

Flow Measurement

SITRANS FM (electromagnetic)

Flow sensors / SITRANS FM MAG 1100 F

Overview



The electromagnetic sensor SITRANS FM MAG 1100 F is designed to meet applications in the food and beverage industry.

Benefits

- Sensor sizes: DN 10 to DN 100 (3/8" to 4")
- AISI 316 stainless steel enclosure
- Sensor: Hygienic connection, 3A approval
- Sanitary design for CIP/SIP cleaning
- Easy commissioning, the SENSORPROM unit automatically updates settings
- Hose proof IP67/NEMA 6 enclosure rating
- Designed that patented in-situ verification can be conducted. Using SENSORPROM fingerprints.

Application

The main applications of the SITRANS FM electromagnetic sensors can be found in the following fields:

- Food industry
- Beverage industry
- Pharmaceutical industry

Design

- Unique mechanical design with a wide range of customer specified sanitary connection
- Compact or remote mounting possible easy "plug & play" field changeable
- Simple on-site upgrade to IP68/NEMA 6P terminal box
- ATEX 2G D version for hazardous areas (ceramic liner)

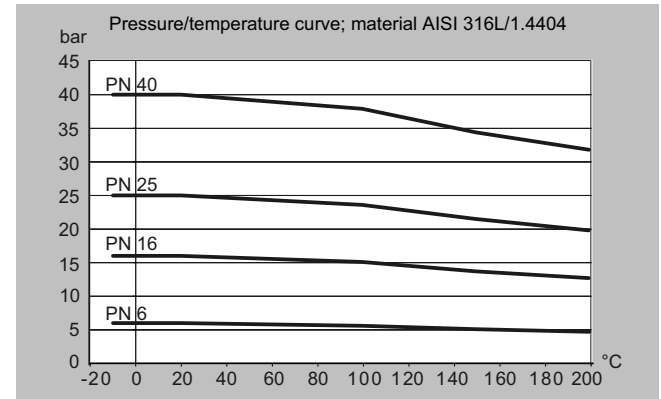
Mode of operation

The flow measuring principle is based on Faraday's law of electromagnetic induction according to which the sensor converts the flow into an electrical voltage proportional to the velocity of the flow.

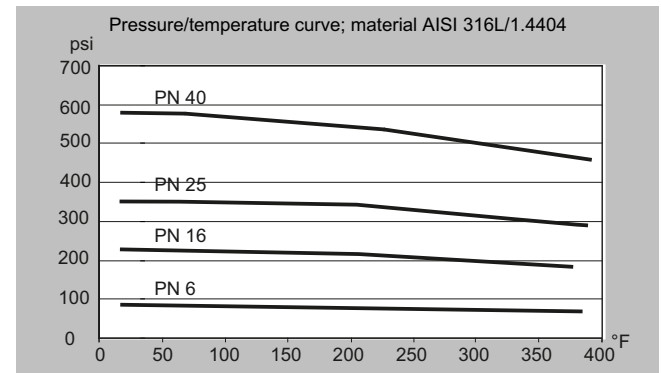
Integration

The complete flowmeter consists of a sensor and an associated transmitter SITRANS FM MAG 5000, 6000 and 6000 I. The flexible communication concept USM II simplifies integration and update to a variety of fieldbus systems such as PROFIBUS DP and PA, Modbus RTU/RS 485, HART, FOUNDATION Fieldbus H1, DeviceNet.

Pressure/temperature curve; material AISI 316L/1.4404



Pressure/temperature curve; material AISI 316L/1.4404



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Selection and ordering data

Sensor SITRANS FM MAG 1100 F	Article No. 7ME6140-									
Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	●	●	●	●	●	-	●	●	●	●
Diameter										
DN 10 (3/8")	1	R								
DN 15 (1/2")	1	V								
DN 25 (1")	2	D								
DN 40 (1 1/2")	2	R								
DN 50 (2")	2	Y								
DN 65 (2 1/2")	3	F								
DN 80 (3")	3	M								
DN 100 (4")	3	T								
Process connections										
None (not suitable for 3A approval)		A								
<u>Weld in</u>										
DIN 11850		B								
ISO 2037 (SMS 3008)		C								
Tri-Weld/BS 4825-1		D								
<u>Clamp type</u>										
DIN 32676		G								
ISO 2852 (SMS 3016)		H								
Tri-Clamp/BS 4825-3		J								
<u>Threaded type</u>										
DIN 11851		M								
SMS 1145 ¹⁾		N								
Liner material										
PFA							1			
Ceramic							2			
Gasket material¹⁾										
EPDM flat gasket (3A)							0			
FPM/FKM flat gasket (3A) (only with ceramic liner)							2			
EPDM P gasket (3A) (only with PFA liner)							3			
Electrode material										
Hastelloy C (only with PFA liner)								1		
Platinum (only with ceramic liner)								2		
Transmitter										
Standard sensor for remote transmitter (order transmitter separately), 3A approved									A	
Ex sensor for remote transmitter (order transmitter separately), 3A approved									B	
MAG 6000 I, Aluminum, 18 ... 90 V DC, 115 ... 230 V AC, FM / CSA Class I Div. 2									C	
MAG 6000 I, Aluminum, 18 ... 30 V DC, Ex									D	
MAG 6000 I, Aluminum, 115 ... 230 V AC, Ex									E	
MAG 6000 I, Aluminum, 18 ... 90 V DC, 115 ... 230 V AC (non-Ex)									F	
MAG 6000, Polyamide, 11 ... 30 V DC/11 ... 24 V AC									H	
MAG 6000, Polyamide, 115 ... 230 V AC									J	
MAG 5000, Polyamide, 11 ... 30 V DC/11 ... 24 V AC									K	
MAG 5000, Polyamide, 115 ... 230 V AC									L	
Communication										
No communication, add-on possible									A	
HART									B	
PROFIBUS PA Profile 3 (only MAG 6000/MAG 6000 I)									F	
PROFIBUS DP Profile 3 (not for Ex) (only MAG 6000/MAG 6000 I)									G	
Modbus RTU/RS 485 (not for Ex) (only MAG 6000/MAG 6000 I)									E	
FOUNDATION Fieldbus H1 (only MAG 6000/MAG 6000 I)									J	
Cable glands/terminal box										
Metric: Polyamide terminal box or MAG 6000 I compact										1
1/2" NPT: Polyamide terminal box or MAG 6000 I compact										2
Metric: Stainless steel terminal box										3
1/2" NPT: Stainless steel terminal box										4

¹⁾ SMS 1145 standard is not approved by 3A.

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Selection and ordering data (continued)

Additional information	Order code
Please add "-Z" to Article No. and specify Order code(s) and plain text.	
Certificates	
Pressure test certificate according to EN 10204-3.1	C01
Material certificate according to EN 10204-3.1	C12
Factory certificate according to EN 10204-2.2	C14
Factory certificate according to EN 10204-2.1	C15
Country specific label	
CRN (Canadian Registration Number)	H25
Terminal blocks	
Factory mounted terminal blocks	N02
Tag name plate	
Tag name plate transmitter, stainless steel (specify in plain text)	Y15
Tag name plate, stainless steel (specify in plain text)	Y17
Tag name plate, plastic (self-adhesive)	Y18
Device settings	
Customer-specific transmitter setting	Y20
Factory mounted sensor cables	
Sensor cables wired	Y40
Sensor cables wired and IP68 sealing	Y41
Additional calibrations	
Matched-pair calibration	On request ¹⁾
Accredited matched-pair calibration acc. to ISO/IEC 17025: 2005	On request ¹⁾
Customer-specified calibration up to 10 points	On request ¹⁾
Customer-witnessed calibration (any of above calibration)	On request ¹⁾

¹⁾ Product Variation Request (PVR).

Description	Article No.
• English	A5E02435647

All literature is available to download for free, in a range of languages, at www.siemens.com/processinstrumentation/documentation

Accessories

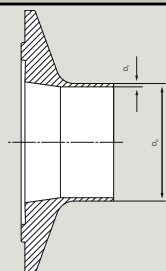
Description	Article No.
Potting kit for IP68/ NEMA 6P sealing of sensor junction box	FDK:085U0220



Spare parts for MAG 1100 F sensor

Description	Article No.
Weld-in connection fittings for use with P gaskets (stainless steel) Material: AISI 316L (1.4404) Only for PFA liner 2 pcs. fittings 2 pcs. clamps (to join flow sensor and fitting), P gaskets not included	

Selection and ordering data (continued)

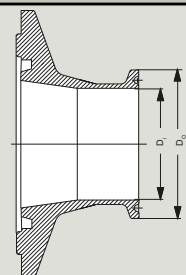
Description				Article No.	
DIN 11850					
<u>Adapter</u>		<u>Sensor</u>			
DN (mm)	D _o (mm)	D _T (mm)	DN (mm)		
10	13	1.5	10		
15	19	1.5	15		
20	23	1.5	15		
25	29	1.5	25		
32	35	1.5	25		
40	41	1.5	40		
50	53	1.5	50		
65	70	2.0	65		
80	85	2.0	80		
100	104	2.0	100		
ISO 2037					
<u>Adapter</u>		<u>Sensor</u>			
DN (mm)	D _o (mm)	D _T (mm)	DN (mm)		
12.7	12.7	1.0	10		
17.2	17.2	1.0	15		
25	25	1.6	25		
33	33.7	1.6	25		
38	38	1.6	40		
40	40	1.6	40		
51	51	1.6	50		
63.5	63.5	1.6	65		
76.1	76.1	1.6	80		
101.6	101.6	2.0	100		
Tri-Weld (BS 4825-1)					
<u>Adapter</u>		<u>Sensor</u>			
DN (mm)	D _o (mm)	D _T (mm)	DN (mm)		
12.7	12.7	1.2	10		
19.05	19.05	1.2	15		
25.4	25.4	1.6	25		
38.1	38.1	1.6	40		
50.8	50.8	1.6	50		
63.5	63.5	1.6	65		
76.2	76.2	1.6	80		
101.6	101.6	2.0	100		
Clamp-type connection fittings for use with P gaskets (stainless steel)					
Material: AISI 316L (1.4404) Only for liner PFA 2 pcs. fittings 2 pcs. clamps (to join flow sensor and fitting), P gaskets not included					
DIN 32676					
<u>Adapter</u>		<u>Sensor</u>			

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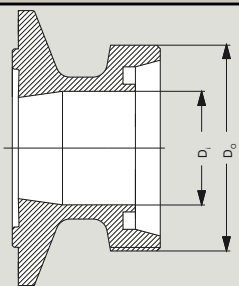
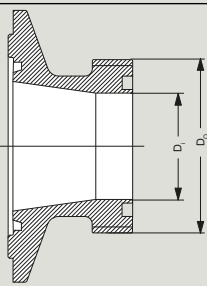
Selection and ordering data (continued)

Description				Article No.
DN (mm)	D _o (mm)	D _i (mm)	DN (mm)	
10	34	10	10	
15	34	16	15	
25	50.5	22.6	25	
40	50.5	38	40	
50	64	50	50	
65	91	66	65	
80	106	81	80	
100	119	100	100	
ISO 2852				
<u>Adapter</u>		<u>Sensor</u>		
DN (mm)	D _o (mm)	D _i (mm)	DN (mm)	
25	50.5	22.6	25	A5E02213581
33.7	50.5	31.3	25	A5E02213582
38	50.5	35.6	40	A5E02213583
51	64	48.6	50	A5E02213584
63.5	77.5	60.3	65	A5E02213585
76.1	91	72.9	80	A5E02213586
101.6	119	97.6	100	A5E02213587
Tri-Clamp (BS 4825-3)				
<u>Adapter</u>		<u>Sensor</u>		
DN (mm)	D _o (mm)	D _i (mm)	DN (mm)	
12.7	25.4	9.5	10	A5E02213596
19.05	25.4	15.85	15	A5E02213597
25.4	50.5	22.2	25	A5E02213598
38.1	50.5	34.9	40	A5E02213599
50.8	64	47.6	50	A5E02213600
63.5	77.5	60.3	65	A5E02213601
76.2	91	73	80	A5E02213602
101.6	119	97.6	100	A5E02213603

D_o: Outer diameterD_i: Inner diameter

Description	Article No.
Threaded type connection fittings for use with P gaskets (stainless steel) Material: AISI 316L (1.4404) Only for PFA liner 2 pcs. fittings 2 pcs. clamps (to join flow sensor and fitting), P gaskets not included	
DIN 11851 <u>Adapter</u>	<u>Sensor</u>

Selection and ordering data (continued)

Description				Article No.	
DN (mm)	D _o (mm)	D _i (mm)	DN (mm)		
10	28	10	10	A5E02218293	
15	34	16	15	A5E02218294	
20	44	20	15	A5E02218295	
25	52	26	25	A5E02218296	
32	58	32	25	A5E02218297	
40	65	38	40	A5E02218298	
50	78	50	50	A5E02218299	
65	95	66	65	A5E02218300	
80	110	81	80	A5E02218301	
100	130	100	100	A5E02218302	
SMS 1145					
<u>Adapter</u>					
DN (mm)	D _o (mm)	D _i (mm)	DN (mm)		
25	40	22.6	25		A5E02218310
38	60	35.6	40		A5E02218312
51	70	48.6	50		A5E02218313
63.5	85	60.3	65		A5E02218314
76	98	72	65		A5E02218315
<u>Sensor</u>					
DN (mm)	D _o (mm)	D _i (mm)	DN (mm)		
25	40	22.6	25		A5E02218310
38	60	35.6	40		A5E02218312
51	70	48.6	50		A5E02218313
63.5	85	60.3	65		A5E02218314
76	98	72	65		A5E02218315

D_o: Outer diameter
D_i: Inner diameter

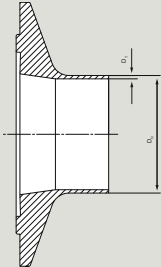
Description	Article No.
Weld-in connection fittings for use with flat gaskets (stainless steel) Material: AISI 316L (1.4404) For PFA liner and ceramic 2 pcs. fittings 2 pcs. clamps (to join flow sensor and fitting), Flat gaskets not included	
DIN 11850¹⁾ Adapter	Sensor

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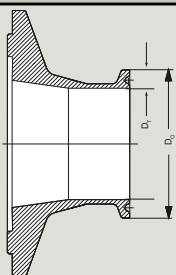
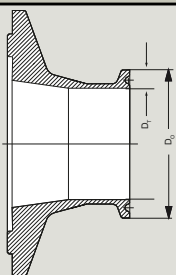
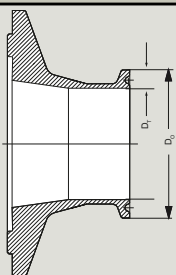
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Selection and ordering data (continued)

Description				Article No.
DN (mm)	D _o (mm)	D _T (mm)	DN (mm)	
10	13	1.5	10	
15	19	1.5	15	
20	23	1.5	15	
25	29	1.5	25	
32	35	1.5	25	
40	41	1.5	40	
50	53	1.5	50	
65	70	2.0	65	
80	85	2.0	80	
100	104	2.0	100	
ISO 2037 ¹⁾				
<u>Adapter</u>		<u>Sensor</u>		
DN (mm)	D _o (mm)	D _T (mm)	DN (mm)	
12.7	12.7	1.0	10	A5E03720273
17.2	17.2	1.0	15	FDK:083G2107
25	25.6	1.6	25	FDK:083G2109
33.7	33.7	1.6	25	FDK:083G2100
38	38	1.6	40	FDK:083G2111
40	40	1.6	40	FDK:083G2101
51	51	1.6	50	FDK:083G2112
63.5	63.5	1.6	65	FDK:083G2113
76.1	76.1	1.6	80	FDK:083G2114
101.6	101.6	2.0	100	FDK:083G2115
114.3	118.3	2.0	100	FDK:083G2105
Tri-Weld (BS 4825-1) ¹⁾				
<u>Adapter</u>		<u>Sensor</u>		
DN (mm)	D _o (mm)	D _T (mm)	DN (mm)	
12.7	12.7	1.2	10	FDK:083G2276
19.05	19.05	1.2	15	FDK:083G2277
25.4	25.4	1.6	25	FDK:083G2279
38	38.1	1.6	40	FDK:083G2281
50.8	50.8	1.6	50	FDK:083G2282
63.5	63.5	1.6	65	FDK:083G2283
76.2	76.2	1.6	80	FDK:083G2284
101.6	101.6	2.0	100	FDK:083G2285

Description	Article No.
Clamp-type connection fittings for use with flat gaskets (stainless steel) Material: AISI 316L (1.4404) For PFA liner and ceramic 2 pcs. fittings 2 pcs. clamps (to join flow sensor and fitting), Flat gaskets not included	

Selection and ordering data (continued)

Description				Article No.
DIN 32676 ¹⁾				
<u>Adapter</u>		<u>Sensor</u>		
DN (mm)	D _o (mm)	D _T (mm)	DN (mm)	
10	34	10	10	
15	34	16	15	
25	50.5	26	25	
40	50.5	38	40	
50	64	50	50	
65	91	66	65	
80	106	81	80	
100	119	100	100	FDK:083G2185
ISO 2852 ¹⁾				
<u>Adapter</u>		<u>Sensor</u>		
DN (mm)	D _o (mm)	D _T (mm)	DN (mm)	
25	50.5	22.6	25	
33.7	50.5	31.3	25	
38	50.5	35.6	40	
51	64	48.6	50	
63.5	77.5	60.3	65	
76.1	91	72.9	80	
101.6	119	97.6	100	
Tri-Clamp (BS 4825-3) ¹⁾				
<u>Adapter</u>		<u>Sensor</u>		
DN (mm)	D _o (mm)	D _T (mm)	DN (mm)	
12.7	25.4	9.5	10	
19.05	25.4	15.85	15	
25.4	50.5	22.2	25	
38.1	50.5	34.9	40	
50.8	64	47.6	50	
63.5	77.5	60.3	65	
76.2	91	73	80	
101.6	119	97.6	100	
				FDK:083G2295

D_o: Outer diameterD_i: Inner diameter¹⁾ Suitable for 3A

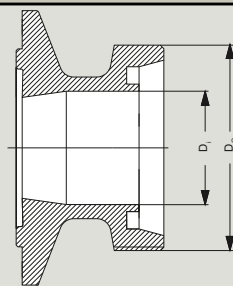
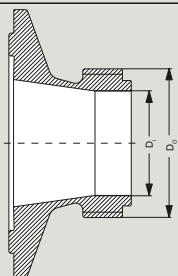
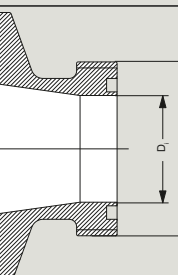
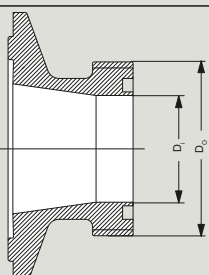
Description	Article No.
Threaded type connection fittings for use with flat gaskets (stainless steel) Material: AISI 316L (1.4404) For PFA liner and ceramic 2 pcs. fittings 2 pcs. clamps (to join flow sensor and fitting), Flat gaskets not included	
DIN 11851¹⁾ <u>Adapter</u>	<u>Sensor</u>

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Selection and ordering data (continued)

Description				Article No.
DN (mm)	D _o (mm)	D _i (mm)	DN (mm)	
10	28	10	10	
15	34	16	15	
20	44	20	15	
25	52	26	25	
32	58	32	25	
40	65	38	40	
50	78	50	50	
65	95	66	65	
80	110	81	80	
100	130	100	100	
ISO 2853 ¹⁾				
<u>Adapter</u>				
DN (mm)	D _o (mm)	D _i (mm)	DN (mm)	
25	37	22.6	25	
38	51	35.6	40	
51	64	48.6	50	
63.5	78	60.3	65	
76.1	91	72.9	80	
BS 4825-4 ¹⁾				
<u>Adapter</u>				
DN (mm)	D _o (mm)	D _i (mm)	DN (mm)	FDK:083G2145
101.6	126	97.6	100	
SMS 1145 ²⁾				
<u>Adapter</u>				
DN (mm)	D _o (mm)	D _i (mm)	DN (mm)	
25	40	22.6	25	FDK:083G2139
38	60	35.6	40	FDK:083G2141

Selection and ordering data (continued)

Description				Article No.
51	70	48.6	50	FDK:083G2142
63.5	85	60.3	65	FDK:083G2143
76	98	72	65	FDK:083G2144

D_o: Outer diameterD_i: Inner diameter¹⁾ Suitable for 3A²⁾ Not suitable for 3A

Accessories for MAG 1100 F sensor

Description	Article No.
Gaskets (delivered in pairs, to be placed between flow sensor and adapter)	
<u>MAG 1100 F (PFA) - P gaskets</u>	
Rubber: EPDM ¹⁾	
• DN 10	A5E02055286
• DN 15	A5E02055287
• DN 25	A5E02055290
• DN 40	A5E02055291
• DN 50	A5E02055292
• DN 65	A5E02055293
• DN 80	A5E02055295
• DN 100	A5E02055297
<u>MAG 1100 F (ceramic) - Flat gaskets</u>	
Rubber: FKM/FPM	
• DN 10	A5E00915707
• DN 15	A5E00915764
• DN 25	A5E00915771
• DN 40	A5E00915773
• DN 50	A5E00915775
• DN 65	A5E00915780
• DN 80	A5E00915782
• DN 100	A5E00915784
<u>MAG 1100 F (PFA, ceramic) - Flat gaskets</u>	
Rubber: EPDM	
• DN 10	FDK:083G2206
• DN 15	FDK:083G2207
• DN 25	FDK:083G2209
• DN 40	FDK:083G2211
• DN 50	FDK:083G2212
• DN 65	FDK:083G2213
• DN 80	FDK:083G2214
• DN 100	FDK:083G2215
Rubber: NBR	
• DN 10	FDK:083G2216
• DN 15	FDK:083G2217
• DN 25	FDK:083G2219
• DN 40	FDK:083G2221
• DN 50	FDK:083G2222
• DN 65	FDK:083G2223
• DN 80	FDK:083G2224

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Selection and ordering data (continued)

Description	Article No.
• DN 100	FDK:083G2225

¹⁾ Suitable for 3A

Technical specifications

MAG 1100 F	
Measuring principle	Electromagnetic induction
Excitation frequency (Mains supply: 50 Hz/60 Hz)	DN 10 ... 65 (¼" ... 2½"): 12.5 Hz/15 Hz DN 80 ... 100 (3", 4"): 6.25 Hz/7.5 Hz
Process connection	
Nominal size	DN 10 ... 100 (3/8" ... 4")
Process connection	Hygienic adapters available for: • Direct welding onto pipe • Clamp fitting • Threaded fitting
Rated operating conditions	
Ambient conditions	
Ambient temperature	
• Sensor	-40 ... +100 °C (-40 ... +212 °F)
• Ex sensor	-20 ... +60 °C (-4 ... +140 °F)
• Compact with transmitter MAG 5000/6000	-20 ... +60 °C (-4 ... +140 °F)
• Compact with transmitter MAG 6000 I ¹⁾	-20 ... +60 °C (-4 ... +140 °F)
• Compact with transmitter MAG 6000 I Ex ¹⁾	-10 ... +60 °C (14 ... 140 °F)
Temperature of medium	
MAG 1100 F (Ceramic)	-20 ... +150 °C (-4 ... +302 °F) Suitable for steam sterilization
MAG 1100 F (PFA)	-30 ... +130 °C (-22 ... +266 °F) Suitable for steam sterilization at 150 °C (302 °F)
Temperature shock	
MAG 1100 F	
• Duration ≤ 1 min, followed by 10 min rest	• DN 10, 15, 25: Max. ΔT ≤ 80 °C/min (3/8", ½", 1": Max. ΔT ≤ 144 °F/min) • DN 40, 50, 65: Max. ΔT ≤ 70 °C/min (1½", 2", 2½": Max. ΔT ≤ 126 °F/min) • DN 80, 100: Max. ΔT ≤ 60 °C/min (3", 4": Max. ΔT ≤ 108 °F/min)
MAG 1100 F (PFA)	Max. ± 100 °C (212 °F) momentarily
Operating pressure	
MAG 1100 F (Ceramic)	DN 10 ... 65: 40 bar (3/8" ... 2½": 580 psi) DN 80: 25 bar (3": 363 psi) DN 100: 25 bar (4": 363 psi) Vacuum: 1 x 10 ⁻⁶ bar _{abs} (1.5 x 10 ⁻⁵ psi _{abs}) 20 bar (290 psi) Vacuum: 0.02 bar _{abs} (0.3 psi _{abs}) DN 80 ... DN 100: CO ₂ pressure max. 7 bar (101.5 psi)
MAG 1100 F (PFA)	
Mechanical load (vibration)	
	18 ... 1 000 Hz random in x, y, z, directions for 2 hours according to EN 60068-2-36 Sensor: 3.17 g RMS Sensor with compact MAG 5000/6000 mounted transmitter: 3.17 grms Sensor with compact MAG 6000 I/MAG 6000 I Ex mounted transmitter: 1.14 grms

Technical specifications (continued)

MAG 1100 F	
Mechanical load (vibration)	For compact installation with the MAG 6000 I/MAG 6000 I Ex, transmitter to be supported to avoid tension on sensor part.
Enclosure rating	IP67 to EN 60529 (NEMA 6), 1 mH ₂ O for 30 min
EMC	2014/30/EU
Design	
Weight	See Dimensional drawings
Material	
Enclosure	
• MAG 1100 F	Stainless steel AISI 316L/1.4404
Terminal box (remote version only)	
• Standard	Fibre glass reinforced polyamide
• Option	Stainless steel AISI 316/1.4436
• Ex ATEX (remote version only)	Stainless steel AISI 316/1.4436
Liner	
MAG 1100 F (Ceramic)	Aluminum oxide Al ₂ O ₃ (ceramics)
MAG 1100 F (PFA)	Reinforced PFA (teflon) (not for Ex)
Electrodes	
MAG 1100 F (Ceramic)	Platinum with gold/Titanium brazing alloy
MAG 1100 F (PFA)	• DN 10 ... 15 (3/8" ... ½"): Hastel-loy C276/2.4819 • DN 25 ... 100 (1" ... 4"): Hastel-loy C22/2.4602
Cable entries	• Remote installation 2 x M20 or 2 x ½" NPT • Compact installation - MAG 5000/MAG 6000: 4 x M20 or 4 x ½" NPT - MAG 6000 I: 2 x M25 (for supply/output) - MAG 6000 I Ex: 2 x M25 (for supply/output)
Certificates and approvals	
Calibration	
• Default calibration	Zero-point, 2 x 25 %, 2 x 90 %
Hazardous areas	
• MAG 1100 F (Ceramic)	
- Ex-sensor in compact or remote version with MAG 6000 I Ex	• ATEX, EAC Ex - Zone 1 Ex d e ia IIB T6 Gb • ATEX - Zone 21 Ex td A21 IP67
- Standard sensor in compact or remote version with MAG MAG 5000/6000/6000 I Ex	• FM - NI Class I Div. 2 Groups A, B, C, D
• MAG 1100 F (PFA)	
- Standard sensor in compact or remote version with MAG MAG 5000/6000/6000 I Ex	• FM - NI Class I Div. 2 Groups A, B, C, D

Technical specifications (continued)

MAG 1100 F	
Hygienic	
• MAG 1100 F (Ceramic)	• 3A (remote version with Polyamide terminal box)
• MAG 1100 F (PFA)	• 3A (remote version with Polyamide terminal box)
	• Hygienic EC 1935:2004 European food contact material
Pressure equipment	PED - 2014/68/EU
Others	• EAC (Kazakhstan)

Accessories for MAG 1100 F	
Weld-in adapter	
Adapter for welding onto dairy pipe, stainless steel 1.4404	Tri-Weld ISO 2037, DIN 11850, SMS 3008, BS 4825-1
• DN 10, 15, 25, 40, 50 and 65 (3/8", 1/2", 1", 1 1/2", 2" and 2 1/2")	PN 40 (600 psi)
• DN 8 and DN 100 (3" and 4")	PN 25 (350 psi)
Clamp adapter	Tri-Clamp, ISO 2852, DIN 32676, SMS 3016, BS 4825-3
DN 10, 15, 25, 40 and 50 (3/8", 1/2", 1", 1 1/2" and 2")	PN 16 (200 psi)
DN 65, 80 and 100 (2 1/2", 3" and 4")	PN 10 (150 psi)
Thread adapter	
DIN 11851	
• DN 10, 15, 25, and 40 (3/8", 1/2", 1", and 1 1/2")	PN 40 (600 psi)
• DN 50, 65, 80 and 100 (2", 2 1/2", 3" and 4")	PN 25 (350 psi)
ISO 2853, BS 4825-4	
• DN 10, 15, 25, 40, 50, 65 and 80 (3/8", 1/2", 1", 1 1/2", 2", 2 1/2" and 3")	PN 16 (200 psi)
SMS 1145	
• DN 25, 40, 50, 65 and 80 (1", 1 1/2", 2", 2 1/2" and 3")	PN 6 (80 psi)
Design	
Material	
Adapter	Stainless steel AISI 316/1.4436
Gasket	
• MAG 1100 F (Ceramic)	FKM/FPM with stainless steel insert (AISI 304/1.4301) (-20 ... +150 °C (-4 ... +302 °F))
	EPDM (-20 ... +150 °C (-4 ... +302 °F))
• MAG 1100 F (PFA)	EPDM (-20 ... +150 °C (-4 ... +302 °F))
	NBR (-20 ... +100 °C (-4 ... +212 °F))

¹⁾ With HART communication max. ambient temperature 50 °C (122 °F).

Note:

When combined sensor and adapter, the operating pressure is the lower rated of the pair.

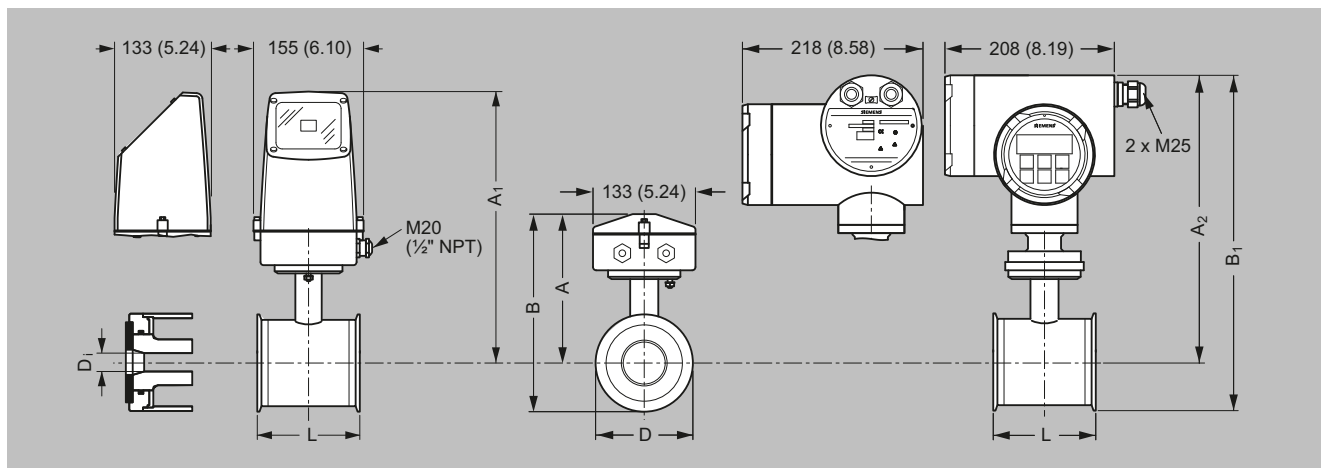
Flow Measurement

SITRANS FM (electromagnetic)

Flow sensors / SITRANS FM MAG 1100 F

Dimensional drawings

Sensor MAG 1100 F compact/remote



Dimensions in mm (inch)

Important note: For compact installation with MAG 6000 I/Ex - Supports the transmitter to avoid tension on the sensor part.

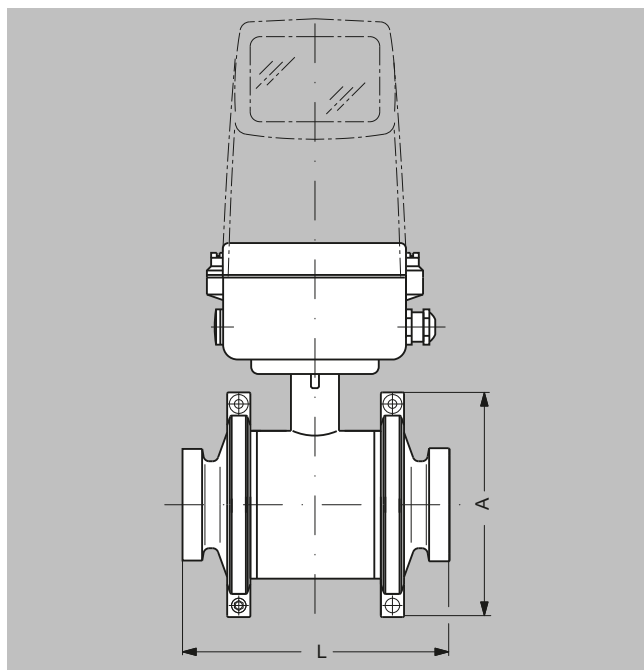
Size DN	L [mm]	A [mm]	B ²⁾ [mm]	B ₁ [mm]	D [mm]	D _i (Al ₂ O ₃) [mm]	D _i PFA [mm]	Weight ¹⁾ [kg]
10	64	161	315	193.7	344.7	64.0	10	2.2
15	64	161	315	193.7	344.7	64.0	15	2.2
25	79	169	323	207.5	359.0	77.5	26	2.7
40	94	179	333	228.0	379.0	91.0	38	3.4
50	104	188	342	247.7	398.7	119.0	50	4.2
65	131	197.5	351	262.6	413.6	130.0	66	5.5
80	156	204	357	281.0	432.0	155.0	81	7.0
100	186	217	370	308.0	459.0	183.0	100	10.0

Size [inch]	L [inch]	A [inch]	B ²⁾ [inch]	B ₁ [inch]	D [inch]	D _i (Al ₂ O ₃) [inch]	D _i PFA [inch]	Weight ¹⁾ [lb]
3/8	2.52	6.34	12.40	7.62	13.57	2.52	0.39	4.8
1/2	2.52	6.34	12.40	7.62	13.57	2.52	0.63	4.8
1	3.11	6.66	12.72	8.17	14.13	3.05	1.02	4.9
1 1/2	3.70	7.05	13.11	8.98	14.92	3.58	1.50	7.5
2	4.09	7.40	13.47	9.75	15.70	4.68	1.97	9.2
2 1/2	5.16	7.78	13.82	10.34	16.28	5.12	2.60	12.0
3	6.14	8.03	14.06	11.06	17.01	6.10	3.19	15.0
4	7.32	8.54	14.57	12.13	18.07	7.20	3.94	22.0

¹⁾ With transmitter MAG 5000 or MAG 6000 compact, weight is increased by approximately 0.8 kg (1.8 lb). With MAG 6000 I weight is increased with 5.5 kg (12.1 lbs).

²⁾ 14.5 mm (0.571") shorter when the stainless steel terminal box is used (always Ex version).

³⁾ A₂ is 3 mm (0.12") shorter than A₁.

Dimensional drawings (continued)
Sensor MAG 1100 F compact/separate – built-in length


Size DN	[Inch]	A [mm]	[inch]	L ¹⁾ [mm]	[inch]
10	3/8	99	3.90	146	5.75
15	1/2	99	3.90	146	5.75
25	1	113	4.45	161	6.34
40	1 1/2	126	4.96	176	6.93
50	2	154	6.06	186	7.32
65	2 1/2	165	6.50	223	8.78
80	3	200	7.87	258	10.16
100	4	225	8.86	288	11.34

¹⁾ The total built-in length "L" is independent of the adapter type selected.