

**GUARDIAN MEMBRANE FILTERS**

- Integral Porting And Mounting Bracket
- 316L Stainless Steel Standard: NACE MR-01-75 Compliant
- Many Housing Materials Available: SS, PTFE, Polypropylene, Exotics
- Up To 70 LPM Flow (2.5 SCFM)
- 1500 PSIG Maximum Pressure Rating On All SS Units
- Liquid / Liquid Separation With SML Model**
- Custom Assemblies Available



Many sample analyzers require zero liquid entrainment, and demand the sample not to be altered. To obtain this goal a membrane filter should be utilized. Our Guardian Membrane series provides added filtration protection beyond our vast coalescing range to meet this objective. A porous PTFE membrane, supported by a sintered stainless steel disc is at the heart of this unit. As a wet sample enters, the membrane only allows gas or vapor molecules to pass through while all liquid is stopped and diverted to the drain port. This port can also be used as a bypass for the main flow. Our series of membrane filters is uniquely designed to afford the operator quick and easy membrane service while providing high performance filtration. The base component contains an integral mounting bracket along with all the line connections, for inlet, outlet, drain, and bypass. The threaded cap is user friendly with knurls and flats for optimum infield serviceability. No connections are broken to service the membrane disc.

The housings are available in 316L stainless steel (SM), PTFE (FM), polypropylene (PM), and various exotics. The units come standard with Viton o-rings, and other materials are available from stock.

The porous PTFE membranes are produced from pure PTFE; they are extremely inert and have very low absorption levels. Microscopic pores allow the gas to easily flow through, but the smallest particles and liquid aerosol is stopped. The liquid molecules high surface tension bonds additional molecules together, making them too large to fit through the membrane's pores. There are two standard grades available for use in low to high flow applications. The M1 (0.1 micron) is a low flow type membrane suitable for most liquids and the M2 (0.8 micron) is a high flow type recommended for higher surface tension liquids. The MT.33.X size membranes are suitable for use with the model SM105 and the MT.61.X size is used in the SM205 size. The membranes can also be used in other proprietary housing types.

Guardian Membranes are also offered with integral coalescing pre-filters. A 50C grade element is mounted before the membrane to remove nominal amounts of liquids and solids, thus providing longer membrane life. This integral package minimizes dead volume, panel space, and leak points. The combo units accept the same membrane kits as our standard Guardian units. Part numbers are specified at the bottom of the attached chart.

We are constantly updating our membrane disc offerings, so please do not hesitate to contact us direct for the latest membrane material available.

**MEMBRANE SPECIFICATIONS**

	<b>MT.33.M1</b>	<b>MT.33.M2</b>	<b>MT.61.M1</b>	<b>MT.61.M2</b>
Membrane Type	Low Flow	High Flow	Low Flow	High Flow
Material	PTFE	PTFE	PTFE	PTFE
Diameter-mm	33	33	61	61
Thickness-µm	150	150	150	150
Maximum Temperature (°F)	212	212	212	212
Recommended Flow Rate-LPM	0.35	10	1.0	70
Membrane Micron Size	0.1	0.8	0.1	0.8

**GUARDIAN MEMBRANE FILTERS**

SS Housing Model	SM105.111	SM105.221	SM205.221	SM205.441
Port Size-NPT	1/8"	1/4"	1/4"	1/2"
Drain-NPT /Gauge port-NPT	1/8"	1/4"	1/4"	1/4"
Maximum Pressure-psig	1500	1500	1500	1500
Maximum Temperature	212	212	212	212
Materials of Construction (1)				
Head Bowls & Internals	316L	316L	316L	316L
Gaskets	Viton	Viton	Viton	Viton
Principle Dimensions: (inches)				
Center of Port to Back	0.4	0.4	0.6	0.6
Body Diameter	2.2	2.2	4.0	4.0
Body Depth	1.7	1.7	2.5	2.5
Space Required to Remove Cap	0.8	0.8	1.2	1.2
Volume-fl.oz.	0.2	0.2	1.0	1.0
Weight-lbs.	1	1	2	2
Accessories				
Standard Gasket Set	GVSM105	GVSM105	GVSM205	GVSM205
Kalrez Gasket Set	GKSM105	GKSM105	GKSM205	GKSM205
Buna-N Gasket Set	GNSM105	GNSM105	GNSM205	GNSM205
EPDM Gasket Set	GESM105	GESM105	GESM205	GESM205
Mounting Bracket	MBSM105	MBSM105	MBSM205	MBSM205
Membrane Code (2)	MT.33.□	MT.33.□	MT.61.□	MT.61.□
PTFE Housing Model	FM105.111	FM105.221	FM205.221	FM205.441
Polypropylene Housing Model	PM105.111	PM105.221	PM205.221	PM205.441
Max. PSIG: 100 on FM & PM models				

Notes: (1) Material abbreviations-316L=316L Stainless Steel, EPDM=Ethylene Propylene  
 (2) Replace the "□" with the grade required. E.g. MT.33.M1 or MT.33.M2.

**MEMBRANES WITH INTEGRAL COALESCING FILTER**

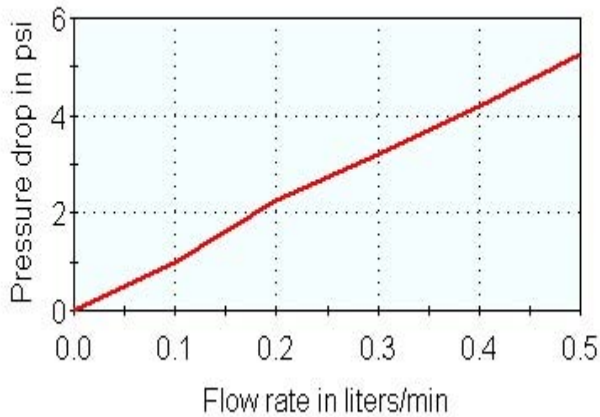
SS Housing Model	SM125.111	SM125.221	SM225.221	SM225.441
Coalescing element	12-57-50C	12-57-50C	25-64-50C	25-64-50C
Membrane Code (2)	MT.33. □	MT.33. □	MT.61. □	MT.61. □
Port Size-NPT	1/8"	1/4"	1/4"	1/2"
Drain-NPT /Gauge port-NPT	1/8"	1/4"	1/4"	1/4"
Maximum Pressure-psig	1500	1500	1500	1500
Maximum Temperature (°F)	212	212	212	212

**\*\*Scroll Down For Flow Rates\*\***

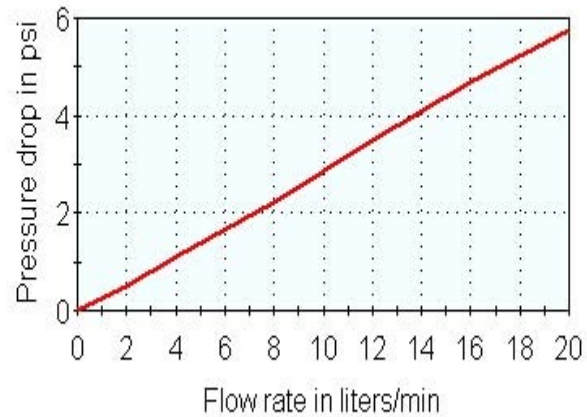
**GUARDIAN MEMBRANE FILTERS**

Membrane Part #	MT.33.M1	MT.33.M2	MT.61.M1	MT.61.M2
Flow Characteristic	Low Flow	High Flow	Low Flow	High Flow
Material	PTFE	PTFE	PTFE	PTFE
Diameter – mm	33	33	61	61
Thickness - $\mu\text{m}$ (micron)	212	212	212	212
Recommended Flow Rate	0.35	10	1.0	70

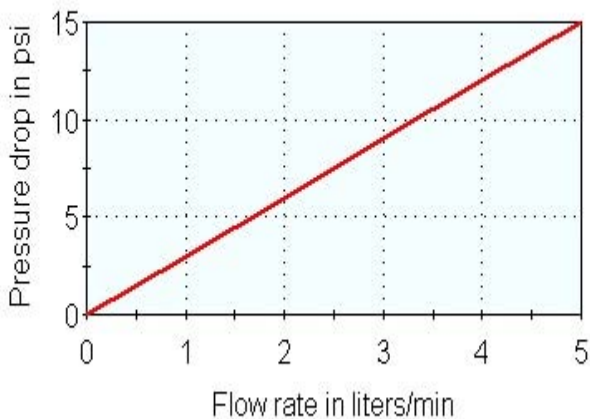
**Flow vs. Psid MT.33.M1**



**Flow vs. Psid MT.33.M2**



**Flow vs. Psid for MT.61.M1**



**Flow vs. Psid MT.61.M2**

