

# DATASHEET

Volumetric flow meter **airflow complete**



## Inline flow sensor for air and nitrogen

The airflow complete flow sensor with integrated measuring section guarantees simple installation and high measuring accuracy thanks to the defined inlet and outlet sections to the measuring sensor. Combined with a wide range of interface options for connection to monitoring systems, the airflow complete series offers everything you need for volume flow measurement in modern compressed air systems.

Display values in the display can be rotated by 180°, e.g. for reverse flow direction or overhead installation

Display shows 2 values simultaneously:

- Current consumption in m<sup>3</sup>/h, l/min,...
- Total consumption (meter reading) in m<sup>3</sup>, l, kg
- Temperature measurement

The **advantages** at a glance:

- Digital interfaces such as Modbus-RTU, Ethernet (PoE) and M-Bus enable connection to higher-level systems such as energy management systems, building management systems, PLCs,...
- Simple and cost-effective installation
- Units freely selectable via keypad on the display m<sup>3</sup>/h, m<sup>3</sup>/min, l/min, l/s, kg/h, kg/min, kg/s, cfm
- Compressed air counter up to 1,999,999,999 m<sup>3</sup> can be reset to "zero" via keypad
- Analog output 4...20 mA, pulse output (galvanically isolated)
- High measuring accuracy even in the lower measuring range (ideal for leakage measurement)
- Negligible pressure loss
- Calorimetric measuring principle, no additional pressure and temperature measurement required, no mechanically moving parts
- Extensive diagnostic functions can be read out on the display or remotely via Modbus RTU, e.g. overshoot, max./min. values °C, calibration cycle, error codes, serial number. All parameters can be read out and changed via Modbus



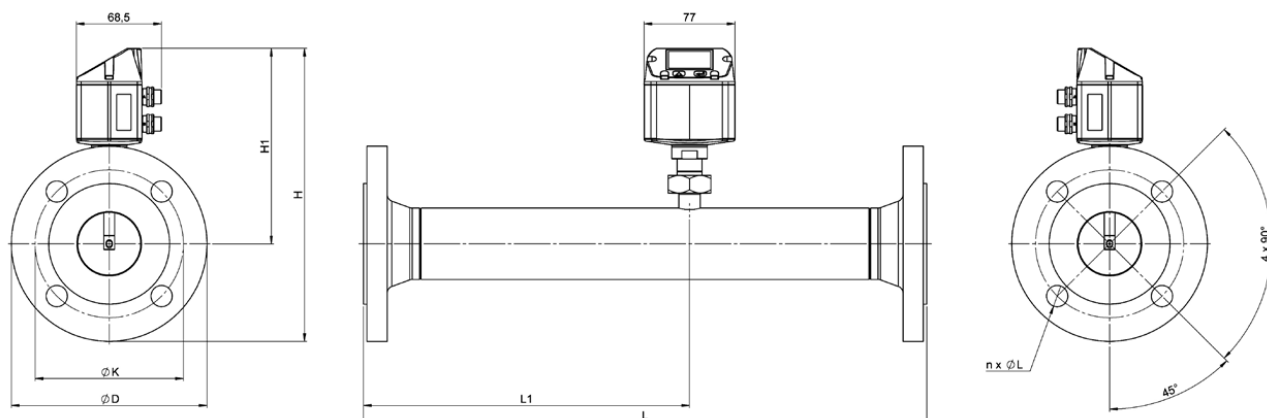
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### Technical data:

|                        |                                                                                                                                                                     |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Measured variables:    | m <sup>3</sup> /h, l/min (1000 mbar, 20°C) for compressed air or Nm <sup>3</sup> /h, NI/min (1013 mbar, 0°C) for gases                                              |
| Units:                 | m <sup>3</sup> /h, m <sup>3</sup> /min, l/min, l/s, ft/min, cfm, m/s, kg/h, kg/min, g/s, lb/min, lb/h                                                               |
| Sensor:                | Thermal mass flow sensor                                                                                                                                            |
| Measuring medium:      | Air, gases                                                                                                                                                          |
| Accuracy:              | ± 1,5 % v.M. ± 0,3 % v.E.                                                                                                                                           |
| Operating temperature: | -30 ... 80 °C                                                                                                                                                       |
| Operating pressure:    | -1 to 16 bar                                                                                                                                                        |
| Digital output:        | RS 485 interface, (Modbus-RTU), M-Bus (optional) Ethernet interface or PoE                                                                                          |
| Analog output:         | 4 ... 20 mA for m <sup>3</sup> /h or l/min                                                                                                                          |
| Pulse output:          | 1 pulse per m <sup>3</sup> or per liter galvanically isolated. Pulse value adjustable on the display. Alternatively, the pulse output can be used as an alarm relay |
| Power supply:          | 18 ... 36 VDC, 5W                                                                                                                                                   |
| Load:                  | < 500 Ω                                                                                                                                                             |
| Housing:               | Polycarbonate (IP 65)                                                                                                                                               |
| Measuring section:     | Stainless steel, 1.4301                                                                                                                                             |
| Mounting position:     | any                                                                                                                                                                 |

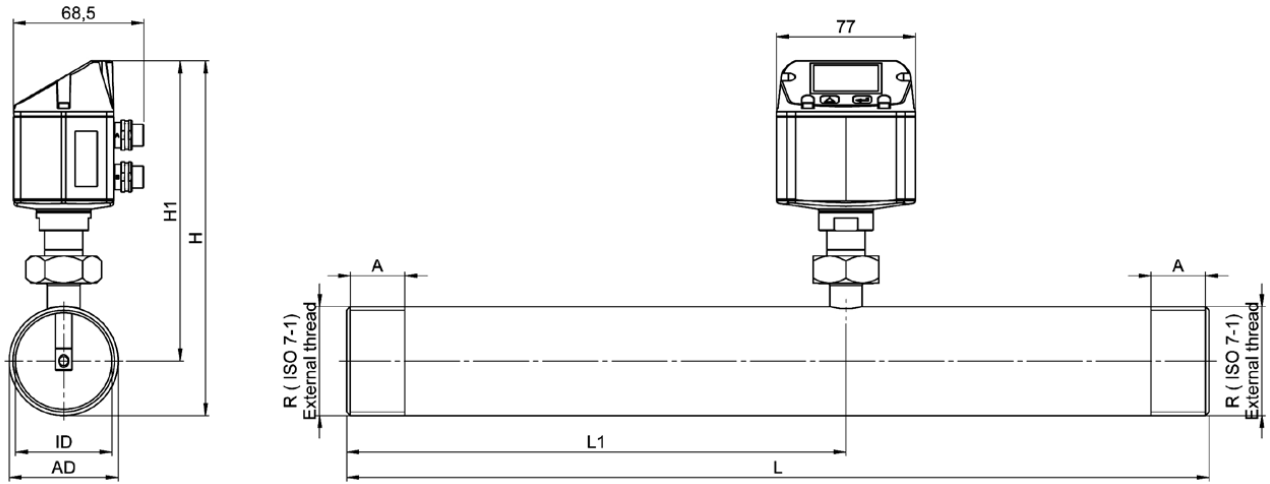
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### Dimensions:



| Measuring ranges Flow rate airflow complete (air, ISO 1217: 1000 mbar, 20°C) |            |            |                               |      |     |     |       | Flange DIN EN 1092-1 |     |     |      |
|------------------------------------------------------------------------------|------------|------------|-------------------------------|------|-----|-----|-------|----------------------|-----|-----|------|
| airflow<br>complete /<br>Measuring section                                   | AD<br>pipe | ID<br>pipe | Measuring range<br>end values |      | L   | L1  | H     | H1                   | D   | K   | nxL  |
|                                                                              | mm         | mm         | m³/h                          | cfm  | mm  | mm  | mm    | mm                   | mm  | mm  | mm   |
| DN15                                                                         | 21,3       | 16,1       | 90                            | 50   | 300 | 210 | 213,2 | 165,7                | 95  | 65  | 4x14 |
| DN20                                                                         | 26,9       | 21,7       | 170                           | 100  | 475 | 275 | 218,2 | 165,7                | 105 | 75  | 4x14 |
| DN25                                                                         | 33,7       | 27,3       | 290                           | 170  | 475 | 275 | 223,2 | 165,7                | 115 | 85  | 4x14 |
| DN32                                                                         | 42,4       | 36,0       | 530                           | 310  | 475 | 275 | 235,7 | 165,7                | 140 | 100 | 4x18 |
| DN40                                                                         | 48,3       | 41,9       | 730                           | 430  | 475 | 275 | 240,7 | 165,7                | 150 | 110 | 4x18 |
| DN50                                                                         | 60,3       | 53,1       | 1195                          | 700  | 475 | 275 | 248,2 | 165,7                | 165 | 125 | 4x18 |
| DN65                                                                         | 76,1       | 68,9       | 2050                          | 1205 | 475 | 275 | 268,2 | 175,7                | 185 | 145 | 8x18 |
| DN80                                                                         | 88,9       | 80,9       | 2840                          | 1670 | 475 | 275 | 275,7 | 175,7                | 200 | 160 | 8x18 |

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| Measuring ranges Flow rate airflow complete (air, ISO 1217: 1000 mbar, 20°C ) |                   |         |         |                            |     |     |     |       |       |    |
|-------------------------------------------------------------------------------|-------------------|---------|---------|----------------------------|-----|-----|-----|-------|-------|----|
| airflow complete                                                              | Connection thread | AD pipe | ID pipe | Measuring range end values |     | L   | L1  | H     | H1    | A  |
|                                                                               |                   | mm      | mm      | m³/h                       | cfm | mm  | mm  | mm    | mm    | mm |
| 012                                                                           | R ½"              | 21,3    | 16,1    | 90                         | 50  | 300 | 210 | 176,4 | 165,7 | 20 |
| 034                                                                           | R ¾"              | 26,9    | 21,7    | 175                        | 100 | 475 | 275 | 179,2 | 165,7 | 20 |
| 100                                                                           | R 1"              | 33,7    | 27,3    | 290                        | 170 | 475 | 275 | 182,6 | 165,7 | 25 |
| 114                                                                           | R 1 ¼"            | 42,4    | 36,0    | 530                        | 310 | 475 | 275 | 186,9 | 165,7 | 25 |
| 112                                                                           | R 1 ½"            | 48,3    | 41,9    | 730                        | 430 | 475 | 275 | 186,9 | 165,7 | 25 |
| 200                                                                           | R 2"              | 60,3    | 53,1    | 1195                       | 700 | 475 | 275 | 195,9 | 165,7 | 30 |