CONTINUOUS
GAS VELOCITY MEASUREMENTS
OF FLUE GAS AND AIR STREAMINGS

Flow rate measurement using
the dynamic pressure
measurement principle

m/s m³/s °C mbar
**DF 252**

Continuous measurement of flow velocity of flue gas and air streamings

For the operation of a facility with streaming gases (e.g., flue gas, air, etc.) the continuous registration of the exhaust gas velocity respectively the flow as well as the temperature are often of substantial importance. In case of continuous emission measurements the mass of pollutants has to be disclosed additionally (mass flow [kg/h]).

The flow measuring device DF 252 is a measuring system for the continuous registration of gas- and air velocity and temperature of gas flows in pipelines.

Moreover it is possible to display the flow in operational or norm state. The use of the back-pressure and Pt100-measuring principle guarantees a device simply to install and handle with the smallest possible influence of the velocity profile.

**Advantages of the system:**
- Compact system of probe and control device, therefore easy installation
- On-site diagnosis of the facility’s state due to a graphical display with high resolution showing on-line diagram
- Display of flow in norm state (i.n.) or operating state (i.o.) possible
- Display options in mbar, m/s, m³/h i.o. or m³/h i.n. as well as °C
- Display of absolute pressure in mbar optionally possible
- Simple installation with DN80PN6 flange for welding
- Low maintenance, handball valves for probe back-purging

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<table>
<thead>
<tr>
<th><strong>Enclosure</strong></th>
<th>Compact device, control unit is integrated with the probe (no extra control panel necessary, Anti-freeze heater (option)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Protection class</strong></td>
<td>IP 65 (fibre glass enclosure)</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>(H x W x D) 440 x 640 x 1.040 mm (incl. probe 500 mm)</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>approx. 25 kg</td>
</tr>
<tr>
<td><strong>Probe</strong></td>
<td>Dynamic pressure probe with integrated Pt100 thermistor</td>
</tr>
<tr>
<td></td>
<td>Optionally available: absolute pressure transmitter up to 2.000 mm length</td>
</tr>
<tr>
<td><strong>Flange</strong></td>
<td>DN80PN6</td>
</tr>
<tr>
<td><strong>Control unit</strong></td>
<td>4 keys for parameterisation and operation</td>
</tr>
<tr>
<td></td>
<td>Dot-Matrix-display with on-line line diagram</td>
</tr>
<tr>
<td><strong>Measuring ranges</strong></td>
<td>Velocity: 3 ... 30 m/s</td>
</tr>
<tr>
<td></td>
<td>Flow i.o.: 0 ... 1.000 Tm/h</td>
</tr>
<tr>
<td></td>
<td>Flow i.n.: 0 ... 1.000 Tm/h</td>
</tr>
<tr>
<td></td>
<td>(1 Tm/h = 1.000 m³/h, 1.000 Tm/h = 1.000.000 m³/h)</td>
</tr>
<tr>
<td></td>
<td>Differential pressure: 0 ... 5 mbar</td>
</tr>
<tr>
<td></td>
<td>Temperature: 0 ... 300/600 °C</td>
</tr>
<tr>
<td></td>
<td>Abs. pressure (optional): 800 ... 1.200 mbar</td>
</tr>
<tr>
<td><strong>Media temperature</strong></td>
<td>max. 280 °C (higher temperatures on request)</td>
</tr>
<tr>
<td></td>
<td>min. +5 °K above dewpoint</td>
</tr>
<tr>
<td><strong>Ambient temperature</strong></td>
<td>-20 ... +50 °C</td>
</tr>
<tr>
<td><strong>Flow velocity</strong></td>
<td>from approx. 3 ... 30 m/s</td>
</tr>
<tr>
<td><strong>Analogue signals</strong></td>
<td>3 x 4 ... 20 mA (it can be chosen between: velocity, flow, differential pressure, temperature)</td>
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<tr>
<td></td>
<td>optionally absolute pressure</td>
</tr>
<tr>
<td><strong>Digital signals</strong></td>
<td>failure, limit value 1 and 2, relay contacts potential free</td>
</tr>
<tr>
<td><strong>Power supply</strong></td>
<td>110 VAC, 230 VAC / 50 ... 60 Hz, 15 W, 500 W with anti-freeze heater</td>
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