Applied Compression Systems

ACS

APPLIED COMPRESSION SYSTEMS

"Complete Compressor Packaging Solutions"

NITROGEN GAS GENERATOR PACKAGES

APPLICATIONS:

- Autoclaves
- Coffee Packaging
- Coil Tubing Units
- Electronic Parts Manufacturing
- Enhanced Oil Recovery
- Food Preservation
- Gas Assist Injection Molding
- Gas Chromatography
- Inert Gas Blanketing
- Laser Cutting
- Modified Packaging Atmospheres
- Oxidation Control
- Pharmaceutical Manufacturing
- Reflow Ovens
- Shipboard Inerting
- Solvent Drying
- Tank Inerting
- Under Balanced Drilling
- Wave Soldering

Applied Compression's nitrogen generator packages offer users a cost-effective alternative to costly bottled nitrogen.

We have been involved in the design and fabrication of specialized compressor packages and nitrogen generation systems since 1977. Regardless of your application, we likely have the needed experience.

Whether you simply require a nitrogen generator itself or a complete system with feed air compressor, dryer, filters, storage tanks and booster compressors, Applied Compression Systems can help.

Purity levels range from 95% to 99.999%.

At Applied Compression, we recognize that specifications vary widely and that time is of the essence. With this in mind, we have developed a range of both PSA and membrane type gas generator packages that allow us to easily match a unit to your specifications, budget and purity requirements.

These nitrogen generator packages are available as a simple skid-mounted unit or housed in a weatherproof enclosure or walk-in style building for cold climate locations.

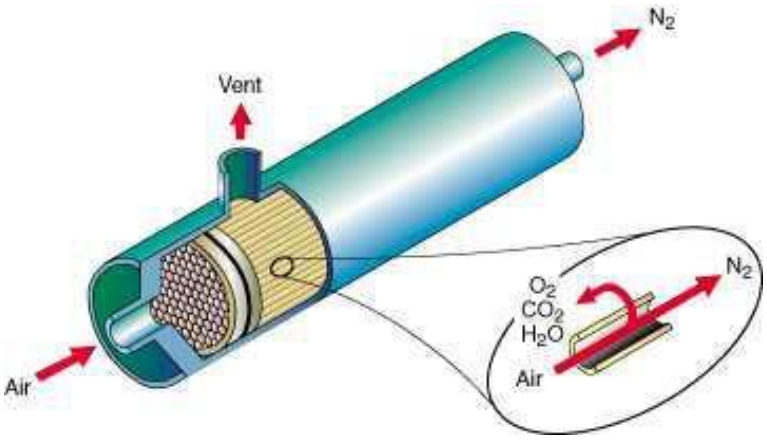
As a provider of both standard and custom fabricated systems, we have the expertise to design and supply the most cost-effective package for your requirements.

NITROGEN GENERATOR PACKAGE COMPLETE WITH FEED-AIR COMPRESSOR, AIR DRYER AND 3600 PSIG BOOSTER COMPRESSOR FOR CYLINDER FUELING

NITROGEN GENERATOR TECHNOLOGIES ...

As a provider of both PSA and membrane technologies, the question that we are often asked is “which is better, membrane or PSA technology? The answer is not “which is better”, but “which is best for a specific application”, since both have very specific benefits.

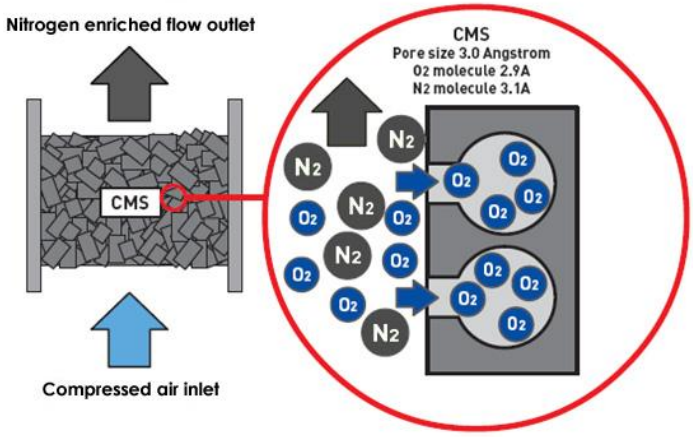
MEMBRANE TECHNOLOGY



The air we breathe contains approximately 78% nitrogen, 21% oxygen and 1% argon. In a membrane nitrogen generator clean, dry compressed air is filtered and passed through a bundle of hollow membrane fibers where nitrogen is separated from the compressed air by selective permeation. The purity of the nitrogen is controlled by throttling the outlet from the membrane bundles. At a given pressure and membrane size, increasing the nitrogen flow allows more oxygen to remain in the gas stream, lowering nitrogen purity. Conversely, decreasing nitrogen flow increases purity. For a particular purity, higher air pressure to the membrane gives a higher nitrogen flow rate. Purity ranges of less than 90% are possible.

Membrane type generators are most commonly used where lower nitrogen purities are acceptable or where portability is required.

PSA (PRESSURE SWING ADSORPTION) TECHNOLOGY



PSA nitrogen generators produce nitrogen from compressed air using the principle of Pressure Swing Adsorption (PSA). Two towers are filled with carbon molecular sieve (CMS). Clean, dry compressed air enters the bottom of the on-line tower and flows up through the molecular sieve bed. Oxygen and other trace gasses are adsorbed by the molecular sieve, allowing nitrogen to pass through. After a pre-set time, the on-line tower automatically switches to regenerative mode and vents contaminants from the bed. Carbon molecular sieve differs from ordinary activated carbons in that it has a much narrower range of pore openings. This allows smaller molecules like oxygen to penetrate the pores and be separated from nitrogen molecules which are too large to enter the mol sieve bed. The larger nitrogen molecules then flow to the outlet of the generator.

PSA technology is necessary when high purity nitrogen is required.

OUR PRODUCT RANGE …

Applied Compression offers a full range of products including membrane, modular PSA and larger twin-tower PSA type nitrogen generators as well as fully packaged nitrogen generator systems and containerized modules.

Our capabilities include:

- Nitrogen purities from 95 – 99.999%
- Capacities from 10 SCFH (.25 M3/Hr) to 200,000 SCFH (5200 M3/Hr)
- Membrane and PSA type generators
- Discharge pressures to 10,000 PSIG

MEMBRANE NITROGEN GENERATORS

Membrane nitrogen generators are particularly suited to applications which do not require high nitrogen purities, in applications that require nitrogen to be produced under extreme ambient conditions or in applications where portability is required.

Applied Compression can supply you with a variety of membrane nitrogen generators which allows you to produce your own nitrogen even under the most difficult operating conditions.

MODULAR PSA NITROGEN GENERATORS

Our range of modular PSA type nitrogen generators sets new standards for nitrogen generators in terms of lower cost, system flexibility, quality and efficiency.

These units are ideal where expandability is a consideration.

Their modular design allows these systems to be easily upgraded at any time by simply adding modules or by adding a Dual Bank.

A Dual Bank is a PSA generator identical to our standard unit, but without the PLC and power supply, which is installed in parallel to the standard unit. The Dual Bank gets its power and control signals from the original generator through a single control cable.

TWIN TOWER PSA TYPE NITROGEN GENERATORS

The best solution for larger volumes and higher purities, our twin tower generators are capable of purities levels to 99.999% designed for years of trouble-free continuous heavy-duty operation at low operational costs.

PACKAGED NITROGEN GENERATOR SYSTEMS

Applied Compression is a leader in the design and fabrication of fully packaged nitrogen generation systems. These systems typically include the feed-air compressor, air dryer, filtration system, air receiver tank, nitrogen generator and nitrogen buffer tank all assembled on a common skid.

At Applied Compression we recognize that specifications vary widely, and time is of the essence. With this in mind, we have developed a complete range of nitrogen generator packages that allow us to easily match a unit to your specifications and budget.

Our shop has Class A welding certification, a CSAZ299.3 quality assurance program and ISNet safety compliance

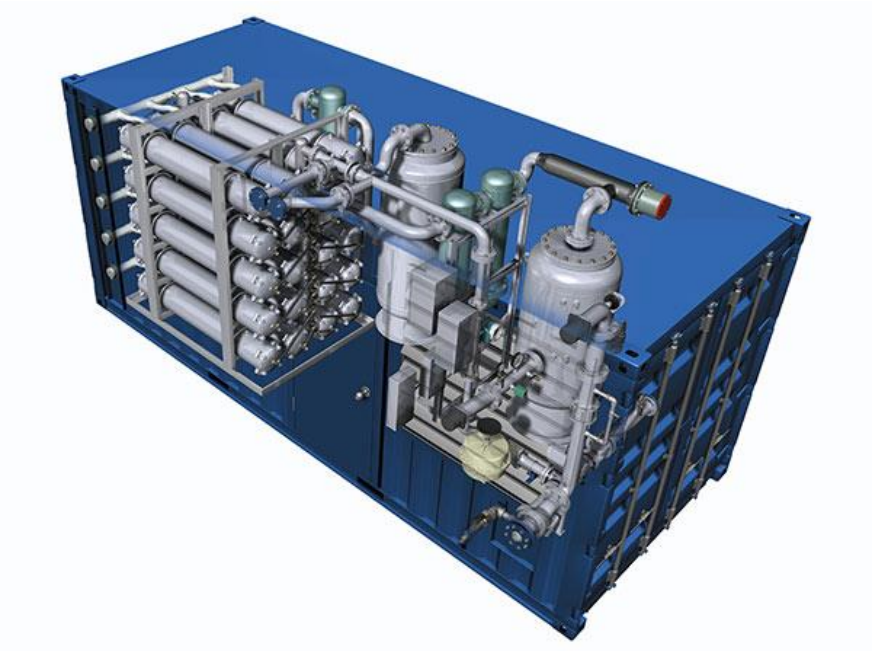
CYLINDER REFILLING NITROGEN PACKAGES

Applied Compression's nitrogen cylinder filling packages allow customers to economically refill nitrogen gas cylinders. In addition to our standard nitrogen generation components, these packages also include a high-pressure compressor capable of raising the nitrogen to standard cylinder pressures.

CONTAINERIZED AND COLD CLIMATE PACKAGES

When you require portability or security, our containerized nitrogen generator packages are the answer. When operation is severe northern winter conditions is a design requirement, we offer insulated and heated cold climate packages.

These self-contained packages are ready to install, plug and play modules that substantially reduce field costs.



WHAT WE OFFER ….

QUICK AND EASY TO INSTALL – Our pre-engineered nitrogen generator modules are fully packed resulting in reduced installation costs.

FLEXIBLE DESIGN – Our modular design allows us to easily modify packages to meet specific client requirements.

UP TO 99.999% PURITY - We offer packages for purity levels ranging from 95% to 99.999% allowing us to accurately match a system to your process requirements.

MODULAR DESIGN – Our modular design allows us to select and match components that will provide the best economics for your applications.

SELECTION – We offer both PSA and membrane technologies as covering a full range of purity levels and output capacities, to meet your individual requirements.

RELIABILITY – Our Nitrogen generator packages are designed and proven to run 24/7.

COST SAVINGS – Cost savings of 50% to 300% are made over bulk cylinders or bulk liquid nitrogen.

ENGINEERED FOR MAXIMUM SAFETY – All packages are manufactured to ASME code as well as all provincial/state electrical code requirements. Pressure vessels are hydrostatically tested for complete user safety and equipped with approved ASME code safety relief valves.

GUARANTEED COMPONENT CAPABILITY – One source for all the major components, ensuring component compatibility and process functionality throughout the entire system.

CADD DESIGN – We utilize a Computer Aided Design and Drafting (CADD) system, so we can provide you with a detailed look at your nitrogen generator package before it's manufactured.

DETAILED PARTS & OPERATING MANUALS – Each package manufactured by us comes with a set of in-depth parts and operating manuals, so you can clearly understand the operation and maintenance requirements of the equipment.

QUALITY CONTROL DOCUMENTATION – On completion, you are provided with detailed quality control documentation including material test reports (MTRs), hydro-test reports, x-ray certificates, welder qualifications, weld mapping, ASME U1A forms etc., ensuring safe equipment operation for years to come.

TESTING – Whenever possible, each nitrogen generator package undergoes a mechanical run test and detailed inspection process prior to shipping.

SHIPPING LOGISTICS – Whether you need a package to be shipped within Canada, across North America or overseas, we can assist with final shipping arrangements to your site.

Toll Free (855) 417-2396
Fax (250) 417-3183
info@appliedcompression.com

CANADIAN ADDRESS
400 Industrial Road A
Cranbrook, BC V1C 4Z3

U.S. ADDRESS
PO Box 111
Eastport, ID 83826