The ExactSteam V-Cone System’s innovative design delivers repeatable accuracy of +0.5% of rate with up to a 50:1 flow range under the most difficult flow conditions. The ExactSteam V-Cone System acts as its own flow conditioner, fully conditioning and mixing the flow prior to measurement. Readings are always precise and reliable, even under changing flow situations.

With this unique ability to self-condition flow, the ExactSteam V-Cone System virtually eliminates the need for upstream or downstream straight pipe runs. Thus, the ExactSteam V-Cone System can be installed virtually anywhere in a piping system or easily retrofit into an existing piping layout, resulting in significant installation flexibility and cost savings. In addition, the ExactSteam V-Cone System has proven to provide long-term performance with no moving parts to replace or maintain.

### Description

**KEY FEATURES**

- A complete flowmeter for steam metering, factory configured for energy metering or mass flow
- Accurately measure steam across the entire range with technology-leading low flow cut off
- Makes retrofitting and new installations easier with minimum installation requirements – no flow conditioner required!
- V-Cone technology enables the lowest permanent pressure loss to maximize plant efficiency
- Reduce maintenance costs with the V-Cone flowmeter primary element's 25+ year lifespan

**SPECIFICATIONS**

- **Accuracy:** ± 0.5% for primary element
  ±1% for total system
- **Repeatability:** ±0.1% or better
- **Turn Down:** Up to 50:1 with stacked configuration or 10:1 with compact
- **Installation Piping Requirements:** 0-3 diameters upstream, 0-1 diameters downstream
- **Materials of Construction:** Stainless Steel or Carbon Steel
- **Line Sizes:** 2” to 12” / 50 mm to 300 mm
- **End Fittings:** Beveled or DIN PN16 or DIN PN40 flanges
- **RTD:**
  - Sensor Type: PT-100, thin film
  - Range: -58° to 752° F (-50° to 400° C)
- **Manifold:** Configuration: 3-Valve
- **dP Transmitter:**
  - Housing Material: F30 Aluminum
  - Membrane Material: 316L
  - Enclosure Rating: NEMA 4X/6P, IP66/67
  - Electrical Connections: NPT1/2 thread
- **Flow Computer:**
  - Output: 4-20 mA, Isolated Pulse

Contact vconerfq@mccrometer.com for other sizes or configuration options.
Fitting Options: Beveled Ends, DIN PN 16 Flanges, DIN PN40 Flanges

McCrometer reserves the right to change design specifications without notice.

<table>
<thead>
<tr>
<th>Size (in / mm)</th>
<th>2 / 50</th>
<th>3/80</th>
<th>4 / 100</th>
<th>6 / 150</th>
<th>8 / 200</th>
<th>10 / 250</th>
<th>12 / 300</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beveled Flanges</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approx. Weight - lbs / kg (meter only)</td>
<td>12 / 6</td>
<td>18 / 8</td>
<td>25 / 11</td>
<td>50 / 23</td>
<td>110 / 50</td>
<td>120 / 55</td>
<td>157 / 72</td>
</tr>
<tr>
<td>W (width - in / mm)</td>
<td>2.375 / 60.3</td>
<td>3.5 / 88.9</td>
<td>4.5 / 114.3</td>
<td>6.625 / 168.3</td>
<td>8.625 / 219.1</td>
<td>10.75 / 273.1</td>
<td>12.75 / 323.9</td>
</tr>
<tr>
<td>L (length - in / mm)</td>
<td>11.63 / 295.4</td>
<td>13.5 / 343.0</td>
<td>15.5 / 393.7</td>
<td>21.5 / 546.1</td>
<td>25.25 / 641.4</td>
<td>27.25 / 692.2</td>
<td>29.25 / 743.0</td>
</tr>
<tr>
<td>DIN PN16</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approx. Weight - lbs / kg (meter only)</td>
<td>26.5 / 12</td>
<td>33 / 15</td>
<td>44 / 20</td>
<td>86 / 39</td>
<td>158.7 / 72</td>
<td>189.6 / 86</td>
<td>255.7 / 116</td>
</tr>
<tr>
<td>W (width - in / mm)</td>
<td>6.5 / 165</td>
<td>7.9 / 200</td>
<td>8.7 / 220</td>
<td>11.2 / 285</td>
<td>13.4 / 340</td>
<td>15.9 / 405</td>
<td>18.1 / 460</td>
</tr>
<tr>
<td>L (length - in / mm)</td>
<td>14.9 / 379</td>
<td>17.2 / 436.6</td>
<td>19.3 / 491.2</td>
<td>25.6 / 649.7</td>
<td>29.9 / 759</td>
<td>32.5 / 825.8</td>
<td>35.2 / 892.6</td>
</tr>
<tr>
<td>No. of Bolts per Flange</td>
<td>4</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>12</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>DIN PN40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approx. Weight - lbs / kg (meter only)</td>
<td>26.5 / 12</td>
<td>39.7 / 18</td>
<td>53 / 24</td>
<td>103.6 / 47</td>
<td>205 / 93</td>
<td>264.6 / 120</td>
<td>328.5 / 149</td>
</tr>
<tr>
<td>W (width - in / mm)</td>
<td>6.5 / 165</td>
<td>7.9 / 200</td>
<td>9.3 / 235</td>
<td>11.8 / 300</td>
<td>14.8 / 375</td>
<td>17.7 / 450</td>
<td>20.3 / 515</td>
</tr>
<tr>
<td>L (length - in / mm)</td>
<td>15.2 / 385.1</td>
<td>17.8 / 452.6</td>
<td>20.4 / 517.4</td>
<td>27.2 / 689.9</td>
<td>31.9 / 811.0</td>
<td>35.3 / 895.9</td>
<td>38.1 / 966.7</td>
</tr>
<tr>
<td>No. of Bolts per Flange</td>
<td>4</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>12</td>
<td>12</td>
<td>16</td>
</tr>
</tbody>
</table>

**Beveled:** Overall length (A) tolerance varies with line size:
- ½” to 1”, ±0.01” (±0.3mm)
- 1½” to 4”, ±0.06” (±2mm)
- 6” to 10”, ±0.12” (±4mm)
- 12”, ±0.19” (±6mm)

**DIN Flanges:** Overall length (L) tolerance varies with line size:
- ½” to 1”, ±1/16” (±2mm)
- 1½” to 10”, ±1/8” (±4mm)
- 12”, ±3/16” (±6mm)

**ORDERING INFORMATION:**
1. Select Nominal Pipe Size and include Maximum Flow Rate.
2. Specify units of measurement for both the flow rate indicator and totalizer.
3. For vertical installation, specify upflow or downflow.

**NOTE:** Larger meter sizes, special laying lengths, other flow ranges available by special order.

3255 WEST STETSON AVENUE • HEMET, CALIFORNIA 92545 USA
TEL: 951-652-6811 • 800-220-2279 • FAX: 951-652-3078
Lit. # 30122-74 Rev. 1.3 / 02 MAY 2019
Copyright © 2017 McCrometer, Inc. All printed material should not be changed or altered without permission of McCrometer. Any published technical data and instructions are subject to change without notice. Contact your McCrometer representative for current technical data and instructions. V-Cone is a registered Trademark of McCrometer, Inc.
### Primary Element

- **Line Size**
  - Code: Description (in / mm)
    - 02*: 2 / 50
    - 03*: 3 / 80
    - 04*: 4 / 100
    - 06: 6 / 150
    - 08: 8 / 200
    - 10: 10 / 250
    - 12: 12 / 300

- **Materials**
  - Code: Description
    - A: All S316/L
    - B: Body A333 Gr. 6 Low Temp Carbon Steel
    - C: Cone S316/L
    - D: Coupling and Flange A350 LF2 CL1 Low Temp Carbon Steel

- **Schedule**
  - Code: Description
    - 21: Beveled
    - 23: DIN PN16 Weld Neck
    - 24: DIN PN40 Weld Neck

- **Class**
  - Code: Description
    - N: Traditional Mount (1/2" NPT 3000#)
    - W: Universal Mount for Vertical Flow

### Electronics

- **Make**
  - Code: Description
    - E: Endress + Hauser DP Transmitter
    - S: Stacked Endress + Hauser DP Transmitters
    - R: Rosemount DP Transmitter
    - T: Stacked Rosemount DP Transmitters
    - M: Rosemount MV Transmitter
    - N: No Transmitter

- **DP Range**
  - Code: Description
    - 0: None
    - 1: Standard DP Range
    - 2: Low DP Range
    - 3: High DP Range

- **LCD Display**
  - Code: Description
    - N: No LCD
    - Y: LCD

- **Communication Protocol**
  - Code: Description
    - 1: HART
    - 0: None

- **Output**
  - Code: Description
    - A: Mass Flow Rate
    - B: Energy
    - N: None

- **Flow Computer**
  - Code: Description
    - 1: Panel Mount
    - 2: NEMA 4X
    - 0: No Flow Computer

### Notes:
- RTD orientation is viewed from upstream.
- Standard RTD location (90° clockwise from HP tap viewed upstream).
- Steam package includes 3-valve traditional manifold.
- Stacked transmitters recommended for Turndowns greater than 10:1. Not available with MV transmitter.
- *Manufacturer - DP Range

#### Options

- **RTD Positioning Options**
  - Code: Description
    - -: 90° (6 o'clock)
    - A: 180° (9 o'clock)
    - B: 270° (12 o'clock)
    - C: No RTD or thermowell

- **Accreditation Included**
  - PED

- **Required**

- **Viewed from upstream**
  - HP Tap
  - (A) 180° placement
  - (B) 270° placement
  - (-): 90° (standard) placement