

Flow Measurement

SITRANS FM (electromagnetic)

Flow sensors

MAG 3100 P

Overview



The SITRANS FM MAG 3100 P is designed to meet the most common specifications within chemical and process industries.

Benefits

- DN 15 to DN 300 (½" to 12")
- Included in Quick Ship Program (delivery time see PIA LCP)
- Most used flowmeter in the chemical and process industries with PTFE/PFA liner and Hastelloy electrodes
- Excellent chemical resistance
- Full scope of global approvals for hazardous areas:
 - ATEX, FM, CSA, IECEx
 - 24 V and 115/230 V Ex compact and remote
 - intrinsically safe ia analog output
- Comprehensive self-diagnostic for error indication and error logging
- Fully welded construction provides a ruggedness that suits the toughest applications and environments.
- Easy commissioning, the SENSORPROM unit automatically updates settings.
- MAG 6000 I full NAMUR compliance
 - compliant with NE 21, NE 32, NE 43, NE 53 and NE70

Application

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

- Chemical industry
- Process industry
- Pulp and paper
- Industrial waste water

Design

- Compact or remote mounting possible
- Easy "plug & play" field changeability of transmitter
- High temperature sensor for applications with temperatures up to 150 °C (302 °F)
- Meets EEC directives: PED, 2014/68/EU pressure directive for EN 1092-1 flanges
- Build-in length according to ISO 20456
- Onsite or factory upgrade to IP68/NEMA 6P of a standard sensor.

Mode of operation

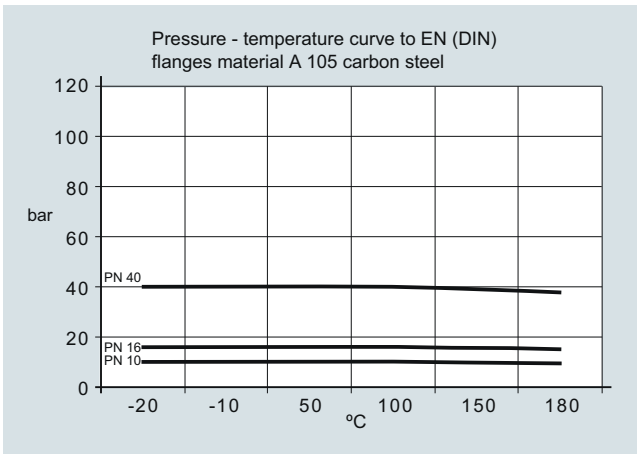
The flow measuring principle is based on Faraday's law of electromagnetic induction according to which the sensor converts the flow into an electrical voltage proportional to the velocity of the flow.

Integration

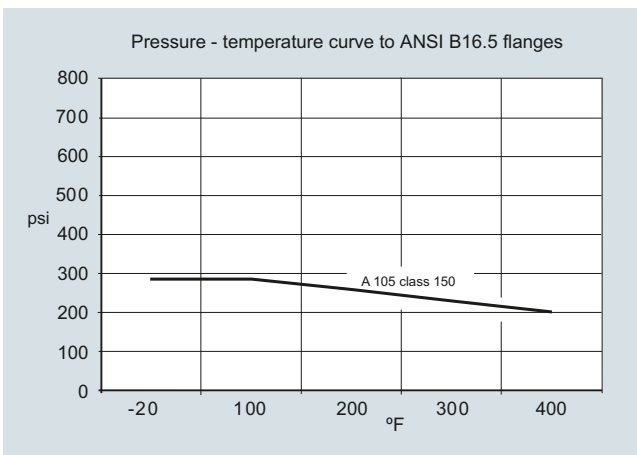
The complete flowmeter consists of a flow sensor and an associated transmitter MAG 5000, 6000 and 6000 I.

The flexible communication concept USM II simplifies integration and update to a variety of fieldbus systems such as HART, FOUNDATION Fieldbus H1, DeviceNet, PROFIBUS DP and PA, Modbus RTU/RS 485.

Pressure-temperature curve to EN (DIN) flanges, material A 105 carbon steel



Pressure-temperature curve to ANSI B16.5 flanges



Note: The pressure-temperature curves only assist in the selection of a system. No responsibility is taken for the correctness of the information. For exact data please refer to the PED requirements. For further information on the PED standard and requirements, see Pressure Equipment Directive in Appendix (chapter 10).

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Technical specifications

| | | | |
|--|--|---|--|
| Product characteristic | Chemical and process industry-oriented (Included in Quick Ship Program) | Design | |
| Nominal size | <ul style="list-style-type: none"> PTFE: DN 15 ... 300 (½" ... 12") PFA: DN 15 ... 150 (½" ... 6") | Weight | See dimensional drawings |
| Measuring principle | Electromagnetic induction | Flange and housing material | Carbon steel ASTM A 105, with corrosion resistant coating of category C4 according to ISO 12944-2 |
| Excitation frequency (Mains supply: 50 Hz/60 Hz) | <ul style="list-style-type: none"> DN 15 ... 65 (½" ... 2½"): 12.5 Hz/15 Hz DN 80 ... 150 (3" ... 6"): 6.25 Hz/7.5 Hz DN 200 ... 300 (8" ... 12"): 3.125 Hz/3.75 Hz | Measuring pipe material | Stainless steel AISI 304/1.4301 |
| Process connection | | Electrode material | PTFE: Hastelloy C276/2.4819, Platinum, Tantalum PFA: Hastelloy C22/2.4602 |
| Flanges | EN 1092-1, raised face ¹⁾ (EN 1092-1, DIN 2501 & BS 4504 have the same mating dimensions) <ul style="list-style-type: none"> DN 15 ... 50 (½" ... 2"): PN 40 (580 psi) DN 65 ... 300 (2½" ... 12"): PN 16 (232 psi) DN 200 ... 300 (8" ... 12"): PN 10 (145 psi) ANSI B16.5 (~BS 1560), raised face <ul style="list-style-type: none"> ½" ... 12": Class 150 (20 bar (290 psi)) | Grounding electrode material | Optional in Hastelloy C22/2.602 |
| Rated operation conditions | | Terminal box (remote version only) | <ul style="list-style-type: none"> Standard fibre glass reinforced polyamide Option Stainless steel AISI 316/1.4436 Ex sensor: Stainless steel AISI 316/1.4436 |
| Ambient temperature (conditions also dependent on liner characteristics) | | Cable entries | <ul style="list-style-type: none"> Remote installation 2 x M20 or 2 x ½" NPT Compact installation <ul style="list-style-type: none"> MAG 5000/MAG 6000: 4 x M20 or 4 x ½" NPT MAG 6000 I: 2 x M25 or 2 x ½" NPT (for supply/output) MAG 6000 I Ex de: 2 x M25 or 2 x ½" NPT (for supply/output) |
| <ul style="list-style-type: none"> Standard Sensor Ex sensor Compact with transmitter <ul style="list-style-type: none"> MAG 5000/6000 MAG 6000 I MAG 6000 I Ex | -40 ... +100 °C (-40 ... +212 °F) -20 ... +60 °C (-4 ... +140 °F) -20 ... +60 °C (-4 ... +140 °F) -20 ... +60 °C (-4 ... +140 °F) -20 ... +60 °C (-4 ... +140 °F) | Certificates and approvals | |
| Operating pressure [abs. bar] (maximum operating pressure decreases with increasing operating temperature and with stainless steel flanges) | <ul style="list-style-type: none"> PTFE Teflon <ul style="list-style-type: none"> DN 15 ... 300 (½" ... 12"): 0.3 ... 40 bar (4 ... 580 psi) PFA <ul style="list-style-type: none"> DN 15 ... 150 (½" ... 6"): Vacuum 0.02 ... 50 bar (0.29 ... 725 psi) | Calibration <ul style="list-style-type: none"> Default calibration Hazardous areas <ul style="list-style-type: none"> Ex-sensor in compact or remote version with MAG 6000 I Ex | Zero-point, 2 x 25 % and 2 x 90 % <ul style="list-style-type: none"> ATEX, FM, CSA, IECEx, EAC Ex, NEPSI <ul style="list-style-type: none"> Zone 1 Ex de ia IIC T6 Gb ATEX, FM, CSA, IECEx <ul style="list-style-type: none"> Zone 21 Ex tD A21 IP67 FM <ul style="list-style-type: none"> XP IS Class I Div. 1 Groups A, B, C, D²⁾ DIP Class II+III Div. 1 Groups E, F, G²⁾ FM <ul style="list-style-type: none"> NI Class I Div. 2 Groups A, B, C, D NI Class I Zone 2 Groups IIC |
| Enclosure rating | IP67 to EN 60529/NEMA 4X/6, 1 mH ₂ O for 30 min Option: IP68 to EN 60529/NEMA 6P, 10 mH ₂ O cont. (not for Ex) | Pressure equipment <ul style="list-style-type: none"> Others | PED, CRN <ul style="list-style-type: none"> EAC (Russia, Belarus, Kazakhstan) KCC (South Korea) |
| Pressure drop at 3 m/s | As straight pipe | | |
| Test pressure | 1.5 x PN (where applicable) | | |
| Mechanical load (Vibration) | <ul style="list-style-type: none"> 18 ... 1000 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 g RMS Sensor with compact MAG 6000 I/6000 I Ex mounted transmitter: 1.14 g RMS | | |
| Temperature of medium | <ul style="list-style-type: none"> PTFE -20 ... +130 °C (-4 ... +266 °F) PFA -20 ... +150 °C (-4 ... +302 °F) | | |
| EMC | 2014/30/EU | | |

¹⁾ DN ≤ 600 type 01 (SORF); DN > 600 type 11 (WNRFF)

²⁾ In compact version only.

Technical specifications (continued)

Available Options for the SITRANS MAG 3100 P

The MAG 3100P is designed to meet the most common specifications within chemical and process industries. Therefore not all options are available. If you miss a few options please check out or product MAG 3100 which is covering many more options.

Available Options for Liner PTFE with Platinum electrodes

| Diameter | | Connection | | | |
|-------------|------------|------------------|------------------|------------------|------------------------|
| MAG 3100 P | Order code | EN 1092-1, PN 10 | EN 1092-1, PN 16 | EN 1092-1, PN 40 | AISI B 16.5, class 150 |
| DN 15, ½" | 1V | | | • | |
| DN 25, 1" | 2D | | | • | • |
| DN 40, 1 ½" | 2R | | | • | |
| DN 50, 2" | 2Y | | | • | • |
| DN 65, 2 ½" | 3F | | | | |
| DN 80, 3" | 3M | | • | | |
| DN 100, 4" | 3T | | • | | |
| DN 125, 5" | 4B | | • | | |
| DN 150, 6" | 4H | | • | | |
| DN 200, 8" | 4P | | | | |
| DN 250, 10" | 4V | | | | |
| DN 300, 12" | 5D | | | | |

Available Options for Liner PTFE with Tantalum electrodes

| Diameter | | Connection | | | |
|-------------|------------|------------------|------------------|------------------|------------------------|
| MAG 3100 P | Order code | EN 1092-1, PN 10 | EN 1092-1, PN 16 | EN 1092-1, PN 40 | AISI B 16.5, class 150 |
| DN 15, ½" | 1V | | | • | |
| DN 25, 1" | 2D | | | • | • |
| DN 40, 1 ½" | 2R | | | • | |
| DN 50, 2" | 2Y | | | • | • |
| DN 65, 2 ½" | 3F | | • | | |
| DN 80, 3" | 3M | | • | | • |
| DN 100, 4" | 3T | | • | | • |
| DN 125, 5" | 4B | | | | |
| DN 150, 6" | 4H | | • | | |
| DN 200, 8" | 4P | | • | | |
| DN 250, 10" | 4V | | • | | |
| DN 300, 12" | 5D | | | | |

Available Options for Liner PTFE with Hastelloy C electrodes incl. grounding electrodes

| Diameter | | Connection | | | |
|-------------|------------|------------------|------------------|------------------|------------------------|
| MAG 3100 P | Order code | EN 1092-1, PN 10 | EN 1092-1, PN 16 | EN 1092-1, PN 40 | AISI B 16.5, class 150 |
| DN 15, ½" | 1V | | | • | |
| DN 25, 1" | 2D | | | • | • |
| DN 40, 1 ½" | 2R | | | • | |
| DN 50, 2" | 2Y | | | • | • |
| DN 65, 2 ½" | 3F | | • | | |
| DN 80, 3" | 3M | | • | | • |
| DN 100, 4" | 3T | | • | | • |
| DN 125, 5" | 4B | | | | |
| DN 150, 6" | 4H | | • | | • |
| DN 200, 8" | 4P | | | | • |
| DN 250, 10" | 4V | | | | • |
| DN 300, 12" | 5D | | | | |

Flow Measurement

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Selection and ordering data

Article No.

Order code

| | |
|---|----------|
| Sensor SITRANS FM MAG 3100 P (Short delivery time) | 7ME6340- |
| Click on the Article No. for the online configuration in the PIA Life Cycle Portal. | |
| Diameter | |
| 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 |
| DN 125 (5") | 4 B |
| DN 150 (6") | 4 H |
| DN 200 (8") | 4 P |
| DN 250 (10") | 4 V |
| DN 300 (12") | 5 D |
| Flange norm and pressure rating | |
| EN 1092-1 | |
| PN 10 (DN 200 ... 300 (8" ... 12")) | B |
| PN 16 (DN 65 ... 300 (2 1/2" ... 12")) | C |
| PN 40 (DN 15 ... 50 (1/2" ... 2")) | F |
| ANSI B16.5 | |
| Class 150 (1/2" ... 12") | J |
| Flange material | |
| Carbon steel flanges ASTM A 105 | 1 |
| Liner material | |
| PTFE (150 °C (302 °F)) | 3 |
| PFA (150 °C (302 °F)) (DN 15 ... 150 (1/2" ... 6")) | 7 |
| Electrode material | |
| Hastelloy C | 2 |
| Platinum | 3 |
| Tantalum | 5 |
| Hastelloy C incl. grounding electrodes | 6 |
| Transmitter | |
| Standard sensor for remote transmitter (Order transmitter separately) | A |
| Ex sensor for remote transmitter (Order transmitter separately) | B |
| MAG 6000 I, Aluminum, 18 ... 90 V DC, 115 ... 230 V AC | C |
| MAG 6000 I, Aluminum, 18 ... 30 V DC, Ex | D |
| MAG 6000 I, Aluminum, 115 ... 230 V AC, Ex | E |
| 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 6000/6000 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 |

Additional information

Please add "-Z" to Article No. and specify Order code(s) and plain text.

Certificates

- Factory certificate according to EN 10204-2.2
- Factory certificate according to EN 10204-2.1

Terminal blocks

- Factory mounted terminal blocks

Country specific label

- CRN (Canadian Registration Number)

Tag name plate, stainless steel (specify in plain text)

Tag name plate, plastic (self adhesive)

Customer-specific transmitter setting

Factory mounted sensor cables

- Sensor cables wired (specify Article No. for sensor cables and order cables separately)

- Sensor cables wired and IP68 sealing (specify Article No. for sensor cables and order cables separately)

Additional calibrations

- Matched-pair calibration
 - Accredited matched-pair calibration acc. to ISO/IEC 17025: 2005
 - Customer-specified calibration up to 10 points
 - Customer-witnessed calibration
- Any of above calibration

¹⁾ Product Variation Request (PVR).

Operating instructions for SITRANS FM MAG 3100 P

Description

Article No.

- English
- German

A5E03005599
A5E03086288

All literature is available to download for free, in a range of languages, at

<http://www.siemens.com/processinstrumentation/documentation>

Accessories

Description

Article No.

Potting kit for IP68/NEMA 6P sealing of sensor junction box

FDK-085U0220



Please use online Product selector to get latest updates.

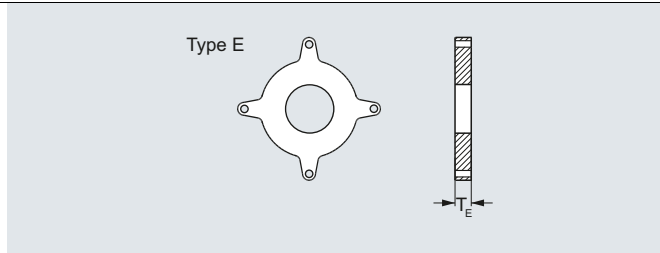
Product selector link:

<http://www.pia-selector.automation.siemens.com>

Selection and ordering data (continued)

Accessories for MAG 3100 P sensor
Grounding and protection ring - Type E (Stainless steel)

- Material: AISI 316
- For liner PTFE
- 1 pc. incl. straps and screws



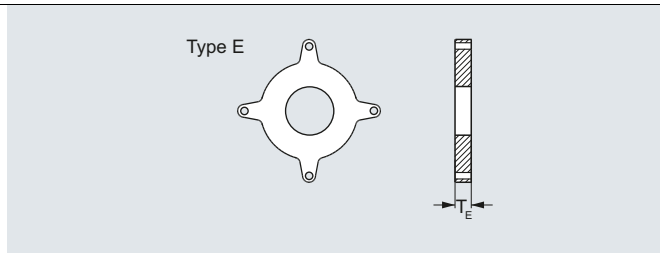
| Size DN | Nominale pressure | | | Size Inch | ANSI ¹⁾ Class 150 Article No. |
|------------|----------------------|----------------------|----------------------|--------------|--|
| | PN 10 Article No. | PN 16 Article No. | PN 40 Article No. | | |
| DN 15 | | | FDK:083N8365 | ½" | FDK:083N8365 |
| DN 25 | | | FDK:083N8271 | 1" | FDK:083N8272 |
| DN 40 | | | FDK:083N8278 | 1½" | FDK:083N8279 |
| DN 50 | | | FDK:083N8282 | 2" | FDK:083N8283 |
| DN 65 | | FDK:083N8285 | | 2½" | FDK:083N8287 |
| DN 80 | | FDK:083N8289 | | 3" | FDK:083N8291 |
| DN 100 | | FDK:083N8117 | | 4" | FDK:083N8118 |
| DN 125 | | FDK:083N8121 | | 5" | FDK:083N8122 |
| DN 150 | | FDK:083N8125 | | 6" | FDK:083N8126 |
| DN 200 | FDK:083N8130 | FDK:083N8130 | | 8" | FDK:083N8370 |
| DN 250 | FDK:083N8136 | FDK:083N8137 | | 10" | FDK:083N8140 |
| DN 300 | FDK:083N8144 | FDK:083N8145 | | 12" | FDK:083N8148 |

For use as protection ring order 2 pcs.

For use as grounding ring order 1 pc.

Grounding and protection ring - Type E (Hastelloy)

- Material: Hastelloy C276
- For liner PTFE
- 1 pc. incl. straps and screws



| Size DN | Nominale pressure | | Size Inch | ANSI ¹⁾ Class 150 Article No. |
|------------|----------------------|----------------------|--------------|--|
| | PN 16 Article No. | PN 40 Article No. | | |
| DN 15 | | FDK:083N8487 | ½" | FDK:083N8487 |
| DN 25 | | FDK:083N8488 | 1" | FDK:083N8489 |
| DN 40 | | FDK:083N8490 | 1½" | FDK:083N8491 |
| DN 50 | | FDK:083N8492 | 2" | FDK:083N8493 |
| DN 65 | FDK:083N8495 | | 2½" | FDK:083N8497 |
| DN 80 | FDK:083N8499 | | 3" | FDK:083N8501 |
| DN 100 | FDK:083N8504 | | 4" | FDK:083N8506 |

¹⁾ For dimensions of MAG 3100 P see Dimensional drawings.

Flow Measurement

SITRANS FM (electromagnetic)

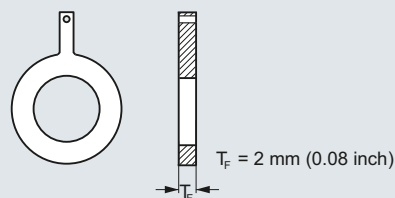
Flow sensors

MAG 3100 P

Selection and ordering data (continued)

Grounding ring - Type Flat ring (Stainless steel)

- Material: AISI 316
- For liner PTFE and PFA
- 1 pc. incl. straps and screws

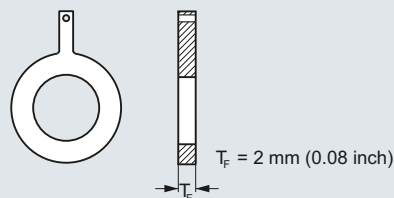


| Size | Nominale pressure | | | Size | ANSI ¹⁾ |
|--------|--------------------|--------------------|--------------------|------|--------------------|
| DN | PN 10 | PN 16 | PN 40 | Inch | Class 150 |
| | Article No. | Article No. | Article No. | | Article No. |
| DN 15 | | | A5E01191968 | ½" | A5E01191969 |
| DN 25 | | | A5E01150880 | 1" | A5E01150022 |
| DN 40 | | | A5E01191952 | 1½" | A5E01191961 |
| DN 50 | | | A5E01150918 | 2" | A5E01151121 |
| DN 65 | | A5E01191940 | | 2½" | A5E01191962 |
| DN 80 | | A5E01152876 | | 3" | A5E01152910 |
| DN 100 | | A5E01158875 | | 4" | A5E01159146 |
| DN 125 | | A5E01191941 | | 5" | A5E01191963 |
| DN 150 | | A5E01191943 | | 6" | A5E01191964 |
| DN 200 | A5E01191951 | A5E01191944 | | 8" | A5E01191965 |
| DN 250 | A5E01191950 | A5E01191946 | | 10" | A5E01191966 |
| DN 300 | A5E01191949 | A5E01191947 | | 12" | A5E01191967 |

¹⁾ For dimensions of MAG 3100 P see Dimensional drawings.

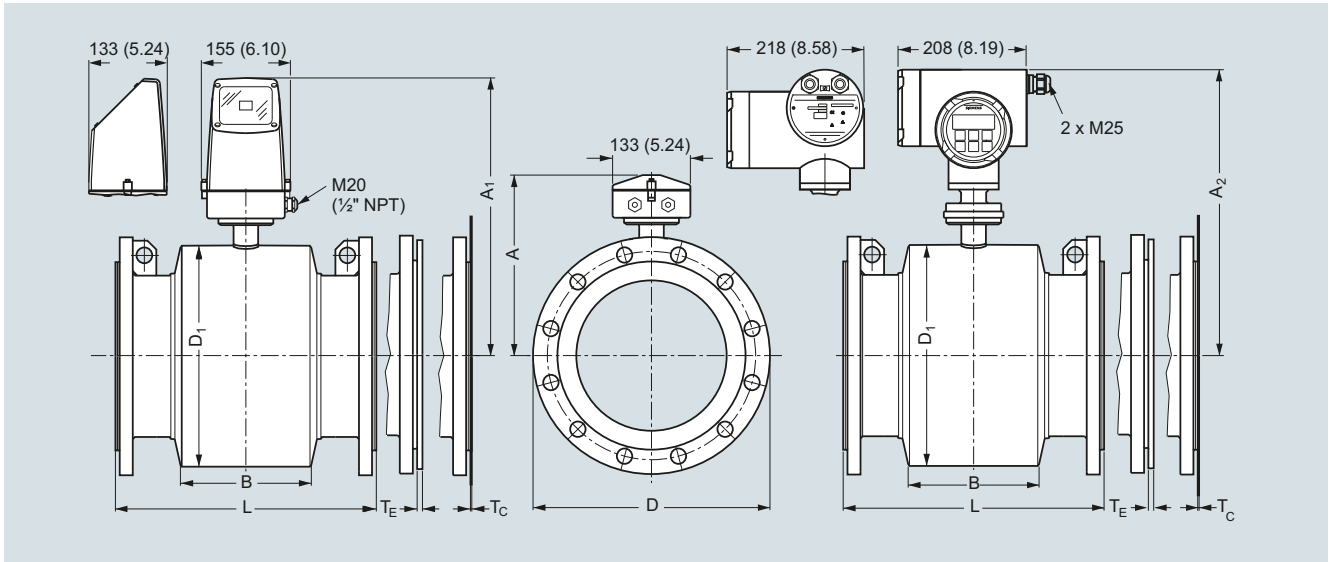
Grounding ring - Type Flat ring (Hastelloy)

- Material: Hastelloy C276
- For liner PTFE and PFA
- 1 pc. incl. straps and screws



| Size | Nominale pressure | | | Size | ANSI ¹⁾ |
|--------|--------------------|--------------------|--------------------|------|--------------------|
| DN | PN 10 | PN 16 | PN 40 | Inch | Class 150 |
| | Article No. | Article No. | Article No. | | Article No. |
| DN 15 | | | A5E01191981 | ½" | A5E01191989 |
| DN 25 | | | A5E01150882 | 1" | A5E01150028 |
| DN 40 | | | A5E01191982 | 1½" | A5E01191990 |
| DN 50 | | | A5E01150922 | 2" | A5E01151124 |
| DN 65 | | A5E01191971 | | 2½" | A5E01191991 |
| DN 80 | | A5E01152889 | | 3" | A5E01152913 |
| DN 100 | | A5E01158886 | | 4" | A5E01159150 |
| DN 125 | | A5E01191973 | | 5" | A5E01191992 |
| DN 150 | | A5E01191974 | | 6" | A5E01191993 |
| DN 200 | A5E01191978 | A5E01191975 | | 8" | A5E01191994 |
| DN 250 | A5E01191979 | A5E01191976 | | 10" | A5E01191995 |
| DN 300 | A5E01191980 | A5E01191977 | | 12" | A5E01191996 |

¹⁾ For dimensions of MAG 3100 P see Dimensional drawings.

Dimensional drawings
MAG 3100 P sensor with compact or remote transmitter


Dimensions in mm (inch)

Metric

| DN | A ¹⁾ | A ₁ | A ₂ | B | D1 | L ²⁾ | | | ANSI 16.5 Class 150 | T _E ³⁾ | T _F ³⁾ | Weight ⁴⁾ |
|------|-----------------|----------------|----------------|------|------|------------------------|-------|-------|------------------------|------------------------------|------------------------------|----------------------|
| | | | | | | EN 1092-1-201 PN 10 | PN 16 | PN 40 | | | | |
| [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [kg] |
| 15 | 187 | 341 | 338 | 59 | 104 | - | - | 200 | 200 | 6 | 2 | 4 |
| 25 | 187 | 341 | 338 | 59 | 104 | - | - | 200 | 200 | 6 | 2 | 5 |
| 40 | 197 | 351 | 348 | 82 | 124 | - | - | 200 | 200 | 6 | 2 | 8 |
| 50 | 205 | 359 | 356 | 72 | 139 | - | - | 200 | 200 | 6 | 2 | 9 |
| 65 | 212 | 369 | 366 | 72 | 154 | - | 200/- | - | 200 | 6 | 2 | 11 |
| 80 | 222 | 376 | 373 | 72 | 174 | - | 200/- | - | 272 ⁵⁾ | 6 | 2 | 12 |
| 100 | 242 | 396 | 393 | 85 | 214 | - | 250/- | - | 250 | 6 | 2 | 16 |
| 125 | 255 | 409 | 406 | 85 | 239 | - | 250/- | - | 250 | 6 | 2 | 19 |
| 150 | 276 | 430 | 427 | 85 | 282 | - | 300/- | - | 300 | 6 | 2 | 27 |
| 200 | 304 | 458 | 455 | 137 | 338 | 350 | 350/- | - | 350 | 8 | 2 | 40 |
| 250 | 332 | 486 | 483 | 157 | 393 | 450 | 450/- | - | 450 | 8 | 2 | 60 |
| 300 | 357 | 511 | 508 | 157 | 444 | 500 | 500/- | - | 500 | 8 | 2 | 80 |

1) 14.5 mm shorter with stainless steel terminal box (Ex and high temperature version)

2) When grounding rings are used, the thickness of the grounding ring must be added to the built-in length.

 3) T_E = Grounding ring Type E, T_F = Grounding ring Type Flat ring

4) Weights are approx. (for PN 16) without transmitter

5) Not according to ISO 20456

- not available

D = Outside diameter of flange, see flange tables

Flow Measurement

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Flow sensors

MAG 3100 P

Dimensional drawings (continued)

Imperial

| DN | A ¹⁾ | A ₁ | A ₂ | B | D1 | L ²⁾ | | | | T _E ³⁾ | T _F ³⁾ | Weight ⁴⁾ |
|--------|-----------------|----------------|----------------|--------|--------|-----------------|---------|-----------|---------------------|------------------------------|------------------------------|----------------------|
| | | | | | | EN 1092-1-201 | | ANSI 16.5 | | | | |
| [inch] | [inch] | [inch] | [inch] | [inch] | [inch] | PN 10 | PN 16 | PN 40 | Class 150 | [inch] | [inch] | [lbs] |
| ½ | 7.36 | 13.4 | 13.34 | 2.32 | 4.09 | - | - | 7.87 | 7.87 | 0.24 | 0.08 | 9 |
| 1 | 7.36 | 13.4 | 13.34 | 2.32 | 4.09 | - | - | 7.87 | 7.87 | 0.24 | 0.08 | 11 |
| 1½ | 7.76 | 13.8 | 13.74 | 3.23 | 4.88 | - | - | 7.87 | 7.87 | 0.24 | 0.08 | 17 |
| 2 | 8.07 | 14.1 | 14.04 | 2.83 | 5.47 | - | - | 7.87 | 7.87 | 0.24 | 0.08 | 20 |
| 2½ | 8.35 | 14.4 | 14.34 | 2.83 | 6.06 | - | 7.87/- | - | 7.87 | 0.24 | 0.08 | 24 |
| 3 | 8.74 | 14.8 | 14.74 | 2.83 | 6.85 | - | 7.87/- | - | 10.71 ⁵⁾ | 0.24 | 0.08 | 26 |
| 4 | 9.53 | 15.6 | 15.54 | 3.35 | 8.43 | - | 9.84/- | - | 9.84 | 0.24 | 0.08 | 35 |
| 5 | 10.04 | 16.1 | 16.04 | 3.35 | 9.41 | - | 9.84/- | - | 9.84 | 0.24 | 0.08 | 42 |
| 6 | 10.87 | 16.9 | 16.84 | 3.35 | 11.10 | - | 11.81/- | - | 11.81 | 0.24 | 0.08 | 60 |
| 8 | 11.97 | 18.0 | 17.94 | 5.39 | 13.31 | 13.78 | 13.78/- | - | 13.78 | 0.31 | 0.08 | 88 |
| 10 | 13.07 | 19.1 | 19.04 | 6.18 | 15.47 | 17.72 | 17.72/- | - | 17.72 | 0.31 | 0.08 | 132 |
| 12 | 14.05 | 20.1 | 20.04 | 6.18 | 17.48 | 19.69 | 19.69/- | - | 19.69 | 0.31 | 0.08 | 176 |

1) 0.571 inch shorter with stainless steel terminal box (Ex and high temperature version)

2) When grounding rings are used, the thickness of the grounding ring must be added to the built-in length.

3) T_E = Grounding ring Type E, T_F = Grounding ring Type Flat ring

4) Weights are for ANSI 150 without transmitter.

5) Not according to ISO 20456

D = Outside diameter of flange, see flange tables