



## VPFlowMate probe

### Description

The VPFlowMate® probe is an easy to install solution for compressed air and technical gases.

The VPFlowMate® probe can be installed in pipe sizes from 2 inches and up.

The VPFlowMate® can be connected directly to a PC and most analogue and industrial equipment. An optional integrated display is provided for direct read out of flow and total volume.

Together with the VPFlowTerminal remote display, the VPFlowMate® forms a plug and play solution for compressed air flow metering.

### Applications

Compressed air metering, energy monitoring, testing of pneumatic systems. Take a look at the application examples for more ideas!

### Benefits

- Versatile: for various pipe sizes
- Universal: Data output via RS232, 4..20 mA, pulse and optional display
- Easy: Straightforward installation and use



### Features

- Silicon (solid state) flow sensor
- 12..24 Volt wide range power input
- Flow and totalizer read out via RS232
- Optional linear flow signal via 4..20 mA
- Optional pulse output
- Optional built-on 8 x 2 LCD display
- Configurable via easy to use software

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## VPFlowMate probe

### Features and benefits

#### Software configurable

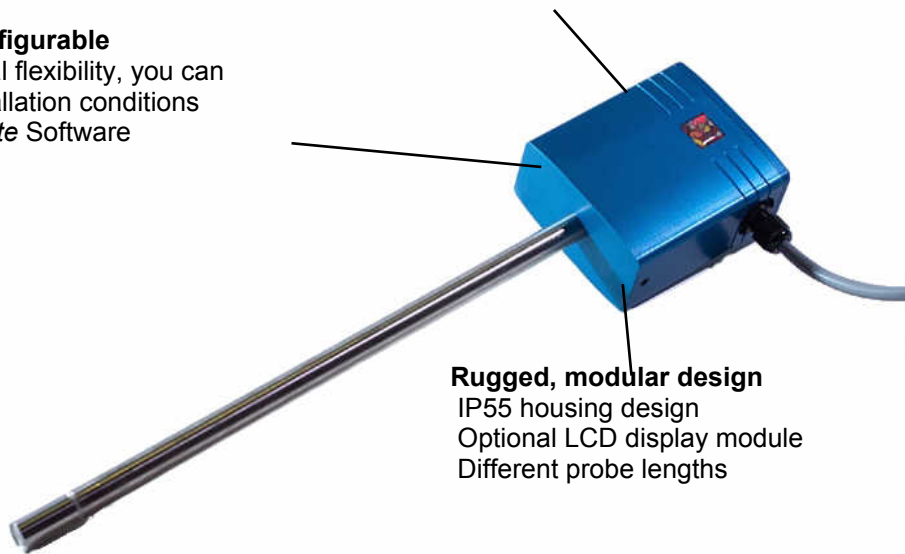
For the optimal flexibility, you can adjust the installation conditions with the VPSuite Software

#### Versatile outputs

RS232, 4..20 mA (linear), pulse: all standard available

#### Rugged, modular design

IP55 housing design  
Optional LCD display module  
Different probe lengths



### Built-on display option

Features flow and totalizer read out

- Direct read out of flow
- Direct read out of total consumption
- Clear back-lit display



### Installation in pressurized lines

The VPFlowMate® probe can be inserted in pressurized lines via a ½ inch full bore ball valve. A red safety line is used to protect the instrument from being pushed out. The safety line is included.





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## Technical specifications

### Measurement

- Average measurement uncertainty (ideal field conditions) : 3% of measured value + 0.5% of span. Please note that for insertion probes, the field accuracy depends on installation conditions.\*
- Reproducibility : < 0.5% of measured value per year when used with clean compressed air.
- Ranges : 0..150 m<sub>n</sub>/ sec (m<sub>n</sub> is referenced to 0° Celsius, 1013.25 mbar)  
0..80 m<sub>n</sub>/ sec  
0...20 m<sub>n</sub>/ sec
- Zero cutoff point : Depends on model; typically 1 to 2% of full scale
- Temperature range : 0..50 °C. \*\*
- Pressure limit : 16 bar maximum pressure \*\*\*
- Humidity range : Up to 95% Relative Humidity, non condensing
- Gases : Compressed Air, Nitrogen, non corrosive gasses

### Mechanical

- Connections : Connected with 0,5" compression fitting
- Dimensions : See technical drawings
- Protection type : IP55. Not for outdoor use.
- Housing material : Aluminium, painted
- Wetted materials : Epoxy, glass, stainless steel 316
- Corrosion resistance : Highly corrosive or acid environments should be avoided

### Electrical

- Outputs : RS232, 4..20 mA, pulse
- Power supply : 12..24 Volt DC +/- 10% Class II (CUL requirement)  
Power consumption < 100 mA. Peak power at startup 500 mA
- Connections : Multi pole connector

### Approvals/ conformity

- CE : EN 61326-1
- CE : EN 50082-1
- CUL : 14 AZ, Industrial Control Equipment

**DISCLAIMER:**  
Specifications in this brochure are indicative and subject to change without prior notice.

**\* NOTE:**  
See technical guidelines for installation effects and ideal installation requirements.

**\*\* NOTE:**  
The temperature error is typically less than 0.1% of reading per degree Celsius.

**\*\*\* NOTE:**  
The pressure error is typically 0.3% of full scale per bar deviation of the calibration pressure. The pressure error of the VPFlowMate® is specified for a range of +/- 3 bar around the calibration pressure. Ask for custom calibration when using the VPFlowMate® at atmospheric or low line pressure.



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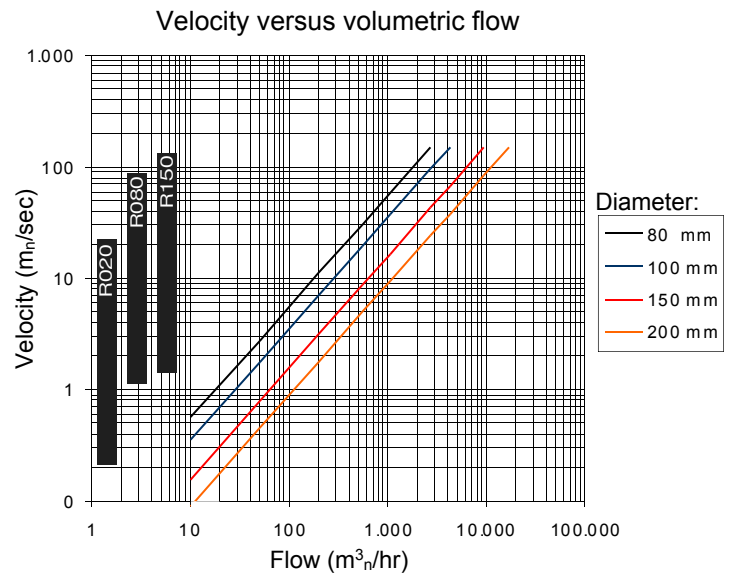
## VPFlowMate probe

### Select the right VPFlowMate® insertion probe for your application!

For successful use, you should at least go through the following checklist; you should also complete our standard order form (ask your sales engineer), to make sure that all application data are taken into account!

1. Determine expected flow range (min. and max. flow in  $m_n^3/\text{hour}$ ).
2. Determine the pipe diameter (in mm).
3. Determine the velocity in  $m_n/\text{sec}$  using Figure 1.
4. Select the probe with the correct measurement range.

For the next step, see the order configuration table on page 6.



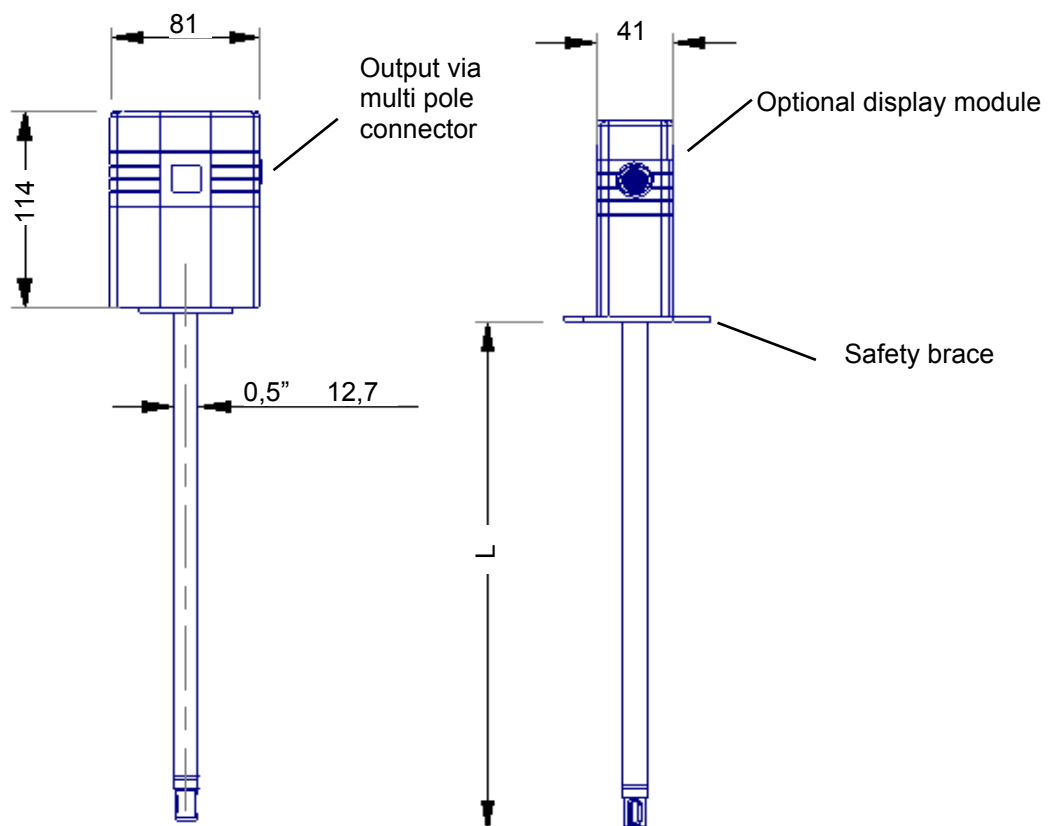
**Fig. 1. Velocity vs volumetric flow graph (logarithmic scale)**

In this figure you can roughly determine the velocity (in normal meters per second) for a given pipe diameter (in mm) and flow rate (in normal cubic meters per hour). This figure can be used to select the right model for your application.



## VPFlowMate probe

### Technical drawings



### Probe length table

| Type        | Length [L]    | Comment                |
|-------------|---------------|------------------------|
| P300        | 300 mm        |                        |
| <b>P400</b> | <b>400 mm</b> | <b>Standard length</b> |
| P600        | 600 mm        |                        |



## VPFlowMate probe

### Order configuration table

| 1. Group | 2. Range | 3. Probe length |
|----------|----------|-----------------|
| VPP      | R080     | P400            |

| A. LCD | B. Outputs | C. Connector |
|--------|------------|--------------|
| D1     | S110       | E200         |

| No.                 | Item            | Code        | Description   |
|---------------------|-----------------|-------------|---|
| <b>Measurement:</b> |                 |             |   |
| 1.                  | Product group   | VPP         | Insertion probe   |
| 2.                  | Range           | R150        | 0..150 m <sub>n</sub> /sec (extended measurement range)     |
|                     |                 | <b>R080</b> | <b>0..80 m<sub>n</sub>/sec (standard measurement range)</b> |
|                     |                 | R020        | 0..20 m <sub>n</sub> /sec (special)                         |
| 3.                  | Probe length    | P300        | Length = 300 mm   |
|                     |                 | <b>P400</b> | <b>Length = 400 mm</b>                                      |
|                     |                 | P600        | Length = 600 mm   |
| <b>Outputs:</b>     |                 |             |   |
| A.                  | Display options | D0          | No display  |
|                     |                 | D1          | LCD display, flow and totalizer (digital)                   |
| B.                  | Outputs         | S110        | 4..20 mA output + pulse output (standard)                   |
| C.                  | Connector       | E200        | Multi pole connector  |

VPFlowMate® is a registered trademark of Van Putten Instruments B.V. Patents have been applied for and are pending.