



## VPFlowScope dP

- > Extreme resistance to pollution and water drops
- > Mass Flow, Pressure & Temperature
- > Display/data logger module for easy recording of data

## VPFlowScope dP

The VPFlowScope dP is designed for wet air<sup>1</sup>. When properly applied, it can be used in the discharge of the compressor. The VPFlowScope dP is fully compatible with the standard VPFlowScope, which means that it is easy to install and operate without additional training.

### Typical applications

- > Wet air, untreated compressed air<sup>1</sup>
- > High temperature up to 150 °C (302 °F)
- > High velocity applications (undersized pipes)

<sup>1</sup> The VPFlowScope dP can be used up to a high water content (saturated air). However, as it's based on the Pitot principle, some limitations apply: The rangeability is smaller, no vertical lines, no overflowing with water. See user manual for details.

# Specifications

## VPFlowScope dP

### Flow sensor

Measuring principle	Differential pressure
Flow range	20 ... 200 m <sub>n</sub> /sec   65 ... 650 sfps Bi-directional measurement
Accuracy	2% of reading over 1:10 range, under calibration conditions; Please refer to the user manual for details. Recommended pipe diameter: 50 mm (2 inch) and up.
Reference conditions	0 °C, 1013.25 mbar   32 °F, 14.65 psi
Gases	Wet compressed air, Dry compressed air, Nitrogen and Inert gases.

### Pressure sensor

Pressure sensor range	0 ... 16 bar   0 ... 250 psi gauge
Accuracy	+/- 1.5% FSS Temperature compensated

### Temperature sensor

Temperature sensor range	-40 ... +150 °C   -40 ... +302 °F. Icing should be avoided
Accuracy	+/- 1 °C   1.8 °F

### Data outputs

Digital	RS485, MODBUS RTU protocol
Analog	4 ... 20 mA output, selectable via software to indicate flow, pressure or temperature

### Display/data logger

Technology	Liquid Crystal (LCD)
Back light	Blue, with auto power save
Data logger	2 million points

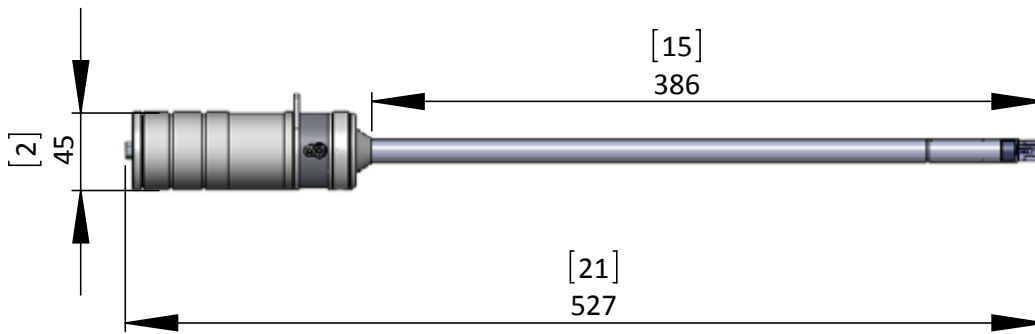
### Mechanical & environmental

Probe lengths	400 mm   15 inch (other lengths on request)
Process connection	Compression fitting, 0,5 inch
Pressure rating	PN16
Protection grade	IP52   NEMA 12 when mated to display module IP63   NEMA 4 when mated to connector cap - do not mount upside down
Ambient temperature range	-10 ... +50 °C   14 ... 122 °F. Avoid direct sunlight or radiant heat Higher ambient temperatures: consult factory
Wetted materials	Anodized Aluminum, Stainless steel 316, Epoxy
Corrosion resistance	Highly corrosive or acid environments should be avoided

### Electrical

Connection type	M12, 5 pin connector, female
Power supply	12 ... 24 VDC +/- 10 % Class 2 (UL)
Power consumption	1 Watt +/- 10% 50 mA +/- 10% @24VDC, constant over the entire flow range
UL/ CUL	14 AZ, Industrial Control Equipment
CE	EN 61326-1, EN 50082-1

# Technical drawings



## Order codes

### Flow meters

VPS.R200.P4DP.KIT  
VPS.R200.P4DP.D11

VPFlowScope dP start kit, for air audits, complete with software  
VPFlowScope dP with 2 million point data logger display module, for auditors and permanent installation (stand-alone)

VPS.R150.P400.D10  
VPS.R200.P4DP.D2

VPFlowScope with three row display  
VPFlowScope dP with connector cap. For Modbus networks

### Other probe lengths

Only available in 400 mm probe length

### Accessories

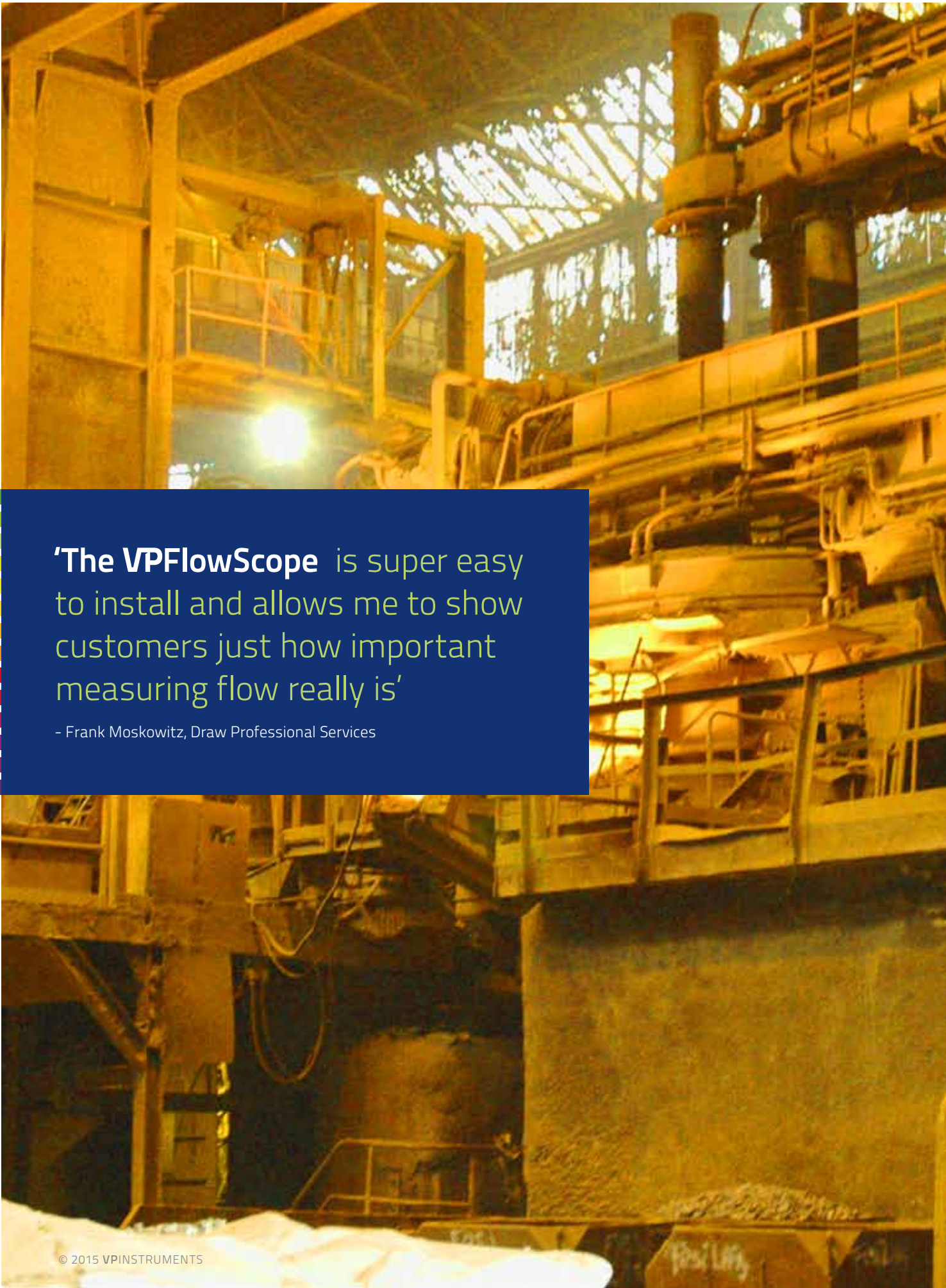
VPA.5000.005  
VPA.5001.105  
VPA.5001.900

Cable, M12, 5 pole, for permanent connection  
Interface box JB5 with 5 m/ 16.4 ft cable + 12 VDC power supply  
Connector cap with M12 socket for VPFlowScope sensor module

## VPS.R200.P4DP flow range table

SCHEDULE 40 STANDARD SEAMLESS CARBON STEEL PIPE								SCHEDULE 10 STANDARD SEAMLESS CARBON STEEL PIPE					
Size (inch)	DN	ID (inch)	ID (mm)	Min flow (scfm)	Max flow (scfm)	Min flow (m <sup>3</sup> <sub>n</sub> /hr)	Max flow (m <sup>3</sup> <sub>n</sub> /hr)	ID (inch)	ID (mm)	Min flow (scfm)	Max flow (scfm)	Min flow (m <sup>3</sup> <sub>n</sub> /hr)	Max flow (m <sup>3</sup> <sub>n</sub> /hr)
2	50	2.1	52.5	92	917	156	1,559	2.2	54.8	100	999	170	1,697
3	80	3.1	77.9	202	2,021	343	3,434	3.3	82.8	228	2,282	388	3,877
4	100	4.0	102.3	348	3,481	591	5,913	4.3	108.2	390	3,897	662	6,621
6	150	6.1	154.1	790	7,899	1,342	13,420	6.4	161.5	868	8,678	1,474	14,743
8	200	8.0	202.7	1,368	13,678	2,324	23,238	8.3	211.6	1,490	14,897	2,531	25,309
10	250	10.2	259.1	2,234	22,341	3,796	37,957	10.4	264.7	2,332	23,316	3,961	39,612
12	300	11.9	303.2	3,060	30,604	5,199	51,994	12.4	314.7	3,296	32,965	5,601	56,006
16	400	15.0	381.0	4,832	48,316	8,209	82,087	15.6	396.8	5,242	52,420	8,906	89,058
20	500	18.8	477.8	7,599	75,994	12,911	129,110	19.6	496.9	8,219	82,191	13,964	139,638

The ranges apply only to compressed air and nitrogen. Contact us for other gases. The field accuracy of an insertion probe is typically +/- 5% due to installation conditions. Insertion probes may not be used for official compressor testing.



**'The VPFlowScope** is super easy to install and allows me to show customers just how important measuring flow really is'

- Frank Moskowitz, Draw Professional Services