

Nitrogen PSA Generators NITROSWING® NS-150



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

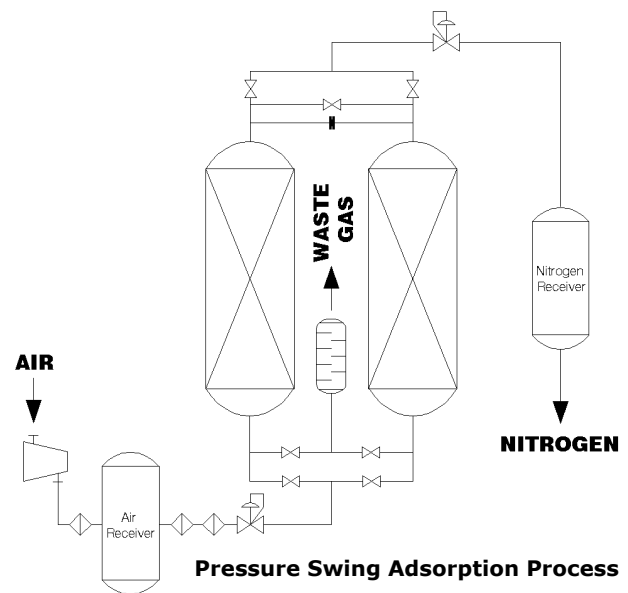
Advantages of NITROSWING® PSA's

- **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-150L 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 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	258	5.5	519	1818	7046	9,108	80	18,315	400	1550
2	228	5.7	490	1818	4819	8,036	83	17,302	400	1060
1	187	6.0	442	1818	4819	6,608	87	15,614	400	1060
0.5	162	6.1	453	1818	4819	5,715	88	16,005	400	1060
0.1	86	6.2	335	1818	2273	3,036	90	11,831	400	500
0.05	66	6.2	307	1818	1818	2,341	90	10,827	400	400
0.01	51	6.2	275	1818	1818	1,786	90	9,706	400	400
0.005	39	6.2	267	1818	1091	1,389	90	9,436	400	240
0.001	27	6.2	236	1818	909	970	90	8,325	400	200
Dew Point ⁽²⁾	-40°C / -40°F									
Sound Level	< 85 dB(A)									

NITROSWING NS-150H 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	343	8.0	690	1818	7046	12,126	116	24,385	400	1550
2	325	8.2	699	1818	7046	11,465	119	24,684	400	1550
1	243	8.5	575	1818	7046	8,599	123	20,318	400	1550
0.5	181	8.6	507	1818	4819	6,394	125	17,907	400	1060
0.1	94	8.7	365	1818	2273	3,307	126	12,888	400	500
0.05	76	8.7	353	1818	1818	2,695	126	12,460	400	400
0.01	62	8.7	339	1818	1818	2,205	126	11,983	400	400
0.005	44	8.7	297	1818	1818	1,543	126	10,485	400	400
0.001	32	8.7	279	1818	1091	1,146	126	9,838	400	240
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
1,372	1,372	3,277 mm	1,892 kg
54	54	129 in.	4,171 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.



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