

ISOMAG ™

The friendly magmeter

MS 501

THE MICROFLOW SENSOR



**MICROFLOW SENSOR WITH A WIDE RANGE OF APPLICATIONS
THANKS TO THE AVAILABILITY OF DIFFERENT CONNECTION
TYPES**

The manufacturer guarantees only English text.
Available on our web site: www.isomag.eu

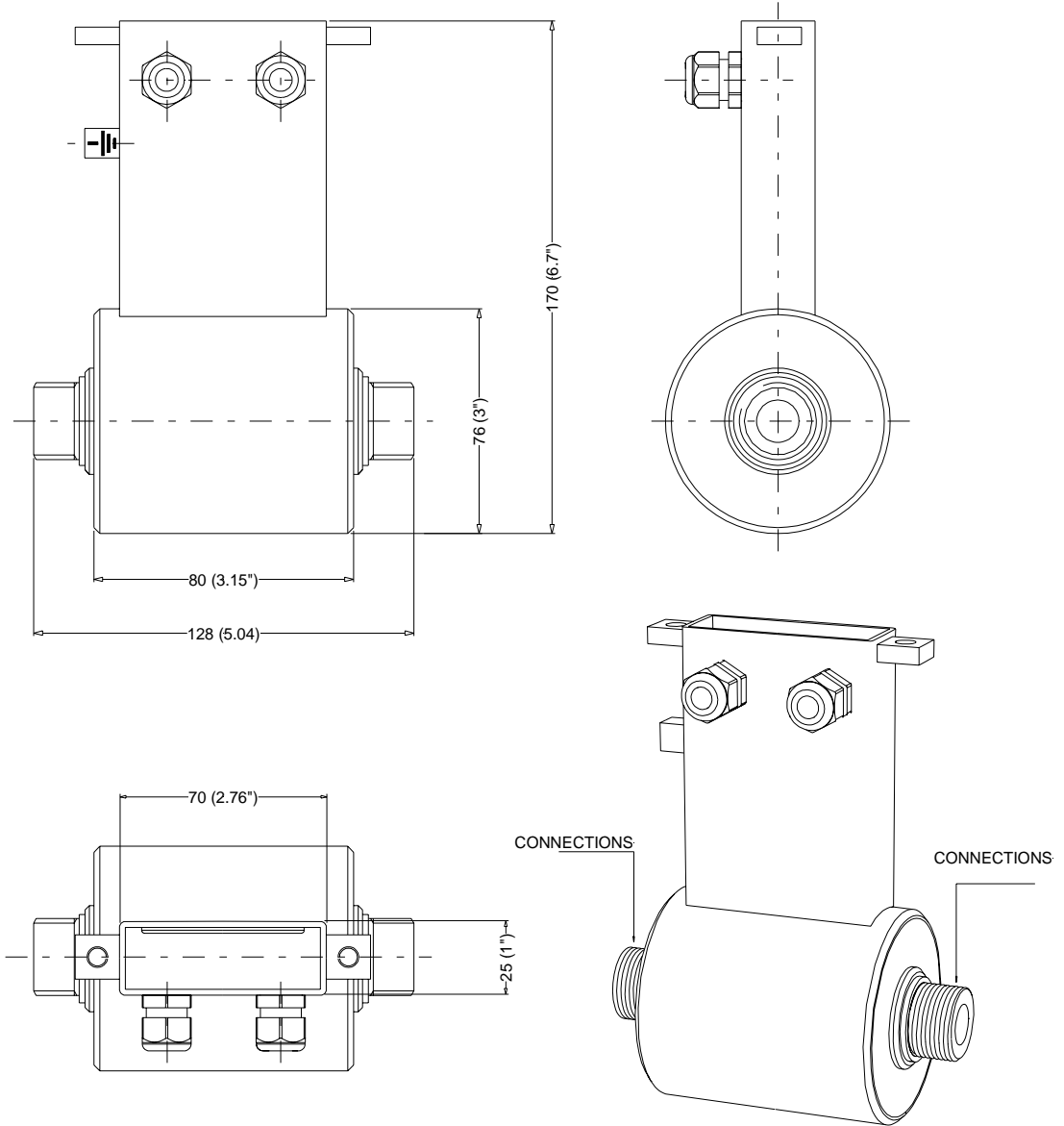
ISOIL 
INDUSTRIA
The solutions that count

TECHNICAL DATA

Body material	<input type="checkbox"/> AISI 304 <input type="checkbox"/> AISI 316 (opt.)
Nominal Diameter	<input type="checkbox"/> DN 3 ÷ 20
Nominal Pressure	<input type="checkbox"/> 1600 kPa / 4000 (optional)
Process 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"/> AISI 316 <input type="checkbox"/> 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 ML4F-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"/> AISI 316L <input type="checkbox"/> Hastelloy C <input type="checkbox"/> Platinum – rhodium <input type="checkbox"/> Titanium <input type="checkbox"/> Tantalum <input type="checkbox"/> Others on request
Version/ protection rating	<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	<input type="checkbox"/> See table below

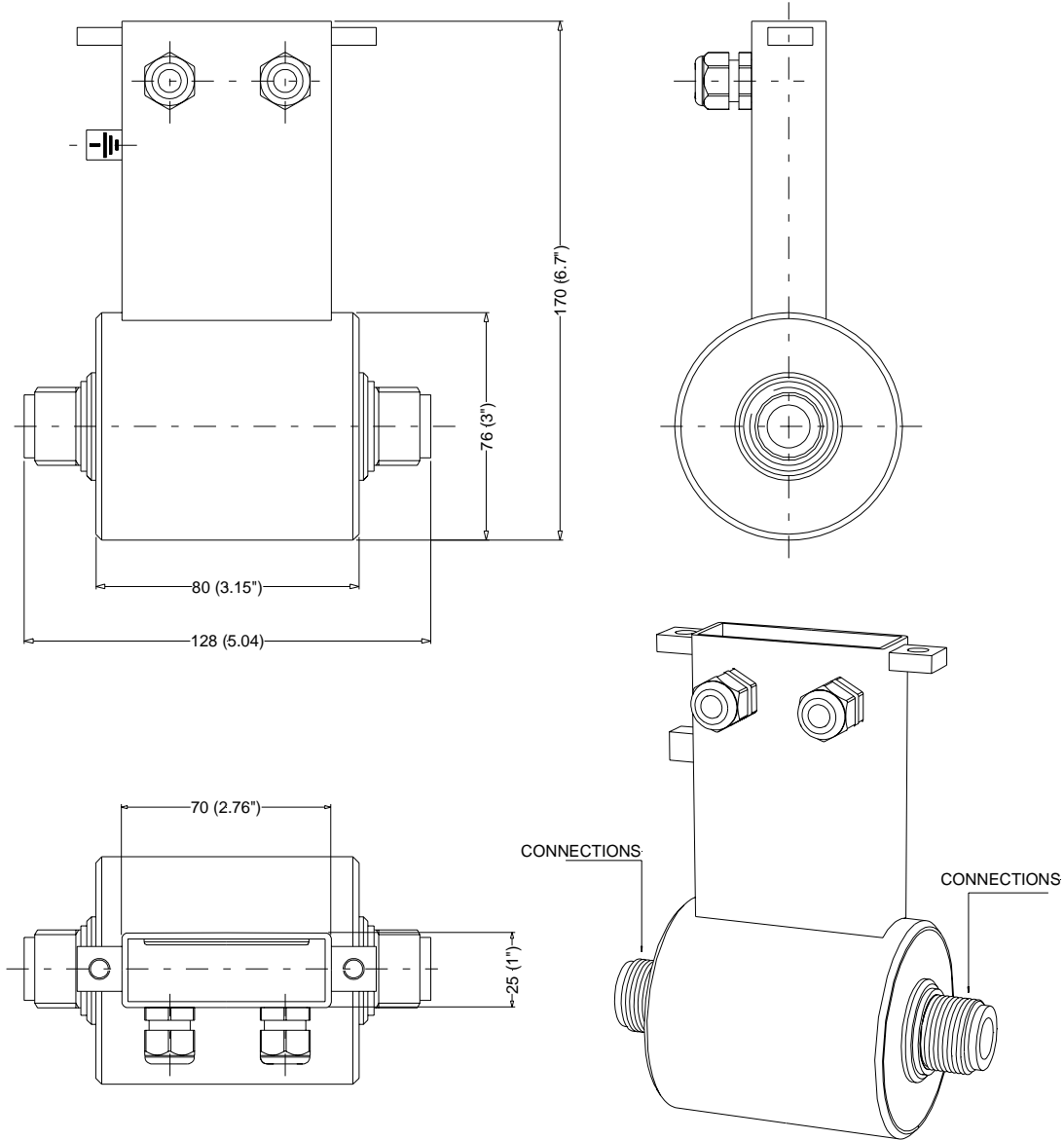
OVERALL DIMENSIONS

GAS/NPT WITHOUT LINING



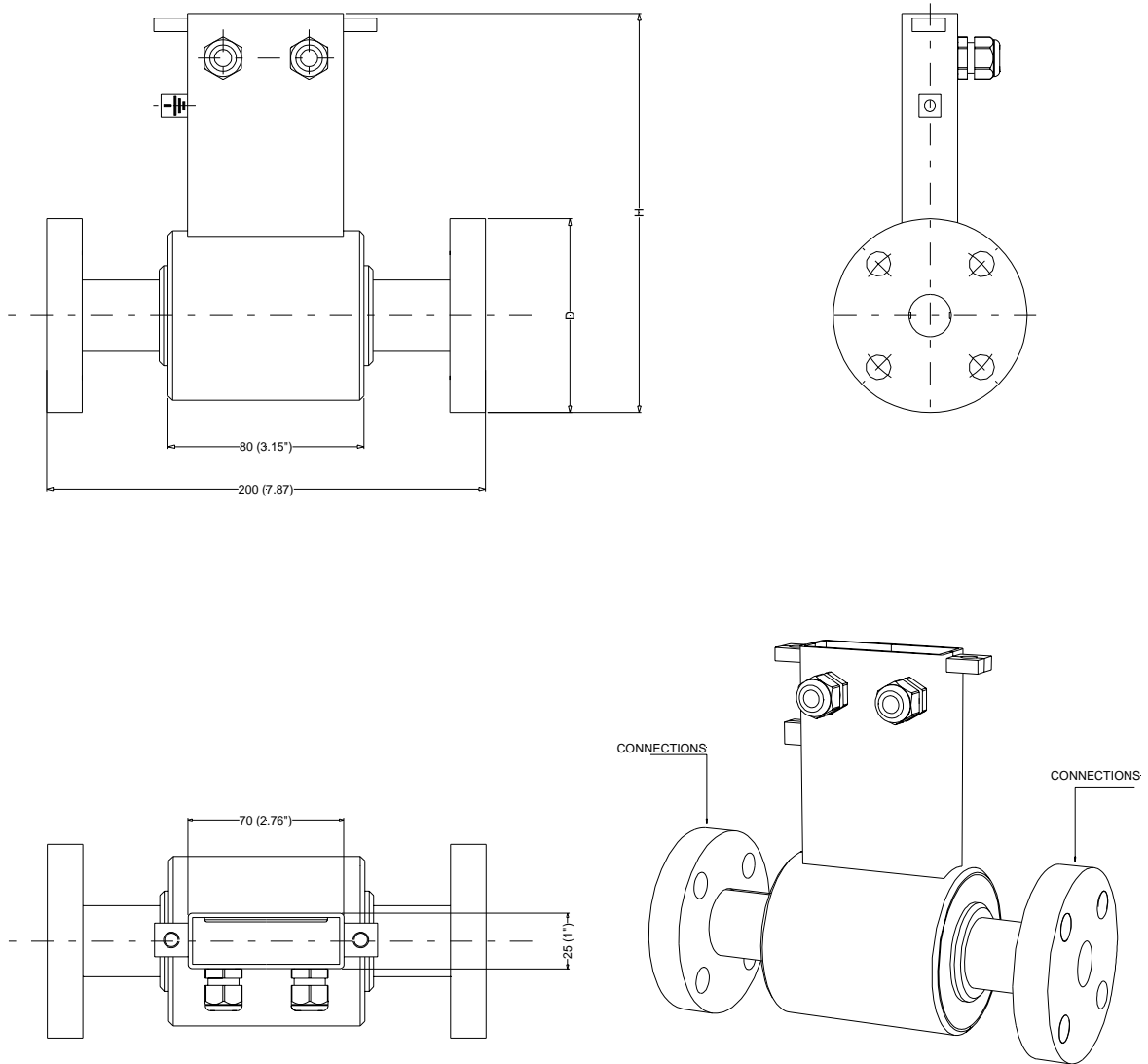
CONNECTIONS GAS/NPT (STAINLESS STEEL WITHOUT LINING)					
DIMENSIONS mm (inches)	DN				
	3 (1/8")	6 (1/4)	10 (3/8)	15 (1/2")	20 (3/4")
FITTINGS	1/4"	3/8"	1/2"	3/4"	1"

GAS/NPT WITH LINING



CONNECTIONS 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"

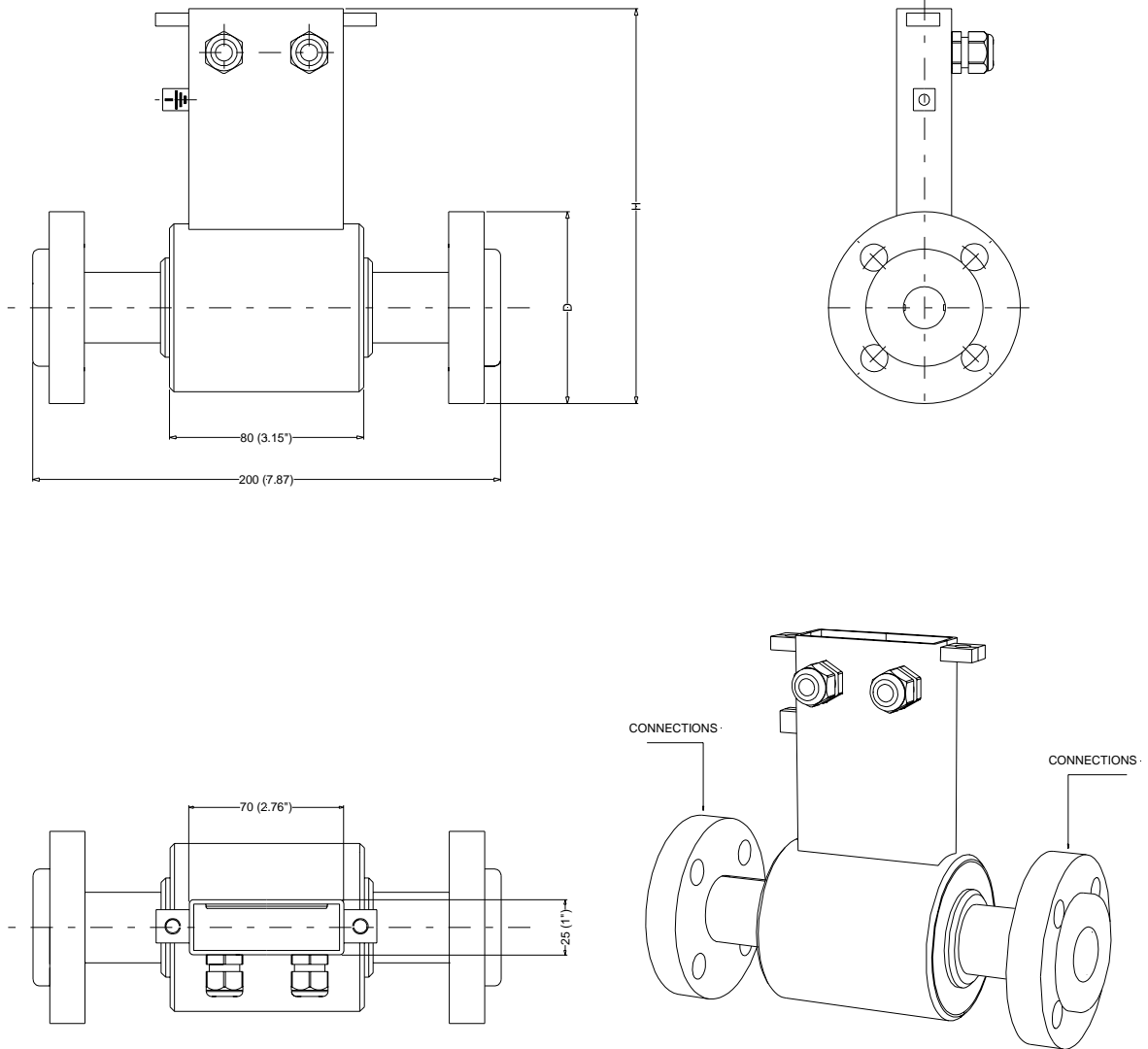
FLANGED WITHOUT LINING



FLANGE CONNECTIONS UNI (STAINLESS STEEL WITHOUT LINING)					
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 CONNECTIONS ANSI (STAINLESS STEEL WITHOUT LINING)					
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"

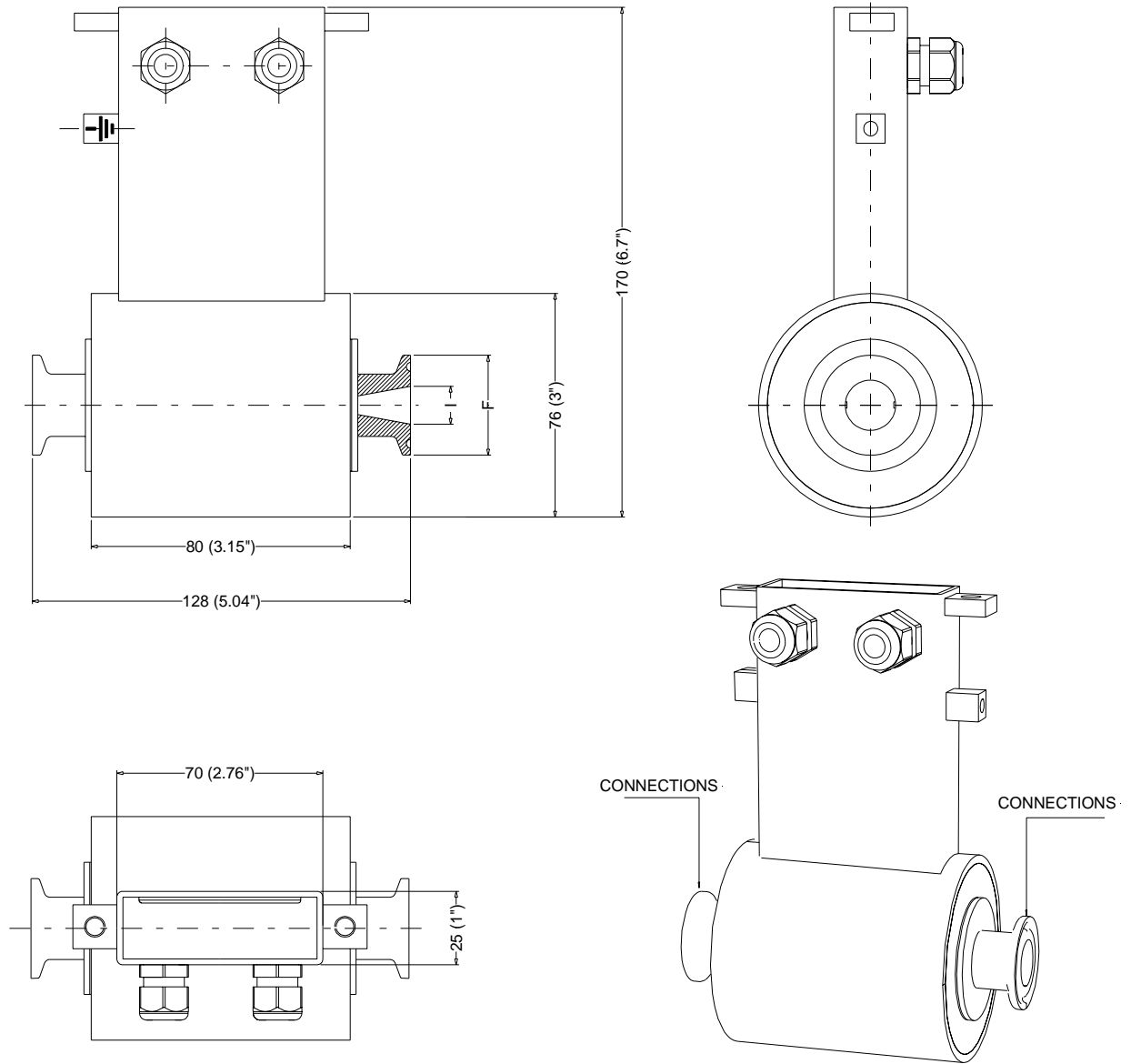
FLANGED WITH PTFE LINING



UNI FLANGE CONNECTIONS (PTFE LINING)					
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 CONNECTIONS (PTFE LINING)					
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 CONNECTIONS

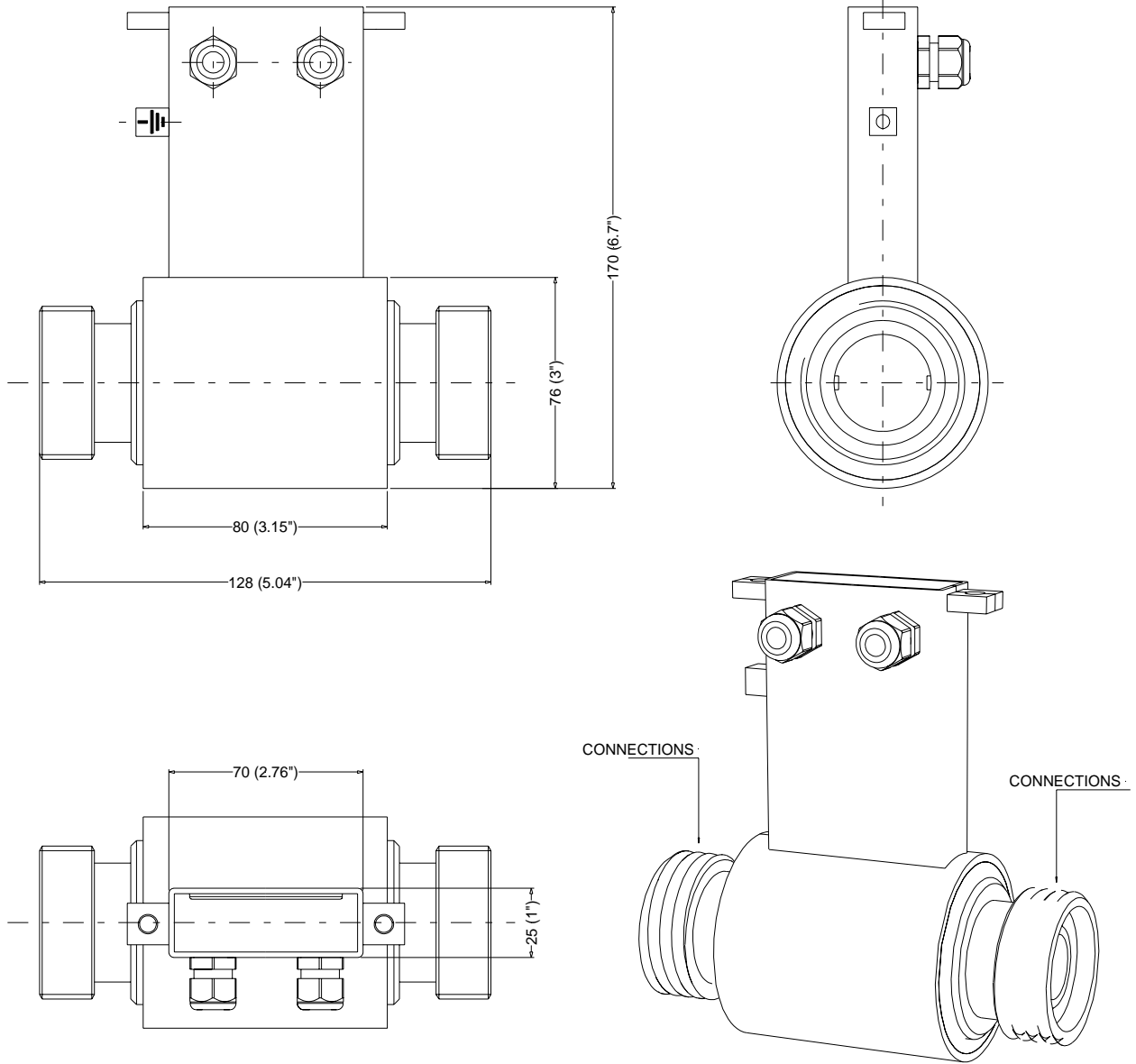


CLAMP ISO 2852					
DIMENSIONS mm (inches)	DN				
	3 (1/8")	6 (1/4)	10 (3/8)	15 (1/2")	20 (3/4")
I	12.7(0.5)	12.7(0.5)	12.7(0.5)	17.2(0.68)	21.3 (0.84)
F	34 (1.34)	34 (1.34)	34 (1.34)	34 (1.34)	34 (1.34)

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

SANITARY CONNECTIONS

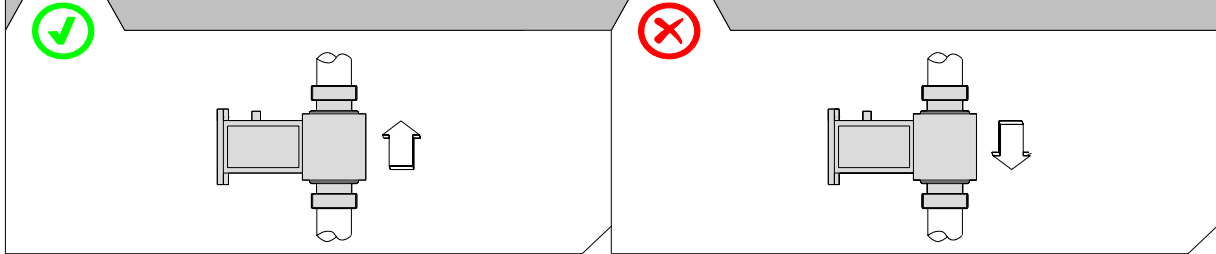


DIN 11851					
DIMENSIONS	DN				
	3 (1/8")	6 (1/4)	10 (3/8)	15 (1/2")	20 (3/4")
FITTINGS	DN 10	DN 10	DN 10	DN 15	DN 20

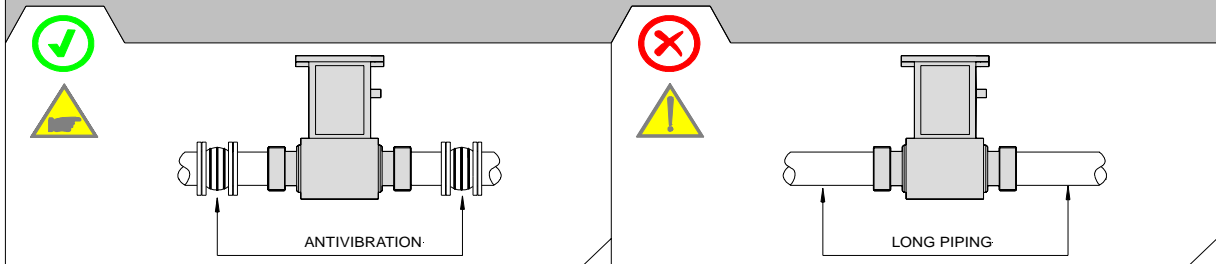
SMS			
DIMENSIONS			
	10 (3/8)	15 (1/2")	20 (3/4")
FITTINGS	DN 25	DN 25	DN 25

INSTALLATION RECOMMENDATIONS

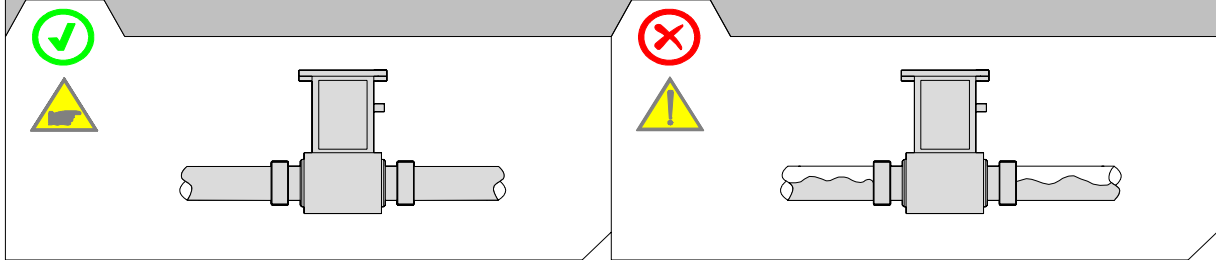
In vertical installations an ascending flow is preferable. For vertical installations with descending flow direction contact the manufacturer



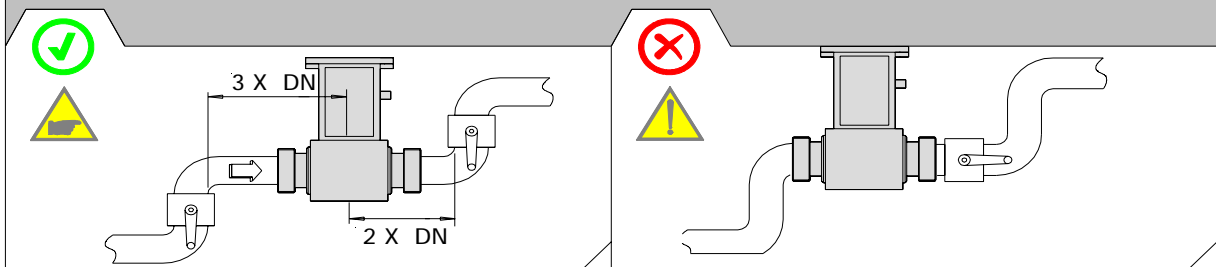
For installations in long pipe lines, please use anti vibration joints



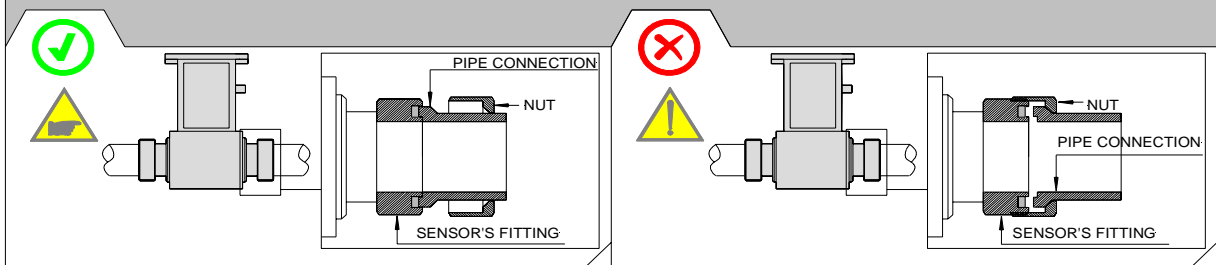
Avoid a partially empty pipe, during operation the pipe must be either completely full of liquid or completely empty



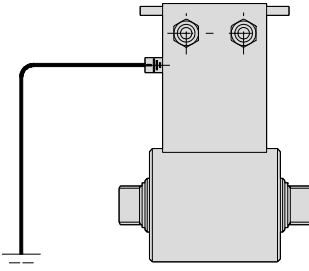
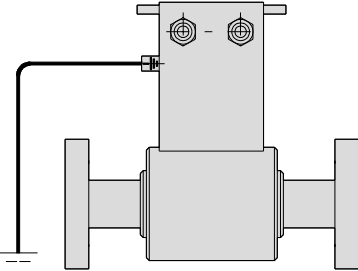
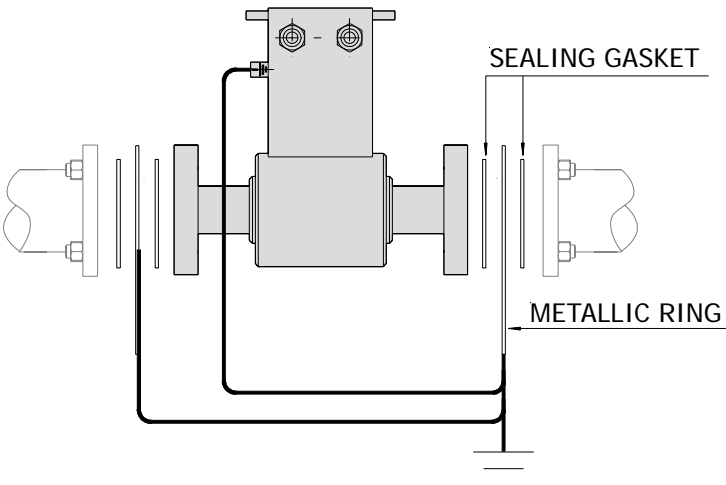
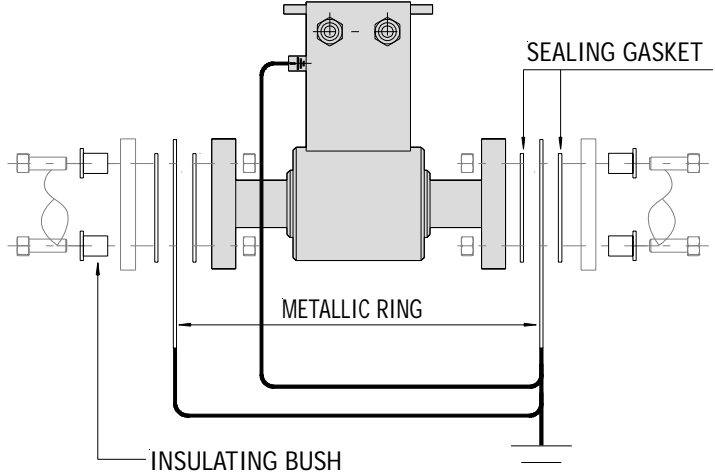
Install the sensor away from bends and hydraulic accessories and hydraulic accessories



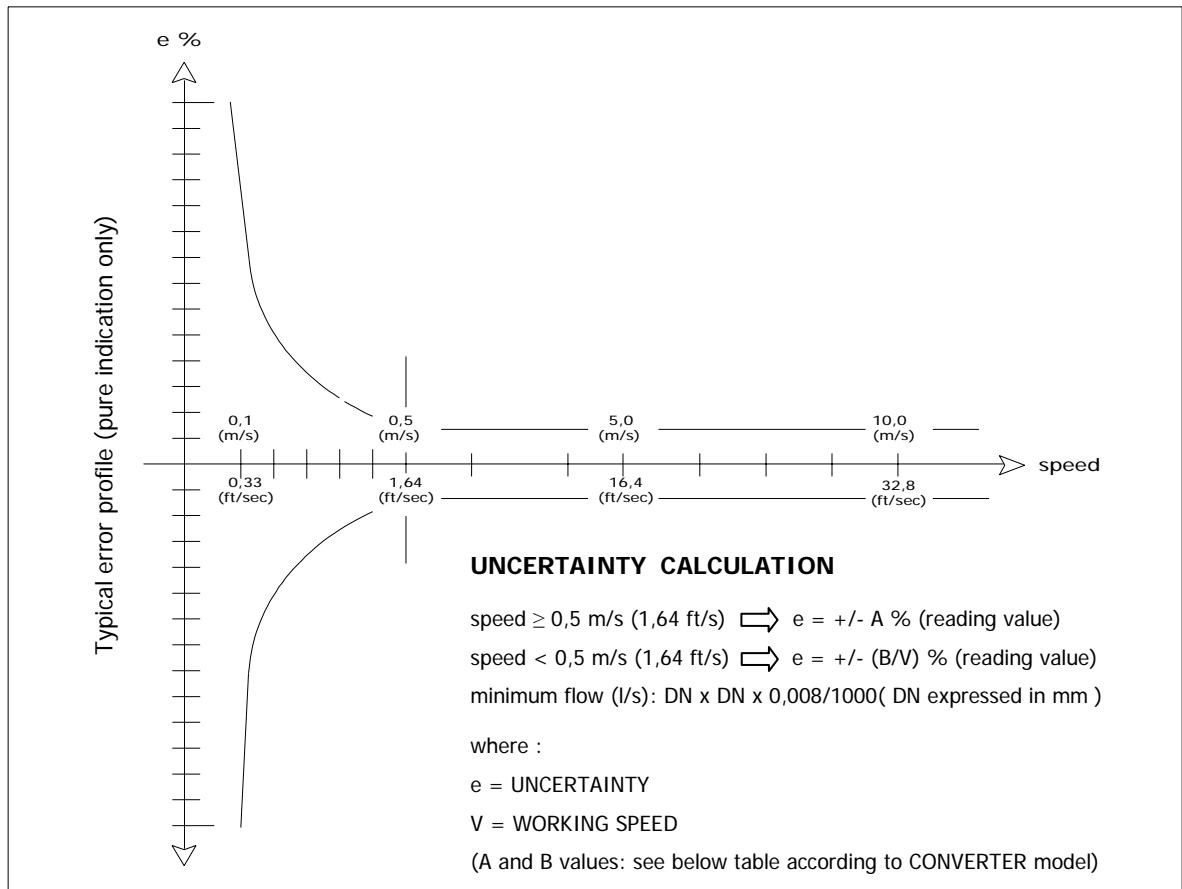
Avoid positioning flange and counter flanges by tightening the nuts.



SENSOR GROUNDING

METALLIC PIPE	
<p>THREADED SENSOR</p> 	<p>FLANGED SENSOR</p> 
INSULATED PIPE	
	<p>If the sensor has to be installed in a pipe made of an insulating material, the following are necessary:</p> <ul style="list-style-type: none"> - 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 CATHODIC PROTECTION	
	<p>If the sensor has to be installed in the pipe with a cathodic protection, the following are necessary:</p> <ul style="list-style-type: none"> - using insulating bushes to isolate the bolts - Metallic grounding rings should be provided to ground the liquid using insulating gaskets between the rings

ACCURACY TABLE



AC/DC POWERED CONVERTERS

ML 51			ML 110 – STD			ML 110 – SA*			ML210/211/212			ML4F1		
A	B (m/s)	B (ft/s)	A	B (m/s)	B (ft/s)	A	B (m/s)	B (ft/s)	A	B (m/s)	B (ft/s)	A	B (m/s)	B (ft/s)
0,5	0,25	0,82	0,8	0,4	1,31	0,4	0,2	0,66	0,2	0,1	0,33	0,2	0,1	0,33

* SPECIAL ACCURACY

FLOWIZ™ BATTERY POWERED CONVERTERS

ML 250			ML 252		
A	B (m/s)	B (ft/s)	A	B (m/s)	B (ft/s)
0,5	0,25	0,82	0,5	0,25	0,82

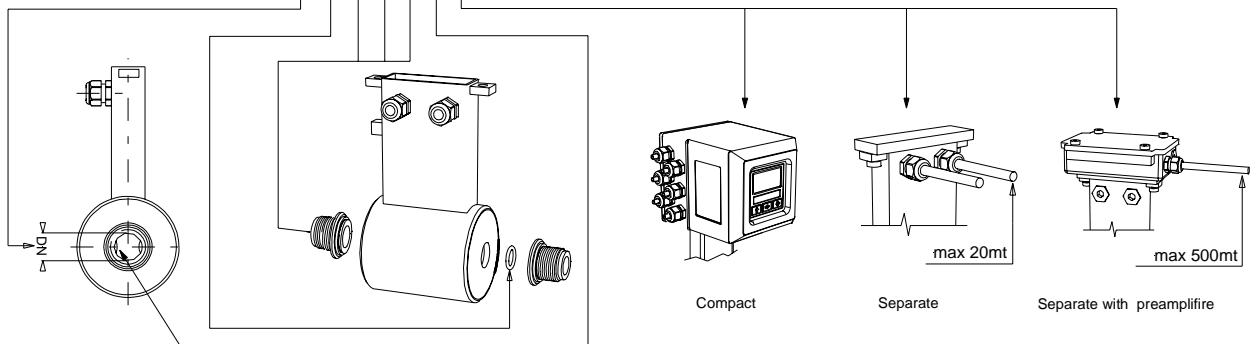
Reference conditions :

- Constant flow rate during the test
- Pressure: >30 Kpa
- Flow condition : fully developed flow profile
- Zero stability +/- 0,005 %

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
4	O-Ring : FFKM
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
8	Clamp connection, BS 4825
9	JIS flanges (5-7,5-10 k)
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
E	Version with length and position of the neck of the Sensor to define according draw. G006 (valid for A-B-C-D versions, add the relative COST)
F	Version separate with N° 2 connectors IP 68 suitable for C015/16 for fast cable connections (max 20 m-ADD THE COST)
G	Version separate with N° 1 connectors IP 68 suitable for C018 for fast cable connections (max 20 m-ADD THE COST)
H	Version separate with N° 1 connectors IP 68 suitable for C014 for fast cable connections TO PRAMPLIFIRE IN CARBON STEEL VERSION (DEFINE THE CABLE LENGHT MAX 500 m-ADD THE COST)
I	Version separate with N° 1 connectors IP 68 suitable for C014 for fast cable connections TO PRAMPLIFIRE IN AISI 304 VERSION (DEFINE THE CABLE LENGHT MAX 500 m-ADD THE COST)
M	Compact version, IP67 protection rate , with the possibility to turn the converter 90°

MS 501 T03 1 A 1 A 1 A EXAMPLE OF ORDER CODE



The manufacturer reserves the right to make design improvements without notice.