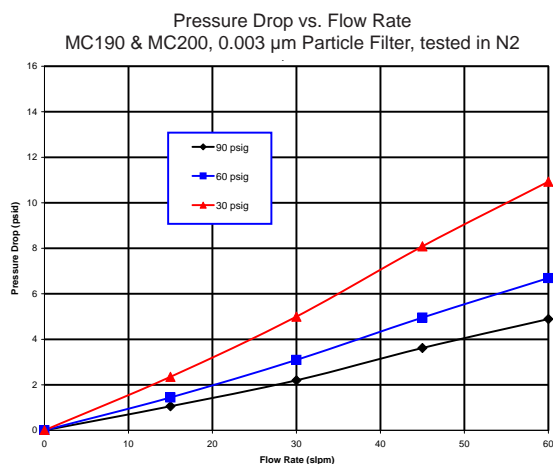


MicroTorr purifiers are the most complete and reliable solution for Point-of-Use (POU) gas purification. Combining model size with a selection of gas-specific purification materials, MicroTorr purifiers can be tailored to many different customer applications, while maintaining impurity removal to Part-Per-Billion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



Ordering Information

XX190 - XXX XX

Model

Media

Options

MC190	202, 203, 206, 302,	No options
HP190	403, 404, 502, 702,	F 0.003µm Particle Filter
	902, 903, 904, 905,	V Inlet/Outlet Valves
	906	FV Filter and Valves

Example: MC190-902F

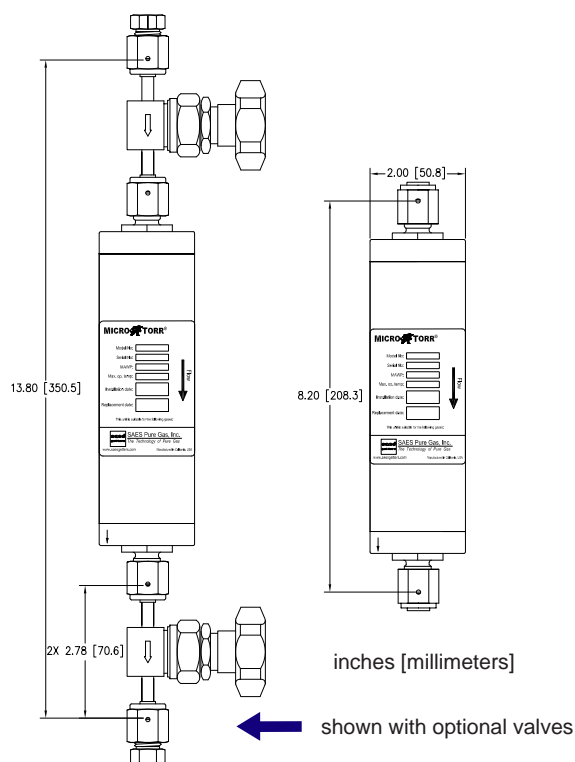
Model: MC190 Media: 902 Options: 0.003µm Particle Filter



MC190 & HP190

- Lifetime
Consult factory for specific lifetimes
- Maximum Flow: 50 slpm*
- Nominal Flow: 5 slpm*
- Maximum Pressure: 250 psig (MC190)
1,000 psig (HP190)

*See reverse for Arsine & Phosphine flowrates





Mechanical Specifications

Model Number	MC190-*F	MC190-*FV	HP190-*F	HP190-*FV
Maximum Flow	50 slpm [†]	50 slpm [†]	50 slpm [†]	50 slpm [†]
Nominal Flow	5 slpm [†]	5 slpm [†]	5 slpm [†]	5 slpm [†]
Material	Body-316L Stainless Steel			
Filter (Outlet)	Integrated 0.003 micron, metal			
Valves	N/A	1/4" manual	N/A	1/4" manual
Max Operating Press	250 psig (17.3 barg) @ 40°C		1000 psig (69 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)	8.20"±.03 [208.3mm±0.8]	13.80"±.08 [350.5mm±2.0]	8.20"±.03 [208.3mm±0.8]	13.80"±.08 [350.5mm±2.0]
Outside Diameter	2.00" [50.8mm]	2.00" [50.8mm]	2.00" [50.8mm]	2.00" [50.8mm]
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	1.6 lbs (0.7 kg)	3.7 lbs (1.7 kg)	2.1 lbs (0.9 kg)	4.1 lbs (1.8 kg)

*The 3 digit number found in the model number equates to the "Media" row in the table below.
[†]Flowrates with 502 media: Arsine/Phosphine max= 14.0 slpm, nominal= 7.0 slpm.

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	H ₂ O	< 1 ppbV	YES	Non-DG
203	Ar, CDA, H ₂ , He, Kr, N ₂ , Ne, O ₂ , Xe	H ₂ O, CO ₂ , Acids, Bases, Organics, Refractory Compounds*	< 100 pptV < 10 pptV	YES	Non-DG
206	CO	H ₂ O	< 1 ppbV	YES	Non-DG
302	B ₂ H ₆ , BCl ₃ , BF ₃ , CCl ₄ , Cl ₂ , CO ₂ , GeCl ₄ , GeH ₄ , H ₂ S, H ₂ Se, HBr, HCl, N ₂ O, NO, SiCl ₄ , SiF ₄ , SiH ₂ Cl ₂ , SiHCl ₃ , SO ₂	H ₂ O	< 1 ppbV	NO	Non-DG
403	Ar, CDA, H ₂ , He, Kr, N ₂ , Ne, Xe	Acids, Bases, Organics, Refractory Compounds*	< 1 ppbV	NO	Non-DG
404	CO ₂ , C ₂ H ₂ , Ar, CDA, H ₂ , He, Kr, N ₂ , Ne, Xe	NMHC	< 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	H ₂ O, O ₂ , CO ₂	< 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 , NMHC	< 1 ppbV	YES	DG - UN2881 Class 4.2
903	Ar, He, Kr, N ₂ , Ne, Xe	H ₂ O, O ₂ , CO, CO ₂ , H ₂ , Acids, Bases, Organics, Refractory Compounds*	< 100 pptV < 10 pptV	YES	DG - UN2881 Class 4.2
904	H ₂	H ₂ O, O ₂ , CO, CO ₂ , NMHC	< 1 ppbV	YES	DG - UN2881 Class 4.2
905	C ₂ F ₆ , C ₂ H ₆ , C ₂ F ₈ , C ₃ H ₈ , C ₃ F ₈ , C ₄ F ₁₀ , C ₄ H ₁₀ , C ₄ F ₁₀ , CCl ₄ , CF ₄ , CH ₄ , CHF ₃ , SF ₆	H ₂ O, O ₂ , CO, CO ₂ , H ₂ , NMHC	< 1 ppbV	YES	DG - UN2881 Class 4.2
906	CDA, O ₂	H ₂ O, CO, CO ₂ , NMHC	< 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
 **Not available in HP Models

Other Sizes Available

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

Piping Options Available

3 Valve Bypass