DN 2.0 - 6.0; 100 - 500 l_N/min

Advantages/Benefits

- **Main stream measurement:**
  - resistant against contamination
  - good dynamic
- **Sensor diagnostics**
- **Max. flow diagnostics**
- **Real gas calibration available**
- **Accurate PI controller**
- **Autotune function for controller optimization**

Design/Function

The Mass Flow Controller Type 8626 is a compact unit for controlling the mass flow of gases.
It maintains a preset value independent of disturbing parameters such as pressure variations or time-variable flow resistances.
The Mass Flow Controller combines in one unit the components sensor, electronics, as well as a control valve that functions as an actuator.
The flow sensor works on the hot-film anemometer principle.
The signal measured depends on the product of the density and the flow velocity and delivers the mass flow rate directly.
In the Mass Flow Controller 8626, the measurement is carried out in the main stream, so that very good dynamic ratio is assured.
Processing of the current set and flow signals and the drive of the actuator are carried out in the microprocessor electronics.
The signal from the sensor is converted with the aid of a calibration curve stored in the EEPROM into a value proportional to the instantaneous flow rate. Its deviation from the set value is processed according to a PI control algorithm.
An automatic autotune function provides optimal control and a high accuracy.
The Mass Flow Controller is of modular construction, so that by using different control valves and connection plates, a variant may be built up for each application that is tailored to its specific fluidic requirements.

Applications

- Control of inert gases in the food industry
- Preparation of drinking water (gas control)
- Measurement of gas consumption in hospitals
- Air sterilization
- Welding in the textile industry
- Control of gases for burners
- Control of gases for the hardening of metals

bürkert
Easy Fluid Control Systems

Technical Data

Housing data

Housing material	Aluminium anodized (stainless steel on request)
Seal material	FPM (others on request)
Process connection	G1/4", G3/8"

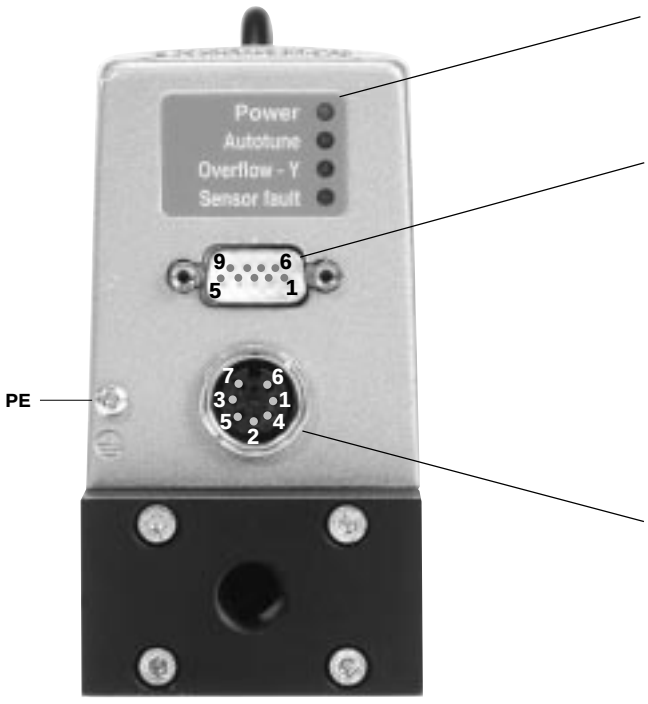
Operating data

Fluids	Air, O_2, N_2, CO_2, other neutral gases, (real gas calibration on request)
Fluid temperature	-10°C to +55°C
Ambient temperature	-10°C to +70°C
Duty cycle	100% continiously rated
Installation	as required
Measuring range	Q_{Nn} 100... 500 l_N/min
Accuracy	± 2% o.F.S. (Standard) ± 1% o.F.S. (Real gas calibration)
Repeatability	± 0.5% o.F.S.
Span	up to 1:50
Dynamics	$t_{S\%}$ < 500 ms

Electrical connections

Power supply	24 V/DC Residual ripple < 10%
Power consumption	max. 24W depending on valve type
Connector	7 pole round connector, 9 pole SUB-D connector
Set point	4...20 mA input resistance < 200 Ω 0...10 V input resistance 500 kΩ
Binary input	Trigger off the autotune function
Measured value output	4...20 mA load resistance < 530 Ω 0...10 V
Binary outputs	Relay output for: -sensor diagnostic -set point not reached 60 V / 25 VAC; 5 A
Communication	on request

Front panel



LEDs:
Power (green)
Autotune (red)
Overflow-Y (red)
Sensor fault (red)

9 pole SUB-D connector:

1	Signal input 4...20 mA / 0...10 V for set point; signal ⊕
2	Signal input 4...20 mA / 0...10 V for set point; signal ⊖
3	Signal output 4...20 mA / 0...10 V for actual flow value; signal ⊕
4	Signal output 4...20 mA / 0...10 V for actual value; signal ⊖
5 and 6	internal use only
7 and 8	Binary input (start autotune)

7 pole round connector:

1	Power supply +24V
2 and 5	Relay 1 (ton/t > 95%)
3 and 7	Relay 2 (on by sensor fault)
4	NC (not connected)
6	Power supply 0V

Specifications - Ordering Chart (Other Versions on Request)

Selection

For the selection of the mass flow controller, the same principles apply as for proportional valves in the control mode.

Note:
- Q_{Nn} must be big enough to reach the maximal flow
- Q_{Nn} should not be to big (max. flow should not be reached with a small valve opening) Flow and pressure drop define the selection of the mass flow controller.
- For a good operating characterisitic the pressure drop over the fully open valve should be at least 30% of the overall installation drop.

Mass Flow Controller

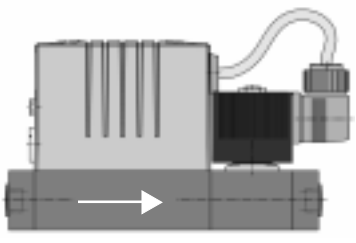
Nominal flow rate[1] [l_N/min]	Fluidic-connection (Dimens. A)	Orifice DN [mm]	Pressure Range (P1) [bar]	Pressure-drop [bar]	Q_{Nn} [2] (air) [l_N/min]	Power consumption [W]	Calibration fluid	Weight [kg]	**I T E M - No.** Set value/Actual value	
									4... 20 mA	0... 10 V
100	G 1/4	2.0	0 - 10.0	3.5	110	20	air	1.8	137 197 H	137 198 J
	G 1/4	3.0	0 - 5.0	0.8	270	20	air	1.8	137 199 K	137 200 G
	G 1/4	4.0	0 - 2.5	0.4	380	20	air	1.8	137 201 V	137 202 W
	G 3/8	6.0	0 - 4.0	0.1	750	24	air	2.1	137 203 X	137 204 Y
250	G 1/4	3.0	0 - 5.0	3.5	270	20	air	1.8	137 205 Z	137 206 S
	G 1/4	4.0	0 - 2.5	2.2	380	20	air	1.8	137 207 T	137 208 C
	G 3/8	4.0	0 - 8.0	1.8	430	24	air	2.1	137 209 D	137 210 Z
	G 3/8	6.0	0 - 4.0	0.6	750	24	air	2.1	137 211 N	137 212 P
400	G 3/8	4.0	0 - 8.0	3.5	430	24	air	2.1	137 213 Q	137 214 R
	G 3/8	6.0	0 - 4.0	1.5	750	24	air	2.1	137 215 J	137 216 K
500	G 3/8	4.0	0 - 8.0	4.6	430	24	air	2.1	137 217 L	137 218 V
	G 3/8	6.0	0 - 4.0	2.2	750	24	air	2.1	137 219 W	137 220 T

[1] max. set value

[2] Q_{Nn} at 0 °C, 6 bar pressure, 5 bar back pressure, valve 100% open

Accessories

Description	**I T E M - No.**
7 pole round connector	646 138 B
9 pole SUB-D connector	917 623 R



Flow direction

Dimensions [mm]