Thermal Mass Flow Meter

For clean and dry gases

Key Features

- Flange (DIN), PN16 and PN40 or R thread (ISO-7-1)
- IP65 rating
- Flow range:
  - 0.1 to 250 Nm/s
  - 0.3 to 820 ft/sec
- Accuracy: ±1.5% reading, ±0.3% full scale
- Touch screen display
- Power Supply: 18 to 30 vDC
- Two outputs as standard:
  - Digital - Modbus RTU
  - Analog – 4...20 mA + Pulse
- Measure: standard flow, mass flow, consumption and temperature
- Stable, accurate measurements

Flange connection

R Thread connection

About

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

Thermal mass technology is independent of pressure and temperature change. With no moving parts, the flow meter has a stable signal, high reliability and long-term measurement accuracy.

The streamlined sensor tip ensures minimal impact on gas flow while maintaining accuracy over a wide flow range.

The flow meter has digital signal processing, replacing the traditional analog bridge design. This makes the flow meter more accurate and has a wider range (range ratio of 1:2500).

Applications

- Manufacturing and industrial use
- Temporary or permanent installation
- Clean, dry compressed air and inert gases
- Gas pressure up to 40 bar (580 psi)
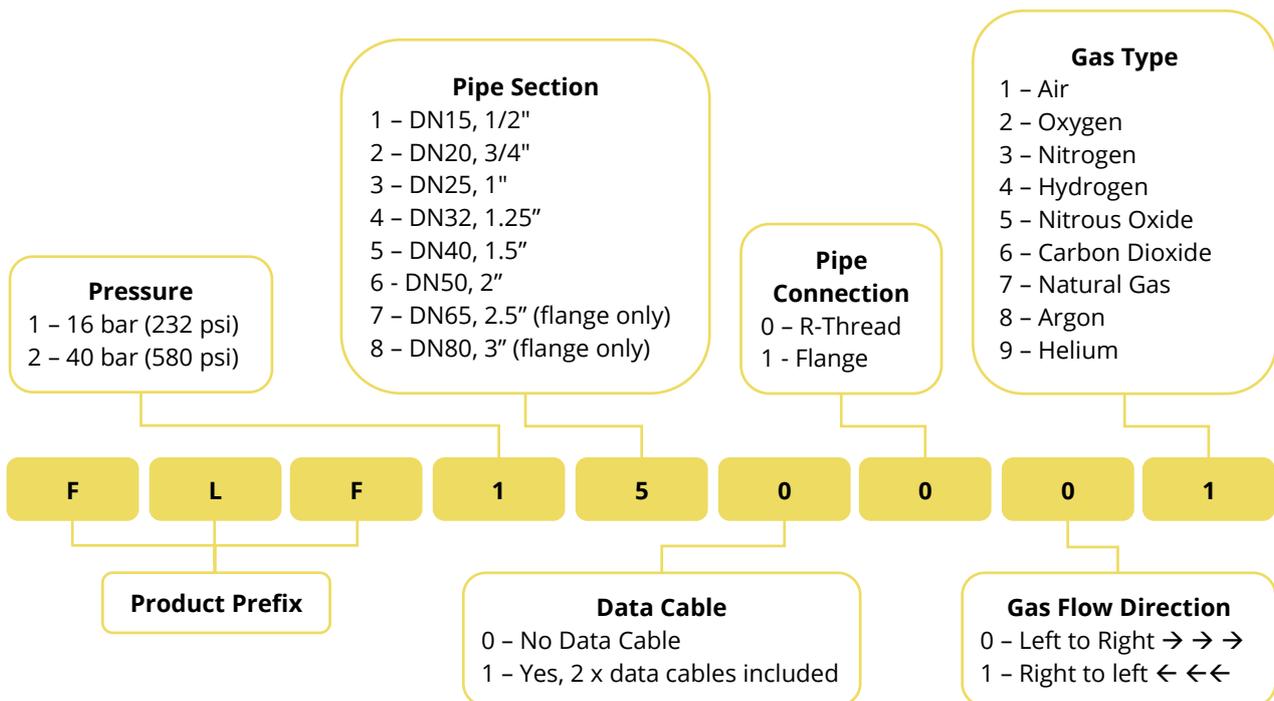- Pipe Sizes: DN15 to DN80

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
HS Code	9026.80.80

Flow Range

Pipe Size			Flow Range (Nm3/h)		Flow Range (cfm)	
DN	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

Pressure
1 – 16 bar (232 psi)
2 – 40 bar (580 psi)

Pipe Section
1 – DN15, 1/2"
2 – DN20, 3/4"
3 – DN25, 1"
4 – DN32, 1.25"
5 – DN40, 1.5"
6 - DN50, 2"
7 – DN65, 2.5" (flange only)
8 – DN80, 3" (flange only)

Pipe Connection
0 – R-Thread
1 - Flange

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

| F | L | F | 1 | 5 | 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 ← ← ←

Flow Meter Range

Pitot Tube Flow Meter

Ideal for wet, dirty and high velocity gases.

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

Installation
Insertion

Pressure Range
0 to 16 bar (232psi)

Bi-directional
Optional

Gas Quality
Clean, dry, wet or dirty gas.

Outputs
Modbus & 4-20mA

Pipe Size
DN25 to DN600

IP Rating
IP65 (indoor use)

Thermal Mass

For clean, dry gas

Flow Range
0.1 to 250 Nm/sec (0.3 to 820 ft/sec)
Min Flow Velocity: 0.1 Nm/s (0.3 ft/sec)

Installation
Insertion
Inline – Flange or R-Thread connection

Pressure Range
Insertion: 0 to 50 bar (725psi)
Inline: 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
Insertion - DN20 to DN600
Inline – DN15 to DN80

IP Rating
IP65 (indoor use) or IP67 (outdoor use)

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)

Installation
Inline – Flange or R-Thread connection

Pressure Range
0 to 63 bar (913psi)

Bi-directional
No

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

Outputs
Modbus & 4-20mA

Pipe Size
DN15 to DN300

IP Rating
IP67

Mini Flow Meter

For point of use applications

Installation
Inline

Pressure Range
0 to 16 bar (232psi)

Bi-directional
No

Gas Quality
Clean dry gas

Outputs
Modbus & 4-20mA

Pipe Size
DN3 to DN40

IP Rating
IP54

Strength

- We export to almost 100 countries.
- We have more than 2000 global customers.
- We can provide a total filtration solution.

- Filter-Online & Nordic Filtration offers a wide selection of filtration products for Domestic and Industrial Application.

- You can buy our products on our websites or by contacting us by phone or e-mail.
  Information about our products as well as brochures and manuals can be found on our websites:

www.filter-online.com for Domestic Products

nordicfiltration.com for Industrial Products

We distribute many of our products from our stock in Denmark.
Some products are shipped from remote stock.

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