**PMA Prozeß- und Maschinen-Automation GmbH**

# Ordering Data Check List for Flow Measurement

Filled in by:

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Calculation of orifice diameter and the design and manufacture of all equipment in connection with flow measurements will be entirely based on information supplied by customer.
Therefore, supply full details, add sketches, if possible, and check that the data given are complete and correct:

**1. Nature of flow medium** .....

1.1 If gas mixture, state ratio of components, in % Vol. .....

1.2 Impurities ? Yes / No
Dust or other solid materials to be stated (in g/m³) .....

1.3 Real gas correction Yes / No

1.4 Specific weight (kg/m³)
When gas referred to standard condition ( kg/Nm³)
(0 °C, 1013 mbar /1013 hPa) .....

1.5 When gas : water content / relative / absolute humidity or dewpoint .....

1.6 When liquid (not water)
Average viscosity at operating conditions .....

**2. Pressure**

2.1 Operating pressure (above atmosphere) at measuring point (calculation value) .....mbar [ ]

2.2 Average barometric reading or height of measuring location above sea level .....mbar / m

2.3 Max. permissible pressure drop allowed to occur in the system due to installation of the flow restrictor ..... mbar

2.4 If a particular specified value of `differential pressure' is to result from the installation of the restrictor , please state .....mbar
(may be in order to suit existing facilities)

**3.** Operating temperature at measuring point (calculation value) .....°C

**ATTENTION!**

**The longer the unrestricted straight pipe run upstream from flow restrictor, the smaller the resulting pressure loss. A pipe bend or control valve, if sufficiently close to the orifice will produce abnormal flow conditions**

## 4. Flow

4.1 Minimal .....[ ]
Normal .....
Maximal .....

4.2 Measuring range for which flow meter is required .....[ ]

## 5. Pipeline

5.1 Flanges: state Nominal pressure PN .....[ ]
Nominal width DN .....[ ]

5.2 Inside diameter accurate measure !! D = .....[mm]

5.3 Material of pipe .....

5.4 Run of pipe
(horizontal, vertical rising- / falling slope) .....

5.5 Type of flange flat to DIN .....
Raised- recessed face to DIN .....
Grooved- and tongued to DIN .....
Others give sketch with exact dimensions

5.6 Length of pipeline with unrestricted flow upstream
from flow restrictor .....* D

5.7 Length of pipeline with unrestricted flow downstream
from flow restrictor .....* D

## 6. Flow restrictor .

6.1 Version (venturi, orifice plate etc.) .....

6.2 Is there sufficient clearance upstream and downstream
from the flow restrictor to allow for fitting of
pressure take-offs and valves ? Yes / No

6.3 If insufficient clearance, make sketch, show obstruction,
pipeline etc. Show direction of flow:

## 7. Flowmeter

7.1 How is the location of the flow meter relative to the orifice ..... m higher / lower
Make sketch.

7.2 Mains voltage at place of installation, type of voltage, frequency ..... V DC
..... V AC
..... Hz

Remarks:
(Sketches to item 5.4, 6.2,6.3 and 7.1)

Place, date..... Signature.....