

Nitrogen PSA Generators NITROSWING® NS-400



Typical Applications

- Blanketing of Chemicals and Pharmaceuticals
- Gas Assisted Injection Molding (GAIM)
- Heat Treatment of Ferrous & Non-Ferrous Metals
- Inerting of Flammable Liquids
- Laser Cutting
- Prevention of Dust Explosions
- Re-flow and Wave Soldering of PCBs
- UV-Curing of Coatings

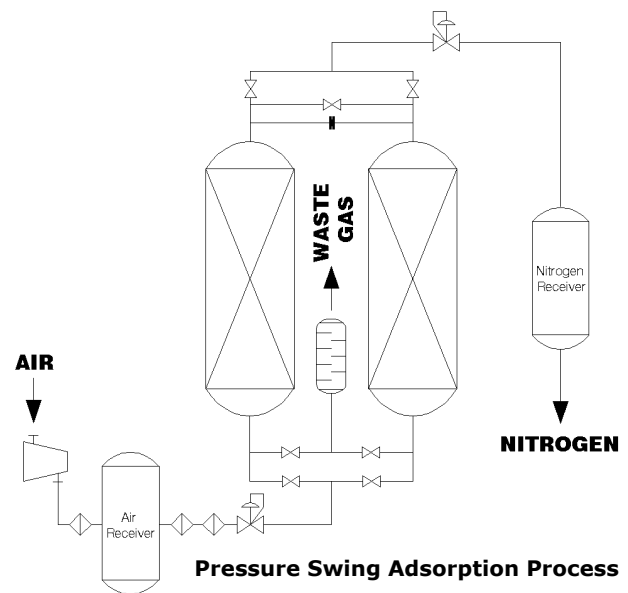
Advantages of NITROSWING® PSA's

- **Safety:** Low Operating Pressures, no Hazardous Storage
- **Economy:** Low Operating Cost, Easily Expandable
- **Convenience:** Fully Automatic and Unattended Operation
- **Reliability:** Easy to Install and Maintain

The Nitrogen Production Process

IGS Nitrogen PSA Generators separate nitrogen (N₂) 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 O₂ and moisture over N₂ allowing the N₂ 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 lifetime.



Standard Components

- Air Filters
- Adsorber Vessels
- Pneumatic Valves
- Piping and Instrumentation
- Safety Valve
- Exhaust Muffler
- Nitrogen Pressure and Flow Regulator
- Control System with Allen-Bradley PLC
- Skid Mounted
- Pressure Switch for automated Idle-Mode
- Hour Meter

Options

- Oxygen Analyzer (Zirconium Oxide type)
- Dew Point Analyzer
- Product Flow Meter
- Fail Safe Package (off-spec nitrogen automatically vented to atmosphere*)
- Enhanced PLC with Telemetry
- Purities to 99.9999% with a De-Oxo System
- Feed Air Compressor
- Product Booster Compressor
- Monitor Package (with indication of Feed Air and Product Pressures and Temperatures, Oxygen Concentration and Product Flow on AB PanelView**)
- Air Receiver Tank
- Nitrogen Buffer Tank
- Bottle Filling Station

* Only in combination with Oxygen Analyzer Option
** Includes Oxygen Analyzer and Flow Meter

NITROSWING NS-400L Series Specifications and Performance

Standard	SI 7.5 Bar(g) feed pressure and 21° C					US 109 PSIG feed Pressure and 70° F				
Oxygen %	Nitrogen Nm ³ /h	Nitrogen Pressure Bar (g)	Feed Air Nm ³ /h	Air Receiver Liters ⁽³⁾	Nitrogen Receiver Liters ⁽³⁾	Nitrogen SCFH	Nitrogen Pressure PSIG	Feed Air SCFH	Air Receiver Gallons ⁽³⁾	Nitrogen Receiver Gallons ⁽³⁾
3	687	5.5	1,382	4,819	13,638	24,269	80	48,802	1,060	3,000
2	606	5.7	1,306	4,819	13,638	21,414	83	46,104	1,060	3,000
1	499	6.0	1,178	4,819	10,001	17,607	87	41,605	1,060	2,200
0.5	431	6.1	1,208	4,819	10,001	15,228	88	42,648	1,060	2,200
0.1	229	6.2	893	4,819	7,046	8,090	90	31,526	1,060	1,550
0.05	177	6.2	817	4,819	4,819	6,239	90	28,849	1,060	1,060
0.01	135	6.2	732	4,819	4,819	4,759	90	25,862	1,060	1,060
0.005	105	6.2	712	4,819	3,000	3,701	90	25,144	1,060	660
0.001	73	6.2	628	4,819	2,273	2,585	90	22,182	1,060	500
Dew Point ⁽²⁾	-40°C / -40°F									
Sound Level	< 85 dB(A)									

NITROSWING NS-400H Series Specification & Performance

Standard	SI 10 Bar(g) feed pressure and 21° C					US 145 PSIG feed Pressure and 70° F				
Oxygen %	Nitrogen Nm ³ /h	Nitrogen Pressure Bar (g)	Feed Air Nm ³ /h	Air Receiver Liters ⁽³⁾	Nitrogen Receiver Liters ⁽³⁾	Nitrogen SCFH	Nitrogen Pressure PSIG	Feed Air SCFH	Air Receiver Gallons ⁽³⁾	Nitrogen Receiver Gallons ⁽³⁾
3	915	8.0	1,840	7,046	22,730	32,312	116	64,975	1,550	5,000
2	865	8.2	1,862	7,046	17,275	30,549	119	65,772	1,550	3,800
1	649	8.5	1,533	7,046	13,638	22,912	123	54,140	1,550	3,000
0.5	482	8.6	1,351	7,046	10,001	17,037	125	47,715	1,550	2,200
0.1	250	8.7	972	7,046	7,046	8,812	126	34,342	1,550	1,550
0.05	203	8.7	940	7,046	4,819	7,180	126	33,201	1,550	1,060
0.01	166	8.7	904	7,046	4,819	5,875	126	31,929	1,550	1,060
0.005	116	8.7	791	7,046	4,819	4,112	126	27,938	1,550	1,060
0.001	87	8.7	742	7,046	3,000	3,055	126	26,215	1,550	660
Dew Point ⁽²⁾	-40°C / -40°F									
Sound Level	< 85 dB(A)									

Connections

Connections available in ANSI Flange, DIN Flange or NPT

Approximate Weight and Dimensions

L	W	H	Weight
2,337	2,337	2,997 mm	4,083 kg
92	92	118 in.	9,002 lb

Power Requirements

Power Supply 110-230 V / 50-60 Hz
 Power Consumption max. 0.3 kW

Consult IGS for specifications on specific model and desired options.

Notes:

- (1) Flow rates at standard atmospheric conditions (70 °F, 14.7 psi / 20 °C, 1013 mbar and 60% RH)
- (2) Dew point at atmospheric pressure.
- (3) Receiver size is recommended minimum capacity. Smaller receiver volumes will result in lower product pressures. Please contact IGS for details.
- (4) NITROSWING PSA nitrogen generators can be configured for use in food processing and packaging applications however, it is recommended that you consult IGS before purchasing a generator for any food application.
- (5) Min. Air Quality: ISO 8573.1 / Class 1.4.1, improver feed air quality may cause damage to the nitrogen generator not covered under warranty.
- (6) Other pressures and purities available, consult IGS for specifications.
- (7) IGS reserves the right to change data without notice.
- (8) Only in case of an on-board installation of an oxygen analyzer and/or product flow meter.



Generon IGS
 16250 Tomball Parkway
 Houston, Texas 77086
 (713) 937-5200

E-Mail: igssales@igs-global.com
 Internet: www.igs-global.com

