VA 525 - Compact inline flow sensor for air and nitrogen

No inlet section necessary – integrated flow straightener – optional pressure sensor

The newly developed VA 525 combines modern digital interfaces for connection to an energy monitoring system with a small, compact design. The VA 525 is always used when many machines (compressed air consumers) are to be integrated into an energy monitoring network.

Readout values in the display can be rotated by 180°, e.g. for overhead installation

Display shows 2 values at the same time:

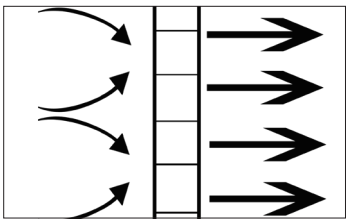
- Present flow in m³/h, CFM, SCFM
- Total consumption (counter reading) in CF, l, lbs
- Temperature measurement
- **Optional**: Pressure measurement

Screw-in thread:

Easy installation into the existing pipe due to integrated measuring section (suitable for 1/4", 1/2", 3/4", 1", 1 1/4", 1 1/2" or 2" lines)

Advantages at a glance:

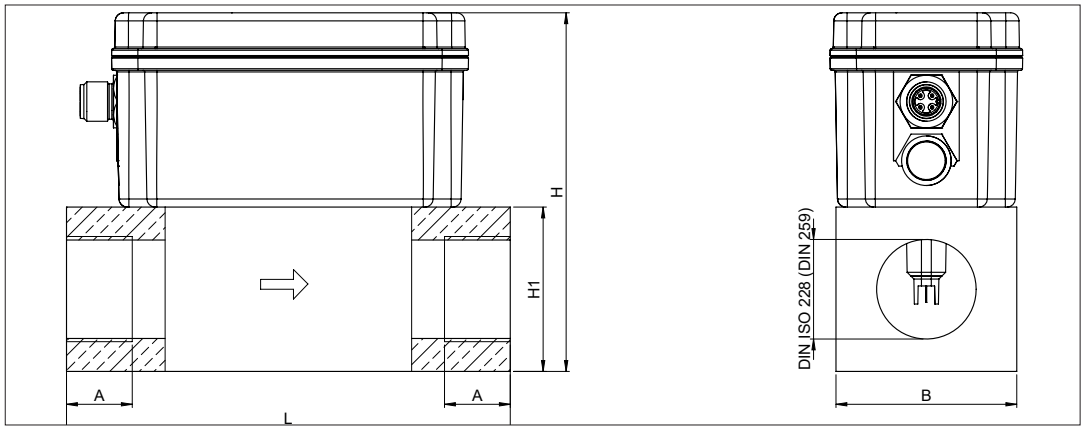
- Compact, small design - for use in machines, behind maintenance unit on the end user
- Optionally with conventional analog signals (4…20 mA and pulse) or digital interfaces such as Modbus-RTU, Ethernet (also PoE), M-Bus
- All interfaces are freely programmable via the display



Integrated flow straightener - no inlet section necessary

With a key stroke:

- Reset counter reading
- Select units
- Parameterise interfaces



Flow measuring ranges VA 525 (max version 185 m/s) for compressed air (ISO 1217:1000 mbar, 20 °C)
Measuring ranges for other types of gas see pages 104 to 107

Measuring section	Thread	Measuring range full scales		L	B	H1	H	A
		m³/h	cfm	mm	mm	mm	mm	mm
DN 8	G 1/4″	105 l/min	3.6	135	55	50	109.1	15
DN 15	G 1/2″	90 m³/h	50	135	55	50	109.1	20
DN 20	G 3/4″	170 m³/h	100	135	55	50	109.1	20
DN 25	G 1″	290 m³/h	170	135	55	50	109.1	25
DN 32	G 1 1/4″	530 m³/h	310	135	80	80	139.1	25
DN 40	G 1 1/2″	730 m³/h	430	135	80	80	139.1	25
DN 50	G 2″	1195 m³/h	700	135	80	80	139.1	30

Example order code VA 525:

0695 5250_A1_B1_C1_D1_E1_F1_G1_H1_I1_J1_K1_L1_M1_R1

Measuring section	
A1	1/4″
A2	1/2″
A3	3/4″
A4	1″
A5	1 1/4″
A6	1 1/2″
A7	2″

Threaded version	
B1	G female thread
B2	NPT female thread

Material type	
C1	Aluminum

Adjustment/calibration	
D1	No real gas adjustment - gas type configuration per gas constant
D2	Real gas adjustment in the gas type selected below

Gas type	
E1	Compressed air
E2	Nitrogen (N2)

Measuring range (see table)	
F1	Low-speed version (164 ft/s)
F2	Standard version (304 ft/s)
F3	Max version (607 ft/s)
F4	High-speed version (735 ft/s)

Reference standard	
G1	68 °F, 14.5 psi
G2	32 °F, 14.7 psi
G3	59 °F, 14.2 psi
G4	59 °F, 14.7 psi

Display option	
H1	with integrated display
H2	without display

Pressure measurement option	
I1	without pressure sensor
I2	With integrated pressure sensor 0…232 psi (output only via digital interfaces)
I3	with integrated pressure sensor 0.15...29 psi (abs), for vacuum applications (output only via digital interfaces)

Signal output / bus connection option	
J1	1x 4...20 mA analog output for present flow and pulse output
J2	Modbus-RTU (RS485)
J3	Ethernet interface (Modbus/TCP)
J4	Ethernet interface Power over Ethernet (Modbus/TCP)
J5	M-Bus

Rectifier	
K1	with integrated flow straightener, no additional inlet section necessary (with measuring section 1/2" to 2")
K2	without rectifier (for measuring section 1/4")

Accuracy class	
L1	± 1.5% of m.v. ± 0.3% of f.s.
L2	± 6% of m.v. ± 0.5% of f.s.
L3	± 1% of m.v. ± 0.3% of f.s.

Maximum pressure	
M1	232 psi

Surface conditon	
N1	standard version

Special measuring range	
R1	Special measuring range (please specify when placing order)

Order no. VA 525

DESCRIPTION	ORDER NO.
Compact inline flow meter	0695 5250 + Order code A_…R_

TECHNICAL DATA VA 525	
Parameters:	m³/h, CFM (1000 mbar, 20 °C) in case of compressed air or Nm³/h, Nl/min (1013 mbar, 0 °C) in case of gases
Units adjustable via keys at display:	m³/h, m³/min, CFM, l/s, ft/min, cfm, m/s, kg/h, kg/min, g/s, lb/min, lb/h
Sensor:	Thermal mass flow sensor
Measured medium:	Air
Measuring range:	See table above
Accuracy: **(o. M. V. = of measured value)** **(o. F. S. = of full scale)**	± 1.5% of m.v. ± 0.3 % of f.s. on request: ± 1% of m.v. ± 0.3% of f.s. or ± 6% of m.v. ± 0.5% of f.s.
Pressure measurement:	0…232 psi, accuracy: 1%, or 0.15...29 psi (abs)
Operating temperature:	-4…140 °F
Operating pressure:	Up to 232 psi
Digital output:	RS 485 interface, (Modbus-RTU), M-Bus (optional) Ethernet interface or PoE
Analog output:	4…20 mA for or CFM
Pulse output:	1 pulse per CF or per litre electrically isolated. Pulse weight can be set on the display. Alternatively, the pulse output can be used as an alarm relay.
Supply:	18…36 VDC, 5 W
Burden:	< 500 Ω
Housing:	Polycarbonate (IP 65)
Measuring section:	Aluminum
Connection thread of measuring sections:	G 1/4" to G 2" (BSP British Standard Piping) or 1/2" to 2" NPT thread
Mounting position:	any