Fisher™ 249 Sensor, Level Controller, and Transmitter Dimensions

This bulletin contains dimensional information for Fisher displacer-type sensors and for controllers and transmitters used with these sensors. Dimensions are subject to change and certified dimensions should be requested for construction projects. Some of the abbreviations used in this document are as follows: NPT = National Pipe Thread, NPS = Nominal Pipe Size, FF = Flat Face Flange, RF = Raised Face Flange, and RTJ = Ring Type Joint Flange.

Flange specification references are ASME B16.1 for CL125 and 250 and ASME 16.5 for CL150, 300, 600, 900, 1500 and 2500.

Contents

Caged Displacer for External Vessel Mounting
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249B and 249BF: figure 3; tables 5, 6, 7, and 8
249C and 249K: figure 4; tables 9, 10, and 11
249L: figure 5

Cageless Displacer for Internal Vessel Mounting
Top Mounted
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Figure 1. Fisher 249 Top View

Table 1. Fisher 249 Dimensions F, M, and W for S-1 and F-1 Connections

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Table 3. Fisher 249 Dimensions F, M, and W for S-3 Connections

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1. Scrd is 1-1/2 and 2 NPT. Flanges in NPS 2 only.
Figure 2. Fisher 249 Side View (see tables 1, 2, 3, and 4)
249B and 249BF (NPS 1-1/2 and 2 End Connections)

Figure 3. Fisher 249B and 249BF (see tables 5, 6, 7, and 8)
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249C and 249K (NPS 1-1/2 & 2 End Connections)

Figure 4. Fisher 249C and 249K (see tables 9, 10, and 11)

Notes:
1. 389 (15.31) for 249K
2. 119 (4.69) for 249K
3. 102 (4.00) for 249K

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June 2020

Sensor, Controller, and Transmitter Dimensions
D200039X012
Table 9. Fisher 249C and 249K Dimensions F and M, S-1, F-1, S-4, and F-4 Connections

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<td>50.12</td>
<td>51.25</td>
</tr>
<tr>
<td></td>
<td>60</td>
<td>62.12</td>
<td>63.25</td>
</tr>
<tr>
<td></td>
<td>72</td>
<td>74.12</td>
<td>75.25</td>
</tr>
<tr>
<td></td>
<td>84</td>
<td>87.00</td>
<td>88.12</td>
</tr>
<tr>
<td></td>
<td>96</td>
<td>99.00</td>
<td>100.50</td>
</tr>
</tbody>
</table>

Table 10. Fisher 249C and 249K, Dimensions F and M, S-2, F-2, S-3, and F-3 Connections

<table>
<thead>
<tr>
<th>Displacer Length</th>
<th>249C</th>
<th>249K</th>
</tr>
</thead>
<tbody>
<tr>
<td>F</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S-2 F-2 CONNECTIONS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S-3 F-3 CONNECTIONS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 11. Fisher 249C and 249K Dimension A

<table>
<thead>
<tr>
<th>END CONNECTION SIZE</th>
<th>249C</th>
<th>249C</th>
<th>249C</th>
<th>249C</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPS</td>
<td>mm</td>
<td>inch</td>
<td>mm</td>
<td>Inch</td>
</tr>
<tr>
<td>DN</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>1-1/2</td>
<td>2</td>
<td>102</td>
<td>4.00</td>
</tr>
<tr>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## 249L

Figure 5. Fisher 249L

<table>
<thead>
<tr>
<th>DISPLACER LENGTH</th>
<th>DIMENSION F</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INCHES</strong></td>
<td>mm</td>
</tr>
<tr>
<td>14</td>
<td>30.81</td>
</tr>
<tr>
<td>32</td>
<td>48.81</td>
</tr>
<tr>
<td>42.75</td>
<td>14.00</td>
</tr>
<tr>
<td>24.75</td>
<td>20.06</td>
</tr>
<tr>
<td>14.00</td>
<td>38.06</td>
</tr>
</tbody>
</table>

1. 249L Sensor has CL2500 RTJ flanges.
249BP and 249P

Figure 6. Fisher 249BP and 249P (see tables 12 and 13)

Table 12. Fisher 249BP and 249P Dimension D, F, and G

<p>| STANDARD DISPLACER AND STEM COMBINATIONS |  |  |  |</p>
<table>
<thead>
<tr>
<th>D</th>
<th>mm</th>
<th>Inch</th>
<th>mm</th>
<th>Inch</th>
<th>G(1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>76</td>
<td>3.00</td>
<td>356</td>
<td>14.00</td>
<td>Specify. Maximum length is 1372 mm (54 inch)</td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>2.00</td>
<td>813</td>
<td>32.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>1.62</td>
<td>1219</td>
<td>48.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>1.50</td>
<td>1524</td>
<td>60.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>1.38</td>
<td>1829</td>
<td>72.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>1.25</td>
<td>2134</td>
<td>84.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>1.12</td>
<td>2438</td>
<td>96.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>1.00</td>
<td>2743</td>
<td>108.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>1.00</td>
<td>3048</td>
<td>120.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. If not specified, G dimension will be 305 mm (12 inches).
Table 13. Fisher 249BP and 249P Dimension P and R

<table>
<thead>
<tr>
<th>DIMENSION</th>
<th>TYPE NO.</th>
<th>FLANGE SIZE, NPS</th>
<th>CL125 FF</th>
<th>CL150 RF</th>
<th>CL300 RF</th>
<th>CL600 RF</th>
<th>CL900 RF</th>
<th>CL1500 RF</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>CL125 FF</td>
<td>CL150 RF</td>
<td>CL300 RF</td>
<td>CL600 RF</td>
<td>CL900 RF</td>
<td>CL1500 RF</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>mm</td>
<td>inches</td>
<td>mm</td>
<td>inches</td>
<td>mm</td>
<td>inches</td>
</tr>
<tr>
<td>P</td>
<td>249BP</td>
<td>4</td>
<td>---</td>
<td>238</td>
<td>244</td>
<td>256</td>
<td>270</td>
<td>272</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
<td>---</td>
<td>240</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8</td>
<td>---</td>
<td>243</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>R</td>
<td>249BP</td>
<td>4</td>
<td>---</td>
<td>229</td>
<td>229</td>
<td>254</td>
<td>273</td>
<td>273</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
<td>---</td>
<td>279</td>
<td>---</td>
<td>318</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8</td>
<td>---</td>
<td>343</td>
<td>---</td>
<td>381</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>P</td>
<td>249P</td>
<td>4</td>
<td>214</td>
<td>214</td>
<td>221</td>
<td>222</td>
<td>230</td>
<td>236</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
<td>216</td>
<td>216</td>
<td>---</td>
<td>227</td>
<td>244</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8</td>
<td>219</td>
<td>219</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>R</td>
<td>249P</td>
<td>4</td>
<td>229</td>
<td>229</td>
<td>---</td>
<td>254</td>
<td>273</td>
<td>292</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
<td>279</td>
<td>279</td>
<td>---</td>
<td>318</td>
<td>356</td>
<td>311</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8</td>
<td>343</td>
<td>343</td>
<td>---</td>
<td>381</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>DIMENSION</td>
<td>TYPE NO.</td>
<td>FLANGE SIZE, NPS</td>
<td>CL125 FF</td>
<td>CL150 RF</td>
<td>CL300 RF</td>
<td>CL600 RF</td>
<td>CL900 RF</td>
<td>CL1500 RF</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>mm</td>
<td>inches</td>
<td>mm</td>
<td>inches</td>
<td>mm</td>
<td>inches</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
<td>9.44</td>
<td>9.94</td>
<td>10.12</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8</td>
<td>9.56</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>R</td>
<td>249BP</td>
<td>4</td>
<td>9.00</td>
<td>9.00</td>
<td>10.00</td>
<td>10.00</td>
<td>10.75</td>
<td>10.75</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
<td>9.00</td>
<td>11.00</td>
<td>12.50</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8</td>
<td>13.50</td>
<td>15.00</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>P</td>
<td>249P</td>
<td>4</td>
<td>8.44</td>
<td>8.75</td>
<td>8.44</td>
<td>8.69</td>
<td>9.06</td>
<td>9.31</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
<td>8.50</td>
<td>8.94</td>
<td>8.50</td>
<td>---</td>
<td>9.62</td>
<td>---</td>
</tr>
<tr>
<td>R</td>
<td>249P</td>
<td>4</td>
<td>9.00</td>
<td>9.00</td>
<td>10.00</td>
<td>10.00</td>
<td>10.75</td>
<td>11.50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
<td>11.00</td>
<td>11.00</td>
<td>12.50</td>
<td>14.00</td>
<td>11.50</td>
<td>12.25</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8</td>
<td>13.50</td>
<td>13.50</td>
<td>15.00</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>
249CP (NPS 3 RF Flanged)

Figure 7. Fisher 249CP (see tables 14 and 15)

Table 14. Fisher 249CP Dimensions D, F, and G

<table>
<thead>
<tr>
<th>D</th>
<th>F</th>
<th>G(1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>mm</td>
<td>mm</td>
<td>Inch</td>
</tr>
<tr>
<td>60</td>
<td>356</td>
<td>14.00</td>
</tr>
<tr>
<td>38</td>
<td>813</td>
<td>32.00</td>
</tr>
<tr>
<td>32</td>
<td>1219</td>
<td>48.00</td>
</tr>
</tbody>
</table>

Specify.

Maximum length is 1372 mm (54 inches).

1. If not specified, G dimension will be 305 mm (12 inches).

Table 15. Fisher 249CP Dimension P

<table>
<thead>
<tr>
<th>P</th>
<th>CL150 RF</th>
<th>CL300 RF</th>
<th>CL600 RF</th>
</tr>
</thead>
<tbody>
<tr>
<td>mm</td>
<td>Inch</td>
<td>mm</td>
<td>Inch</td>
</tr>
<tr>
<td>191</td>
<td>7.50</td>
<td>200</td>
<td>7.88</td>
</tr>
</tbody>
</table>
249VS

Figure 8. Fisher 249VS with DLC3010 / DLC3020f Digital Level Controller Controller Envelope Dimensions; Flanged Connections

Notes:
1. Dimension G is customer specified
2. Displacer length illustrated is 14 inches

HEAT INSULATOR EXTENSION

Notes:
1. Dimension G is customer specified
2. Displacer length illustrated is 14 inches

GE33695

GE33695
Figure 9. Fisher 249VS with DLC3010 / DLC3020f Digital Level Controller Envelope Dimensions; Butt Weld End

**LEFT-HAND MOUNT**

**RIGHT-HAND MOUNT**

---

**Note:**

- Dimension D, F, and G are customer specified
- GE45167-A

---

**BUTT WELD END PER CHART**

<table>
<thead>
<tr>
<th>BUTT WELD END</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>BWE SCHED 40 Cl600</td>
<td>2.00</td>
</tr>
<tr>
<td>BWE SCHED 80 Cl900</td>
<td>2.17</td>
</tr>
<tr>
<td>BWE SCHED 160 Cl1500</td>
<td>2.57</td>
</tr>
<tr>
<td>BWE SCHED XXS Cl2500</td>
<td>2.85</td>
</tr>
</tbody>
</table>
Figure 10. Fisher 249VS with 2500 Transmitter Envelope Dimensions; Flanged Connections

Notes:
1 Dimension G is customer specified
2 Displacer length illustrated is 14 inches
Figure 11. Fisher 249VS with 2500 Transmitter Envelope Dimensions; Butt Weld End

Note:

- Dimension D, F, and G are customer specified

<table>
<thead>
<tr>
<th>BUTT WELD END</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>BWE SCHED 40</td>
<td>2.00</td>
</tr>
<tr>
<td>CL600</td>
<td></td>
</tr>
<tr>
<td>BWE SCHED 80</td>
<td>2.17</td>
</tr>
<tr>
<td>CL900</td>
<td></td>
</tr>
<tr>
<td>BWE SCHED 160</td>
<td>2.57</td>
</tr>
<tr>
<td>CL1500</td>
<td></td>
</tr>
<tr>
<td>BWE SCHED XXS</td>
<td>2.85</td>
</tr>
<tr>
<td>CL2500</td>
<td></td>
</tr>
</tbody>
</table>
249W

Figure 12. Fisher 249W Dimensions for Mounting on Customer Supplied Cage

<table>
<thead>
<tr>
<th>SIZE</th>
<th>A (mm)</th>
<th>A (INCHES)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPS 3</td>
<td>127</td>
<td>5.00</td>
</tr>
<tr>
<td>NPS 4</td>
<td>157</td>
<td>6.19</td>
</tr>
</tbody>
</table>

Note:
- Dimensions D, F, and G are customer defined.
Controllers and Transmitters

Figure 13. Controller and Transmitter Dimensions; Fisher 2500 Controller / Transmitter

2500 CONTROLLER / TRANSMITTER

2500 CONTROLLER / TRANSMITTER
WITH 2506 OR 2516 RECEIVER-CONTROLLER

TOP VIEW

BACK VIEW
Figure 14. Controller and Transmitter Dimensions; FIELDVUE DLC3010 / DLC3020f Digital Level Controller

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