

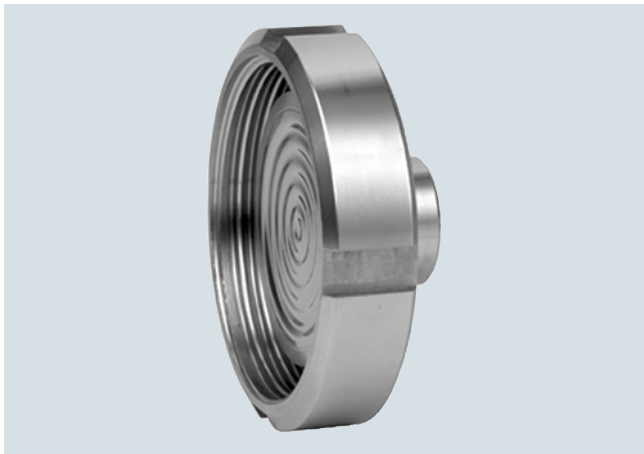
## Pressure Measurement

Remote seals for pressure transmitters  
SITRANS P300, P DS III, P410, P500

### Quick-release diaphragm seals

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#### Overview



Quick-release diaphragm seals, to DIN 11851 with slotted union nut



Quick-release diaphragm seals, with clamp connection

Quick-release diaphragm seals are available for the following SITRANS P pressure transmitter series:

- For pressure: P300, DS III with HART, DS III with PROFIBUS PA and DS III with FOUNDATION Fieldbus
- For differential pressure and flow: P500, DS III with HART, DS III with PROFIBUS PA and DS III with FOUNDATION Fieldbus
- The quick-release remote seals are common designs in the food industry. Their design means that the measured medium cannot accumulate in dead volumes. The quick-release clamp present on the remote seal means that quick dismantling is possible for cleaning.

#### Technical specifications

##### Quick-release diaphragm seal

Connection, nominal diameter	Nominal pressure
<u>For pressure</u>	
• To DIN 11851 with slotted union nut	
- DN 25	PN 40
- DN 32	PN 40
- DN 40	PN 40
- DN 50	PN 25
- DN 65	PN 25
- DN 80	PN 25
• To DIN 11851 with threaded socket	
- DN 25	PN 40
- DN 32	PN 40
- DN 40	PN 40
- DN 50	PN 25
- DN 65	PN 25
- DN 80	PN 25

• Clamp connection	
- 1½ inch	PN 16
- 2 inch	PN 16
- 2½ inch	PN 16
- 3 inch	PN 10
<u>For differential pressure and flow</u>	
• To DIN 11851 with slotted union nut	
- DN 50	PN 25
- DN 65	PN 25
- DN 80	PN 25
• To DIN 11851 with threaded socket	
- DN 50	PN 25
- DN 65	PN 25
- DN 80	PN 25
• Clamp connection	
- 2 inch	PN 16
- 2½ inch	PN 16
- 3 inch	PN 10
Sealing surface	
• For stainless steel, mat. No. 1.4404/316L	To EN 1092-1, form B1 or ASME B 16.5RF 125 ... 250 AA
• For the other materials	To EN 1092-1, form B2 or ASME B16.5 RFSF
Materials	
• Main body	Stainless steel 316L
• Wetted parts	Stainless steel 316L
• Capillary	Stainless steel, mat. No. 1.4571/316Ti
• Sheath	Spiral protective tube made of stainless steel, mat. no.1.4404/316L
Maximum pressure	See above and the technical data of the pressure transmitter
Tube length	Without tube
Capillary	
• Length	Max. 10 m (32.8 ft), longer lengths on request
• Internal diameter	2 mm (0.079 inch)
• Minimum bending radius	150 mm (5.9 inch)
• Sheath	Spiral protective tube made of stainless steel, mat. No. 1.4301/316
Filling liquid	Food oil (FDA listed)
Permissible ambient temperature	Dependent on the pressure transmitter and the filling liquid of the remote seal
	More information can be found in the technical data of the pressure transmitters and in the section "Technical data of filling liquid" in the Technical description to the remote seals
Weight	Approx. 4 kg (8.82 lb)
<b>Certificates and approvals</b>	
Classification according to pressure equipment directive (DGRL 2014/68/EU)	For gases of fluid group 1 and liquids of fluid group 1; complies with requirements of article 4, paragraph 3 (sound engineering practice)
EHEDG	Complies with EHEDG recommendations



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### Quick-release diaphragm seals

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Selection and Ordering data	Ord. code
<b>Further designs</b>	
Please add <b>"-Z"</b> to Article No. and specify Order code.	
<b>PVC protective tube</b> over the spiral protective tube of the capillaries (color: black)	
1.0 m (3.28 ft)	<b>N60</b>
1.6 m (5.25 ft)	<b>N61</b>
2.0 m (6.56 ft)	<b>N62</b>
2.5 m (8.20 ft)	<b>N63</b>
3.0 m (9.84 ft)	<b>N64</b>
4.0 m (13.12 ft)	<b>N65</b>
5.0 m (16.40 ft)	<b>N66</b>
6.0 m (19.69 ft)	<b>N67</b>
7.0 m (22.97 ft)	<b>N68</b>
8.0 m (26.25 ft)	<b>N69</b>
9.0 m (29.53 ft)	<b>N70</b>
10.0 m (32.81 ft)	<b>N71</b>
<b>Cooling element</b> max. medium temperature 300 °C, observe the maximum permissible media temperature of the filling liquid.	<b>R22</b>
<b>Negative pressure service</b> for use in low-pressure range for transmitters for • gauge and absolute pressure from the pressure series	<b>V01</b>
<b>Extended negative pressure service</b> for use in low-pressure range for transmitters for • gauge and absolute pressure from the pressure series	<b>V51</b>

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**Quick-release diaphragm seals**

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Selection and Ordering data	Article No. Ord. code	Selection and Ordering data	Order code
<p><b>Quick-release diaphragm seal</b></p> <p>for SITRANS P pressure transmitters for pressure for differential pressure and flow, type 7MF243...; 7MF443... and 7MF54...; order separately Filling liquid: Food oil (FDA listed) Material: Stainless steel, mat. No. 1.4435 Delivery unit: 2 off</p> <p>Click on the Article No. for the online configuration in the PIA Life Cycle Portal.</p>	<p>7 MF 4 9 4 3 -</p> <p>A 0 - B</p>	<p><b>Further designs</b></p> <p>Please add "-Z" to Article No. and specify Order code.</p>	
<p><b>Nom. diam. Nom. press.</b></p> <ul style="list-style-type: none"> <li>• Connection to DIN 11851 with slotted union nut                             <ul style="list-style-type: none"> <li>- DN 50 PN 25</li> <li>- DN 65 PN 25</li> <li>- DN 80 PN 25</li> </ul> </li> <li>• Connection to DIN 11851 with threaded socket                             <ul style="list-style-type: none"> <li>- DN 50 PN 25</li> <li>- DN 65 PN 25</li> <li>- DN 80 PN 25</li> </ul> </li> <li>• Tri-Clamp connection to DIN 32676/ ISO 2852                             <ul style="list-style-type: none"> <li>- DN 50/2 inch PN 16</li> <li>- DN 65/2½ inch PN 16</li> <li>- DN 80/3 inch PN 10</li> </ul> </li> </ul> <p>Other version Add Order codes and plain text: Process connection: ..., Nominal diameter: ...; Nominal pressure: ...</p>	<p>1 E</p> <p>1 F</p> <p>1 G</p> <p>2 E</p> <p>2 F</p> <p>2 G</p> <p>4 M</p> <p>4 N</p> <p>4 P</p> <p>9 A</p>	<p><b>Remote seal nameplate</b></p> <p>Attached out of stainless steel, contains MLFB and order number of the remote seal</p> <p><b>Quality Inspection Certificate (5-point characteristic curve test) according to IEC 60770-2</b></p> <p><b>Inspection certificate</b> to EN 10204, section 3.1</p> <p><b>2.2 Certificate of FDA approval of fill oil</b> Only in conjunction with "Food-grade oil" fill liquid (FDA listed)"</p> <p><b>Functional safety certificate ("SIL 2") to IEC 61508</b> (Only in conjunction with the Order code "C20" in the case of SITRANS P DSIII transmitter)</p> <p><b>Functional safety certificate ("SIL 2/3") to IEC 61508</b> (Only in conjunction with the Order code "C23" in the case of SITRANS P DSIII transmitter)</p> <p><b>PE protective tube</b> over the spiral protective tube of the capillaries (color: white)</p> <p>1.0 m (3.28 ft)</p> <p>1.6 m (5.25 ft)</p> <p>2.0 m (6.56 ft)</p> <p>2.5 m (8.20 ft)</p> <p>3.0 m (9.84 ft)</p> <p>4.0 m (13.12 ft)</p> <p>5.0 m (16.40 ft)</p> <p>6.0 m (19.69 ft)</p> <p>7.0 m (22.97 ft)</p> <p>8.0 m (26.25 ft)</p> <p>9.0 m (29.53 ft)</p> <p>10.0 m (32.81 ft)</p> <p><b>PTFE protective tube</b> over the spiral protective tube of the capillaries (color: transparent)</p> <p>1.0 m (3.28 ft)</p> <p>1.6 m (5.25 ft)</p> <p>2.0 m (6.56 ft)</p> <p>2.5 m (8.20 ft)</p> <p>3.0 m (9.84 ft)</p> <p>4.0 m (13.12 ft)</p> <p>5.0 m (16.40 ft)</p> <p>6.0 m (19.69 ft)</p> <p>7.0 m (22.97 ft)</p> <p>8.0 m (26.25 ft)</p> <p>9.0 m (29.53 ft)</p> <p>10.0 m (32.81 ft)</p>	<p><b>B20</b></p> <p><b>C11</b></p> <p><b>C12</b></p> <p><b>C17</b></p> <p><b>C20</b></p> <p><b>C23</b></p> <p><b>N20</b></p> <p><b>N21</b></p> <p><b>N22</b></p> <p><b>N23</b></p> <p><b>N24</b></p> <p><b>N25</b></p> <p><b>N26</b></p> <p><b>N27</b></p> <p><b>N28</b></p> <p><b>N29</b></p> <p><b>N30</b></p> <p><b>N31</b></p> <p><b>N40</b></p> <p><b>N41</b></p> <p><b>N42</b></p> <p><b>N43</b></p> <p><b>N44</b></p> <p><b>N45</b></p> <p><b>N46</b></p> <p><b>N47</b></p> <p><b>N48</b></p> <p><b>N49</b></p> <p><b>N50</b></p> <p><b>N51</b></p>
<p><b>Filling liquid</b></p> <ul style="list-style-type: none"> <li>• Food oil (FDA listed)</li> </ul> <p>Other version Add Order code and plain text: Filling liquid: ...</p>	<p>7</p> <p>9</p>		
<p><b>Connection to transmitter</b></p> <p>through capillary, Length:<sup>1)</sup></p> <ul style="list-style-type: none"> <li>• 1.0 m (3.28 ft)</li> <li>• 1.6 m (5.25 ft)</li> <li>• 2.5 m (8.20 ft)</li> <li>• 4.0 m (13.1 ft)</li> <li>• 6.0 m (19.7 ft)</li> <li>• 8.0 m (26.25 ft)</li> <li>• 10.0 m (32.8 ft)</li> </ul>	<p>2</p> <p>3</p> <p>4</p> <p>5</p> <p>6</p> <p>7</p> <p>8</p>		
<p><b>Special lengths for capillaries</b></p> <ul style="list-style-type: none"> <li>• 2.0 m (6.56 ft)</li> <li>• 3.0 m (9.84 ft)</li> <li>• 5.0 m (16.40 ft)</li> <li>• 7.0 m (23.97 ft)</li> <li>• 9.0 m (29.53 ft)</li> </ul>	<p>9</p> <p>9</p> <p>9</p> <p>9</p> <p>9</p>	<p><b>N 1 C</b></p> <p><b>N 1 E</b></p> <p><b>N 1 G</b></p> <p><b>N 1 J</b></p> <p><b>N 1 L</b></p>	

<sup>1)</sup> Max. capillary length, see section "Technical description"

## Pressure Measurement

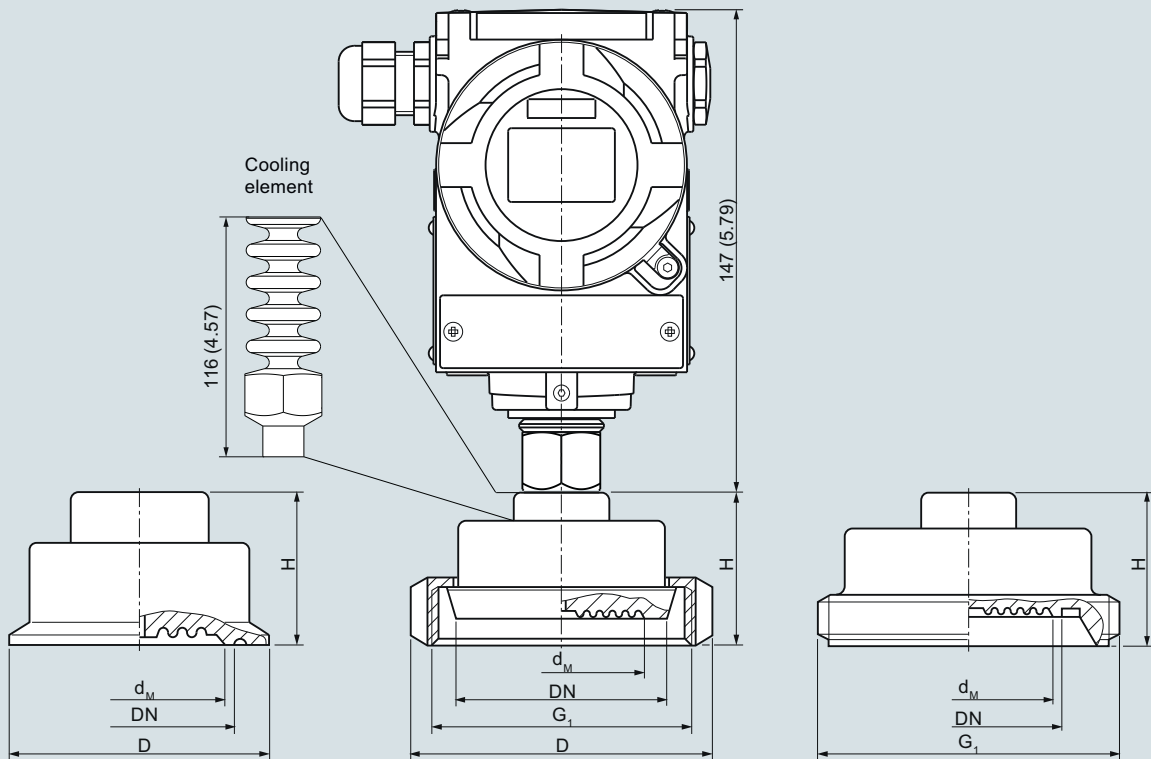
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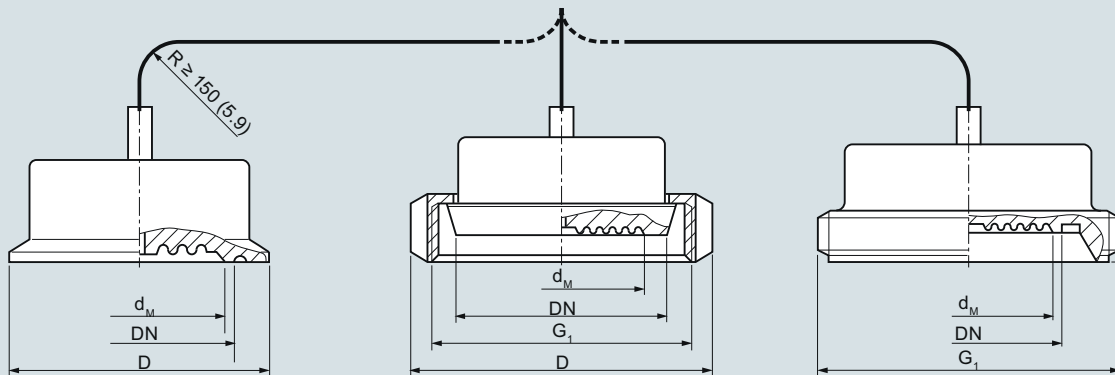
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Selection and Ordering data	Order code
<b>Further designs</b>	
Please add <b>"-Z"</b> to Article No. and specify Order code.	
<b>PVC protective tube</b> over the spiral protective tube of the capillaries (color: black)	
1.0 m (3.28 ft)	<b>N60</b>
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8.0 m (26.25 ft)	<b>N69</b>
9.0 m (29.53 ft)	<b>N70</b>
10.0 m (32.81 ft)	<b>N71</b>
<b>Negative pressure service</b> for use in low-pressure range for transmitters for • differential pressure	<b>V03</b>
<b>Extended negative pressure service</b> for use in low-pressure range for transmitters for • differential pressure	<b>V53</b>

**Dimensional drawings**



Mounted directly on SITRANS P transmitter for pressure



Mounted on SITRANS P transmitter for pressure or differential pressure and flow

Quick-release diaphragm seal, dimensions in mm (inch)

**Clamp connection (left)**

DN	Ø d <sub>M</sub>	Ø D	H
40 (1½ inch)	32 (1.26)	50.5 (2)	35 (1.38)
50 (2 inch)	40 (1.57)	64 (2.52)	35 (1.38)
65 (2½ inch)	52 (2.05)	77.5 (3.05)	35 (1.38)
80 (3 inch)	72 (2.83)	91 (3.58)	35 (1.38)

**Connection to DIN 11851 with slotted union nut (center)**

DN	Ø d <sub>M</sub>	Ø D	H	G <sub>1</sub>
25	25	63	36	Rd 52x1/6
32	32	70	36	Rd 52x1/6
40	40	78	36	Rd 65x1/6
50	52	112	36	Rd 78x1/6
65	65	112	36	Rd 95x1/6
80	72	127	36	Rd 110x1/6
25	25	63	36	Rd 52x1/6

**Connection to DIN 11851 with threaded socket (right)**

DN	Ø d <sub>M</sub>	H	G <sub>1</sub>
25	25	36	Rd 52x1/6
32	32	36	Rd 52x1/6
40	40	36	Rd 65x1/6
50	52	36	Rd 78x1/6
65	65	36	Rd 95x1/6
80	72	36	Rd 110x1/6

d<sub>M</sub> Effective diaphragm diameter