

# S418-V

## Compact Thermal Mass Flow Meter for Vacuum Applications (Inline)









SMARTPHONE ANDROID APP  
For remote configuration

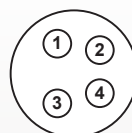


# Monitor consumption at point of use — optimize vacuum system efficiency



## S418-V FEATURES

	<p><b>SMARTPHONE ANDROID APP</b> For remote configuration</p>		<p><b>POINT-OF-USE INSTALLATION</b> No straight pipe section required</p>
	<p><b>COMPACT DESIGN</b> Can be installed anywhere</p>		<p><b>TOTAL FLOW</b> No bypass measurement</p>
	<p><b>EASY PROCESS MONITORING</b> Effective and inexpensive recording</p>		<p><b>ACCURATE RESULTS</b> Integrated flow conditioner</p>



Every sensor includes the 5m cable M8 with open ends  
Sensor with Modbus/MBUS include 1 cable  
Sensor with Analog output includes 2 cables

Pin assignment connector plug M8					
Output Version	Connector	Pin 1	Pin 2	Pin 3	Pin 4
Modbus	A	D-	-VB	+VB	D+
	B	D-	GND	NA	D+
Pulse and analog	A	I-	-VB	+VB	I+
	B	I-	P	P	I+
M-bus	A	M-bus	-VB	+VB	M-bus
	B	M-bus	NA	NA	M-bus
Wire colour		brown	white	blue	black

## S418-V BENEFITS

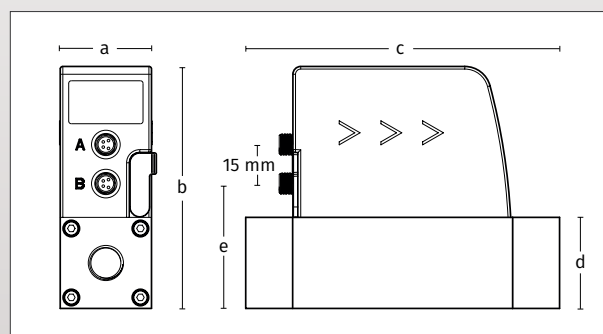
- Convenient installation, great flexibility, can be installed anywhere
- Available as DN8, DN15, DN20 and DN25 G (female thread)
- Accuracy of 1.5 % o.RDG, turn down ratio 100: 1
- Integrated data logger and pressure gauge

The more accurate you can monitor gas flow, the more likely you will discover weak points in the process flow, thus ensuring continuity and profitability.

Asymmetric velocity profiles, swirl, and other factors caused by bends in pipes can lead quickly to inaccurate readings. And it is often not possible to place flow meters at hard-to-reach places.

S418-V is used for performance monitoring of vacuum pumps. This inline flow meter measures the actual flow and absolute pressure on the low pressure side of vacuum pumps.

## S418-V DIMENSIONS



Dimensions in mm	a	b	c	d	e
DN8/DN15	35.0	93.0	120.4	35.0	48.0
DN20/DN25	48.0	106.0	178.0	48.0	61.0

## S418-V TECHNICAL DATA

Measurement	
<b>Flow</b>	
Accuracy	1.5 % o.RDG ±0.3 % FS
Selectable units	l/min, cfm, kg/h, m3/h
Measuring range	see table below
Repeatability	0.5 % o.RDG
Sensor	Thermal mass flow sensor
Sampling rate	10/sec
Turndown ratio	100:1
Response time (t90)	0.5 sec
<b>Consumption</b>	
Selectable units	m <sup>3</sup> , ft <sup>3</sup> , l, kg
<b>Pressure</b>	
Accuracy	0.5 % FS
Selectable units	bar, psi
Measuring range	0.01...1.60 bar(a)
Sensor	Piezzo resistive sensor
<b>Reference conditions</b>	
Selectable conditions	20 °C 1000 mbar (ISO1217) not adjustable
<b>Signal / Interface &amp; Supply</b>	
<b>Analog output</b>	
Signal	4 ... 20 mA, isolated
Scaling	0 ... max flow
Load	250R
Update rate	3/sec
<b>Pulse output</b>	
Signal	Max 30 V, 200 mA
Scaling	1 pulse per consumption unit
<b>Fieldbus</b>	
Protocol	Modbus/RTU
<b>Supply</b>	
Voltage supply	15 ... 30 VDC
Current consumption	120 mA @ 24 VDC
<b>Data interface</b>	
Connection	USB micro

General data	
<b>Configuration</b>	
Wireless	S4C-FS App for mobile phones
PC Software	S4A PC software for download and data analyzes
<b>Display</b>	
Integrated	4 digit LED
<b>Data Logger</b>	
Storage	8 Mio. values
<b>Material</b>	
Process connection	Aluminum alloy
Housing	PC + ABS
Sensor	Glass coated resistive sensor
Metal parts	Aluminum alloy
<b>Miscellaneous</b>	
Electrical connection	2 x M8 (4 pole)
Protection class	IP54
Approvals	CE, RoHS, FCC
Process connection	G-thread
Weight	0.45 ... 0.97 kg (depends on model)
<b>Operating conditions</b>	
Medium	Air
Medium quality	ISO 8573: 4.4.3 or better
Medium temperature	0 ... 50 °C
Medium humidity	< 90 % rH, no condensation
Operating pressure	0 ... 1.6 bar(a)
Ambient temperature	0 ... 50 °C
Ambient humidity	< 95 % rH
Storage temperature	-30 ... 70 °C
Transport temperature	-30 ... 70 °C
Pipe sizes	DN8, DN15, DN20, DN25

S418-V Measuring Range	Standard Configuration				
	DN8	DN15	DN20	DN25	Absolute Pressure (mbar)
Vacuum flow in l/min	56	222	444	778	900
	63	250	500	875	800
	71	286	571	1000	700
	83	333	667	1167	600
	100	400	800	1400	500
	125	500	1000	1750	400
	167	557	1333	2333	300
	250	1000	2000	3500	200
	500	2000	4000	7000	100

## S418-V DISPLAY DIRECTION



## S418-V ORDERING

Please use the following tables to assist in placing your order with our sales staff.

S418-V Compact Thermal Mass Flow Meter for Vacuum Applications (Inline)		
Order No.	Code	Description
S695 419	S418-V	S418-V, vacuum flow meter, G inner thread, 1.5 % o. RDG, with integrated absolute pressure sensor, 24 VDC supply voltage, Air, 5 m cable with M8 connector and open ends included
<b>Size</b>		
S695 419	0	DN8
S695 419	1	DN15
S695 419	2	DN20
S695 419	3	DN25
<b>Output</b>		
A1455	A	Analog 4 ... 20 mA, Pulse output
A1456	B	Modbus/RTU output
A1457	C	M-Bus output
<b>Units</b>		
	A	With SI units
A1459	B	With imperial units instead of SI units
<b>Display direction</b>		
	A	Standard display direction
A1460	B	Reverse display direction

S418-V Accessories	
Order No.	Description
A554 0109	Mains power supply 100-240 VAC / 24 VDC, 0.5 A, 2 m cable with M8 connector
A553 0137	Connection cable to S551, 5 m
M599 7020	S4A data analysis software, for data logger S418-V

Example: S418-V1BB  
DN15, Modbus/RTU, imperial units

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