

PUREGUARD™

The pure and simple choice

purifiers

PureGuard™ Heated Getter Bulk Gas Purifiers



Heated Getter Bulk Purification System - Outdoor Enclosure

PureGuard heated getter bulk gas purifiers provide total removal of all impurities and parts-per-trillion (ppt) purity for nitrogen, argon, helium and other rare gases. The fully-enclosed system provides continuous purification, menu-driven software and real time display of remaining purifier lifetime. These bulk gas getter purifiers are designed for flows up to 40 Nm³/hr. The purifier can also be rated up to 2,500 psi for cylinder-filling applications.

Total Impurity Removal

PureGuard heated getter purifiers provide complete removal of all impurities. Getter purifiers are the only method to remove N₂ and CH₄ from argon and other rare gases. Getter is also the most efficient and consistent method for removal of O₂, H₂O, CO, CO₂ and H₂. Outlet purity is guaranteed to < 1 ppb, and typical levels are less than 100 ppt.

Long Lifetime

Getter purifiers use non-evaporable, all-metal, zirconium-based getter media to irreversibly remove impurities. Impurities cannot be released back into the gas stream, and no complicated regeneration procedure is needed. The heating process enhances use of the entire getter media to provide very long lifetimes, unlike ambient catalyst-type purifiers which use only the surface area as active removal sites.

Real Time End-of-Life Monitoring

The purifier includes 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 computer-controlled system can adapt to any 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 limited detection limits.

Comprehensive Safety Systems

Pureguard bulk gas purifiers include integral monitoring of temperature and flow. Feedback to the PLC assures prompt response to any detected problems. Exotherm reactions caused by reaction to air exposures are stopped by promptly switching to bypass mode. Excessive flow and other nonstandard conditions will also trigger alarms to allow appropriate response.



Johnson Matthey
Gas Purification Technology

PureGuard™ Heated Getter Bulk Gas Purifiers

Benefits

- No need for regeneration
- Long lifetimes—40 times longer than ambient catalyst purifiers
- Removes all impurities including N₂ and CH₄
- Continues to purify to < 1 ppb during power failures

Features

- CE marked
- SEMI S2 compliance
- Ground fault protection
- PLC system with HMI (Human Machine Interface)
- Redundant overtemperature protection
- Sample ports
- Automatic bypass
- Display of current and total flow
- End-of-Life system with field programmable input

Options

- Rating to 2,500 psi for cylinder-filling applications
- Getter column sizes for various flows and purity challenges
- Outdoor enclosure with no footprint increase
- Pressure monitoring and display
- Manual bypass
- Separate control power

Specifications

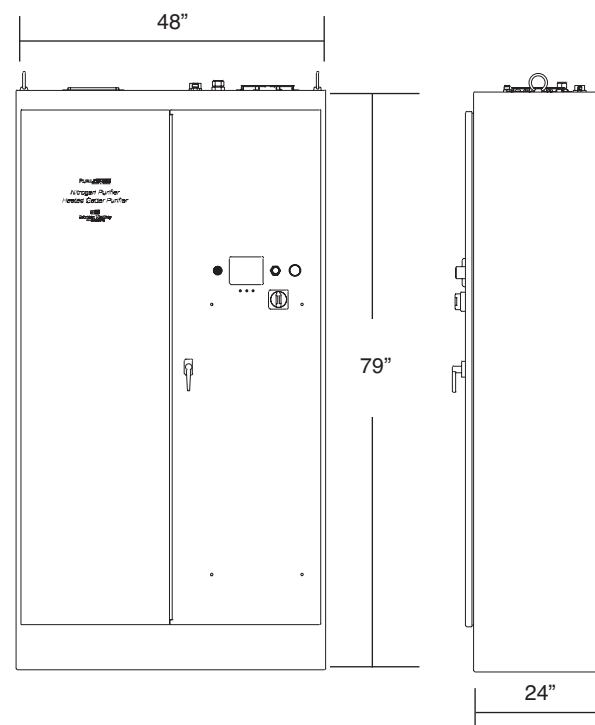
- Gases Purified: Nitrogen, Argon, Helium and other rare gases < 1 ppb O₂, H₂O, CO, CO₂, N₂, H₂, THC (CH₄ + NMHC)
- 0.003 µm outlet particle filter
- Maximum operation pressure 250 psig (2,500 psi optional)
- Pressure drop < 15 psi at max rated flow, 150 psi inlet
- Helium leak tested to 2 x 10⁻¹⁰ atm cc/sec
- Voltages: 208/240 VAC-50/60hz
- Connections: Inlet: 1/2" VCRM
Outlet: 1/2" VCRM
Pneumatics: 1/4" Swagelok
Relief/purge Vent: 1" Swagelok

Available Models

Model	Max Flow	Gas
PSGN-5	10Nm ³ /hr	Nitrogen
PSGA-5	10Nm ³ /hr	Argon, Helium
PSGN-10	15Nm ³ /hr	Nitrogen
PSGA-10	15Nm ³ /hr	Argon, Helium
PSGN-20	30Nm ³ /hr	Nitrogen
PSGA-20	30Nm ³ /hr	Argon, Helium
PSGN-30	40Nm ³ /hr	Nitrogen
PSGA-30	40Nm ³ /hr	Argon, Helium

All models available rated to 2,500 psi on request

Heated Getter Bulk Gas Purifier - Indoor Enclosure



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Johnson Matthey USA

Gas Purification Technology
1397 King Road
West Chester, PA 19380
USA
Phone: (800) 624-2204
Fax: (610) 232-1934
www.pureguard.net

Principal Locations:

North America, England,
South Korea, Taiwan,
China, Hong Kong,
Japan, Singapore