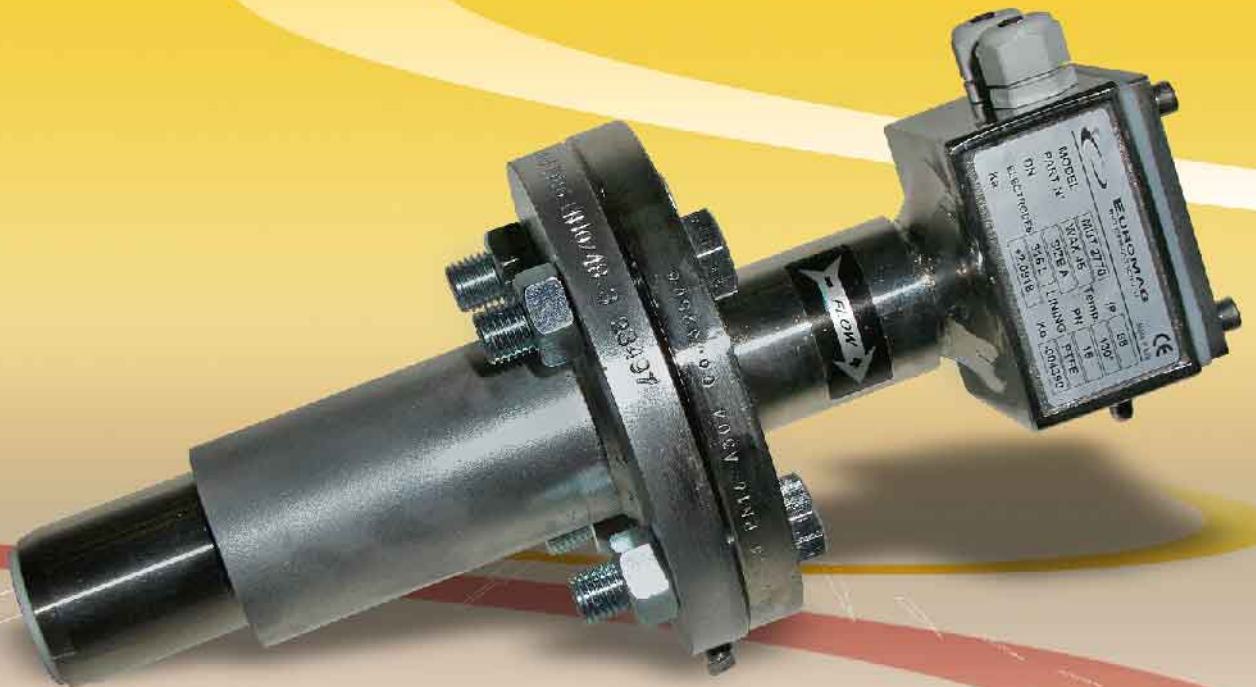




## Electromagnetic Flowmeters



# Insertion Sensors MUT 2770

DS190-0-ENG

## Sensor MUT 2770

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EUROMAG INTERNATIONAL Insertion flowmeters represent the best answer when low costs and good performance are needed. The MUT2770 sensors are suitable for wide pipes under maximum pressure of 16 bar in the standard version (as indicated in Table 1 and 2). They are made of a 47mm probe, which has to be inserted into the tube for 1/8 of its internal diameter. As all magnetic meters, they can be used to measure liquids flow rates with electrical conductivity of 5  $\mu\text{S}/\text{cm}$  minimum.

### 1. Body

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MUT2770 sensors are made of AISI 304 stainless steel. In the separate version they have an IP68 protection degree for immersion in 1.5 meters.

The junction box placed on top of the sensor, has two glands for the cables connection. The MUT2770 models are available with several lengths, to fit various pipe diameters (Table 1).

### 2. Electrodes

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The electrodes are in AISI 316 L stainless steel.

### 3. Maximum liquid temperature

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In the separate version, the maximum liquid temperature is +180°C. While in the compact version, it depends on the environmental temperature since the converter may not work properly over 60°C.

### 4. Coupling and connection to converter

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MUT2770 sensors are compatible with all EUROMAG INTERNATIONAL converters. In the separate version the sensor is connected to the converter through two cables, whose length depends on the liquid conductivity and must not exceed 100 metres (see Fig. 1). In the compact version, the converter is mounted directly on the junction box.

### 5. Assembly

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MUT2770 sensors must be installed on empty pipes, through a 2" nozzle with a UNI 2278 counter flange to which connect the sensor. The probe has to be inserted into the tube for 1/8 of its internal diameter.

When installing the sensor, the minimum distances of 10 diameters upstream and 5 diameters downstream must be respected, making a 90° angle with the pipe as per Fig. 2.

### 6. Calibration and maximum error

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MUT2770 sensors belong to the reference Group B1 (ISO 11631). Each sensor is calibrated on our hydraulic bench according to the reference weighing system SIT. Upon a correct installation the measuring accuracy is 3% of the read value, with a flow velocity higher than 0.3 m/s.

### 7. Reference standards

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EUROMAG INTERNATIONAL magnetic meters are marked CE and are manufactured according to the following standards:

- \* CEI EN 61010-1
- \* UNI EN ISO 6817
- \* EN 14154
- \* EN 50081 - 1
- \* EN 50082 - 1

## Maximum length of cables according to the liquid conductivity

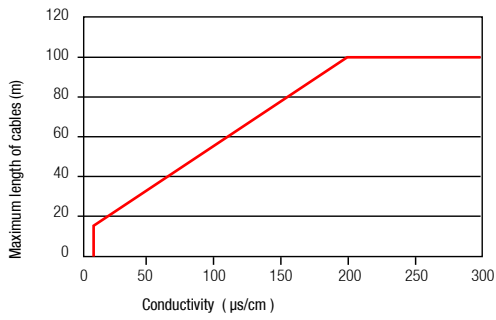


fig. 1

## Sensor MUT2770 Dimensions

Size	A	B	C	D
Maximum Diameter Permitted [mm]	500	1000	1600	2000
Length Ltot [figure 3]	199	269	348	414

table 1

## Sensor MUT2770 General characteristics

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 pressure	16 bar			
Temperature of liquid	-40 °C , +180 °C			
Protection Degree	IP68 for immersion at 1,5m (IEC 529)			
Converter compatibility	MC 106	MC 108	MC 308	MC 308 C
Length [mm][1]	SIZE : A B C D			
Parts in contact with liquid	Head of sensor	Electrodes	Pipe end	
	PTFE	[*]	AISI 304	
Electric connections	Cable gland PG 11 + Terminal block + sealing resin			

[1] See fig. 3 and table 1.

table 2

## Installation

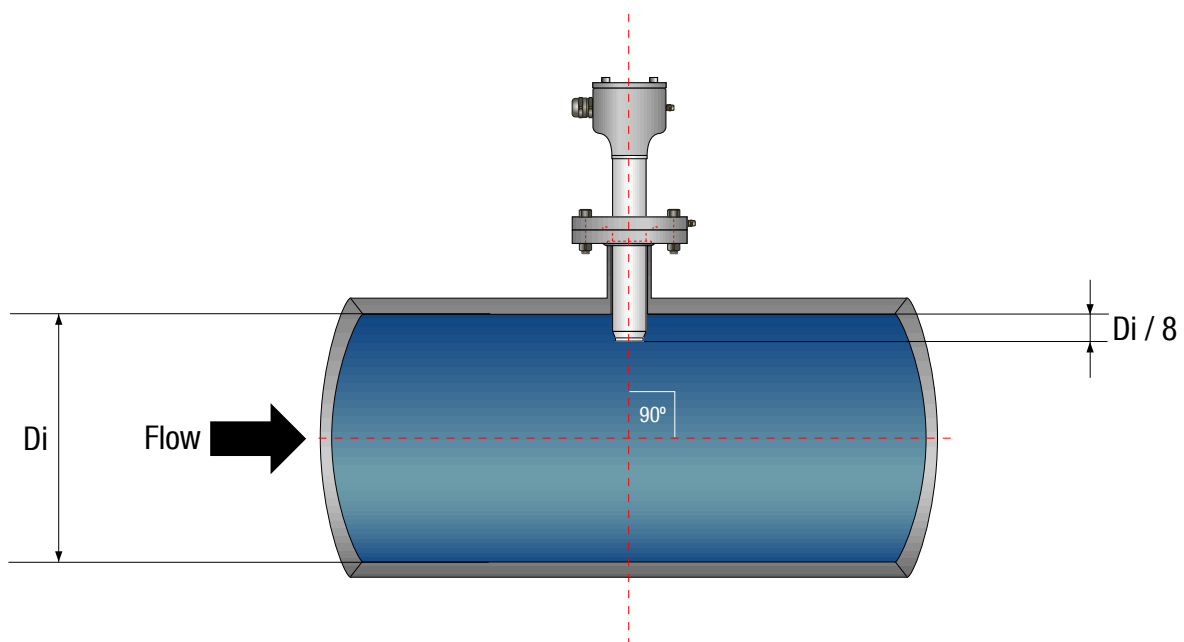


fig. 2

## Overall Dimensions - Work Position

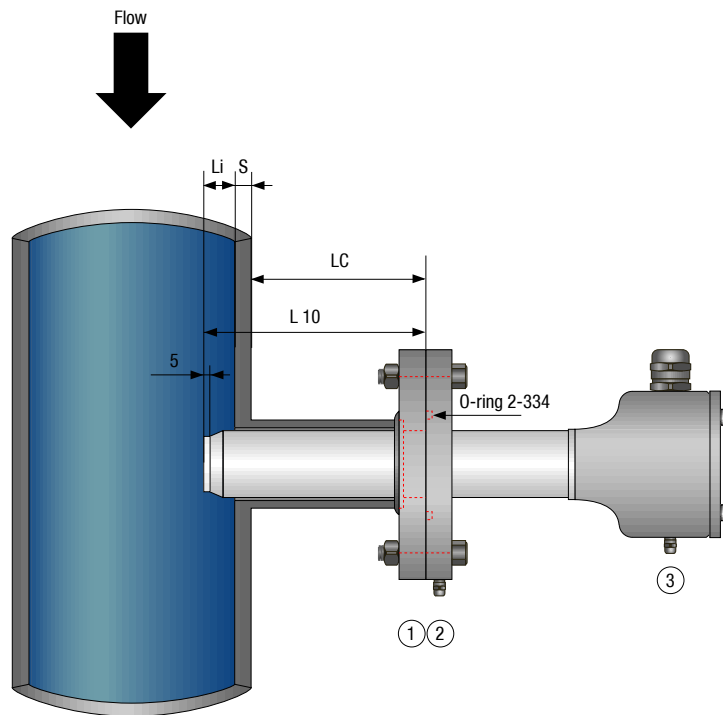


fig. 3

### References

①	FLANGE UNI 6084 DN 40 PN 40 - CARBON STEEL
②	FLANGE UNI 2278 DN 40 PN16 - AISI 304
③	DERIVATION BOX
LC	General length flanged device
Li	Insertion length = $(De - 2S) / 8$

DN	SIZE	L 10
$\leq 500$	A	125
$\leq 1000$	B	190
$\leq 1600$	C	265
$\leq 2000$	D	335

The data shown in this catalogue are subject to modification without prior notice