



SAES Pure Gas

The Technology of Pure Gas



MonoTorr: Heated Getter Purifiers

Applications

- Vapor Deposition Processes
 - MOCVD
 - PVD
 - CVD
 - Epitaxy
- Photolithography
- Metrology
- R&D laboratory experiments
- LED
- Crystal pulling
- Implant
- Etching
- Diffusion and Oxidation processes
- Annealing
- Fiber Optics
- Analytical
- Solar and Photovoltaics

MonoTorr Heated Getter Gas Purifiers

Are ideal solutions for point-of-use purification where CH_4 or N_2 impurity removal is required. Gases purified include He, Ar, Xe, H_2 , and N_2 .

The Heated Getter technology forms an irreversible bond with the impurities and removes them to sub-ppb levels. Unlike ambient purification technologies that rely on surface sorption only, heated getter technology utilizes the entire volume of material resulting in superior impurity capacity and longer purifier lifetime.



PS2-GC50: Typical Flow Rate 0 - 0.2 slpm

Product Specifications:

- 200 sccm maximum flow rate (Nitrogen, Helium, Argon)
- Outlet gas temperature < 50° C
- Average power consumption < 50 W
- 20 µm metal particle filter

Dimensions:

- Height 23 cm (9 inches)
- Width 10 cm (4 inches)
- Weight 1.8 kg (4 lbs)

Optional equipment:

- 1/4" VCR fittings
- 110-120 VAC or 220-240 VAC



Impurities Removed	Nitrogen Outlet Purity (ppb)	Rare Gas Outlet Purity (ppb)
H ₂ O	<10	<10
O ₂	<10	<10
CO	<10	<10
CO ₂	<10	<10
CH ₄	<50	<10
Other Hydrocarbons	<10	<10
H ₂	<10	<10
N ₂	N/A	<10

PS3-MT3: Typical Flow Rate 0.2 - 3 slpm

Product Specifications:

- 5 slpm maximum flow rate (Nitrogen, Helium, Argon)
- 3 slpm maximum flow rate (Xenon)
- High temperature alarm
- Outlet gas temperature < 50° C
- Average power consumption < 50 W
- 0.003µm metal particle filter

Dimensions:

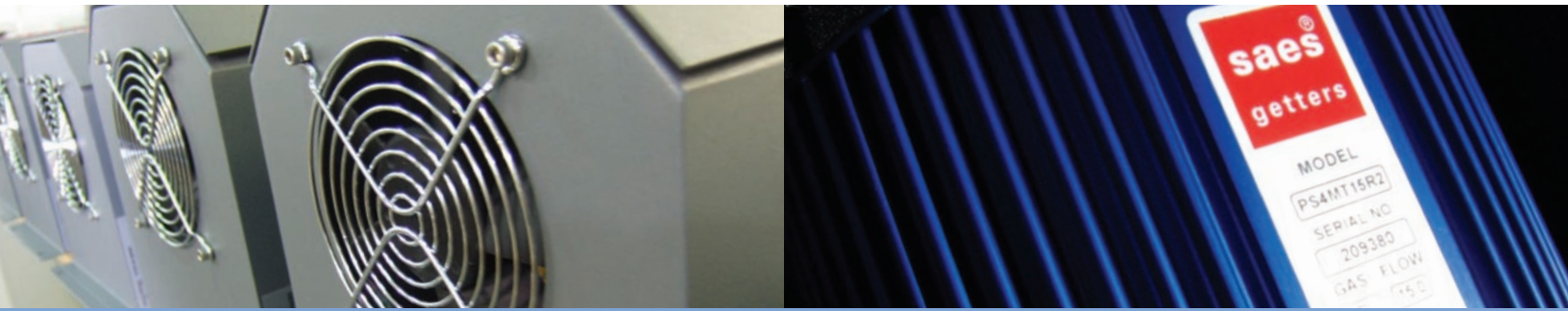
- Height 60 cm (24 inches)
- Width 25 cm (10 inches)
- Depth 10 cm (4 inches)
- Weight 6 kg (13 lbs)

Optional equipment:

- Bypass assembly
- 110-120 VAC or 220-240 VAC



Impurities Removed	Nitrogen Outlet Purity (ppb)	Rare Gas Outlet Purity (ppb)
H ₂ O	<1	<1
O ₂	<1	<1
CO	<1	<1
CO ₂	<1	<1
CH ₄	<1	<1
Other Hydrocarbons	<1	<1
H ₂	<1	<1
N ₂	N/A	<1



PS4-MT3 and PS4-MT15: Typical Flow Rate 3 - 30 slpm



Impurities Removed	Gases Purified		
	Rare Gases	Nitrogen	Hydrogen
H ₂ O	<1 ppb	<1 ppb	<1 ppb
O ₂	<1 ppb	<1 ppb	<1 ppb
CO	<1 ppb	<1 ppb	<1 ppb
CO ₂	<1 ppb	<1 ppb	<1 ppb
Total Hydrocarbons	<1 ppb	<1 ppb	N/A
H ₂	<1 ppb	<1 ppb	N/A
N ₂	<1 ppb	N/A	<1 ppb

Product specifications:

- MT3 (5 slpm Average Flow)
 - 50 slpm maximum flow rate (Nitrogen, Helium, Argon)
 - 30 slpm maximum flow rate (Hydrogen)
 - 3 slpm maximum flow rate (Xenon)
- MT15 (15 slpm Average Flow)
 - 75 slpm maximum flow rate (Nitrogen, Helium, Argon)
 - 50 slpm maximum flow rate (Hydrogen)
 - 9 slpm maximum flow rate (Xenon)
- High temperature alarm
- Outlet gas temperature < 50° C
- Average power consumption 125 W (MT3), 187 W (MT15)
- 0.003µm metal particle filter
- Life Status Sensor (Rare Gas and Nitrogen only)
- Bypass assembly
- Surface mountable enclosure with cooling fan

Dimensions:

- Height 86.4 cm (34 inches)
- Width 20.3 cm (8 inches)
- Depth 20.9-22.7 cm (8.25-8.94 inches)
- Weight 23-28 kg (50-61 lbs)

Optional equipment:

- 110-120 VAC or 220-240 VAC



PS4-MT50: Typical Flow Rate 30 - 100/150 slpm

Impurities Removed	Gases Purified		
	Rare Gases	Nitrogen	Hydrogen
H ₂ O	<1 ppb	<1 ppb	<1 ppb
O ₂	<1 ppb	<1 ppb	<1 ppb
CO	<1 ppb	<1 ppb	<1 ppb
CO ₂	<1 ppb	<1 ppb	<1 ppb
Total Hydrocarbons	<1 ppb	<1 ppb	N/A
H ₂	<1 ppb	<1 ppb	N/A
N ₂	<1 ppb	N/A	<1 ppb

Product Specifications

- 150 slpm maximum flow rate (Hydrogen)
- 100 slpm maximum flow rate (Nitrogen, Helium, Argon)
- 30 slpm maximum flow rate (Xenon)
- High temperature alarm
- Outlet gas temperature < 50° C
- Average power consumption 1.1 kW
- 0.003µm metal particle filter
- PLC controlled operation
- Exhausted enclosure with separate electronics bay
- Life status indicator

Dimensions:

- Height 113 cm (44.5 inches)
- Width 53 cm (21 inches)
- Depth 30 cm (12 inches)
- Weight 70 kg (154 lbs)

Optional equipment:

- N₂ purge system (Hydrogen model only)
- Hydrogen leak detector (Hydrogen model only)
- Uninterruptible power supply
- Emergency off button
- Manual bypass
- 110-120 VAC or 220-240 VAC



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SAES Pure Gas is ISO9001 certified



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