

# Nitrogen PSA Generators NITROSWING® NS-1200



## 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

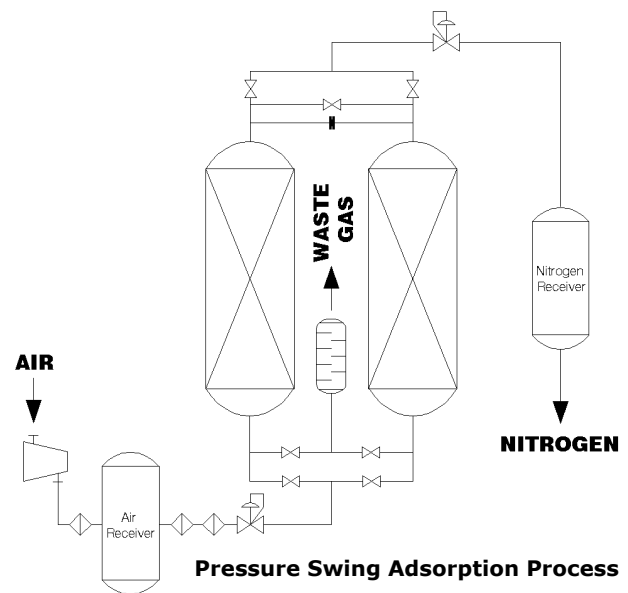
## Advantages of NITROSWING® PSA's

- **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 (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 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-1200L Series Specifications & Performance

Standard	SI 7.5 Bar(g) feed pressure and 21° C					US 109 PSIG feed Pressure and 70° F				
Oxygen %	Nitrogen Nm <sup>3</sup> /h	Nitrogen Pressure Bar (g)	Feed Air Nm <sup>3</sup> /h	Air Receiver Liters <sup>(3)</sup>	Nitrogen Receiver Liters <sup>(3)</sup>	Nitrogen SCFH	Nitrogen Pressure PSIG	Feed Air SCFH	Air Receiver Gallons <sup>(3)</sup>	Nitrogen Receiver Gallons <sup>(3)</sup>
3	2,060	5.5	4,143	11,638	*	72,751	80	146,293	2,560	*
2	1,818	5.7	3,913	11,638	40,915	64,192	83	138,203	2,560	9,000
1	1,495	6.0	3,532	11,638	40,915	52,780	87	124,717	2,560	9,000
0.5	1,293	6.1	3,620	11,638	40,915	45,648	88	127,843	2,560	9,000
0.1	687	6.2	2,676	11,638	17,275	24,250	90	94,504	2,560	3,800
0.05	530	6.2	2,449	11,638	13,638	18,703	90	86,480	2,560	3,000
0.01	404	6.2	2,195	11,638	10,001	14,265	90	77,527	2,560	2,200
0.005	314	6.2	2,134	11,638	10,001	11,095	90	75,373	2,560	2,200
0.001	219	6.2	1,883	11,638	7,046	7,749	90	66,495	2,560	1,550
Dew Point <sup>(2)</sup>	-40°C / -40°F									
Sound Level	< 85 dB(A)									

## NITROSWING NS-1200H Series Specification & Performance

Standard	SI 10 Bar(g) feed pressure and 21° C					US 145 PSIG feed Pressure and 70° F				
Oxygen %	Nitrogen Nm <sup>3</sup> /h	Nitrogen Pressure Bar (g)	Feed Air Nm <sup>3</sup> /h	Air Receiver Liters <sup>(3)</sup>	Nitrogen Receiver Liters <sup>(3)</sup>	Nitrogen SCFH	Nitrogen Pressure PSIG	Feed Air SCFH	Air Receiver Gallons <sup>(3)</sup>	Nitrogen Receiver Gallons <sup>(3)</sup>
3	2,743	8.0	5,515	17,275	*	96,860	116	194,774	3,800	*
2	2,593	8.2	5,583	17,275	*	91,577	119	197,163	3,800	*
1	1,945	8.5	4,596	17,275	*	68,683	123	162,294	3,800	*
0.5	1,446	8.6	4,050	17,275	40,915	51,072	125	143,035	3,800	9,000
0.1	748	8.7	2,915	17,275	17,275	26,416	126	102,946	3,800	3,800
0.05	610	8.7	2,818	17,275	17,275	21,525	126	99,527	3,800	3,800
0.01	499	8.7	2,710	17,275	13,638	17,611	126	95,712	3,800	3,000
0.005	349	8.7	2,371	17,275	10,001	12,328	126	83,748	3,800	2,200
0.001	259	8.7	2,225	17,275	10,001	9,158	126	78,585	3,800	2,200
Dew Point <sup>(2)</sup>	-40°C / -40°F									
Sound Level	< 85 dB(A)									

\* Consult IGS for vessel size

### Connections

Connections available in ANSI Flange, DIN Flange or NPT

### Approximate Weight and Dimensions

L	W	H	Weight
3,251	3,251	3,962 mm	11,766 kg
128	128	156 in.	25,940 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:

- Flow rates at standard atmospheric conditions (70 °F, 14.7 psi / 20 °C, 1013 mbar and 60% RH)
- Dew point at atmospheric pressure.
- Receiver size is recommended minimum capacity. Smaller receiver volumes will result in lower product pressures. Please contact IGS for details.
- 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.
- Min. Air Quality: ISO 8573.1 / Class 1.4.1, improve feed air quality may cause damage to the nitrogen generator not covered under warranty.
- Other pressures and purities available, consult IGS for specifications.
- IGS reserves the right to change data without notice.
- 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](mailto:igssales@igs-global.com)  
Internet: [www.igs-global.com](http://www.igs-global.com)

