

NITROGEN GENERATION SYSTEMS

TN²



FEATURING **PRISM**[®] MEMBRANES
BY AIR PRODUCTS & CHEMICALS, INC.



Why Nitrogen?

Nitrogen is extremely effective in minimizing oxidation and eliminating harmful water vapor thereby improving manufacturing and testing processes, reducing product spoilage and increasing through-put. Because of its stable and inert (non-reactive) properties, nitrogen is used in a

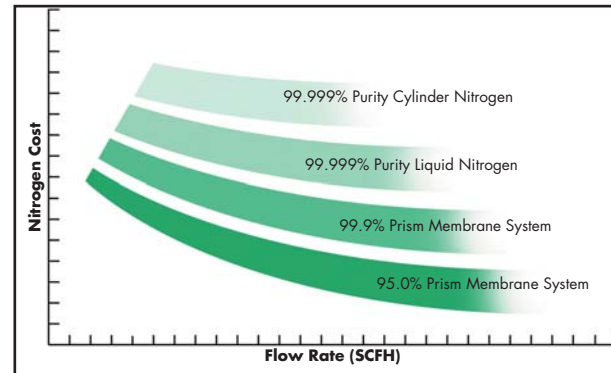
wide variety of manufacturing, processing, laboratory, food and industrial applications, including:

- Controlled atmospheres
- Transport/Transfer
- Mixing
- Sparging
- Volumizing
- Purging/Cleaning
- Metallurgical carburizing, annealing & hardening
- Blanketing

Why On-site Generation?

If you use nitrogen from dewars or cylinders, on-site generation of nitrogen

Membrane Systems vs. Bottle Gas & Liquid Nitrogen



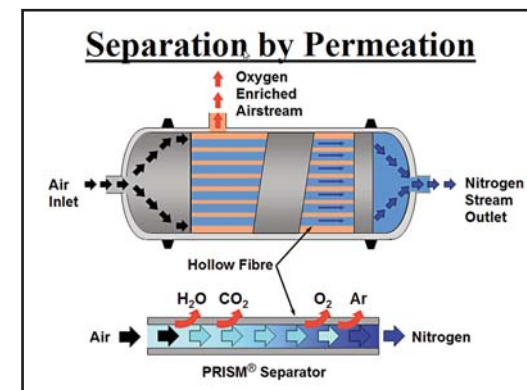
could mean a significant reduction in a variety of operating costs including:

- **Storage:** Valuable floor space needed for cylinder or dewar storage can be reclaimed and utilized more productively.
- **Safety:** Employee safety and welfare can be improved by discontinuing the transport, storage and handling of dewars and cylinders - also providing a savings on insurance costs.
- **Production efficiency:** On-site generation can increase efficiency, as N₂ is produced only as needed.

When you consider all of the costs related to the transportation, handling and storage of bottled nitrogen, on-site production can offer attractive cost savings as well as increased productivity.

TN2: The Ideal On-Site, On-Demand N2 Production Solution.

TN2 is a revolutionary line of on-site nitrogen generators based on the PRISM® hollow-fiber membrane technology from Air Products and Chemicals, Inc., the innovation leader in the field.



Industry-Leading Technology

Since being developed over 20 years ago, PRISM® membranes by Air Products and Chemicals, Inc. have continued to evolve and improve, making them the unquestioned leader in state-of-the-art hollow fiber technology. Fully adjustable up

to 99.9% purity, they meet even the most demanding applications. Because the PRISM® membranes have no moving parts, this technology provides the most maintenance-free method of on-site nitrogen production available.

Industry-Leading Design

The TN2 line revolutionizes on-site nitrogen production by breaking the mold on one-size-fits-all solutions. Recognizing that the need for nitrogen production encompasses a wide variety of applications in dozens of industries, we've designed the TN2 line to be solution-driven, providing maximum design flexibility for the end-user.

TN2 is engineered for flow rates from 0.5 to 5000 SCFH and is designed for easy operation and low maintenance.

The TN2 line will provide you with all the options you need to meet your specific nitrogen production requirements in a cost-effective and efficient manner.



Proven Performance = Bottom Line Savings

The TN2 advantages:

- Produces N₂ only as needed
- Adjustable purity up to 99.9%
- Eliminates bottle/dewar handling
- Simple, reliable operation
- Few moving parts
- Little to wear out or replace
- Proven technology
- Reduced operating costs



Is On-site Generation right for you?

If you use nitrogen from dewars or cylinders and have from one to dozens of cylinders, TN2 can save you time, money and storage headaches.



Proven Technology:

PRISM® Nitrogen Membrane technology from AIR PRODUCTS AND CHEMICALS, INC. is at the core of every TN2 model.

Applications:

Laboratory Sciences

- Carrier Gas
- Make-up Gas
- Instrument Gas
- Glove Boxes
- Fume Cupboards
- Metallurgical Carburizing

Food Packaging & Food Processing

- Food Preservation
- Controlled Atmospheric Storage
- Modified Atmospheric Packaging (MAP)
- Ingredient Mixing
- Blanketing
- Gas Knifing
- Wine Dispensing
- Beer Dispensing

Chemical Processing

- Chemical Blanketing
- Chemical Purging
- Dry Material Transfer
- Liquid/Gas Chromatography
- Mass Spectroscopy

Pharmaceutical Processing

- Blanketing
- Powder Transport
- Ingredient Stabilization

Industrial Processes

- Annealing
- Hardening
- Autoclaving
- Sparging
- Mixing
- Plasma Cutting
- Laser Cutting

Electronics Manufacturing

- Chamber Stabilization
- Positioning Gas
- Soldering
- Circuit Imprinting



TN2 Offers Three Configurations for Unmatched Flexibility.

Experience has shown that every application and location is unique. That's why we offer the most flexible systems and configurations available, including:

TN2 Essentials

This includes membrane module(s) with filters, pressure regulator and flow metering valve shipped separately for optimal economy.

TN2 Total

The most common solution includes filtration, temperature, pressure and flow control packages along with membrane module(s) in a space-saving wall mounted enclosure.

TN2 GenPak

For situations requiring a complete stand-alone system, the GenPak features an electric air compressor, wet air receiver, and all interconnecting piping installed on a common base for ease of handling and installation.

To learn more about how we can provide the perfect configuration for your unique requirements, contact us at (888) 722-5253 or on the web at www.tn2generators.com.



TN2 Essentials



TN2 Total

Also check our website for a **FREE Cost Savings Analysis of your application.**

Find out how TN2 stacks up against other nitrogen generation methods.

All TN2 Systems Feature an Exclusive Two-Year Bumper-to-Bumper Warranty



TN2: Flexible, Reliable, Convenient.

The TN2 family of nitrogen generators features a variety of standard and optional features to meet the needs of a broad range of applications. For further assistance in determining your specific requirements, contact us at **(888) 722-5253**.

Features

	ESSENTIALS	TOTAL	GENPAK
Rugged Sheet Metal Enclosure	O	X	X
Wall Mount Kit	O	X	X
Portability Package	O	O	O
Premium Gauge Package	O	X	X
Premium Pressure Control Package	O	X	X
Premium Flow Control Package	O	X	X
Simple Pressure & Flow Package	X	--	--
Temperature Control Package	--	X	X
Manually-Set Delivery System	--	X	X
Automatic Delivery System	--	O	O
Oxygen Analyzer	O	O	O
Dew Point Analyzer	O	O	O
Low Pressure Monitor	--	O	O
Low or High Temperature Monitor	--	O	O
Energy Saver	--	O	O
Automatic Bypass System	--	O	O
Fail Safe Shutdown	--	O	O
Outlet Nitrogen Flowmeter	O	O	O
NEMA 4/12 or Corrosion-Proof Cabinet	--	O	O
Air Compressor & Wet Air Receiver	--	--	X
Dry Nitrogen Tank	--	O	O
Hydrocarbon Removal System	O	O	O

X = Standard Feature O = Optional Feature

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- **World-wide availability**
- **Installation and service provided through a network of authorized dealers**

www.TN2GENERATORS.com

(888) 722-5253