

DN 2.0 mm - 6.0 mm; 26 - 132 gal_N/min

Advantages/Benefits

- ▶ **Main stream measurement:**
 - resistant against contamination
 - good dynamic characteristics
- ▶ **Sensor diagnostics**
- ▶ **Maximum 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.

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 a very good dynamic ratio is assured.

Processing of the current set and flow signals and the drive of the control valve are carried out in the microprocessor electronics. The signal from the sensor is converted into a value proportional to the instantaneous flow rate with the aid of a calibration curve stored in the EEPROM. Its deviation from the set value is processed according to a PI control algorithm.

An automatic autotune function provides optimal control and high accuracy.

The Mass Flow Controller is of modular construction, using different control valves and connection plates, for a customized configuration 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

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Easy Fluid Control Solutions

Technical Data

Housing data

Housing material	Anodized aluminum (stainless steel on request)
Seal material	FPM (Viton) (others on request)
Process connection	G 1/4", G 3/8"

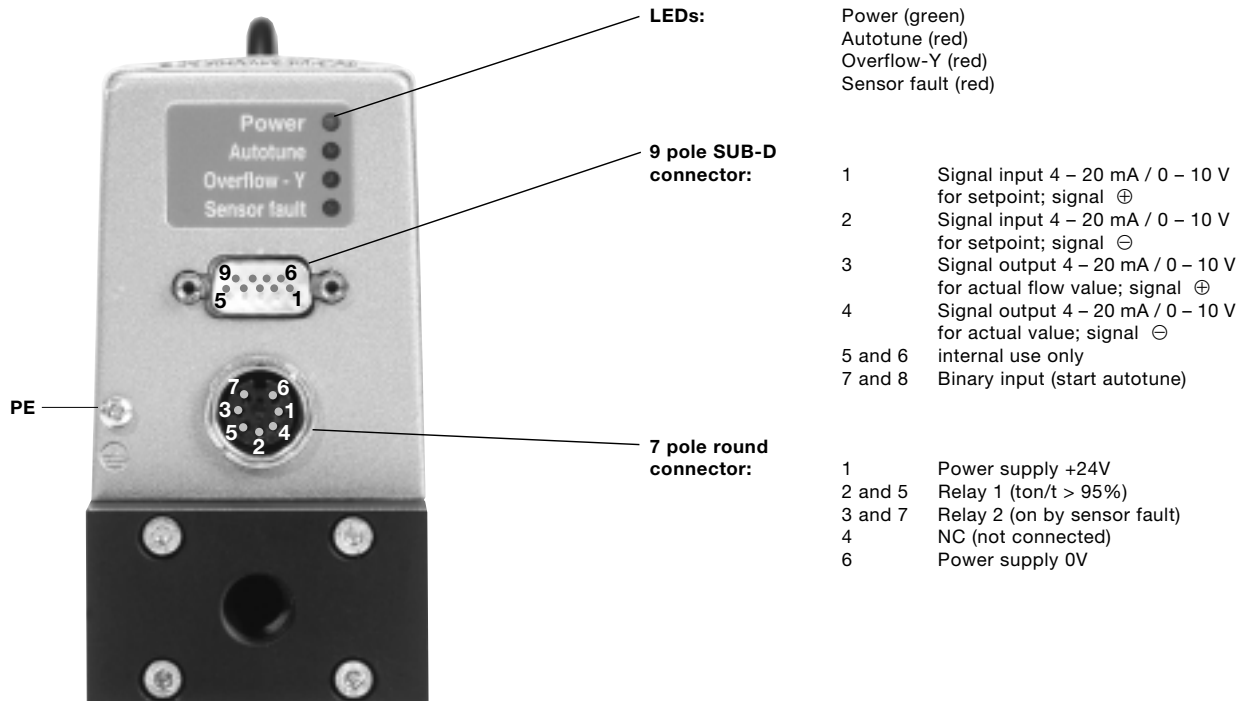
Operating data

Fluids	Air, O ₂ , N ₂ , CO ₂ , other neutral gases (real gas calibration on request)
Fluid temperature	14°F to 130°F (-10°C to 55°C)
Ambient temperature	14°F to 158°F (-10°C to 70°C)
Duty cycle	100% continuously rated
Installation	As required
Measuring range	Q _{Nn} 26 – 132 gal _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 VDC Residual ripple < 10%
Power consumption	Maximum 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



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 maximum flow.
 - Q_{Nn} should not be too big (maximum 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 characteristic the pressure drop over the fully open valve should be at least 30% of the overall installation drop.

Mass Flow Controller

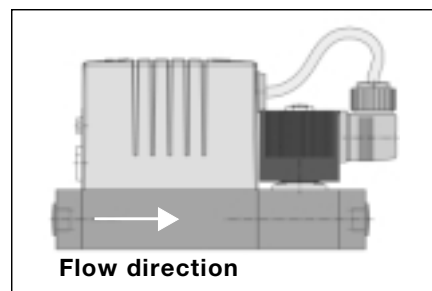
Nominal Flow Rate ¹⁾ [gal _N /min]	Fluid Connection	Orifice [mm]	Pressure Range [PSI]	Pressure Drop [PSI]	QNn ²⁾ (Air) [gal _N /min]	Power Consumption [W]	Calibration Fluid	Weight [lbs]	ITEM No.	
									Set Value / 4 – 20 mA	Actual Value / 0 – 10 V
26	G 1/4"	2.0	0 - 145	51	29	20	air	4.0	137 197 H	137 198 J
	G 1/4"	3.0	0 - 72	12	71	20	air	4.0	137 199 K	137 200 G
	G 1/4"	4.0	0 - 36	6	100	20	air	4.0	137 201 V	137 202 W
	G 3/8"	6.0	0 - 58	1.5	198	24	air	4.6	137 203 X	137 204 Y
66	G 1/4"	3.0	0 - 72	51	71	20	air	4.0	137 205 Z	137 206 S
	G 1/4"	4.0	0 - 36	32	100	20	air	4.0	137 207 T	137 208 C
	G 3/8"	4.0	0 - 116	26	113	24	air	4.6	137 209 D	137 210 Z
	G 3/8"	6.0	0 - 58	9	198	24	air	4.6	137 211 N	137 212 P
105	G 3/8"	4.0	0 - 116	51	113	24	air	4.6	137 213 Q	137 214 R
	G 3/8"	6.0	0 - 58	22	198	24	air	4.6	137 215 J	137 216 K
132	G 3/8"	4.0	0 - 116	67	113	24	air	4.6	137 217 L	137 218 V
	G 3/8"	6.0	0 - 58	32	198	24	air	4.6	137 219 W	137 220 T

¹⁾ max. set value

²⁾ Q_{Nn} at 32°F, 87 PSI pressure, 72 PSI back pressure, valve 100% open

Accessories

Description	Item No.
7 pole round connector	646 138 B
9 pole SUB-D connector	917 623 R



Dimensions [inch]

