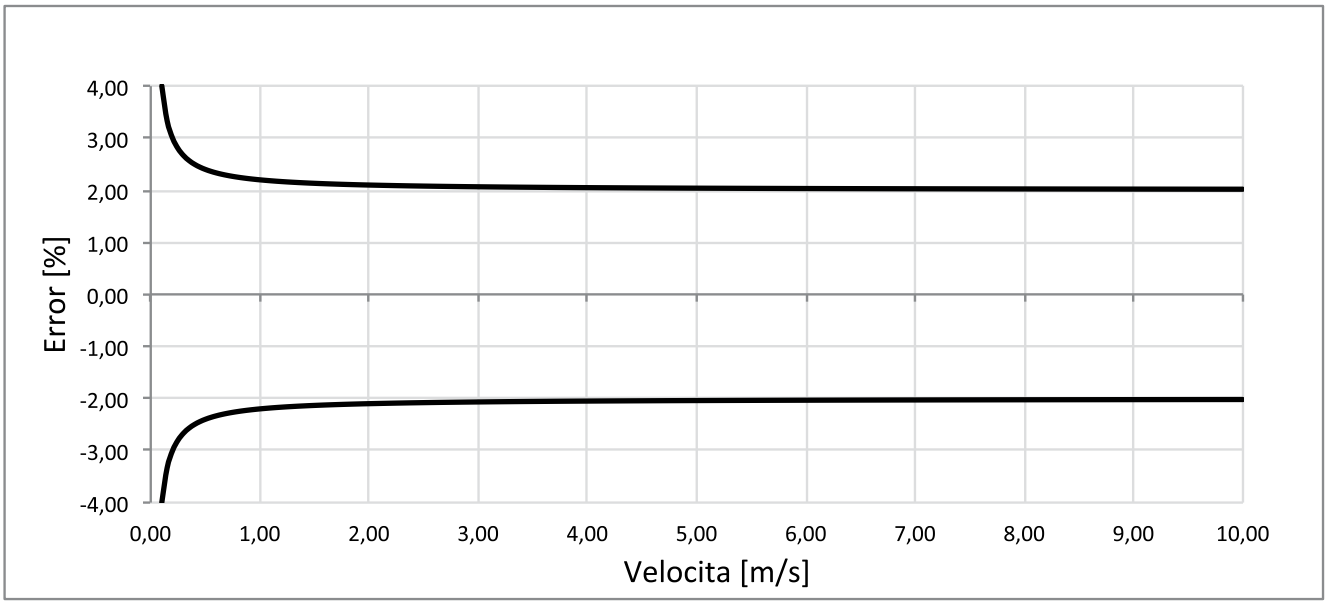
Transmitter type	Battery powered - 2 x D Cell 3.6 V * / 12-24VDC
Battery life	Lithium battery pack up to 10 years
Accuracy	0.2 % +/- 2 mm/s - insertion sensors 2% of rate +/- 2mm/s
Temperature	Ambient: -20 ... +60 C° (-4 ... +140 F) Media -25 ... 80 C° (-13 ... +176 F) Storage -40 ... +70 C° (-22 ... +158 F)
Enclosure	Technopolymer case with aluminum bottom on compact vertical version. IP 68. Remote wall mount braket in carbon steel zinch plated
Cable entries	4X PG9 Glands I/O - 2X M20 x 1.5. Glands junction box in remote version
Custody transfer	Type approved OIML R49-1 2013 / EN 14154 MID EN-ISO 4064 - Certificate n. T10713
Conformity	EMC: EN 61010 - LVD: EN 61326 ; EN/IEC 60529 IP68
Sensor type	Insertion Meters up to DN 2600
Flow velocity range	0.015 m/s up to 10 m/s
Sampling rate	Standard mode 1 / 5 Hz up to 1 / 60 Hz (default 1 / 15 Hz) max 3.125 Hz
Installation	Integral (compact) or remote with factory mounted sensor cable in 5 m (16.4 ft) up to 30 m (98.4 ft)
Digital filters	Damping - cutt-off (0.05 m/s default) - bypass - peak cut
Display and keys	LCD display - Index, menu, and symbols icons for dedicated information 4 Push buttons to access all functions Totalizer informations can be displayed with 5 decimal digits
Displayed informations	Live flowrate Total positive totalizer (T+) Total negative totalizer (T-) Partial positive totalizer (P+) Partial negative totalizer (P-) Time & date Converter temperature Process pressure and temperature (if available) Parameters corresponding code and value

Flow Units	m, m3, l, ML, ft3, GAL
Outputs	2 pulses passive outputs (MOS), individual galvanically isolated - clean contact Maximum load +/- 35V DC, 100 mA short circuit protected
Communication	Integrated BERMAD IrComm interface
Datalogging	100,000 lines of data with a frequency of log between 1 minute and 120 minutes (default 15 minutes)
Add on modules	GSM/GPRS BERMAD Module Pressure (1) and temperature (2) Energy metering ready
Totalizers	4 (2 positive and 2 negative)
Date and time	Yes
Data protection	Password available, automatic firmware check and recover during the update
Alarms and status	Status icon displayed and alarm logged in the datalogger
Self diagnostic	Alarms available: • excitation failure • empty pipe on the 4th electrode • empty pipe on the measuring electrodes • high temperature • high voltage supply • pulse overlapped • wet electronic board
External verification	Field verificator available for calibration verification and electronic status
Software for communication and programming	Commissioning (equal settings of meters) - Data print for documentation - Data export (CSV file) - Firmware update - Read instant flowrate - Read and write all non volatile parameters - Download internal datalogger - View instrument event logger

* Lithium batteries are subject to special transportation regulations according to United Nations "Regulation of Dangerous Good", UN 3090 and UN 3091. Special trasnport documentation is required to observe these regulations. This may influence both trasnport time and cost

Measuring accuracy

Each sensor is calibrated on an hydraulic test rig equipped with a ISO17025 traceable weighing system. The accuracy is equal to 2% +/- 2 mm/s. Bi-directional measure.



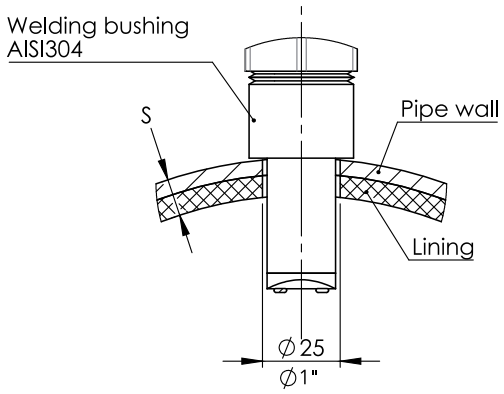
Equipment:

- 1" ball valve zinc plated brass
- "Hot tap" installation
- Head of the unit in POM 22mm
- Valve connection (female-female)
- Probe 12mm
- Pressure up to 20 bar
- Input connection for pressure gauge
- Handle grips with flow directions
- Body in AISI304
- 2 Electrodes in AISI316L
- ATEX on request (only separate version)

MUT1222 general features

Size range	Size Small (S)	Size Medium (M)	Size Large (L)
	50…600	200…1500	450…2600
Available electrodes [*]	AISI 316L		
Body material	AISI 304 Stainless Steel		
Head of sensor	POM		
Standard operating pressure	20 bar		
Temperature of liquid	-40 °C +80 °C		
Protection Degree	IP68 for immersion at 1.5m (IEC 529)		
Converter compatibility	MC608, MC406		
Parts in contact with liquid	Head of sensor	Electrodes	Pipe end
	POM	AISI 316L	AISI 304
Electric connections	Cable gland M20 x 1.5 + Terminal block + sealing resin		

DETAIL B



Size	Min Pipe Diameter		Max Pipe Diameter	
	DN	Inches	DN	Inches
S	50	2"	600	24"
M	200	8"	1600	64"
L	450	18"	2600	104"

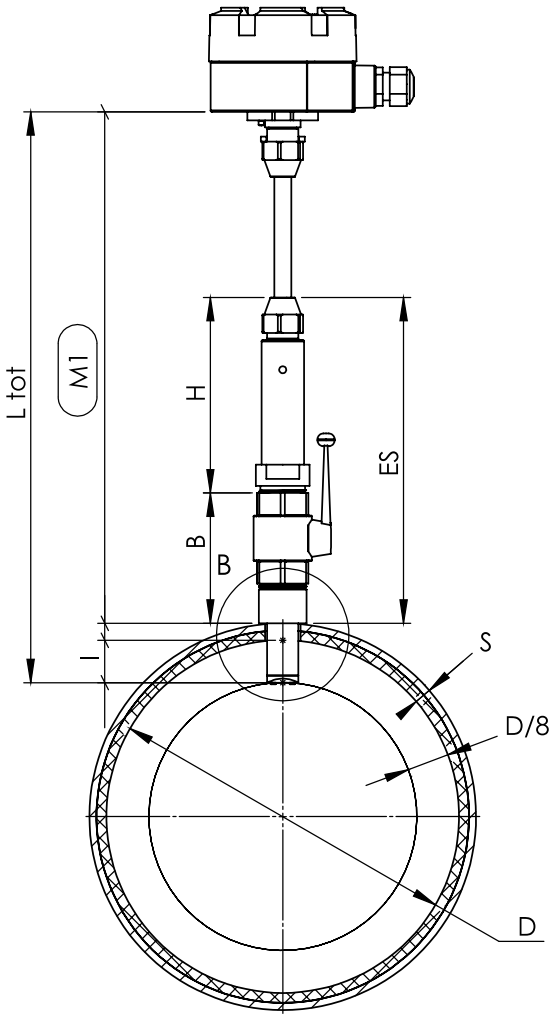
D: Internal diameter
S: Pipe wall thickness (lining included)
B: Dead lenght
H: Housing dimension
Ltot: Instrument lenght
ES: Standard dimension (BERMAD original parts)
I: Insertion depth = D/8
M1: Insertion control dimension

M1 = Ltot - S - (D/8)

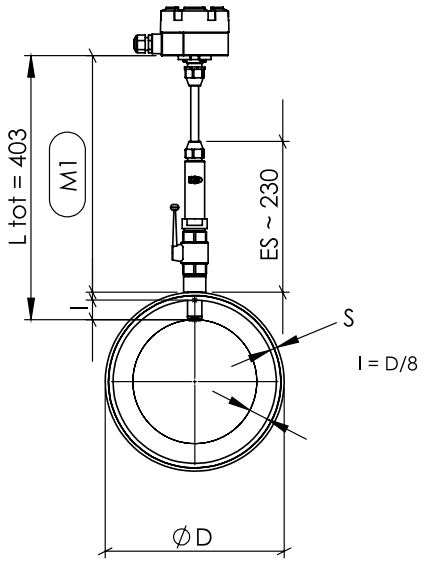
Size S:
M1 = 403 - S - (D/8)

Size M:
M1 = 674 - S - (D/8)

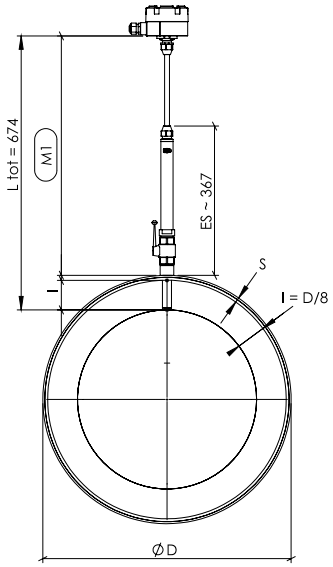
Size L:
M1 = 916 - S - (D/8)



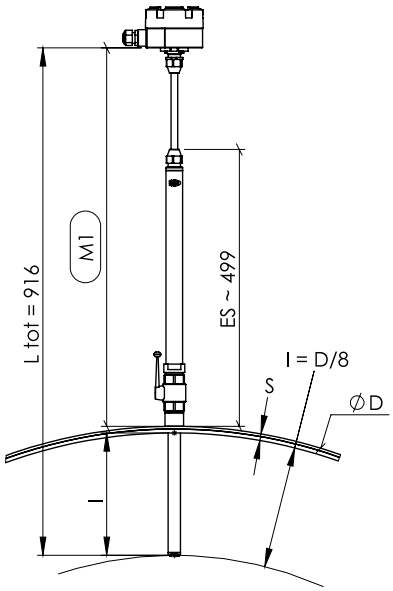
Size S:
M1 = 403 - S - (D/8)



Size M:
M1 = 674 - S - (D/8)



Size L:
M1 = 916 - S - (D/8)



About BERMAD

BERMAD is a leading, privately-owned global company that designs, develops and manufactures tailor-made water & flow management solutions that include state-of-the-art hydraulic control valves, air valves and advanced metering solutions.

Founded in 1965, we have spent over 50 years interacting with the world's major end users, and accumulating knowledge and experience in multiple markets and industries. Today, we are recognized as a pioneer and established world-leading provider of water & flow management solutions that give our customers the unprecedented operational efficiency, and superior quality, durability and performance they need to meet the demanding challenges of the 21st century.

www.bermad.com

PCUAWE22-MUT1222-406 | February 2023