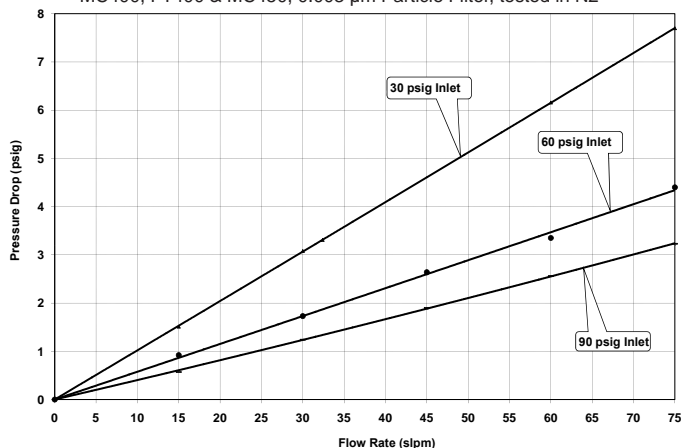


MicroTorr purifiers are the most complete and reliable solution for Point-of-Use (POU) gas purification. Combining model size with a selection of gas-specific purification materials, MicroTorr purifiers can be tailored to many different customer applications, while maintaining impurity removal to Part-Per-Billion (ppbV) levels or better. Optional valves and a 0.003 micron particle filter are available as well as custom subsystem configurations.

**Competitive Advantages and Benefits:**

- **Reliability.** Uncompromised process consistency and yield improvement.
- **Performance.** State-of-the-art purification technology, low pressure drop, and long lifetimes.
- **Regenerability.** Most MicroTorr media are factory regenerable, minimizing potentially hazardous waste.
- **Quality.** 316L stainless steel, Helium leak checked, pressure tested, and analytical testing to Part-per-Trillion (pptv) levels.
- **Support.** Lifetime estimation and regeneration service available through SAES Pure Gas Sales Network.

Pressure Drop vs. Flow Rate  
MC400, FT400 & MC450, 0.003 µm Particle Filter, tested in N2



**Ordering Information**

**MC450 - XXX XX**

**Model**

MC450

**Media**

202, 203, 302, 403,  
404, 502, 602, 702,  
703, 902, 904, 905,  
906

**Options**

No options  
F 0.003µm Particle Filter  
V Inlet/Outlet Valves  
FV Filter and Valves

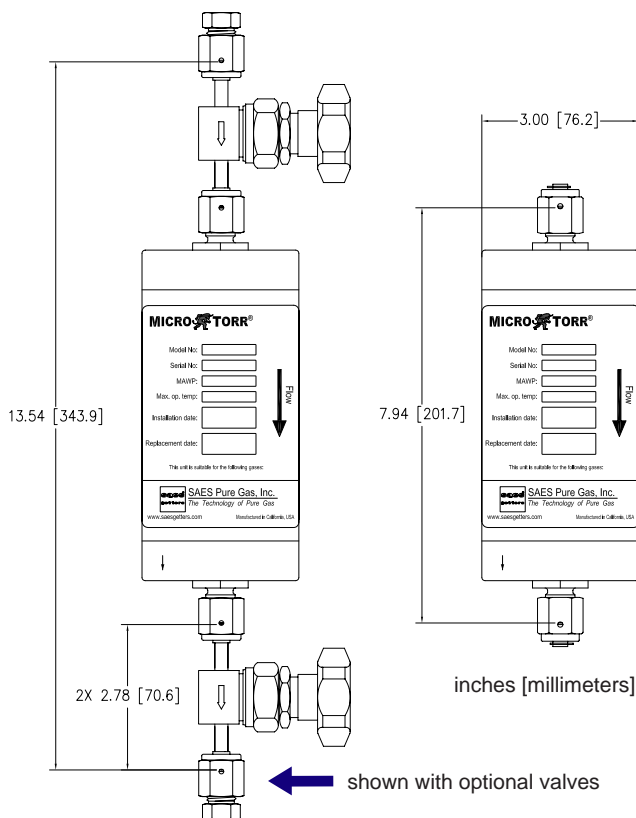
Example: MC450-902F

Model: MC450    Media: 902    Options: 0.003µm Particle Filter



**MC450**

- **Lifetime**  
Consult factory for specific lifetimes
- **Maximum Flow: 75 slpm†**
- **Nominal Flow: 10 slpm†**
- **Maximum Pressure: 250 psig**  
† See reverse for Arsine & Phosphine flowrates



Install Vertically with flow downward in direction of arrow. Consult factory for other mounting options.



**Mechanical Specifications**

Model	MC450-*	MC450-*V	MC450-*F	MC450-*FV
Maximum Flow	75 slpm†	75 slpm†	75 slpm†	75 slpm†
Nominal Flow	10 slpm†	10 slpm†	10 slpm†	10 slpm†
Material	Body-316L Stainless Steel			
Filter (Outlet)	2.0 micron metal		Integrated 0.003 micron, metal	
Valves	N/A	1/4" manual	N/A	1/4" manual
Max Operating Pressure	250 psig (17.3 barg) @ 40°C			
Max Temperature Rating	40°C (104°F)	40°C (104°F)	40°C (104°F)	40°C (104°F)
Inlet	1/4" MVCR	1/4" FVCR	1/4" MVCR	1/4" FVCR
Outlet	1/4" MVCR	1/4" FVCR	1/4" MVCR	1/4" FVCR
Length (Face to Face)	7.94"±.03 [201.7mm±0.8]	13.54"±.08 [343.9mm±2.0]	7.94"±.03 [201.7mm±0.8]	13.54"±.08 [343.9mm±2.0]
Outside Diameter	3.00" [76.2mm]	3.00" [76.2mm]	3.00" [76.2mm]	3.00" [76.2mm]
Electropolish	Yes	Yes	Yes	Yes
Leak Rating	1x10 <sup>-9</sup> atm cc/sec of He	1x10 <sup>-9</sup> atm cc/sec of He	1x10 <sup>-9</sup> atm cc/sec of He	1x10 <sup>-9</sup> atm cc/sec of He
Weight	4.1 lb (1.8 kg)	6.0 lb (2.7 kg)	4.1 lb (1.8 kg)	6.0 lb (2.7 kg)

\* The 3 digit number found in the model number equates to the "Media" row in the table below.

† Flowrates with 502 media: Arsine/Phosphene max= 28.0 slpm, nominal= 10.0 slpm.

**MC450 Purification and Removal Capabilities**

Media	Gases Purified	Impurities Removed	Outlet Performance	Regenerable	Dangerous Goods (DG) Classification
202	Ar, CDA, H <sub>2</sub> , He, Kr, N <sub>2</sub> , Ne, O <sub>2</sub> , Xe, CO <sub>2</sub> , N <sub>2</sub> O, CO, D <sub>2</sub>	H <sub>2</sub> O	< 1 ppbV	YES	Non-DG
203	Ar, CDA, H <sub>2</sub> , He, Kr, N <sub>2</sub> , Ne, O <sub>2</sub> , Xe, N <sub>2</sub> O, CO, D <sub>2</sub>	H <sub>2</sub> O, CO <sub>2</sub>	< 100 pptV	YES	Non-DG
		Acids, Organics, Refractory Compounds*	< 1 pptV		
		Bases*	< 5 pptV		
302	B <sub>2</sub> H <sub>6</sub> , BCl <sub>3</sub> , CClH <sub>3</sub> , Cl <sub>2</sub> , CO <sub>2</sub> , GeCl <sub>4</sub> , GeH <sub>4</sub> , H <sub>2</sub> S, H <sub>2</sub> Se, HBr, HCl, N <sub>2</sub> O, NF <sub>3</sub> , NO, SiCl <sub>4</sub> , SiF <sub>4</sub> , SiH <sub>2</sub> Cl <sub>2</sub> , SiHCl <sub>3</sub> , SO <sub>2</sub> , CHClF <sub>2</sub> , BF <sub>3</sub>	H <sub>2</sub> O	< 1 ppbV	NO	Non-DG
		Metals Removal	< 1ppbW		
403	Ar, CDA, H <sub>2</sub> , He, Kr, N <sub>2</sub> , Ne, O <sub>2</sub> , Xe, CO <sub>2</sub>	Acids, Organics, Refractory Compounds*	< 1 pptV	NO	Non-DG
		Bases*	< 5 pptV		
404	Ar, CDA, H <sub>2</sub> , He, Kr, N <sub>2</sub> , Ne, O <sub>2</sub> , Xe, CO <sub>2</sub> , C <sub>2</sub> H <sub>2</sub> , C <sub>3</sub> H <sub>6</sub> , C <sub>2</sub> H <sub>4</sub> , NH <sub>3</sub>	Organics*	< 1 ppbV	YES	Non-DG
502	PH <sub>3</sub> , AsH <sub>3</sub>	H <sub>2</sub> O, O <sub>2</sub>	< 1 ppbV	NO	Non-DG
602	CO	H <sub>2</sub> O, O <sub>2</sub> , CO <sub>2</sub> , Acids, Bases, Refractories*	< 1 ppbV	NO	DG - UN3089 Class 4.1
702	NH <sub>3</sub> , C <sub>2</sub> H <sub>2</sub> N, C <sub>2</sub> H <sub>3</sub> N <sub>2</sub> , C <sub>2</sub> H <sub>4</sub> , C <sub>3</sub> H <sub>6</sub> , CH <sub>3</sub> SiH <sub>3</sub> , GeH <sub>4</sub> , H <sub>2</sub> -SiH <sub>4</sub> mix, SF <sub>6</sub>	H <sub>2</sub> O, O <sub>2</sub> , CO <sub>2</sub>	< 1 ppbV	YES	DG - UN3089 Class 4.1
703	NH <sub>3</sub>	H <sub>2</sub> O, O <sub>2</sub> , CO <sub>2</sub> , NMHC	< 1 ppbV	YES	DG - UN3089 Class 4.1
902	Ar, He, Kr, N <sub>2</sub> , Ne, Xe	H <sub>2</sub> O, O <sub>2</sub> , CO, CO <sub>2</sub> , H <sub>2</sub>	< 100 pptV	YES	DG - UN2881 Class 4.2
		Acids, Organics, Refractory Compounds*	< 1 pptV		
		Bases*	< 5 pptV		
904	H <sub>2</sub> , H <sub>2</sub> -Inerts Mix, D <sub>2</sub>	H <sub>2</sub> O, O <sub>2</sub> , CO, CO <sub>2</sub>	< 100 pptV	YES	DG - UN2881 Class 4.2
		Acids, Organics, Refractory Compounds*	< 1 pptV		
		Bases*	< 5 pptV		
905	C <sub>2</sub> F <sub>6</sub> , C <sub>2</sub> H <sub>6</sub> , C <sub>2</sub> F <sub>8</sub> , C <sub>2</sub> H <sub>8</sub> , C <sub>2</sub> F <sub>10</sub> , C <sub>2</sub> H <sub>10</sub> , C <sub>3</sub> F <sub>8</sub> , C <sub>3</sub> H <sub>8</sub> , C <sub>3</sub> F <sub>10</sub> , C <sub>3</sub> H <sub>10</sub> , C <sub>4</sub> F <sub>10</sub> , C <sub>4</sub> H <sub>10</sub> , CCl <sub>4</sub> , CF <sub>4</sub> , CH <sub>4</sub> , CHF <sub>3</sub> , SF <sub>6</sub>	H <sub>2</sub> O, O <sub>2</sub> , CO, CO <sub>2</sub> , H <sub>2</sub> , NMHC	< 1 ppbV	YES	DG - UN2881 Class 4.2
906	CDA, O <sub>2</sub> , N <sub>2</sub> O	H <sub>2</sub> O, CO, CO <sub>2</sub> , NMHC	< 1 ppbV	YES	Non-DG

\*Organic compounds (>5) measured as Toluene. Acid compounds (SO<sub>2</sub>, NOx, H<sub>2</sub>S..) measured as SO<sub>2</sub>. Base compounds (NH<sub>3</sub>, amines..) measured as NH<sub>3</sub>. Silicon/Refractory compounds (HMDSA, HMDSO, TMS) measured as HMDSO

**Other Sizes Available**

Model Number	MC1	MC50	MC190	MC200	MC400	MC450	MC500	MC700	MC1500	MC2525	MC2550	MC3000	MC4500	MC9000
Maximum Flow (slpm)	5	10	50	50	60	75	100	120	250	300	500	500	1000	1000
Average Flow (slpm)	0.5	1.5	5	5	9	10	12	25	40	80	80	80	200	300

**Piping Options Available**

3 Valve Bypass