



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

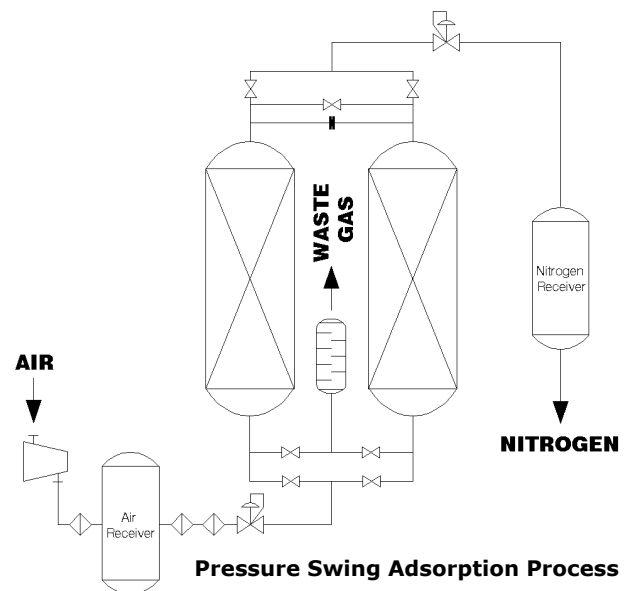
Advantages of NITROSWING® PSA's

- **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-50L 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	86	5.5	173	909	1,818	3,041	80	6,114	200	400
2	76	5.7	164	909	1,818	2,683	83	5,776	200	400
1	62	6.0	148	909	1,818	2,206	87	5,213	200	400
0.5	54	6.1	151	909	1,091	1,908	88	5,343	200	240
0.1	29	6.2	112	909	909	1,014	90	3,950	200	200
0.05	22	6.2	102	909	909	782	90	3,615	200	200
0.01	17	6.2	92	909	909	596	90	3,240	200	200
0.005	13	6.2	89	909	909	464	90	3,150	200	200
0.001	9	6.2	79	909	909	324	90	2,779	200	200
Dew Point ⁽²⁾	-40°C / -40°F									
Sound Level	< 85 dB(A)									

NITROSWING NS-50H 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	115	8.0	231	909	2,273	4,048	116	8,141	200	500
2	108	8.2	233	909	2,273	3,828	119	8,241	200	500
1	81	8.5	192	909	1,818	2,871	123	6,783	200	400
0.5	60	8.6	169	909	1,818	2,135	125	5,978	200	400
0.1	31	8.7	122	909	909	1,104	126	4,303	200	200
0.05	25	8.7	118	909	909	900	126	4,160	200	200
0.01	21	8.7	113	909	909	736	126	4,000	200	200
0.005	15	8.7	99	909	909	515	126	3,500	200	200
0.001	11	8.7	93	909	909	383	126	3,285	200	200
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
1,116	1,116	2,489 mm	820 kg
40	40	98 in.	1,808 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, improve 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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