ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *Brooks Instrument 5861i* at our website: ***Click HERE***

Data Sheet
DS-TMF-5861*i*-MFM-eng
October, 2008

Industrial Mass Flowmeter Model 5861*i*

Features and Benefits

- Mass flow measurement
- Fast response - flow signal less than 6 seconds to 98% of final value
- ±1% full scale accuracy including linearity
- Wide flow range (up to 100 slpm N_2, 200 slpm H_2)
- Repeatability: ±0.25% of rate
- Linear output signal, 0-5 Vdc and 4-20 mA or 0-20 mA
- All wetted parts are 316 stainless steel
- No moving parts
- All solid state electronics
- Compact
- Removable sensor
- Insensitive to mounting attitude
- 15-28 Vdc powered
- Subminiature D-connector electrical interface for RFI immunity



Model 5861i

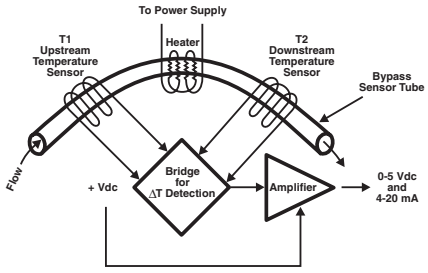


Figure 1 Principle of Operation

Description

The Brooks® Model 5861*i* Mass Flowmeter accurately measures gas flow. The heart of the system is the flow sensor which produces an electrical output signal linear with mass flow rate used for indicating and/or recording. Both 0-5 Vdc and 4-20 mA or 0-20 mA linear output signals are available for flexibility in interfacing with readout equipment. Many options are offered to provide a versatile system of mass flow measurement.

Principle of Operation

The operating principle of the Brooks Mass Flowmeter is thermodynamic. A precision power supply directs heat to the midpoint of the sensor tube carrying a constant percentage of flow. On the same tube equidistant upstream and downstream of the heat input are resistance temperature measuring elements.

With no flow, the heat reaching each temperature element is equal. With increasing flow, the flow stream carries heat away from the upstream element, T1, and an increasing amount towards the downstream element, T2. An increasing temperature difference develops between the two elements, and this difference is proportional to the mass flow rate. A bridge circuit interprets the temperature differential and an amplifier provides a 0-5 Vdc, 4-20mA or 0-20 mA linear output signal.

Specifications

Flow Ranges:
Any full scale flow rate from 10 slpm* to 100 slpm, Nitrogen equivalent, (200 slpm H_2)

***Standard pressure and temperature in accordance with SEMI (Semiconductor Equipment and Materials Institute) standard: 0°C and 101.3 kPa (760 Torr).**

Ratings:
Maximum Operating Pressure: 1500 psi (103 bar)
Ambient/Operating Temperature: 40°F to 150°F (5°C to 65°C)
Non-operating: -13°F to +212°F (-25°C to 100°C)

Performance:
Accuracy: ±1% full scale including linearity at calibrated conditions

Repeatability:
0.25% of rate

Response Time:
Less than 6 seconds

Control / Usable Range:
50 to 1

Sensitivity to Mounting Attitude:
±0.5% F.S. maximum deviation from specified accuracy after rezeroing under 200 psig. Specify mounting attitude at time of order to insure optimum performance.

Temperature Sensitivity:
Zero: Less than ±0.075% F.S. per degree C
Span: Less than ±1.0% F.S. shift from original calibration over 10-50°C range

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Model 5861*i*

Specifications (continued)

Pressure Sensitivity:
0.03% per PSI up to 200 PSIG

Power Supply Sensitivity:
Negligible over the allowable voltage range

Output Signal:
0 to 5 Vdc into 2000 ohms (or greater) load. Maximum ripple 3 mV. 0/4-20 mA, max. loop resistance is power supply dependent, 500 ohms maximum loop resistance.

Leak Integrity:
1 x 10^{-9} atmosphere scc/sec. Helium

Power Requirements:
+15 to +28 Vdc @ 90 mA

Materials of Construction

Fittings and Transducer Assy. - Wetted parts 316 SS
O-rings and Gaskets - Standard: Viton® fluoroelastomers and Buna-N; Optional: Kalrez®

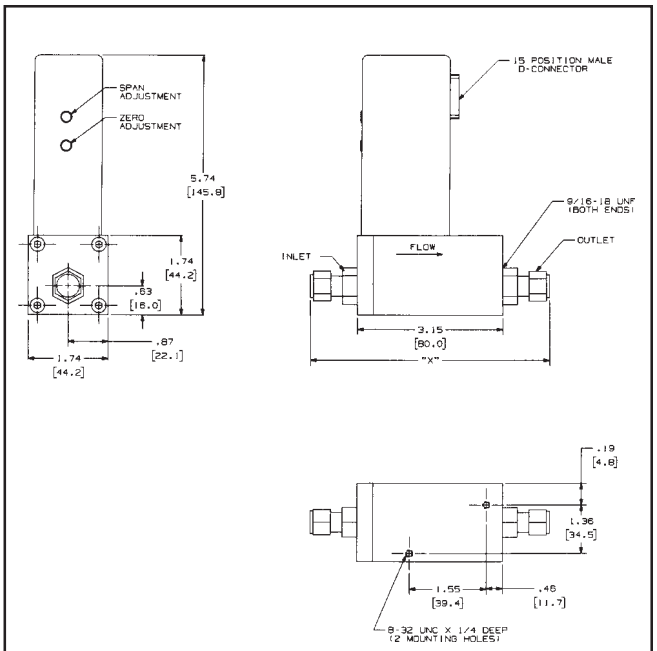
Electrical Connections:
D-connector, 15-pin type (DA-15P)

Accessories

Model 0151: Power Supply/Indicator
Model 0152/54: Power Supply/Indicator (2 or 4 meters)
Inlet Filters
Open Frame Power Supplies

Ordering Information

A. Flow sensor
   1. Type of gas to be metered
   2. Operating temperature and pressure of gas
   3. Flow range
   4. Inlet and outlet connections
B. Power Supply
C. Indicator (digital)
D. With or without interconnecting cable
E. Additional accessories



Connections	"X" Dim
1/4" Compression Fitting	5.17 / 131
1/4" Tube VCO™	4.71 / 120
1/4" Tube VCR™	5.03/128
3/8" Compression Fitting	5.29/134
3/8" or 1/2" Tube VCO	5.15/131
3/8" or 1/2" Tube VCR	5.33/135

Inches/Millimeters

Figure 1 Dimensions, Model 5861i

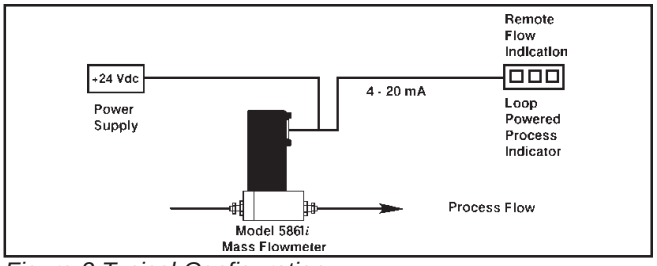


Figure 2 Typical Configuration

TRADEMARKS
Brooks ..... Brooks Instrument, LLC
Kalrez ..... DuPont Dow Elastomers
VCO ..... Cajon Co.
VCR ..... Cajon Co.
Viton ..... DuPont Performance Elastomers

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

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

ISO 9001 QUALITY SYSTEM

BROOKS® INSTRUMENT

©Copyright 2008 Brooks Instrument, LLC All rights reserved. Printed in U.S.A.

Artisan Technology Group - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisantg.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP