Measurement made easy
Engineered solutions for all applications

Base accuracy
• from 0.06 % of calibrated span (optional 0.04 %)

Reliable sensing system coupled with very latest digital technologies
• provides large turn down ratio up to 100:1

Comprehensive sensor choice
• optimize in-use total performance and stability

10–year stability
• 0.15 % of URL

Flexible configuration facilities
• provided locally via local LCD keypad

TTG (Through-The-Glass) keypad technology
• allows quick and easy local configuration without opening the cover, even in explosion proof environments

IEC 61508 certification
• version for SIL2 (1oo1) and SIL3 (1oo2) applications

PED compliance
• Category III for PS > 20 MPa, 200 bar
• Sound Engineering Practice (SEP) for PS ≤ 20 MPa, 200 bar

WirelessHART version
• the battery powered solution compliant to IEC 62591

Best-in-class battery life
• up to 10 years @ 32 s update time
• in-field replaceable

Product in compliance with Directive 2011/65/UE (RoHS II)

In-built advanced diagnostics
## Specification – functional

### Range and span limits

<table>
<thead>
<tr>
<th>Sensor code</th>
<th>Upper range limit (URL)</th>
<th>Lower range limit (LRL)</th>
<th>Minimum measuring span</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1 kPa</td>
<td>–1 kPa</td>
<td>0.05 kPa</td>
</tr>
<tr>
<td></td>
<td>10 mbar</td>
<td>–10 mbar</td>
<td>0.5 mbar</td>
</tr>
<tr>
<td></td>
<td>4 inH2O</td>
<td>–4 inH2O</td>
<td>0.2 inH2O</td>
</tr>
<tr>
<td>B</td>
<td>4 kPa</td>
<td>–4 kPa</td>
<td>0.2 kPa</td>
</tr>
<tr>
<td></td>
<td>40 mbar</td>
<td>–40 mbar</td>
<td>2 mbar</td>
</tr>
<tr>
<td></td>
<td>16 inH2O</td>
<td>–16 inH2O</td>
<td>0.8 inH2O</td>
</tr>
<tr>
<td>E</td>
<td>16 kPa</td>
<td>–16 kPa</td>
<td>0.54 kPa</td>
</tr>
<tr>
<td></td>
<td>160 mbar</td>
<td>–160 mbar</td>
<td>5.4 mbar</td>
</tr>
<tr>
<td></td>
<td>64 inH2O</td>
<td>–64 inH2O</td>
<td>2.16 inH2O</td>
</tr>
<tr>
<td>F</td>
<td>40 kPa</td>
<td>–40 kPa</td>
<td>0.4 kPa</td>
</tr>
<tr>
<td></td>
<td>400 mbar</td>
<td>–400 mbar</td>
<td>4 mbar</td>
</tr>
<tr>
<td></td>
<td>160 inH2O</td>
<td>–160 inH2O</td>
<td>1.6 inH2O</td>
</tr>
<tr>
<td>H*</td>
<td>160 kPa</td>
<td>–160 kPa</td>
<td>1.6 kPa</td>
</tr>
<tr>
<td></td>
<td>1600 mbar</td>
<td>–1600 mbar</td>
<td>16 mbar</td>
</tr>
<tr>
<td></td>
<td>642 inH2O</td>
<td>–642 inH2O</td>
<td>6.4 inH2O</td>
</tr>
<tr>
<td>M*</td>
<td>600 kPa</td>
<td>–600 kPa</td>
<td>6 kPa</td>
</tr>
<tr>
<td></td>
<td>6 bar</td>
<td>–6 bar</td>
<td>0.06 bar</td>
</tr>
<tr>
<td></td>
<td>87 psi</td>
<td>–87 psi</td>
<td>0.87 psi</td>
</tr>
<tr>
<td>P*</td>
<td>2400 kPa</td>
<td>–2400 kPa</td>
<td>24 kPa</td>
</tr>
<tr>
<td></td>
<td>24 bar</td>
<td>–24 bar</td>
<td>0.24 bar</td>
</tr>
<tr>
<td></td>
<td>348 psi</td>
<td>–348 psi</td>
<td>3.5 psi</td>
</tr>
<tr>
<td>Q*</td>
<td>8000 kPa</td>
<td>–8000 kPa</td>
<td>80 kPa</td>
</tr>
<tr>
<td></td>
<td>80 bar</td>
<td>–80 bar</td>
<td>0.8 bar</td>
</tr>
<tr>
<td></td>
<td>1160 psi</td>
<td>–1160 psi</td>
<td>11.6 psi</td>
</tr>
<tr>
<td>S*</td>
<td>16000 kPa</td>
<td>–16000 kPa</td>
<td>160 kPa</td>
</tr>
<tr>
<td></td>
<td>160 bar</td>
<td>–160 bar</td>
<td>1.6 bar</td>
</tr>
<tr>
<td></td>
<td>2320 psi</td>
<td>–2320 psi</td>
<td>23.2 psi</td>
</tr>
</tbody>
</table>

* For 266DSH gauge version the LRL for sensors H, M, P, Q, S is 1 kPa abs / 10 mbar abs / 0.15 psia

### Span limit

Maximum span = URL (can be further adjusted up to ± URL (TD = 0.5) for differential models, within the range limits)

**IT IS RECOMMENDED TO SELECT THE TRANSMITTER SENSOR CODE PROVIDING THE TURNDOWN VALUE AS LOWEST AS POSSIBLE TO OPTIMIZE PERFORMANCE CHARACTERISTICS.**

### Zero suppression and elevation

Zero and span can be adjusted to any value within the range limits detailed in the table as long as:

- calibrated span ≥ minimum span

### Damping (feature not available for WirelessHART version)

Selectable time constant : between 0 and 60 s
This is in addition to sensor response time.

### Turn on time

Operation within specification in less than 10 s with minimum damping.

### Insulation resistance

> 100 MΩ at 500 V DC (terminals to earth)
— Specification – operative limits

Pressure limits

Overpressure limits
The differential pressure transmitters, models 266DSH, work without damage within the following pressure limits:

<table>
<thead>
<tr>
<th>Sensors</th>
<th>Fill fluid</th>
<th>Overpressure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor F to S</td>
<td>Silicone oil</td>
<td>0.07 kPa abs, 0.7 mbar abs, 0.5 mmHg and 21 MPa, 210 bar, 3045 psi * , **</td>
</tr>
<tr>
<td>Sensor E</td>
<td>Silicone oil</td>
<td>0.07 kPa abs, 0.7 mbar abs, 0.5 mmHg and 16 MPa, 160 bar, 2320 psi *</td>
</tr>
<tr>
<td>Sensor B</td>
<td>Silicone oil</td>
<td>0.07 kPa abs, 0.7 mbar abs, 0.5 mmHg and 7 MPa, 70 bar, 1015 psi *</td>
</tr>
<tr>
<td>Sensor A</td>
<td>Silicone oil</td>
<td>0.07 kPa abs, 0.7 mbar abs, 0.5 mmHg and 2 MPa, 20 bar, 290 psi *</td>
</tr>
<tr>
<td>Sensor F to S</td>
<td>Inert (Galden)</td>
<td>0.135 kPa abs, 1.35 mbar abs, 1 mmHg and 21 MPa, 210 bar, 3045 psi * , **</td>
</tr>
<tr>
<td>Sensor E</td>
<td>Inert (Galden)</td>
<td>0.135 kPa abs, 1.35 mbar abs, 1 mmHg and 16 MPa, 160 bar, 2320 psi *</td>
</tr>
</tbody>
</table>

* 1 MPa, 10 bar, 145 psi for Kynar-PVDF
** 16 MPa, 160 bar, 2320 psi for AISI 316 ss NACE "exposed bolting"

For flange mounted version

<table>
<thead>
<tr>
<th>Flange</th>
<th>Fill fluid</th>
<th>Overpressure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASME B16.5 Class 150</td>
<td>Silicone oil</td>
<td>0.07 kPa abs, 0.7 mbar abs, 0.5 mmHg and 230 psi</td>
</tr>
<tr>
<td>ASME B16.5 Class 300</td>
<td>Silicone oil</td>
<td>0.07 kPa abs, 0.7 mbar abs, 0.5 mmHg and 600 psi</td>
</tr>
<tr>
<td>EN 1092-1 PN 16</td>
<td>Silicone oil</td>
<td>0.07 kPa abs, 0.7 mbar abs, 0.5 mmHg and 13.5 bar</td>
</tr>
<tr>
<td>EN 1092-1 PN 40</td>
<td>Silicone oil</td>
<td>0.07 kPa abs, 0.7 mbar abs, 0.5 mmHg and 33.8 bar</td>
</tr>
<tr>
<td>ASME B16.5 Class 150</td>
<td>Inert (Galden)</td>
<td>0.135 kPa abs, 1.35 mbar abs, 1 mmHg and 230 psi</td>
</tr>
<tr>
<td>ASME B16.5 Class 300</td>
<td>Inert (Galden)</td>
<td>0.135 kPa abs, 1.35 mbar abs, 1 mmHg and 600 psi</td>
</tr>
<tr>
<td>EN 1092-1 PN 16</td>
<td>Inert (Galden)</td>
<td>0.135 kPa abs, 1.35 mbar abs, 1 mmHg and 13.5 bar</td>
</tr>
<tr>
<td>EN 1092-1 PN 40</td>
<td>Inert (Galden)</td>
<td>0.135 kPa abs, 1.35 mbar abs, 1 mmHg and 33.8 bar</td>
</tr>
</tbody>
</table>

Static pressure limits
The differential pressure transmitters, models 266DSH work within specifications between the following limits:

<table>
<thead>
<tr>
<th>Sensors</th>
<th>Static pressure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor F to S</td>
<td>1.3 kPa abs, 13 mbar abs, 0.2 psia and 21 MPa, 210 bar, 3045 psi * , **</td>
</tr>
<tr>
<td>Sensor E</td>
<td>1.3 kPa abs, 13 mbar abs, 0.2 psia and 16 MPa, 160 bar, 2320 psi *</td>
</tr>
<tr>
<td>Sensor B</td>
<td>1.3 kPa abs, 13 mbar abs, 0.2 psia and 7 MPa, 70 bar, 1015 psi *</td>
</tr>
<tr>
<td>Sensor A</td>
<td>1.3 kPa abs, 13 mbar abs, 0.2 psia and 2 MPa, 20 bar, 290 psi *</td>
</tr>
</tbody>
</table>

* 1 MPa, 10 bar, 145 psi for Kynar-PVDF
** 16 MPa, 160 bar, 2320 psi for AISI 316 ss NACE "exposed bolting"

Flange Static pressure limits

<table>
<thead>
<tr>
<th>Flange</th>
<th>Static pressure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASME B16.5 Class 150</td>
<td>1.3 kPa abs, 13 mbar abs, 0.2 psia and 230 psi</td>
</tr>
<tr>
<td>ASME B16.5 Class 300</td>
<td>1.3 kPa abs, 13 mbar abs, 0.2 psia and 600 psi</td>
</tr>
<tr>
<td>EN 1092-1 PN 16</td>
<td>1.3 kPa abs, 13 mbar abs, 0.2 psia and 13.5 bar</td>
</tr>
<tr>
<td>EN 1092-1 PN 40</td>
<td>1.3 kPa abs, 13 mbar abs, 0.2 psia and 33.8 bar</td>
</tr>
</tbody>
</table>

The pressure limit decreases with increasing temperature above 100°F (38°C), according to ASME B16.5 standards or above 50°C according to EN 1092-1 standards.

Proof pressure
The transmitter with threaded process connection can be exposed without leaking to line pressure of up to

- 48 MPa, 480 bar, 6960 psi for standard static version
- up to two times the flange rating for the flange mounted version.

Meet ANSI/ISA-S 82.03 hydrostatic test requirements.
Temperature limits °C (°F)

Ambient

<table>
<thead>
<tr>
<th>Models 266DSH</th>
<th>Ambient temperature limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silicone oil for sensor F to S</td>
<td>-40 and 85 °C (-40 and 185 °F)</td>
</tr>
<tr>
<td>Silicone oil for sensor A to E</td>
<td>-40 and 85 °C (-40 and 185 °F)*</td>
</tr>
<tr>
<td>Inert (Galden) for sensor F to S</td>
<td>-20 and 85 °C (-4 and 185 °F)</td>
</tr>
<tr>
<td>Inert (Galden) for sensor E</td>
<td>-10 and 85 °C (14 and 185 °F)</td>
</tr>
</tbody>
</table>

Silicone oil for sensor F to S and A to E: –40 and 85 °C (-40 and 185 °F)

Inert (Galden) for sensor F to S: –20 and 85 °C (-4 and 185 °F)

Inert (Galden) for sensor E: –10 and 85 °C (14 and 185 °F)

Important

For Hazardous Atmosphere applications see the temperature range specified on the certificate/approval relevant to the aimed type of protection.

Process

<table>
<thead>
<tr>
<th>Models 266DSH</th>
<th>Process temperature limits</th>
</tr>
</thead>
</table>
| Silicone oil for sensor F to S | -40 and 121 °C (-40 and 250 °F) *
| Silicone oil for sensor A to E | -25 and 121 °C (-13 and 250 °F) *
| Inert (Galden) for sensor F to S | -20 and 100 °C (-4 and 212 °F) **
| Inert (Galden) for sensor E | -10 and 100 °C (14 and 212 °F) **

* 100 °C (212 °F) for application below atmospheric pressure

** 65 °C (150 °F) for application below atmospheric pressure

Storage

<table>
<thead>
<tr>
<th>Models 266DSH</th>
<th>Storage temperature limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>LCD integral display</td>
<td>-50 and 85 °C (-58 and 185 °F)</td>
</tr>
<tr>
<td>LCD display</td>
<td>-40 and 85 °C (-40 and 185 °F)</td>
</tr>
</tbody>
</table>

Environmental limits

Electromagnetic compatibility (EMC)

Comply with 2014/30/UE to standards EN 61326-1:2013.

For IEC 61508 SIL certified transmitter to EN 61326-3-1:2008.

For transmitter with option "YE" to NAMUR NE 021 (2004).

Surge immunity level (with surge protector): 4 kV (according to IEC 61000–4–5 EN 61000–4–5)

Pressure equipment directive (PED)

Comply with 2014/68/UE to standards ANSI/ISA 61010-1:2012

Category III Module H for PS ≥ than 20 MPa, 200 bar

Sound Engineering Practice (SEP) for PS < 20 MPa, 200 bar

Humidity

Relative humidity: up to 100 %

Condensing, icing: admissible

Vibration resistance

Accelerations up to 2 g at frequency up to 1000 Hz (according to IEC 60068–2–6)

Shock resistance

Acceleration: 50 g

Duration: 11 ms (according to IEC 60068–2–27)

Wet and dust-laden atmospheres

The transmitter is dust and sand tight and protected against immersion effects as defined by IEC 60529 (2001) to IP 67 (IP 68 on request) or by NEMA Type 4X.

IP65 with Harting Han connector.

Aluminium and AISI housings as barrel version also comply to IP 66 as defined by IEC 60529 (2001).


* between -40°C (-40° F) and -25°C (-13° F) device response time might be influenced
**266DSH DIFFERENTIAL PRESSURE TRANSMITTERS | DS/266DSH-EN REV. R**

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### Specification – operative limits

#### Hazardous atmospheres

**(FOR ALL VERSIONS EXCEPT WirelessHART)**

With or without integral display

**INTRINSIC SAFETY Ex ia:**

- ATEX Europe (code E1) approval
  - II 1 G Ex ia IIC T6...T4 Ga, II 1/2 G Ex ia IIC T6...T4 Ga/Gb,
  - II 1 D Ex ia IIC T85 °C Da, II 1/2 D Ex ia IIC T85 °C Da;
  - IP66, IP67.
- IECEx (code E8) approval
  - Ex ia IIC T6...T4 Ga/Gb, Ex ia IIC T85 °C Da;
  - IP66, IP67.
- NEPSI China (code EY)
  - Ex ia IIC T4/T5/T6 Ga, Ex ia IIC T4/T5/T6 Ga/Gb,
  - Ex iaD 20 T85/T100/T135, Ex iaD 20/21 T85/T100/T135.

**EXPLOSION PROOF:**

- ATEX Europe (code E2) approval
  - II 1/2 G Ex db IIC T6 Ga/Gb Ta=–50 °C to +75 °C,
  - II 1/2 D Ex tb IIC T85 °C Db Ta = –50 °C to +75 °C;
  - IP66, IP67.
- IECEx (code E9) approval
  - Ex db IIC T6 Ga/Gb Ta=–50 °C to +75 °C,
  - Ex tb IIC T85 °C Db Ta = –50 °C to +75 °C;
  - IP66, IP67.
- NEPSI China (code EZ)
  - Ex d IIC T6 Gb, Ex tD A21 IP67 T85 °C.

**INTRINSIC SAFETY Ex ic:**

- ATEX Europe (code E3 ) type examination
  - II 3 G Ex ic IIC T6...T4 Gc,
  - II 3 D Ex tc IIC T85 °C Dc;
  - IP66, IP67.
- IECEx (code ER) type examination
  - Ex ic IIC T4...T6 Gc, Ex tc IIC T85 °C Dc;
  - IP66, IP67.
- NEPSI China (code ES) type examination
  - Ex ic IIC T4~T6 Gc, Ex nA IIC T4~T6 Gc,
  - Ex tD A22 IP67 T85 °C.

**FM Approvals US (code E6) and FM Approvals Canada (code E4):**

- Explosionproof (US): Class I, Division 1,
  - Groups A, B, C, D; T5
- Explosionproof (Canada): Class I, Division 1,
  - Groups B, C, D; T5
- Dust-ignitionproof: Class II, Division 1, Groups E, F, G;
  - Class III, Div. 1; T5
- Flameproof (US): Class I, Zone 1 AEx d IIC T4 Gb
- Flameproof (Canada): Class I, Zone 1 Ex d IIC T4 Gb
- Nonincendive: Class I, Division 2, Groups A, B, C, D T6...T4
- Energy limited (US): Class I, Zone 2 AEx nC IIC T6...T4
- Energy limited (Canada): Class I, Zone 2 Ex nC IIC T6...T4
- Intrinsically safe: Class I, II, III, Division 1,
  - Groups A, B, C, D, E, F, G T6...T4
  - Class I, Zone 0 AEx ia IIC T6...T4 (US)
  - Class I, Zone 0 Ex ia IIC T6...T4 (Canada)

Type 4X, IP66, IP67 for all above markings.

### COMBINED FM Approvals US and Canada

- Intrinsically safe (code EA)

### COMBINED ATEX, FM and IECEx Approvals (code EN)

Technical Regulations Customs Union EAC (Russia, Kazakhstan, Belarus), Inmetro (Brazil), Kosha (Korea)

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**IMPORTANT**

REFER TO CERTIFICATES FOR AMBIENT TEMPERATURE RANGES RELATED TO THE DIFFERENT TEMPERATURE CLASSES.
Electrical Characteristics and Options

Optional indicators
Integrated digital display
(code LS; only with HART standard functionality)
Wide screen LCD, 128 x 64 pixel, 52.5 x 27.2 mm (2.06 x 1.07 in.) dot matrix.
Two keys for zero/span or without front pushbuttons when ordered with R1 external pushbuttons option
Display may also indicate static pressure, sensor temperature and diagnostic messages.

Integral display with integral keypad
(code L1; not with HART standard functionality)
Wide screen LCD, 128 x 64 pixel, 52.5 x 27.2 mm (2.06 x 1.07 in.) dot matrix.
Multilanguage. Four keys for configuration and management of device.
Easy setup for quick commissioning.
User selectable application-specific visualizations.
Totalized and instantaneous flow indication.
Display may also indicate static pressure, sensor temperature and diagnostic messages and provides configuration facilities.

Integral display with Through-The-Glass (TTG) activated keypad
(code LS; not with HART standard functionality)
As above integral display but equipped with the innovative TTG keypad allowing the activation of the configuration and management menus of the device without the need of removing the transmitter housing cover. TTG keypad is protected against accidental activations.

Optional surge protection
Up to 4kV
- voltage 1.2 µs rise time / 50 µs delay time to half value
- current 8 µs rise time / 20 µs delay time to half value

Process diagnostics (PILD)
Plugged impulse line detection (PILD) generates a warning via communication (HART, PA, FF). The device can be configured to drive the output to “Alarm current” or set a status “BAD”.

HART® digital communication and 4 to 20 mA output – Standard and Advanced functionality
Device type: 1a06 hex (listed with HCF)

Power supply
The transmitter operates from 10.5 to 42 V DC with no load and is protected against reverse polarity connection (additional load allows operations over 42 V DC).
For Ex ia and other intrinsically safe approval power supply must not exceed 30 V DC. Minimum operating voltage increases to 12.3 V DC with optional surge protector or to 10.8 V DC with optional conformity to NAMUR NE 21 (2004).

Ripple
20 mV max on a 250 Ω load as per HART specifications.

Load limitations
4 to 20 mA and HART total loop resistance:
\[ R (\text{kΩ}) = \frac{\text{Supply voltage – min. operating voltage (V DC)}}{22 \text{ mA}} \]
A minimum of 250 Ω is required for HART communication.

Output signal
Two-wire 4 to 20 mA, user-selectable for linear or square root output, power of \( \frac{3}{2} \) or \( \frac{5}{2} \), square root for bidirectional flow, 22 points linearization table (i.e. for horizontal or spherical tank level measurement). HART® communication provides digital process variable superimposed on 4 to 20 mA signal, with protocol based on Bell 202 FSK standard.
HART revision 7 is the default HART output.
HART revision 5 is selectable on request.

Output current limits (to NAMUR NE 43 standard)
Overload condition
- Lower limit: 3.8 mA (configurable from 3.8 to 4 mA)
- Upper limit: 20.5 mA (configurable from 20 to 21 mA)
Alarm current
- Lower limit: 3.6 mA (configurable from 3.6 to 4 mA)
- Upper limit: 21 mA (configurable from 20 to 23 mA, limited to 22 mA for HART Safety; apply for electronics release 7.1.15 or later)
Factory setting: high alarm current.
**...Specification – electrical characteristics and options**

**IEC 62591 WirelessHART® output**

Device type: 1a06hex (listed with HCF)
Network ID: ABBhex (2747 decimal)
Join keys: 57495245hex (1464422981) 4c455353hex (1279611731) 46494544hex (1179206988) 444b4559hex (1145783641).

**Power Supply**

1x D-cell size lithium-thionyl chloride battery.
Battery life: 10 years at 32 sec. update time, 8 years at 16 sec. update time or 5 years at 8 sec. update time.
(at reference conditions of 25 ± 2 °C ambient temperature, data routed from 3 additional devices, LCD off).

THE BATTERY CAN BE REPLACED IN FIELD, ALSO IN HAZARDOUS CLASSIFIED AREA.

**Output signal**

IEC 62591 WirelessHART Version 7.5 (IEEE 802.15.4-2006);
Frequency band: 2.4 GHz DSSS
Update rate: user selectable from 1 sec. to 60 min.

**Integrated adjustable omnidirectional antenna**

– Output radio frequency: maximum 10 mW (10 dBm) EIRP
– Range: up to 300 m. (328 yds.)
Minimum distance between antenna and person is 0.2 m. (8 in.)

**Telecommunications directive**

Every wireless measuring device must be certified in accordance with the telecommunications directive, in this case the frequency range. This certification is country-specific.

**European directives**

Radio Equipment & Telecommunications Terminal Equipment Directive 2014/53/UE to standards EN 60950-1:2013,
EN 62311:2008, EN 301 489-1 V1.9.2, EN 301 489-17 V2.2.1,
EN 300 328 v1.8.1.
In Europe, use of the 2400 - 2483.5 MHz frequency band is not harmonized. Country-specific regulations must be observed.

**Restrictions for Norway**

Operation not permitted within a radius of 20 km around Ny-Alesund in Svalbard. For more information, see www.npt.no Norway Posts and Telecommunications site

**Extra-european radio frequency licences**

USA to FCC Part 15.247:2009;
Canada to IC RSS-210 and ICES-003;
Argentina; United Arab Emirates (UAE); India; Mexico.

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**PROFIBUS® PA output**

**Device type**

Pressure transmitter compliant to Profiles 3.0.1
Identification number: 3450 (hex)

**Power supply**

The transmitter operates from 9 to 32 V DC , polarity independent, with or without surge protector.
For Ex ia approval power supply must not exceed 17.5 V DC.
Intrinsic safety installation according to FISCO model.

**Current consumption**

operating (quiescent): 15 mA
fault current limiting: 20 mA max.

**Output signal**

Physical layer in compliance to IEC 1158–2/EN 61158–2 with transmission to Manchester II modulation, at 31.25 kbit/s.

**Output interface**

PROFIBUS PA communication according to Profibus DP50170 Part 2/DIN 19245 part 1–3.

**Output update time**

25 ms

**Data blocks**

3 analog input, 1 physical.

**Additional blocks**

1 Pressure with calibration transducer block
1 Advanced Diagnostics transducer block including Plugged Input Line Detection
1 Local Display transducer block

**Transmitter failure mode**

On gross transmitter failure condition, detected by self-diagnostics, the output signal can be driven to defined conditions, selectable by the user as safe, last valid or calculated value.
If electronic failure or short circuit occur the transmitter consumption is electronically limited at a defined value (20 mA approx), for safety of the network.
FOUNDATION Fieldbus™ output

Device type
- LINK MASTER DEVICE
- Link Active Scheduler (LAS) capability implemented.
- Manufacturer code: 000320
- Device type code: 0007

Power supply
The transmitter operates from 9 to 32 V DC, polarity independent, with or without surge protector.
For Ex ia approval power supply must not exceed 24 V DC (FF–816 certification) or 17.5 V DC (FISCO certification).

Current consumption
- operating (quiescent): 15 mA
- fault current limiting: 20 mA max.

Output signal
- Physical layer in compliance to IEC 61158–2/EN 61158–2.
- Transmission to Manchester II modulation, at 31.25 kbit/s.

Function blocks/execution period
- 3 enhanced Analog Input blocks/25 ms max (each)
- 1 enhanced PID block/40 ms max.
- 1 standard ARitmetic block/25 ms
- 1 standard Input Selector block/25 ms
- 1 standard Control Selector block/25 ms
- 1 standard Signal Characterization block/25 ms
- 1 standard Integrator/Totalizer block/25 ms

Additional blocks
- 1 enhanced Resource block,
- 1 custom Pressure with calibration transducer block
- 1 custom Advanced Diagnostics transducer block
  including Plugged Input Line Detection
- 1 custom Local Display transducer block

Number of link objects
35

Number of VCRs
35

Output interface
FOUNDATION fieldbus digital communication protocol to standard H1, compliant to specification V. 1.7.

Transmitter failure mode
The output signal is “frozen” to the last valid value on gross transmitter failure condition, detected by self-diagnostics which also indicate a BAD conditions. If electronic failure or short circuit occur the transmitter consumption is electronically limited at a defined value (20 mA approx), for safety of the network.
Specification – performance

Stated at reference condition to IEC 60770 ambient temperature of 20 °C (68 °F), relative humidity of 65 %, atmospheric pressure of 1013 hPa (1013 mbar), mounting position with vertical diaphragm and zero based range for transmitter with isolating diaphragms in AISI 316 L ss or Hastelloy and silicone oil fill and HART digital trim values equal to 4 mA and to 20 mA span end points, in linear mode.

Unless otherwise specified, errors are quoted as % of span.

Some performance referring to the Upper Range Limit are affected by the actual turndown (TD) as ratio between Upper Range Limit (URL) and calibrated span.

IT IS RECOMMENDED TO SELECT THE TRANSMITTER SENSOR CODE PROVIDING THE TURNDOWN VALUE AS LOWEST AS POSSIBLE TO OPTIMIZE PERFORMANCE CHARACTERISTICS.

Dynamic performance (according to IEC 61298–1 definition)

<table>
<thead>
<tr>
<th>Sensors</th>
<th>Total response time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor M to S</td>
<td>≤ 100 ms</td>
</tr>
<tr>
<td>Sensor F to H</td>
<td>≤ 100 ms *</td>
</tr>
</tbody>
</table>

Total response time for sensor E ≤ 130 ms*, for sensor B ≤ 310 ms*

Total response time includes dead time of 30 ms (for all sensors) with time constant @ 63.2 % of total step change.

See “Update Rate” for WirelessHART version.

Accuracy rating (Elin)

% of calibrated span, including combined effects of terminal based linearity, hysteresis and repeatability. For fieldbus versions SPAN refer to analog input function block outscale range

<table>
<thead>
<tr>
<th>Model</th>
<th>Sensor</th>
<th>for TD up to</th>
</tr>
</thead>
<tbody>
<tr>
<td>266DSH</td>
<td>F to Q</td>
<td>10:1</td>
</tr>
<tr>
<td></td>
<td>E and S</td>
<td>10:1</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>10:1</td>
</tr>
<tr>
<td></td>
<td>A</td>
<td>4:1</td>
</tr>
</tbody>
</table>

for an ambient temperature change from –10 °C to +60 °C (+14 to +140 °F):

<table>
<thead>
<tr>
<th>Model</th>
<th>Sensor</th>
<th>for TD up to</th>
</tr>
</thead>
<tbody>
<tr>
<td>266DSH</td>
<td>F to Q</td>
<td>10:1</td>
</tr>
<tr>
<td></td>
<td>E and S</td>
<td>10:1</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>10:1</td>
</tr>
<tr>
<td></td>
<td>A</td>
<td>4:1</td>
</tr>
</tbody>
</table>

Ambient temperature (EΔTz + EΔTs)

per 20K change between the limits of –40 °C to +85 °C (per 36 °F change between the limits of –40 to +185 °F):

<table>
<thead>
<tr>
<th>Model</th>
<th>Sensor</th>
<th>for TD up to</th>
</tr>
</thead>
<tbody>
<tr>
<td>266DSH</td>
<td>F to Q</td>
<td>10:1</td>
</tr>
<tr>
<td></td>
<td>E and S</td>
<td>10:1</td>
</tr>
<tr>
<td></td>
<td>B</td>
<td>10:1</td>
</tr>
<tr>
<td></td>
<td>A</td>
<td>4:1</td>
</tr>
</tbody>
</table>

Static pressure (EΔPs)

(zero errors can be calibrated out at line pressure) per 0.5 MPa, 5 bar or 72.5 psi (sensor A) per 2 MPa, 20 bar or 290 psi (sensor B) per 3.5 MPa, 35 bar or 500 psi (sensor E) per 7 MPa, 70 bar or 1015 psi (sensor F to S)

Model 266DSH standard static

- zero error: ±0.05 % of URL for sensor F to S
- ±0.08 % of URL for sensor A, B and E

- span error: ±0.08 % of reading.

Model 266DSH flange mounted per 2 MPa, 20 bar or 290 psi

- zero error: ±0.05 % of URL for sensor F to P
- ±0.08 % of URL for sensor E

span error: ±0.08 % of reading.

(*) Availability subject to special request and not applicable for explosionproof and flameproof
Supply voltage
Within voltage/load specified limits the total effect is less than 0.005 % of URL per volt.

Load
Within load/voltage specified limits the total effect is negligible.

Electromagnetic field
Meets all the requirements of EN 61326 for surge immunity level (of NAMUR NE 21 on request).

Common mode interference
No effect from 100Vrms @ 50Hz, or 50 V DC

Mounting position
Rotations in the plane of the diaphragm have a negligible effect. A tilt from the vertical of up to 90° causes a zero point shift of up to 0.5 kPa (5 mbar, 2 inH2O), which can be corrected by making an appropriate zero position adjustment. There is no effect on the measuring span. In applications where a dynamic inclined installation is required (e.g. naval applications with maximum vessel inclination of +/-22.5°), the maximum error can be up to 3 mbar for 266DSH
Such error might be resulting in a deviation from the standard accuracy with percentual magnitude depending on the range of the selected device.
In case of non-dynamic inclined installations, this effect can be eliminated by performing a zero calibration in the field.
Please contact ABB to assess more in details on the installation effects

Stability
±0.15 % of URL over a ten years period
(±0.25 % of URL over a ten years period for sensor A or B)

Maximum total performance
For temperature change of 28 °C (50 °F), static pressure change of 5,1 MPa, 51 bar, 740 psi, for model 266DSH with accuracy option code D2 (± 0.04 %)

<table>
<thead>
<tr>
<th>Sensor</th>
<th>Span</th>
<th>Maximum total performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td>35 kPa, 350 mbar, 140 inH2O</td>
<td>± 0.125 % of calibrated span</td>
</tr>
<tr>
<td>H</td>
<td>150 kPa, 1.5 bar, 600 inH2O</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>550 kPa, 5.5 bar, 80 psi</td>
<td></td>
</tr>
</tbody>
</table>

\[ E_{\text{Mperf}} = \sqrt{(E_{\Delta Tz} + E_{\Delta Ts})^2 + E_{\Delta Ps}^2 + E_{\text{lin}}^2} \]

\[ E_{\text{Mperf}} = \text{Maximum total performance} \]
\[ E_{\Delta Tz} = \text{Effect of the ambient temperature on zero} \]
\[ E_{\Delta Ts} = \text{Effect of the ambient temperature on span} \]
\[ E_{\Delta Ps} = \text{Effect of the static pressure on span} \]
\[ E_{\text{lin}} = \text{Accuracy rating (for terminal-based linearity 0.04 % or 0.075% as per model/sensor accuracy)} \]

Total performance
similar to DIN 16086
Temperature change in the range from –10 to 60 °C (14 to 140 °F), static pressure change (266DSH) 10 MPa, 100 bar, 1450 psi

<table>
<thead>
<tr>
<th>Model</th>
<th>Sensor</th>
<th>TD</th>
<th>Total performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>266DSH std. static, D2 option</td>
<td>F to Q</td>
<td>1:1</td>
<td>± 0.16 % of calibrated span</td>
</tr>
</tbody>
</table>

\[ E_{\text{perf}} = \sqrt{(E_{\Delta Tz} + E_{\Delta Ts})^2 + E_{\Delta Ps}^2 + E_{\text{lin}}^2} \]

\[ E_{\text{perf}} = \text{Total Performance} \]
\[ E_{\Delta Tz} = \text{Effect of the ambient temperature on zero} \]
\[ E_{\Delta Ts} = \text{Effect of the ambient temperature on span} \]
\[ E_{\Delta Ps} = \text{Effect of the static pressure on span} \]
\[ E_{\text{lin}} = \text{Accuracy rating (for terminal-based linearity 0.04 % or 0.075% as per model/sensor accuracy)} \]

Maximum total performance and Total performance includes the measuring errors of
• non-linearity including hysteresis and non-reproducibility,
• thermal change of the ambient temperature as regards the zero signal and the calibrated span,
• effect of static pressure change on the calibrated span, with transmitter re-zeroed at line pressure.
**Specification – physical**

(Refer to ordering information sheets for variant availability related to specific model or versions code)

**Materials**

**Process isolating diaphragms (*)**
- AISI 316 L ss; AISI 316 L ss gold plated; Tantalum; Hastelloy® C-276; Hastelloy® C-276 on AISI 316L ss gasket seat.

**Process flanges, adapters, plugs and drain/vent valves (*)**
- AISI 316 L ss (1); Hastelloy® C-276 (2); Kynar® (PVDF insert in AISI 316 ss flange).
- AISI 316 L ss with flushing connections for high side of flange mounted version.

**Sensor fill fluid**
- Silicone oil; Inert fill (Galden®).

**Mounting bracket (**)**
- Zinc plated carbon steel with chrome passivation; AISI 316 ss; AISI 316 L ss.

**Gaskets (*)**
- Viton®; PTFE.

**Sensor housing**
- AISI 316 L ss.

**Bolts and nuts**
- AISI 316 ss bolts Class A4–80 and nuts Class A4–70 per ISO 3506;
- AISI 316 ss bolts and nuts Class A4–50 per ISO 3506, in compliance with NACE MR0175 Class II (std. static only). Plated alloy steel bolts per ASTM-A-193-77a grade B7M and nuts per ASTM A194/A 194 M-90 grade 2HM, in compliance with NACE MR0175 Class II.

**Electronic housing and covers**
- Aluminium alloy (copper content ≤ 0.3 %) with baked epoxy finish (colour RAL9002); AISI 316 L ss.

**Covers O-ring**
- Buna N.

**Local adjustments (zero, span and write protect)**

For Standard HART version:
- Internal for zero and span (on connection board)
- External non-intrusive for zero, span and write protect in glass filled polyphenylene oxide, removable (code R1).

For all other versions:
- External non-intrusive for zero, span and write protect in glass filled polyphenylene oxide, removable.

**Plates**

- Transmitter nameplate: AISI 316 ss screwed to the electronics housing.
- Certification plate and optional tag/calibration plate: self-adhesive attached to the electronics housing or AISI 316 ss fastened to the electronics housing with rivets or screws.
- Optional wired-on customer data plate: AISI 316 ss. Laser printing on metal or thermal printing on self-adhesive.

For AISI 316 L ss housing it is mandatory to select option I2 or I3 for plates in AISI 316 ss.

Optional wired-on customer data plate can be populated with customized data (4 lines of 32 characters 4 mm/0.16 in high).

Customized data have to be provided separately: in case of no data, the wired-on plate will be delivered blank.

**Calibration**

Standard: at maximum span, zero based range, ambient temperature and pressure;
Optional: at specified range and ambient conditions.
Device is delivered with a standard 4-point calibration record

(*) Wetted parts of the transmitter.
(**) U-bolt material: high-strength alloy steel or AISI 316 L ss; bolts/nuts material: high-strength alloy steel or AISI 316 ss.
(1) Supplied as AISI 316 L or as ASTM A351 Grade CF-3M
(2) Supplied as Hastelloy C-276 or as ASTM A494 alloy CW-12MW
Optional extras

Mounting brackets (code Bx)
For vertical and horizontal 60mm. (2in) pipes or wall mounting. (EXCEPT U-BOLT ASSEMBLY WHICH IS NOT SUPPLIED FOR WALL MOUNTING, PARTS ARE THE SAME FOR PIPE AND WALL BRACKET OPTIONS, AS PER RELEVANT MATERIALS).

Display (code Lx)
L1/L5: 4 position (90° steps) user orientable
LS: fixed position

Optional plates (code Ix)
Code I1: AISI 316 ss wired-on plate with laser printed customized data (4 lines of 32 characters with 4 mm/0.16 in. height).
Code I2: AISI 316 ss plate with laser printed tag (up to 32 characters - long) and calibration details (up to 32 characters: lower and upper range values and engineering unit) fixed onto transmitter housing.
Code I3: complete set of AISI 316 ss plates (see I1 and I2).

Surge protection (code S2)

Cleaning procedure for oxygen service (code P1)

Test Certificates (test, design, calibration, material traceability) (codes Cx and Hx)

Tag and manual language (codes Tx and Mx)

Manifold mounting (code A1)
Factory mounting and pressure test of ABB M26 manifolds.

Process connections
on flanges: 1/4 in. – 18 NPT on process axis
on adapters: 1/2 in. – 14 NPT on process axis centre distance (266DSH): 54 mm. (2.13 in.) on flange; 51, 54 or 57 mm. (2.01, 2.13 or 2.24 in.) as per adapters fittings
fixing threads: 7/16 in. – 20 UNF at 41.3 mm centre distance
High pressure side of flange mounted version (*):
2 in. or 3 in., ASME Class 150 or Class 300 RF;
DN 50 or DN 80, PN 16 or PN 40 to EN 1092-1 Type B1

Electrical connections
Two 1/2 in. – 14 NPT or M20x1.5 threaded conduit entries, direct on housing. Only M20x1.5 for WirelessHART with one port used for antenna.
One certified stainless steel plug (supplied loose with thread according to housing entries) available as option.

Terminal block
HART version: three terminals for signal/external meter wiring up to 2.5 mm² (14 AWG), also connection points for test and communication purposes.
WirelessHART version: connection points for test and communication purposes; additional fast connection for external harvesting unit.
Fieldbus versions: two terminals for signal wiring (bus connection) up to 2.5 mm² (14 AWG)

Grounding
Internal and external 6 mm² (10 AWG) ground termination points are provided.

Mounting position
Transmitter can be mounted in any position.
Electronics housing may be rotated to any position. A positive stop prevents over travel.

Mass (without options)
4 kg approx (8.8 lb) for standard static and gauge versions;
7 to 11 kg approx (16 to 24 lb) for flange mounted version;
add 1.5 kg (3.3 lb) for AISI housing.
Add 650 g (1.5 lb) for packing.

Packing
Carton 27 x 24 x 20 cm approx (11 x 10 x 8 in.);
Carton 35 x 33 x 35 cm approx (14 x 13 x 14 in) for flange mounted version.

(*) Bolts and nuts, gasket and mating flange supplied by customer.
Specification – configuration

Transmitter with HART communication and 4 to 20 mA

Standard configuration
- Transmitters are factory calibrated to customer’s specified range. Calibrated range and tag number are stamped on the tag plate. If a calibration range and tag data are not specified, the transmitter will be supplied with the plate left blank and configured as follows:
  - Engineering Unit: kPa
  - 4 mA Zero
  - 20 mA Upper Range Limit (URL)
  - Output: Linear
  - Damping: 1 s
  - Transmitter failure mode: Upscale

Custom configuration (option N6)
- The following data may be specified in addition to the standard configuration parameters:
  - Descriptor: 16 alphanumeric characters
  - Message: 32 alphanumeric characters
  - Date: Day, month, year

For HART protocol available engineering units of pressure measure are:
- Pa, kPa, MPa
- inH2O@4 °C, mmH2O@4 °C, psi
- inH2O@68 °F, ftH2O@68 °F, mmH2O@68 °F
- inHg, mmHg, Torr
- g/cm², kg/cm², atm
- mbar, bar

These and others are available for PROFIBUS and FOUNDATION Fieldbus.

Optional LCD display
- PV in kPa; output in mA and in percentage on bargraph

Any or all the above configurable parameters, including Lower range-value and Upper range-value which must be the same unit of measure, can be easily changed using the HART hand-held communicator or by a PC running the configuration software with DTM for 266 models. The transmitter database is customized with specified flange type and material, O-ring and drain/vent materials and meter code option.

Tag and Calibration
- Tag and/or specific calibrated span can be requested when configuring the device.

Two tag types are available: Short Tag and Long Tag.

See below table for details about tag type applicability / presence:

<table>
<thead>
<tr>
<th>Type</th>
<th>Max Length</th>
<th>On Display</th>
<th>On Certification</th>
<th>On Device Label</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short Tag</td>
<td>8 digits</td>
<td>YES</td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Long Tag</td>
<td>32 digits</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
</tr>
</tbody>
</table>

In case no specific indication will be given about the tag type, data will be considered as Long Tag by default.

In case tag is required on the optional wired-on customer data plate (optional digits I1, I3) specific indication needs to be given.
Transmitter with WirelessHART communication

Standard configuration
Transmitters are factory calibrated to customer’s specified range. Calibrated range and tag number are stamped on the tag plate. If a calibration range and tag data are not specified, the transmitter will be supplied with the plate left blank and configured as follows:

- Engineering Unit: kPa
- Output scale 0 %: Lower Range Limit (LRL)
- Output scale 100 %: Upper Range Limit (URL)
- Output: Linear
- Update time: 16 s
- Tag: Blank (up to 32 alphanumeric characters - long; only 8 visible on display - short)

Optional LCD display: PV in kPa; output in percentage on bargraph

Any or all the above configurable parameters, including Lower range–value and Upper range–value which must be the same unit of measure, can be easily changed using the HART hand–held communicator or by a PC running the configuration software with DTM for 266 models. The transmitter database is customized with specified flange type and material, O–ring and drain/vent materials and meter code option.

Custom configuration (option N6)
The following data may be specified in addition to the standard configuration parameters:

- Descriptor: 16 alphanumeric characters
- Message: 32 alphanumeric characters
- Date: Day, month, year

Transmitter with PROFIBUS PA communication

Standard configuration
Transmitters are factory calibrated to customer’s specified range. Calibrated range and tag number are stamped on the tag plate. If a calibration range and tag data are not specified, the transmitter will be supplied with the plate left blank and configured as follows:

- Measure Profile: Pressure
- Engineering Unit: kPa
- Output scale 0 %: Lower Range Limit (LRL)
- Output scale 100 %: Upper Range Limit (URL)
- Output: Linear
- Hi-Hi Limit: Upper Range Limit (URL)
- Hi Limit: Upper Range Limit (URL)
- Low Limit: Lower Range Limit (LRL)
- Low-Low Limit: Lower Range Limit (LRL)
- Limits hysteresis: 0.5 % of output scale
- PV filter: 0 s
- Address (set by local key): 126
- Tag: PI000 (up to 32 alphanumeric characters; only 8 visible on display)

Optional LCD display: PV in kPa; output in percentage on bargraph

Any or all the above configurable parameters, including the range values which must be the same unit of measure, can be easily changed by a PC running the configuration software with DTM for 266 models. The transmitter database is customized with specified flange type and material, O–ring and drain/vent materials and meter code option.

Custom configuration (option N6)
The following data may be specified in addition to the standard configuration parameters:

- Descriptor: 32 alphanumeric characters
- Message: 32 alphanumeric characters
- Date: Day, month, year
...Specification – configuration

Transmitter with FOUNDATION Fieldbus communication

Standard configuration
Transmitters are factory calibrated to customer’s specified range. Calibrated range and tag number are stamped on the tag plate. If a calibration range and tag data are not specified, the transmitter will be supplied with the plate left blank and the analog input function block FB1 is configured as follows:

<table>
<thead>
<tr>
<th>Measure Profile</th>
<th>Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Unit</td>
<td>kPa</td>
</tr>
<tr>
<td>Output scale 0 %</td>
<td>Lower Range Limit (LRL)</td>
</tr>
<tr>
<td>Output scale 100 %</td>
<td>Upper Range Limit (URL)</td>
</tr>
<tr>
<td>Output</td>
<td>Linear</td>
</tr>
<tr>
<td>Hi-Hi Limit</td>
<td>Upper Range Limit (URL)</td>
</tr>
<tr>
<td>Hi Limit :</td>
<td>Upper Range Limit (URL)</td>
</tr>
<tr>
<td>Low Limit</td>
<td>Lower Range Limit (LRL)</td>
</tr>
<tr>
<td>Low-Low Limit</td>
<td>Lower Range Limit (LRL)</td>
</tr>
<tr>
<td>Limits hysteresis</td>
<td>0.5 % of output scale</td>
</tr>
<tr>
<td>PV filter time</td>
<td>0 s</td>
</tr>
<tr>
<td>Tag</td>
<td>PI000 (up to 32 alphanumeric characters; only 8 visible on display)</td>
</tr>
</tbody>
</table>

Optional LCD display

The analog input function block FB2 and FB3 are configured respectively for the sensor temperature measured in °C and for the static pressure measured in MPa.

Any or all the above configurable parameters, including the range values, can be changed using any host compliant to FOUNDATION fieldbus. The transmitter database is customized with specified flange type and material, O–ring and drain/vent materials and meter code option.

Custom configuration (option N6)
The following data may be specified in addition to the standard configuration parameters:

- Descriptor: 32 alphanumeric characters
- Message: 32 alphanumeric characters
- Date: Day, month, year
Dimensions

(not for construction unless certified) – dimensions in mm. (in.)

Figure 1  Standard static transmitter with barrel housing - horizontal flanges

NOTE
Process connection, gasket groove and gaskets are in accordance with IEC 61518.
Bolting threads for fixing adapter or other devices (i.e. manifold etc.) on process flange is 7/16 – 20 UNF.
Negative side of gauge measurement version 266DSHxP is provided with a removable filter, granting protection to the atmospheric pressure reference.
...Dimensions

![Figure 2](Standard static transmitter with barrel housing - vertical flanges)
Figure 3  Transmitter on bracket for vertical or horizontal 60 mm. (2 in.) pipe mounting
...Dimensions

Figure 4  Transmitter with Kynar flanges on bracket for vertical or horizontal 60 mm. (2 in.) pipe mounting
Figure 5  Transmitter with DIN aluminium housing - horizontal flanges on bracket for vertical or horizontal 60 mm. (2 in.) pipe mounting

Figure 6  Transmitter with horizontal flanges on flat bracket for vertical or horizontal 60 mm. (2 in.) pipe mounting
...Dimensions

---

**Figure 7**  Transmitter with vertical flanges on bracket for vertical or horizontal 60 mm. (2 in.) pipe mounting

---

**Figure 8**  Transmitter with barrel housing - flange mounted version
<table>
<thead>
<tr>
<th>Rating</th>
<th>Size</th>
<th>A (dia)</th>
<th>B (dia)</th>
<th>C (dia)</th>
<th>D (dia)</th>
<th>E (dia)</th>
<th>F (dia)</th>
<th>G (dia)</th>
<th>No. of holes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASME Class 150 R.F.</td>
<td>2 in.</td>
<td>53 (2.09)</td>
<td>92 (3.62)</td>
<td>120.5 (4.74)</td>
<td>152.5 (6)</td>
<td>20 (0.79)</td>
<td>19.5 (0.77)</td>
<td>1.6 (0.07)</td>
<td>4</td>
</tr>
<tr>
<td>ASME Class 150 R.F.</td>
<td>3 in.</td>
<td>77 (3.04)</td>
<td>127 (5)</td>
<td>152.5 (6)</td>
<td>190.5 (7.5)</td>
<td>20 (0.79)</td>
<td>24 (0.94)</td>
<td>1.6 (0.07)</td>
<td>4</td>
</tr>
<tr>
<td>ASME Class 300 R.F.</td>
<td>2 in.</td>
<td>53 (2.09)</td>
<td>92 (3.62)</td>
<td>127 (5)</td>
<td>165 (6.5)</td>
<td>20 (0.79)</td>
<td>22.5 (0.89)</td>
<td>1.6 (0.07)</td>
<td>8</td>
</tr>
<tr>
<td>ASME Class 300 R.F.</td>
<td>3 in.</td>
<td>77 (3.04)</td>
<td>127 (5)</td>
<td>168.5 (6.63)</td>
<td>210 (8.26)</td>
<td>22 (0.86)</td>
<td>28.5 (1.12)</td>
<td>1.6 (0.07)</td>
<td>8</td>
</tr>
<tr>
<td>EN PN 16 Type B1</td>
<td>DN 50</td>
<td>53 (2.09)</td>
<td>102 (4.02)</td>
<td>125 (4.92)</td>
<td>165 (6.5)</td>
<td>18 (0.71)</td>
<td>20 (0.79)</td>
<td>3 (0.12)</td>
<td>4</td>
</tr>
<tr>
<td>EN PN 16 Type B1</td>
<td>DN 80</td>
<td>77 (3.04)</td>
<td>138 (5.43)</td>
<td>160 (6.3)</td>
<td>200 (7.87)</td>
<td>18 (0.71)</td>
<td>20 (0.79)</td>
<td>2 (0.08)</td>
<td>8</td>
</tr>
<tr>
<td>EN PN 40 Type B1</td>
<td>DN 50</td>
<td>53 (2.09)</td>
<td>102 (4.02)</td>
<td>125 (4.92)</td>
<td>165 (6.5)</td>
<td>18 (0.71)</td>
<td>20 (0.79)</td>
<td>3 (0.12)</td>
<td>4</td>
</tr>
<tr>
<td>EN PN 40 Type B1</td>
<td>DN 80</td>
<td>77 (3.04)</td>
<td>138 (5.43)</td>
<td>160 (6.3)</td>
<td>200 (7.87)</td>
<td>18 (0.71)</td>
<td>24 (0.94)</td>
<td>2 (0.08)</td>
<td>8</td>
</tr>
</tbody>
</table>

Note
For ASME, flange thickness tolerance is +3.0 / -0.0 mm (+0.12 / 0.0 in.).
For EN, flange thickness tolerance is +1.0 / -1.3 mm (+0.04 / 0.05 in.) up to 18 mm or ±1.5 mm (±0.06 in.) from 18 to 50 mm from 18 to 50 mm.
Holes of flanges are equally spaced and with reference to transmitter axis they are rotated of 45° for 4 holes versions or of 22.5° for 8 holes versions, with tolerance of 5°.

Figure 9 Transmitter with DIN aluminium housing - flange mounted version
Electrical connections

HART hand-held communicator may be connected at any wiring termination point in the loop, providing the minimum resistance is 250 ohm. If this is less than 250 ohm, additional resistance should be added to allow communications. Maximum voltage drop on external remote indicator is 0.7 V DC.

Figure 10  HART Version

Figure 11  FIELDBUS Versions

Figure 13  WirelessHART version
Ordering Information

Basic ordering information for model 266DSH Differential Pressure Transmitter
Select one character or set of characters from each category and specify complete catalog number.
Refer to additional ordering information and specify one or more codes for each transmitter if additional options are required.

<table>
<thead>
<tr>
<th>BASE MODEL - 1st to 6th characters</th>
<th>2 6 6 D S H</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>Differential Pressure Transmitter – BASE ACCURACY 0.06 %</td>
<td>Z</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

### SENSOR - Span limits - 7th character

<table>
<thead>
<tr>
<th>Span limits</th>
<th>“Vx” OPTION IS REQUIRED</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.05 and 1 kPa</td>
<td>A</td>
</tr>
<tr>
<td>0.2 and 4 kPa</td>
<td>B</td>
</tr>
<tr>
<td>0.54 and 16 kPa</td>
<td>E</td>
</tr>
<tr>
<td>0.4 and 40 kPa</td>
<td>F</td>
</tr>
<tr>
<td>1.6 and 160 kPa</td>
<td>H</td>
</tr>
<tr>
<td>6 and 600 kPa</td>
<td>M</td>
</tr>
<tr>
<td>24 and 2400 kPa</td>
<td>P</td>
</tr>
<tr>
<td>80 and 8000 kPa</td>
<td>Q</td>
</tr>
<tr>
<td>160 and 16000 kPa</td>
<td>S</td>
</tr>
</tbody>
</table>

### Application - 8th character

<table>
<thead>
<tr>
<th>Application</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Differential measurement at standard static pressure</td>
<td>S</td>
</tr>
<tr>
<td>Gauge measurement</td>
<td>P</td>
</tr>
</tbody>
</table>

### Diaphragm material / Fill fluid (wetted parts) - 9th character

<table>
<thead>
<tr>
<th>Material / Fluid</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AISI 316 L ss</td>
<td>(Note 2)</td>
</tr>
<tr>
<td>Hastelloy® C-276</td>
<td>(Note 2)</td>
</tr>
<tr>
<td>Hastelloy® C-276 (on AISI seat)</td>
<td>(Note 2)</td>
</tr>
<tr>
<td>AISI 316 L ss gold plated</td>
<td>(Note 2, 30)</td>
</tr>
<tr>
<td>Tantalum</td>
<td>(Note 2, 30)</td>
</tr>
<tr>
<td>AISI 316 L ss</td>
<td>Inert fluid - Galden</td>
</tr>
<tr>
<td>Hastelloy® C-276</td>
<td>Inert fluid - Galden</td>
</tr>
<tr>
<td>AISI 316 L ss gold plated</td>
<td>Inert fluid - Galden</td>
</tr>
<tr>
<td>Tantalum</td>
<td>Inert fluid - Galden</td>
</tr>
<tr>
<td>Hastelloy® C-276 (on AISI seat)</td>
<td>Inert fluid - Galden</td>
</tr>
</tbody>
</table>
### Ordering Information

Basic ordering information for model 266DSH Differential Pressure Transmitter

<table>
<thead>
<tr>
<th>Basic ORDERING INFORMATION model 266DSH Differential Pressure Transmitter</th>
<th>2 6 6 D S H X X X</th>
<th>X</th>
<th>X</th>
<th>X</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process flanges/adapters material and connection (wetted parts) - 10th character</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AISI 316 L ss (Horizontal connection)</td>
<td>1/4 in. – 18 NPT-f direct</td>
<td>NACE</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>AISI 316 L ss (Horizontal connection)</td>
<td>1/2 in. – 14 NPT-f through adapter</td>
<td>NACE</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>Hastelloy® C-276 (Horizontal connection)</td>
<td>1/4 in. – 18 NPT-f direct</td>
<td>NACE</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Hastelloy® C-276 (Horizontal connection)</td>
<td>1/2 in. – 14 NPT-f through adapter</td>
<td>(Notes 3, 30)</td>
<td>E</td>
<td></td>
</tr>
<tr>
<td>AISI 316 L ss (Vertical connection)</td>
<td>1/4 in. – 18 NPT-f direct</td>
<td>NACE</td>
<td>Q</td>
<td></td>
</tr>
<tr>
<td>AISI 316 L ss (Vertical connection)</td>
<td>1/2 in. – 14 NPT-f through adapter</td>
<td>NACE</td>
<td>T</td>
<td></td>
</tr>
<tr>
<td>Hastelloy® C-276 (Vertical connection)</td>
<td>1/4 in. – 18 NPT-f direct</td>
<td>(Notes 3, 30)</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Hastelloy® C-276 (Vertical connection)</td>
<td>1/2 in. – 14 NPT-f through adapter</td>
<td>(Notes 3, 30)</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>PVDF Kynar® insert on AISI 316 ss flange side</td>
<td>1/4 in. – 18 NPT-f direct</td>
<td>(Notes 5, 6, 30)</td>
<td>P</td>
<td></td>
</tr>
<tr>
<td>PVDF Kynar® insert on AISI 316 ss flange side</td>
<td>1/2 in. – 14 NPT-f direct</td>
<td>(Notes 5, 6, 30)</td>
<td>Z</td>
<td></td>
</tr>
<tr>
<td>Flange mounted version (REFER TO “F26” ACCESSORY CODE FOR QUOTE)</td>
<td></td>
<td>(Notes 2, 6, 30)</td>
<td>R</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bolts/Gasket (wetted parts) - 11th character</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>For standard static and gauge versions</td>
<td>AISI 316 ss</td>
<td>Viton®</td>
<td>(Notes 4, 7, 27, 30)</td>
<td>NACE (non exposed)</td>
</tr>
<tr>
<td>For standard static and gauge versions</td>
<td>AISI 316 ss</td>
<td>PTFE</td>
<td>(Notes 1, 4, 7, 27)</td>
<td>NACE (non exposed)</td>
</tr>
<tr>
<td>For standard static, gauge and flange mounted versions</td>
<td>AISI 316 ss – MWP = 16 MPa</td>
<td>Viton®</td>
<td>(Notes 7, 30)</td>
<td>NACE</td>
</tr>
<tr>
<td>For standard static, gauge and flange mounted versions</td>
<td>AISI 316 ss – MWP = 16 MPa</td>
<td>PTFE</td>
<td>(Notes 1, 7)</td>
<td>NACE</td>
</tr>
<tr>
<td>For standard static and gauge versions</td>
<td>Alloy steel</td>
<td>Viton®</td>
<td>(Notes 4, 7, 27, 30)</td>
<td>NACE</td>
</tr>
<tr>
<td>For standard static and gauge versions</td>
<td>Alloy steel</td>
<td>PTFE</td>
<td>(Notes 1, 4, 7, 27, 30)</td>
<td>NACE</td>
</tr>
<tr>
<td>For PVDF Kynar process connection</td>
<td>AISI 316 ss spring loaded – MWP = 1 MPa</td>
<td></td>
<td>(Notes 8, 27, 30)</td>
<td>NACE</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Housing material and electrical connection - 12th character</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminium alloy ( barrel version)</td>
<td>1/2 in. – 14 NPT</td>
<td></td>
<td>(Note 21)</td>
<td>A</td>
</tr>
<tr>
<td>Aluminium alloy ( barrel version)</td>
<td>M20 x 1.5 (CM 20)</td>
<td>(TO BE USED for WirelessHART)</td>
<td>(Note 30)</td>
<td>B</td>
</tr>
<tr>
<td>AISI 316 L ss ( barrel version) (I2 or I3 required)</td>
<td>1/2 in. – 14 NPT</td>
<td></td>
<td>(Note 21)</td>
<td>S</td>
</tr>
<tr>
<td>AISI 316 L ss ( barrel version) (I2 or I3 required)</td>
<td>M20 x 1.5 (CM20)</td>
<td>(TO BE USED for WirelessHART)</td>
<td>(Note 30)</td>
<td>T</td>
</tr>
<tr>
<td>Aluminium alloy (DIN version)</td>
<td>M20 x 1.5 (CM20)</td>
<td>(not Ex d or XP)</td>
<td>(Notes 21, 30)</td>
<td>J</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Output/Addtional options - 13th character</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>HART and 4 to 20 mA - Standard functionality</td>
<td></td>
<td></td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>HART and 4 to 20 mA - Advanced functionality (includes option R1)</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>PROFIBUS PA (includes option R1)</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>FOUNDATION Fieldbus (includes option R1)</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>HART and 4 to 20 mA Safety, certified to IEC 61508 (includes option R1)</td>
<td></td>
<td></td>
<td></td>
<td>(Note 30) 8</td>
</tr>
<tr>
<td>WirelessHART (includes option R1)</td>
<td></td>
<td></td>
<td></td>
<td>(Notes 20, 30) 9</td>
</tr>
</tbody>
</table>

**NOTE** - Option R1 represents the external pushbuttons
### Additional ordering information for model 266DSH Differential Pressure Transmitter

Add one or more 2-digit code(s) after the basic ordering information to select all required options.

<table>
<thead>
<tr>
<th>Accuracy</th>
<th>Accuracy: 0.04 % accuracy for applicable ranges (Notes 7, 17, 18, 27, 39)</th>
<th>D2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drain/vent valve (material and position) (wetted parts)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AISI 316 L ss on process axis (Notes 7, 9)</td>
<td>NACE</td>
<td>V1</td>
</tr>
<tr>
<td>AISI 316 L ss on flange side top (Notes 7, 10)</td>
<td>NACE</td>
<td>V2</td>
</tr>
<tr>
<td>AISI 316 L ss on flange side bottom (Notes 7, 10)</td>
<td>NACE</td>
<td>V3</td>
</tr>
<tr>
<td>Hastelloy® C-276 on process axis (Notes 7, 11)</td>
<td>NACE</td>
<td>V4</td>
</tr>
<tr>
<td>Hastelloy® C-276 on flange side top (Notes 7, 12)</td>
<td>NACE</td>
<td>V5</td>
</tr>
<tr>
<td>Hastelloy® C-276 on flange side bottom (Notes 7, 12)</td>
<td>NACE</td>
<td>V6</td>
</tr>
</tbody>
</table>

Hazardous area certifications (see relevant paragraph for complete detailed markings)

<table>
<thead>
<tr>
<th>Hazardous area certifications</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ATEX Intrinsc Safety Ex ia (Note 30)</td>
<td></td>
<td>E1</td>
</tr>
<tr>
<td>ATEX Explosion Proof Ex db_tb (Notes 15, 21, 30)</td>
<td></td>
<td>E2</td>
</tr>
<tr>
<td>ATEX Intrinsc Safety Ex ic_tc (Notes 21, 30)</td>
<td></td>
<td>E3</td>
</tr>
<tr>
<td>Combined ATEX, IECEx, FM Approvals (USA) and FM Approvals (Canada) (Notes 15, 21, 30)</td>
<td></td>
<td>EN</td>
</tr>
<tr>
<td>FM Approvals (Canada) approval (XP, DIP, IS, NI, Type N) (Notes 15, 21)</td>
<td></td>
<td>E4</td>
</tr>
<tr>
<td>FM Approvals (USA) approval (XP, DIP, IS, NI, Type N) (Notes 15, 21)</td>
<td></td>
<td>E6</td>
</tr>
<tr>
<td>FM Approvals (USA and Canada) Intrinsically Safe</td>
<td></td>
<td>EA</td>
</tr>
<tr>
<td>IECEx Intrinsc Safety Ex ia (Note 30)</td>
<td></td>
<td>E8</td>
</tr>
<tr>
<td>IECEx Explosion Proof Ex db_tb (Notes 15, 21, 30)</td>
<td></td>
<td>E9</td>
</tr>
<tr>
<td>IECEx Intrinsc Safety Ex ic_tc (Notes 21, 30)</td>
<td></td>
<td>ER</td>
</tr>
<tr>
<td>NEPSI Intrinsc Safety Ex ia (Notes 21, 30)</td>
<td></td>
<td>EY</td>
</tr>
<tr>
<td>NEPSI Explosion Proof Ex d (Notes 15, 21, 30)</td>
<td></td>
<td>EZ</td>
</tr>
<tr>
<td>NEPSI Intrinsc Safety Ex ic (Notes 21, 30)</td>
<td></td>
<td>ES</td>
</tr>
</tbody>
</table>

Other hazardous area certifications (ONLY AS ALTERNATIVE TO BASIC CERTIFICATION CODE Ex)

<table>
<thead>
<tr>
<th>Other hazardous area certifications</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>For TR CU EAC Ex ia for Russia (incl. GOST Metrologic Approval) (Notes 21, 30, 33)</td>
<td></td>
<td>W1</td>
</tr>
<tr>
<td>For TR CU EAC Ex d for Russia (incl. GOST Metrologic Approval) (Notes 15, 21, 30, 34)</td>
<td></td>
<td>W2</td>
</tr>
<tr>
<td>For TR CU EAC combined Ex ia and Ex d for Russia (incl. GOST Metrologic Approval) (Notes 15, 21, 30)</td>
<td></td>
<td>WC</td>
</tr>
<tr>
<td>For TR CU EAC Ex ia for Kazakhstan (incl. GOST Metrologic Approval) (Notes 21, 30, 33)</td>
<td></td>
<td>W3</td>
</tr>
<tr>
<td>For TR CU EAC Ex d for Kazakhstan (incl. GOST Metrologic Approval) (Notes 15, 21, 30, 34)</td>
<td></td>
<td>W4</td>
</tr>
<tr>
<td>For TR CU EAC combined Ex ia and Ex d for Kazakhstan (incl. GOST Metrologic Approval) (Notes 15, 21, 30)</td>
<td></td>
<td>WD</td>
</tr>
<tr>
<td>Inmetro (Brazil) Intrinsc Safety Ex ia (Notes 21, 30)</td>
<td></td>
<td>W5</td>
</tr>
<tr>
<td>Inmetro (Brazil) Explosion Proof Ex d (Notes 15, 21, 30)</td>
<td></td>
<td>W6</td>
</tr>
<tr>
<td>Inmetro (Brazil) Intrinsc Safety Ex ic (Notes 21, 30)</td>
<td></td>
<td>W7</td>
</tr>
<tr>
<td>Combined Inmetro (Brazil) - Intrinsc Safety Ex ia, Explosion Proof and Intrinsc Safety Ex ic (Notes 15, 21, 30)</td>
<td></td>
<td>WB</td>
</tr>
<tr>
<td>For TR CU EAC Ex ia for Belarus (incl. GOST Metrologic Approval) (Notes 21, 30, 33)</td>
<td></td>
<td>WF</td>
</tr>
<tr>
<td>For TR CU EAC Ex d for Belarus (incl. GOST Metrologic Approval) (Notes 15, 21, 30, 34)</td>
<td></td>
<td>WG</td>
</tr>
<tr>
<td>For TR CU EAC combined Ex ia and Ex d for Belarus (incl. GOST Metrologic Approval) (Notes 15, 21, 30)</td>
<td></td>
<td>WH</td>
</tr>
<tr>
<td>Kosha (Korea) Intrinsc Safety Ex ia IIC T6, IP67 (Notes 19, 21, 30)</td>
<td></td>
<td>WM</td>
</tr>
<tr>
<td>Kosha (Korea) Explosion Proof Ex d IIC T6, IP67 (Notes 15, 19, 21, 30)</td>
<td></td>
<td>WN</td>
</tr>
<tr>
<td>Combined Kosha (Korea) - Intrinsc Safety and Explosion Proof (Notes 15, 19, 21, 30)</td>
<td></td>
<td>WP</td>
</tr>
</tbody>
</table>
### Ordering information

#### Additional ordering information for model 266DSH Differential Pressure Transmitter

<table>
<thead>
<tr>
<th>Integral LCD</th>
<th>XX XX</th>
<th>XX XX</th>
<th>XX XX</th>
<th>XX XX</th>
<th>XX XX</th>
<th>XX XX</th>
<th>XX XX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital LCD integral display with integrated keypad</td>
<td>(Note 19)</td>
<td>L1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Digital LCD integral display with TTG (Through-The-Glass) activated keypad</td>
<td>(Note 19)</td>
<td>L5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Integrated digital LCD display (ONLY SELECTABLE WITH OUTPUT CODE 7)</td>
<td>(Note 25)</td>
<td>L5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### External non intrusive Z, S and WP pushbuttons

Transmitters with external pushbutton (ONLY SELECTABLE WITH OUTPUT CODE 7) | R1 |       |       |       |       |       |       |

#### Mounting bracket (shape and material)

| For pipe/wall mounting - Carbon steel | (Not suitable for AISI housing) | (Note 27) | B1 |       |       |       |       |
| For pipe/wall mounting - AISI 316 L ss | (Note 27) | B2 |       |       |       |       |       |
| Flat type for box - AISI 316 ss | (Note 27) | B5 |       |       |       |       |       |

#### Surge

Surge/Transient Protector | (Note 21) | S2 |       |       |       |       |       |

#### Operating manual (multiple selection allowed)

- German (FOR HART, WirelessHART and PROFIBUS VERSIONS) | M1 |       |       |       |       |       |       |
- Italian (ONLY FOR HART VERSIONS) | M2 |       |       |       |       |       |       |
- Spanish (FOR HART, WirelessHART and FOUNDATION Fieldbus VERSIONS) | M3 |       |       |       |       |       |       |
- French (ONLY FOR HART VERSIONS) | M4 |       |       |       |       |       |       |
- English | M5 |       |       |       |       |       |       |
- Portuguese (ONLY FOR HART VERSIONS) | MA |       |       |       |       |       |       |
- Russian (ONLY FOR HART VERSIONS) | MB |       |       |       |       |       |       |

#### Plates language

- German | T1 |       |       |       |       |       |       |
- Italian | T2 |       |       |       |       |       |       |
- Spanish | T3 |       |       |       |       |       |       |
- French | T4 |       |       |       |       |       |       |

#### Additional tag plate

- Supplemental wired-on stainless steel plate | I1 |       |       |       |       |       |       |
- Tag and certification stainless steel plates (laser printed) | I2 |       |       |       |       |       |       |
- Tag, certification and supplemental wired-on stainless steel plates (laser printed) | I3 |       |       |       |       |       |       |

#### Configuration

- Standard – Pressure = inH2O/ psi at 68 °F; Temperature = deg. F | N2 |       |       |       |       |       |       |
- Standard – Pressure = inH2O/ psi at 39.2 °F; Temperature = deg. F | N3 |       |       |       |       |       |       |
- Standard – Pressure = inH2O/ psi at 20 °C; Temperature = deg. C | N4 |       |       |       |       |       |       |
- Standard – Pressure = inH2O/ psi at 4 °C; Temperature = deg. C | N5 |       |       |       |       |       |       |
- Custom | N6 |       |       |       |       |       |       |
- Configured for HART revision 5 | NH |       |       |       |       |       |       |

#### Preparation procedure

- Oxygen service cleaning (only available with inert fill and PTFE gasket) | (Note 30) | P1 |       |       |       |       |       |
- Pmax =10 MPa for Galden; Tmin=60 °C/140 °F |       |       |       |       |       |       |       |

#### Certificates (multiple selection allowed)

- Inspection certificate EN 10204–3.1 of calibration (9-point) | C1 |       |       |       |       |       |       |
- Inspection certificate EN 10204–3.1 of the cleanliness stage | C3 |       |       |       |       |       |       |
- Inspection certificate EN 10204–3.1 of helium leakage test of the sensor module | C4 |       |       |       |       |       |       |
- Inspection certificate EN 10204–3.1 of the pressure test | C5 |       |       |       |       |       |       |
- Certificate of compliance with the order EN 10204–2.1 of instrument design | C6 |       |       |       |       |       |       |
- PMI test of wetted parts | CT |       |       |       |       |       |       |
### Approvals

<table>
<thead>
<tr>
<th>Approval</th>
<th>Notes</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Metrologic Pattern for Russia</strong></td>
<td>(NOT APPLICABLE WITH ANY HAZARDOUS AREA CERTIFICATION)</td>
<td>Y1</td>
</tr>
<tr>
<td><strong>Metrologic Pattern for Kazakhstan</strong></td>
<td>(NOT APPLICABLE WITH ANY HAZARDOUS AREA CERTIFICATION)</td>
<td>Y2</td>
</tr>
<tr>
<td><strong>Metrologic Pattern for Belarus</strong></td>
<td>(NOT APPLICABLE WITH ANY HAZARDOUS AREA CERTIFICATION)</td>
<td>Y4</td>
</tr>
<tr>
<td><strong>Chinese pattern</strong></td>
<td>(NOT APPLICABLE WITH ANY HAZARDOUS AREA CERTIFICATION)</td>
<td>Y5</td>
</tr>
<tr>
<td><strong>DNV GL</strong></td>
<td>(Notes 21, 35, 36)</td>
<td>YA</td>
</tr>
<tr>
<td><strong>Approval for Custody transfer (PENDING)</strong></td>
<td></td>
<td>YC</td>
</tr>
<tr>
<td><strong>Conformity to NAMUR NE 021 (2004)</strong></td>
<td>(NOT APPLICABLE WITH SURGE PROTECTOR CODE &quot;S2&quot;)</td>
<td>YE</td>
</tr>
<tr>
<td><strong>NSF/ANSI 61 Drinking Water Certified</strong></td>
<td></td>
<td>YN</td>
</tr>
<tr>
<td><strong>CRN (Canadian Registration Number 0F14838.5C)</strong></td>
<td></td>
<td>YR</td>
</tr>
<tr>
<td><strong>American Bureau of Shipping (ABS)</strong></td>
<td>(Notes 19, 21, 36, 37)</td>
<td>YS</td>
</tr>
<tr>
<td><strong>Lloyd’s Register Group Ltd. (LR)</strong></td>
<td>(Notes 19, 21, 36, 37)</td>
<td>YB</td>
</tr>
<tr>
<td><strong>Korean Register (KR)</strong></td>
<td>(Notes 15, 38)</td>
<td>YK</td>
</tr>
<tr>
<td><strong>Combined Naval approvals (DNV / ABS / LLR)</strong></td>
<td>(Notes 19, 21, 35, 36, 37)</td>
<td>YM</td>
</tr>
</tbody>
</table>

### Material traceability

<table>
<thead>
<tr>
<th>Traceability</th>
<th>Notes</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inspection certificate EN 10204–3.1 of process wetted parts (not for gaskets)</strong></td>
<td></td>
<td>H3</td>
</tr>
<tr>
<td><strong>Test report EN 10204–2.2 of pressure bearing and process wetted parts (not for gaskets)</strong></td>
<td></td>
<td>H4</td>
</tr>
</tbody>
</table>

### National radio frequency licence

<table>
<thead>
<tr>
<th>Country</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic countries (Europe, USA, Canada)</td>
<td>FB</td>
</tr>
<tr>
<td>Argentina</td>
<td>FA</td>
</tr>
<tr>
<td>United Arab Emirates</td>
<td>FG</td>
</tr>
<tr>
<td>India</td>
<td>FI</td>
</tr>
<tr>
<td>Mexico</td>
<td>FM</td>
</tr>
</tbody>
</table>

### Electrical connection plug

<table>
<thead>
<tr>
<th>Connection plug</th>
<th>Notes</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>One certified (ATEX) 316/316L Dual grade stainless steel plug</td>
<td>(Note 32)</td>
<td>Z1</td>
</tr>
</tbody>
</table>

### Accessory

<table>
<thead>
<tr>
<th>Description</th>
<th>Notes</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manifold mounting and pressure test (NOT AVAILABLE WITH OXYGEN SERVICE CLEANING - PREPARATION PROCEDURE CODE P1 or WITH VERTICAL FLANGES WHEN SELECTED WITH BRACKET CODE Bx)</td>
<td>(Notes 7, 23, 27, 30)</td>
<td>A1</td>
</tr>
</tbody>
</table>
...Ordering information

Accessory ordering information model 266DSH flanged mounted version

Select one character or set of characters from each category and specify complete additional catalog number.

### BASE MODEL - 1st to 3rd characters

<table>
<thead>
<tr>
<th>F 2 6</th>
<th>X</th>
<th>X</th>
<th>X</th>
</tr>
</thead>
</table>

### Construction - 4th character

<table>
<thead>
<tr>
<th>Differential</th>
<th>F</th>
</tr>
</thead>
</table>

### HIGH PRESSURE SIDE - Process mounting flange rating / Size - 5th characters

<table>
<thead>
<tr>
<th>ASME Class 150</th>
<th>2 in.</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASME Class 150</td>
<td>3 in.</td>
<td>B</td>
</tr>
<tr>
<td>ASME Class 300</td>
<td>2 in.</td>
<td>D</td>
</tr>
<tr>
<td>ASME Class 300</td>
<td>3 in.</td>
<td>E</td>
</tr>
<tr>
<td>EN PN 16 / 40</td>
<td>DN 50</td>
<td>M</td>
</tr>
<tr>
<td>EN PN 16</td>
<td>DN 80</td>
<td>N</td>
</tr>
<tr>
<td>EN PN 40</td>
<td>DN 80</td>
<td>L</td>
</tr>
</tbody>
</table>

### HIGH PRESSURE SIDE - Mounting flange material/seat form - 6th characters

<table>
<thead>
<tr>
<th>AISI 316 L ss</th>
<th>Form RF (raised face) - serrated finish</th>
<th>(Note 28)</th>
<th>NACE</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>AISI 316 L ss</td>
<td>EN 1092-1 Type B1 - serrated finish</td>
<td>(Note 29)</td>
<td>NACE</td>
<td>L</td>
</tr>
</tbody>
</table>

### LOW PRESSURE SIDE - Process flanges/adapters material and connection (wetted parts) - 7th character

| AISI 316 L ss (Horizontal connection) | 1/4 in. – 18 NPT-f direct | NACE | A |
| AISI 316 L ss (Horizontal connection) | 1/2 in. – 14 NPT-f through adapter | NACE | B |

---

**Note 1:** Suitable for oxygen service

**Note 2:** Not available with sensor code A and B

**Note 3:** Not available with AISI 316L ss or Hastelloy C-276 (on AISI seat) diaphragms code S, H, A

**Note 4:** Not available with sensor code A

**Note 5:** Not available with Diaphragm material/Fill fluid code S, H, K, M, A, F, C

**Note 6:** Not available with sensor code A, Q, S

**Note 7:** Not available with Process Flanges/Adapters material/connection code P, Z

**Note 8:** Not available with Process Flanges/Adapters material/connection code A, B, D, E, G, H, Q, T, M, S, U, V

**Note 9:** Not available with sensor code A

**Note 10:** Not available with Process Flanges/Adapters material/connection code D, E, G, H, Q, T, M, S, U, V

**Note 11:** Not available with Process Flanges/Adapters material/connection code A, B, G, H, Q, T, M, S, U, V, R

**Note 12:** Not available with Process Flanges/Adapters material/connection code A, B, G, H, Q, T, M, S, U, V, R

**Note 13:** Not available with Process Flanges/Adapters material/connection code A, B, D, E, Q, T, M, S, U, V

**Note 14:** Not available with Process Flanges/Adapters material/connection code A, B, D, E, Q, T, M, S

**Note 15:** Not available with Housing code 3

**Note 16:** Not available with sensor code E, F, G, H, M, P, Q, S

**Note 17:** Not available with sensor code A, B, E, S

**Note 18:** Not available with Output code 7

**Note 19:** Not available with Housing code A, S, J

**Note 20:** Not available with Output code 9

**Note 21:** Not available with Output code 9

**Note 22:** Not available with Output code 9

**Note 23:** Not available with Output code 9

**Note 24:** Not available with Output code 9

**Note 25:** Not available with Hazardous area certification code WM, WN, WP

**Note 26:** Not available with Hazardous area certification code EN, E4, E6, EA, EY, EZ, ES, W1, W2, WC, W3, W4, WD, WS, W6, W7, W8, WF, WG, WH, WM, WN, WP

**Note 27:** Not available with flange mounted version - Process flanges/adapters material/connection code R

**Note 28:** Not available with EN mounting flange material, M, N, L

**Note 29:** Not available with ASME mounting flange material code A, B, D, E

**Note 30:** Not available with NSF/ANSI 61 approval code YN

**Note 31:** Not available with Output code 2, 3, 9

**Note 32:** Supplied loose with thread according to housing entries – M20 Hex type plug, ½ NPT Allen key type plug

**Note 33:** The ambient temperature lower limit is -55 degrees C

**Note 34:** The ambient temperature lower limit is -52 degrees C

**Note 35:** Not available with Accuracy code D2

**Note 36:** Not available with Approval code YE

**Note 37:** Not available with Sensor codes A, B, E, F, H

**Note 38:** Not available with Diaphragm codes S, H, K, B; Process Flange codes A, B, D, E; Bolts/Gasket Material codes 1, 2, 3, 4; Output codes 1, 8; Vent & Drain codes V4, V5, V6; Hazardous cert. codes EN, E4, E6, EA, EY, EZ, ES; Display codes L5, L5, S; and Bracket code B1

**Note 39:** Not available with Diaphragm code other than S
Standard delivery items (can be differently specified by additional ordering code)
- Adapters supplied loose
- Plug on axis of horizontal connection flange or on side bottom for horizontal connection flange with MWP= 16 MPa; nothing for PVDF Kynar insert or for vertical connection flange (no drain/vent valves)
- General purpose (no electrical certification)
- No display, no mounting bracket, no surge protection
- Short-form leaflet instruction and labels in English (metal nameplate; self-adhesive certification and tag)
- Configuration with kPa and deg. C units
- No test, inspection or material traceability certificates

IMPORTANT REMARK FOR ALL MODELS
THE SELECTION OF SUITABLE WETTED PARTS AND FILLING FLUID FOR COMPATIBILITY WITH THE PROCESS MEDIA IS A CUSTOMER'S RESPONSIBILITY, IF NOT OTHERWISE NOTIFIED BEFORE MANUFACTURING.

NACE COMPLIANCE INFORMATION
1 The materials of constructions comply with metallurgical recommendations of NACE MR0175/ISO 15156 for sour oil field production environments. As specific environmental limits may apply to certain materials, please consult latest standard for further details. AISI 316/316 L, Hastelloy C-276 also conform to NACE MR0103 for sour refining environments.
2 NACE MR-01-75 addresses bolting requirements in two classes:
   - Exposed bolts: bolts directly exposed to the sour environment or buried, encapsulated or anyway not exposed to atmosphere
   - Non exposed bolts: the bolting must not be directly exposed to sour environments and must be directly exposed to the atmosphere at all times.
266DSH bolting identified by "NACE (non exposed)" are in compliance with requirements of NACE MR0103 when considered "non exposed bolting".
266DSH bolting identified by "NACE" are in compliance with requirements of NACE MR0175 when considered "exposed bolting".

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Notes
Notes