

# Mass Flow Controller (MFC)/Mass Flow Meter (MFM) for Gases

8741

## Nominal flow ranges from 0.010 I<sub>N</sub>/min to 160 I<sub>N</sub>/min

- High accuracy and repeatability
- Very fast response times
- Easy device exchange through configuration memory
- Field Calibration through Burkert Communicator Wizard
- Optional: USP Class VI and FDA



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FOR DATA SHEET

The mass flow controller (MFC) / meter (MFM) Type 8741 for gases is available in two versions:

**MFC / MFM Type 8741 Standard:** with Industrial Ethernet or analog interface, suitable for a wide range of applications.

**MFC / MFM Type 8741 bÜS / CANopen:** suitable for the integration in existing CANopen networks, as well as Industrial Ethernet or fieldbus networks in combination with the fieldbus gateway of type ME43.

Type 8741 can be configured as MFM or MFC. Optional, up to four different gases can be calibrated. Type 8741 is especially designed for use in cabinets.

## Technical Data

<b>Turn-down ratio</b>	50:1, optional 100:1
<b>Operating medium</b>	Neutral, non-contaminated gases, others available on request
<b>Calibration gas</b>	Operating gas or air
<b>Max operating pressure (overpressure to the atmospheric pressure)</b>	10 bar (145 PSI), with MFCs the max. pressure depends on the orifice of the valve
<b>Medium temperature</b>	14°F to 158°F (-10°C to 70°C) (-10°C to 60°C with oxygen)
<b>Ambient temperature</b>	14°F to 122°F (-10°C to 50°C) higher temperatures on request
<b>Measuring accuracy (after 1 min. warm up time)</b>	± 0.8 % o. R. ± 0.3 % F. S.
<b>Repeatability</b>	±0.1% F.S.
<b>Settling time (MFC) / response (MFM) time (t<sub>95%</sub>)</b>	<300 ms
<b>Body material</b>	Aluminium or stainless steel
<b>Port connection</b>	NPT 1/4", G 1/4", compression fittings or subbase, others on request
<b>Power supply</b>	24 V DC
<b>Voltage tolerance</b>	±10%
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<b>Power consumption<sup>1)</sup></b>	1-3 W (as MFM), Max. 3-12 W (as MFC, depending on type of solenoid control valve)

<sup>1)</sup> Data refers to the typical power consumption (at 23 °C ambient temperature, nominal flow rate and 30 min control mode). The specifications according to UL 61010-1 can differ (see instruction manual).

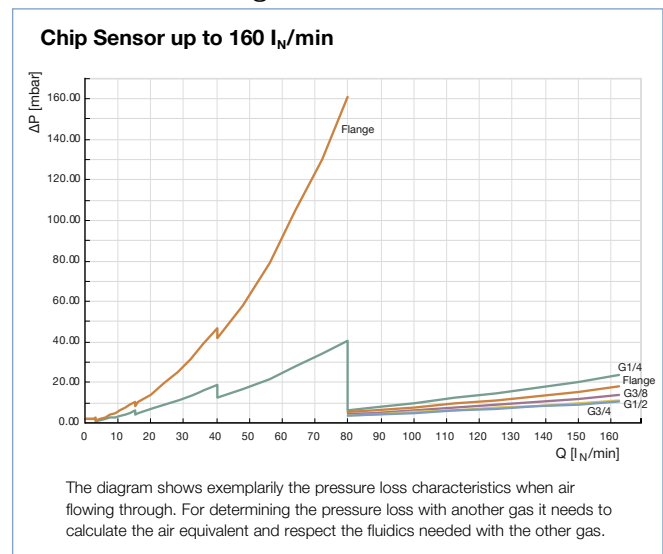
## Technical Data, continued (see datasheet for details)

Elektrischer Anschluss	8741 Standard	8741 bÜS / CANopen
<b>Industrial Ethernet</b>	PROFINET, Ethernet/IP, EtherCAT, Modbus-TCP via 2 x RJ45 (Switch) <sup>1)</sup>	-
<b>Fieldbus</b>	-	bÜS (CAN-based Bus) / CANopen via terminal block, 4 pin
<b>Analog</b>	4-20 mA, 0-20 mA, 0-10 V or 0-5 V via D-Sub9 <sup>2)</sup> or terminal block 6 pin	-
<b>Input impedance</b>	>20 kΩ (voltage), <300 Ω (current)	
<b>Max. current (voltage output) / Max. load (current output)</b>	10 mA 600 Ω	

<sup>1)</sup> Supply voltage via separate terminal block

<sup>2)</sup> The analog version with D-Sub9 features an additional digital input and a relay output

## Pressure Loss Diagram of a MFM (ref. to air)



## Measuring Principle

The actual flow rate is detected by a sensor. This operates according to a thermal principle which has the advantage of providing the mass flow which is independent on pressure and temperature.