**DS11**

Plastic Variable Area Flowmeter for low Flow Rates with Glass Measuring Tube

- for low viscous liquids and gases
- fittings made of PVDF
- with integrated needle valve
- limit switches optional
- accuracy class 2,5
- max. pressure 4 bar
  max. temperature 100 °C
- measuring ranges: 0,25...160 l/h water
  0,5...5000 Nl/h air

**Description:**
The flowmeters DS11 operate according to the proven variable area principle. The flowing media moves a float upwards against gravity in a conical measuring tube. The height of the float indicates the flow rate and may be read off a burnt-in scale on the measuring tube. Optional inductive contacts, which are mounted on the measuring tube, may be used for flow rate limit detection. All meters are equipped with an integrated needle valve for exactly regulating the flow rate.

**Typical applications:**
Variable area flowmeters model DS10 are mainly used for measuring and monitoring the flow rate of low-viscous liquid and gaseous media. Scales for water or air at standard operating conditions have already been defined. For other media or different process conditions special scales are available.
Measuring ranges: (Standard Scales)
Float made of stainless steel

The measuring ranges given below serve as orientation. Please indicate medium, pressure and temperature, we will calculate an individual scale for you.

<table>
<thead>
<tr>
<th>Measuring range No</th>
<th>Measuring range [NI/h] air, 20°C, 1.2 bar abs.</th>
<th>Contact version</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td>0,5...5</td>
<td>A</td>
</tr>
<tr>
<td>02</td>
<td>0,8...8</td>
<td>A</td>
</tr>
<tr>
<td>03</td>
<td>1,6...16</td>
<td>A</td>
</tr>
<tr>
<td>04</td>
<td>4,...40</td>
<td>A</td>
</tr>
<tr>
<td>05</td>
<td>6...60</td>
<td>A</td>
</tr>
<tr>
<td>06</td>
<td>10...100</td>
<td>B</td>
</tr>
<tr>
<td>07</td>
<td>25...250</td>
<td>B</td>
</tr>
<tr>
<td>08</td>
<td>50...500</td>
<td>B</td>
</tr>
<tr>
<td>09</td>
<td>80...800</td>
<td>B</td>
</tr>
<tr>
<td>10</td>
<td>100...1000</td>
<td>B</td>
</tr>
<tr>
<td>11</td>
<td>180...1800</td>
<td>B</td>
</tr>
<tr>
<td>12</td>
<td>240...2400</td>
<td>B</td>
</tr>
<tr>
<td>13</td>
<td>300...3000</td>
<td>B (min)</td>
</tr>
<tr>
<td>14A</td>
<td>400...4000</td>
<td>B (min)</td>
</tr>
<tr>
<td>15A</td>
<td>500...5000</td>
<td>B (min)</td>
</tr>
<tr>
<td>[l/h] water</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>0,25...2,5</td>
<td>A</td>
</tr>
<tr>
<td>17</td>
<td>0,5...5</td>
<td>B</td>
</tr>
<tr>
<td>18</td>
<td>1,2...12</td>
<td>B</td>
</tr>
<tr>
<td>19</td>
<td>2,5...25</td>
<td>B</td>
</tr>
<tr>
<td>20</td>
<td>4,...40</td>
<td>B</td>
</tr>
<tr>
<td>21</td>
<td>6...60</td>
<td>B</td>
</tr>
<tr>
<td>22</td>
<td>10...100</td>
<td>B (min)</td>
</tr>
<tr>
<td>23</td>
<td>12...120</td>
<td>B (min)</td>
</tr>
<tr>
<td>24</td>
<td>16...160</td>
<td>B (min)</td>
</tr>
</tbody>
</table>

Contacts: The contact version is determined by the measuring range. (min) = Contact available for minimum monitoring only.

Dimensions:

The upper edge of the float is the reading edge.

Order Code:

Order number: DS11.
2 1. P 06. 1 0.

Plastic variable area flowmeter with glass measuring tube

Model:
2 = Standard version

Process connection:
1 = G 1/4 female on back
2 = 1/4" NPT on back

Material:
P = PVDF

Gasket:
1 = PTFE/FPM (standard)
2 = PTFE / FFKM
3 = EPDM

Measuring ranges:
01...24 = according to table
99 = special ranges

Valve:
0 = without
1 = valve at inlet (standard)
2 = valve at outlet

Limit switches:
0 = without
1 = 1 contact (model A)
2 = 2 contacts (model A)
3 = 1 contact (model B)
4 = 2 contacts (model B)

Options (multiple answers possible):
0 = without
1 = panel mounting kit
2 = cable connector housing for devices with contact

Special connections like hose connectors, SWAGELOK, ERMETO or others on request.

To operate the limit switches, switch amplifiers of type P+F are required. See data sheet P+F.

Technical Data:

Max. pressure: 4 bar
Max. medium temperature: 100 °C (65 °C with contact)
Accuracy: 2,5 % of measured value

Materials:
fitting: PVDF
measuring tube: borosilicate glass
float: st. st. 1.4401, optional glass, POM, Titan, Hastelloy C4, polypropylene
valve: st. st. 1.4571,1.4404 optional: PEEK
gaskets: PTFE / FPM, optional: PTFE/FFKM, PTFE / EPDM
protective cap: polycarbonate
Switching contact: acc. to NAMUR (bistable)
1 mA passage from top to bottom
3 mA passage from bottom to top

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