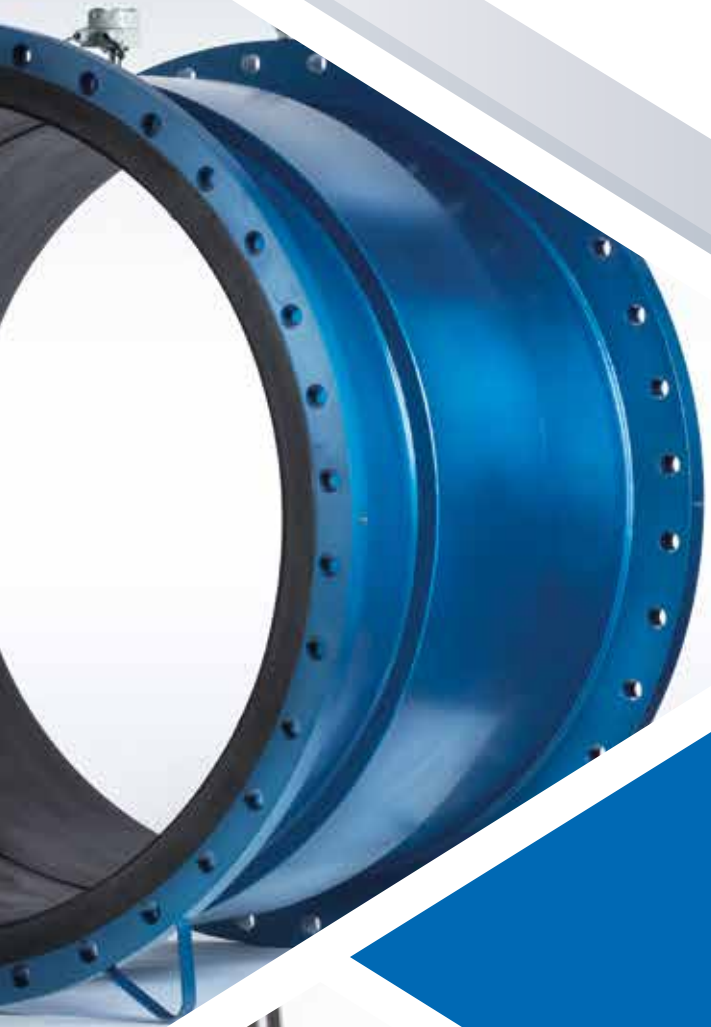
EUROMAG
INTERNATIONAL

Measure > Sense > Innovate



PRODUCT CATALOGUE

DS066-6-ENG

INDEX

> To work with **innovative spirit**,
> to develop **high quality products**
> for the measurements of liquids.

THE COMPANY

Euromag International Srl has over 30 years experience in designing, manufacturing and supplying flowmeters for liquids. The facility located in Mestrino near Padova, North East of Italy, covers 3000 sqm with some 25 people working in it, and is certified ISO9001 since 1997.

The new state-of-art calibration rig, allows testing flowmeters up to DN2000. Recently it's been implemented, to provide a flow range of over 6000 m3/h. It consists of several different calibration benches, depending on the diameter.

Each weighing structure is equipped with an over-refined automatic control system and quick size exchange, to reduce calibration time as low as possible with increased accuracy.

Available certifications and declarations include:

- ISO 9001
- Certified calibration standards
- Welding certifications
- Industry related certifications: MID - OIML R49 - ATEX - IECEx WRAS - NMI10 - Ballast systems - PAC Ghost - HART - FDA - SPAN

ELECTROMAGNETIC FLOWMETERS

The measurement principle of electromagnetic flowmeters (EMF) is based on Faraday's law of induction.
EMF can accurately measure the flow of any electrically conductive liquid, even those with low conductivities.

Typical applications include:

- Water industry: revenue metering, district metering,water abstraction, leakage detection
- Irrigation
- Wastewater industry: transport networks, sewage treatment plants, sludges
- Food & beverage industry: mixing, dosing and filling of drinks under hygienic conditions, filling systems applications
- Chemical industry: acids, alkalis, dosing applications, abrasive or corrosive mediums
- Pulp & paper industry: pulp, pastes, sludges and other caustic mediums, liquor, additives, bleaches, colourants
- Metal & mining industry: mediums with a high solid content, like ore or excavator mud

Highlights:

- Minimal or no inlets/outlets
- All Euromag flowmeters are wet-calibrated
- Large choice of liner materials suitable for potable water, wastewater, chemicals, and solids
- Maintenance free
- Suitable for use in custody transfer applications
- Measurement is independent of the flow profile and solid contents
- Zero-point stability regardless of changes in medium properties
- Nominal sizes DN 6 to DN 2.000
- Field verification with minimized cost for the installation

Sensors

MUT2200EL

MUT2300

MUT1000EL

MUT1100J

MUT2400EL

MUT500

MUT4000

MUT2100EL

MUT2100F

MUT1222

MUT2770

MUT2660

Converters & Electronics

MC608

MC406

Data trasmission

Field Verificator

SENSOR
MUT2200EL

MID approved | OIML approved | GSM ready

The electromagnetic flowmeter for all applications

MUT2200EL sensors represent the state of the art of Euromag International production for water cycle and process applications.

APPLICATIONS:

- Water treatment
- Water distribution
- Industrial waste water
- Industrial processes
- Slurries
- Irrigation
- Pumping stations
- Dams
- Mining

FEATURES:

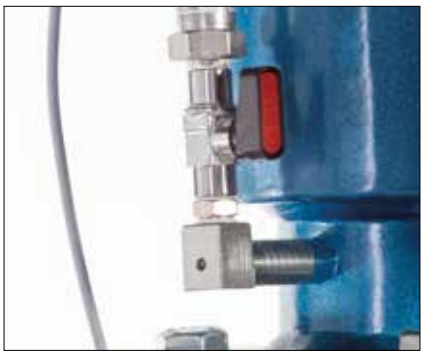
- High accuracy and wide flow rate range measurement
- Bi-directional measure
- Empty pipe electrode supplied as a standard (≥ DN50)
- Coupled with any Euromag converters
- Pressure port integrated (on request)
- In house wet calibration for all diameters (up to DN2000)
- Robust, fully welded and potted construction
- Standard solution for the widest range of industrial applications
- Certified for use in Ballast systems
- External coating for offshore or subsoil installation. Optional paint certified for C4 class environment
- Wide choice of materials for housing and flanges including SS304 and SS316

REFERENCE STANDARDS:

- Custody transfer (MID MI-001, OIML R49)
- IP68 for permanent immersion in water up to 1.5 m
- Drinking water approvals
- WRAS, FDA and DM174 approvals
- Atex - IECEx (separate version)
- CE

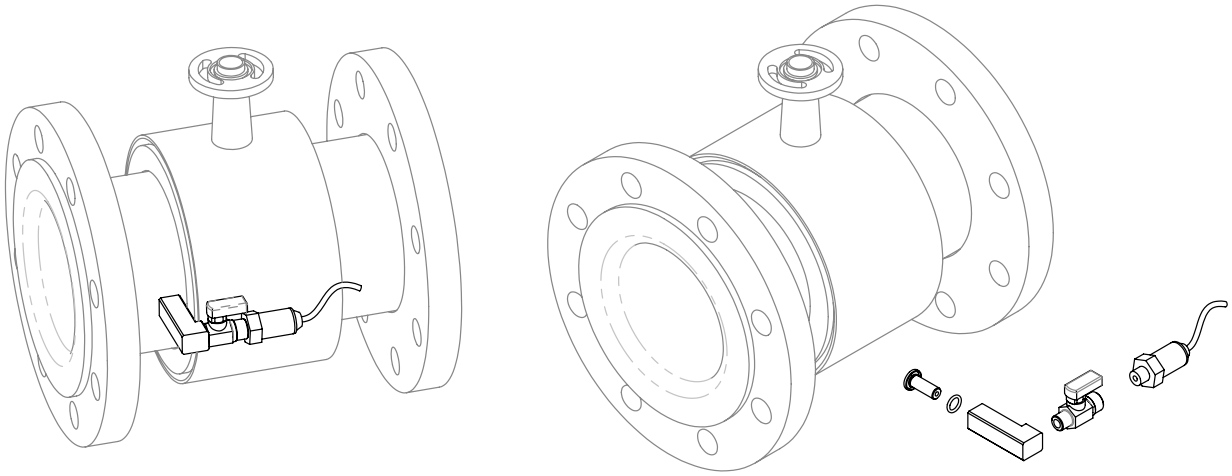
GENERAL FEATURES:

Flow tube material		AISI 304 (std), AISI 316															
Flanges material		Carbon steel painted (std), AISI 304, AISI 316															
Electrodes material		Hastelloy C (std), Hastelloy B, Titanium, Tantalum, Platinum															
Internal lining and liquid temperature		**Internal lining**								**Liquid temperature**							
		PTFE								Standard -40 /+130°C (up to +180° on request)							
		Ebonite								-40°C / +80°C							
Available sizes	mm	15	20	25	32	40	50	65	80	100	125	150	200	250	300	350	400
	pollici	1/2"	3/4"	1"	1.1/4"	1.1/2"	2"	2.1/2"	3"	4"	5"	6"	8"	10"	12"	14"	16"
	mm	450	500	600	700	800	900	1000	1200	1300	1400	1500	1600	1700	1800	2000	
	pollici	18"	20"	24"	28"	32"	36"	40"	48"	52"	56"	60"	64"	68"	72"	80"	
Flange standards available		EN1092-1, ANSI 150, ANSI 300, ANSI 600, ANSI 900, DIN 2501, BS 4504, AS 2129 (TABLE D - E - F), AS 4087, ISO 7005-1, KS 10K															
Protection Degree		IP68 1,5 m continuous immersion (EN 60529)															
Compatible converters		MC608 A/B/R/P/I, MC406															
Electrical connections		Cable glands M20 x 1.5 + terminal block + sealing resin															



TECHNICAL DRAWINGS

Pressure port integrated



SENSOR
MUT2300

MID approved | OIML approved | GSM ready

Designed for the toughest applications

Thanks to its unique design of the flowtube, the MUT2300 is the optimum solution for water and wastewater applications.

APPLICATIONS:

- Measure of potable or reflow water
- Distribution, municipal water
- Industrial waste water
- Overnight applications with very low flow rate
- Industrial process liquids, slurries and concretes
- Installation in small places without straight distances
- Leakage detection
- Fiscal measures
- Irrigation

FEATURES:

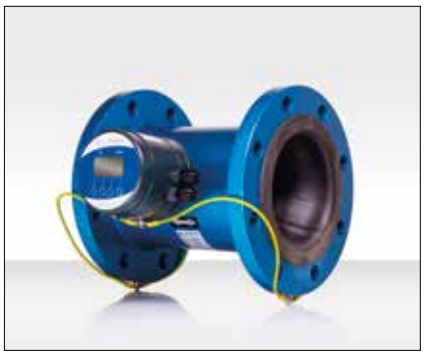
- U0-D0 installation: extreme flexibility on the flowmeter position
- Measure of extremely low flow rates, even in problematic applications and “night flows” or low season
- Neglectable pressure drop
- No moving parts
- Empty pipe electrode supplied as a standard (≥ DN65)
- Bi-directional measure
- Coupled with any Euromag converters
- In house wet calibration for all diameters
- Robust, fully welded and potted construction
- Engineered for very demanding applications
- External coating for offshore or subsoil installation. Optional paint certified for C4 class environment
- Wide choice of materials for housing and flanges including SS304 and SS316

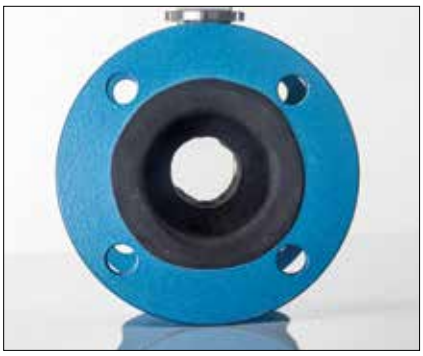
REFERENCE STANDARDS:

- Custody transfer (MID MI-001, OIML R49)
- IP68 for permanent immersion in water up to 1.5 m
- Drinking water approvals
- WRAS, FDA and DM174 approvals
- Atex - IECEx (separate version)
- CE

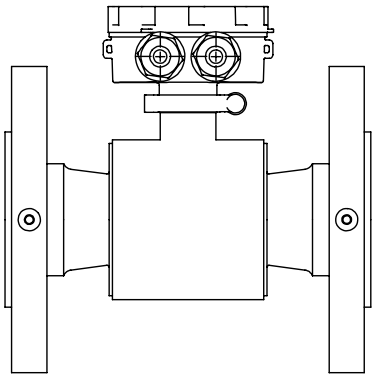
GENERAL FEATURES:

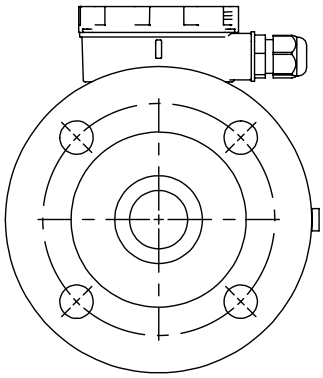
Flow tube material		AISI 304, AISI 316 (optional)								
Flanges material		Carbon steel (S235JR - 1.0037), AISI 304 optional, AISI 316 optional								
Available electrodes		Hastelloy C (standard), Hastelloy B, Titanium, Tantalum, Platinum								
Internal lining		Ebonite								
Liquid temperature		-40°C / + 80°C								
Available diameters	**mm**	50	65	80	100	125	150	200	250	300
	inches	2″	2½″	3″	4″	5″	6″	8″	10″	12″
Standard flanged connections		EN1092-1 PN 16, ANSI 150								
Flanged connections on request		AS 2129 (Table D, E, F), AS 4087 (PN 16, 21), KS10K, others on request								
Standard operation pressure		21 bar								
Pressure drop class		DN≤80 ΔP25 (< 0,25 bar)				DN≥100 ΔP40 (< 0,40 bar)				
Installation requirements/conditions		U0-D0								
Protection Degree		IP68 permanent submersion at 1,5 m (EN 60529)								
Convertes compatibility		MC608A/B/R/P, MC406								
Electrical connections		Cableglands M20 x 1.5 + terminal box + sealing resin								

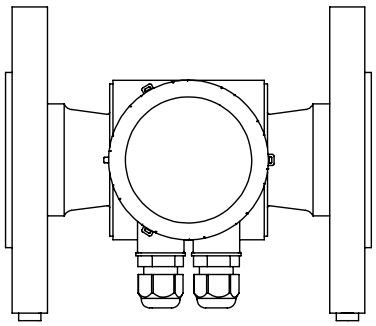




TECHNICAL DRAWINGS







SENSOR
MUT1000EL

GSM ready

The wafer electromagnetic flowmeter

MUT1000EL sensors represent the state of the art of Euromag International production for water cycle and process applications.

APPLICATIONS:

- Water treatment
- Waste water industry
- Mining
- Industry

FEATURES:

- Excellent price performances ratio
- Easy and time-saving installation
- Less mechanical resistance
- External coating for offshore or subsoil installation. Optional paint certified for C4 class environment
- Wide choice of materials for housing including SS304 and SS316
- Robust, fully welded and potted construction
- Empty pipe electrode supplied as a standard (≥ DN50)
- Bi-directional measure
- Coupled with any Euromag converters
- In house wet calibration for all diameters

REFERENCE STANDARDS:

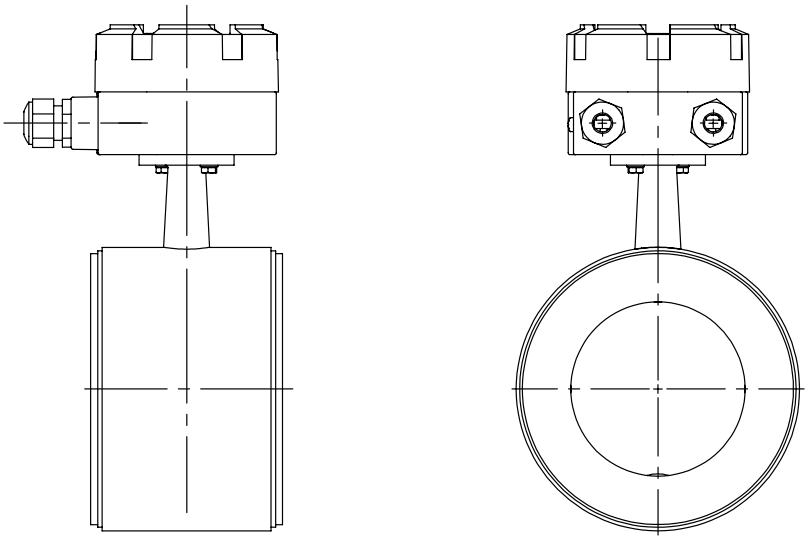
- IP68 for permanent immersion in water up to 1.5 m
- Drinking water approvals
- WRAS, FDA and DM174 approvals
- Atex - IECEx (separate version)
- CE

GENERAL FEATURES:

Available diameters	**mm**	25	40	50	65	80	100	125	150	200	250	300
	inches	1″	1 . 1½″	2″	2 . 2½″	3″	4″	5″	6″	8″	10″	12″
Joints: coupling flanges		EN1092-1, ANSI 150, ANSI 300, ANSI 600, ANSI 900, DIN 2501, BS 4504, AS 2129 (TABLE D - E - F), AS 4087, ISO 7005-1, KS 10K										
Maximum pressure		40 bar for diameters < DN150					16 bar for diameters > DN200					
Internal lining and liquid temperature [1]		**Internal lining**					**Liquid temperature**					
		PTFE					Standard -40 /+130°C (up to +180° on request)					
		Ebonite					-40°C / +80°C					
Degree of protection		IP68 continuous immersion at a 1,5 m (EN 60529)										
Compatible converters		MC608 A/B/R/P/I, MC406										
Electric connections		Cable glands M20 x 1.5 + terminal block + sealing resin										

[1] Compact version Tmax 80°C.

TECHNICAL DRAWINGS



SENSOR
MUT1100J

CE

GSM ready

The electromagnetic flowmeter designed for irrigation

The perfect flowmeter designed for agricultural market

APPLICATIONS:

- Irrigation
- Water / Waste water industry
- Refrigerating systems
- Buildings and construction
- Fire fighting

FEATURES:

- Economic and ecologic solution – low investment and maintenance costs, very accurate measurement
- Flow tube made in Noryl ™ resistant to aggressive liquids and fertilizers
- Light weight and compact dimensions
- Body protected with cataphoresis treatment, and fully potted
- Grounding rings not required thanks to the third electrode
- Temperature of the liquid between 0°C and + 80°C
- Bi-directional measure
- Coupled with any Euromag converters
- In house wet calibration for all diameters

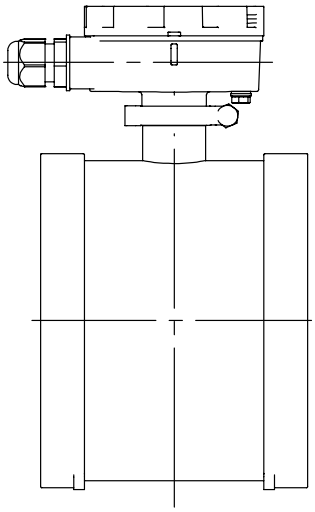
REFERENCE STANDARDS:

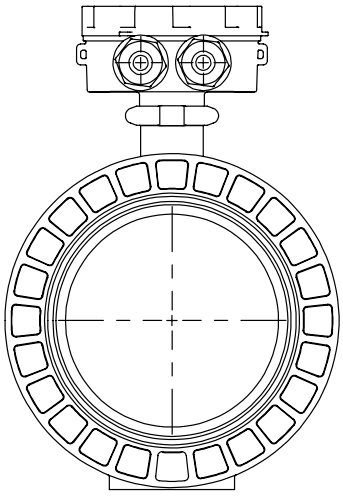
- 2014/35/EU – EN 61010-1:2013 (LVD)
- 2014/30/EU – EN 61326-1:2013 (EMC)

GENERAL FEATURES:

Available diameters	**mm**	40	50	65	80	100	150
	inches	1 . 1½"	2"	2 . 2½"	3"	4"	6"
Connections: flanges		EN1092-1/ANSI150					
Max pressure		16 bar					
Max temperature		80°C					
Protection degree		IP67 (IP68 on request)					
Compatible		MC608A/B/P/R/I			MC406		
Parts in contact		Flow tube: Noryl ™ + Fiber glass			O - Ring: NBR		

TECHNICAL DRAWINGS





SENSOR
MUT2400EL

The electromagnetic flowmeter designed for food industry

The flow sensor engineered for food industry applications, manufactured in stainless steel AISI 304 with internal lining in PTFE.

APPLICATIONS:

- Food & beverage
- Breweries and wineries
- Dosing and batching applications
- Chemicals
- Pharmaceutical
- Irrigation (extremely accurate measure of fertilizers)

FEATURES:

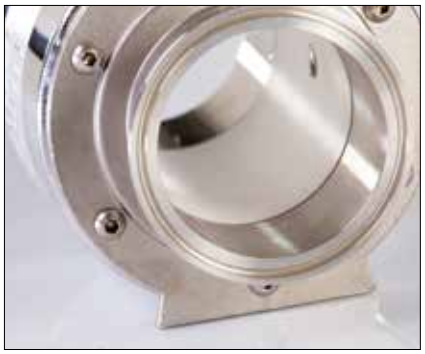
- Full range of process connections: Triclamp, DIN11851 or SMS1146
- Perfectly resistance to periodic sanitary cleaning
- Bi-directional measure
- Robust stainless steel construction, fully welded and potted
- Coupled to MC608A and MC608P converters
- In house wet calibration for all diameters
- Vacuum resistance
- Hygienic construction

REFERENCE STANDARDS:

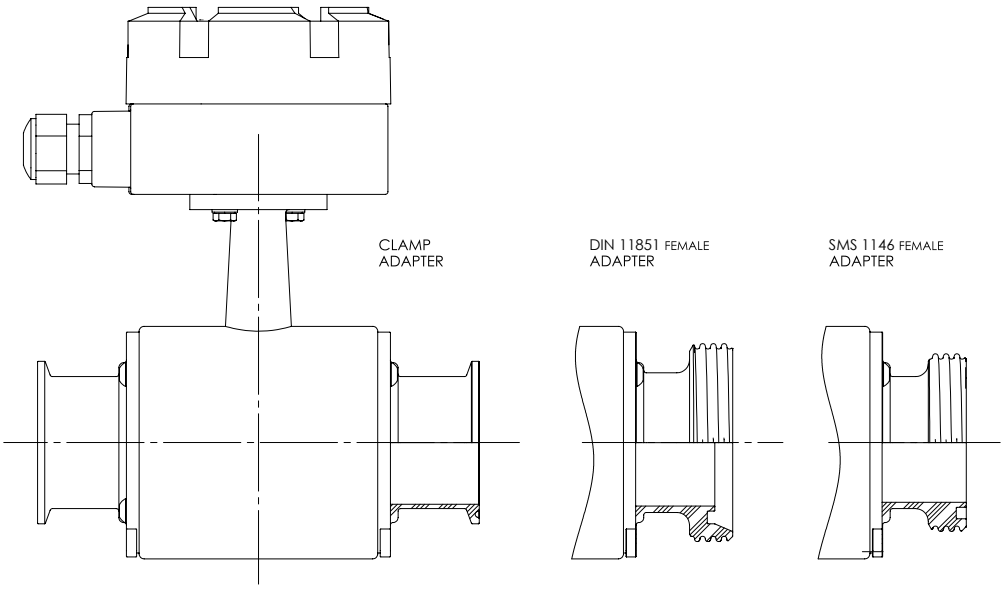
- European directive 2014/32/EU MID (pending)
- EHEDG and 3A (pending)
- PTFE conform to WRAS, FDA and DPR 777/82 and DM 21/09/773 approvals
- Atex - IECEx (separate version)
- CE

GENERAL FEATURES:

Flow tube material		AISI 304					AISI 316 (optional)			
Connections material		AISI304					AISI 316 (optional)			
Available electrodes		Hastelloy C (standard)				Hastelloy B	Titanium		Tantalum	
Internal lining		PTFE for food								
Liquid temperature		Separate -40°C / + 130°C / Compact -25C° / + 80C°								
Available diameters	**mm**	25	32	40	50	65	80	100		
	inches	1"	1 ¼"	1 ½"	2"	2 1/2"	3"	4"		
Standard connections		Triclamp								
Other connections available		DIN 11851 Female					SMS 1146 Female			
Standard operation pressure		16 bar with Triclamp / 25 Bar with DIN or SMS								
Number of electrodes		2 Standards – 3rd electrode for empty pipe alarm as option								
Installation requirements/conditions		U5 – D3								
Protection Degree		IP68 permanent submersion at 1,5 m (EN 60529)								
Converters compatibility		MC608A/P								
Electrical connections		Cableglands M20 x 1.5 + terminal box (aluminum std, polycarbonate optional) + sealing resin								
Hygienic		FDA approved materials – EHEDG Pending								



TECHNICAL DRAWINGS



SENSOR
MUT500

CE

The electromagnetic flowmeter for small flows

MUT500 series are the most suitable for the measurement of the small flow rates, covering diameters from DN6 to DN20. Thanks to their materials, they are suitable for the use in the food industry.

APPLICATIONS:

- Pharmaceutic
- Chemicals
- Jams
- Chlorination

FEATURES:

- Flow tube in PTFE, case and connections in Stainless Steel
- Connections: Gas (std), NPT, Triclamp, DIN 11851
- Bi-directional measure
- Coupled to all Euromag converters
- In house wet calibration for all diameters

REFERENCE STANDARDS:

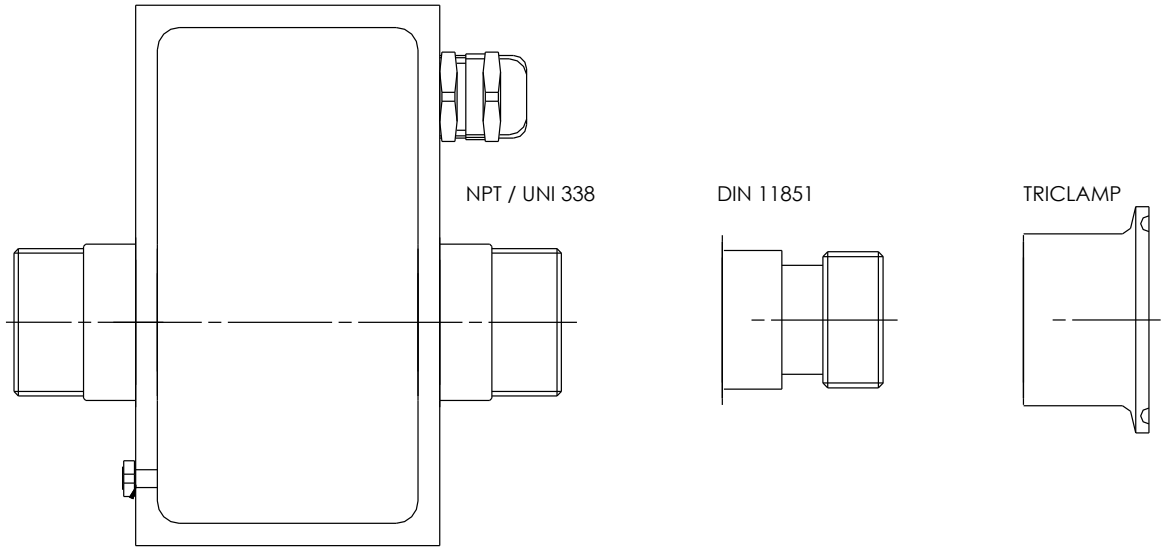
- PTFE conform to WRAS, FDA and DPR 777/82 and DM 21/09/773 approvals
- IP 68 up to 1,5 m c.o.w.
- CE

GENERAL FEATURES:

Available diameters	**mm**	3	6	10	15	20
	inches	1/8"	1/4"	3/8"	1/2"	3/4"
Connections		Male trheaded, NPT-M, Triclamp, DIN 11851				
Nominal pressure		16 bar				
Liquid temperature (constant)		-20°C a +130°C [1]				
Degree of protection		IP68 continuous inmersion at 1,5 m				
Converters compatibility		MC608A/P				
Parts in contact with the liquid		Flow tube: PTFE			Gasket: Viton [2]	
Weight [3]		1,9 kg				

[1] For the compact version Tmax = 80°C
[2] Others on request.
[3] Maximum weight of sensor without cables.

TECHNICAL DRAWINGS



SENSOR
MUT4000

CE

Designed for the automotive industry

Encouraged by the R&D dept. of Automobili Lamborghini S.p.A., Euromag has developed a unique solution, designed primarily for the automotive market.

APPLICATIONS:

- Automotive

FEATURES:

- Hose connections
- LEMO connectors – specific for automotive use
- Extremely light weight
- Compact size
- Extremely accurate at low flows
- No moving parts
- Closure in Carbon steel with cataphoresis treatment
- Now also available a special version in Stainless Steel 304 for extremely rough conditions in test benches
- Coupled to MC608LB and MC608P converters
- In house wet calibration for all diameters
- FCA approved

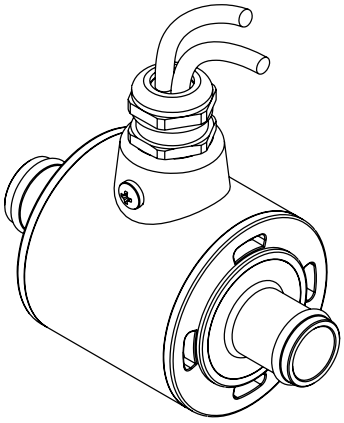
REFERENCE STANDARDS:

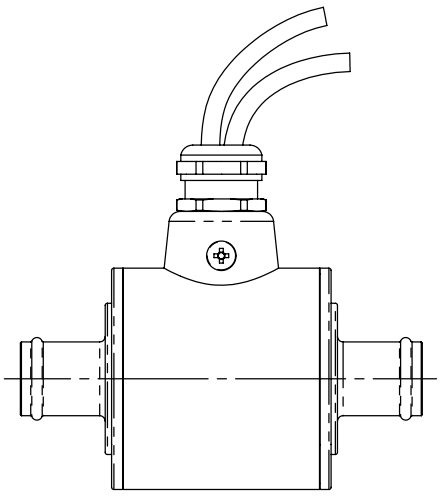
- 2014/35/EU – EN 61010-1:2013 (LVD)
- 2014/30/EU – EN 61326-1:2013 (EMC)

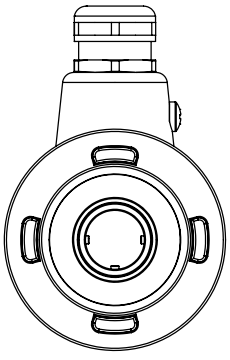
GENERAL FEATURES:

Temperature Rating	-25°C to +120°C		
Viscosity Range	Viscosity independent		
Accuracy and repeatability	0,2% ± 2mm/s		
Fluid Conductivity	Must be greater than 5 µS/cm		
Flow tube	PET - on request AISI 304		
Electrodes	3 el. in AISI 316		
Closure	Carbon steel with cataphoresys treatment		
Protection Rating	IP67 NEMA 6		
Connections	Hose fittings		
Connectors	Lemo – specific for automotive use		
Pressure class	PN10		
Suitable converters	MC608P – MC608LB		
Cable length	Cable CF240PUR 5mt (16.4 ft)	Cable CF240PUR 6,1mt (20 ft)	Cable CF240PUR 12,2mt (40 ft)
Options	Stainless Steel 304 body for extremely rough conditions		
Operating and Maintenance Manual	Included		
Calibration Certificate	Included		
Software PC	Included		

TECHNICAL DRAWINGS







SENSOR
MUT2100EL

CE

The electromagnetic flowmeter with Rilsan® lining

Thanks to the Rilsan® coating, MUT2100EL is stable since its first application and eco-friendly.

APPLICATIONS:

- Irrigation
- Clean water

FEATURES:

- Protection from corrosion and chemical attacks
- Low permeability to humidity
- Weather proof
- High thermal resistance
- Vibrations absorption
- Exceptional abrasion resistance
- Exceptional shock resistance and extremely low friction coefficient
- High flexibility
- Maximum fluid temperature: 80°C.

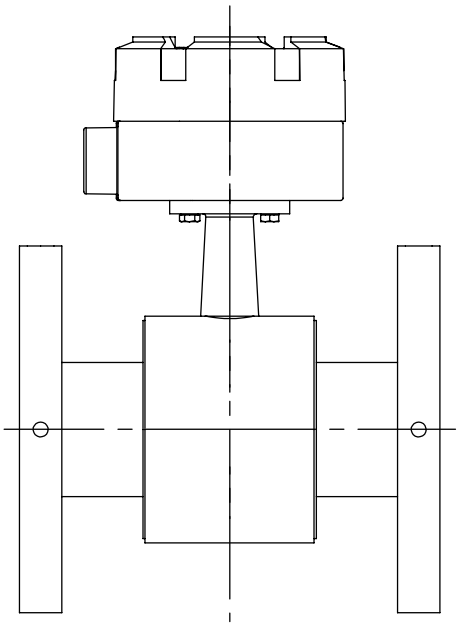
REFERENCE STANDARDS:

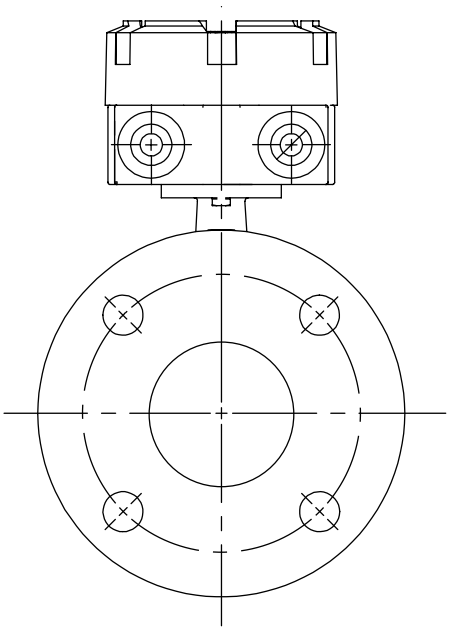
- BSI WIS 4-52-01,
- KIWA BRL K759-01
- UL 1091

GENERAL FEATURES:

Available diameters	**mm**	50	80	100	150
	inches	2″	3″	4″	6″
Standard flanged connections		EN1092-1 PN 16, ANSI 150			
Flanged connections on request		AS 2129 (Table D, E, F), AS 4087 (PN 16, 21), KS10K, others on request			
Standard operation pressure		PN16			
Protection degree		IP67 - on request IP68			
Converters compatibility		MC608A/B/R/P, MC406			
Parts in contact with liquid		Rilsan®/Hastelloy-C			
Electrical connections		Cableglands M20x15 + terminal box + sealing resin			

TECHNICAL DRAWINGS





SENSOR
MUT2100F

CE

The electromagnetic flowmeter with Victaulic® connections

MUT2100F is Euromag unique solution specifically developed for anti-seismic and fire protection systems.

APPLICATIONS:

- Fire fighting
- Building
- Construction
- Naval

FEATURES:

- Universal Victaulic® connection
- Very quick assembly (grooved pipe joining method)
- High performances materials
- Rilsan® Coating
- Protection from corrosion and chemical attacks
- Low permeability to humidity
- Weather proof
- High thermal resistance
- Vibrations absorption
- Exceptional abrasion resistance
- Exceptional shock resistance and extremely low friction coefficient
- High flexibility
- Maximum fluid temperature: 80°C.

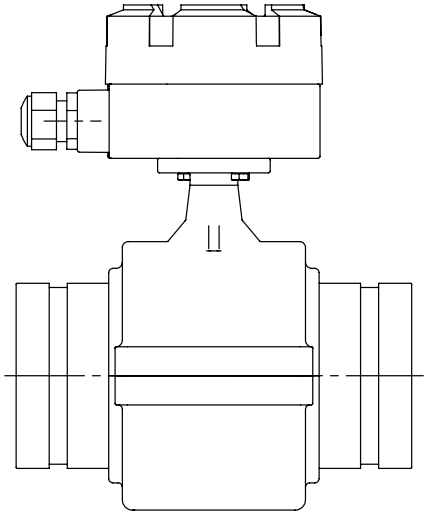
REFERENCE STANDARDS:

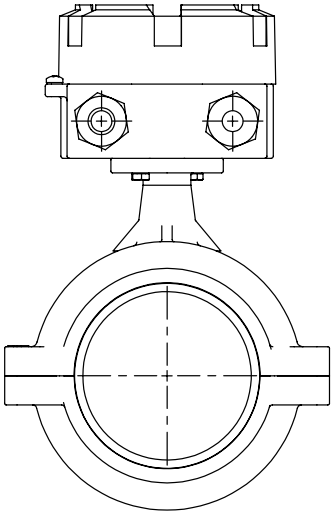
- BSI WIS 4-52-01
- KIWA BRL K759-01

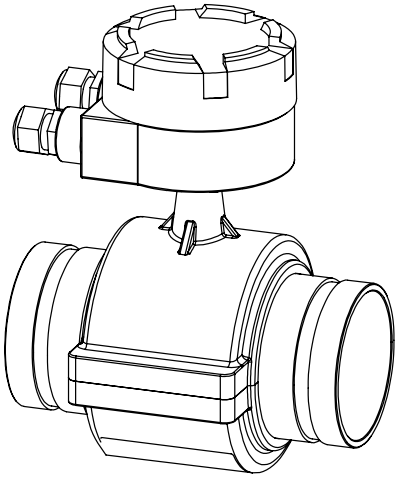
GENERAL FEATURES:

Available diameters	**mm**	50	80	100	150
	inches	2″	3″	4″	6″
Standard operation pressure		PN10 ... PN25			
Protection degree		IP67 – on request IP68			
Converters compatibility		MC608 A/B/R			
Parts in contact with liquid		Rilsan®/hastelloy-C			
Electrical connections		Cable glands M20x15 + terminal box + sealing resin			

TECHNICAL DRAWINGS







SENSOR
MUT1222

CE

GSM ready

The electromagnetic insertion flowmeter

The new MUT1222 insertion flowmeter is available in three different sizes (Small, Medium and Large) and can be used as a portable or dedicated instrument, representing 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

FEATURES:

- Easy and quick to install
- "Hot tap" application: no need to stop the flow
- Maximum liquid temperature: 80°C
- Robust fully welded construction
- Pressure up to 20 bar
- Bi-directional measure
- Coupled to all Euromag converters
- In house wet calibration for all diameters

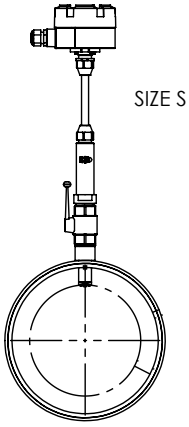
REFERENCE STANDARDS:

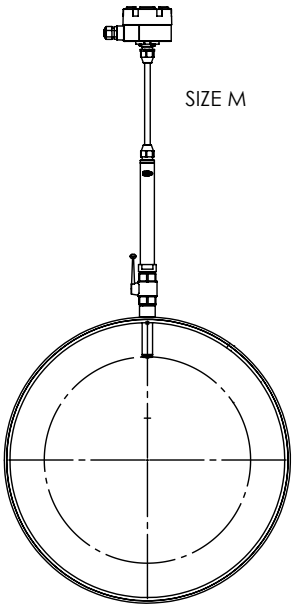
- Atex - IECEx (separate version)

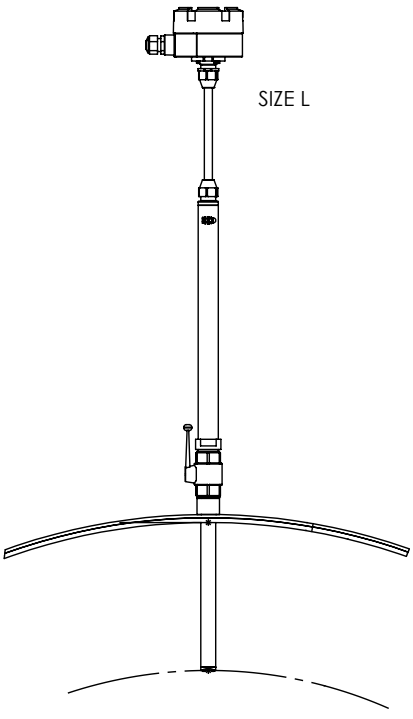
GENERAL FEATURES:

Size range	Size Small (S)	Size Medium (M)	Size Large (L)
	50…600	200…1500	450…2600
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		

TECHNICAL DRAWINGS







SENSOR
MUT2770

CE

The electromagnetic insertion flowmeter

MUT2770 sensors must be installed on empty pipes, through a 2" nozzle with a UNI 2278 counter flange to which connect the sensor.

APPLICATIONS:

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

FEATURES:

- Suitable to pipe diameter from DN80 up to DN4000
- Pressure up to 25 bar
- Bi-directional measure
- Coupled to all Euromag converters
- In house wet calibration for all diameters

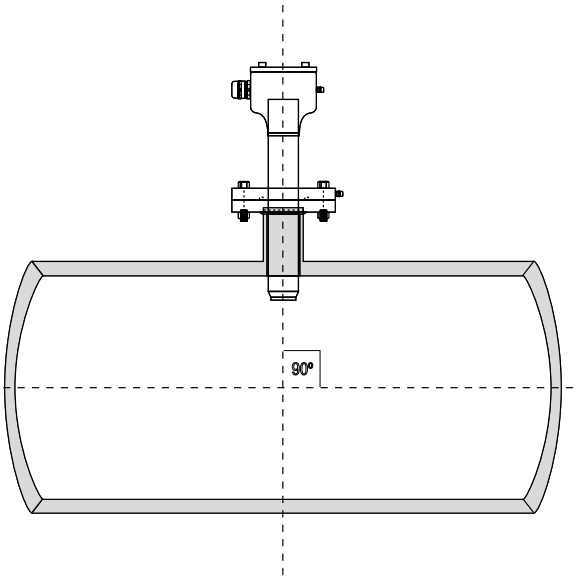
REFERENCE STANDARDS:

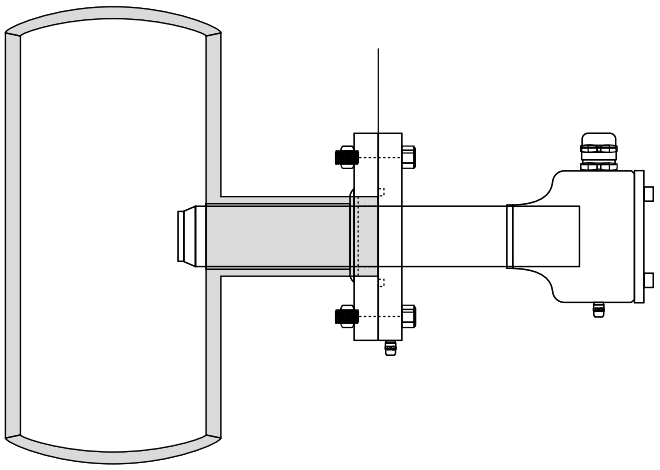
- IP 68 up to 1,5 m c.o.w. (only separate version)
- CE

GENERAL FEATURES:

Size range	Minimum pipe diameter		80 mm
	Maximum pipe diameter		2000 mm
Available electrodes	AISI 316L		
Body material	AISI 304 Stainless Steel		
Head of sensor	PTFE		
Standard operating	16 bar		
Temperature of liquid	-40 °C , +180 °C		
Protection Degree	IP68 for immersion at 1,5m (IEC 529)		
Converter compatibility	MC 608, MC 406		
Parts in contact with liquid	Head of sensor	Electrodes	Pipe end
	PTFE	AISI 316	AISI 304
Electric connections	Cable gland PG 11 + Terminal block + sealing resin		

TECHNICAL DRAWINGS





SENSOR
MUT2660

CE

The electromagnetic insertion flowmeter

MUT2660 sensors must be installed on empty pipes, through a 1.1/4" threaded brass muff, to be welded to the pipe to which connect the sensor.

APPLICATIONS:

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

FEATURES:

- Suitable to pipe diameter from DN80 up to DN500
- Pressure up to 10 bar
- Bi-directional measure
- Coupled to all Euromag converters
- In house wet calibration for all diameters

REFERENCE STANDARDS:

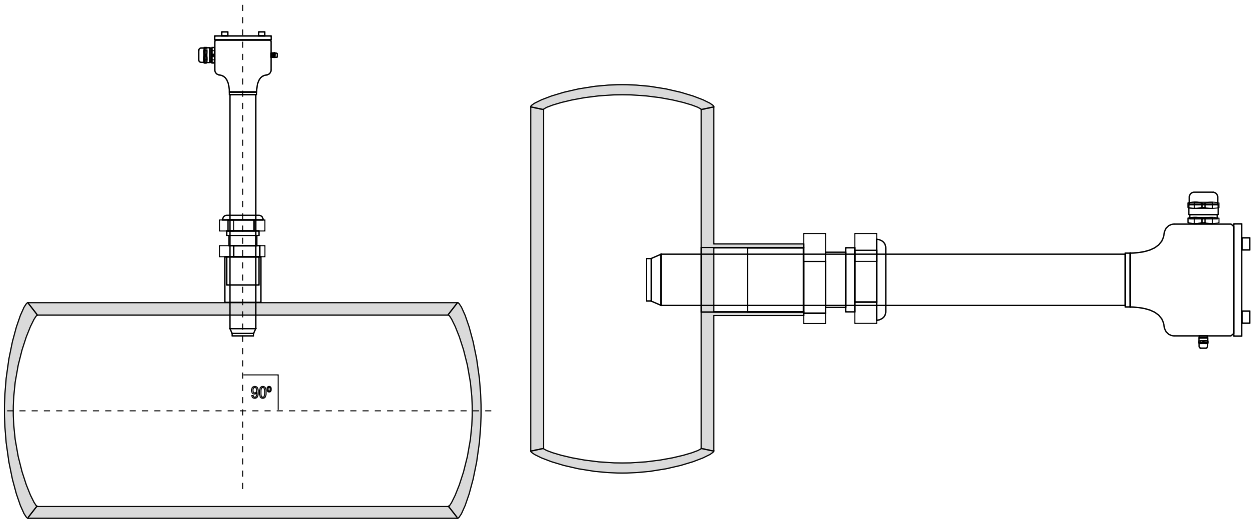
- Atex - IECEx (separate version)
- IP 68 up to 1,5 m c.o.w. (only separate version)
- CE

GENERAL FEATURES:

Size range	Minimum pipe diameter		80 mm
	Maximum pipe diameter		500 mm
Body material	AISI 304 Stainless Steel		
Head of sensor	PTFE		
Standard operating	10 bar		
Temperature of liquid	-40 °C , +180 °C		
Protection Degree	IP68 for immersion in 1,5m (IEC 529) (separate version)		
Converter compatibility	MC 608, MC 406		
Total length [mm]	317		
Parts in contact with liquid	Head of sensor	Electrodes	Pipe end
	PTFE	AISI 316L	AISI 304 Stainless Steel
Electric connections	Cable gland PG 11 + Terminal block + sealing resin		
Weight [1]	2 kg		

[1] Maximum weight of sensor without cables in the separate version.

TECHNICAL DRAWINGS



CONVERTER
MC608

OIML approved

GSM ready

The Hybrid electronic converter for all applications

The MC608 converter has been designed with the purpose of meeting all the requirements of modern water management systems through a flexible and hybrid electronic, mains powered, battery powered, or both.

APPLICATIONS:

- Abstraction and distribution
- District measurements
- Revenue and bulk metering
- Transport lines
- Irrigation
- Waste water and treatment
- Leak detection systems
- Any remote application with no access to mains power

FEATURES:

With advanced display information, on-site data collection and remote monitoring via GSM/GPRS network, the MC608 allows any customer to access all the information, easily and at no cost.

MC608A: Mains powered version 12/24 Vac dc or 90/264 Vac
MC608B: Battery powered, with a useful life of 6 years and 12/24 Vac-dc input
MC608R: Rechargeable battery powered, with solar panel and 12/24 Vac-dc input
MC608P: Panel version, with polycarbonate case
MC608I: Stainless Steel case, for outdoor installation and extreme weather conditions
MC608LB: Dedicated version for MUT4000, with Lemo connectors for automotive application

- Communication with other instruments via: analog output 4-20 mA, frequency, pulse, RS485 Modbus
- 5 independent internal totalizer (2 positive, 2 negative, 1 NET)
- IrCOM communication
- 4 MB flash memory, 200,000 lines of data
- Hart protocol option available (only MC608A)
- Pressure and temperature reading modules
- GSM/GPRS module

REFERENCE STANDARDS:

- 2014/35/EU – EN 61010-1:2013 (LVD)
- 2014/30/EU – EN 61326-1:2013 (EMC)
- OIML R49-1:2013 - Class 2 (only MC608A)

GENERAL FEATURES:

		MC608A	MC608P	MC608B	MC608R	MC608I
Case		Aluminium IP68	Polyc. IP54	Aluminium IP68	Aluminium IP68	SS IP54
Power supply	90...264 Vac	√	√			√
	12/24 Vac/dc	√	√			√
	Battery powered supply or 12/24Vac/dc			√		√
	Rechargeable battery + solar panel				√	√
Installation	Compact	√		√	√	
	Separate	max 100m	max 100m	max 30m	max 30m	max 100m
Signals I/O	Analogue output 4-20mA	√	√	√	***	√
	Pulse output	√	√	√	√	√
	Hart protocol*	√	√			
	Programmable digital output	√	√	**	***	√
	Active frequency digital output 0-10 kHz	√	√	**	***	√
Serial Communication	IrCOM interface	√	√	√	√	√
	RS 485 - MODBUS RTU	√	√	**	***	√
Display	Graphic LCD display 128x64 pixels, 50x25mm visual area, backlit white colour	√	√	√	√	√
Programming	With push buttons on board of converter, by IrCOM interface or via RS485 and MODBUS RTU	√	√	√	√	√
Process	4 MB flash memory, 200,000 lines of data	√	√	√	√	√
Standards	Type approved OIML R49-1: 2013 - Class 2	√				
Temperature		Ambient: -20 ... +60 C° (-4 ... +140 F) Media 0 ... 70 C° (32 ... +158 F) Storage -40 ... +70 C° (-22 ... +158 F)				
Flow units		ml, cl, dl, l, dal, hl, m3 , in3, ft3, gal, USgal, bbl, oz + Custom value				
Add on modules		GSM/GPRS Euromag Module Pressure (1) and temperature (2)				
Totalizers		5 (2 positive, 2 negative, 1 NET)				
Alarms and status		Status icon displayed and alarm logged in the datalogger				
Self-diagnostic		Alarms available: • excitation failure • empty pipe on the 4th electrode • high temperature • pulse overlapped				
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				
Diagnostic Data logger		64 kB EEPROM, 2000 lines of data. Not programmable and tamper/ reset proof				

* Optional ** with 24 Vdc power supply *** Only in recharge mode

CONVERTER
MC406

MID approved | OIML approved | GSM ready

The new battery powered electronic converter

The MC406 it is the new high-efficiency, technologically advanced battery powered electronic converter from Euromag, combining high performances and dedicated applications solutions to a low cost of ownership.

APPLICATIONS:

- Irrigation
- Abstraction and distribution
- Revenue and bulk metering
- Waste water and treatment
- Leak detection systems
- Any remote application with no access to mains power

Combined to the Euromag MUT2300 sensor series, the MC406 is capable to read flow velocities starting at 0.015 m/s (MID-OIML R49 certified).

FEATURES:

- Compact (horizontal or vertical) or Separate (up to 30 meters of cable)
- Coupled to Full bore sensors up to DN600 - Insertion meters
- 4 independent internal totalizer
- Pressure and temperature reading modules
- Built-in datalogger with over 100.000 data lines capacity
- Pressure and temperature modules available
- GSM/GPRS

REFERENCE STANDARDS:

- Custody transfer (MID MI-001, OIML R49)
- 2014/35/EU – EN 61010-1:2013 (LVD)
- 2014/30/EU – EN 61326-1:2013 (EMC)

GENERAL FEATURES:

Transmitter type	Battery powered - 2 x D Cell 3,6 V *
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 0 ... 70 C° (32 ... +158 F) Storage -40 ... +70 C° (-22 ... +158 F)
Enclosure	Policarbonate case with aluminum bottom on compact vertical version. IP 67 / 68. Remote wall mount braket in carbon steel zinch plated
Cable entries	4X PG9 Glands I/O - 2X PG20 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 61000-6-3, EN 61000-6-2, EN 61326-1
Sensor type	Full bore up to DN 600 - Insertion meters
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 - cut-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, m^3, l, ML, ft^3, GAL
Outputs	2 pulses passive outputs (MOS), individual galvanically isolated - clean contact Maximum load +/- 35V DC, 100 mA short circuit protected
Communication	Integrated Euromag 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 Euromag 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

DATA TRASMISSION

GSM/GPRS INTEGRATED SYSTEM

The Euromag integrated GSM/ GPRS wireless system

An innovative, simple, universally compatible and consistently effective method for delivering, monitoring and managing realtime data from anywhere. Instant alerts help to respond to flow anomalies and intervene immediately.

visit www.euromagdata.com

The system is compatible with MC608A/B/R/I and MC406 for continuous monitoring in any type of application related to water (i.e. irrigation, distribution, pumping stations). It is also an excellent solution for monitoring consumption.

FEATURES:

- **Simple:** easy to use and user-friendly programming
- **Effective:** sends your data anywhere everywhere to SMS, E-mail (with or without attachment), web (www.euromagdata.com)
- **Cost and time efficient:** maximize productivity relying on latest mobile technology and reducing costs of data collection
- **Universal:** compatible with SIM cards of all GSM carriers, worldwide (5 band modem)
- **Complete:** flow, pressure, temperature; all information always under control
- **Reactive:** real data and alarms in real time
- **Compact:** all in one, no extra modules attached
- **Safe:** sensor and converter can be placed in a safe place such as underground pits, with only the antenna running out.

The flow data, together with pressure and temperature, can be forwarded to any recipient specified by the customer without the need for proprietary or complicated software:

- via SMS
- via email, as plain text or with .csv attachment
- via the site www.euromagdata.com, via private and secure access

Intervals in sending/receiving data and any alerts are customizable (day, week, month) and values are, registered constantly.

FIELD VERIFICATOR

A portable unit that can be used as a diagnostic and condition-monitoring tool

The Field verificator is a portable unit that can be used as a diagnostic and condition-monitoring tool, both for sensors and converters. It checks on-site meter's performance without the need to stop the flow, avoiding extra cost for installation and removal of the flowmeter.

FEATURES:

- Simulates the electromagnetic sensor and captures the converter's measure through RS485 interface
- Measures the converter's excitation current
- Stores the converter's settings on netbook as a reference for future tests or alignment of the converter
- Transfers calibration factor between converters allowing minimum error
- Performs a functional test on converter's I/O
- Calibrates the 4-20 mA output
- Verifies sensor's integrity through a dedicated motherboard

REFERENCE STANDARDS:

- Robust plastic case housing
- Stand-alone, powered by internal battery
- Totally automed and easy to use
- Power supply and wiring test connectors fixed on aluminium plate
- Supporting plate for electronic motherboard installation

ULTRASONIC FLOWMETERS

Euromag ultrasonic transit time flowmeters use two sensors, set opposite each other in the measuring tube. Each sensor can alternately transmit and receive ultrasonic signals, while simultaneously measuring the signal transit time. As soon as the fluid in the tube starts to flow, the signals are accelerated in the direction of flow but delayed in the opposite direction. The differential transit time, measured by the two sensors, is directly proportional to the flow rate.

Typical applications include:

- Water industry: revenue metering, district metering,water abstraction, leakage detection
- Wastewater industry: transport networks, sewage treatment plants
- Metal & mining industry: mediums with a low solid content

Highlights:

- For stationary or temporary flow measurements
- For retrofitted installation without interrupting the process
- Aggressive fluids can be measured without any problems, even under high pressure
- Suitable for pipes made of plastic, steel, cast iron or composite materials (lined/unlined)
- For pipe diameters up to DN6000
- Long service life, no abrasion or corrosion from the fluid
- No moving parts, minimum maintenance and upkeep
- Free pipe cross-section, no pressure loss
- Measurement independent of pressure, density, temperature, conductivity and viscosity (for homogeneous fluids)

Flowmeters

ES2000 WALL MOUNT

ES2000 HAND HELD

X100P

FLOWMETERS

EUROSONIC2000 WALL MOUNT

Fixed installation ultrasonic transit time flowmeter

The Eurosonic 2000 flow meter is based on clamp-on transit-time flow measurement principle.

APPLICATIONS:

- Potable water
- Sewage (with limited particle content)
- Seawater
- Wastewater
- Discharge water
- Other liquids used in industrial applications

It covers a wide range of pipe sizes and materials, thanks to 3 different sizes of transducers:
S2 (DN15-DN100), M2 (DN50-DN700) and L2 (DN300-DN6000).

FEATURES:

- Economic, non-intrusive, flow measurement
- Simple installation
- No pressure drop
- Velocity, volumetric and totalized flow
- Data logger
- Digital output configurable
- 4…20 mA output
- RS 485

FLOWMETERS

EUROSONIC2000 HAND HELD

Portable installation ultrasonic transit time flowmeter

The Hand Held is a battery-powered ultrasonic flow meter with the capability of a full-size flow meter.

APPLICATIONS:

- Potable water
- Sewage (with limited particle content)
- Seawater
- Wastewater
- Discharge water
- Other liquids used in industrial applications

It covers a wide range of pipe sizes and materials, thanks to 3 different sizes of transducers:
S2 (DN15-DN100), M2 (DN50-DN700) and L2 (DN300-DN6000).

FEATURES:

- Carefully designed for portability and ease of use
- Economic, non-intrusive, flow measurement
- Simple installation
- No pressure drop
- Velocity, volumetric and totalized flow
- Lightweight and long operating time

FLOWMETERS

EUROSONIC X100P

Ultrasonic transit time flowmeter High performances

The X100P is fully digitalized, easy-to-use portable flowmeter. It can be used also to check the performance of field flowmeters and to compare their performance.

APPLICATIONS:

- Any type of liquids with less than 30% solids or bubbles
- Clean Liquids, Municipal Water, De-Ionized Water
- Acids, Benzene, Diesel, Alcohol
- Milk, Beer, Crude Oil
- Waste Water, Lime Stone Slurries, Manure

FEATURES:

- Battery operated up to 10 hours operations
- Transit-Time ultrasonic DSP technology
- Water proof model
- Principle AR Mode, Transit-Time
- Accuracy ±1.0%, RD, ±0.5% with dual path
- Measuring Pipe Size 12 ~ 6000 mm
- Measuring Velocity Range ±0.02 ~ ±12.0 m/sec
- Turn Down Ratio 500:1
- Sensitivity 0.003 m/sec
- Datalogger 8 Mbytes (500,000 loggers)
- Operating Temp Flow Computer -20~+60°C Transducers -40~+120°C
- Power AC110~220V, free voltage
- 1 path, or dual path or 2 channel functions
- IP67 Connectors
- Submersible IP68 Transducers
- Touch Key programming + Remocon
- Rugged case IP67
- Large Color LCD Display
- Pulse Output
- Analog Output
- Relay Output for total

DS066-6-ENG

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Measure > Sense > Innovate

EUROMAG INTERNATIONAL

Measure > Sense > Innovate

QUALITY SYSTEM CERTIFICATION DNV·GL ISO 9001

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