

DB04

Thermal mass flowmeter for gases without auxiliary power

- **Pressure and temperature-independent measurement**
- **Compact design, no need for straight pipe runs**
- **LCD display, flow rate and bar graph**
- **Needle valve, switch output and totaliser as options**
- **High degree of measuring precision**
- **Turndown ratio up to 50:1**
- **Battery operated – no external power supply needed**



Description:

The DB04 thermal mass flowmeter is a modular system for the measurement of the flow of gases. Due to its being independent of any power supply because of its integrated battery, and its excellent cost-effectiveness, the device can replace conventional variable area flowmeters in many cases. The DB04 can be supplied in a number of versions: as a flowmeter with an integrated regulating valve, a totaliser or with an adjustable limit switch. Depending on the medium, the device can be made of either stainless steel or aluminium.

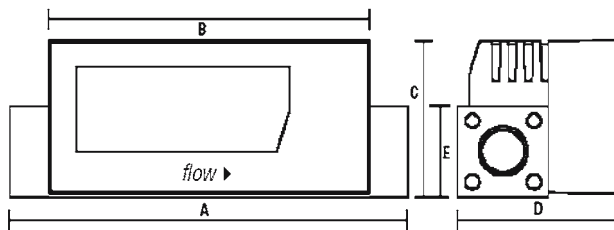
The DB04 measures flows of 4...200 Nl/min up to 4...200 Nl/min. The standard calibration medium is air, but a number of other gases such as O₂, N₂, He, Ar etc can be measured. A 4-digit LCD display combined with a bar graph display allows the measurements to be read off simply and quickly. The device operates in any position and can be easily cleaned without the need for recalibration.

Versions:

- DB04.1:** Mass flowmeter (battery-operated)
DB04.2: Mass flowmeter (battery-operated) with integrated manual regulating valve
DB04.3: Mass flowmeter (24V DC externally supplied) with integrated limit switch
DB04.4: Mass flowmeter (24V DC externally supplied) with manual regulating valve and limit switch

Measuring ranges and dimensions:

Measuring-range (NL/min)	Con-nection (G IG)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
0,004...0,2	1/4	114	89	44	44	25
0,01...0,5	1/4	114	89	44	44	25
0,04...2	1/4	114	89	44	44	25
0,1...5	1/4	114	89	44	44	25
0,4...20	1/4	114	89	44	44	25
1...50	1/4	114	89	44	44	25
2...100	1/2	160	89	54	54	35
4...200	1/2	160	89	54	54	35



Materials:

- DB04.x.x.A:** Aluminium casing, PBT sensor, Viton seal
DB04.x.x.E: Special steel casing, electropolished, PBT sensor, Viton seal

Options:

- Totaliser
- EPDM seals
- 24 V DC supply for DB04.1 and 2
- Calibration protocol
- Medium air, N₂, O₂
- Other media

Ordering Code:

Order no.: DB04. 1. 01. A. 0. L

Thermal mass flowmeter for gases

Version:

- 1 = Flowmeter
 2 = Flowmeter with manual regulating valve
 3 = Flowmeter and switch
 4 = Flowmeter and switch with manual regulating valve

Measuring range (air):

- 01 = 0.004 ... 0.2 NI/min
 02 = 0.01... 0.5 NI/min
 03 = 0.04 .. 2 NI/min
 04 = 0.1.. 5 NI/min
 05 = 0.4...20 NI/min
 06 = 1...50 NI/min
 07 = 2... 100 NI/min
 08 = 4 ...200 NI/min

Material:

- A = Aluminium casing
 E = Stainless steel casing

Options:

- 0 = without
 E = EPDM seals
 V = Voltage supply 24V DC for DB04.1/2
 K = Calibration protocol

Medium:

- L = Standard medium: air
 N = Standard medium: N₂
 O = Standard medium O₂
 S = Other media (please indicate in block letters)

Technical data:

- Max. pressure:** 10 bars
Medium temperature: 0...50 °C
Measurement uncertainty: ± 1 % f.s.d. ≤ 60 NI/min
 ± 2 % f.s.d. ≤ 200 NI/min
 ± 3 % f.s.d. > 200 NI/min
- Response time:** 500 ms
Voltage supply: Lithium battery type AA (service life approx. 2 years) or 24V DC +/- 10%
Display: LCD, 4-digit
Installation position: up to 5 bars: any position, over 5 bars: horizontal
Limit value output: Potential-free change-over contact (24 V, 1 A)
Function: MIN or MAX alarm, switching point, delay, hysteresis programmable