DS20

Variable Area Flowmeter for Low Flow Volumes
Compact Construction

- for liquids and gases
- measuring range: 0.1...1 up to 25...250 l/h water
  4...40 up to 800...8000 Nl/h
- measuring tube completely st. steel 1.4571
- max. pressure: 160 bar, max. temperature: 200 °C
- scales for all operating conditions designed as required
- local display, min./max. contacts or analogue output
- optional available with valve
- Ex-Version acc. to ATEX

Description:
The model series DS20 flow meters work according to the suspended float principle of measurement. The device has a cone-shaped float that moves within a cylindrical measuring tube. The flowing gas or liquid moves the float in the direction of the flow. The movement of the float is transmitted magnetically to a dial indicator mounted outside on the measuring tube. The indicator is fitted with a scale appropriate for the operating range encountered. If necessary, the indicator can also be fitted with contacts or an analogue output.

Typical applications:
Model series DS20 flow meters are intended to measure and monitor gases or low-viscosity liquids, such as those found in applications like cooling systems for welding machines, laser and tube systems, pump monitoring, compressors, etc. Since all parts coming in contact with the medium being monitored are made of high-quality st. steel 1.4571, this device is also suitable for use with caustic/corrosive media.
Models:
- Flowmeter with local dial indicator display
- Dial indicator display, 1 MIN contact
- Dial indicator display, 1 MAX contact
- Dial indicator display, 1 MIN contact, 1 MAX contact
- Dial indicator display, analogue output: 4 to 20 mA

Process Connection:

Version without needle valve (connection at top/ bottom):
all threaded connections as per model code, PN 100 (standard) or PN 160, all flange connections

Version with needle valve (connection at back):
all threaded connections as per model code, PN 40 (standard) or PN 100, flange connections not possible

Measuring Ranges:

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>W1</td>
<td>0,1...1</td>
<td>L1</td>
<td>4...40</td>
<td>6</td>
</tr>
<tr>
<td>W2</td>
<td>0,16...1,6</td>
<td>L2</td>
<td>6...60</td>
<td>6</td>
</tr>
<tr>
<td>W3</td>
<td>0,25...2,5</td>
<td>L3</td>
<td>10...90</td>
<td>6</td>
</tr>
<tr>
<td>W4</td>
<td>0,4...4</td>
<td>L4</td>
<td>14...140</td>
<td>6</td>
</tr>
<tr>
<td>W5</td>
<td>0,6...6</td>
<td>L5</td>
<td>20...200</td>
<td>6</td>
</tr>
<tr>
<td>W6</td>
<td>1...10</td>
<td>L6</td>
<td>32,5...325</td>
<td>8</td>
</tr>
<tr>
<td>W7</td>
<td>1,5...16</td>
<td>L7</td>
<td>50...500</td>
<td>8</td>
</tr>
<tr>
<td>W8</td>
<td>2,5...25</td>
<td>L8</td>
<td>80...800</td>
<td>8</td>
</tr>
<tr>
<td>W9</td>
<td>4...40</td>
<td>L9</td>
<td>140...1400</td>
<td>11</td>
</tr>
<tr>
<td>W10</td>
<td>6...60</td>
<td>L10</td>
<td>200...2000</td>
<td>11</td>
</tr>
<tr>
<td>W11</td>
<td>10...100</td>
<td>L11</td>
<td>325...3250</td>
<td>11</td>
</tr>
<tr>
<td>W12</td>
<td>16...160</td>
<td>L12</td>
<td>500...5000</td>
<td>13</td>
</tr>
<tr>
<td>W13</td>
<td>25...250</td>
<td>L13</td>
<td>800...8000</td>
<td>13</td>
</tr>
</tbody>
</table>

The indicated measuring ranges - especially for air - serve for orientation.
Please specify the following process conditions when making enquiries:
Medium, pressure and temperature
We create an individual scale for you at no extra charge.

Technical Data:

Materials:
wetted parts made of st. steel 1.4571
housing made of 1.4301
Max. pressure:
PN 100 (standard), PN 10, 40, 160 acc. to order code
Max. media-temperatures:
local display: − 80 °C...+200 °C (+150 °C with valve)
with contacts: − 40 °C...+150 °C
with analogue output: − 40 °C...+150 °C
Protection class: IP65
Accuracy: ± 4 % of measured range value

Order Code:

Order number: DS20.
Float Type Flowmeter

Process connection:
41G4 = G 1/4 female, PN 40
41G6 = G 1/4 female, PN 100 (standard)
4266 = G 3/8 fem., PN 100 (at meas. ranges 12 + 13)
41T4 = 1/4” NPT female, PN 40
41T6 = 1/4” NPT female, PN 100
53C4 = compression fitting 6 mm, PN 40
53C6 = compression fitting 6 mm, PN 100
53C7 = compression fitting 6 mm, PN 160
53P1 = hose connection 6 mm, PN 10
54C4 = compression fitting 8 mm, PN 40
54C6 = compression fitting 8 mm, PN 100
54C7 = compression fitting 8 mm, PN 160
54P1 = hose connection 8 mm, PN 10
55C4 = compression fitting 10 mm, PN 40
55C6 = compression fitting 10 mm, PN 100
55C7 = compression fitting 10 mm, PN 160
56C4 = compression fitting 12 mm, PN 40
56C6 = compression fitting 12 mm, PN 100
56C7 = compression fitting 12 mm, PN 160
01D4 = flanges DN 15, PN 40
02D4 = flanges DN 25, PN 40
01A1 = flanges ANSI 1/2", 150 lbs RF
02A1 = flanges ANSI 1", 150 lbs RF
01A2 = flanges ANSI 1/2", 300 lbs RF
02A2 = flanges ANSI 1", 300 lbs RF

Measuring range:
1…13 = acc. to table
99 = special measuring range

Valve:
0 = without
1 = valve on input side, valve seat made of silver
2 = valve on input side, valve seat made of PCTFE
3 = valve on output side, valve seat made of silver
4 = valve on output side, valve seat made of PCTFE

Display:
1 = local pointer display
2 = local pointer display, 1 MIN-contact
3 = local pointer display, 1 MAX-contact
4 = local pointer display, 1 MIN-, 1 MAX-contact
5 = local pointer display, analogue output 4...20 mA
6 = local pointer display, analogue output 4...20 mA, 1 MIN-contact
7 = local pointer display, analogue output 4...20 mA, 1 MAX-contact

Options:
0 = without
9 = please specify in plain text

Contacts:

Type: Inductive (NAMUR acc. to EN 50227)
Nominal voltage: 8 VDC
Recommended for operating the contacts: Switch amplifier P+F (see Data sheet P+F)

Analogue Output:

Power supply: 24 VDC
Output: 4...20 mA, 2-wire
Load impedance: (U–13,5 V) / 20 mA
Electr. connection: QUIKON quick connection