PUREGUARD™ purifiers

The pure and simple choice

PureGuard™ Wall Mount III Heated Getter Purifiers

PureGuard heated getter gas purifiers provide total removal of all impurities, down to the parts-per-trillion (ppt) level for nitrogen, argon, helium and other rare gases. The compact packaging provides continuous purification, automated control, menu-driven software and real-time display of remaining purifier lifetime.

Total Impurity Removal

PureGuard heated getter purifiers are continuously heated during operation to provide complete removal of all impurities. Getter purifiers offer the only method to remove N_2 and CH_4 from argon and other rare gases. Getter is also the most efficient method for removal of O_2, H_2O, CO, CO_2 and H_2.

Long Lifetime

Getter purifiers use non-evaporable zirconium-based getter media that irreversibly remove impurities. Heating of the getter material allows for bulk diffusion of the impurities into the metal getter. This process allows for the use of the entire getter media to provide large capacity, unlike ambient catalyst-type purifiers which use only the surface area as active removal sites. PureGuard getter purifiers last up to 40 times longer than comparable size ambient catalyst purifiers.

Real-time End-of-Life Monitoring System

The purifier includes a continuous display of remaining purifier lifetime. The system monitors total gas flow and incoming purity and provides an easy-to-read display of current status. The PLC controlled system can adapt to various inlet gas quality to provide accurate notification of the time for getter column replacement. Other purifier detection methods are not accurate due to problems with channeling, uneven breakthrough and detection limits. The End of Life Indicator from Johnson Matthey gives you confidence that monitoring is continuous and accurate.

Exotherm Protection

The PureGuard heated getter purifier is on guard for high levels of impurities that might cause overheating of the reactive getter media. If high levels of air or other impurities flow into the purifier, the system will immediately detect this condition. The purifier actuates to bypass mode and alarms are activated.

Suggested Applications

• PVD, Sputtering	Ar, N_2
• SiC growth	Ar
• Si growth	Ar
• Purge for MOCVD	N_2
• Zero gas for analytical instruments	Ar, N_2
• Low temp SiGe, epi	N_2

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Johnson Matthey

Gas Purification Technology

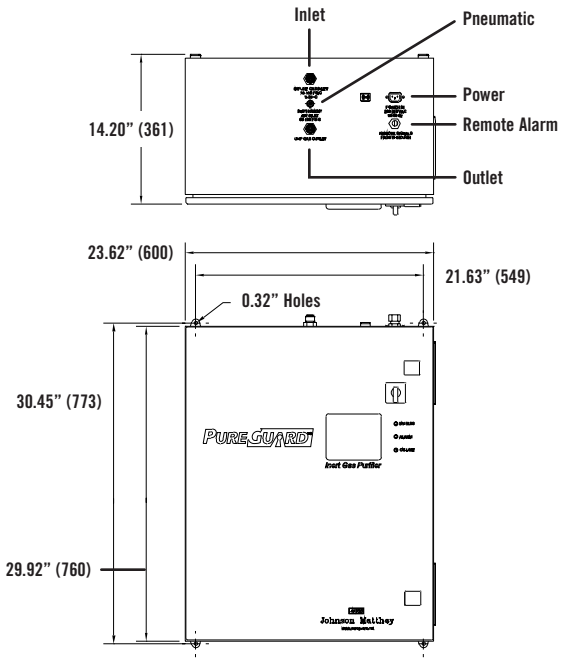
PureGuard™ Wall Mount III Heated Getter Purifiers

Benefits

- No need for regeneration
- Heated unit offers longer life than regenerable media
- Removes all impurities including CH_4 and N_2 to sub ppb levels
- Continues to purify to <1ppb during the longest power failures
- Particulate removal: 0.003µm metal filter
- Manufactured by Johnson Matthey, a global technology leader for 190 years

Features

- PLC control
- Comprehensive alarm monitoring with display
- Online and alarm output signal for remote monitoring
- Compact enclosure for wall or surface-mount
- Redundant overtemperature protection
- Automatic bypass system
- Stable temperature control
- Display of current flow
- APIMS certified
- Custom units available



Specifications

- Gases purified: Nitrogen, Argon, Helium and other rare gases
- <10 ra electropolished material
- < 1 ppb O_2, H_2O, CO, CO_2, N_2, THC, H_2 (H_2 removal requires optional HRU)
- Maximum flow rate 100 slpm
- 316L stainless steel construction
- 0.003µm outlet particle retention
- All process fittings 1/2" MVCR
- Maximum operating pressure 250 psig
- Helium leak tested to 1 x 10^{-9} atm cc/sec
- Voltages: 208-240 VAC-50/60hz

Model	Max Flow	Gas	Voltage	Pneumatic Supply Pressure
WMA-III-3000	100 slpm	Ar, He rare gas	208-240 VAC 50/60 Hz	60-70 psig min/max
WMN-III-3000	100 slpm	N_2	208-240 VAC 50/60 Hz	60-70 psig min/max

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