Flow Meter - Thermal Mass

For clean and dry gases, where shutting down the system is difficult

Features

Insertion 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

Easy to insert and remove through 1/2” valve, even when under pressure

Integrated touch screen display with data logging

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

Options:
(i) Shaft lengths - 250 mm or 400 mm
(ii) Multiple gas options
(iii) With or without data cables

Insertion type, thermal mass flow sensors are perfectly suited for measuring clean, dry compressed air and inert gases, where shutting down the system is difficult or impossible.

The streamlined design ensures minimal impact on gas flow while maintaining accuracy over a wide flow range. This thermal mass flow meter has full digital signal processing instead of traditional analog bridge design, making the flow meter more accurate and allowing a wider measuring range.

Suitable for DN20 to DN600 and can be installed through 1/2” ball valve under pressure.

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

sales@compressedairalliance.com
www.compressedairalliance.com

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) Up to 50 bar (725 psi) if using a retention cage
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	ISO G1/2" thread
Pipe Size	DN20 to DN600 0.75” to 12.0”
Shaft Lengths	250 mm or 400 mm 9.8" or 15.7”
IP Rating	IP65
Sensor Technology	Thermal Mass (not affected by temperature and pressure)
Turndown Ratio	Ultra-wide, 1:2500
Bi-directional	No
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

sales@compressedairalliance.com
www.compressedairalliance.com

Flow Range

Pipe Size			Flow Range (Nm3/h)		Flow Range (cfm)	
DN	ID (mm)	Inches	Min Flow	Max Flow	Min Flow	Max Flow
20	20	3/4"	0.1	282	0.1	166
25	25	1"	0.2	441	0.1	259
32	32	1.25"	0.3	723	0.2	425
40	40	1.5"	0.5	1,131	0.3	665
50	50	2"	0.7	1,767	0.4	1,040
65	65	2.5"	1.2	2,986	0.7	1,757
80	80	3"	1.8	4,523	1.1	2,661
100	100	4"	2.8	7,068	1.6	4,158
125	125	5"	4.4	11,044	2.6	6,498
150	150	6"	6.4	15,904	3.8	9,357
200	200	8"	11.3	28,274	6.6	16,635
250	250	10"	17.7	44,178	10.4	25,991
300	300	12"	25.4	63,617	14.9	37,428

How to Order

Buy online: www.compressedairalliance.com/products

Gas Type
1 – Air
2 – Oxygen
3 – Nitrogen
4 – Hydrogen
5 – Nitrous Oxide
6 – Carbon Dioxide
7 – Natural Gas
8 – Argon
9 – Helium

Shaft length
1 - 250 mm (9.8")
2 - 400 mm (15.7")

F	L	T	1	1	0	0	0	1

Product Prefix

Data Cable
0 – No Data Cable
1 – Yes, 2 x data cables included

Gas Flow Direction
0 – Left to Right → → →
1 – Right to left ← ←←

sales@compressedairalliance.com
www.compressedairalliance.com

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 250 Nm/sec (0.3 to 820 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 DN50

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

---

sales@compressedairalliance.com
www.compressedairalliance.com