

ISOMAG ™

THE FRIENDLY MAG METER

SENSOR

MS 501

THE SMALLEST



MICROFLOW SENSOR: THE SMALLEST OF THE SERIE, WITH A WIDE RANGE OF APPLICATIONS THANKS TO THE AVAILABILITY OF DIFFERENT CONNECTION TYPES

ISOIL 
INDUSTRIA

The solutions that count

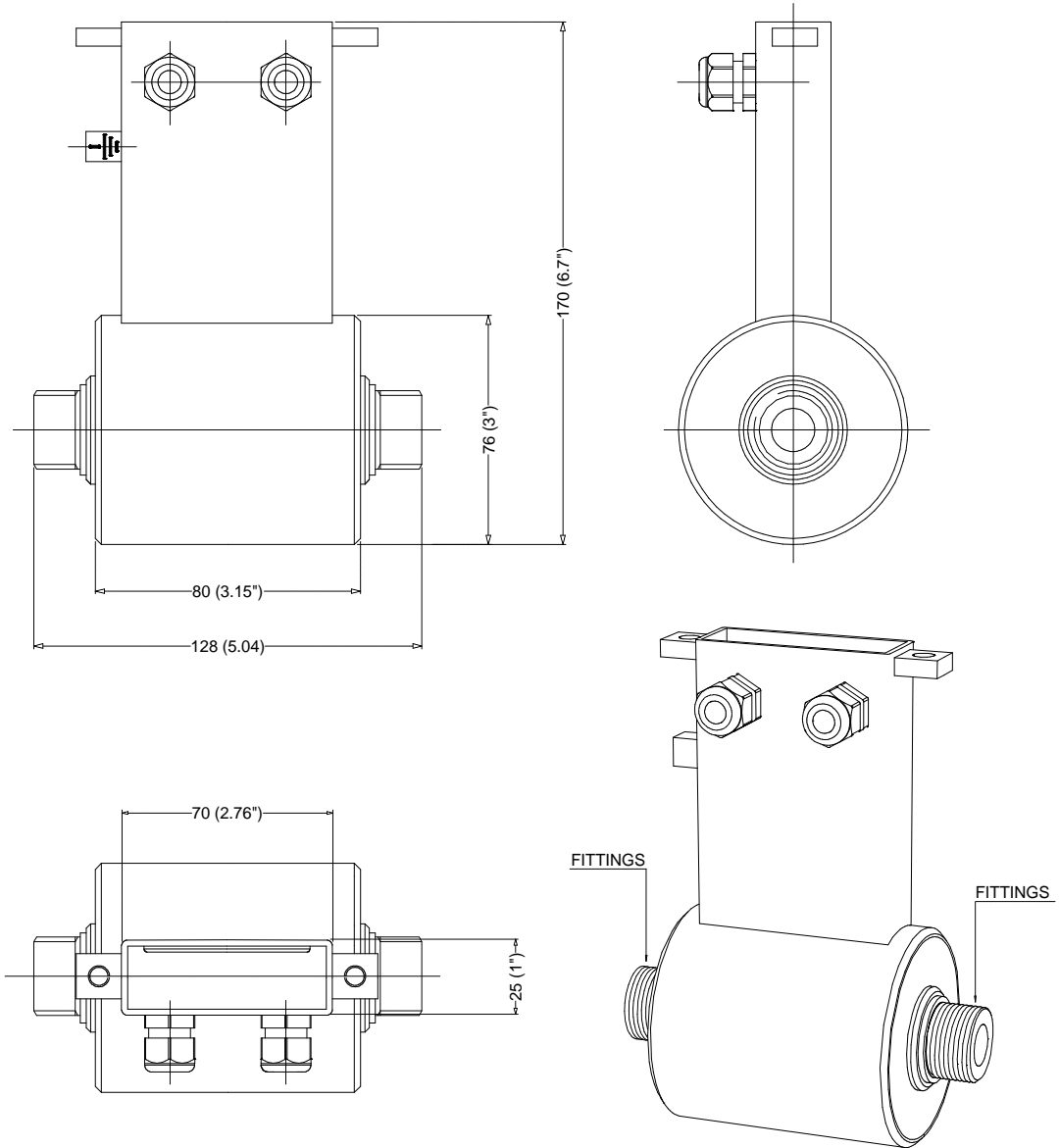
The manufacturer guarantees only English text.
Available on our web site: www.isoil.com

TECHNICAL DATA

Body material	<input type="checkbox"/> SS Inox AISI 304 <input type="checkbox"/> SS AISI 316 (opt.)
Nominal Diameter	<input type="checkbox"/> DN 3 ÷ 20
Nominal Pressure	<input type="checkbox"/> PN 16/40(optional)
Connections	<input type="checkbox"/> Threaded UNI 338 <input type="checkbox"/> Threaded NTP <input type="checkbox"/> Flanged UNI 2278 <input type="checkbox"/> Flanged ANSI 150 <input type="checkbox"/> Sanitary DIN 11851 <input type="checkbox"/> Clamp ISO 2852 <input type="checkbox"/> Clamp BS 4825 <input type="checkbox"/> SMS <input type="checkbox"/> Other on request
Vacuum resistance	<input type="checkbox"/> 20 Kpa absolute at 100 °C
Connections material	<input type="checkbox"/> SS AISI 316 <input type="checkbox"/> SS AISI 304 with lining in PTFE <input type="checkbox"/> Other on request
Liquid temperature	<input type="checkbox"/> -20°C ÷ 100°C comp. (130°C only with ML3F-1) <input type="checkbox"/> -20°C ÷ 150°C separate
Lining material	<input type="checkbox"/> PTFE
Gasket material	<input type="checkbox"/> FPM <input type="checkbox"/> EPDM
Electrodes material	<input type="checkbox"/> SS AISI 316L <input type="checkbox"/> Hastelloy C <input type="checkbox"/> Platinum – rhodium <input type="checkbox"/> Tantalum <input type="checkbox"/> Other on request
Version/Protection degree	<input type="checkbox"/> Compact – IP 67 <input type="checkbox"/> Separate (max 20m) – IP 68 <input type="checkbox"/> Separate (max 500m) with pre-amp IP 67 (IP 68 optional)
Accuracy/Repeatability	<input type="checkbox"/> See table below

OVERALL DIMENSIONS

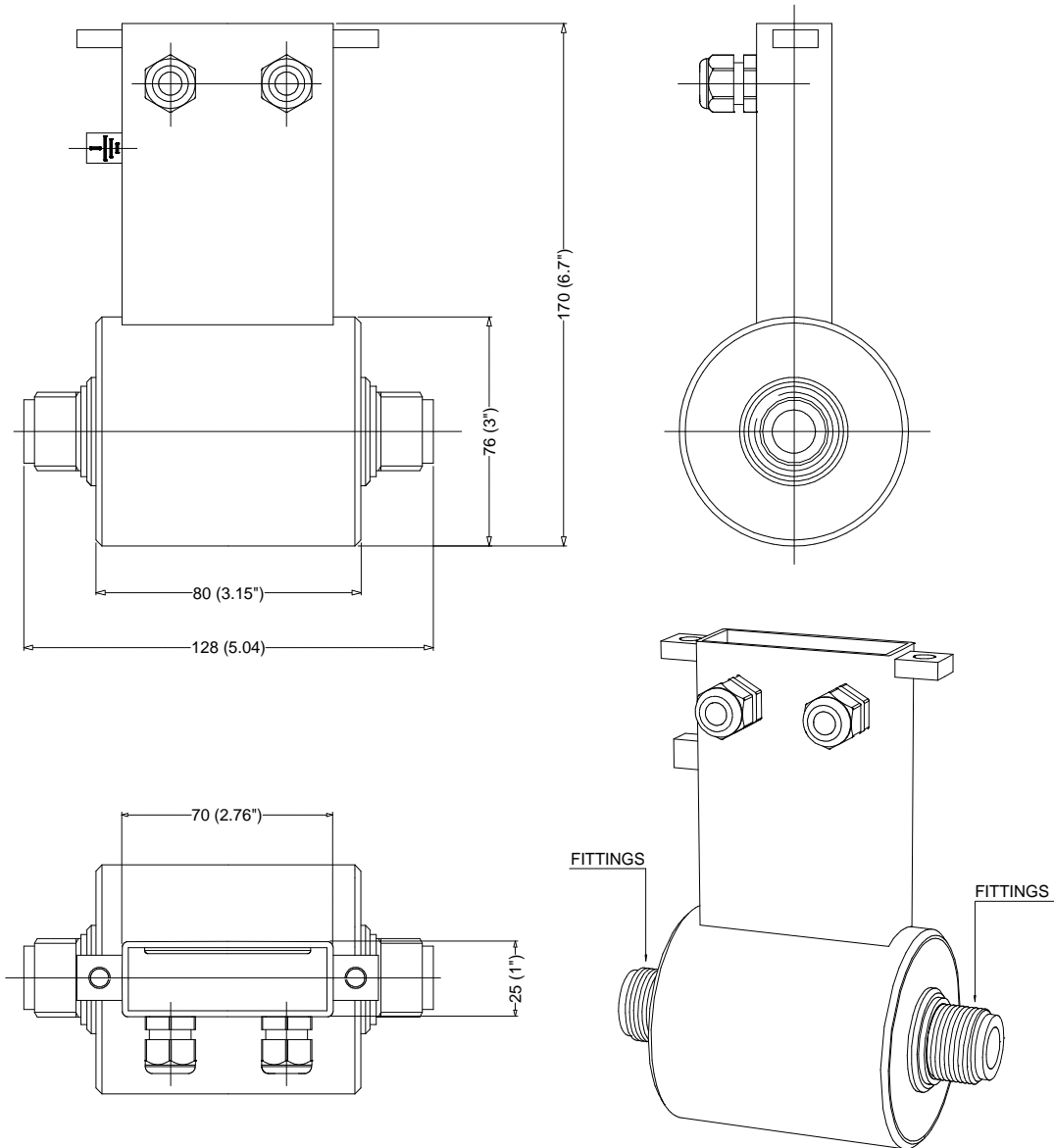
GAS/NPT WITHOUT LINING



FITTINGS GAS/NPT (STAINLESS STEEL LINING)

DIMENSIONS mm (inches)	DN				
	3 (1/8")	6 (1/4)	10 (3/8)	15 (1/2")	20 (3/4")
FITTINGS	1/4"	3/8"	1/2"	3/4"	1"

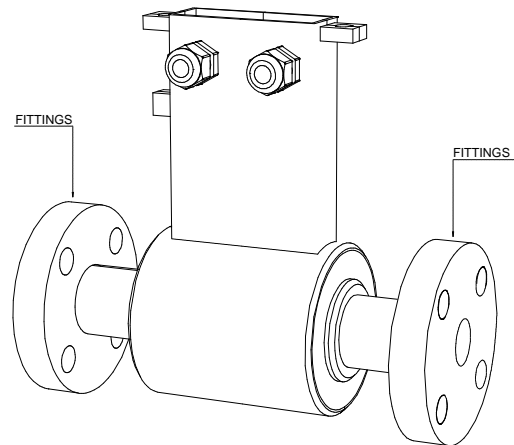
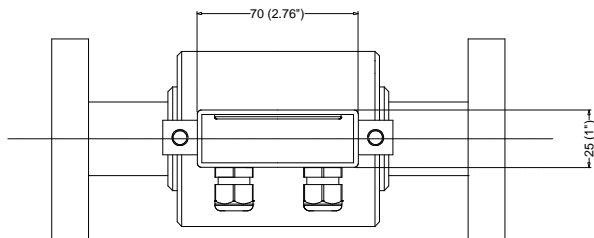
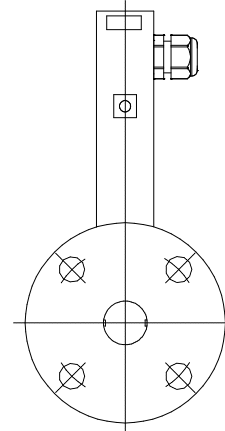
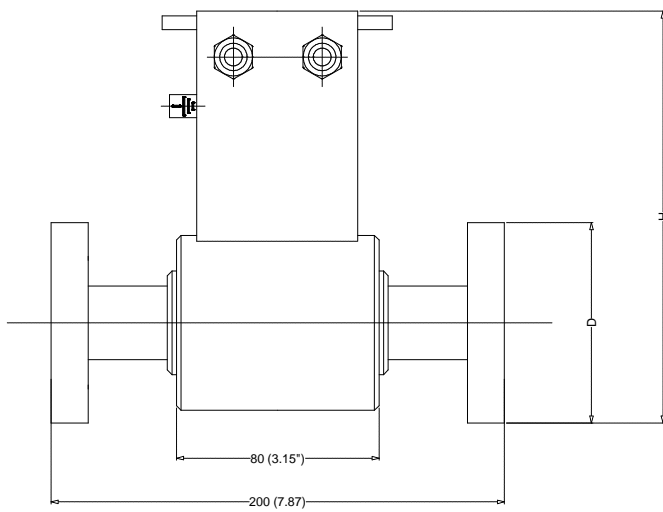
GAS/NPT WITH LINING



FITTINGS GAS/NPT (PTFE LINING)

DIMENSIONS mm (inches)	DN				
	3 (1/8")	6 (1/4)	10 (3/8)	15 (1/2")	20 (3/4")
FITTINGS	1/2"	1/2"	3/4"	1"	1 1/4"

FLANGED WITHOUT LINING



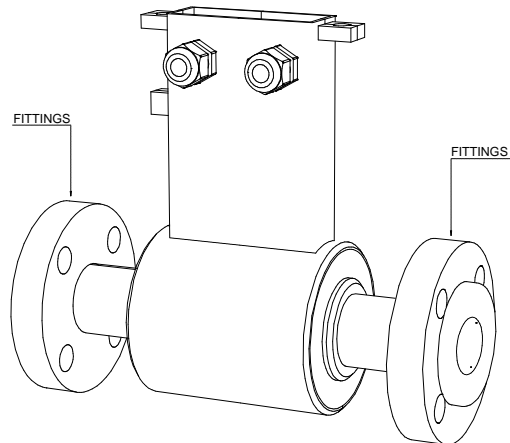
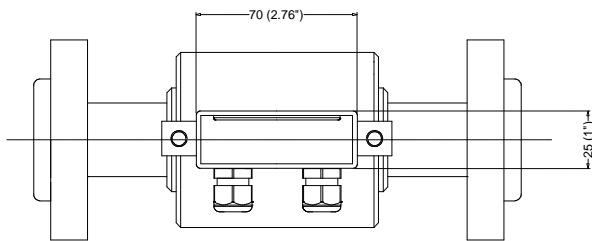
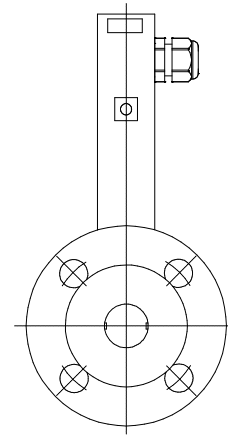
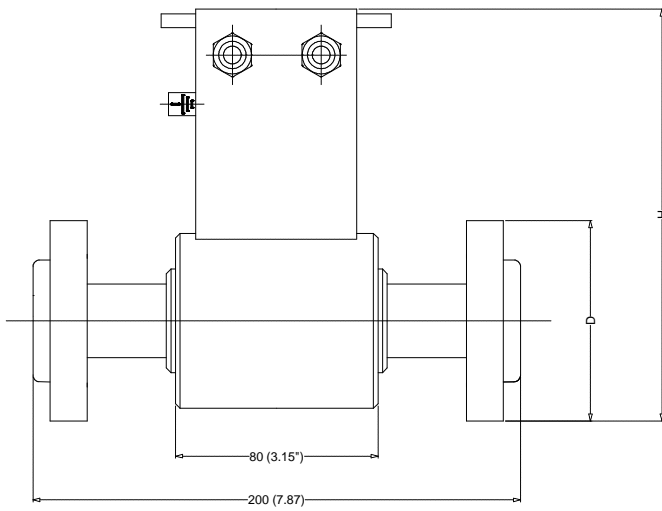
FLANGE FITTINGS UNI (STAINLESS STEEL LININGS)

DIMENSIONS mm (inches)	DN				
	3 (1/8")	6 (1/4)	10 (3/8)	15 (1/2")	20 (3/4")
D	90 (3.54)	90 (3.54)	90 (3.54)	95 (3.74)	105 (4.13)
H	183 (7.20)	183 (7.20)	183 (7.20)	186 (7.30)	191 (7.5)
FITTINGS	DN 10	DN 10	DN 10	DN 15	DN 20

FLANGE FITTINGS ANSI (STAINLESS STEEL LININGS)

DIMENSIONS mm (inches)	DN				
	3 (1/8")	6 (1/4)	10 (3/8)	15 (1/2")	20 (3/4")
D	88.9 (3.5)	88.9 (3.5)	88.9 (3.5)	88.9 (3.5)	98.4 (3.87)
H	183 (7.20)	183 (7.20)	183 (7.20)	183 (7.20)	188 (7.37)
FITTINGS	1/2"	1/2"	1/2"	1/2"	3/4"

FLANGED WITH PTFE LINING



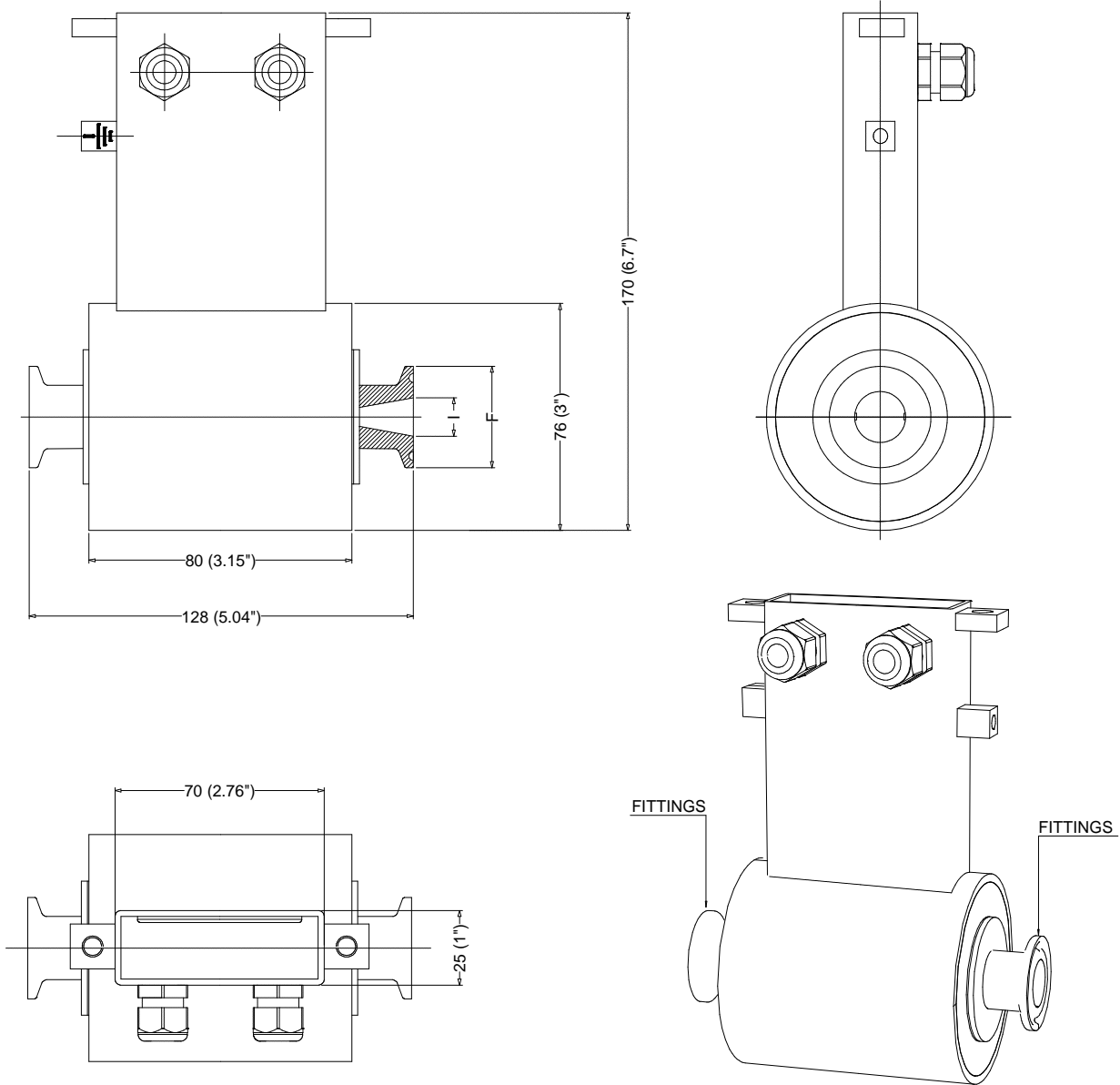
UNI FLANGE FITTINGS (PTFE LININGS)

DIMENSIONS mm (inches)	DN				
	3 (1/8")	6 (1/4)	10 (3/8)	15 (1/2")	20 (3/4")
D	90 (3.54)	90 (3.54)	90 (3.54)	95 (3.74)	105 (4.13)
H	183 (7.20)	183 (7.20)	183 (7.20)	186 (7.30)	191 (7.5)
FITTINGS	DN 10	DN 10	DN 10	DN 15	DN 20

ANSI FLANGE FITTINGS (PTFE LININGS)

DIMENSIONS mm (inches)	DN				
	3 (1/8")	6 (1/4)	10 (3/8)	15 (1/2")	20 (3/4")
D	88.9 (3.5)	88.9 (3.5)	88.9 (3.5)	88.9 (3.5)	98.4 (3.87)
H	183 (7.20)	183 (7.20)	183 (7.20)	183 (7.20)	188 (7.37)
FITTINGS	1/2"	1/2"	1/2"	1/2"	3/4"

SANITARY CLAMP FITTINGS



FITTINGS CLAMP ISO 2852

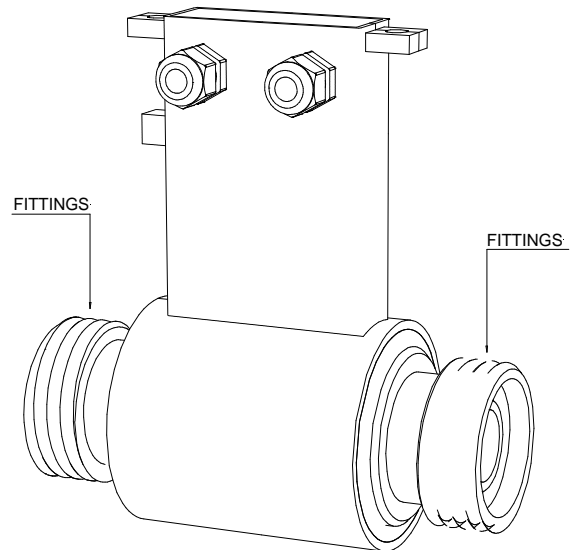
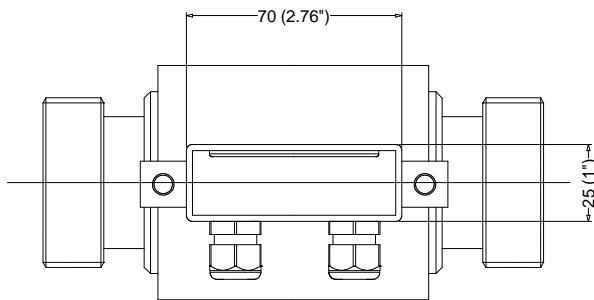
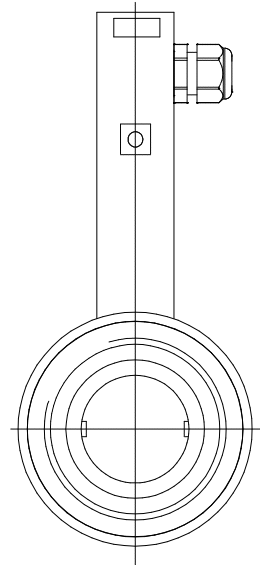
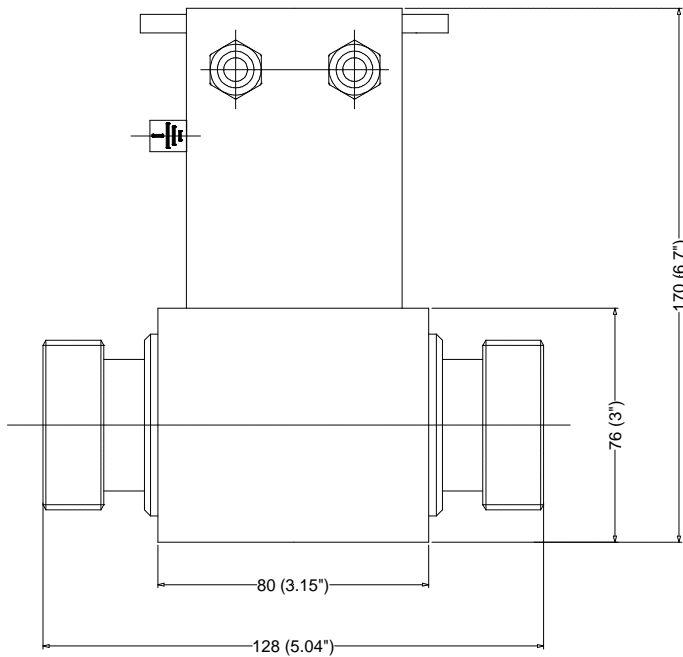
DIMENSIONS mm (inches)	DN				
	3 (1/8")	6 (1/4)	10 (3/8)	15 (1/2")	20 (3/4")
I	12.7(0.5)	12.7(0.5)	12.7(0.5)	17.2(0.68)	21.3 (0.84)
F	34 (1.34)	34 (1.34)	34 (1.34)	34 (1.34)	34 (1.34)

FITTINGS CLAMP BS 4825

DIMENSIONS mm (inches)	DN				
	3 (1/8")	6 (1/4)	10 (3/8)	15 (1/2")	20 (3/4")
I	9.5 (0.37)	9.5 (0.37)	9.5 (0.37)	15.85 (0.62)	22.2 (0.87)
F	25.4 (1)	25.4 (1)	25.4 (1)	25.4 (1)	50.5 (1.99)

SANITARY DIN/SMS FITTINGS

ATTACCHI SANITARI/SANITARY FITTINGS



FITTINGS DIN 11851

DIMENSIONS	DN				
	3 (1/8")	6 (1/4)	10 (3/8)	15 (1/2")	20 (3/4")
FITTINGS	DN 10	DN 10	DN 10	DN 15	DN 20

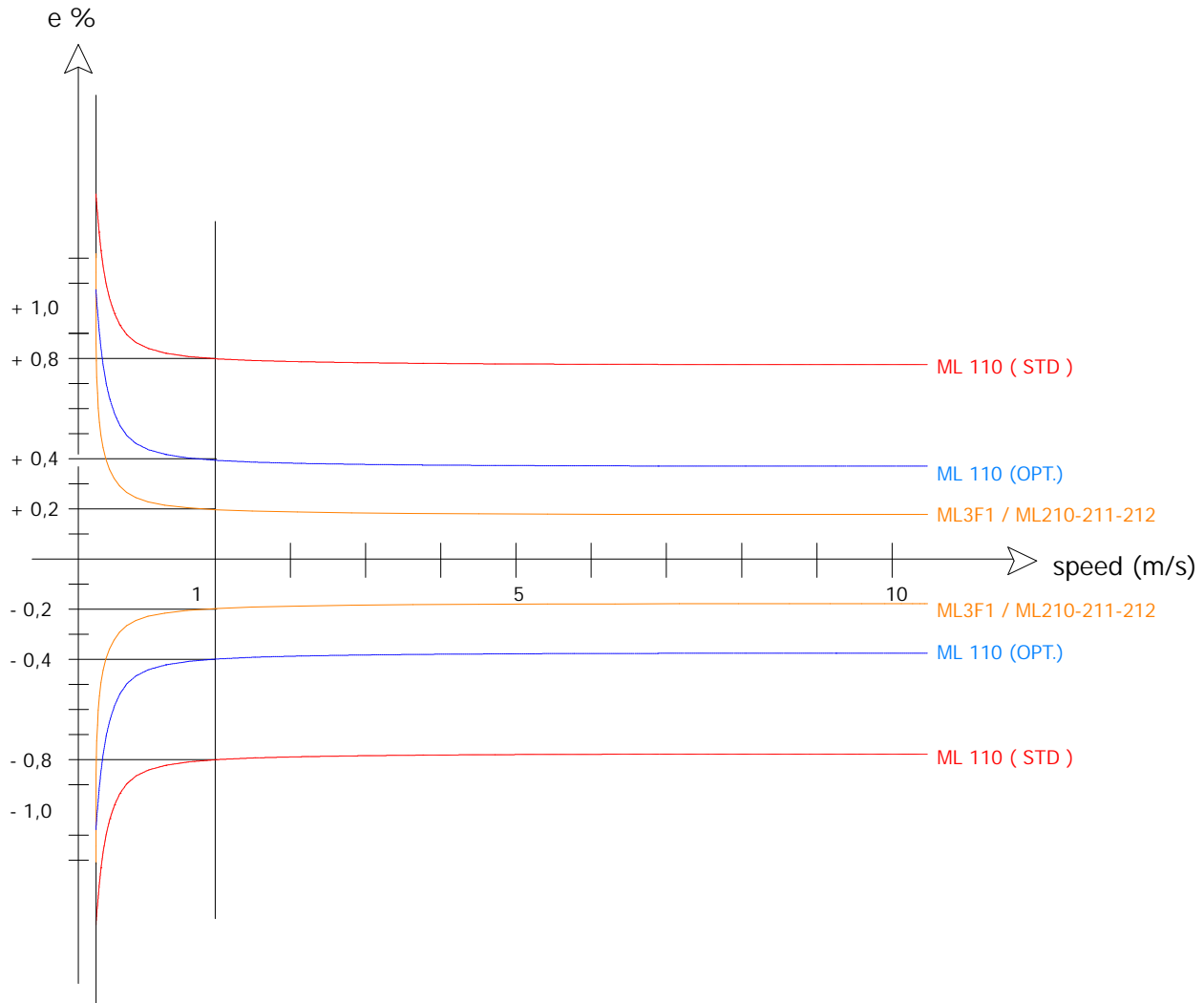
FITTINGS SMS

DIMENSIONS	10 (3/8)	15 (1/2")	20 (3/4")
	FITTINGS	DN 25	DN 25

ACCURACY TABLE

- Reference conditions

- Water temperature: 20°C
- Ambient temperature: 25 °C
- Test time: > 60 sec.
- Converter warm-up: > 60'
- Constant flow rate during the test
- Pressure : 50 Kpa
- liquid speed > 1m/s



REPEATABILITY:

- ML 210-211-212 / ML3F1 = +/- 0,1%
- ML 110 = +/- 0,2%

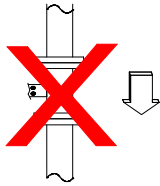
NOTE :

- Between 0,02 and 0,4 m/s the accuracy becomes TWICE the accuracy declared on the above diagram
- Between 0,4 and 1,0 m/s the accuracy becomes 1,5 times the accuracy declared on the above diagram

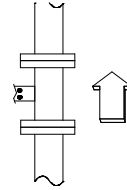
INSTALLATION RECCOMANDATIONS

AVOID

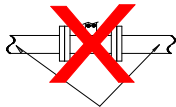
RECOMMENDED



For vertical installations with descending flow direction contact the manufacturer



In vertical installations an ascending flow is preferable



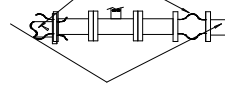
LONG PIPE

Avoid the installation of the sensor in a long pipe line, without any support for the sensor itself

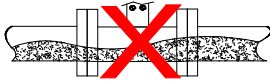


ANTI VIBRATION JOINTS

For installations in long pipe lines, please use anti vibration joints



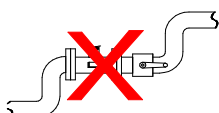
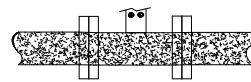
LONG PIPE



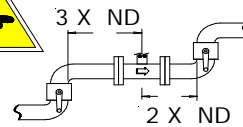
Avoid the functioning with partially empty pipe



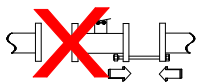
During the functioning the pipe must be either completely full of liquid or completely empty



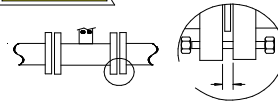
Avoid the installation near bends or hydraulic accessories



Install the sensor away from bends and hydraulic accessories



Avoid closing flange and couter flange by using the nuts closing for

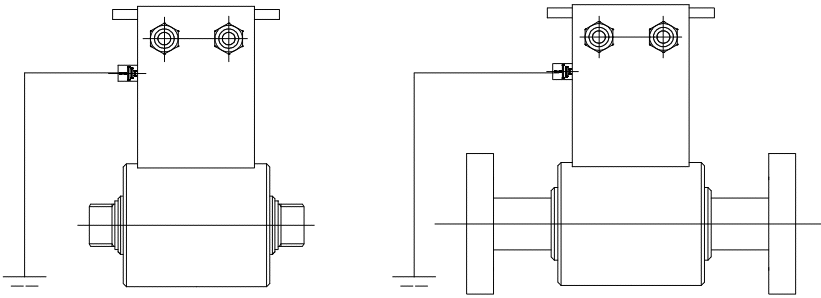


GASKET THICKNESS + 4mm

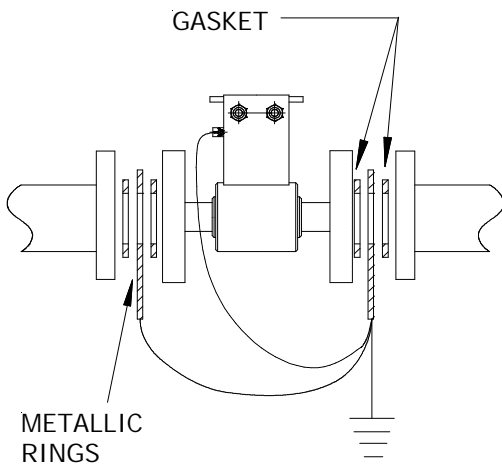
Before tightening the nuts close pipe and sensor flanges as much as possible

SENSOR GROUNDING

METALLIC PIPE



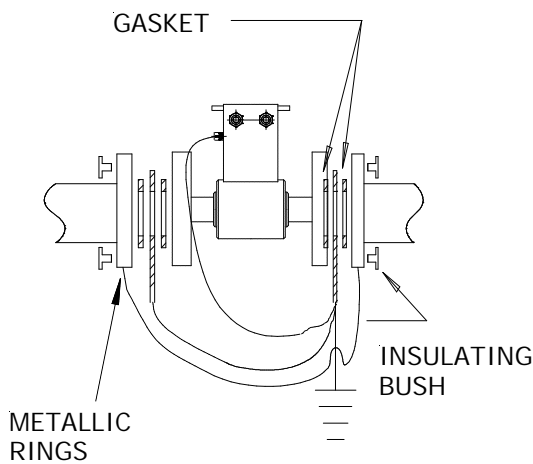
INSULATED PIPE



-If the sensor has to be installed in a pipe made of an insulating material, the following are necessary:

- Inserting two metallic rings between the sensor flanges and the pipe line counter flanges or:
- Using a sensor with the additional grounding electrode

PIPE WITH CHATODIC PROTECTION



If the sensor has to be installed in the pipe with a cathodic protection, the following are necessary:

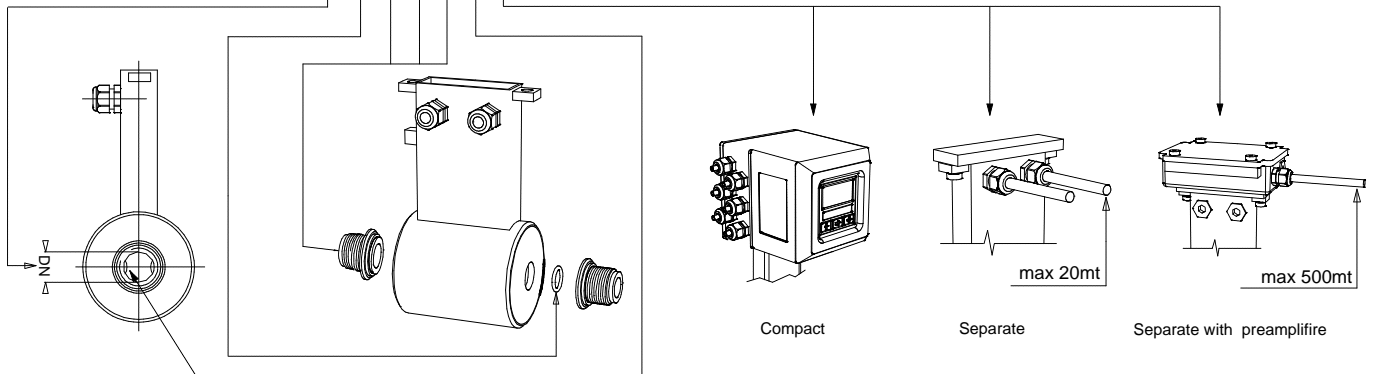
- using insulating bushes to isolate the bolts
- Grounding metallic rings should be provided to ground the liquid using insulating gasket between the rings

HOW TO ORDER

MS 501	Nominal diameter / Lining / Range of measure
T03	DN3 (1/8 "), lining PTFE, range 0.. 10 / 0...250 l/h
T06	DN6 (1/4 "), lining PTFE, range 0..40/0...1000 l/h
T10	DN10 (3/8 "), lining PTFE, range 0..120/0...3000 l/h
T15	DN15 (1/2 "), lining PTFE, range 0.. 240/0...6000 l/h
T20	DN20 (3/4 "), lining PTFE, range 0.. 500/0...12500 l/h
Gasket material	
1	O-Ring : FPM
2	O-Ring : Epdm
9	O-Ring : other
Nominal pressure	
A	PN 16
B	PN 40
Z	PN other
Connections type	
1	GAS UNI338
2	NPT
3	Clamp ISO2852
4	DIN11851
5	SMS (solo per/only for DN10, 15 ,20)
6	UNI2223
7	ANSI 150
0	Other fittings
Connections material	
A	AISI 316
C	AISI304, with PTFE lining (only for connections1-2-6-7)
9	Other
Number and electrodes material	
1	n. 2 electrodes in AISI316 L
4	n. 4 electrodes in Hastelloy C 276 (2 measure + 2 ground)
5	n. 4 electrodes in Titanium (2 measure + 2 ground)
6	n. 4 electrodes in Tantalum (2 measure + 2 ground)
7	n. 4 electrodes in Platinum-Rhodium 90/10 (2 measure + 2 ground)
0	other
Version - Protection degree	
A	Versione compact, IP67, max liquid temp. 100 °C
B	Version separate (max distance 10 (20*) m., max liquid temp. 150 °C, IP68
C	Version separate (in carbon steel.), with preamplifire (max distance 500 m), max liquid temp 100 °C
D	Version separate (in SS.), with preamplifire (max distance 500 m), max liquid temp 100 °C

MS 501 T03 1 A 1 A 1 A

EXAMPLE OF ORDER CODE



In accordance with a continuous evolution of the Product, the company reserves the right to modify without warning the information contained in this document