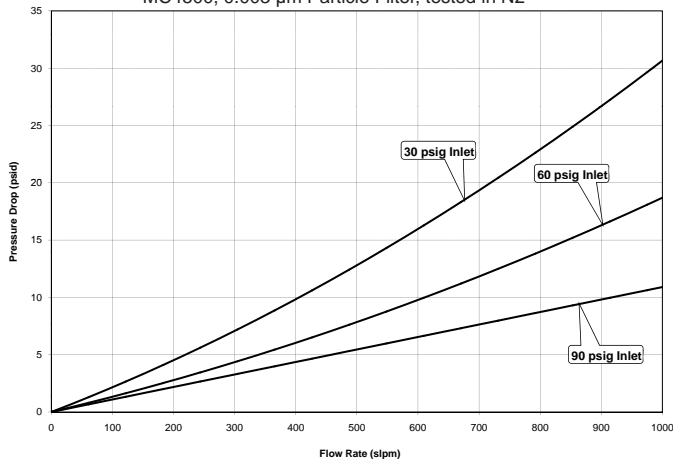


MicroTorr purifiers are the most complete and reliable solution for Point-of-Use (POU) gas purification. Combining model size with a selection of gas-specific purification materials, MicroTorr purifiers can be tailored to many different customer applications, while maintaining impurity removal to Part-Per-Billion (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
MC4500, 0.003 µm Particle Filter, tested in N2



Ordering Information

MC4500 - XXX XX

Model	Media	Options
MC4500	202, 203, 403, 404, 702, 703, 804, 902, 904, 905, 906	No options F 0.003µm Particle Filter V Inlet/Outlet Valves FV Filter and Valves HF 0.003µm Filter/High Flow HFV 0.003µm Filter/High Flow/With Valves

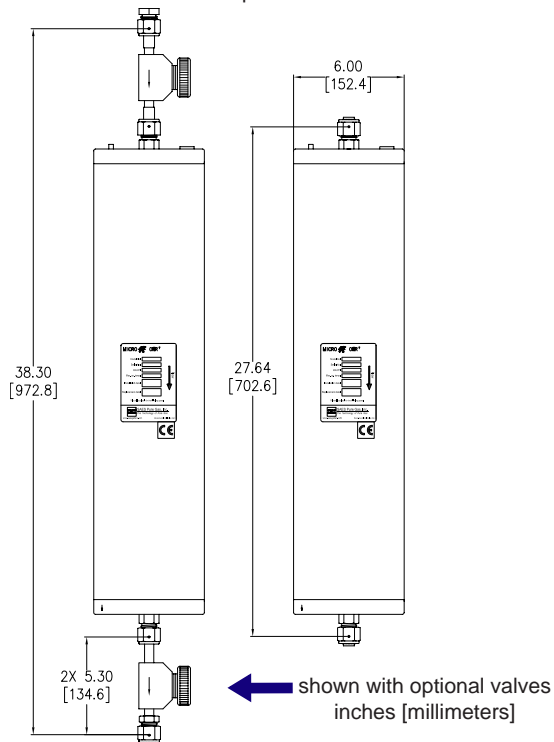
Example: MC4500-902F

Model: MC4500 Media: 902 Options: 0.003µm Particle Filter



MC4500

- **Lifetime**
Consult factory for specific lifetimes
 - **Maximum Flow: 1000 slpm[†]**
 - **Nominal Flow: 200 slpm[†]**
 - **Maximum Pressure: 250 psig**
- [†]See reverse for Filtered Options



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



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The Technology of Pure Gas
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MICRO TORR[®] Specifications

MC4500

Mechanical Specifications

Model ()=Option	MC4500-*	MC4500-*V	MC4500-*HF	MC4500-*HFV
Maximum Flow	1000 slpm			
Nominal Flow	200 slpm			
Filter (Outlet)	2.0 micron outlet metal		Integrated "High Flow" 0.003 micron, metal	
Material	Body-316L Stainless Steel			
Valve (Option)	N/A	1/2" manual	N/A	1/2" manual
Max Operating Pressure	250 psig (17.3 barg) @ 40°C	250 psig (17.3 barg) @ 40°C	250 psig (17.3 barg) @ 40°C	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	1/2" MVCR	1/2" FVCR	1/2" MVCR	1/2" FVCR
Outlet	1/2" MVCR	1/2" MVCR	1/2" MVCR	1/2" MVCR
Length (Face to Face)	27.64"±.06 [702.6mm±1.5]	38.30"±.08 [972.8mm±2.0]	27.64"±.06 [702.6mm±1.5]	38.30"±.08 [972.8mm±2.0]
Outside Diameter	6.0" [152.4mm]	6.0" [152.4mm]	6.0" [152.4mm]	6.0" [152.4mm]
Electropolish	Yes	Yes	Yes	Yes
Leak Rating	1x10 ⁻⁹ atm cc/sec of He	1x10 ⁻⁹ atm cc/sec of He	1x10 ⁻⁹ atm cc/sec of He	1x10 ⁻⁹ atm cc/sec of He
Weight	43.1 lbs (19.5 kg)	48.7 lbs (22.1 kg)	43.1 lbs (19.5 kg)	48.7 lbs (22.1 kg)

The 3 digit number found in the model number equates to the "Media" row in the table below.
 †"HF" = High Flow Filter option.

Purification and Removal Capabilities

Media	Gases Purified	Impurities Removed	Outlet Performance	Regenerable	Dangerous Goods (DG) Classification
202	Ar, CDA, H ₂ , He, Kr, N ₂ , Ne, O ₂ , Xe, CO ₂ , N ₂ O, D ₂ , NO	H ₂ O	< 1 ppbV	YES	Non-DG
203	Ar, CDA, H ₂ , He, Kr, N ₂ , Ne, O ₂ , Xe, N ₂ O, D ₂	H ₂ O, CO ₂	< 100 pptV	YES	Non-DG
		Volatile Acids, Organics, Refractory Compounds*	< 1 pptV		
		Volatile Bases*	< 5 pptV		
403	Ar, CDA, H ₂ , He, Kr, N ₂ , Ne, O ₂ , Xe, CO ₂	Volatile Acids, Organics, Refractory Compounds*	< 1 pptV	NO	Non-DG
		Volatile Bases*	< 5 pptV		
404	Ar, CDA, H ₂ , He, Kr, N ₂ , Ne, O ₂ , Xe, CO ₂ , C ₂ H ₂ , C ₃ H ₆ , C ₂ H ₄ , NH ₃	Organics*	< 1 ppbV	YES	Non-DG
502	PH ₃ , AsH ₃	H ₂ O, O ₂	< 1 ppbV	NO	Non-DG
702	NH ₃ , C ₂ H ₇ N, C ₂ H ₈ N ₂ , C ₂ H ₄ , C ₃ H ₆ , CH ₃ SiH ₃ , GeH ₄ , H ₂ -SiH ₄ mix, SF ₆	H ₂ O, O ₂ , CO ₂ , Metals	< 1 ppbV	YES	DG - UN3089 Class 4.1
703	NH ₃	H ₂ O, O ₂ , CO ₂ , NMHCs, Metals*	< 1 ppbV	YES	DG - UN3089 Class 4.1
804	CO ₂	H ₂ O, O ₂ , CO, H ₂	< 1 ppbV	YES	DG - UN2881 Class 4.2
		Volatile Acids, Refractories, Condensable Organics (>100amu), Volatile Base	< 5 pptV		
		Non-Condensable Organics (>45 amu)	< 100pptV		
902	Ar, He, Kr, N ₂ , Ne, Xe	H ₂ O, O ₂ , CO, CO ₂ , H ₂	< 100 pptV	YES	DG - UN2881 Class 4.2
		Volatile Acids, Organics, Refractory Compounds*	< 1 pptV		
		Volatile Bases*	< 5 pptV		
904	H ₂ , H ₂ -Inerts Mix, D ₂	H ₂ O, O ₂ , CO, CO ₂	< 100 pptV	YES	DG - UN2881 Class 4.2
		Volatile Acids, Organics, Refractory Compounds*	< 1 pptV		
		Volatile Bases*	< 5 pptV		
905	C ₂ F ₆ , C ₂ H ₆ , C ₃ F ₈ , C ₃ H ₈ , C ₂ F ₄ H ₂ , C ₄ F ₈ , C ₄ H ₁₀ , CCl ₄ , CF ₄ , CH ₄ , CHF ₃ , SF ₆	H ₂ O, O ₂ , CO, CO ₂ , H ₂ NMHCs*	< 1 ppbV	YES	DG - UN2881 Class 4.2
906	CDA, O ₂ , N ₂ O	H ₂ O, CO, CO ₂ , NMHCs*	< 1 ppbV	YES	Non-DG

*NMHCs = Organics (C>4); Volatile Acids are compounds including SO₂, NO_x, HCl, H₂S, etc; Volatile Bases are basic compounds including NH₃ and amines; Refractories are hydrocarbons with etheroatoms such as Si.

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: Dual Purifier Manifold, 3 Valve Bypass, 5 Valve Bypass