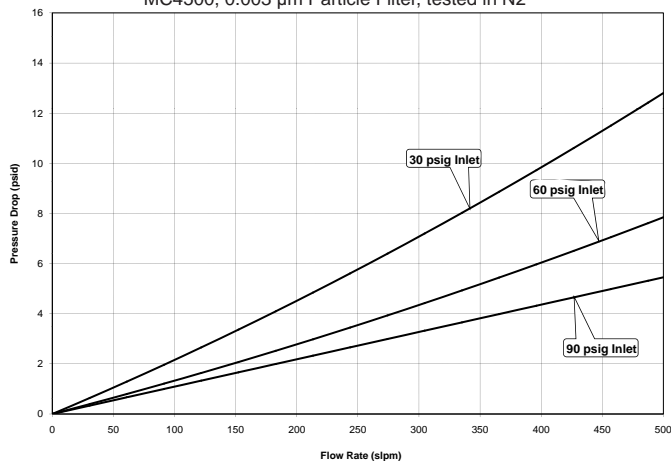


MicroTorr purifiers are the most complete and reliable solution for Point-of-Use (POU) gas purification. Combining model size with a selection of gas-specific purification materials, MicroTorr purifiers can be tailored to many different customer applications, while maintaining impurity removal to Part-Per-Billion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

MC4500

Media

202, 203, 403, 404,
702, 703, 902, 904,
905, 906

Options

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

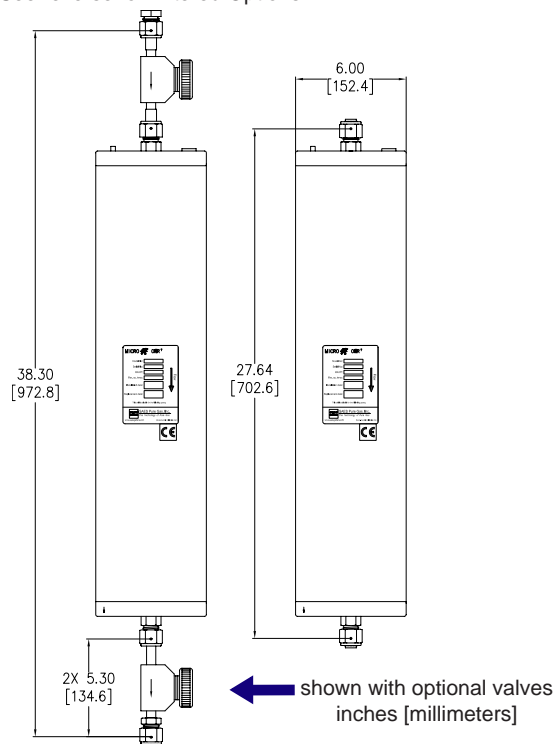
Model: MC4500 Media: 902 Options: 0.003µm Particle Filter



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-*(V)	MC4500-*(F(V)	MC4500-*(HF†	MC4500-*(HFV†
Maximum Flow	1000 slpm	500 slpm	1000 slpm	1000 slpm
Nominal Flow	200 slpm	200 slpm	200 slpm	200 slpm
Filter (Outlet)	2.0 micron outlet metal	Integrated 0.003 micron, metal	Integrated "High Flow" 0.003 micron, metal	
Material	Body-316L Stainless Steel		Body-316L Stainless Steel	
Valve (Option)	(V) 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	
Max Temperature Rating	40°C (104°F)		40°C (104°F)	
Inlet	1/2" MVCR, (with valves 1/2" FVCR)		1/2" MVCR	1/2" FVCR
Outlet	1/2" MVCR, (with valves 1/2" MVCR)		1/2" MVCR	1/2" MVCR
Length (Face to Face)	27.64"±.11 [702.6mm±2.8]		27.64"±.06 [702.6mm±1.5]	38.30"±.11 [972.8mm±2.8]
Outside Diameter	6.0" [152.4mm]		6.0" [152.4mm]	
Electropolish	Yes		Yes	
Leak Rating	1x10 ⁻⁹ atm cc/sec of He		1x10 ⁻⁹ atm cc/sec of He	
Weight	43.1 lbs (19.5 kg) (with valves 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, CO, D ₂	H ₂ O	< 1 ppbV	YES	Non-DG
203	Ar, CDA, H ₂ , He, Kr, N ₂ , Ne, O ₂ , Xe, N ₂ O, CO, D ₂	H ₂ O, CO ₂	< 100 pptV	YES	Non-DG
		Acids, Organics, Refractory Compounds*	< 1 pptV		
		Bases*	< 5 pptV		
403	Ar, CDA, H ₂ , He, Kr, N ₂ , Ne, O ₂ , Xe, CO ₂	Acids, Organics, Refractory Compounds*	< 1 pptV	NO	Non-DG
		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	< 1 ppbV	YES	DG - UN3089 Class 4.1
703	NH ₃	H ₂ O, O ₂ , CO ₂ , NMHCs	< 1 ppbV	YES	DG - UN3089 Class 4.1
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
		Acids, Organics, Refractory compounds*	< 1 pptV		
		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
		Acids, Organics, Refractory compounds*	< 1 pptV		
		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

*Organic compounds (C>5) measured as Toluene. Acid compounds (SO₂, NO_x, H₂S...) measured as SO₂. Base compounds (NH₃, amines...) measured as NH₃. 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

Dual Purifier Manifold, 3 Valve Bypass, 5 Valve Bypass