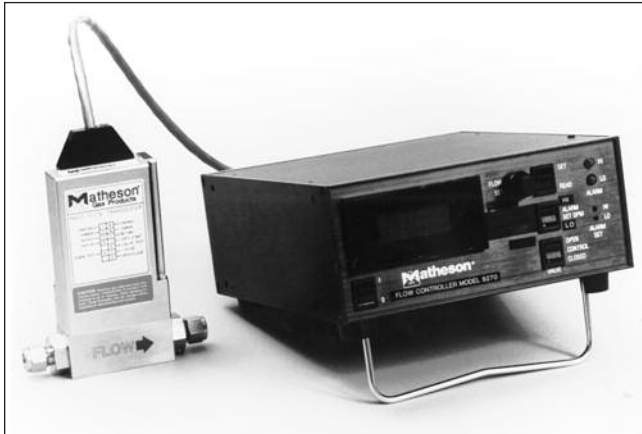


## Model 8270 Series Mass Flow Controller System



### Description

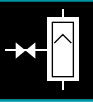
The complete 8270 Mass Flow Controller System offered by Matheson consists of a flow controller transducer (Model 8272/8273 Series), a digital readout/power supply box, a feedback circuit to control the flow, an integral control valve and the necessary cable and connectors. An additional feature of the control box is a three position selector switch to allow the user to conveniently switch between an open position (valve fully open), a closed position (valve fully closed) and a control position (unit functioning as a controller). The first two positions mentioned are override positions. These flow controllers can be supplied with either Swagelok tube connections (standard) or optional male VCR compatible connections for easy installation into tubing and piping systems.

In the "operating" or "control" mode the unit functions similar to a mass flowmeter but with the addition of a feedback circuit and control valve, which continuously monitor and control the flow of gas passing through the unit. When there is a flow imbalance sensed, an electronic logic circuit sends power to the control valve to maintain the flow setpoint by either throttling open or closed.

The 8270 Mass Flow Controller Digital Readout Box is available standard for rack mounting in a 1/2 EIA rack or for benchtop use. Other standard features are high and low alarm setpoints selected by the user. The transducer portion of the unit is supplied standard with Swagelok connections. The Model 8124 Totalizer is also available and can be used to compile the total amount of gas used over a period of time, regardless of varying flow rates.

### Specifications

Materials:	
Body:	316 stainless steel
By-pass:	316 stainless steel
Fittings:	316 stainless steel
Valve:	316 stainless steel
Standard Seals:	Viton
Valve Shut-off:	Normally closed; bubble tight
Standard Valve Seat:	Viton
Minimum Differential Pressure:	5 psid (34.5 kPa) (nominal)
Maximum Differential Pressure:	50 psid (345 kPa)
Maximum Operating Pressure:	
All:	150 psig (1035 kPa)
Temperature Range:	0 to 50°C (32° to 122°F)
Accuracy	
≤ 30 slpm:	±1% full scale
50-300 slpm:	±2% full scale
>300 slpm:	±3%
Standard Calibration	
Temperature:	0°C (32°F)
Temperature Coefficient:	< 0.1% per °C
Response Time:	0.5 seconds to 98% of scale
Repeatability	
≤ 200 slpm:	0.2%
> 200 slpm:	0.5%
Control Range	
Series:	0.2 ccm to 1000 slpm
Individual Unit:	2% to 100% full scale
Signal Voltage Output:	0-5 VDC; 4-20 mA (optional)
Voltage Input:	115 VAC, 10 Watts; 230 VAC (optional)
Cable Lengths	
Power Cord:	6 ft
Signal Cable:	8 ft
Alarm Contacts (Each Channel):	1 amp at 30 VDC maximum
Shipping Weight:	8 lbs



**Model 8270 Series** *(continued)*  
**Mass Flow Controller System**

**Ordering Information**

Model Number	Range in Nitrogen @ 0°C and 14.7 psia	Standard End Fittings
8270-0411	0-10 sccm	1/4" Swagelok
8270-0421	0-20 sccm	1/4" Swagelok
8270-0431	0-30 sccm	1/4" Swagelok
8270-0451	0-50 sccm	1/4" Swagelok
8270-0412	0-100 sccm	1/4" Swagelok
8270-0422	0-200 sccm	1/4" Swagelok
8270-0432	0-300 sccm	1/4" Swagelok
8270-0452	0-500 sccm	1/4" Swagelok
8270-0413	0-1 slpm	1/4" Swagelok
8270-0423	0-2 slpm	1/4" Swagelok
8270-0433	0-3 slpm	1/4" Swagelok
8270-0453	0-5 slpm	1/4" Swagelok
8270-0414	0-10 slpm	1/4" Swagelok
8270-0424	0-20 slpm	1/4" Swagelok
8270-0434	0-30 slpm	1/4" Swagelok
8270-0454	0-50 slpm	3/8" Swagelok
8270-0415	0-100 slpm	3/8" Swagelok
8270-0425	0-200 slpm	3/8" Swagelok
8270-0435	0-300 slpm	1/2" Swagelok
8270-0455	0-500 slpm	1/2" Swagelok
8270-0416	0-1000 slpm	3/4" Swagelok

**Options**

Model Number	Description
8291	Specific Gas Calibrations (Limitations Apply)

**Additional Signal Cable Lengths**

CBL-0125-XX	25 ft
CBL-0126-XX	50 ft
CBL-0127-XX	100 ft
8292	230 VAC Models
8293-4	1/4" VCR Compatible End Fittings
8293-6	3/8"/1/2" VCR Compatible End Fittings
8294	4-20 m A Output
8295	PTFE Teflon Seals
KIT-0015-NB	Neoprene Seal Kit for Ammonia Service, up to 30 slpm
8124	Totalizer for Mass Flow Controller
HAN-0007-AA	Full Rack Mounting Adapter