DB40

Thermal mass flow meters and counters for compressed air and non-aggressive gases

- **insertion model**
- **available for DN25 (1") to DN600 (24") pipe sizes**
- **for flow velocities: 0–92.7m/s, 0–185 m/s and 0–224 m/s**
- **optional local LCD display for flow rate and total**
- **output signals: 4 to 20 mA for flow rate, pulses for totalization**

Description:

Model DB40 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 output as a 4 to 20 mA signal by the electronic utilizing calibration curves and process parameters stored in the instrument. The 4 to 20 mA signal is routed to secondary evaluation devices and provides the flow rate information. An additional pulse output with a pre-defined pulse value is used for totalizing purposes. Mass flow rate and total may also be displayed on an integrated back-lit display if required. The instruments are supplied with a ½" thread compression fitting and can be installed and disassembled under pressurized conditions.

Typical Applications:

Model DB40 thermal mass flow meters and counters provide flow measurement of non-aggressive gases in DN25 to DN600 pipe systems. Their rugged, heavy-duty design and easy handling and operation make them the right choice for measuring and monitoring compressed air consumption levels. They also provide measurements of other suitable gases such as: nitrogen oxygen, argon, helium and carbon dioxide.

PKP PROZESSMESSTECHNIK

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Models:

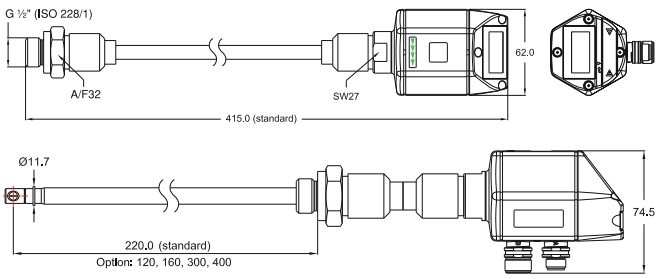
DB40.S...	standard model, mass flow rate 0–92.7 m/s, ½" male thread
DB40.H1...	mass flow rate 0–185 m/s ½" male thread
DB40.H2...	mass flow rate 0–224 m/s ½" male thread

Measuring ranges:

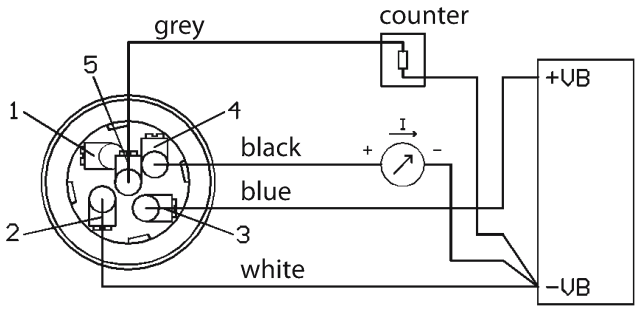
The quoted measuring ranges are a rough guide only. The exact measuring ranges are calculated taking the actual inside diameter of the given pipe into account and are used during production to calibrate the instruments.

Process connection (DN) and pipe ID (mm)	Upper end value (20 mA) in Nm³/h			Recommended probe length (mm)
	DB40.S 0–92,7 m/s	DB40.H1 0–185 m/s	DB40.H2 0–224 m/s	
25 (1")	122	244	295	120
32 (1 ¼")	219	437	529	
40 (1 ½")	333	640	775	160
50 (2")	530	1,060	1,280	
65 (2 ½")	915	1,820	2,200	
80 (3")	1,390	2,780	3,365	
100 (4")	2,185	4,360	5,275	220
125 (5")	3,425	6,825	8,260	
150 (6")	4,940	9,840	11,910	
200 (8")	8,820	17,530	21,230	
250 (10")	13,740	27,430	33,210	300
300 (12")	19,840	39,540	47,880	
400 (16")	33,320	70,300	85,120	
500 (20")	55,100	109,850	133,000	600
400 (24")	79,350	158,180	191,520	

Dimensions:



Electrical Connection:



Ordering Code:

Order Number:	DB40.	G.	15.	L.	0

Thermal mass flow meters and counters for gases – insertion model

Measuring ranges (see table):
S = 0 to 92.7 m/s (standard)
H1 = 0 to 185 m/s
H2 = 0 to 224 m/s

Probe lengths:
12 = 120 mm
16 = 160 mm
22 = 220 mm (standard)
30 = 300 mm
40 = 400 mm

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

Options:
0 = none
D = with LCD-display
9 = please specify in writing

Other information: inside pipe diameter in mm (please specify when placing your order, is needed to calculate the exact measuring range.)

Accessories:

DB40-Z.M	installation kit, containing a weld-on fitting and ½" ball valve made of stainless steel
DB40-Z.L5	5 m cable with matching plug
DB40-Z.L10	10 m cable with matching plug
DB40-Z.N1	Wall mounted power supply, 100-240 VAC, 10 VA on 24 VDC, 0.35 A
DB40-Z.N2	plug-in power supply unit, 100-240 VAC on 24 VDC, 0.35 A, with 2 m cable
DB40-Z.K5	factory calibration, 5 points

Technische Daten:

max. pressure:	50 bar
Process gas temperature:	-30 to +110 °C
Measurement uncertainty:	± 4% of measured value (± 3% with factory calibration)
Probe length:	refer to "Measuring ranges" table
Mounting position:	any
Voltage supply:	12–30 VDC
Outputs :	4 to 20 mA (max. load 500 ohm), pulses (1 pulse/m³), other pulse values available on request
Display (option D):	LCD, for flow rate in Nm³/h, for total in Nm³ (other units available on request)
Electrical protection:	IP65

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