



MANUFACTURED

*with high-quality components
and innovative techniques*

DESIGNED

*for economical, trouble-free
performance and long-life reliability*



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NITROGEN GENERATORS

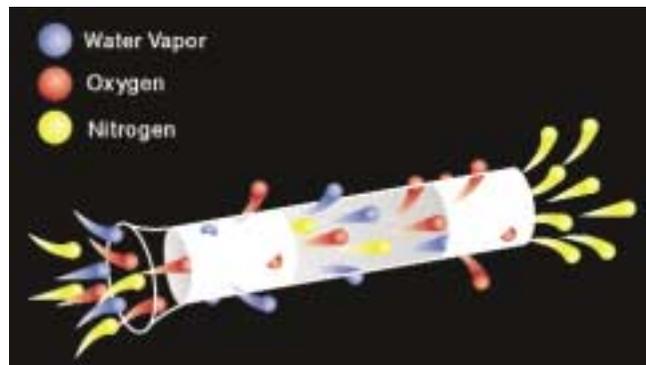
WORLD LEADERS IN COMPRESSED AIR & GAS SYSTEM ENGINEERING



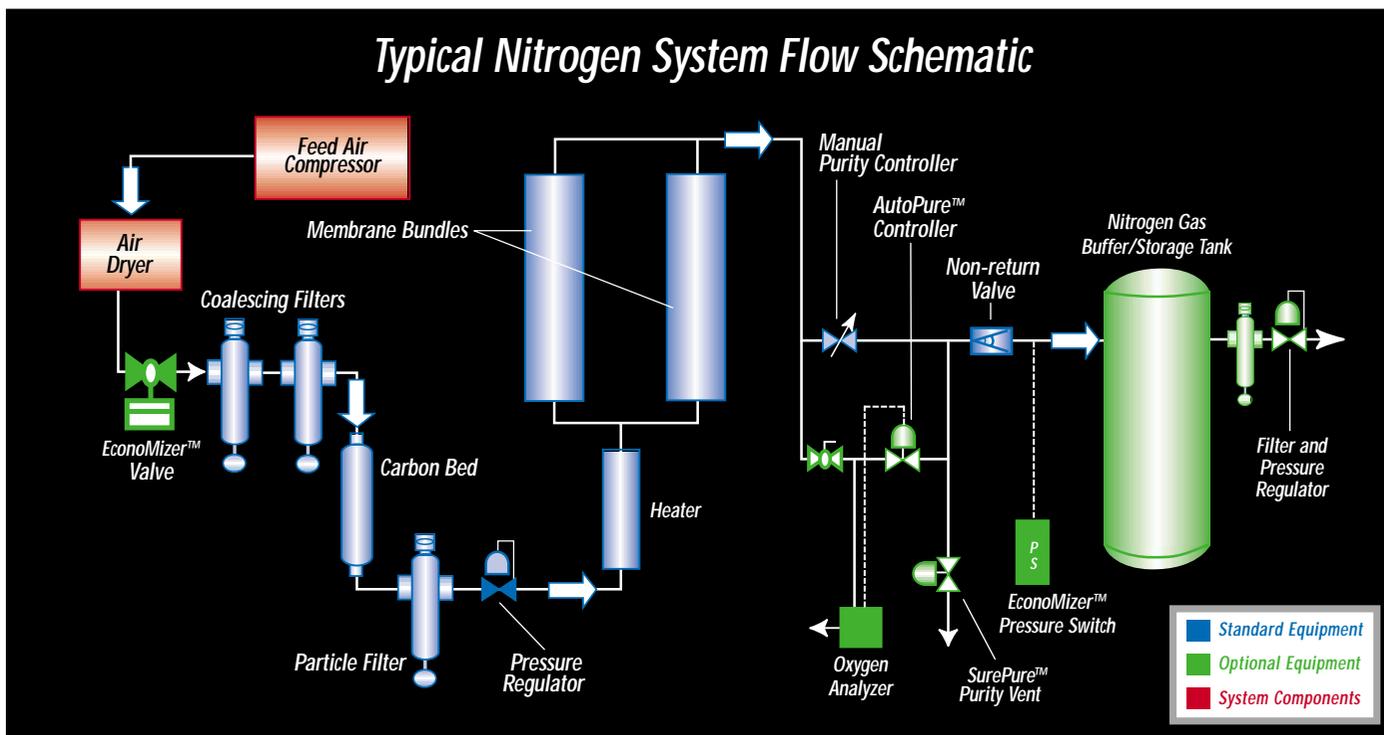
Pneumatech's Innovative Nitrogen Systems

Here's How It Works

Atmospheric air contains essentially 78% nitrogen and 21% oxygen. Ordinary dry compressed air is filtered and passed through a technically advanced bundle of hollow membrane fibers where nitrogen is separated from the feed air by selective permeation. Water vapor and oxygen rapidly permeate safely to the atmosphere, while the nitrogen gas is discharged under pressure into the distribution system. Pressure, flow rate and membrane size/quantity are the main variables that affect nitrogen production. Nitrogen purity (oxygen content) is controlled by throttling the outlet from the membrane bundle(s). 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% to 99.999% are possible. By combining multiple membrane bundles, an infinite number of flow/purity ranges are available to satisfy practically any application that requires nitrogen gas.



Typical Applications

- Food processing, packaging, blanketing and storage
- Chemical processing
- Pharmaceutical, electronics and refrigeration manufacturing
- Metallurgical heat treatment
- Plasma and laser cutting
- Paint blanketing
- Corrosive liquid cooling
- Material handling and storage
- Tire inflation (automotive, aircraft, off road)

Exclusive Pneumatech Benefits

Cost Efficient

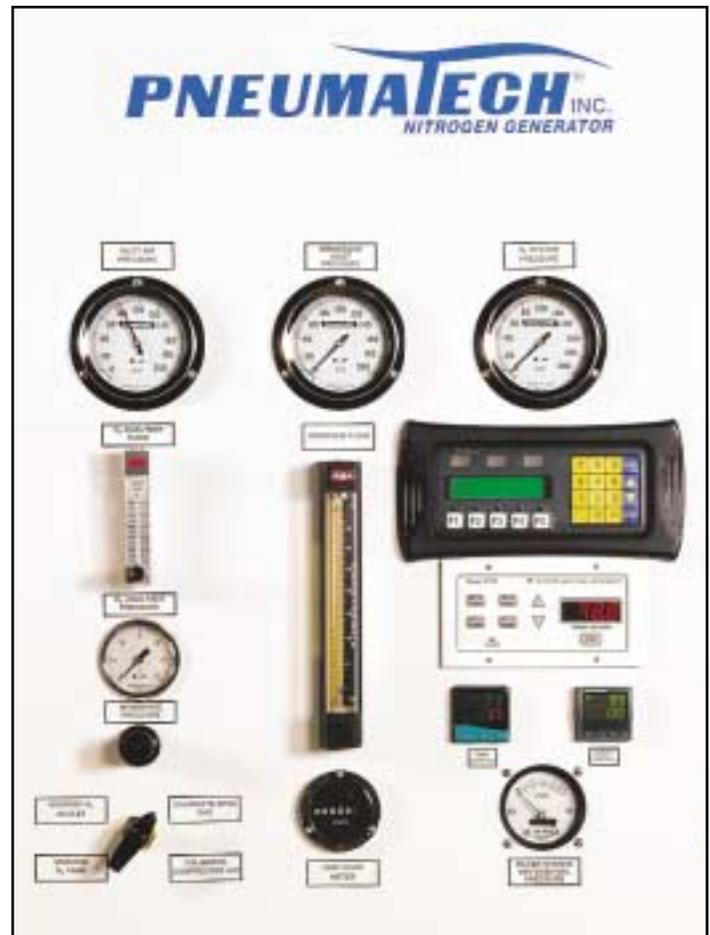
- Pneumatech membrane systems often pay back equipment investment in less than 1 year.
- Pneumatech Membrane Nitrogen Generators (PMNG) reduce nitrogen costs up to 90%.
- PMNGs reduce labor costs from cylinder handling and increase productivity by eliminating cylinder changing.
- Conservatively sized filters reduce maintenance intervals.

Reliable Operation

- Membrane modules have a simple design with no moving parts for trouble-free performance.
- Pneumatech PMNGs are designed for 24-hour, non-stop operation with minimal maintenance and attention.
- High quality components are used in all Pneumatech nitrogen generators to ensure a longer equipment life.

Flexible

- PMNGs are engineered for easy expansion when the demands of your system change and grow – by simply adding additional membranes.
- Pneumatech offers purity levels from 90% to 99.999% to meet the demands of your system.
- 14 standard cabinet models for smaller flows to large custom-designed, skid mounted units to meet virtually any flow requirement.



Purchasing Liquid Nitrogen vs. Generating Your Own Which is Right for Your Company?

Conditions: A customer uses 675 cubic feet of nitrogen per hour (SCFH), 24 hours a day, 365 days a year. The base cost is \$.50 per 100 cubic feet for liquid nitrogen. The total cost including the gas, fuel & HAZMAT surcharges, tank & equipment rental is \$44,522 per year or \$.753 per 100 cubic feet. Purchasing a Pneumatech PMNG Series Nitrogen Generator can provide you with considerable cost savings and a system that pays for itself in months!

Example 1

Required purity:	95%
Pneumatech PMNG Nitrogen Generator:	\$14,500
Operating costs:	\$3,118*
Costs per 100 cubic foot:	\$.053
Annual Savings:	\$41,404
Payback:	4.2 months

Example 2

Required purity:	99%
Pneumatech PMNG Nitrogen Generator:	\$33,200
Operating costs:	\$5,635*
Costs per 100 cubic foot:	\$.095
Annual Savings:	\$38,887
Payback:	10.2 months

* Includes N₂ Generator maintenance costs and power cost for dry compressed air supply

SPECIFICATIONS

Model No.	N2 Flow (SCFH)*		Feed Air (SCFM)*	
	99% N2	95% N2	99% N2	95% N2
PMNG-10	11	25	0.5	0.8
PMNG-20	21	51	1.1	1.7
PMNG-30	32	76	1.6	2.5
PMNG-40	42	101	2.1	3.3
PMNG-100	103	256	5.0	7.9
PMNG-200	206	512	10.0	15.9
PMNG-400	384	961	19.5	30.0
PMNG-500	492	1229	24.3	37.4
PMNG-800	768	1921	39.0	60.0
PMNG-1000	984	2459	48.6	74.8
PMNG-1200	1152	2882	58.4	90.0
PMNG-1500	1476	3688	72.8	112.2
PMNG-1600	1536	3842	77.9	120.0
PMNG-2000	1968	4917	97.1	149.6

*Nitrogen % includes inerts. Air supply is at 150 PSIG with nitrogen delivery at 120-125 PSIG. Consult factory for other purity, pressure or higher flow rates.

Standard Features

- Superior, 6-step air/gas purification.
- Heater and Electrical Controls for constant temperature and maintaining performance throughout the life of the unit.
- Gauge and operator interface panel monitors the entire system. The Programmable Logic Controller (PLC) automatically controls START, STOP and other functions for optimum performance. Maintenance and other critical information is displayed on the easy-to-read screen.
- Nitrogen separation membranes (1-4 modules).
- Single point air inlet, power inlet, nitrogen outlet and drain outlet.
- Powder Coated cabinet is attractive, durable and utilizes space-saving vertical design with forklift slots.
- Removable panels with quarter turn latches make maintenance convenient.
- Manual flow/purity controls.
- Flowmeter constantly indicates productivity of generator.

Options

- EconoMizer™ controls provide optimum energy savings during periods of low or no nitrogen consumption.
- Hourmeter displays running hours for scheduled maintenance.
- Oxygen Analyzer to monitor purity.
- Filter System Delta P Alarm alerts operator when to change filters.
- SurePure™ automatic purity vent is used in conjunction with the O2 Analyzer to vent "off-spec" nitrogen.
- Span Gas Calibration System calibrates Oxygen Analyzer with known standard.
- AutoPure™ automatic purity controller maintains desired purity using PID controls.
- Air and Nitrogen Storage Tanks and control options customized to meet specialized requirements.
- Feed Air Compressors and Nitrogen Boosters.

Distributed by:



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