



## XMP i

### Precision Pressure Transmitter for the Process Industry with HART®-Communication and SIL2 (optionally)

Stainless Steel Sensor

accuracy according to IEC 60770:  
0.1 % FSO

#### Nominal pressure

from 0 ... 400 mbar up to 0 ... 600 bar

#### Output signals

2-wire: 4 ... 20 mA  
others on request

#### Special characteristics

- ▶ turn-down 1:10
- ▶ two chamber aluminium die cast case or stainless field housing
- ▶ internal or flush welded diaphragm
- ▶ HART®-communication
- ▶ explosion protection intrinsic safety (ia)

#### Optional versions

- ▶ explosion protection flameproof equipment (d)
- ▶ SIL2 - version according to IEC 61508 / IEC 61511
- ▶ integrated display and operating module
- ▶ special materials as Hastelloy® and Tantalum
- ▶ cooling element for media temperatures up to 300 °C

The process pressure transmitter XMP i has been especially designed for the process industry as well as food and pharmaceutical industry (version stainless steel field housing) and measures vacuum, gauge and absolute pressure ranges of gases, steam, fluids up to 600 bar.

Different process connections such as threads and flanges with an internal or flush welded diaphragm are available and can be combined with a cooling element for media temperatures up to 300 °C. The transmitter is as a standard equipped with HART®-communication; the customer can choose between an aluminium die cast case or a stainless field housing.

#### Preferred areas of use are



Oil and gas industry / chemical and petrochemical industry



Food / pharmaceutical industry

#### Material and test certificates

- ▶ Inspection certificate 3.1 according to EN 10204
- ▶ Test report 2.2 according to EN 10204





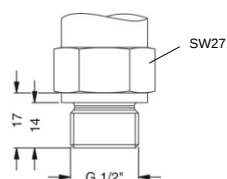
| Pressure ranges <sup>1</sup>                                                                                                                                                    |       |                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----------|----|--------------------------------|-----|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|------|------|--|
| Nominal pressure gauge / abs. <sup>2</sup>                                                                                                                                      | [bar] | 0.4                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1   | 2        | 4  | 10                             | 20  | 40                                                        | 100                                                                                                                                                                                  | 200                                                  | 400  | 600  |  |
| Overpressure                                                                                                                                                                    | [bar] | 2                                                                                                                                                                                                                                                                                                                                                                                                                                    | 5   | 10       | 20 | 40                             | 80  | 105                                                       | 210                                                                                                                                                                                  | 600                                                  | 1000 | 1000 |  |
| Burst pressure ≥                                                                                                                                                                | [bar] | 3                                                                                                                                                                                                                                                                                                                                                                                                                                    | 7.5 | 15       | 25 | 50                             | 120 | 210                                                       | 420                                                                                                                                                                                  | 1000                                                 | 1250 | 1250 |  |
| <sup>1</sup> on customer request we adjust the devices within the turn-down-possibility by software to the required pressure ranges                                             |       |                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| <sup>2</sup> absolute pressure possible from 1 bar                                                                                                                              |       |                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| Vacuum ranges                                                                                                                                                                   |       |                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| Nominal pressure gauge                                                                                                                                                          | [bar] | -0.4 ... 0.4                                                                                                                                                                                                                                                                                                                                                                                                                         |     | -1 ... 1 |    | -1 ... 2                       |     | -1 ... 4                                                  |                                                                                                                                                                                      | -1 ... 10                                            |      |      |  |
| Overpressure                                                                                                                                                                    | [bar] | 2                                                                                                                                                                                                                                                                                                                                                                                                                                    |     | 5        |    | 10                             |     | 20                                                        |                                                                                                                                                                                      | 40                                                   |      |      |  |
| Burst pressure ≥                                                                                                                                                                | [bar] | 3                                                                                                                                                                                                                                                                                                                                                                                                                                    |     | 7.5      |    | 15                             |     | 25                                                        |                                                                                                                                                                                      | 50                                                   |      |      |  |
| Output signal / Supply                                                                                                                                                          |       |                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| 2-wire: 4 ... 20 mA<br>with explosion protection                                                                                                                                |       | standard: intrinsic safety (ia) with HART®-communication<br>options: flameproof equipment (d) with HART®-communication<br>SIL2 / intrinsic safety (ia) with HART®-communication<br>SIL2 / flameproof equipment (d) with HART®-communication                                                                                                                                                                                          |     |          |    |                                |     |                                                           | V <sub>S</sub> = 12 ... 28 V <sub>DC</sub><br>V <sub>S</sub> = 13 ... 28 V <sub>DC</sub><br>V <sub>S</sub> = 12 ... 28 V <sub>DC</sub><br>V <sub>S</sub> = 13 ... 28 V <sub>DC</sub> |                                                      |      |      |  |
| Current consumption                                                                                                                                                             |       | max. 25 mA                                                                                                                                                                                                                                                                                                                                                                                                                           |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| Performance                                                                                                                                                                     |       |                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| Accuracy <sup>3</sup><br>performance after turn-down (TD)<br>- TD ≤ 1:5<br>- TD > 1:5                                                                                           |       | ≤ ± 0.1 % FSO<br><br>no change of accuracy<br>the accuracy is calculated as follows: ≤ 0.1 + 0.015 x (turn-down - 5) % FSO<br>e.g. turn-down 9: ≤ 0.1 + 0.015 x (9 - 5) % FSO = 0.16 % FSO                                                                                                                                                                                                                                           |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| Permissible load                                                                                                                                                                |       | R <sub>max</sub> = [(V <sub>S</sub> – V <sub>S min</sub> ) / 0.02 A] Ω                                                                                                                                                                                                                                                                                                                                                               |     |          |    |                                |     | load during HART® communication: R <sub>min</sub> = 250 Ω |                                                                                                                                                                                      |                                                      |      |      |  |
| Influence effects                                                                                                                                                               |       | supply: 0.05 % FSO / 10 V                                                                                                                                                                                                                                                                                                                                                                                                            |     |          |    |                                |     | permissible load: 0.05 % FSO / kΩ                         |                                                                                                                                                                                      |                                                      |      |      |  |
| Long term stability                                                                                                                                                             |       | ≤ ± 0.1 % FSO / year at reference conditions                                                                                                                                                                                                                                                                                                                                                                                         |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| Response time                                                                                                                                                                   |       | 100 msec – without consideration of electronic damping                                                                                                                                                                                                                                                                                                                                                                               |     |          |    |                                |     |                                                           | measuring rate 10/sec                                                                                                                                                                |                                                      |      |      |  |
| Adjustability                                                                                                                                                                   |       | electronic damping: 0 ... 100 sec                                                                                                                                                                                                                                                                                                                                                                                                    |     |          |    |                                |     | offset 0 ... 90 % FSO                                     |                                                                                                                                                                                      | turn-down of span up to 1:10                         |      |      |  |
| <sup>3</sup> accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)                                                                |       |                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| Thermal errors / Permissible temperatures                                                                                                                                       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| Tolerance band <sup>4,5</sup>                                                                                                                                                   |       | ≤ 0.2 % FSO x turn-down (in compensated range -20 ... 85 °C)                                                                                                                                                                                                                                                                                                                                                                         |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| Permissible temperatures <sup>6</sup>                                                                                                                                           |       | medium:<br>-40 ... 125 °C for filling fluid silicone oil<br>-10 ... 125 °C for filling fluid food compatible oil                                                                                                                                                                                                                                                                                                                     |     |          |    |                                |     | without display:                                          |                                                                                                                                                                                      | environment: -40 ... 80 °C<br>storage: -40 ... 80 °C |      |      |  |
|                                                                                                                                                                                 |       |                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |          |    |                                |     | with display:                                             |                                                                                                                                                                                      | environment: -20 ... 70 °C<br>storage: -30 ... 80 °C |      |      |  |
| Permissible temperature medium<br>for cooling element <sup>7</sup>                                                                                                              |       | filling fluid silicone oil                                                                                                                                                                                                                                                                                                                                                                                                           |     |          |    | overpressure: -40 ... 300 °C   |     |                                                           | low pressure: -40 ... 150 °C                                                                                                                                                         |                                                      |      |      |  |
|                                                                                                                                                                                 |       | filling fluid food compatible oil                                                                                                                                                                                                                                                                                                                                                                                                    |     |          |    | overpressure: -10 ... 250 °C   |     |                                                           | low pressure: -10 ... 150 °C                                                                                                                                                         |                                                      |      |      |  |
| <sup>4</sup> an optional cooling element can influence thermal effects for offset and span depending on installation position and filling conditions                            |       |                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| <sup>5</sup> for flange- and DRD-version: tolerance band offset ≤ ± 1.6 % FSO / tolerance band span ≤ ± 0.6 % FSO                                                               |       |                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| <sup>6</sup> max. temperature of the medium for nominal pressure gauge > 0 bar: 150 °C for 60 minutes with a max. environmental temperature of 50 °C (without cooling element). |       |                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| <sup>7</sup> max. temperature depends on the used sealing material, type of seal and installation                                                                               |       |                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| Electrical protection                                                                                                                                                           |       |                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| Short-circuit protection                                                                                                                                                        |       | permanent                                                                                                                                                                                                                                                                                                                                                                                                                            |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| Reverse polarity protection                                                                                                                                                     |       | no damage, but also no function                                                                                                                                                                                                                                                                                                                                                                                                      |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| Electromagnetic compatibility                                                                                                                                                   |       | emission and immunity according to EN 61326                                                                                                                                                                                                                                                                                                                                                                                          |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| Mechanical stability                                                                                                                                                            |       |                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| Vibration                                                                                                                                                                       |       | 5 g RMS (25 ... 2000 Hz)                                                                                                                                                                                                                                                                                                                                                                                                             |     |          |    | according to DIN EN 60068-2-6  |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| Shock                                                                                                                                                                           |       | 100 g / 11 msec                                                                                                                                                                                                                                                                                                                                                                                                                      |     |          |    | according to DIN EN 60068-2-27 |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| Filling fluids                                                                                                                                                                  |       |                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| Standard                                                                                                                                                                        |       | silicone oil                                                                                                                                                                                                                                                                                                                                                                                                                         |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| Options<br>for process connections                                                                                                                                              |       | food compatible oil according to 21CFR178.3570<br>(Mobil SHC Cibus 32; Category Code: H1; NSF Registration No.: 141500)<br>Halocarbon and others on request                                                                                                                                                                                                                                                                          |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| Materials                                                                                                                                                                       |       |                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| Pressure port                                                                                                                                                                   |       | stainless steel 1.4435 (316L)                                                                                                                                                                                                                                                                                                                                                                                                        |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| Housing                                                                                                                                                                         |       | aluminium die cast, powder-coated or stainless steel 1.4404 (316L)                                                                                                                                                                                                                                                                                                                                                                   |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| Cable gland                                                                                                                                                                     |       | brass, nickel plated                                                                                                                                                                                                                                                                                                                                                                                                                 |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| Viewing glass                                                                                                                                                                   |       | laminated safety glass                                                                                                                                                                                                                                                                                                                                                                                                               |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| Seals (media wetted)                                                                                                                                                            |       | thread: standard: FKM (recommended for medium temperatures ≤ 200 °C)<br>options: FFKM (recommended for medium temperatures < 260 °C;<br>min. permissible temperature from -15 °C, possible for p <sub>N</sub> ≤ 100 bar);<br>others on request<br><br>welded version for pressure ports EN 837 with p <sub>N</sub> between 1 and 40 bar<br><br>DRD and flange: none, not included in the scope of delivery<br>Clamp, Varivent®: none |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| Diaphragm                                                                                                                                                                       |       | standard: stainless steel 1.4435 (316 L)<br>options for process connections: Hastelloy® C-276 (2.4819); tantalum (possible from 1 bar) on request                                                                                                                                                                                                                                                                                    |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |
| Media wetted parts                                                                                                                                                              |       | pressure port, seal, diaphragm                                                                                                                                                                                                                                                                                                                                                                                                       |     |          |    |                                |     |                                                           |                                                                                                                                                                                      |                                                      |      |      |  |

<sup>8</sup> this directive is only valid for devices with maximum permissible overpressure > 200 bar

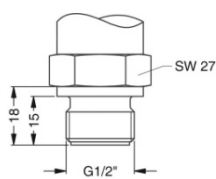
<sup>9</sup> aluminium case is horizontally rotatable as standard



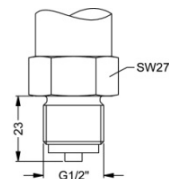
#### Standard pressure ports (dimensions in mm)



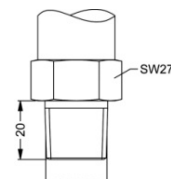
G1/2" DIN 3852



G1/2" flush (DIN 3852)  
1 bar ≤ p<sub>N</sub> ≤ 40 bar



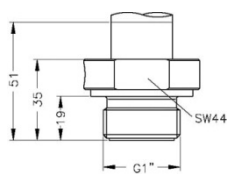
G1/2" EN 837  
M20x1.5



1/2" NPT

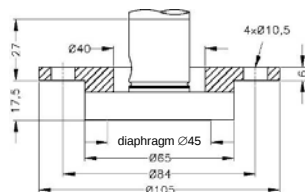
#### Process connections (dimensions in mm)

##### Inch thread (DIN 3852)



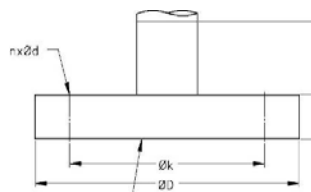
G1" flush  
p<sub>N</sub> ≤ 400 bar

##### DRD<sup>10</sup>



p<sub>N</sub> ≤ 25 bar

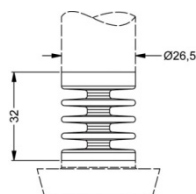
##### Flange (DIN 2501)



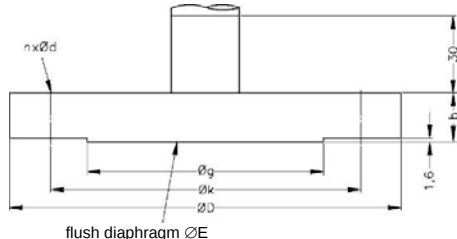
flush diaphragm ØE

| dimensions in mm     |      |      |      |
|----------------------|------|------|------|
| size                 | DN25 | DN50 | DN80 |
| D                    | 115  | 165  | 200  |
| E                    | 30   | 89   | 89   |
| k                    | 85   | 125  | 160  |
| b                    | 18   | 20   | 20   |
| n                    | 4    | 4    | 8    |
| d                    | 14   | 18   | 18   |
| p <sub>N</sub> [bar] | ≤ 40 | ≤ 40 | ≤ 16 |

#### Cooling element up to 300 °C<sup>7</sup>



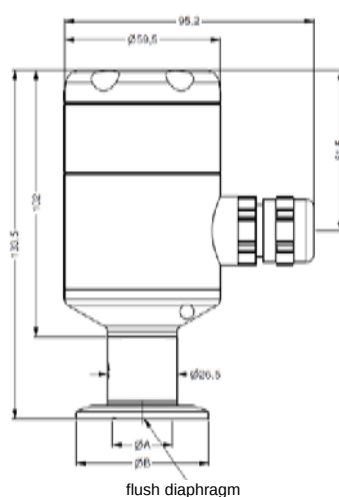
##### Flange (ANSI B16.5)



flush diaphragm ØE

| dimensions in mm     |            |            |
|----------------------|------------|------------|
| size                 | 2"/150 lbs | 3"/150 lbs |
| D                    | 152.4      | 190.5      |
| E                    | 86         | 89         |
| g                    | 91.9       | 127        |
| k                    | 120.7      | 152.4      |
| b                    | 19.1       | 23.9       |
| n                    | 4          | 4          |
| d                    | 19.1       | 19.1       |
| p <sub>N</sub> [bar] | ≤ 10       | ≤ 10       |

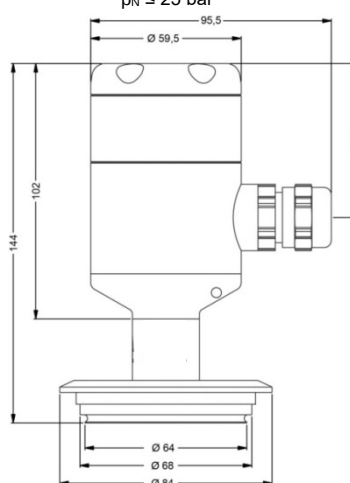
##### Clamp (DIN 32676)



flush diaphragm

| dimensions in mm     |            |                |      |      |
|----------------------|------------|----------------|------|------|
| size                 | 3/4"       | DN25           | DN32 | DN50 |
| A                    | 14         | 23             | 32   | 45   |
| B                    | 25         | 50.5           | 50.5 | 64   |
| p <sub>N</sub> [bar] | ≥ 4<br>≤ 8 | ≥ 0.25<br>≤ 16 | ≤ 16 | ≤ 16 |

##### Varivent® (DN 40/50) p<sub>N</sub> ≤ 25 bar



<sup>7</sup> max. temperature depends on the used sealing material, type of seal and installation

<sup>10</sup> mounting flange is included in the delivery (already pre-assembled)

HART® is a registered trademark of HART Communication Foundation; Hastelloy® is a brand name of Haynes International Inc.  
Windows® is a registered trademark of Microsoft Corporation



Ordering code XMP i

|     |   |      |   |    |   |   |   |   |   |      |   |      |   |   |   |   |   |   |   |     |
|-----|---|------|---|----|---|---|---|---|---|------|---|------|---|---|---|---|---|---|---|-----|
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|-----|---|------|---|----|---|---|---|---|---|------|---|------|---|---|---|---|---|---|---|-----|

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# STORK SOLUTIONS

XMP i  
Precision Pressure Transmitter for the Process  
Industry with HART Communication and SIL2

Ordering code XMP i

XMP i

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| Special version |                                                   |   |   |
|-----------------|---------------------------------------------------|---|---|
|                 | standard                                          | 0 | 0 |
|                 | with cooling element up to 300 °C <sup>6</sup>    | 2 | 0 |
|                 | special compensation -40 ... +60 °C <sup>10</sup> | 0 | 2 |

**⚠ if setting range shall be different from nominal range please specify in your order**

- <sup>1</sup> absolute pressure possible from 1 bar
- <sup>2</sup> only possible in combination with aluminium die cast case
- <sup>3</sup> only possible for  $p_N \geq 1$  bar up to 40 bar
- <sup>4</sup> 27/150 lbs and 37/150 lbs possible for nominal pressure ranges  $p_N \leq 10$  bar
- <sup>5</sup> mounting flange is included in the delivery (already pre-assembled)
- <sup>6</sup> only possible with process connections
- <sup>7</sup> tantal diaphragm possible with nominal pressure ranges from 1 bar
- <sup>8</sup> min. permissible temperature from -15 °C, possible for nominal pressure ranges  $p_N \leq 100$  bar
- <sup>9</sup> possible with pressure ranges between 1 bar and 40 bar
- <sup>10</sup> option for version without display

HART® is a registered trade mark of HART Communication Foundation; Hastelloy® is a brand name of Haynes International Inc.  
Varivent® is a brand name of GEA Tuchenhausen GmbH

01.04.2022