SAES Pure Gas, Inc.
The Technology of Pure Gas
4175 Santa Fe Road, San Luis Obispo, CA 93401
Tel: 1 (805) 541-9299 | Fax: 1 (805) 541-9399

MICRO TORR® Specifications

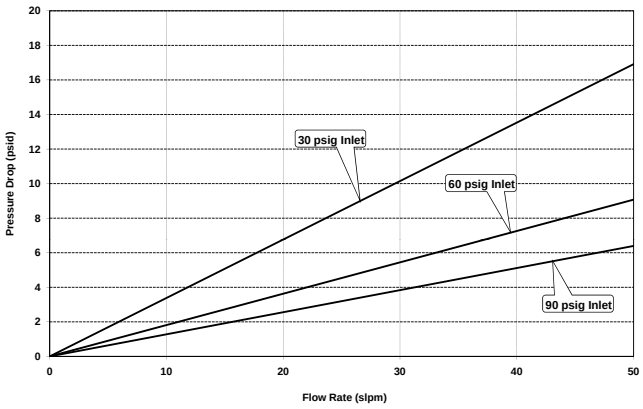
PG1

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
PG1, 0.003 µm Particle Filter, tested in N2



Ordering Information

PG1 - XXX FV

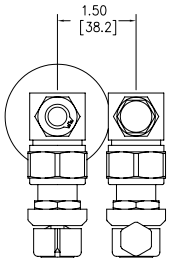
Model	Media	Options
PG1	202, 203, 302, 403, 404, 502, 602, 702, 703, 902, 904, 905, 906	FV Filter and Valves

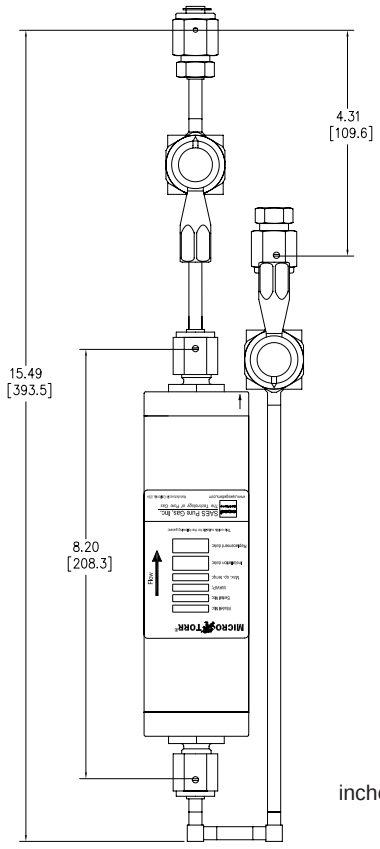
Example: PG1-502FV
Model: PG1 Media: 502 Options: Filter and Valves

PG1

- Lifetime
  Consult factory for specific lifetimes
- Maximun Flow: 15 slpm†
- Nominal Flow: 10 slpm†
- Maximum Pressure: 250 psig

† See reverse for Arsine & Phosphine flowrates





inches [millimeters]

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

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MICRO TORR® Specifications PG1

Mechanical Specifications

Model	PG1-*FV	†PG1-502FV (Arsine/Phosphine)
Maximum Flow	15 slpm	14 slpm
Nominal Flow	10 slpm	7 slpm
Material	Body-316L Stainless Steel	Body-316L Stainless Steel
Filter (Outlet)	0.003 micron Metal	0.003 micron Metal
Valves	1/4" Manual Diaphragm	1/4" Manual Diaphragm
Max Operating Pressure	250 psig (17.3 barg) @ 40°C	250 psig (17.3 barg) @ 40°C
Max Temp Rating	40°C (104°F)	40°C (104°F)
Inlet	1/4" FVCR	1/4" FVCR
Outlet	1/4" MVCR	1/4" MVCR
Length (Face to Face)	15.49"±.08 [393.4mm±2.0]	15.49"±.08 [393.4mm±2.0]
Outside Dia (Purifier)	2.00" [50.8mm]	2.00" [50.8mm]
Width (vlvs open)	5.00" [127.0mm]	5.00" [127.0mm]
Electropolish	Yes	Yes
Leak Rating	$1x10^{-9}$ atm cc/sec of He	$1x10^{-9}$ atm cc/sec of He
Weight	5.1 lbs (2.3 kg)	5.1 lbs (2.3 kg)

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

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_2O, CO, D_2	H_2O	< 1 ppbV	YES	Non-DG
203	Ar, CDA, H_2, He, Kr, N_2, Ne, O_2, Xe, N_2O, CO, D_2	H_2O, CO_2,	< 100 pptV	YES	Non-DG
		Acids, Organics, Refractory Compounds*	< 1 pptV		
		Bases*	< 5 pptV		
302	B_2H_6, BCl_3, BF_3, $CClH_3$, Cl_2, CO_2, $GeCl_4$, GeH_4, H_2S, H_2Se, HBr, HCl, N_2O, NF_3, NO, $SiCl_4$, SiF_4, SiH_2Cl_2, $SiHCl_3$, SO_2, $CHClF_2$	H_2O	< 1 ppbV	NO	Non-DG
		Metals Removal	< 1 ppbW		
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_2H_2, C_3H_6, C_2H_4, NH_3	Organics*	< 1 ppbV	YES	Non-DG
502	PH_3, AsH_3	H_2O, O_2	< 1 ppbV	NO	Non-DG
602	CO	H_2O, O_2, CO_2, Acids, Bases, Organics, Refractories*	< 1 ppbV	NO	DG - UN3089 Class 4.1
702	NH_3, C_2H_7N, $C_2H_8N_2$, C_2H_4, C_3H_6, CH_3SiH_3, GeH_4, H_2-SiH_4 mix, SF_6	H_2O, O_2, CO_2	< 1 ppbV	YES	DG - UN3089 Class 4.1
703	NH_3	H_2O, O_2, CO_2, NMHCs	< 1 ppbV	YES	DG - UN3089 Class 4.1
902	Ar, He, Kr, N_2, Ne, Xe	H_2O, 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_2O, O_2, CO, CO_2	< 100 pptV	YES	DG - UN2881 Class 4.2
		Acids, Organics, Refractory compounds*	< 1 pptV		
		Bases*	< 5 pptV		
905	C_2F_6, C_2H_6, C_3F_8, C_3H_8, $C_2F_4H_2$, C_4F_8, C_4H_{10}, CCl_4, CF_4, CH_4, CHF_3, SF_6	H_2O, O_2, CO, CO_2, H_2 NMHCs	< 1 ppbV	YES	DG - UN2881 Class 4.2
906	CDA, O_2, N_2O	H_2O, CO, CO_2, NMHCs	< 1 ppbV	YES	Non-DG

*Organic compounds (C>5) measured as Toluene. Acid compounds (SO2, NOx, 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