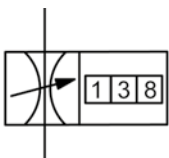


|                             |                                                                                                                                                                                                                                                      |                                 |  |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|--|
| <b>Description</b>          | Thermal mass flow meter based on high precision MEMS technology (CMOS sensor). Pressure and temperature-insensitive according to the CTA constant temperature principle. Also insensitive to pressure surges.                                        |                                 |  |
| <b>Media</b>                | compressed air or non-corrosive gases                                                                                                                                                                                                                |                                 |  |
| <b>Supply voltage</b>       | Standard AA battery or Micro-USB power supply (DIN62684), optionally external power +12 ...+30 V DC (max. 200 mA)                                                                                                                                    |                                 |  |
| <b>Display</b>              | Touch-display 128 x 64 px, backlit only with external power supply (Micro-USB or 24 V DC)                                                                                                                                                            |                                 |  |
| <b>Electrical connector</b> | optionally length 2.0 m, with free ends at 24 V DC                                                                                                                                                                                                   |                                 |  |
| <b>Alarm functions</b>      | 3 configurable alarms, programmable as : low alarm, high alarm, window alarm and totalizer alarm. The alarms can be configured with different parameters: delay and alarm duration.<br>Relais: switching current up to 1A, switching voltage 30 V DC |                                 |  |
| <b>Accuracy</b>             | ± 2% FS, from 200 l/min ± 3% FS                                                                                                                                                                                                                      |                                 |  |
| <b>Turndown ratio</b>       | 1:50 (Eco) or 1:1000 (Special)                                                                                                                                                                                                                       |                                 |  |
| <b>Flow regulation</b>      | manual fine adjustment by 15 turns                                                                                                                                                                                                                   |                                 |  |
| <b>Temperature range</b>    | 0 °C to 50 °C / 32 °F to 122 °F                                                                                                                                                                                                                      |                                 |  |
| <b>Material</b>             | Body: aluminium, optionally electropolished stainless steel 316                                                                                                                                                                                      |                                 |  |
|                             | <b>Response time</b>                                                                                                                                                                                                                                 | 500 ms at 99% accuracy          |  |
|                             | <b>Protection class</b>                                                                                                                                                                                                                              | IP 50                           |  |
|                             | <b>Mounting position</b>                                                                                                                                                                                                                             | any, horizontal from 5 bar on   |  |
|                             | <b>Warm-up time</b>                                                                                                                                                                                                                                  | < 1 sec. for full accuracy      |  |
|                             |                                                                                                                                                                                                                                                      | Elastomer: FKM, optionally EPDM |  |

**2 ... 100 ml/min/450 l/min  
compressed air or gases  
accurate to 2%**

Prop.-V.



11

| Dimensions |    |    | Operating pressure | Accuracy | Connection thread | Flow rate      | Order number |
|------------|----|----|--------------------|----------|-------------------|----------------|--------------|
| A          | B  | C  |                    |          |                   |                |              |
| mm         | mm | mm | max. bar           | %        | G                 | ml/min / l/min |              |

| Mass flow meter |    |      | with manual control valve, LCD-Display, needle valve battery mode, portable, aluminium, FKM |   |                 | VGR*1             |        |
|-----------------|----|------|---------------------------------------------------------------------------------------------|---|-----------------|-------------------|--------|
| 114             | 44 | 12.5 | 10                                                                                          | 2 | G $\frac{1}{4}$ | 2 ... 100 ml/min  | VGR-A1 |
|                 |    |      |                                                                                             | 2 |                 | 4 ... 200 ml/min  | VGR-A2 |
|                 |    |      |                                                                                             | 2 |                 | 10 ... 500 ml/min | VGR-A5 |
|                 |    |      |                                                                                             | 2 |                 | 0.02 ... 1 l/min  | VGR-B1 |
|                 |    |      |                                                                                             | 2 |                 | 0.04 ... 2 l/min  | VGR-B2 |
|                 |    |      |                                                                                             | 2 |                 | 0.1 ... 5 l/min   | VGR-B5 |
|                 |    |      |                                                                                             | 2 |                 | 0.2 ... 10 l/min  | VGR-C1 |
|                 |    |      |                                                                                             | 2 |                 | 0.4 ... 20 l/min  | VGR-C2 |
|                 |    |      |                                                                                             | 2 |                 | 1 ... 50 l/min    | VGR-C5 |
| 160             | 54 | 17.5 | 10                                                                                          | 2 | G $\frac{1}{2}$ | 2 ... 100 l/min   | VGR-D1 |
|                 |    |      |                                                                                             | 2 |                 | 4 ... 200 l/min   | VGR-D2 |
|                 |    |      |                                                                                             | 3 |                 | 4 ... 300 l/min   | VGR-D3 |
|                 |    |      |                                                                                             | 3 |                 | 9 ... 450 l/min   | VGR-D4 |



**VGR-G $\frac{1}{4}$**   
mass flow meter  
with manual control valve

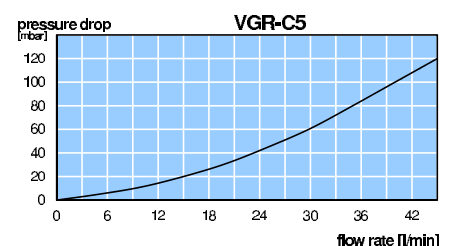
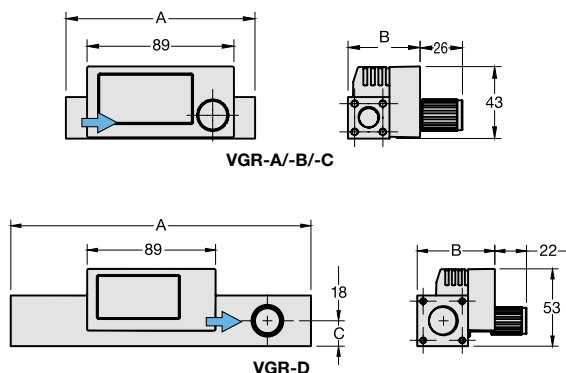


**VGR-G $\frac{1}{2}$**   
mass flow meter

## Special options, add the appropriate letter oder number

|                             |                                                          |             |
|-----------------------------|----------------------------------------------------------|-------------|
| <b>deviant volume flow</b>  | indicate on order                                        | VGR-XX      |
| <b>limit switch</b>         | min. / max.-alarm, 1 A SPDT switch, incl. 24 V DC supply | VGR- . . G2 |
| <b>stainless steel body</b> | 1.4305, electropolished throughout (<1,6 µm)             | VGR- . . S  |
| <b>EPDM elastomer</b>       | (FDA) for VGR-A1 to -C5                                  | VGR- . . E  |
| <b>24 V DC supply</b>       | cable attached on the device, length 2 m, with free ends | VGR- . . 2  |
| <b>panel mounting</b>       | cut-out 48 x 96 mm, protection class IP50 in the front   | VGR- . . T  |
| <b>1% accuracy</b>          | for G $\frac{1}{4}$                                      | VGR- . . H  |
| <b>carbon dioxide</b>       | CO <sub>2</sub>                                          | VGR- . . 03 |
| <b>argon</b>                | Ar                                                       | VGR- . . 05 |
| <b>nitrogen</b>             | N <sub>2</sub>                                           | VGR- . . 07 |
| <b>helium</b>               | He                                                       | VGR- . . 09 |
| <b>hydrogen</b>             | H <sub>2</sub>                                           | VGR- . . 11 |
| <b>methane</b>              | CH <sub>4</sub>                                          | VGR- . . 13 |
| <b>oxygen</b>               | O <sub>2</sub>                                           | VGR- . . 15 |
| <b>propane</b>              | C <sub>3</sub> H <sub>8</sub>                            | VGR- . . 16 |
| <b>nitrous oxide</b>        | N <sub>2</sub> O                                         | VGR- . . 17 |
| <b>gases</b>                | see above for G $\frac{1}{2}$                            | VGR- D . .  |

| Specific gas calibration |    |                               |            |
|--------------------------|----|-------------------------------|------------|
| gas species              |    |                               | max. l/min |
| nitrogen                 | 07 | N <sub>2</sub>                | 450        |
| oxygen                   | 15 | O <sub>2</sub>                | 450        |
| argon                    | 05 | Ar                            | 300        |
| helium                   | 09 | He                            | 450        |
| hydrogen                 | 11 | H <sub>2</sub>                | 300        |
| carbon dioxide           | 03 | CO <sub>2</sub>               | 150        |
| propane                  | 16 | C <sub>3</sub> H <sub>8</sub> | 80         |
| methane                  | 13 | CH <sub>4</sub>               | 100        |



\* Product group

Calibration or test chart: see chapter for technical informations  
\*1 Note: indicate media, supply and outlet pressure on order

PDF CAD  
www.aircom.net



Order example:  
VGR-A1