OUTLINE

CX-1500 FLOW SET VALVE is a constant flow valve for gases. Outlet pressure of process changes, CX-1500 maintains constant flow of gases. CX-1500 is suitable for stable and continuous air purging at water treatment facilities.

OPERATION PRINCIPLE

Gas flow is introduced from inlet with pressure of P1. The inlet pressure P1 actuates the pressure sensing plate. The pressure sensing plate is connected to valve needle. A spring is assembled onto this valve needle unit. The assembled spring acts so as to keep the differential pressure P2 constant and to keep constant flow even when outlet pressure P3 changes.

MODEL CODE

<table>
<thead>
<tr>
<th>MODEL CODE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>CX-1500-1</td>
<td>MATERIAL CLASS 0 *1</td>
</tr>
<tr>
<td>1</td>
<td>MATERIAL CLASS 1</td>
</tr>
<tr>
<td>2</td>
<td>MATERIAL CLASS 2</td>
</tr>
<tr>
<td>3</td>
<td>Others, Special</td>
</tr>
</tbody>
</table>

MATERIAL CONSTRUCTION

<table>
<thead>
<tr>
<th>CONNECTION SIZE</th>
<th>CONNECTION RATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Rc Screw *2</td>
</tr>
<tr>
<td>1</td>
<td>NPT Screw *2</td>
</tr>
<tr>
<td>2</td>
<td>JIS 10K Flange</td>
</tr>
<tr>
<td>3</td>
<td>Others, Special</td>
</tr>
</tbody>
</table>

*1: Material class 1 (SUS304) or Material class 2 (SUS316) are available for screw connection versions.

*2: Screw connection is available only for 15 mm–50 mm. All sizes are available for flange version.

STANDARD SPECIFICATION

- Measuring fluid: Air, Nitrogen, and other gases
- Fluid Press.: Max. 1.2 MPa
- Fluid Temp.: Max. 100°C
- Available Size
  - Screw connection: 15, 20, 25, 32, 40, and 50
  - Flange connection: 15, 20, 25, 32, 40, 50, 65, 80, 100, 125, and 150
- Process connection: Rc Thread, NPT Thread, JIS 10K flange, others

- Possible setting range

<table>
<thead>
<tr>
<th>Meter size</th>
<th>Flow range (Air m³/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>5 to 13</td>
</tr>
<tr>
<td>20</td>
<td>9 to 13</td>
</tr>
<tr>
<td>25</td>
<td>10 to 15</td>
</tr>
<tr>
<td>32</td>
<td>12 to 25</td>
</tr>
<tr>
<td>40</td>
<td>20 to 40</td>
</tr>
<tr>
<td>50</td>
<td>35 to 90</td>
</tr>
<tr>
<td>65</td>
<td>45 to 150</td>
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<tr>
<td>80</td>
<td>60 to 250</td>
</tr>
<tr>
<td>100</td>
<td>100 to 500</td>
</tr>
<tr>
<td>125</td>
<td>400 to 900</td>
</tr>
<tr>
<td>150</td>
<td>600 to 1000</td>
</tr>
</tbody>
</table>

Note 1) Calibration condition Air, 20 °C, 49 kPa

In case the actual operating condition differs from them, the following compensation calculation is required to obtain flow rate in such condition and then, tables are referred for size selection.

\[
Q_n = Q_m \times \sqrt{\frac{Y_m}{1.293}} \times \sqrt{\frac{150.3}{101.3 + P_r}} \times \sqrt{\frac{273 + T_r}{293}}
\]

- \(Q_n\) : Air converted flow rate [m³/h (nor)]
- \(Q_m\) : Flow rate of actual gas [m³/h (nor)]
- \(Y_m\) : Density of gas to be measured [kg/m³ (nor)]
- \(P_r\) : Operating Press. [kPa]
- \(T_r\) : Operating temp. [°C]

2) Setting is factory set and not field adjustable

- Control differential pressure range:
  - 15 to 80A: 100A or more
  - 4.9 to 44 kPa: 10 to 44 kPa

- Control accuracy: ±5% (Against set value)
- Painting: Munsell 7.5 BG 4/1.5 (Body made of SUS not painted)
**EXTERNAL DIMENSIONS**

- **Screw connection type**
  - Meter size: 15, 20, 25, 32, 40, 50
  - L (mm): 150, 110, 140, 150, 170, 200
  - Mass (Approx.): 0.9, 0.6, 1.0, 1.3, 1.6, 3

- **Flange connection type**
  - Meter size: 15, 20, 25, 32, 40, 50
  - L (mm): 150, 110, 140, 150, 170, 200

**MATERIAL CONSTRUCTION**

- **Material Class**
  - Material Class 0: SUS304
  - Material Class 1: SUS316
  - Material Class 2: SUS3304

- **Part Name**
  - 1. Body
  - 2. Flange
  - 3. Press. sensing plate
  - 4. Valve
  - 5. Valve guide
  - 6. Valve sheet
  - 7. Spring
  - 8. Damper
  - 9. Guide rod
  - 10. O ring
  - 11. Shaft guide

- **Specifications**
  - Screw connection type is the material class 1 (SUS304) or class 2 (SUS316).

* Specification is subject to change without notice.

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**CX-1500 Series**

**FLOW SET VALVE FOR GAS APPLICATION**

- **Control characteristics**
  - Control differential pressure range of the valve with a size of 80 mm or smaller (4.9 to 44 kPa)
  - Control differential pressure range of the valve with a size of 100 mm or larger (13 to 44 kPa)

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**Header Information**

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