

## HIGH PURITY NITROGEN GENERATOR

Anox has developed an extensive range of standardised nitrogen system based on pressure swing adsorption technology. The solution exists to all problems tied to the supply of nitrogen. No longer that you have to deal with supply difficulties, handling of high-pressure cylinders, evaporation of liquid gas, hazards of storage, unused gas still in returned cylinders, financial costs for rental and stock management.

ANOX's provide the most simple and economic solution for producing nitrogen according to your needs and with desired purity. Press the start button and your nitrogen system will work for you automatically.

The ANOX's nitrogen production system is a perfect alternative solution for the traditional nitrogen supply mode through liquid nitrogen storage tanks with vaporizers. Especially in more remote areas with less developed infrastructures the ANOX nitrogen production system offers you the following important advantages:

### BENEFITS

#### Exceptional Convenience

Fully automatic operation, Continuous availability (24 hours a day/7 day a week). No risk of running out of stock.

#### Cost Savings

Low operating expenses, No additional costs such as order processing, refills and delivery charges. Nitrogen will only be produced when you need it.

#### Better Cost Control

By producing your own nitrogen, you have full cost control. No more price increases or transport fees from external suppliers.

#### Safety

Production of low-pressure, gaseous nitrogen. Eliminates the safety hazard issue as for high pressure cylinder gases and cryogenic liquids.

### PROCESS DESCRIPTION

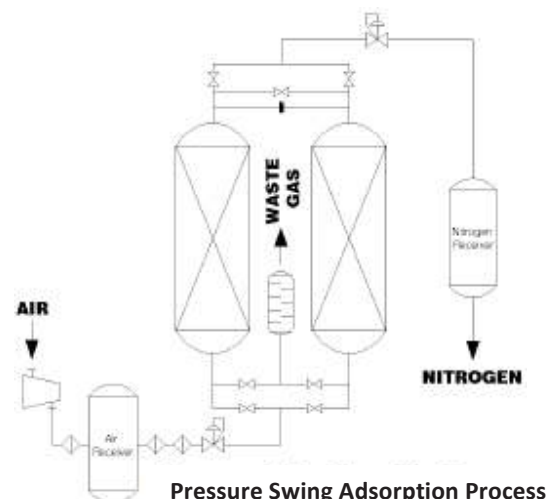
PSA Nitrogen Generators separate nitrogen (N<sub>2</sub>) from compressed air utilizing pressure swing adsorption technology. Compressed air, which consists of approximately 21% oxygen and 78% nitrogen, is passed through a bed of carbon molecular sieve (CMS). The sieve preferentially adsorbs O<sub>2</sub> and moisture over N<sub>2</sub> allowing the N<sub>2</sub> to pass through as a product gas at pressure. While one of the towers is in the adsorption phase the other tower is regenerated by de-pressurizing at which time the sieve releases the adsorbed gases to the atmosphere and the cycle is then repeated.

A solid state programmable controller operates the process valves on an alternating cycle with built-in logic for automatic stop/start. Nitrogen flow and purity remain constant regardless of the peak usage demands. Under normal operating conditions and with correct maintenance the carbon molecular sieve will have an almost indefinite life time.



### Typical Applications

- Storage tank inerting and blanketing
- Vessel and pipeline purging
- Food processing and packaging
- Electronics re-flow and wave soldering
- Pressure testing and leak check
- Laser cutting
- Heat treatment



## KEY FEATURES

The ANOX PSA Nitrogen Production system are designed for heavy-duty operation, where system availability in combination with low running costs are primary objectives. The key features of the are:

### Easy Integration

All system tie-in points on one side in order to facilitate the installation of the plant and the integration with your existing equipment.

### Desired Purity

Product gas supply according to your need from 1% to 0.001% oxygen content. Deliver right purity within the hour thanks to high purity system.

### Low Energy Consumption

Energy cost is your major expense, not investment depreciation. Short pay-back period assured. Let the system really make you save money.

### Certified

The Anox nitrogen generators are fully certified to the ASME standard for pressure equipment and machineries such as ASME SECT. VIII DIV 1.

### You Can Personalise

All components of your packaged system will be selected according to your requirement such as ambient conditions and the area classification of installation site.

## PERFORMANCE DATA

Model	Nitrogen Flowrate – Nm <sup>3</sup> /hr at indicated O <sub>2</sub> Concentration					Dimensions (LxWxH)	Weight (kg)
	0.1%	0.05%	0.01%	0.005%	0.001%		
NX-5	6.5	6.0	4.9	4.0	3.0	1000 x 600 x 1500	600
NX-10	12.5	11.6	9.5	7.6	5.7	1000 x 600 x 1600	1000
NX-15	21.8	20.2	15.6	13.2	9.9	1000 x 1000 x 2050	1500
NX-20	31.1	28.8	22.2	18.9	14.1	1200 x 1000 x 2200	2000
NX-30	46.7	43.2	33.2	28.3	21.2	1600 x 1200 x 2400	2500
NX-40	63	58	45	38	29	1600 x 1200 x 2470	3000
NX-60	93	86	66	56	42	1800 x 1200 x 2500	4500
NX-90	125	116	89	76	57	2210 x 1400 x 2850	5000
NX-120	186	172	133	113	85	2500 x 1500 x 3100	6500
NX-150	247	228	176	150	112	3000 x 2000 x 3300	7500
NX-200	311	288	222	189	141	3000 x 2100 x 3500	8500
NX-300	464	429	330	281	211	3600 x 2400 x 3400	10000
NX-400	619	572	441	375	282	4800 x 2050 x 4000	13000
NX-600	921	851	656	558	420	5000 x 3200 x 4000	16000
NX-800	1231	1138	877	746	560	5200 x 3900 x 4380	20000

(1) Performance date based on 7.5 bar air inlet pressure and ambient temperature 30-35 °C.

(2) Min. Air Quality: ISO 8573.1 / Class 1.4.1, improver feed air quality may cause damage to the nitrogen generator.

(3) Standard nitrogen outlet pressure is 6 bar, other outlet pressure available.

(4) Consult us for performance under other specific condition.

## STANDARD COMPONENTS

- Skidded adsorption vessel
- PLC control system
- Oxygen analyser
- Interconnect process piping and local instrument
- Air intake filter
- Flow meter

## OPTIONS

- Dew point meter
- HMI touch screen panel
- Feed air compressor package
- High pressure booster with cylinder refilling station
- Explosion proof design for hazardous area

