

DB05

Thermal mass flowmeter and controller for gases

- **Pressure and temperature-independent measurement**
- **Compact design, no need for straight pipe runs**
- **High degree of precision, short response time**
- **Analogue inputs and outputs for set and actual value, serial interface**
- **Turndown ratio up to 100:1**
- **Materials: aluminium or stainless steel**



Description:

The DB04 thermal mass flowmeter and controller is modular system for measuring and regulating the flow of gases. The device can be supplied as a pure flowmeter, or with an integrated control valve with PI control function. In series production the DB05 has analogue current signals for the momentary flow and the set flow, as well as a serial interface via which the device can be programmed with user-friendly Windows software. A variety of non-aggressive gases can be measured in measuring ranges from 0..25 ml/min to 0...200 l/min.

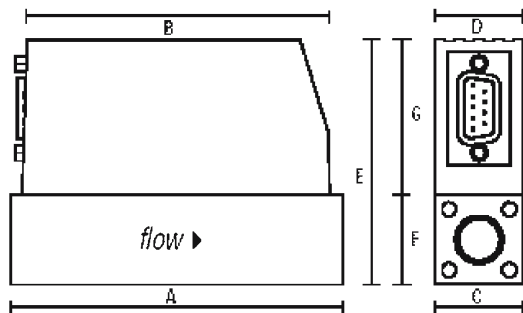
As a result of its modular structure, and due to the fact that it can be installed in any position and can be easily cleaned without the need for recalibration, the DB05 is suitable for the most varied applications, such as analysis devices, in the semiconductor industry, for pneumatic installations, lasers, welding systems or fuel cells. Depending on the area of application, the device can be supplied with an aluminium or stainless steel casing as well as with a measuring accuracy of 1.5%, or as a precision instrument with an accuracy of 0.5%.

Versions:

- DB05.MS:** Mass flowmeter
Standard accuracy 1.5% f.s.d.
- DB05.CS:** Mass flowmeter and controller
Standard accuracy 1.5% f.s.d.
- DB05.MH:** Mass flowmeter
Increased precision 0.5% f.s.d.
- DB05.CH:** Mass flowmeter and controller
Increased precision 0.5% f.s.d.

Measuring ranges and dimensions:

Version	Con- nection (G IG)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)
DB05.M..	1/4	94	87	25	25	69	25	44
DB05.M..	1/2	145	87	35	25	79	35	44
DB05.C...	1/4	124	117	25	25	69	25	44
DB05.C...	1/2	170	117	35	25	79	35	44



Materials:

- DB05.x.x.A:** Aluminium casing, PBT sensor, Viton seal
- DB05.x.x.E:** Stainless steel casing, electropolished, PBT sensor, Viton seal

Options:

- EPDM seals
- Actual value output and set value input
0..20 mA, 0..5 V, 1..5 V, 0..10 V, 4..20 mA Namur
- Special measuring range for medium air, N₂, O₂
- Special measuring range for medium air,
N₂, O₂ (with real gas calibration)
- Other media (with air calibration)
- Other media (with real gas calibration)

Ordering Code:

Order no.: **DB05.** **MS.** **01** **A.** **0.** **L**

Thermal mass flowmeter and controller for gases

Version

- MS = Flowmeter, standard accuracy 1.5% f.s.d.
- CS = Flowmeter and controller,
standard accuracy 1.5% f.s.d.
- MH = Flowmeter, increased accuracy $\pm 0,3\%$
of end value and $\pm 0.5\%$ of actual value
- CH = Flowmeter and controller, increased accuracy
 $\pm 0,3\%$ of end value and $\pm 0.5\%$ of actual value

Measuring range (air):

- 01 = 0...25 Nm³/min, G 1 / 4 female
- 02 = 0...50 Nm³/min, G 1 / 4 female
- 03 = 0...100 Nm³/min G 1 / 4 female
- 04 = 0...200 Nm³/min, G 1 / 4 female
- 05 = 0...500 Nm³/min, G 1 / 4 female
- 06 = 0...1 NI/min, G 1 / 4 female
- 07 = 0...2 NI/min, G 1 / 4 female
- 08 = 0...5 NI/min G 1 / 4 female
- 09 = 0...10 NI/min G 1 / 4 female
- 10 = 0...20 NI/min G 1 / 4 female
- 11 = 0...50 NI/min G 1 / 4 female
- 12 = 0...50 NI/min G 1 / 2 female
- 13 = 0...100 NI/min G 1 / 2 female
- 14 = 0...200 NI/min G 1 / 2 female

Material:

- A = Aluminium casing
- E = Stainless steel casing

Options:

- 0 = without
- E = EPDM seals
- IA = Actual value output deviating from standard (4...20 mA)
- SA = Set value input deviating from standard (4...20 mA)
- ES = Real gas calibration

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 bar
- Medium temperature:** 0...50 °C
- Response time:** < 150 ms (DB05.C...)
< 50 ms (DB05.M)
- Voltage supply:** 24V DC -5%/+ 10%
- Electrical connection:** D-sub plug, 9-pin
- Installation position:** up to 5 bar: any position,
over 5 bar: horizontal