

ISOMAG ™

The friendly magmeter

MS 2500

FLANGED SENSOR



COMPACT VERSION PAINTED STEEL

FLANGED SENSOR WITH A WIDE RANGE OF FLANGE SIZES

Warranty conditions are available on this website:
www.isomag.eu only in English version

ISOIL 
INDUSTRIA
The solutions that count

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TECHNICAL DATA

OVERALL FEATURES	
Nominal diameter	<input type="checkbox"/> DN 25 ÷ 2000
Minimum conductivity	<input type="checkbox"/> 5 μS/cm
Humidity Range	<input type="checkbox"/> 0÷100% (IP 67)
Accuracy	<input type="checkbox"/> See relevant converter data sheet
CE Certification	<input type="checkbox"/> Yes
PED	<input type="checkbox"/> Yes

STANDARD FEATURES	
Body material	<input type="checkbox"/> Carbon steel painted
Nominal pressure	<input type="checkbox"/> 1600 kPa (4000 kPa up to DN 50)
Process connection	<input type="checkbox"/> Flanges std : UNI PN 16
Version – protection rating	<input type="checkbox"/> Compact IP67 (IP68 on request)
Flanges material	<input type="checkbox"/> Carbon steel
Lining material	<input type="checkbox"/> Polypropylene (max. PN 16) <input type="checkbox"/> PTFE (max PN 40) <input type="checkbox"/> Ebonite <input type="checkbox"/> Rilsan
Gasket material (ONLY for lining in Polypropylene)	<input type="checkbox"/> FPM
Liquid temperature	<input type="checkbox"/> 0°C ÷ 70°C with Rilsan lining <input type="checkbox"/> 0°C ÷ 60°C with PP lining <input type="checkbox"/> -5°C ÷ 80°C with ebonite lining <input type="checkbox"/> -20°C ÷ 100°C with PTFE lining in compact version
Vacuum resistance	<input type="checkbox"/> 20 Kpa (absolute) at 100 °C (60/80°C for PP/Ebonite)
Electrodes material	<input type="checkbox"/> Stainless steel AISI 316

OPTIONAL FEATURES (CHECK FOR MORE DETAILS 'HOW TO ORDER' ON LAST PAGE)	
Body material	<input type="checkbox"/> Stainless steel AISI 304 or 316
Gaskets material (ONLY for lining in Polypropylene)	<input type="checkbox"/> EPDM
Nominal pressure	<input type="checkbox"/> Higher pressure rates available on request
Process connection	<input type="checkbox"/> Flanges: UNI, ANSI, DIN, JIS Others on request
Flanges material	<input type="checkbox"/> Stainless steel AISI 304 - AISI316
Liquid temperature	<input type="checkbox"/> -20°C ÷ 180°C* with PTFE lining in separate version: * sensors with working temperature higher than 110 ° C are classified according to PED guidelines (details on table in the next page).
Lining material	<input type="checkbox"/> On request
Electrodes material	<input type="checkbox"/> On request
Grounding electrode	<input type="checkbox"/> On request
Version – protection rating	<input type="checkbox"/> Separate version (max 20m) – IP 68 <input type="checkbox"/> Separate version (max 500 m), with preamplifier – IP 67 <input type="checkbox"/> Separate version (max 500 m), with preamplifier – IP 68
Certifications	<input type="checkbox"/> MI-001 (check table below) <input type="checkbox"/> MI-004 (check table below)

97/23/CE PED DIRECTIVE *

The Pressure Equipment Directive (97/23/EC) was adopted by the European Parliament and the European Council in May 1997. It has initially come into force on 29 November 1999. From that date until 29 May 2002 manufacturers had a choice between applying the pressure equipment directive or continuing with the application of the existing national legislation. From 30 May 2002 the pressure equipment directive is obligatory throughout the EU.

The directive provides, together with the directives related to simple pressure vessels (2009/105/EC), transportable pressure equipment (99/36/EC) and Aerosol Dispensers (75/324/EEC), for an adequate legislative framework on European level for equipment subject to a pressure hazard.

Here below the list of diameters which falls within PED directive, when the **medium temperature is above 110°C** (ONLY for PTFE lining)

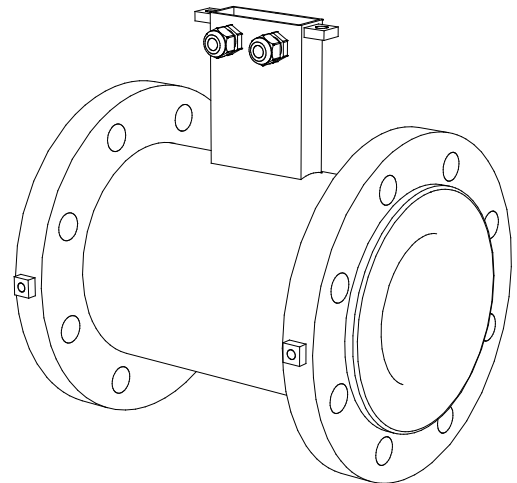
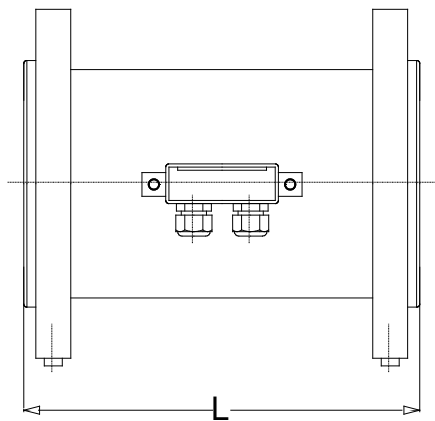
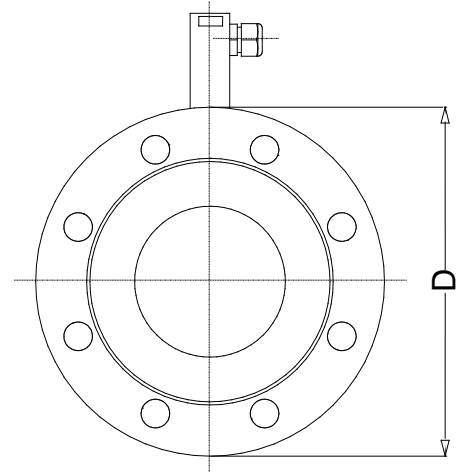
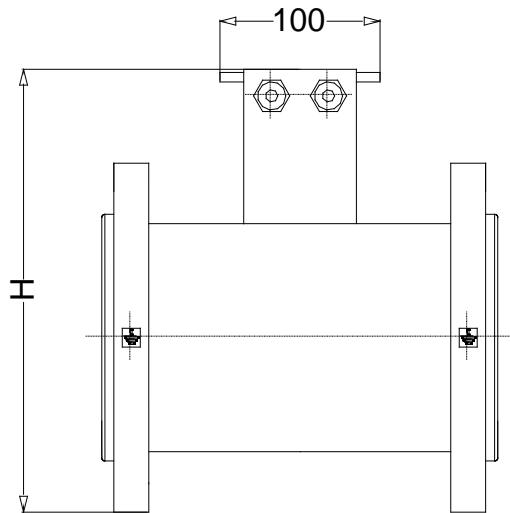
ND	PRESSURE RATE (kPa)			
	N.A.		N.A.	4000
25	N.A.			N.A.
32	N.A.		N.A.	
40	N.A.			N.A.
50	N.A.	1600	N.A.	
65				
80				
100				
125				
150	1000	1600	2500	4000
200				
250	1000	1600	2500	4000
300				
350				
400	1000	1600	2500	4000
450				
500				

	= EXCLUDED FROM PED
	= CAT. I
	= CAT. II
	= CAT. III
	= NOT MADE

Rif. Tab. 056

*Only for EU countries

OVERALL DIMENSIONS

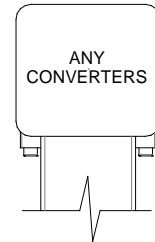
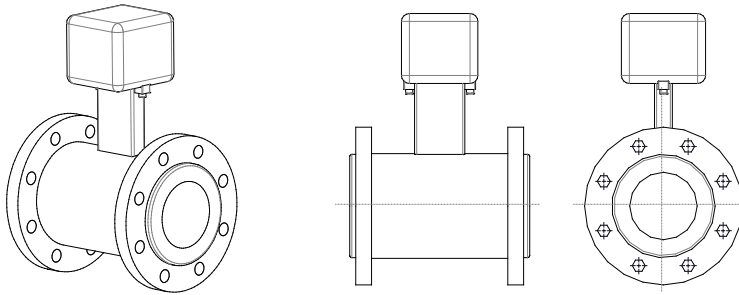


MS 2500 PN 10/64 - ANSI 150/300 OVERALL DIMENSIONS									
DIMENSIONS mm (inches)		PN							
		PN 10	PN 16	PN 25	PN 40	PN 64	ANSI 150	ANSI 300	
DN	25 (1")	L	200 (7.87)	200 (7.87)	200 (7.87)	200 (7.87)	200 (7.87)	200 (7.87)	200 (7.87)
		H	185 (7.28)	185 (7.28)	185 (7.28)	185 (7.28)	198 (7.80)	181 (7.13)	190 (7.48)
		D	115 (4.53)	115 (4.53)	115 (4.53)	115 (4.53)	140 (5.51)	108 (4.25)	124 (4.88)
	32 (1"1/4)	L	200 (7.87)	200 (7.87)	200 (7.87)	200 (7.87)	200 (7.87)	200 (7.87)	200 (7.87)
		H	203 (8)	203 (8)	203 (8)	203 (8)	209 (8.23)	192 (7.56)	199 (7.83)
		D	140 (5.51)	140 (5.51)	140 (5.51)	140 (5.51)	155 (6.10)	118 (4.65)	133 (5.24)
	40 (1"1/2)	L	200 (7.87)	200 (7.87)	200 (7.87)	200 (7.87)	200 (7.87)	200 (7.87)	200 (7.87)
		H	213 (8.39)	213 (8.39)	213 (8.39)	213 (8.39)	220 (8.66)	207 (8.15)	221 (8.7)
		D	150 (5.90)	150 (5.90)	150 (5.90)	150 (5.90)	170 (6.69)	127 (5)	156 (6.14)
	50 (2")	L	200 (7.87)	200 (7.87)	200 (7.87)	200 (7.87)	200 (7.87)	200 (7.87)	200 (7.87)
		H	228 (8.98)	228 (8.98)	228 (8.98)	228 (8.98)	233 (9.17)	222 (8.74)	228 (8.98)
		D	165 (6.50)	165 (6.50)	165 (6.50)	165 (6.50)	180 (7.09)	152 (5.98)	165 (6.5)
	65 (2"1/2)	L	200 (7.87)	200 (7.87)	200 (7.87)	200 (7.87)	200 (7.87)	200 (7.87)	200 (7.87)
		H	248 (9.76)	248 (9.76)	248 (9.76)	248 (9.76)	257 (10.12)	245 (9.65)	251 (9.88)
		D	185 (7.28)	185 (7.28)	185 (7.28)	185 (7.28)	205 (8.07)	178 (7.01)	191 (7.52)
	80 (3")	L	200 (7.87)	200 (7.87)	200 (7.87)	200 (7.87)	200 (7.87)	200 (7.87)	200 (7.87)
		H	263 (10.35)	263 (10.35)	263 (10.35)	263 (10.35)	267 (10.51)	259 (10.2)	268 (10.55)
		D	200 (7.87)	200 (7.87)	200 (7.87)	200 (7.87)	215 (8.46)	191 (7.52)	210 (8.27)
	100 (4")	L	250 (9.84)	250 (9.84)	250 (9.84)	250 (9.84)	250 (9.84)	250 (9.84)	250 (9.84)
		H	283 (11.14)	283 (11.14)	294 (11.57)	294 (11.57)	297 (11.69)	288 (11.34)	300 (11.81)
		D	220 (8.66)	220 (8.66)	235 (9.25)	235 (9.25)	250 (9.84)	229 (9.02)	254 (10)
	125 (5")	L	250 (9.84)	250 (9.84)	250 (9.84)	250 (9.84)	250 (9.84)	250 (9.84)	250 (9.84)
		H	313 (12.32)	313 (12.32)	325 (12.80)	325 (12.80)	330 (13)	315 (12.4)	328 (12.91)
		D	250 (9.84)	250 (9.84)	270 (10.63)	270 (10.63)	295 (11.61)	254 (10)	279 (10.98)
	150 (6")	L	300 (11.81)	300 (11.81)	300 (11.81)	300 (11.81)	300 (11.81)	300 (11.81)	300 (11.81)
		H	344 (13.54)	344 (13.54)	355 (13.98)	355 (13.98)	377 (14.84)	341 (13.43)	360 (14.17)
		D	285 (11.22)	285 (11.22)	300 (11.81)	300 (11.81)	345 (13.58)	279 (10.98)	318 (12.52)
	200 (8")	L	350 (13.78)	350 (13.78)	350 (13.78)	350 (13.78)	350 (13.78)	350 (13.78)	350 (13.78)
H		399 (15.71)	399 (15.71)	415 (16.34)	425 (16.73)	435 (17.13)	401 (15.79)	420 (16.54)	
D		340 (13.39)	340 (13.39)	360 (14.17)	375 (14.76)	415 (16.34)	343 (13.5)	381 (15)	
250 (10)	L	450 (17.72)	450 (17.72)	450 (17.72)	450 (17.72)	450 (17.72)	450 (17.72)	450 (17.72)	
	H	454 (17.87)	460 (18.11)	475 (18.7)	493 (19.41)	491 (19.33)	461 (18.15)	480 (18.9)	
	D	395 (15.55)	405 (15.94)	425 (16.73)	450 (17.72)	470 (18.5)	406 (15.98)	445 (17.52)	
300 (12")	L	500 (19.69)	500 (19.69)	500 (19.69)	500 (19.69)	500 (19.69)	500 (19.69)	500 (19.69)	
	H	504 (19.84)	515 (20.28)	535 (21.06)	558 (21.97)	545 (21.46)	527 (20.75)	546 (21.5)	
	D	445 (17.52)	460 (18.11)	485 (19.09)	515 (20.28)	530 (20.87)	483 (19.02)	521 (20.51)	
350 (14")	L	550 (21.65)	550 (21.65)	550 (21.65)	550 (21.65)	550 (21.65)	550 (21.65)	550 (21.65)	
	H	564 (22.2)	575 (22.64)	598 (23.54)	619 (24.37)	603 (23.74)	582 (22.91)	607 (23.9)	
	D	505 (19.88)	520 (20.47)	555 (21.85)	580 (22.83)	600 (23.62)	533 (20.98)	584 (22.99)	
400 (16")	L	600 (23.62)	600 (23.62)	600 (23.62)	600 (23.62)	600 (23.62)	600 (23.62)	600 (23.62)	
	H	620 (24.41)	630 (24.8)	659 (25.94)	695 (27.36)	670 (26.38)	639 (25.16)	664 (26.14)	
	D	565 (22.24)	580 (22.83)	62 (2.44)	660 (25.98)	670 (26.38)	597 (23.5)	648 (25.51)	
450 (18")	L	600 (23.62)	600 (23.62)	600 (23.62)	600 (23.62)		600 (23.62)	600 (23.62)	
	H	670 (26.38)	690 (27.17)	709 (27.91)	720 (28.35)		688 (27.09)	726 (28.58)	
	D	615 (24.21)	640 (25.2)	670 (26.38)	685 (26.97)		635 (25)	711 (27.99)	
500 (20")	L	600 (23.62)	600 (23.62)	600 (23.62)	600 (23.62)		600 (23.62)	600 (23.62)	
	H	725 (28.54)	758 (29.84)	769 (30.28)	784 (30.87)		751 (29.57)	770 (30.31)	
	D	670 (26.38)	715 (28.15)	730 (28.74)	755 (29.72)		699 (27.52)	775 (30.51)	

MS 2500 PN 10/64 - ANSI 150/300 OVERALL DIMENSIONS									
Dimensions mm(inches)		PN							
		PN 10	PN 16	PN 25	PN 40	PN 64	ANSI 150	ANSI 300	
DN	600 (24")	L	600 (23.62)	600 (23.62)	600 (23.62)	600 (23.62)		600 (23.62)	600 (23.62)
		H	830 (32.68)	879 (34.61)	880 (34.65)	911 (35.87)		866 (34.09)	916 (36.06)
		D	780 (30.71)	840 (33.07)	845 (33.27)	890 (35.04)		813 (32.01)	914 (35.98)
	650 (26")	L						650 (25.59)	650 (25.59)
		H						921 (36.26)	1002 (39.45)
		D						870 (34.25)	972 (38.27)
	700 (28")	L	700 (27.56)	700 (27.56)	700 (27.56)	700 (27.56)		700 (27.56)	
		H	895 (35.24)	949 (37.36)	989 (38.94)	1016 (40)		1016 (40)	
		D	800 (31.5)	910 (35.83)	960 (37.8)	995 (39.17)		927,1 (36,5)	
	750 (30")	L						750 (29.53)	750 (29.53)
		H						1032 (40.63)	1121 (44.13)
		D						984 (38.74)	1092 (42.99)
	800 (32")	L	800 (31.5)	800 (31.5)	800 (31.5)	800 (31.5)		800 (31.5)	
		H	1058 (41.65)	1060 (41.73)	1106 (43.54)	1149 (45.24)		1149 (45.24)	
		D	1015 (39.96)	1025 (40.35)	1085 (42.72)	1114 (43.86)		1060,5 (47,15)	
	850 (34")	L						850 (33.46)	850 (33.46)
		H						1149 (45.24)	1230 (48.43)
		D						1111 (43.74)	1207 (47.52)
	900 (36")	L	900 (35.43)	900 (35.43)	900 (35.43)	900 (35.43)		900 (35.43)	900 (35.43)
		H	1158 (45.59)	1160 (45.67)	1206 (47.48)	1259 (49.57)		1206 (47.48)	1292 (50.87)
		D	1115 (43.9)	1125 (44.29)	1185 (46.65)	1250 (49.21)		1168 (45.98)	1270 (50)
	1000 (40")	L	1000 (39.37)	1000 (39.37)	1000 (39.37)	1000 (39.37)		1000 (39.37)	1000 (39.37)
		H	1269 (49.96)	1284 (50.55)	1329 (52.32)	1369 (53.9)		1381 (54.37)	1467 (57.76)
		D	1230 (48.43)	1255 (49.41)	1320 (51.97)	1360 (53.54)		1346 (52.99)	1448 (57.01)
	1050 (42")	L						1050 (41.3)	
		H						1355.0 (54.00)	
		D						1346.2 (53.00)	
	1100 (44")	L						1100 (43.3)	
H							1428 (56.25)		
D							1403.4 (55.25)		
1200 (48")	L	1200 (47.24)	1200 (47.24)				1200 (47.24)		
	H	1498 (59.92)	1518 (59.76)				1530 (60.50)		
	D	1455 (57.28)	1485 (58.46)				1511.3 (59.50)		
1400 (56")	L	1400 (55.18)	1400 (55.18)						
	H	1711 (67.36)	1714 (67.46)						
	D	1675 (65.94)	1685 (66.34)						
1600 (65")	L	1600 (62.99)	1600 (62.99)						
	H	1944 (76.52)	1947 (76.65)						
	D	1915 (75.39)	1930 (75.98)						
1800 (72")	L	1800 (70.87)	1800 (70.87)				1800 (72.00)		
	H	2144 (84.39)	2147 (84.53)				2190 (54.37)		
	D	2115 (83.27)	2130 (75.98)				2197 (86.50)		
2000 (80")	L	2000 (78.74)	2000 (78.74)						
	H	2352 (92.66)	2356 (92.77)						
	D	2325 (91.53)	2345 (92.32)						

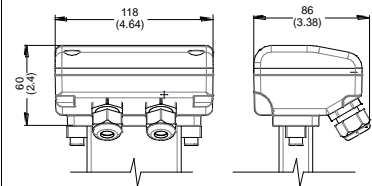
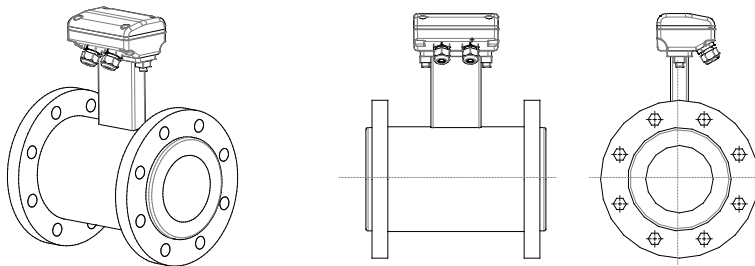
VERSIONS

COMPACT VERSION



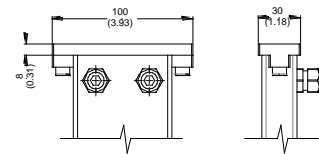
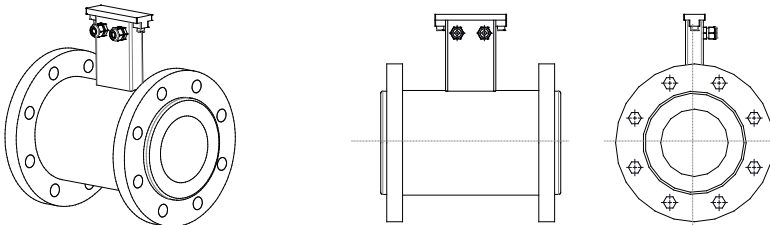
Converter's overall dimensions are defined in the relevant manual

SEPARATE VERSION FOR PAINTED SENSORS WITH OR WITHOUT PREAMPLIFIER



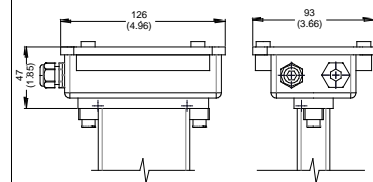
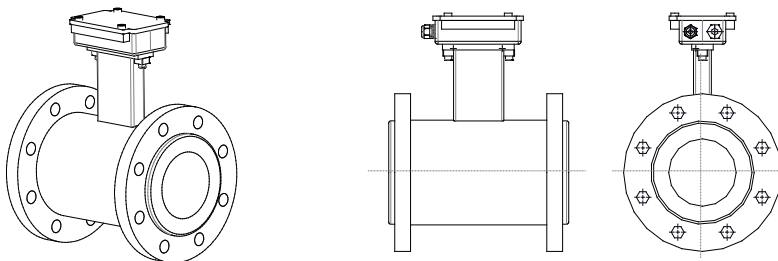
Sensors with Junction box

SEPARATE VERSION FOR STAINLESS STEEL SENSORS



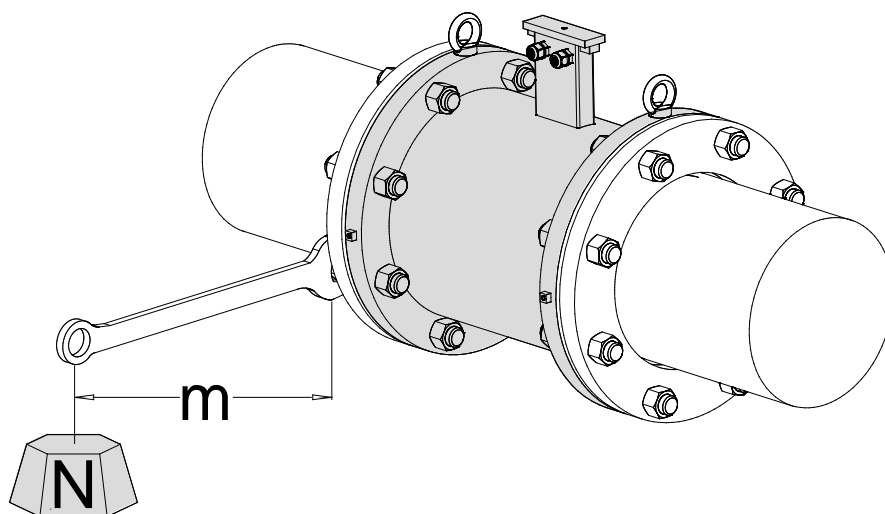
Sensors with cover

SEPARATE VERSION FOR STAINLESS STEEL SENSOR WITH PREAMPLIFIER



Sensors with preamplifier

TORQUES (Nm)

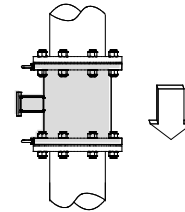
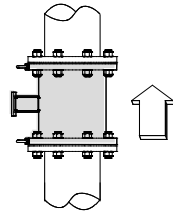


OPERATIVE PRESSURE											
Kpa	1000		1600			2500		4000		6400	
psi	140		260			350		600		1000	
DN	PTFE	EBON.	PTFE	EBON.	PP	PTFE	EBON.	PTFE	EBON.	PTFE	EBON.
25			25 (21)		19	25		25 [32]			39 [32]
32			43 (26)		28	43		43 [40]			53 [40]
40			53 (32)		36	53		53 [63]			72 [63]
50			68 (60)		52	68		68 [35]			81 [35]
65			90 (78)		75	45		45 [53]			58 [53]
80			53 (89)		41	53		53 [68]			62 [68]
100			59 (70)		56	83		83 [94]			87 [94]
125			77 (94)		71	112		112 [130]			148 [130]
150			108 (106)		106	135		135 [113]			217 [113]
200	148	123	99 (148)	82 (124)		134	112	178 [178]	149 [148]		233 [178]
250	123	103	140 (156)	117 (130)		204	170	267 [185]	223 [154]		321 [185]
300	142	119	175 (234)	146 (195)		201	168	278 [275]	232 [229]		317 [275]
350	172	143	205 (325)	171 (271)		324	270	422 [318]	352 [265]		481 [318]
400	217	181	282 (312)	235 (260)		426	355	619 [411]	516 [342]		623 [411]
450	194	161	281 (336)	234 (280)				[398]	[332]		
500	224	186	382 (317)	318 (264)				[465]	[387]		
550			(379)	(316)				[608]	[506]		
600	323	269	568 (463)	474 (386)				[774]	[645]		
650			(429)	(357)				[753]	[627]		
700	356	297	421 (503)	351 (420)				[947]	[789]		
750			(451)	(376)				[1105]	[920]		
800	476	400	549	446							
850			(563)	(469)				[1373]	[1144]		
900	450	380	519 (618)	395 (515)				[1408]	[1173]		
1000	582	485	721 (736)	546 (613)				[1598]	[1332]		

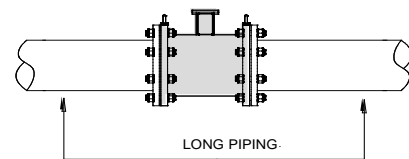
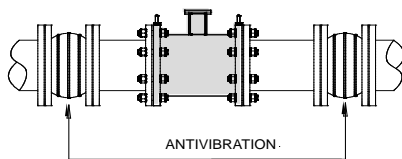
- Tighten uniformly in diagonally opposite sequence
- Above torques values are suitable for flanges:
EN1092-1, DIN 2501, BS 4504, ANSI B16.5 , JIS
- The use of DIN 2690 gaskets is recommended
- For DN > 1000 contact the manufacturer
- Value within round brackets (xxxx)= ANSI 150
- Value within squared brackets [xxxx]= ANSI 300

INSTALLATION RECOMMENDATIONS

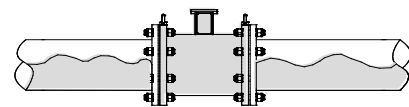
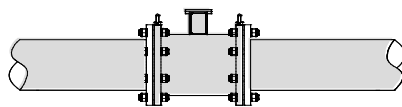
In vertical installations an ascending flow is preferable. For vertical installations with descending flow direction contact the manufacturer



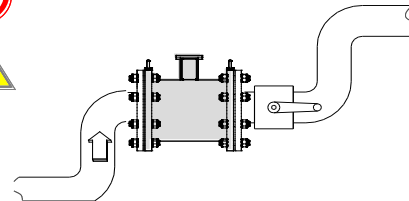
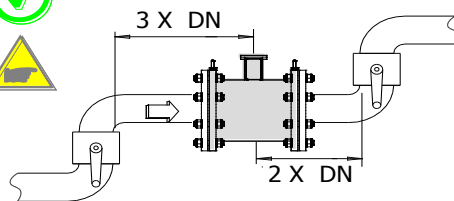
For installations in long pipe lines, please use anti vibration joints



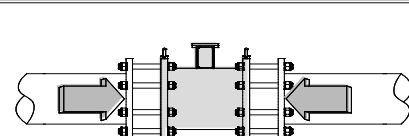
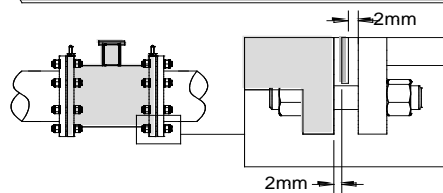
Avoid a partially empty pipe, during operation the pipe must be either completely full of liquid or completely empty



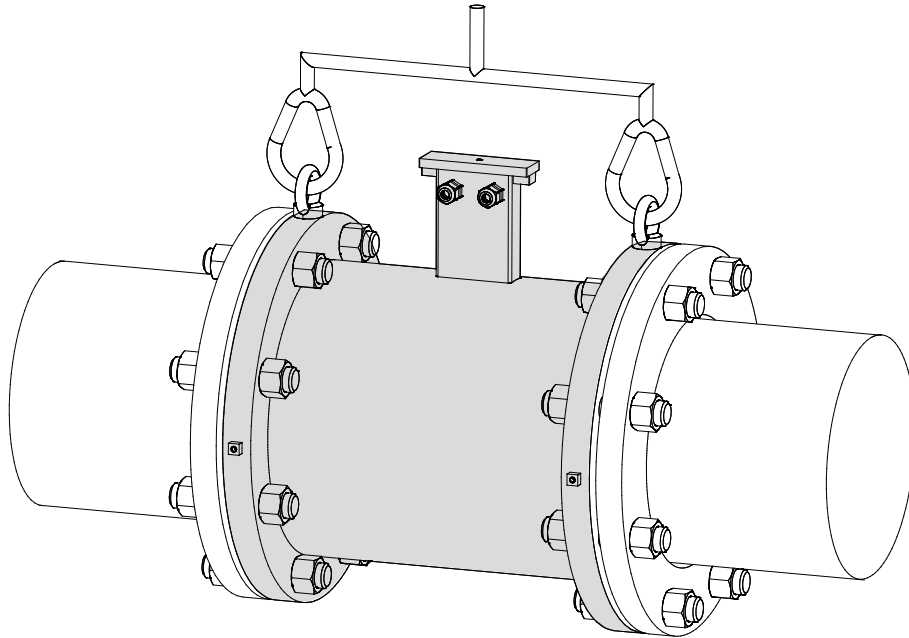
Install the sensor away from bends and hydraulic accessories



Avoid positioning flange and counter flanges by tightening the nuts.



RECOMMENDED INSTALLATION PROCEDURE

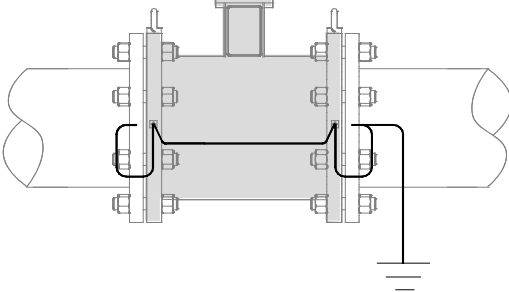
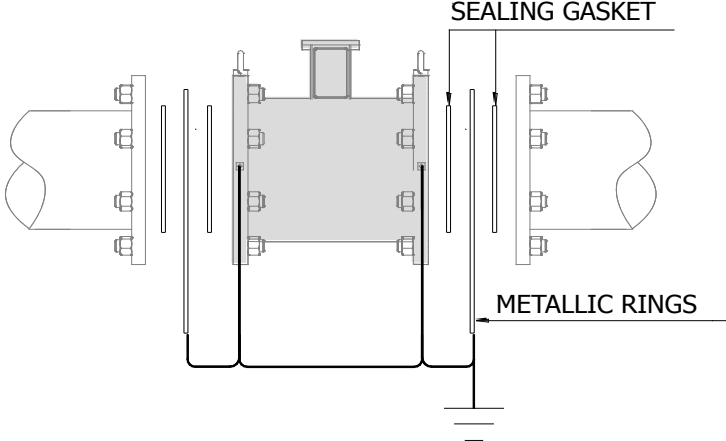
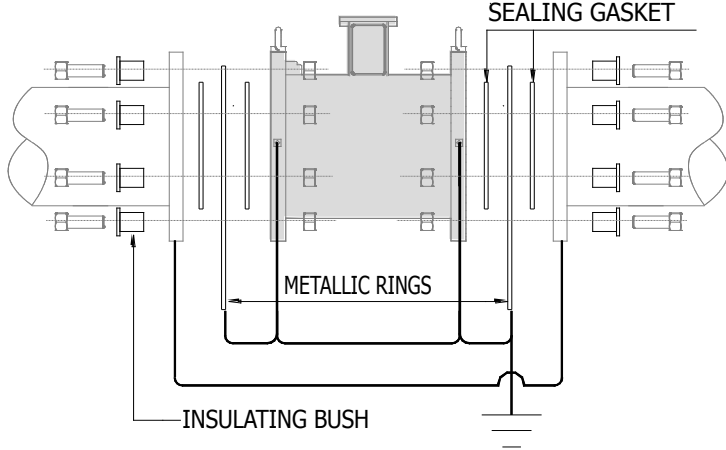


Sensors weighing more than 20Kg are equipped of appropriate eyebolts to lift the sensor according to the drawing above.

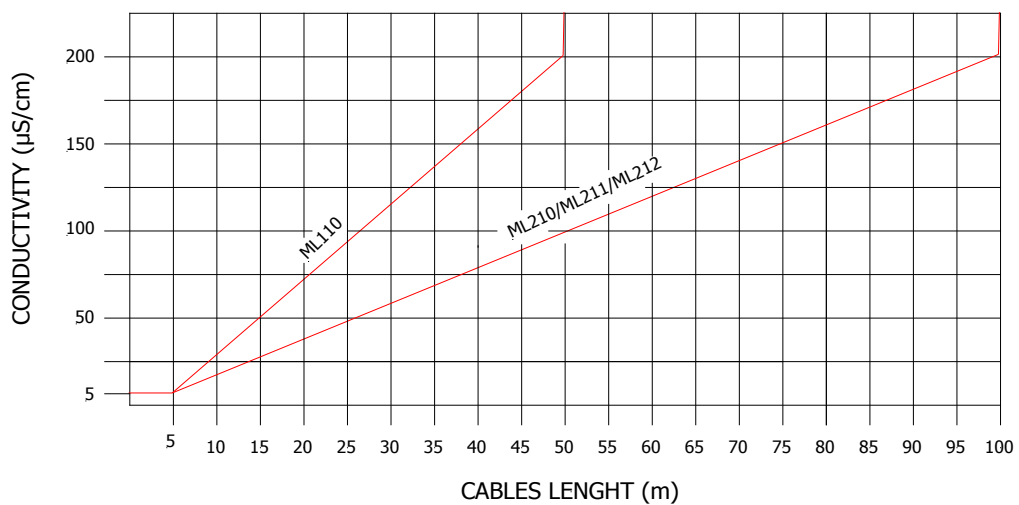
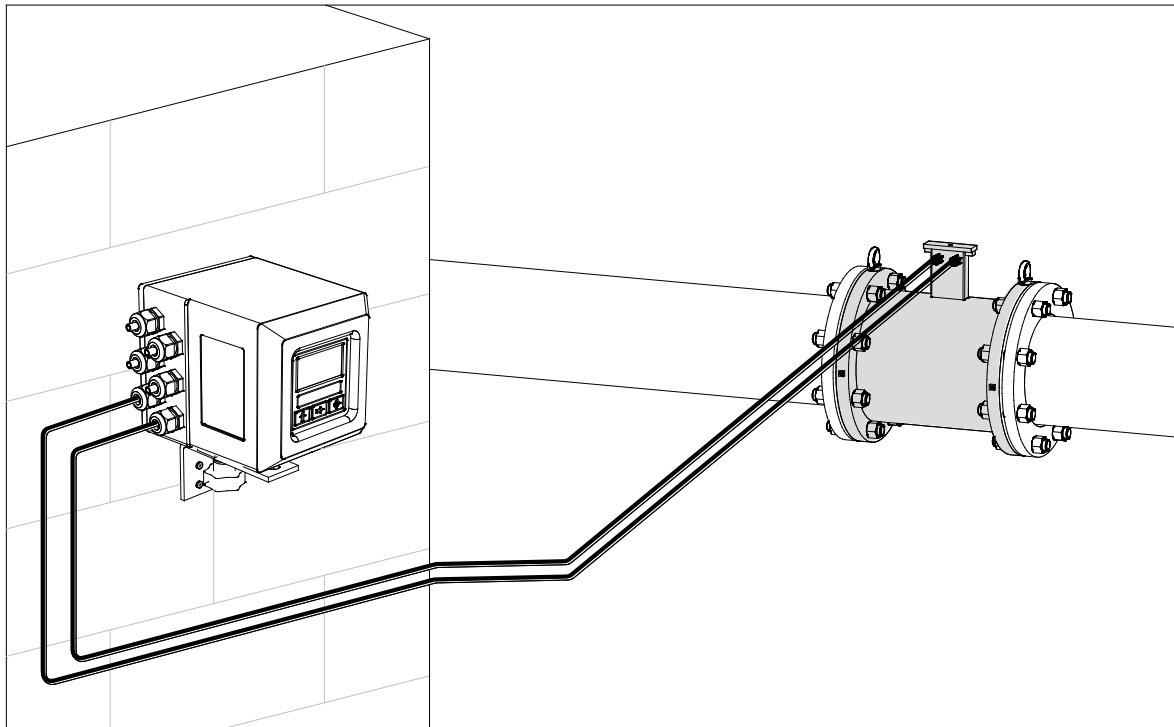
NOTE :

The eyebolts support ONLY the weight of the meter.

SENSOR GROUNDING

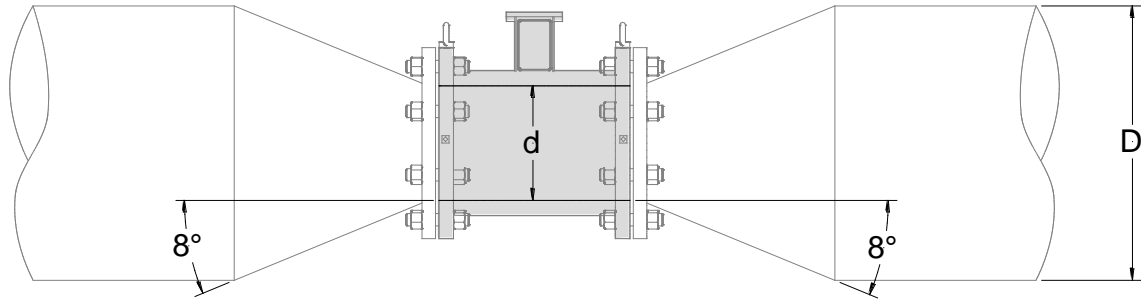
METALLIC PIPE	
	
INSULATED PIPE	
	<p>-If the sensor has to be installed in a pipe made of an insulating material, the following are necessary:</p> <ul style="list-style-type: none"> - Inserting two metallic rings between the sensor flanges and the pipe line counter flanges <p>or</p> <ul style="list-style-type: none"> - 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 gasket between the rings

SEPARATE VERSION

**Notes:**

- It is recommended to install the connection cables away from, or protect against sources of electromagnetic noise.
- The minimum conductivity of the liquid medium to ensure correct functionality of the empty pipe detection is 20 µS/cm

PRESSURE LOSS (CONES 8° ANGLES)



$$\Delta p = \left[0.10 + 0.20 \left(\left(\frac{d}{D} \right)^{-2} - 1 \right) \left(\frac{d}{D} \right)^4 \right] \left(\rho \frac{u^2}{2} \right)$$

Where:

Δp = Pressure loss in [Pa]

ρ = Fluid density [kg/m³] typical value $\rho = 1000$ [kg/m³]

d = sensor diameter [m]

D = pipe diameter (greater than sensor diameter) [m]

u = Mean flow velocity in sensor diameter [m/s]

Calculation examples Δp [mbar]								
$d/D \backslash u$	1 [m/s]	2 [m/s]	3 [m/s]	4 [m/s]	5 [m/s]	6 [m/s]	7 [m/s]	8 [m/s]
0.5	1.1	4.3	9.6	17.0	26.6	38.3	52.1	68.0
0.6	0.9	3.6	8.2	14.6	22.7	32.7	44.6	58.2
0.7	0.8	3.0	6.8	12.2	19.0	27.4	37.2	48.6
0.8	0.6	2.5	5.7	10.1	15.7	22.7	30.9	40.3
0.9	0.5	2.1	4.8	8.6	13.4	19.3	26.3	34.3

Note :

- $\rho = 1000$ [kg/m³] as goodness approximation of water density in common use.
- Inner diameter of sensor is used for d , express in meters.
- Indeed pressure loss equation is dimensionally correct in [Pa]. The equation results in table are show in [mbar].

MS2500: MI-001 DETAILS

The sensor's diameters listed below, coupled with ML210 and ML110 , are certified according to European Directive 2004/22CE category MI-001 (OIML R49)

Sensor Size	mm	25	32	40	50	65	80	100	125	150	200
	inch	1	1 ¼	1 ½	2	2 ½	3	4	5	6	8
Q1	m ³ /h	0.1	0.156	0.25	0.394	0.625	1	1.563	2.5	3.938	6.25
Q2	m ³ /h	0.16	0.25	0.4	0.63	1	1.6	2.5	4	6.3	10
Q3	m ³ /h	16.0	25.0	40.0	63.0	100.0	160.0	250.0	400.0	630.0	1000
Q4	m ³ /h	20	31.3	50	78.8	125	200	312.5	500	787.5	1250

MI-001 ALLOWABLE RANGE

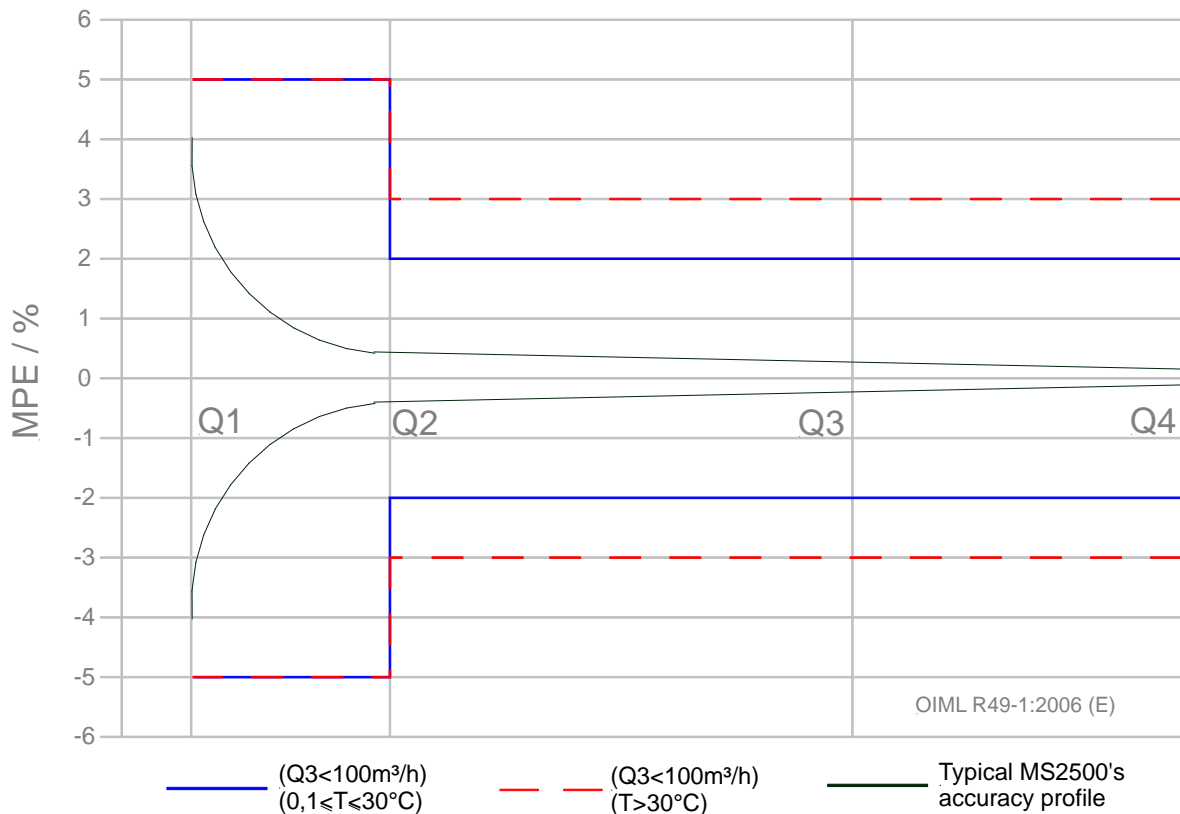
- Q3 allowed range :

/m ³ h ⁻¹	/dm ³ s ⁻¹	/m ³ h ⁻¹	/dm ³ s ⁻¹	/m ³ h ⁻¹	/dm ³ s ⁻¹	/m ³ h ⁻¹	/dm ³ s ⁻¹	/m ³ h ⁻¹	/dm ³ s ⁻¹
1	0,278	1,6	0,444	2,5	0,694	4	1,111	6,3	1,750
10	2,778	16	4,444	25	6,944	40	11,11	63	17,50
100	27,78	160	44,44	250	69,44	400	111,1	630	175,0
1000	277,8	1600	444,4	2500	694,4	4000	1111	6300	1750

- Q2 /Q1=1,6
- Q4 /Q3=1,25
- R (= Q3/Q1) allowed range :

10	12,5	16	20	25	31,5	40	50	63	80
100	125	160	200	250	315	400	500	630	800

OIML R49 ACCURACY CLASS 2 (Maximum Permissible Error)



OIML R49-1:2006 (E)

MS2500: MI-004 DETAILS

The sensor's diameters listed below, coupled with ML210 and ML110, are certified according to European Directive 2004/22CE category MI-004

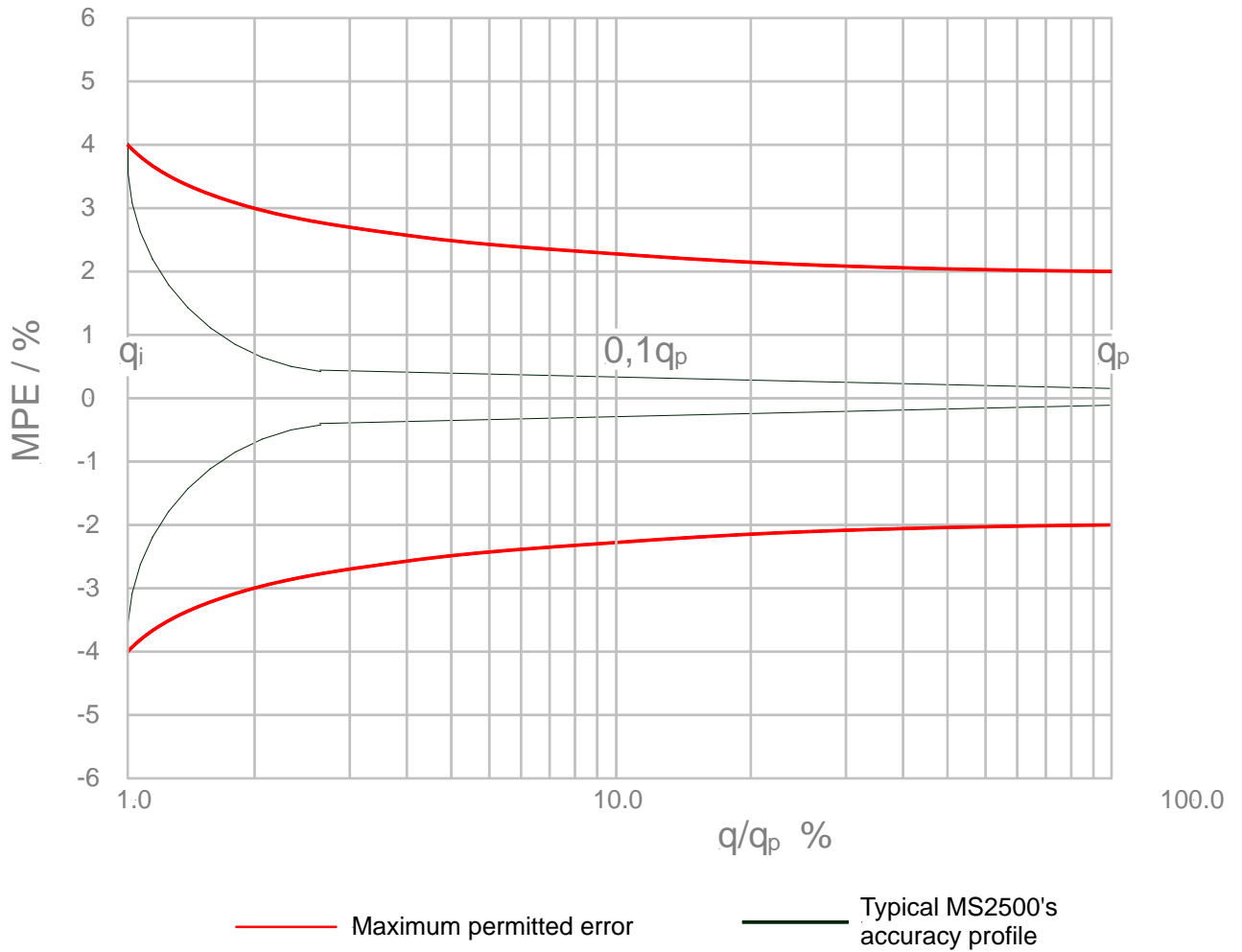
DN sensore	mm	25	32	40	50	65	80	100	125	150	200
	inch	1	1 ¼	1 ½	2	2 ½	3	4	5	6	8
q _i	m ³ /h	0.16	0.25	0.4	0.63	1	1.6	2.5	4	6.3	10
0,1 q _p	m ³ /h	1.6	2.5	4	6.3	10	16	25	40	63	100
q _{p (10m/s)}	m ³ /h	16	25	40	63	100	160	250	400	630	1000
q_p/q_i		100	100	100	100	100	100	100	100	100	100

DN sensore	mm	25	32	40	50	65	80	100	125	150	200
	inch	1	1 ¼	1 ½	2	2 ½	3	4	5	6	8
q _i	m ³ /h	0.2	0.32	0.5	0.8	1.26	2	3.2	5	8	12.6
0,1 q _p	m ³ /h	1	1.6	2.5	4	6.3	10	16	25	40	63
q _{p (5m/s)}	m ³ /h	10	16	25	40	63	100	160	250	400	630
q_p/q_i			50	50	50	50	50	50	50	50	50

DN sensore	mm	25	32	40	50	65	80	100	125	150	200
	inch	1	1 ¼	1 ½	2	2 ½	3	4	5	6	8
q _i	m ³ /h	0.16	0.252	0.4	0.64	1	1.6	2.52	4	6.4	10
0,1 q _p	m ³ /h	0.4	0.63	1	1.6	2.5	4	6.3	10	16	25
q _{p (2,5m/s)}	m ³ /h	4	6.3	10	16	25	40	63	100	160	250
q_p/q_i			25	25	25	25	25	25	25	25	25

DN sensore	mm	25	32	40	50	65	80	100	125	150	200
	inch	1	1 ¼	1 ½	2	2 ½	3	4	5	6	8
q _i	m ³ /h	0.16	0.25	0.4	0.63	1	1.6	2.5	4	6.3	10
0,1 q _p	m ³ /h	0.16	0.25	0.4	0.63	1	1.6	2.5	4	6.3	10
q _{p (1,0m/s)}	m ³ /h	1.6	2.5	4	6.3	10	16	25	40	63	100
q_p/q_i		10	10	10	10	10	10	10	10	10	10

MID 004 - MPE CLASS 2
(Maximum permitted error)



HOW TO ORDER

MS 2500	
code	Nominal Diameter / Lining / Liquid temperature / Measuring range
P25	DN25 (1"), P.P. lining, liquid maximum temp. 60 °C measuring range 0...0,72/0...18 m3/h
T25	DN25 (1"), PTFE lining, liquid maximum temp. 110 °C measuring range 0...0,72/0...18 m3/h
HT25	DN25 (1"), PTFE lining, liquid maximum temp. 180 °C measuring range 0...0,72/0...18 m3/h
P32	DN32 (1 1/4"), P.P. lining, liquid maximum temp. 60 °C measuring range 0...1,16/0...29 m3/h
T32	DN32 (1 1/4"), PTFE lining, liquid maximum temp. 110 °C measuring range 0...1,16/0...29 m3/h
P40	DN32 (1 1/4"), PTFE lining, liquid maximum temp. 180 °C measuring range 0...1,16/0...29 m3/h
T40	DN40 (1 1/2"), P.P. lining, liquid maximum temp. 60 °C measuring range 0...1,8/0...45 m3/h
HT40	DN40 (1 1/2"), PTFE lining, liquid maximum temp. 110 °C measuring range 0...1,8/0...45 m3/h
P50	DN50 (2"), P.P. lining, liquid maximum temp. 60 °C measuring range 0...2,88/0...72 m3/h
T50	DN50 (2"), PTFE lining, liquid maximum temp. 110 °C measuring range 0...2,88/0...72 m3/h
HT50	DN50 (2"), PTFE lining, liquid maximum temp. 180 °C measuring range 0...2,88/0...72 m3/h
R50	DN50 (2"), RILSAN lining, liquid maximum temp. 70 °C measuring range 0...2,88/0...72 m3/h
P65	DN65 (2 1/2"), P.P. lining, liquid maximum temp. 60 °C measuring range 0...4,8/0...120 m3/h
T65	DN65 (2 1/2"), PTFE lining, liquid maximum temp. 110 °C measuring range 0...4,8/0...120 m3/h
HT65	DN65 (2 1/2"), PTFE lining, liquid maximum temp. 180 °C measuring range 0...4,8/0...120 m3/h
R65	DN65 (2 1/2"), RILSAN lining, liquid maximum temp. 70 °C measuring range 0...4,8/0...120 m3/h
P80	DN80 (3"), P.P. lining, liquid maximum temp. 60 °C measuring range 0...7,2/0...180 m3/h
T80	DN80 (3"), PTFE lining, liquid maximum temp. 110 °C measuring range 0...7,2/0...180 m3/h
HT80	DN80 (3"), PTFE lining, liquid maximum temp. 180 °C measuring range 0...7,2/0...180 m3/h
R80	DN80 (3"), RILSAN lining, liquid maximum temp. 70 °C measuring range 0...7,2/0...180 m3/h
P100	DN100 (4"), P.P. lining, liquid maximum temp. 60 °C measuring range 0...11,2/0...280 m3/h
T100	DN100 (4"), PTFE lining, liquid maximum temp. 110 °C measuring range 0...11,2/0...280 m3/h
HT100	DN100 (4"), PTFE lining, liquid maximum temp. 180 °C measuring range 0...11,2/0...280 m3/h
R100	DN100 (4"), RILSAN lining, liquid maximum temp. 70 °C measuring range 0...11,2/0...280 m3/h
P125	DN125 (5"), P.P. lining, liquid maximum temp. 60 °C measuring range 0...18/0...450 m3/h
T125	DN125 (5"), PTFE lining, liquid maximum temp. 110 °C measuring range 0...18/0...450 m3/h
HT125	DN125 (5"), PTFE lining, liquid maximum temp. 180 °C measuring range 0...18/0...450 m3/h
R125	DN125 (5"), RILSAN lining, liquid maximum temp. 70 °C measuring range 0...18/0...450 m3/h
P150	DN150 (6"), P.P. lining, liquid maximum temp. 60 °C measuring range 0...25,6/0...640 m3/h
T150	DN150 (6"), PTFE lining, liquid maximum temp. 110 °C measuring range 0...25,6/0...640 m3/h
HT150	DN150 (6"), PTFE lining, liquid maximum temp. 180 °C measuring range 0...25,6/0...640 m3/h
R150	DN150 (6"), RILSAN lining, liquid maximum temp. 70 °C measuring range 0...25,6/0...640 m3/h
E200	DN200 (8"), Ebonite lining, liquid maximum temp. 80 °C measuring range 0...45,2/0...1130 m3/h
T200	DN200 (8"), PTFE lining, liquid maximum temp. 110 °C measuring range 0...45,2/0...1130 m3/h
HT200	DN200 (8"), PTFE lining, liquid maximum temp. 180 °C measuring range 0...45,2/0...1130 m3/h
R200	DN200 (8"), RILSAN lining, liquid maximum temp. 70 °C measuring range 0...45,2/0...1130 m3/h
E250	DN250 (10"), Ebonite lining, liquid maximum temp. 80 °C measuring range 0...70,8/0...1770 m3/h
T250	DN250 (10"), PTFE lining, liquid maximum temp. 110 °C measuring range 0...70,8/0...1770 m3/h
HT250	DN250 (10"), PTFE lining, liquid maximum temp. 180 °C measuring range 0...70,8/0...1770 m3/h
R250	DN250 (10"), RILSAN lining, liquid maximum temp. 70 °C measuring range 0...70,8/0...1770 m3/h
E300	DN300 (12"), Ebonite lining, liquid maximum temp. 80 °C measuring range 0...100,8/0...2520 m3/h
T300	DN300 (12"), PTFE lining, liquid maximum temp. 110 °C measuring range 0...100,8/0...2520 m3/h
HT300	DN300 (12"), PTFE lining, liquid maximum temp. 180 °C measuring range 0...100,8/0...2520 m3/h
R300	DN300 (12"), RILSAN lining, liquid maximum temp. 70 °C measuring range 0...100,8/0...2520 m3/h
E350	DN350 (14"), Ebonite lining, liquid maximum temp. 80 °C measuring range 0...138/0...3450 m3/h
T350	DN350 (14"), PTFE lining, liquid maximum temp. 110 °C measuring range 0...138/0...3450 m3/h
R350	DN350 (14"), RILSAN lining, liquid maximum temp. 70 °C measuring range 0...138/0...3450 m3/h

E400	DN400 (16"), Ebonite lining, liquid maximum temp. 80 °C measuring range 0...180/0...4500 m3/h
T400	DN400 (16"), PTFE lining, liquid maximum temp. 110 °C measuring range 0...180/0...4500 m3/h
R400	DN400 (16"), RILSAN lining, liquid maximum temp. 70 °C measuring range 0...180/0...4500 m3/h
E450	DN450 (18"), Ebonite lining, liquid maximum temp. 80 °C measuring range 0...228,8/0...5720 m3/h
T450	DN450 (18"), PTFE lining, liquid maximum temp. 110 °C measuring range 0...228,8/0...5720 m3/h
E500	DN500 (20"), Ebonite lining, liquid maximum temp. 80 °C measuring range 0...284/0...7100 m3/h
T500	DN500 (20"), PTFE lining, liquid maximum temp. 110 °C measuring range 0...284/0...7100 m3/h
E550	DN500 (20"), Ebonite lining, liquid maximum temp. 80 °C measuring range 0...348/0...8712m3/h
E600	DN600 (24"), Ebonite lining, liquid maximum temp. 80 °C measuring range 0...408/0...10200 m3/h
T600	DN600 (24"), PTFE lining, liquid maximum temp. 110 °C measuring range 0...408/0...10200 m3/h
E650	(26"), Ebonite lining, liquid maximum temp. 80 °C measuring range 0...480/0...12000 m3/h
T650	(26"), PTFE lining, liquid maximum temp. 110 °C measuring range 0...480/0...12000 m3/h
E700	DN700, Ebonite lining, liquid maximum temp. 80 °C measuring range 0...560/0...14000 m3/h
T700	DN700, PTFE lining, liquid maximum temp. 110 °C measuring range 0...560/0...14000 m3/h
E750	(30"), rEbonite lining, liquid maximum temp. 80 °C measuring range 0...640/0...16000 m3/h
T750	(30"), PTFE lining, liquid maximum temp. 110 °C measuring range 0...640/0...16000 m3/h
E800	DN800, Ebonite lining, liquid maximum temp. 80 °C measuring range 0...720/0...18000 m3/h
T800	DN800, PTFE lining, liquid maximum temp. 110 °C measuring range 0...720/0...18000 m3/h
E850	(34"), Ebonite lining, liquid maximum temp. 80 °C measuring range 0...820/0...20500 m3/h
T850	(34"), PTFE lining, liquid maximum temp. 110 °C measuring range 0...820/0...20500 m3/h
E900	DN900 (36"), Ebonite lining, liquid maximum temp. 80 °C measuring range 0...920/0...23000 m3/h
T900	DN900 (36"), PTFE lining, liquid maximum temp. 110 °C measuring range 0...920/0...23000 m3/h
E1000	DN1000 (40"), Ebonite lining, liquid maximum temp. 80 °C measuring range 0...1140/0...28500 m3/h
T1000	DN1000 (40"), PTFE lining, liquid maximum temp. 110 °C measuring range 0...1140/0...28500 m3/h
E1050	DN1050 (42"), Ebonite lining, liquid maximum temp. 80 °C measuring range 0...1270/0...31750 m3/h
E1200	DN1200 (48"), Ebonite lining, liquid maximum temp. 80 °C measuring range 0...1600/0...40.000 m3/h
E1400	DN1400 (56"), Ebonite lining, liquid maximum temp. 80 °C measuring range 0...2200/0...55000 m3/h
E1600	DN1600 (64"), Ebonite lining, liquid maximum temp. 80 °C measuring range 0...2880/0...72000 m3/h
E1800	DN1800 (72"), Ebonite lining, liquid maximum temp. 80 °C measuring range 0...3640/0...91000 m3/h
E2000	DN2000 (80"), Ebonite lining, liquid maximum temp. 80 °C measuring range 0...5650/0...113.000 m3/h

Gasket material (internal tightness - only PP lining)		
A	A	No O-Ring (ONLY FOR PTFE/EBANITE/RILSAN LINING)
	B	O-Ring : FKM
	C	O-Ring : Epdm
	Z	O-Ring : da specificare
Flange type		
1	1	Flange EN1092 PN16 (standard with Polypropilene/Rilsan lining)
	2	Flange EN1092 PN10
	3	Flange EN1092 PN25
	4	Flange EN1092 PN40
	5	Flange EN1092 PN64
	6	Flange ANSI 150RF
	7	Flange ANSI 300RF
	8	Flange EN1092 PN6
	9	Flange JIS 10K
	0	Flange: to be specified
Body and Flanges material		
A	A	Body and flange in Carbon Steel, RAL6028 painted
	B	Body and flange in Stainless Steel (AISI304)
	C	Body and flange in Stainless Steel (AISI316)
	Z	Body and flange material: other
Number and electrodes material		
1	1	n. 2 measure electrodes in AISI316
	2	n. 3 (2 measure + 1 for ground) electrodes in AISI316
	4	n. 3 (2 measure + 1 for ground) electrodes in Hastelloy C
	5	n. 3 (2 measure + 1 for ground) electrodes in Titanium
	6	n. 3 (2 measure + 1 for ground) electrodes in Tantalum; not available with PP
	7	n. 3 (2 measure + 1 for ground) electrodes in Platinum; not available with PP
	0	Electrode material: to be specified
Version / Protection Rate		
A	A	Compact version , IP67 protection rate
	B	Separate version , remember to add the cables, protection rate IP68 (standing immersion with 1,5 m of head water)
	E	Separate 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	Separate version with N° 2 connectors IP 68 suitable for fast cable connections
	G	Separate version with N° 1 connectors IP 68 suitable for fast cable connections
	M	Compact version , IP67 protection rate , with the possibility to turn the converter of 90°
	N	Separate version in Aluminum , with JB PREAMPLIFIRE* (maximum length 500 m.), remember to add the cables ,protection rate IP67
	P	Separate version in AISI 304, with JB PREAMPLIFIRE* (maximum length 500 m.), remember to add the cables ,protection rate IP67
	Q	Separate version with N° 1 connectors IP 68 suitable for fast cable connection to JB PREAMPLIFIRE* in Aluminum (DEFINE THE CABLE LENGHT MAX 500 m-ADD THE COST)
	R	Separate version with N° 1 connectors IP 68 suitable for fast cable connections to JB PRAMPLIFIRE* IN AISI 304 (DEFINE THE CABLE LENGHT MAX 500 m-ADD THE
	X	Separate version with JUNCTION BOX in AISI 304 (Rif. Dis R038)



MS2500-T150-A1A1A (Example of Complete code for order)

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