

BROOKS MASS FLOW METERS AND CONTROLLERS

- **Accurate measurement and control of gas flow applications**
- **Easy and cost effective, compact design**
- **Mechanically and electrically compatible with other mass flow controllers**

OPTIONS

- **Normally closed or normally opened control valve**
- **H₂S applicable to NACE MR-0175-92 standards**

DESCRIPTION

The Brooks model 5850TR flow controller accurately measures and controls gas flows. It is an economical solution to various metering and control processes, or for installation in (OEM) analytical and environmental equipment. It provides simple and direct mass flow measurement and stable control.

PERFORMANCE

<i>Accuracy</i>	± 1% full scale including linearity measured at calibrated conditions
<i>Repeatability</i>	± 0.25% full scale
<i>Rangeability</i>	50 to 1
<i>Temperature effect</i>	0.1% full scale/°C
<i>Mounting attitude sensitivity</i>	± 0.5% full scale max. deviation from specified accuracy

SPECIFICATIONS

<i>Certification</i>	<ul style="list-style-type: none">• CE• Can be certified for use in zone 2 environment according to NEN 3410 and NEN-EN 50.014• EMC Directive (89/336/EEC) EN 61326-1: 1997 + A1 : 1998• Pressure Equipment Directive (97/23/EC)
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Mass Flow Controller Model 5850TR

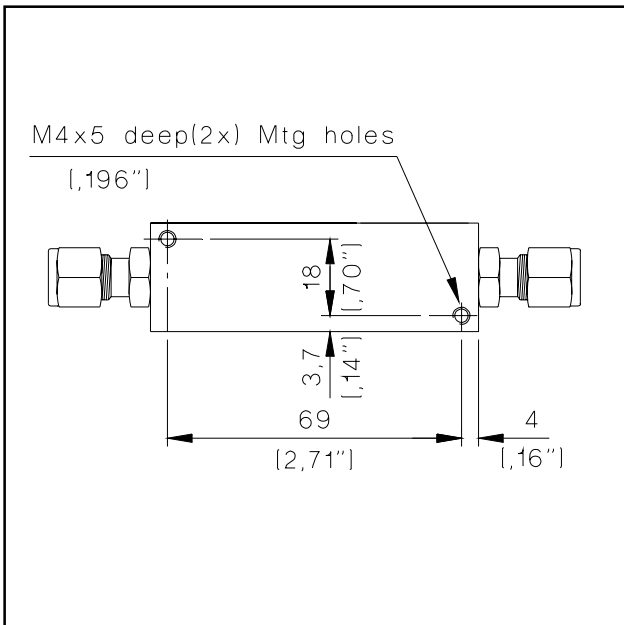
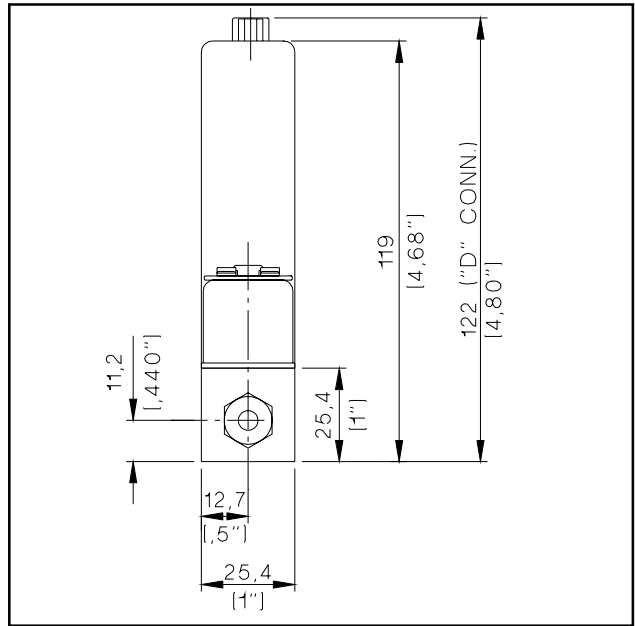
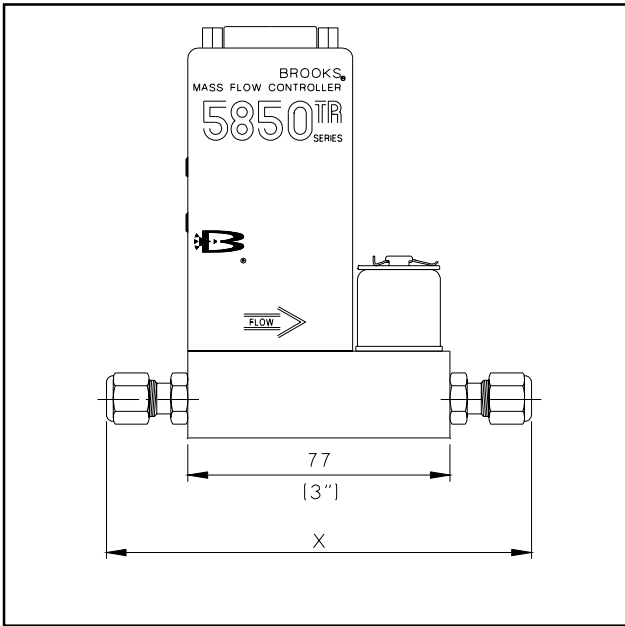
<i>Flow ranges</i>	Any full scale range from 10 ml _n /min. to 20 l _n /min. (Based on Nitrogen equivalent.)
<i>Flow output/setpoint input</i>	0-5 Vdc, or 4-20mA
<i>Max. operating pressure</i>	100 bar (1500 psi) 300 bar (4500 psi) (CF for availability)
<i>Temperature</i>	Ambient/gas 0-65°C (32-149°F)
<i>Leak integrity</i>	Outboard: 1 x 10 ⁻⁶ mbar. l/s Helium (1 x 10 ⁻⁶ atm. cc/s Helium)
<i>Power input</i>	+15 Vdc to +24 Vdc (max. 250 mA)

PHYSICAL SPECIFICATIONS

<i>Materials of construction</i>	Wetted parts stainless steel with Viton, PTFE, Buna-N or kalrez
<i>Mechanical connections</i>	VCR, VCO, NPT, or tube compression
<i>Electrical connection</i>	Sub-D-type connector or cardedge connector



DIMENSIONAL DRAWING MASS FLOW CONTROLLER



Connections	Dim.X	Inch
9/16" - 18 UNF (without adaptor)	77	3"
1/4" TB COMPR.	129	5,08"
1/8" TB COMPR.	124	4,88"
1/4" VCR	125	4,92"
1/4" VCO	117	4,60"
1/4" NPT	118	4,64"
6 mm TB COMPR.	129	5,08"
1/4" BSP	117	4,60"

HOW TO ORDER: Just describe MODEL number and process conditions:

- Process conditions
 - Gastype
 - Flow range
 - Upstream pressure (p_1)
 - Downstream pressure (p_2)
 - Temperature (T)

THERMAL MASS

BROOKS INSTRUMENT B.V.

5850TR - METERS & CONTROLLERS

BASE MODEL NUMBER		DESCRIPTION
5850TR/G		MASS FLOW METER & CONTROLLER FULL SCALE RANGES FROM 10 mln/min UPTO 20 ln/min N2
O-RING/VALVE SEAT MATERIAL		
A		VITON
B		BUNA
C		TEFLON/KALREZ (KALREZ ONLY FOR THE VALVE SEAT)
D		KALREZ (INCLUDING ADAPTERS)
E		TEFLON
VALVE TYPE		
0		NONE (METER ONLY) (300 BAR RATING) Deduct:
1		NORMALLY CLOSED (100 BAR RATING)
2		NORMALLY OPENED (100 BAR RATING) ONLY IN COMBINATION WITH 24VDC
3		NORMALLY CLOSED (300 BAR RATING) ONLY IN COMBINATION WITH 24VDC (see remark)
ELECTRICAL INPUT/OUTPUT		
C		0-5 VDC I/O (15 pin Sub D connector)
D		4-20 mA I/O (15 pin Sub D connector)
E		0-20 mA I/O (15 pin Sub D connector)
F		0-5 VDC I/O (Card Edge connector)
G		4-20 mA I/O (Card Edge connector)
H		0-20 mA I/O (Card Edge connector)
MECHANICAL CONNECTIONS		
1		WITHOUT ADAPTORS (9/16"-18" UNF)
2		1/4" TUBE COMPRESSION FITTINGS
3		1/8" TUBE COMPRESSION FITTINGS
4		1/4" VCR (100 BAR)
5		1/4" VCO (100 BAR)
6		1/4" NPT (MAX. 300 BAR)
7		6mm TUBE COMPRESSION FITTINGS
8		1/4" BSP (F)
INTERCONNECTION CABLE		
0		NO CABLE
B		MATING CONNECTOR ONLY (For "D" connector)
D		3m ROUND CABLE WITH MATING "D" CONNECTORS
E		6m ROUND CABLE WITH MATING "D" CONNECTORS
F		12m ROUND CABLE WITH MATING "D" CONNECTORS
INTERCONNECTION CABLE		
2		+ 24 Vdc (standard)
3		+ 15 Vdc only
5850TR/G A 1 C 2 D 2 = TYPICAL MODEL NUMBER		

ACCESSORIES & OPTIONS:
* FOR GASES WHICH CLOG AND CONTAMINATE THE MFC EASILY, AN ANTI-CLOG LAMINAR FLOW ELEMENT MUST BE ORDERED (FLOWRANGES UP TO 3460 mln/min N2), ADD:
* INTERCONNECTION CABLE UP TO 25m LENGTH, ADD PER METER
* CERTIFIED FOR USE IN ZONE-2 HAZARDOUS AREA
* LASER WELDED SENSOR FOR AMONGST OTHERS, H2S APPLICATIONS
REMARK: CONSULT FACTORY FOR AVAILABILITY

BROOKS LOCAL AND WORLDWIDE SUPPORT

Brooks Instrument provides sales and service facilities around the world, ensuring quick delivery from local stock, timely repairs and local based sales and service facilities.

Our dedicated flow experts provide consultation and support, assuring successful applications of the Brooks flow measurement and control products.

Calibration facilities are available in local sales and service offices. The primary standard calibration equipment to calibrate our flow products is certified by our local Weights and Measures Authorities and traceable to the relevant international standards.

START-UP SERVICE AND IN-SITU CALIBRATION

Brooks Instrument can provide start-up service prior to operation when required.

For some process applications, where ISO-9001 Quality Certification is important, it is mandatory to verify and/or (re)calibrate the products periodically. In many cases this service can be provided under in-situ conditions, and the results will be traceable to the relevant international quality standards.

CUSTOMER SEMINARS AND TRAINING

Brooks Instrument can provide customer seminars and dedicated training to engineers, end users and maintenance persons. Please contact your nearest sales representative for more details.



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