

DB41

Compact thermal mass flow meter and counter for compressed air and non-aggressive gases

- **integrated upstream and downstream pipe runs for high levels of accuracy**
- **available for ¼" to 1 ½" pipe sizes**
- **measuring ranges:
0.8–90 NI/min
to 1.8–400 Nm³/h**
- **local LCD display for flow rate and total**
- **output signals: 4 to 20 mA for flow rate, pulses for totalization**



Description:

Model DB41 thermal mass flow meters and counters report and measure mass flow rates and totals of non-aggressive gases, regardless of gas pressure and temperature. Process gas flows around a heated temperature sensor that is encapsulated in glass. As a result, the sensor dissipates heat which an electronics module returns to the sensor to maintain it at a constant temperature. The dissipated heat energy is proportional to the mass flow rate of the gas and is displayed by the electronic analyzer utilizing calibration curves and process parameters stored in the instrument. A 4 to 20 mA signal outputs the flow rate to secondary evaluation devices and a pulse output with a pre-defined pulse value provides a totalizing function. High levels of accuracy are obtained by means of upstream and downstream pipe runs integrated in the instrument which ensure that the flow stream is laminar.


Typical Applications:


Series DB41 thermal mass flow meters and counters provide flow measurement of non-aggressive gases in ¼" to 1 ½" pipe systems. Their rugged, heavy-duty design and easy handling and operation make them the right choice for measuring and monitoring compressed air consumption. They also provide measurements of other suitable gases such as: nitrogen oxygen, argon, helium and carbon dioxide.

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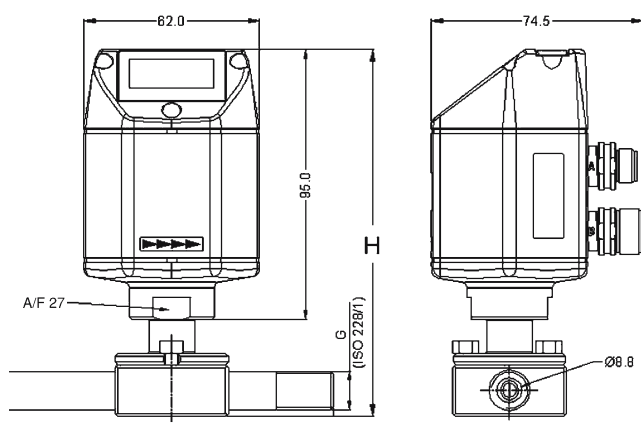
Models:

DB41...: Thermal mass flow meters and counters for gases with integrated upstream and downstream pipe runs made of stainless steel 1.4301

Measuring ranges:

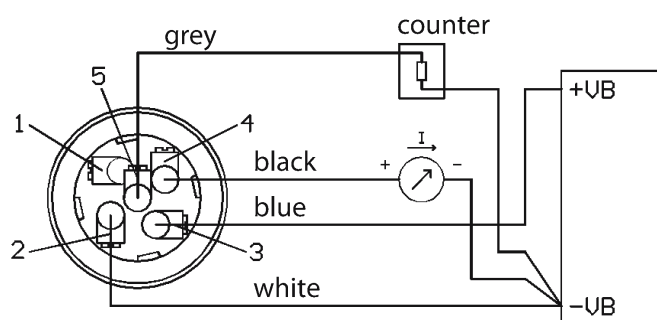
Process connection (G or NPT)	Pipe ID (mm)	Measuring range	Length of device pipe section (mm)
1/4"	8.8	0.8 to 90 NI/min	194
1/2"	16.1	0.2 to 80 Nm ³ /h	324
3/4"	21.7	0.2 to 140 Nm ³ /h	439
1"	27.3	0.2 to 240 Nm ³ /h	549
1 1/2"	41.8	1.8 to 400 Nm ³ /h	839

Dimensions:



Pipe size (D)	1/4"	1/2"	3/4"	1"	1 1/2"
Height (H) (mm)	129	136	143	151	171

Electrical Connection:



Ordering Code:

Order Number: DB41. G. 15. L. 0

Thermal mass flow meters and counters for gases with integral upstream and downstream pipe runs

Model:

G = G male thread
N = NPT male thread

Measuring range and pipe size:

08 = 0.8 to 90 NI/min, 1/4"
15 = 0.2 to 80 Nm³/h, 1/2"
20 = 0.2 to 140 Nm³/h, 3/4"
25 = 0.2 to 240 Nm³/h, 1"
40 = 1.8 to 400 Nm³/h, 1 1/2"

Process gas:

L = air
N = nitrogen
A = argon
H = helium
C = carbon dioxide
S = oxygen

Options:

0 = none
9 = please specify in writing

Accessories :

- DB41-Z.L5** 5 m cable with matching plug
- DB41-Z.L10** 10 m cable with matching plug
- DB41-Z.N1** Wall mounted power supply, 100-240 VAC, 10 VA on 24 VDC, 0.35 A
- DB41-Z.N2** plug-in power supply, 100-240 VAC on 24 VDC, 0.35 A, with 2 m cable
- DB41-Z.K5** factory calibration, 5 measuring points

Technical Specifications:

- max. pressure:** 16 bar
- Process gas temperature:** -30 to +80 °C
- Measurement uncertainty:** ± 3% of measured value (± 2% with factory calibration)
- Measuring ranges and nominal sizes:** refer to "Ordering Code" section
- Mounting position:** any
- Voltage supply:** 24 VDC
- Outputs :** 4 to 20 mA (max. load 500 ohm), pulses (1 pulse/L for DB41...08 or 1 pulse/m³ for DB41...15 to 40, other pulse values available on request)
- Display :** LCD, for flow rate and total (NI/min for DB41...08 or Nm³/h for DB41...15 to 40, other units available on request)
- Electrical protection:** IP65

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