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.

**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 24”
- **End Fittings:** Beveled or Raised Face 150# or 300# 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.

**DESCRIPTION**

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
**Fitting Options: Beveled Ends, ANSI 150# Flanges, ANSI 300# Flanges**

McCrometer reserves the right to change design specifications without notice.

### Beveled Flanges

<table>
<thead>
<tr>
<th>Size (in)</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>6</th>
<th>8</th>
<th>10</th>
<th>12</th>
<th>14</th>
<th>16</th>
<th>18</th>
<th>20</th>
<th>24</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approx. Weight - lbs. (meter only)</td>
<td>12</td>
<td>18</td>
<td>25</td>
<td>50</td>
<td>110</td>
<td>120</td>
<td>157</td>
<td>208</td>
<td>243</td>
<td>207</td>
<td>258</td>
<td>411</td>
</tr>
<tr>
<td>W (width - inches)</td>
<td>2.375</td>
<td>3.5</td>
<td>4.5</td>
<td>6.625</td>
<td>8.625</td>
<td>10.75</td>
<td>12.75</td>
<td>14</td>
<td>16</td>
<td>18</td>
<td>20</td>
<td>24</td>
</tr>
<tr>
<td>L (length - inches)</td>
<td>11.63</td>
<td>13.5</td>
<td>15.5</td>
<td>21.5</td>
<td>25.25</td>
<td>27.25</td>
<td>29.25</td>
<td>29</td>
<td>29</td>
<td>31</td>
<td>35</td>
<td>47</td>
</tr>
</tbody>
</table>

### ANSI 150# Flanges

<table>
<thead>
<tr>
<th>Size (in)</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>6</th>
<th>8</th>
<th>10</th>
<th>12</th>
<th>14</th>
<th>16</th>
<th>18</th>
<th>20</th>
<th>24</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approx. Weight - lbs. (meter only)</td>
<td>20</td>
<td>35</td>
<td>50</td>
<td>110</td>
<td>160</td>
<td>259</td>
<td>336</td>
<td>388</td>
<td>455</td>
<td>493</td>
<td>620</td>
<td>890</td>
</tr>
<tr>
<td>W (width - inches)</td>
<td>6</td>
<td>7.5</td>
<td>9</td>
<td>11</td>
<td>13.5</td>
<td>16</td>
<td>19</td>
<td>21</td>
<td>23.5</td>
<td>25</td>
<td>27.5</td>
<td>32</td>
</tr>
<tr>
<td>L (length - inches)</td>
<td>12</td>
<td>14</td>
<td>16</td>
<td>22</td>
<td>26</td>
<td>28</td>
<td>30</td>
<td>30</td>
<td>32</td>
<td>36</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>No. of Bolts per Flange</td>
<td>4</td>
<td>4</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>16</td>
<td>16</td>
<td>20</td>
<td>20</td>
</tr>
</tbody>
</table>

### ANSI 300# Flanges

<table>
<thead>
<tr>
<th>Size (in)</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>6</th>
<th>8</th>
<th>10</th>
<th>12</th>
<th>14</th>
<th>16</th>
<th>18</th>
<th>20</th>
<th>24</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approx. Weight - lbs. (meter only)</td>
<td>25</td>
<td>42</td>
<td>70</td>
<td>125</td>
<td>220</td>
<td>330</td>
<td>456</td>
<td>486</td>
<td>603</td>
<td>739</td>
<td>920</td>
<td>1430</td>
</tr>
<tr>
<td>W (width - inches)</td>
<td>6.5</td>
<td>8.25</td>
<td>10</td>
<td>12.5</td>
<td>15</td>
<td>17.5</td>
<td>20.5</td>
<td>23</td>
<td>25.5</td>
<td>28</td>
<td>30.5</td>
<td>36</td>
</tr>
<tr>
<td>L (length - inches)</td>
<td>12</td>
<td>14</td>
<td>16</td>
<td>22</td>
<td>26</td>
<td>28</td>
<td>30</td>
<td>30</td>
<td>32</td>
<td>36</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>No. of Bolts per Flange</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>12</td>
<td>12</td>
<td>16</td>
<td>16</td>
<td>20</td>
<td>20</td>
<td>24</td>
<td>24</td>
<td>24</td>
</tr>
</tbody>
</table>

**Beveled: Overall length (A) tolerance varies with line size:**
- \( \frac{1}{2} \)" to 1" ±0.01" (±0.3mm)
- \( \frac{1}{4} \)" to 4" ±0.06" (±2mm)
- 6" to 10" ±0.12" (±4mm)
- 12" to 24" ±0.19" (±6mm)
- 28" to 60" ±0.25" (±7mm).

**150#/300#: Overall length (A) tolerance varies with line size:**
- \( \frac{1}{2} \)" to 1" ±1/16" (±2mm)
- \( \frac{1}{4} \)" to 10" ±1/8" (±4mm)
- 12" to 24" ±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.

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**McCrometer**

www.mccrometer.com

3255 WEST STETSON AVENUE • HEMET, CALIFORNIA 92545 USA

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Table 1: Specifications of the ExactSteam™ V-Cone®

<table>
<thead>
<tr>
<th>Line Size</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>02*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>03*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>04*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>06</td>
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<tr>
<td>08</td>
<td></td>
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<tr>
<td>10</td>
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<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td></td>
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<tr>
<td>14</td>
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<td>16</td>
<td></td>
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<td>18</td>
<td></td>
<td></td>
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<tr>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
- RTD orientation is viewed from upstream.
- Standard RTD location (90° clockwise from HP tap viewed upstream).
- Steam package includes 3-valve traditional manifold.

Table 2: Optional Electronics and Flow Computers

| Make | Code | Description
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td></td>
<td>Endress + Hauser DP Transmitter</td>
</tr>
<tr>
<td>S</td>
<td></td>
<td>Stacked Endress + Hauser DP Transmitters</td>
</tr>
<tr>
<td>R</td>
<td></td>
<td>Rosemount DP Transmitter</td>
</tr>
<tr>
<td>T</td>
<td></td>
<td>Stacked Rosemount DP Transmitters</td>
</tr>
<tr>
<td>M</td>
<td></td>
<td>Rosemount MV Transmitter</td>
</tr>
<tr>
<td>N</td>
<td></td>
<td>No Transmitter</td>
</tr>
</tbody>
</table>

Options:
- Accreditation Options
  - Code P, Description PP

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

Notes:
- *Carbon steel construction not recommended for line sizes less than 6".
- *Manufacturer - DP Range
  - Endress+Hauser
    - 1 - 200" WC
    - 2 - 40" WC
    - 3 - 1200" WC
  - Rosemount
    - 1 - 250" WC
    - 2 - 25" WC
    - 3 - 1000" WC

* Manufacturer - DP Range
* Standard output Mass - lbs / hr
* Energy - BTU / hr
* Flow computer not available with multivariable transmitter.

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