Bypass Chamber with integrated Guided Radar (TDR) Level Meter

- Ideal for tanks with obstructed environments
- Measures level, interface, and level and interface
- Optional remote housing provides the user with an unrestricted view of the display screen
The solution for tanks with obstructed environments

BM 26 F is based on proven bypass measurement technology. It is capable of high precision measurement and is unaffected by foam, agitated product surface and obstructed tank environments. BM 26 F integrates the OPTIFLEX 1300 C Guided Radar (TDR) Level Meter for distance, level and volume measurement of liquids and liquid/liquid interface. It can also optionally indicate level using a permanent, IP68 local indication without power supply.

For pressures 40...120 bar / 580...1740 psig and temperatures 200...300°C / 390...570°F, we recommend using our BM 26A bypass level indicator. For pressures more than 120 bar / 1740 psig and temperatures higher than 300°C / 570°F, we recommend using our BW 25 displacer-type level indicator.

For further information on the integrated Guided Radar (TDR) level meter, please refer to the Technical Datasheet for the OPTIFLEX 1300 C.

Highlights

- Configured system - easy to measure
- Measurement independent of density
- Ideal for tanks with obstructed environments
- PACTware and DTM s included as standard
- Measures down to dielectric constant of 1.4
- Display in 9 languages: even in Chinese, Japanese and Russian
- Housing is removable under process conditions

Industries

- Oil & Gas
- Petrochemicals
- Power
- Water

Applications

- Process and storage tanks
- Steam crackers
- Boilers
- Separators
Applications

1. Measurement of liquids in tanks with obstructed environments

If the tank is full of obstructions such as agitators and reinforcements, we recommend using the BM 26 F. It can also measure accurately in agitated conditions and in the presence of foam.

2. Remote display on high or inaccessible tanks

If it is difficult or impossible to read BM 26 F’s integrated display at the top of the tank, KROHNE recommends the remote display option. It is provided with a cable up to 14.5 m / 47.5 ft. long and a bracket for mounting in an accessible position.

3. Autonomous local indication

The BM 26 F has a float and indicating tube option for indicating level on a highly visible column of yellow/black rotating flaps. No power is needed. This option is not for the US market. It is also possible to fit limit switches, with optional Ex approval, if you choose the float system option.
# Technical Data: general information

<table>
<thead>
<tr>
<th></th>
<th>BM 26 F standard</th>
<th>BM 26 F with float system</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Device</td>
<td>TDR level transmitter mounted on a bypass chamber</td>
<td>TDR level transmitter mounted on a bypass chamber with magnetic level indicator</td>
</tr>
<tr>
<td>Function 1</td>
<td>Time Domain Reflectometry (TDR)</td>
<td></td>
</tr>
<tr>
<td>Function 2</td>
<td>-</td>
<td>Float magnetically coupled to mechanical level indicator</td>
</tr>
<tr>
<td>Parameter</td>
<td>Level, distance, volume and/or interface</td>
<td></td>
</tr>
<tr>
<td>Max. measuring range</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single Rod probe Ø8 mm / 0.3”</td>
<td>0.8...4 m / 2.5...13 ft</td>
<td></td>
</tr>
<tr>
<td>Single Cable probe Ø4 mm / 0.15”</td>
<td>4...6 m / 13...20 ft</td>
<td></td>
</tr>
<tr>
<td>Coaxial probe Ø21 mm / 0.8”</td>
<td>0.8...6 m / 2.5...20 ft</td>
<td></td>
</tr>
<tr>
<td><strong>Output</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Output signal [Output 1]</td>
<td>4...20 mA HART® or 3.8...20.5 mA acc. to NAMUR NE 43</td>
<td></td>
</tr>
<tr>
<td>Output signal [Output 2]</td>
<td>4...20 mA (no HART® signal) or 3.8...20.5 mA acc. to NAMUR NE 43</td>
<td></td>
</tr>
<tr>
<td>Resolution</td>
<td>±3 µA</td>
<td></td>
</tr>
<tr>
<td>Temperature drift</td>
<td>Typically 50 ppm/K</td>
<td></td>
</tr>
<tr>
<td>Error signal</td>
<td>High: 22 mA; Low: 3.6 mA acc. to NAMUR NE 43</td>
<td></td>
</tr>
<tr>
<td><strong>Reference conditions acc. to EN 60770</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td>+20°C ±5°C / +70°F ±10°F</td>
<td></td>
</tr>
<tr>
<td>Pressure</td>
<td>1013 mbar abs. ±20 mbar / 14.69 psig ±0.29 psig</td>
<td></td>
</tr>
<tr>
<td>Relative air humidity</td>
<td>60% ±15%</td>
<td></td>
</tr>
<tr>
<td><strong>Accuracy</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Repeatability</td>
<td>±1 mm / ±0.04”</td>
<td>±10 mm / ±0.4”</td>
</tr>
<tr>
<td>Accuracy (in direct mode)</td>
<td>±3 mm / ±0.12”</td>
<td>±10 mm / ±0.4”</td>
</tr>
<tr>
<td>Interface</td>
<td>±10 mm / ±0.4” (εr constant)</td>
<td>±10 mm / ±0.4”</td>
</tr>
<tr>
<td>Minimum layer (interface)</td>
<td>50 mm / 2”</td>
<td></td>
</tr>
<tr>
<td><strong>Process conditions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>-40...+80°C / -40...+175°F (EEx i: see supplementary operating instructions or approval certificates)</td>
<td></td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-40...+85°C / -40...+185°F</td>
<td></td>
</tr>
<tr>
<td>Flange temperature</td>
<td>-40...+200°C / -40...+390°F (EEx i: see supplementary operating instructions or approval certificates)</td>
<td></td>
</tr>
<tr>
<td>Thermal shock resistance</td>
<td>100°C/min</td>
<td></td>
</tr>
<tr>
<td>Operating pressure</td>
<td>-1...40 bar / -14.5...580 psig; subject to process connection used and flange temperature</td>
<td>0.5...3 kg/l / 31...187 lb/ft³</td>
</tr>
<tr>
<td>Product density</td>
<td>-</td>
<td>≤5000 mPas / ≤3.360 lb/fts</td>
</tr>
<tr>
<td>Product viscosity</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Dielectric constant (εr)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level in direct mode</td>
<td>≥1.4</td>
<td></td>
</tr>
<tr>
<td>Interface in direct mode</td>
<td>εr(interface) ≥ εr(level)²</td>
<td></td>
</tr>
<tr>
<td>Vibration resistance</td>
<td>IEC 68-2-6 and EN 50178 [10...57 Hz: 0.075 mm / 57...150 Hz:1g]</td>
<td></td>
</tr>
<tr>
<td>Protection category</td>
<td>IP 66/67 equivalent to NEMA 6-6X</td>
<td></td>
</tr>
</tbody>
</table>
## BM 26 F

### Material

<table>
<thead>
<tr>
<th>Material Type</th>
<th>BM 26 F standard</th>
<th>BM 26 F with float system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmitter</td>
<td>Stainless steel (1.4404 / 316 L)</td>
<td>-</td>
</tr>
<tr>
<td>Housing</td>
<td>Aluminium; Stainless steel (1.4404 / 316 L)</td>
<td>Stainless steel (1.4404 / 316 L)</td>
</tr>
<tr>
<td>Probe: single rod</td>
<td>Stainless steel (1.4404 / 316 L); other materials on request</td>
<td>Stainless steel (1.4404 / 316 L); other materials on request</td>
</tr>
<tr>
<td>Probe: single cable</td>
<td>Stainless steel (1.4401 / 316); other materials on request</td>
<td>Stainless steel (1.4404 / 316 L); other materials on request</td>
</tr>
<tr>
<td>Probe: coaxial probe</td>
<td>Stainless steel (1.4404 / 316 L); other materials on request</td>
<td>Stainless steel (1.4404 / 316 L)</td>
</tr>
<tr>
<td>Process fitting</td>
<td>Stainless steel (1.4404 / 316 L)</td>
<td>-</td>
</tr>
<tr>
<td>Gaskets</td>
<td>FKM/FPM (-40°C...+200°C / -40°F...+390°F), Kalrez® 6375 (-20°C...+390°F)</td>
<td>Stainless steel (1.4307 / 304)</td>
</tr>
<tr>
<td>Weather protection (Option)</td>
<td>Stainless steel (1.4307 / 304)</td>
<td>-</td>
</tr>
<tr>
<td>Conduit for remote housing (Option)</td>
<td>Zinc-coated steel in a PVC sheath (-40°C...+105°C / -40°F...+220°F)</td>
<td>-</td>
</tr>
<tr>
<td>Chamber</td>
<td>Stainless steel (1.4404 / 316 L)</td>
<td>Stainless steel (1.4404 / 316 L); Titanium</td>
</tr>
<tr>
<td>Float (option)</td>
<td>Stainless steel (1.4404 / 316 L); Titanium</td>
<td>-</td>
</tr>
<tr>
<td>Indicator tube (option)</td>
<td>Pyrex glass</td>
<td>-</td>
</tr>
<tr>
<td>Scale (option)</td>
<td>Stainless steel (1.4404 / 316 L)</td>
<td>Stainless steel (1.4404 / 316 L); other materials on request</td>
</tr>
<tr>
<td>Gaskets</td>
<td>Klingerit (-196°C...+400°C / -320°F...+750°F)</td>
<td>-</td>
</tr>
</tbody>
</table>

### Process connections

<table>
<thead>
<tr>
<th>Connection Type</th>
<th>BM 26 F standard</th>
<th>BM 26 F with float system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flange</td>
<td>DN15...50 (PN40), 1/2&quot;...2&quot;</td>
<td>150 lb / 300 lb</td>
</tr>
</tbody>
</table>

### Drain and vent connections

<table>
<thead>
<tr>
<th>Connection Type</th>
<th>BM 26 F standard</th>
<th>BM 26 F with float system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drain</td>
<td>G 3/8; options: G 1/2; NPT 3/8, 1/2, 3/4; DN15, 25 (PN40) 1/2&quot;...1&quot;</td>
<td>150 lb / 300 lb</td>
</tr>
<tr>
<td>Vent</td>
<td>DN25 (PN40); 1&quot;</td>
<td>150 lb / 300 lb</td>
</tr>
</tbody>
</table>

### Electrical connections

<table>
<thead>
<tr>
<th>Connection Type</th>
<th>BM 26 F standard</th>
<th>BM 26 F with float system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrument terminal 1 - Non-Ex / EEx i</td>
<td>14...30 VDC</td>
<td>-</td>
</tr>
<tr>
<td>Instrument terminal 1 - EEx d</td>
<td>20...36 VDC</td>
<td>-</td>
</tr>
<tr>
<td>Instrument terminal 2 - Non-Ex/ EEx i / EEx d</td>
<td>10...30 VDC</td>
<td>-</td>
</tr>
<tr>
<td>Cable entry</td>
<td>M20x1.5; NPT 1/2; G 1/2</td>
<td>-</td>
</tr>
<tr>
<td>Cable tightening capacity</td>
<td>0.5...1.5 mm²</td>
<td>-</td>
</tr>
</tbody>
</table>

### User interface

<table>
<thead>
<tr>
<th>Interface Type</th>
<th>BM 26 F standard</th>
<th>BM 26 F with float system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Display 1</td>
<td>9 lines, 160 x 160 pixels in 8-step greyscale with 4-button keypad</td>
<td>-</td>
</tr>
<tr>
<td>Operating languages</td>
<td>English and a 2nd language: German, French, Italian, Spanish, Portuguese, Japanese, Chinese (Mandarin) or Russian</td>
<td>-</td>
</tr>
<tr>
<td>Display 2</td>
<td>Indicator column - yellow/black rotating flaps, magnetically-coupled to float - with scale</td>
<td>-</td>
</tr>
<tr>
<td>Optional scale markings</td>
<td>m+cm; ft+in; %; volume units on request</td>
<td>-</td>
</tr>
</tbody>
</table>
BM 26 F

Design codes

<table>
<thead>
<tr>
<th>Conformity to pressure equipment directives</th>
<th>PED 97/23/EC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure vessel construction code</td>
<td>CODAP® 2000</td>
</tr>
<tr>
<td>Options</td>
<td>NACE MR0175 / ISO 15156</td>
</tr>
</tbody>
</table>

Approvals

| ATEX                                      | ATEX II 1, 1/2, 2 G Ex ia IIC T6...T3; ATEX II 1/2, 2 G Ex d[ia] IIC T6...T3 |

Variants, options and accessories

<table>
<thead>
<tr>
<th>Variants</th>
<th>C: two side connections; F: top side connection and bottom inline connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Options</td>
<td>Integrated LCD display with sun cover; 2nd current output; Remote housing connected to the probe via a flexible conduit with a standard length of 2180 mm / 7 ft, 4720 mm / 15.5 ft, 9800 mm / 32 ft or 4880 mm / 48.5 ft</td>
</tr>
<tr>
<td></td>
<td>IP68 local indication; Limit switches</td>
</tr>
<tr>
<td>Accessories</td>
<td>Weather protection</td>
</tr>
</tbody>
</table>

1 supplied on request. Contact KROHNE for price information.
2 longer on request
3 for clean liquids and interface applications
4 optional
5 subject to process conditions
6 min./max. value for an output of 22 mA at the terminal
7 optional. Min./max. value for an output of 22 mA at the terminal (additional power supply needed - output only)
8 ATEX approval pending
9 column of rotating flaps magnetically coupled to float sliding on rod or cable probe. Contact KROHNE for price information. Not for the U.S. market.
# Technical data: optional level switches

<table>
<thead>
<tr>
<th>Type code</th>
<th>MS20 STD/LC/PC/NN/BT</th>
<th>MS15 STD/LC/PC/NO/NT/BT</th>
<th>MS15 STD/LC/AL/NN/HT</th>
<th>MS15 STD/LC/HC/PC/NN/BT</th>
<th>MS15 STD/LC/HC/AL/NN/HT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Version</td>
<td>Low price, standard</td>
<td>NAMUR</td>
<td>High-temperature</td>
<td>NAMUR, high-temperature</td>
<td>High-power cut-out, high temperature</td>
</tr>
</tbody>
</table>

## Input
- **Device**: Level switch mounted on the side of the BM 26 bypass chamber
- **Function**: Reed switch that is magnetically actuated by float in BM 26 bypass chamber
- **Parameter**: Level detection

### Switching capacity
- 30 VA; 0.5 A; 230 VAC
- 20 VA; 1.5 A; 250 VAC
- 3...100 VA; 1.5 A; 250 VAC

## Accuracy
- **Hysteresis**: Not applicable

## Process conditions
- **Ambient temperature**: -20...+120°C / -4...+250°F
- **Process temperature**: -40...+250°C / -40...+480°F
- **Protection category**: IP 65 equivalent to NEMA 4-4X

## Material
- **Switch housing**: Polycarbonate, Polycarbonate, Aluminium, Aluminium, Polycarbonate, Aluminium
- **Bracket**: Stainless steel
- **Clamp**: Stainless steel

## Electrical connections
- **Cable entry**: PG 9, PG 13.5, M20 x 1.5, PG 13.5, M20 x 1.5

---

1. according to NAMUR 19234. Connect to a NAMUR amplifier.
2. specify temperature if an insulation jacket is used
3. Optional: M25 x 1.5 or NPT ¾. Cable fitting not supplied.
Technical data: optional level switches

<table>
<thead>
<tr>
<th>Exi-approved switches</th>
<th>Type code</th>
<th>Version</th>
<th>M520 EXI/LC/PC/NN/BT</th>
<th>M515 EXI/LC/PC/NO/BT</th>
<th>M515 EXI/LC/AL/NN/HT</th>
<th>M515 EXI/LC/AL/NO/HT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Input**

- **Device**: Level switch mounted on the side of the BM 26 bypass chamber
- **Function**: Reed switch that is magnetically actuated by float in BM 26 bypass chamber
- **Parameter**: Level detection
- **Switching capacity**: 0.5 A 1, 1.5 A 1, 2

**Accuracy**

- **Hysteresis**: Not applicable

**Process conditions**

- **Ambient temperature**: 3
- **Process temperature**: 3, 3, 3
- **Protection category**: IP 65 equivalent to NEMA 4-4X

**Material**

- **Switch housing**: Polycarbonate, Polycarbonate, Aluminium, Aluminium
- **Bracket**: Stainless steel
- **Clamp**: Stainless steel

**Electrical connections**

- **Power supply characteristics**: See supplementary operating instructions or approval certificates.
- **Cable entry**: PG 9, PG 13.5, M20 x 1.5, M20 x 1.5

**Approvals**

- **ATEX**: ATEX II 1 G Ex ia IIC T3...T6

1. Only connect to a certified intrinsically-safe power supply. Safety values: see supplementary operating instructions or approval certificates.
2. According to NAMUR 19234. Connect a NAMUR amplifier.
3. Dependent on temperature class: see supplementary operating instructions or approval certificates.
4. Optional: M25 x 1.5 or NPT ¾. Cable fitting not supplied.
Technical data: optional level switches

<table>
<thead>
<tr>
<th>Exd-approved switches</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type code</strong></td>
<td><strong>MS15</strong></td>
</tr>
<tr>
<td>EXD/LC/AL/NN/HT</td>
<td>EXD/LC/AL/NO/HT</td>
</tr>
<tr>
<td><strong>Version</strong></td>
<td>high-temperature</td>
</tr>
</tbody>
</table>

**Input**
- **Device**: Level switch mounted on the side of the BM 26 bypass chamber
- **Function**: Reed switch that is magnetically actuated by float in BM 26 bypass chamber
- **Parameter**: Level detection
- **Switching capacity**: 20 VA; 1.5 A; 250 VAC

**Accuracy**
- **Hysteresis**: Not applicable

**Process conditions**
- **Ambient temperature**: 3
- **Process temperature**: 3
- **Protection category**: IP 65 equivalent to NEMA 4-4X

**Material**
- **Switch housing**: Aluminium, Aluminium, Aluminium
- **Bracket**: Stainless steel
- **Clamp**: Stainless steel

**Electrical connections**
- **Cable entry**: M20 x 1.5, M20 x 1.5, M20 x 1.5

**Approvals**
- ATEX II 1/2 G EEx d ia IIC T3...T6

1. According to NAMUR 19234. Connect a NAMUR amplifier.
2. Only connect to a certified intrinsically-safe power supply. Safety values: see supplementary operating instructions or approval certificates.
3. Dependant on temperature class: see supplementary operating instructions or approval certificates.
4. Optional: M25 x 1.5 or NPT¾. Cable fitting not supplied.
Dimensions and Weights

Variant C: two side process connections

Note:

- Cable glands are delivered on demand with non-Ex, EEx i- and EEx d-approved devices.
- Non-Ex and EEx i fittings are plastic and EEx d fittings are metallic. Non-Ex fittings are black and EEx i fittings are blue.
- The diameter of the outer sheath of the cable must be 6…12 mm or 0.2…0.5”.
- Floats and local indication (column of rotating flaps) are optional. Limit switches are only available if the float option is chosen.
### Dimensions in mm

<table>
<thead>
<tr>
<th></th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
<th>e</th>
<th>f</th>
<th>X</th>
<th>g</th>
<th>h</th>
<th>i</th>
<th>k</th>
<th>L</th>
<th>m</th>
<th>n</th>
<th>p</th>
<th>r</th>
<th>s</th>
<th>t</th>
<th>u</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bypass chamber</td>
<td>165</td>
<td>260</td>
<td>217</td>
<td>295</td>
<td>116</td>
<td>115</td>
<td>8</td>
<td>72</td>
<td>180</td>
<td>Ø</td>
<td>109</td>
<td>305</td>
<td>500</td>
<td>6000</td>
<td>Ø</td>
<td>16</td>
<td>5</td>
<td>140</td>
<td>146</td>
</tr>
</tbody>
</table>

1. with two side process connections
2. with optional drain (welding neck flange)
3. welding neck flanges: refer to "Process connection length, X" table at the end of this section
4. with optional vent
5. with optional MS15 limit switch for high-temperature and Ex d applications
6. with optional MS15 limit switch for low-temperature applications
7. with optional MS20 limit switch

### Dimensions in inches

<table>
<thead>
<tr>
<th></th>
<th>a</th>
<th>b</th>
<th>c</th>
<th>d</th>
<th>e</th>
<th>f</th>
<th>X</th>
<th>g</th>
<th>h</th>
<th>i</th>
<th>k</th>
<th>L</th>
<th>m</th>
<th>n</th>
<th>p</th>
<th>r</th>
<th>s</th>
<th>t</th>
<th>u</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bypass chamber</td>
<td>6.5</td>
<td>10.2</td>
<td>8.5</td>
<td>11.6</td>
<td>4.6</td>
<td>4.5</td>
<td>3</td>
<td>2.8</td>
<td>7.0</td>
<td>Ø</td>
<td>4</td>
<td>12.0</td>
<td>20</td>
<td>234</td>
<td>Ø</td>
<td>6.5</td>
<td>5</td>
<td>5.7</td>
<td>4.0</td>
</tr>
</tbody>
</table>

1. with two side process connections
2. with optional drain (welding neck flange)
3. welding neck flanges: refer to "Process connection length, X" table at the end of this section
4. with optional vent
5. with optional MS15 limit switch for high-temperature applications
6. with optional MS15 limit switch for low-temperature applications
7. with optional MS20 limit switch

### Weight in kg and lbs

<table>
<thead>
<tr>
<th>Converter and chamber</th>
<th>Weight when L=1000 mm</th>
<th>Weight when L=40 inches</th>
<th>Weight for every additional 100 mm</th>
<th>Weight for every additional 4 inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chamber type</td>
<td>[kg]</td>
<td>[lbs]</td>
<td>[kg]</td>
<td>[lbs]</td>
</tr>
<tr>
<td>Bypass chamber</td>
<td>23.9</td>
<td>52.7</td>
<td>0.5</td>
<td>1.1</td>
</tr>
<tr>
<td>MS15 BT limit switch</td>
<td>0.13</td>
<td>0.3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>MS15 HT limit switch</td>
<td>1.2</td>
<td>2.6</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>MS20 limit switch</td>
<td>0.086</td>
<td>0.2</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

1. for low-temperature applications
2. for high-temperature applications
Variant F: top side and bottom inline process connections

Note:

- Cable glands are delivered on demand with non-Ex, EEx i- and EEx d-approved devices.
- Non-Ex and EEx i fittings are plastic and EEx d fittings are metallic. Non-Ex fittings are black and EEx i fittings are blue.
- The diameter of the outer sheath of the cable must be 6…12 mm or 0.2…0.5”.
- Floats and local indication are optional. Limit switches are only available if float option is chosen.
### Dimensions in mm

<table>
<thead>
<tr>
<th></th>
<th>b</th>
<th>c</th>
<th>f</th>
<th>X</th>
<th>g</th>
<th>h</th>
<th>i</th>
<th>k</th>
<th>L</th>
<th>m</th>
<th>n</th>
<th>p</th>
<th>r</th>
<th>s</th>
<th>t</th>
<th>u</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bypass chamber F</td>
<td>260</td>
<td>165</td>
<td>115</td>
<td>72</td>
<td>180</td>
<td>0</td>
<td>109</td>
<td>305</td>
<td>500</td>
<td>Ø165</td>
<td>140</td>
<td>146</td>
<td>100</td>
<td>98</td>
<td>72 x 2.3</td>
<td>Ø130</td>
</tr>
</tbody>
</table>

1. with top side and bottom in-line process connections
2. welding neck flanges: refer to “Process connection length, X” table at the end of this section
3. with optional vent (welding neck flange)
4. with optional MS15 limit switch for high-temperature and Ex d applications
5. with optional MS15 limit switch for low-temperature applications
6. with optional MS20 limit switch

### Dimensions in inches

<table>
<thead>
<tr>
<th></th>
<th>b</th>
<th>c</th>
<th>f</th>
<th>X</th>
<th>g</th>
<th>h</th>
<th>i</th>
<th>k</th>
<th>L</th>
<th>m</th>
<th>n</th>
<th>p</th>
<th>r</th>
<th>s</th>
<th>t</th>
<th>u</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bypass chamber F</td>
<td>10.2</td>
<td>6.5</td>
<td>4.5</td>
<td>2.8</td>
<td>7.0</td>
<td>Ø4.3</td>
<td>12.0</td>
<td>20</td>
<td>Ø6.5</td>
<td>5.5</td>
<td>5.7</td>
<td>4.0</td>
<td>3.9</td>
<td>Ø2.8 x 0.09</td>
<td>Ø5.1</td>
<td></td>
</tr>
</tbody>
</table>

1. with top side and bottom in-line process connections
2. welding neck flanges: refer to “Process connection length, X” table at the end of this section
3. with optional vent (welding neck flange)
4. with optional MS15 limit switch for high-temperature and Ex d applications
5. with optional MS15 limit switch for low-temperature applications
6. with optional MS20 limit switch

### Weight in kg and lbs

<table>
<thead>
<tr>
<th>Converter and chamber</th>
<th>Weight when L=1000 mm</th>
<th>Weight when L=40 inches</th>
<th>Weight for every additional 100 mm</th>
<th>Weight for every additional 4 inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chamber type</td>
<td>[kg]</td>
<td>[lbs]</td>
<td>[kg]</td>
<td>[lbs]</td>
</tr>
<tr>
<td>Bypass chamber</td>
<td>23.9</td>
<td>52.7</td>
<td>0.5</td>
<td>1.1</td>
</tr>
<tr>
<td>MS15 BT limit switch</td>
<td>0.13</td>
<td>0.3</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>MS15 HT limit switch</td>
<td>1.2</td>
<td>2.6</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>MS20 limit switch</td>
<td>0.086</td>
<td>0.2</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

1. for low-temperature applications
2. for high-temperature applications
### Remote housing

1. Front view
2. Left side
3. Rear view

### Dimensions and Weights in mm and kg

<table>
<thead>
<tr>
<th>Dimensions [mm]</th>
<th>Weight [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>a   b   c   d   e   f   g   h   i   k   l   m   n   o   p</td>
<td></td>
</tr>
<tr>
<td>180 109 165 193 98.5 58 21 193 117 150 150.4 100 86 58 60</td>
<td></td>
</tr>
<tr>
<td>1 wall bracket (1.4 kg) + housing support (1.5 kg) + remote probe housing (2.7 kg) + flexible conduit [2 m: 1 kg; 4.5 m: 2.25 kg; 9.5 m: 4.75 kg; 14.5 m: 7.25 kg]</td>
<td></td>
</tr>
</tbody>
</table>

### Dimensions and Weights in inches and lbs

<table>
<thead>
<tr>
<th>Dimensions [inches]</th>
<th>Weight [lbs]</th>
</tr>
</thead>
<tbody>
<tr>
<td>a   b   c   d   e   f   g   h   i   k   l   m   n   o   p</td>
<td></td>
</tr>
<tr>
<td>7.89 4.29 6.50 7.60 3.88 2.28 0.83 7.20 4.40 5.91 5.92 3.94 3.39 2.28 2.36</td>
<td></td>
</tr>
<tr>
<td>1 wall bracket (3.1 lbs) + housing support (3.3 lbs) + remote probe housing (6.0 lbs) + flexible conduit [6.6 ft: 2.2 lbs; 14.8 ft: 5.0 lbs; 31.2 ft: 10.5 lbs; 47.6 ft: 16.0 lbs]</td>
<td></td>
</tr>
</tbody>
</table>
Remote version limits

- For interface applications the maximum extension length is 4.5 m / 14.8 ft.
- For liquid level applications, the maximum measuring range is reduced according to the length of the electric cable between the flange and the converter (extension length).

<table>
<thead>
<tr>
<th>Max. measuring range</th>
<th>Extension length options</th>
</tr>
</thead>
<tbody>
<tr>
<td>[m]</td>
<td>[ft]</td>
</tr>
<tr>
<td>5</td>
<td>16.4</td>
</tr>
<tr>
<td>6</td>
<td>19.7</td>
</tr>
<tr>
<td>4.5</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

Applications

- Tank with a lot of vibration
- Limited space on the top of the tank or limited access (due to the size of the compact converter)
- Remote display on the bottom of the tank
### Tables for process connection length, X

#### Process connection length, X, in mm (EN welding neck flanges)

<table>
<thead>
<tr>
<th>Nominal size</th>
<th>Pressure rating</th>
<th>Process connection length, X [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>DN 15</td>
<td>40</td>
<td>79.3</td>
</tr>
<tr>
<td>20</td>
<td>40</td>
<td>81.5</td>
</tr>
<tr>
<td>25</td>
<td>40</td>
<td>81.5</td>
</tr>
<tr>
<td>40</td>
<td>40</td>
<td>86.5</td>
</tr>
<tr>
<td>50</td>
<td>40</td>
<td>89.5</td>
</tr>
</tbody>
</table>

#### Process connection length, X, in inches (EN welding neck flanges)

<table>
<thead>
<tr>
<th>Nominal size</th>
<th>Pressure rating</th>
<th>Process connection length, X [inches]</th>
</tr>
</thead>
<tbody>
<tr>
<td>DN 15</td>
<td>40</td>
<td>3.13</td>
</tr>
<tr>
<td>20</td>
<td>40</td>
<td>3.21</td>
</tr>
<tr>
<td>25</td>
<td>40</td>
<td>3.21</td>
</tr>
<tr>
<td>40</td>
<td>40</td>
<td>3.41</td>
</tr>
<tr>
<td>50</td>
<td>40</td>
<td>3.52</td>
</tr>
</tbody>
</table>
### Process connection length, X, in mm (ASME welding neck flanges)

<table>
<thead>
<tr>
<th>Nominal size</th>
<th>Pressure rating</th>
<th>Process connection length, X [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>½”</td>
<td>150LB</td>
<td>89.5</td>
</tr>
<tr>
<td>¾”</td>
<td>150LB</td>
<td>93.5</td>
</tr>
<tr>
<td>1”</td>
<td>150LB</td>
<td>97.5</td>
</tr>
<tr>
<td>1”½</td>
<td>150LB</td>
<td>103.5</td>
</tr>
<tr>
<td>2”</td>
<td>150LB</td>
<td>104.5</td>
</tr>
<tr>
<td>½”</td>
<td>300LB</td>
<td>93.5</td>
</tr>
<tr>
<td>¾”</td>
<td>300LB</td>
<td>98.5</td>
</tr>
<tr>
<td>1”</td>
<td>300LB</td>
<td>103.5</td>
</tr>
<tr>
<td>1”½</td>
<td>300LB</td>
<td>109.5</td>
</tr>
<tr>
<td>2”</td>
<td>300LB</td>
<td>111.5</td>
</tr>
</tbody>
</table>

### Process connection length, X, in inches (ASME welding neck flanges)

<table>
<thead>
<tr>
<th>Nominal size</th>
<th>Pressure rating</th>
<th>Process connection length, X [inches]</th>
</tr>
</thead>
<tbody>
<tr>
<td>½”</td>
<td>150LB</td>
<td>3.52</td>
</tr>
<tr>
<td>¾”</td>
<td>150LB</td>
<td>3.84</td>
</tr>
<tr>
<td>1”</td>
<td>150LB</td>
<td>4.07</td>
</tr>
<tr>
<td>1”½</td>
<td>150LB</td>
<td>4.11</td>
</tr>
<tr>
<td>2”</td>
<td>150LB</td>
<td>3.68</td>
</tr>
<tr>
<td>½”</td>
<td>300LB</td>
<td>3.68</td>
</tr>
<tr>
<td>¾”</td>
<td>300LB</td>
<td>3.88</td>
</tr>
<tr>
<td>1”</td>
<td>300LB</td>
<td>4.07</td>
</tr>
<tr>
<td>1”½</td>
<td>300LB</td>
<td>4.31</td>
</tr>
<tr>
<td>2”</td>
<td>300LB</td>
<td>4.39</td>
</tr>
</tbody>
</table>
Guidelines for maximum operating pressure

Note:
Ensure that meters are used within their operating limits. Observe the following requirements.

Flanged connections for BM 26 chamber according to EN 1092-1:
Pressure / temperature de-rating for 316 L (1.4404) stainless steel meters

Flanged connections for BM 26 chamber according to ASME:
Pressure / temperature de-rating for 316 L (1.4404) stainless steel meters
Notes
KROHNE Product Overview

- Electromagnetic flowmeters
- Variable area flowmeters
- Mass flowmeters
- Ultrasonic flowmeters
- Vortex flowmeters
- Flow controllers
- Level measuring instruments
- Pressure gauges
- Temperature measuring instruments
- Water solutions & analysis
- Oil and gas turnkey solutions

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