

# Electronic Flow Meter MassRate™ 5700

## DESIGN FEATURES - BENEFITS

- **Mass flow measurement** - No temperature or pressure correction required
- **Wide range of flow rates** - Satisfies most applications
- **Excellent repeatability** - Delivers consistent process/test results
- **No moving parts** - Ensures long-term reliability
- **Stainless Steel wetted materials** - Compatible with most process/test gases
- **Single sided power input** - Simplifies and reduces cost of installation
- **0-5 Volt output signal** - Allows flow indication, trending and totalizing
- **European Community CE Certified** - Ensures electrical integrity for every application
- **Supplied by the first ISO-9001 Quality Certified Measurement & Control Company in the world: Brooks Instrument** - Ensures a quality instrument for your application

## DESCRIPTION

The Brooks® MassRate 5700 is a gas flow meter specially designed to satisfy the needs of purge gas, process analysis and analytical flow measurement applications. The MassRate 5700 utilizes a proven thermal mass flow sensor which provides excellent repeatability, wide turndown and an electrical output signal. It has a rugged all stainless steel construction and no moving parts providing superior corrosion resistance and long-term reliability. The MassRate 5700 is an economical meter with an electrical output signal making it ideal for replacing turbine meters, variable area meters and other volumetric devices.

## TYPICAL APPLICATIONS

- Purge gas measurement
- Gas analyzers
- Particle monitors
- Moisture analyzer
- Air/oxygen gauging equipment
- Medical anesthesia/oxygen systems
- Gas blanketing
- Exhaust flow measurement
- Aeration/Foaming
- Hydrogen and oxygen gas measurement to burner feed
- Bubbler system monitor
- Fermentation gas feed

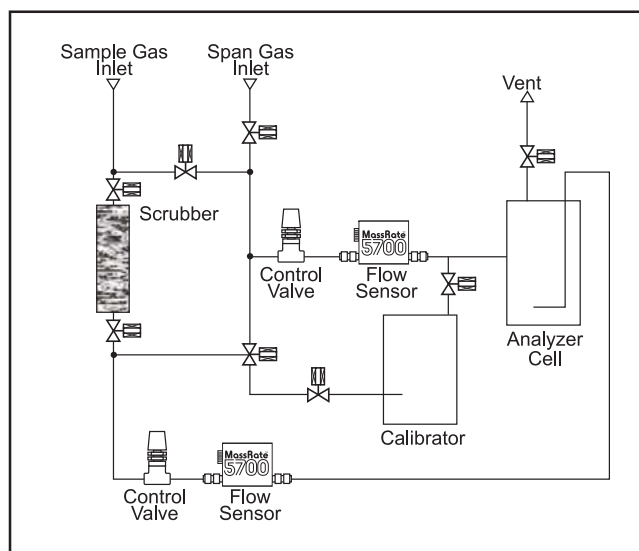


Figure 1 Gas Analyzer Application Diagram

## SPECIFICATIONS

### Performance

Standard Flow Ranges (\*):

0-10 ml/min	0-1 liters/min
0-20 ml/min	0-2 liters/min
0-50 ml/min	0-5 liters/min
0-100 ml/min	0-10 liters/min
0-200 ml/min	0-20 liters/min
0-500 ml/min	0-50 liters/min

\*Nitrogen, 760 torr Reference Pressure, Reference Temperature defined by User

Rangeability: 20:1

Repeatability: 0.5% full scale

Accuracy: 5% F.S. including linearity

**Temperature Sensitivity:**

Zero: less than  $\pm 0.075\%$  F.S. per degree C  
Span: less than  $\pm 1.0\%$  F.S. shift over 10-50°C range

**Pressure Sensitivity:** less than 0.05% per psi (0.0073% per KPa)

**Mounting Attitude Sensitivity:** less than 0.5% F.S. shift after rezeroing

**Ratings**

**Working Pressure:** up to 150 psig (1034 KPa)

**Temperature Limits:**

Operating: 5 to 65 Deg C  
Non-Operating: -25 to 100 Deg C

**Physical Specifications**

**Materials:** 304 and 316 Stainless Steel

**Connections:**

Mechanical: 1/4" FNPT  
Electrical: 5 pin post header horizontal mount AMP-171826-5. The mating connector is AMP 172053-5.

**Power:** 11.5 to 15.5 Vdc, 50 mA

**Output Signal:** 0-5 Vdc into 1000 ohms or greater

**Weight:** 1 lb / 0.5 Kg

**MODEL NUMBER**

**Base Model Number**

5700A

**Flow Range (\*)**

A	0-10	ml/min	G	0-1	liters/min
B	0-20	ml/min	H	0-2	liters/min
C	0-50	ml/min	J	0-5	liters/min
D	0-100	ml/min	K	0-10	liters/min
E	0-200	ml/min	L	0-20	liters/min
F	0-500	ml/min	M	0-50	liters/min

\*Nitrogen, 760 torr Reference Pressure, Reference Temperature defined by User

**Reference Temperature**

- 1 70 Degrees F (Standard)
- 2 0 Degrees C (Normal)

**Process Connection**

- A Integral 1/4" (f)NPT
- B 1/8" Compression
- C 1/4" Compression
- D 3/8" Compression

**Materials of Construction**

- 1 Stainless Steel

**Options**

- A None
- B 10 ft (3 meter) cable assembly
- C Clean for Oxygen Service
- D Options B and C above

**User/OEM Code**

- A Standard

**EXAMPLE:**

Specify:

Model Code - 5700AH1A1AA  
Process Gas - Carbon Dioxide

To Receive:

MassRate 5700  
Flow: 2 SLPM N<sub>2</sub> (1.56 SLPM CO<sub>2</sub>)  
Reference Temperature: 70 Deg F  
Connection: 1/4 FNPT

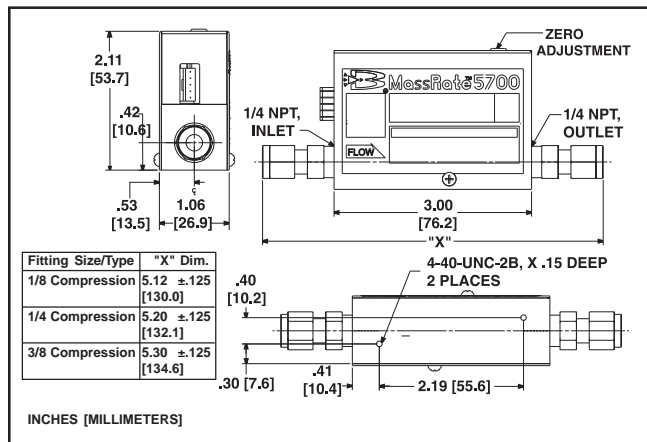


Figure 2 Dimensions

**ORDERING INFORMATION**

Specify complete model number and process gas to be measured.

**TRADEMARKS**

Brooks ..... Brooks Instrument, LLC  
MassRate ..... Brooks Instrument, LLC

Specifications Subject to Change Without Notice

**Brooks Instrument**  
407 West Vine Street  
P.O. Box 903  
Hatfield, PA 19440-0903 USA  
T (215) 362-3700  
F (215) 362-3745  
E-Mail BrooksAm@BrooksInstrument.com  
[www.BrooksInstrument.com](http://www.BrooksInstrument.com)

**Brooks Instrument**  
Neonstraat 3  
6718 WX Ede, Netherlands  
T 31-318-549-300  
F 31-318-549-309  
E-Mail BrooksEu@BrooksInstrument.com

**Brooks Instrument**  
1-4-4 Kitasuna Koto-Ku  
Tokyo, 136-0073 Japan  
T 011-81-3-5633-7100  
F 011-81-3-5633-7101  
E-Mail BrooksAs@BrooksInstrument.com

