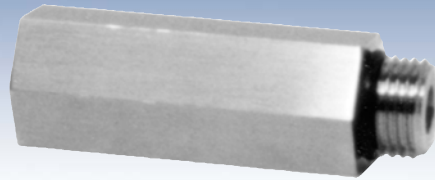


# Model 5848

Thermal Mass Flow

## In-Line Filter



Model 5848 In-Line Filter

### Overview

Brooks® Model 5848 is a convenient in-line filter used to protect mass flow instruments from foreign matter. A sintered stainless steel filter element, mounted in a protective housing, can be easily removed for cleaning or replacement. Filtration ratings of 0.5, 2, 5, 10, and 40 micron are available.

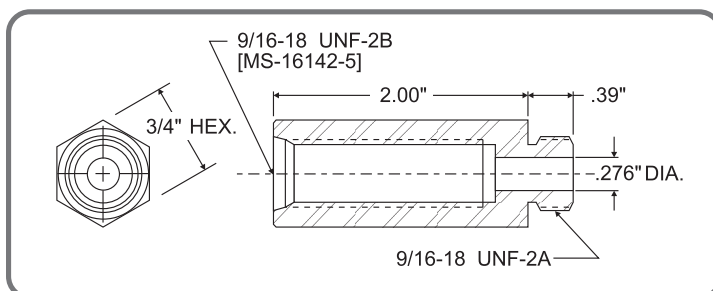
The Model 5848 filter is designed to be used with Brooks Models 5850, 5851 and 5860 mass flow meters and controllers. Both male and female ends are 9/16-18 threads (MS-16142). The inlet connection fitting supplied with the mass flow instrument is removed, the filter is screwed into its place, and then the original fitting is attached to the female end of the filter.

The Model 5848 filter adds only 2.0" to the installed length of the mass flow instrument, making for a compact assembly. The large area elements provide a maximum of filtration with a minimum pressure drop; replacement elements are available. This filter protects the mass flow device from contamination, preserving accuracy and providing peace of mind.

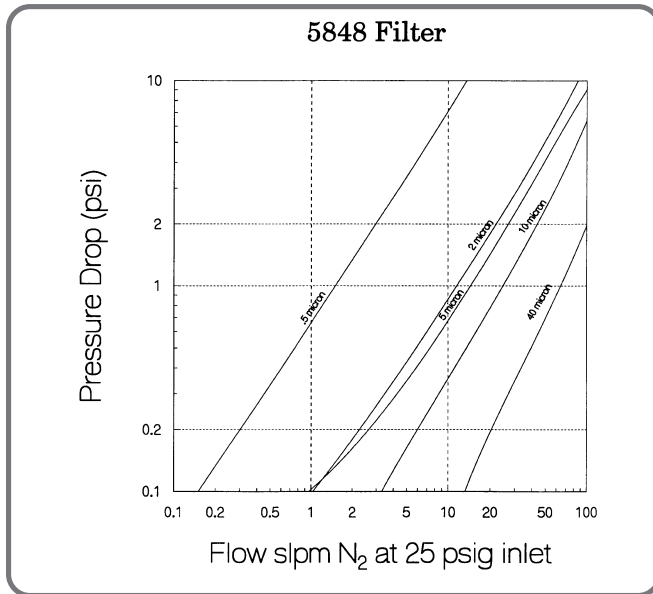
### Product Specifications

Specifications	5848
Maximum Pressure	4500 psig (300 bar)
Maximum Temperature	150°F (65°C)
Connections	9/16"-18 male and female threads (MS16142)
Dimensions	See Dimensions figure
<b>Materials of Construction</b>	
Housing	316 Stainless Steel
Filter Element	316 Sintered Stainless Steel
O-rings	Viton® fluoroelastomers, Buna or optional Kalrez®

### Product Dimensions



## Filtration Element Selection



The element with the greatest filtration (smallest micron size) should be selected that will produce less than 1 psi pressure drop at the maximum gas flow and minimum inlet pressure. Graph above shows the pressure drop vs. flow for Nitrogen at 25 psi inlet pressure.

The pressure drop of the Model 5848 is a function of flow and pressure. The data presented in the graph can be corrected for pressure using formula #1.

Formula #1, Pressure Correction

$$\Delta P = \Delta P_{25} \times \left[ \frac{39.7 \text{ psia}}{P} \right]^{0.8}$$

WHERE:

$\Delta P$  = Pressure Drop at New Pressure

$\Delta P_{25}$  = Pressure Drop at 25 psig (from graph)

$P$  = New Inlet Pressure (psia)

Example: Find the actual pressure drop across a 5 micron filter at 50 psig inlet pressure and 10 slpm\*\* Nitrogen flow.

The pressure drop for Nitrogen at 25 psig and 10 slpm is 0.54 psi from the graph.

$$\Delta P = 0.54 \times \left[ \frac{39.7}{50+14.7} \right]^{0.8} = 0.37 \text{ psi}$$

\*\* Standard temperature and pressure in accordance with SEMI (Semiconductor Equipment and Materials International) standard E12-91: 0°C and 101.3kPa (760 Torr).

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## Model Code

Code Description	Code Option	Option Description
I. Base Model Number	<b>5848B</b>	Model 5848 In-Line Filter
II. Filter Size	<b>1</b>	0.5 micron
	<b>2</b>	2 micron
	<b>3</b>	5 micron
	<b>4</b>	10 micron
	<b>5</b>	40 micron
III. O-ring Material	<b>B</b>	Buna
	<b>K</b>	Kalrez
	<b>V</b>	Viton
V. Code	<b>1</b>	Brooks Code

### Sample Standard Model Code

I	II	III	IV	V
<b>5848B</b>	<b>A</b>	<b>3</b>	<b>V</b>	<b>1</b>

Example: 5848B3V1 - 5 micron with Viton O-rings

## Brooks Service and Support

Brooks is committed to assuring all of our customers receive the ideal flow solution for their application, along with outstanding service and support to back it up. We operate first class repair facilities located around the world to provide rapid response and support. Each location utilizes primary standard calibration equipment to ensure accuracy and reliability for repairs and recalibration and is certified by our local Weights and Measures Authorities and traceable to the relevant International Standards. Visit [www.BrooksInstrument.com](http://www.BrooksInstrument.com) to locate the service location nearest to you.

### 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.

### SEMINARS AND TRAINING

Brooks Instrument can provide seminars and dedicated training to engineers, end users, and maintenance persons.

Please contact your nearest sales representative for more details.

Due to Brooks Instrument's commitment to continuous improvement of our products, all specifications are subject to change without notice.

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