



## Modular, compact Inline Flowmeter

for compressed air and gases



measuring  
•  
monitoring  
•  
analysing

KME



- Measuring range air:  
0.2 - 76.3 ... 2,2 - 848,2 Nm<sup>3</sup>/h
- Accuracy:  
± 3 % of reading + 0,3 % of full scale
- p<sub>max</sub>: 16 bar/PN16
- Temperature: -20 ... +60 °C
- Connections: BSP and NPT  
Thread material: aluminium
- Pulse, analogue, switching output
- Optional display
- Modular design



GS

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**Description**

The flowmeter KME is dedicated for accurate metering and monitoring of compressed air and technical gases. For pipe diameters from DN15 (1/2") to DN50 (2"), there are 2x mounting blocks available.

The thermal measuring principle and the well-proven hot film sensor element lead to best long-term stability and fast response time.

Outstanding measuring accuracy, even in the lower measuring range is achieved by an application-specific multi-point factory adjustment, which is performed at 7 bar. This allows reliable leak detection and corresponding energy savings. The construction is optimised for easy installation and maintenance.

The KME is user configurable and can be easily adapted to any measuring task. The configuration can be set either using the optional display and push buttons or with the free configuration software.

**KME Modular Design**

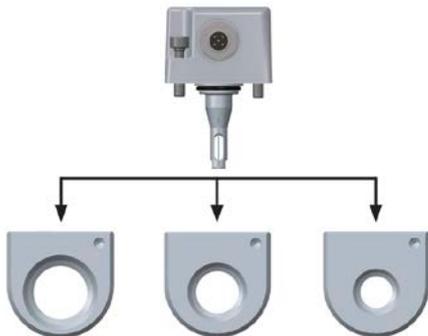
One and the same transmitter can be used for each of three pipe diameters:

**KME-715/-720/-725:** DN15 (1/2"), DN20 (3/4") and DN25 (1")

**KME-732/-40/-50:** DN32 (1-1/4"), DN40 (1-1/2") and DN50 (2")

The pipe diameter is easily changed via the display menu or the configuration software.

Once the gauge mounting block is built into the pipeline, the transmitter can be installed and removed without disassembling the pipework. As a result, the KME is also ideal for temporary measurement at several mounting blocks. The sealing plug included in the scope of supply enable the normal operation of the compressed air system when the transmitter is removed.



**Display (optional)**

The state-of-the-art LCD shows the current measured values and the overall consumption. The user specific device setup can be easily performed with the push buttons and intuitive menu guidance.

The display can be rotated in 90° increments with a push button for convenient orientation in any mounting position of the flowmeter.

The KME without display can be configured by the user via

USB interface with the free configuration software.



**Applications**

- Compressed air consumption measurement
- Flow measurement of technical gases (N<sub>2</sub>, Ar, CO<sub>2</sub>)
- Nitrogen generators
- Leak detection

**Technical Details**

**Measuring values**

**Flow**

Measuring units: m<sup>3</sup>/h, m<sup>3</sup>/min, l/min, l/s, kg/h, kg/min, m/s, SCFM, ft/min, °C, °F

Standard conditions

factory setting: 1013.25 mbar, 0°C (configurable)

Measuring range in air<sup>1)</sup>: DN15: 0.2... 76.3 Nm<sup>3</sup>/h  
 DN20: 0.4... 135.6 Nm<sup>3</sup>/h  
 DN25: 0.6... 212 Nm<sup>3</sup>/h  
 DN32(1-1/4"): 0.9... 347.4 Nm<sup>3</sup>/h  
 DN40 (1-1/2"): 1.4... 542.8 Nm<sup>3</sup>/h  
 DN50 (2"): 2.2... 848.2 Nm<sup>3</sup>/h

**Accuracy<sup>2)</sup>**

(in air at 7 bar [abs.]

and 23°C):

± 3 % of reading +  
 ± 0.3 % of full scale

Temperature coefficient: ± 0.25 % of reading / °C deviating from 23 °C

Pressure coefficient<sup>3)</sup>: + 0.5 % of reading / bar deviating from 7 bar

Response time t<sub>90</sub>: < 2 s

Measuring rate: 0.1 s

**Temperature**

Measuring range: -20 ... 60 °C

**Accuracy**

(at 20 °C and

flow > 0,5 Nm<sup>3</sup>/s):

± 0.7 °C

**Outputs**

Analogue output (scaleable):

0 - 20 mA or 4 - 20 mA R<sub>L</sub> < 500 Ω

Switching output:

DC PNP, max. 100 mA, V<sub>drop</sub> < 2.5 V configurable: N/C or N/O, hysteresis, window

Pulse output:

consumption meter, pulse length 0.02 ... 2 s

Consumption interface: USB

**Technical Details** (continuation)

**General**

Power supply:	18 - 30 V <sub>DC</sub>
Current consumption (max.):	120 mA or 2.5 W (with display) 60 mA or 1.6 W (without display)
Operation pressure (max.):	16 bar / PN 16
Ambient temperature:	0 ... 50 °C (with display) -20 ... 60 °C (without display)
Medium and storage temperature:	-20 ... 60 °C
Humidity:	0 ... 100 % rH, non-condensing
Medium:	compressed air, nitrogen, CO <sub>2</sub> , argon
Electrical connection:	plug M12x1 4-pol.
Electromagnetic compatibility:	EN61326-1 industrial environment, EN61326-2-3

**Material**

Housing:	polycarbonate
Sensor tube:	stainless steel 1.4404
Sensor head/sensor element:	stainless steel 1.4404 / glass
Mounting block:	anodised aluminium
Protection housing:	IP 65
Display (optional):	current value and consumption, 90° rotatable, intuitive operation

<sup>1)</sup> Factory setting of the output see manual.

<sup>2)</sup> The tolerance specifications include the uncertainty of the factory calibration with a coverage factor k=2 (2 x standard deviation). The tolerance was calculated in accordance with EA-4/02 following the GUM (Guide to the Expression of Uncertainty in Measurement).

<sup>3)</sup> The flowmeter is factory adjusted at 7 bar (abs). At operating pressure other than 7 bar (abs), the error can be corrected by entering the actual system pressure (via display menu or with configuration software).

**Features**

**Transmitter**

- For each three pipe diameters
- Installation and removal without disassembling the pipework facilitates regular calibration
- Application-specific adjustment under pressure for best accuracy

**Sensor head and thermal flow sensor**

- Robust design in stainless steel
- Very short response time
- Wide measuring range
- Long-term stable and accurate
- Negligible pressure drop
- Highly insensitive to contamination
- No additional pressure and temperature compensation required

**Gauge mounting block**

- Precise and reproducible positioning of the transmitter for best accuracy
- Aluminum or stainless steel
- Can be operated with sealing plug also without transmitter

**Display (optional)**

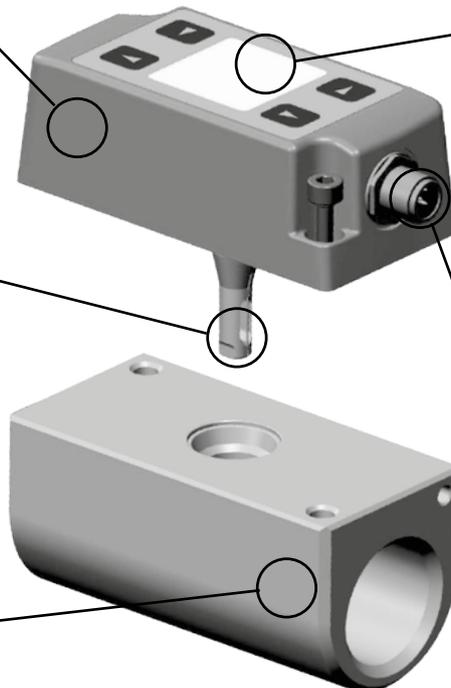
- Shows instantaneous values and overall consumption
- Intuitive device setup with push buttons
- Can be rotated in 90° increments

**Output**

- User configurable via display or PC
- 0-20 mA / 4-20 mA output
- Two switch outputs
- Pulse output

**Measurands**

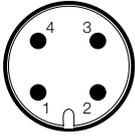
- Standard volume flow
- Mass flow
- Standard flow
- Temperature
- Integrated consumption meter (totalisator) for cost-effective consumption analysis without additional datalogger





**Modular, compact Inline Flowmeter Model KME**

**Connection**



Analogue/switching/  
pulse output  
1... V+  
2... Output 1  
3... GND  
4... Output 2

M12 plug on device

The output signal is freely selectable and scalable by the user:

Output 1: Analogue [mA] or switching output

Output 2: Pulse output or switching output

**Order Details** (Example: **KME - 715R0L1NQ2**)

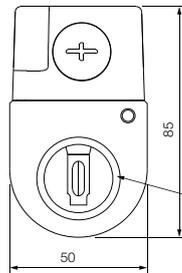
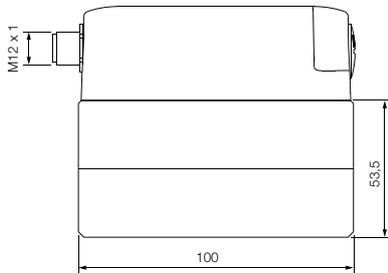
Model	Material mounting block	Measuring range/mounting block	Connection	Display	Gas type
KME-	7 = aluminium	<b>15</b> = 0.2 ... 76.3 Nm <sup>3</sup> /h (air), DN 15 <b>20</b> = 0.4 ... 135.6 Nm <sup>3</sup> /h (air), DN 20 <b>25</b> = 0.6 ... 212 Nm <sup>3</sup> /h (air), DN 25 <b>32</b> = 0.9 ... 347.4 Nm <sup>3</sup> /h (air), DN 32 <b>40</b> = 1.4 ... 542.8 Nm <sup>3</sup> /h (air), DN 40 <b>50</b> = 2.2 ... 848.2 Nm <sup>3</sup> /h (air), DN 50	<b>R</b> = BSP thread <b>N</b> = NPT thread	<b>0</b> = without display <b>1</b> = with display	<b>L</b> = air <b>N</b> = nitrogen <b>C</b> = CO <sub>2</sub> <b>A</b> = argon

**Order Details** (continuation)

Unit	Physical size output 1	Physical size output 2	Output 1/Output 2
<b>1</b> = SI units <b>2</b> = US units	<b>N</b> = Standard volume flow (standard) <b>T</b> = Temperature (°C) <b>M</b> = Mass flow (kg/h) <b>V</b> = Standard flow	<b>Q</b> = consumption (standard)	<b>2</b> = switching /counting pulse output <b>3</b> = analogue output 0 - 20 mA/counting pulse output <b>4</b> = analogue output 4 - 20 mA/counting pulse output (standard)
		<b>T</b> = Temperature <b>M</b> = Mass flow (kg/h) <b>V</b> = Standard flow <b>N</b> = Standard volume flow	<b>1</b> = 2xswitching output <b>7</b> = analogue output 0 - 20 mA/switching output <b>8</b> = analogue output 4 - 20 mA/switching output

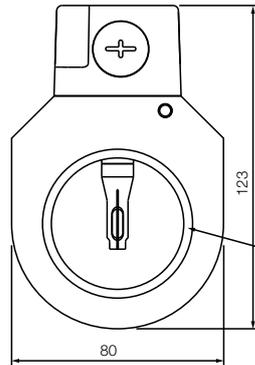
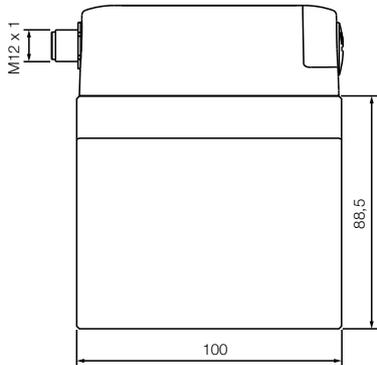
**Dimensions [mm]**

**KME-715/-720/-725**



Internal thread:  
Whitworth thread according to EN 10226  
(old DIN 2999) or NPT

**KME-732/-740/-750**



Internal thread:  
Whitworth thread according to EN 10226  
(old DIN 2999) or NPT

Mounting block	Thread R <sub>p</sub> or NPT
DN 15	1/2"
DN 20	3/4"
DN 25	1"
DN 32 <sup>1)</sup>	1 1/4"
DN 40	1 1/2"
DN 50	2"

<sup>1)</sup> Only R<sub>p</sub> thread

**Scope of Supply**

- KME according to order details
- 1 x Allen key
- 1 x USB cable
- Instruction manual
- Calibration certificate
- Gauge mounting block incl. sealing plug