Flow Meter - Thermal Mass

Inline type sensor

For clean and dry gases in smaller pipes

Features

Inline type sensor

Suitable for clean, dry compressed air and gases

Flow range: 0-250 Nm/s

Accuracy: ±1.5% reading, ±0.3% full scale

Thermal mass technology, independent of pressure and temperature change

Low pressure drop minimises effects on gas flow

Stable, accurate measurements

Measure: standard flow, mass flow, consumption and temperature

Integrated touch screen display with data logging

Two outputs as standard
(i) Digital - Modbus RTU
(ii) Analog – 4…20 mA + Pulse

Options:
(i) DN 15 to D850
(ii) Multiple gas options
(iii) With or without data cables
(iv) Flange or screw connection

Inline style Flow Meter
R Thread connection

Inline style Flow Meter
Flange connection

Inline type, thermal mass flow sensors are perfectly suited for measuring clean, dry compressed air and inert gas systems, where accuracy on smaller pipe sizing is important. The streamlined sensor tip is designed to ensure minimal impact on gas flow while maintaining accuracy over a wide flow range.

Threaded pipe sections are available from DN15 to DN80 with other options available on request.

Benefits of flow monitoring:

- Improve system efficiency
- Reduce system maintenance
- Reduce operating and energy costs
- Increase system understanding and operation
- Identify changes in system performance
- Identify non-productive air demand and leakage
- Identify peak and average demand

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Specifications

Measurement Range	
Flow Velocity	0.1 to 250 Nm/s (0.3 to 820 ft/sec)
Gas Temperature	-40 to +150°C -40 to +302°F
Gas Pressure	0 to 16 bar (232 psi) or 0 to 40 bar (580 psi)
Accuracy	
Flow Accuracy	±(1.5% RD + 0.3% FS)
Contact us for higher accuracy of 1% RD	
Reference Conditions: 20 °C, 1 bar(a) -ISO 1217 (editable)	
The accuracy and response time of the sensor can be affected by the on-site conditions, contaminates in the gas and incorrect installation.	
Working Environment	
Ambient Temperature	-30 to +70°C -22 to +158°F
Gas types	Compressed air, nitrogen, oxygen, carbon dioxide and other non-condensable gases
Gas Quality	Clean and dry gas
Display & Data Logger	
Display	2.8" IPS ultra-wide viewing angle LCD touch screen
Data Logging	10,000,000 record points
Sampling Rate	> 20 samples per second

Output	
Analogue Output	4-20 mA (isolated) ⁄ Pulse output
Digital Output	Modbus RTU (RS485)
Output Signals	Flow, Mass flow, Consumption, Temperature
Full digital signal processing	
Power Supply	
Power Requirement	18 to 30V DC⁄ 5W @ 24V
Electrical Connection	2 × 5 pin M12, Female
Electromagnetic Compatibility	Meets IEC 61326-1
Other	
Process Connection	R thread (ISO-7-1) or Flange (DIN), PN16 and PN40)
Pipe Size	DN15 to DN80 0.5” to 3.0”
IP Rating	IP65
Sensor Technology	Thermal Mass (not affected by temperature and pressure)
Turndown Ratio	Ultra-wide, 1:2500
Installation	Permanent or Temporary
Calibration	Every 2 years
Annual calibration is required if the sensor is exposed to relative humidity above 85%.	
Warranty	12 months

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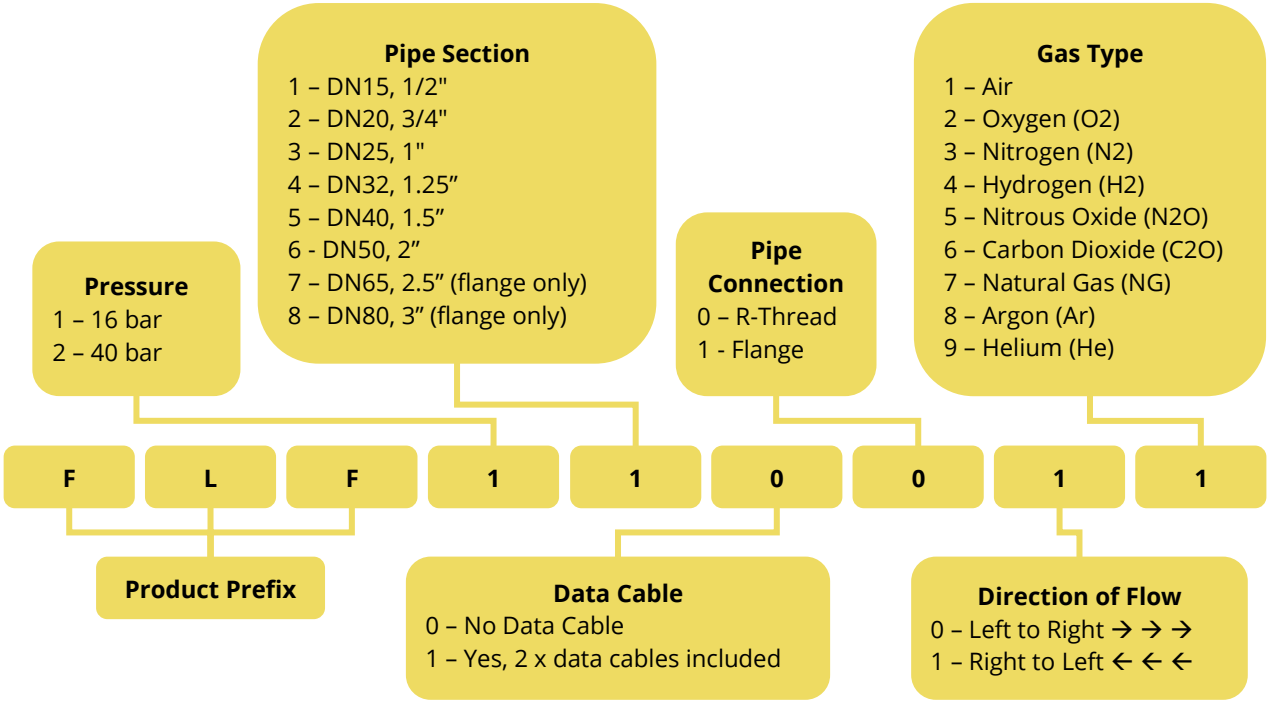
Flow Range

Pipe Size			Flow Range (Nm3/h)		Flow Range (cfm)	
DN (mm)	Inches	Connection	Min Flow	Max Flow	Min Flow	Max Flow
15	½"	R Thread or Flange	0.06	158	0.04	93
20	3/4"		0.1	282	0.06	166
25	1"		0.2	441	0.1	259
32	1.25"		0.3	723	0.2	425
40	1.5"		0.5	1,131	0.3	665
50	2"		0.7	1,767	0.4	1,040
65	2.5"	Flange only	1.2	2,986	0.7	1,757
80	3"		1.8	4,523	1.1	2,662

How to Order

Buy online: www.compressedairalliance.com/products



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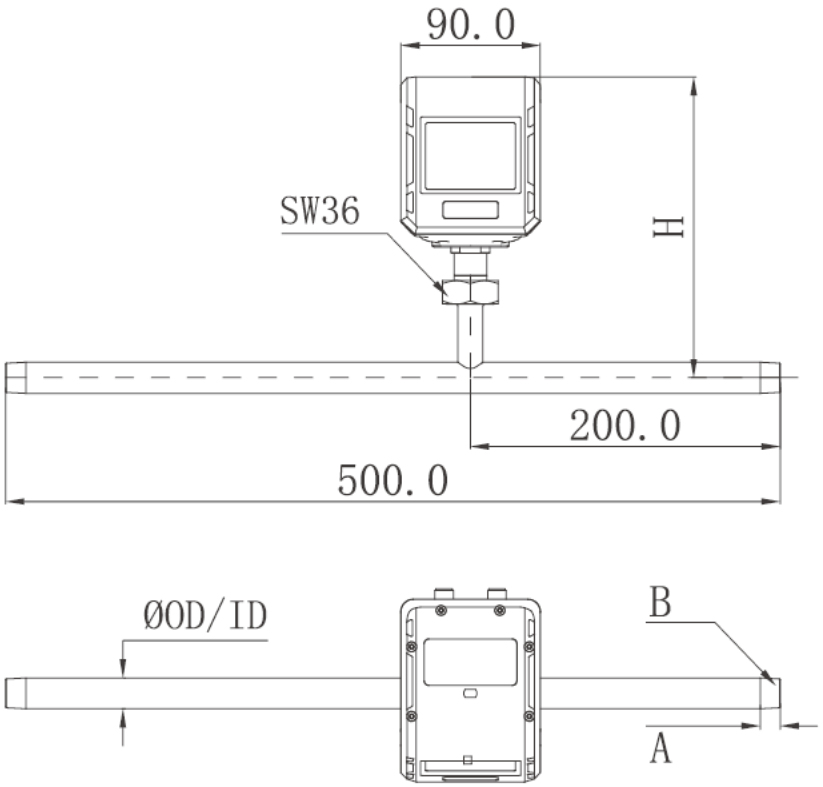
R Thread
ISO ISO-7-1



Pipe Size		Dimensions (mm)		
DN	Inches	A Thread Length	B External Thread	H From pipe center to top of case
15	1/2"	≥13.2	R1/2”	177
20	3/4"	≥14.5	R3/4”	176
25	1”	≥16.8	R1”	175
32	1.25”	≥19.1	R1.25”	177
40	1.5”	≥19.1	R1.5”	177
50	2”	≥23.4	R2”	177

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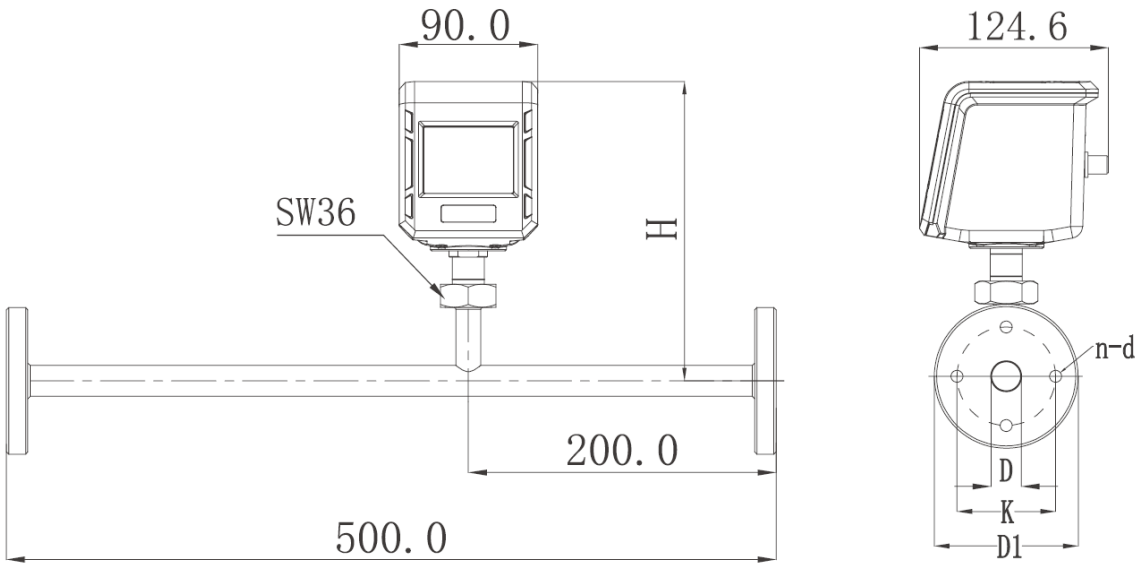
Flange Details

ISO 7005 (DIN), PN16 and PN40



Pipe Size		Dimensions (mm)						
DN	Inches	D Inner pipe diameter	D1 Flange outer diameter	K Screw hole, centre distance	H From pipe centre to top of case	N Number of bolt holes	D Bolt hole diameter	- Bolt Size
15	1/2"	15	95	65	177	4	14	M12
20	3/4"	20	105	75	176	4	14	M12
25	1”	25	115	85	175	4	14	M14
32	1.25”	32	140	100	177	4	18	M16
40	1.5”	40	150	110	177	4	18	M16
50	2”	50	165	125	177	4	18	M16
65	2.5”	65	185	145	177	4 (PN16) 8 (PN40)	18	M16
80	3”	80	200	160	177	8	18	M16

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Flow Meter Product Range

Pitot Tube Flow Meter

Ideal for wet, dirty and high velocity gases.
Easy to install under pressure through a 1/2" ball valve

Flow Range
5 to 300 Nm/sec (17 to 984 ft/sec)
Min Flow Velocity: 5 Nm/s (17 ft/sec)

Pressure Range
0 to 16 bar (232psi)

Bi-directional
Optional

Gas Quality
Clean, dry, wet or dirty gas
Can be installed on the outlet of compressors.

Outputs
Modbus & 4-20mA

Pipe Size
DN25 to DN600

Thermal Mass - Insertion Style

Easy to install under pressure through a 1/2" ball valve

Flow Range
0.1 to 250 Nm/sec (0.3 to 820 ft/sec)

Pressure Range
0 to 50 bar (725psi)

Bi-directional
No

Gas Quality
Clean dry gas
Must be installed after a dryer

Outputs
Modbus & 4-20mA

Pipe Size
DN20 to DN600

Thermal Mass - Inline Style

Ideal for permanent installations or where shutting down the system to install the sensor is not an issue

Flow Range
0.1 to 120 Nm/sec (0.3 to 393 ft/sec)

Pressure Range
0 to 40 bar (580psi)

Bi-directional
No

Gas Quality
Clean dry gas
Must be installed after a dryer

Outputs
Modbus & 4-20mA

Pipe Size
DN15 to DN80

Vortex Flow Meter

For use in gas and steam systems

Flow Range
1.5 to 80 m/s (5 to 24 ft/sec)
Min Flow Velocity: 1.5 Nm/s (4.9 ft/sec)

Pressure Range
0 to 63 bar (913psi)

Bi-directional
No

Gas Quality
Clean, dry, wet or dirty gas / steam

Outputs
Modbus & 4-20mA

Pipe Size
DN15 to DN300

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