

Nitrogen PSA Generators NITROSWING® NS-1700



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

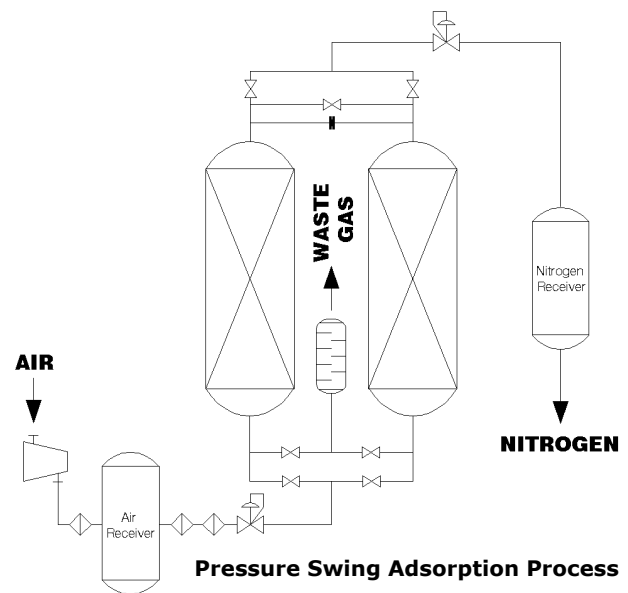
Advantages of NITROSWING® PSA's

- **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-1700L 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	2,919	5.5	5,869	17,275	*	103,073	80	207,267	3,800	*
2	2,575	5.7	5,545	17,275	*	90,947	83	195,806	3,800	*
1	2,117	6.0	5,004	17,275	*	74,779	87	176,698	3,800	*
0.5	1,831	6.1	5,129	17,275	*	64,674	88	181,128	3,800	*
0.1	973	6.2	3,791	17,275	22,730	34,358	90	133,894	3,800	5,000
0.05	750	6.2	3,469	17,275	17,275	26,498	90	122,524	3,800	3,800
0.01	572	6.2	3,110	17,275	17,275	20,210	90	109,840	3,800	3,800
0.005	445	6.2	3,024	17,275	11,638	15,719	90	106,788	3,800	2,560
0.001	311	6.2	2,668	17,275	10,001	10,979	90	94,209	3,800	2,200
Dew Point ⁽²⁾	-40°C / -40°F									
Sound Level	< 85 dB(A)									

NITROSWING NS-1700H 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	3,886	8.0	7,814	22,730	*	137,232	116	275,955	5,000	*
2	3,674	8.2	7,910	22,730	*	129,746	119	279,339	5,000	*
1	2,756	8.5	6,511	22,730	*	97,310	123	229,938	5,000	*
0.5	2,049	8.6	5,738	22,730	*	72,358	125	202,651	5,000	*
0.1	1,060	8.7	4,130	22,730	40,915	37,427	126	145,853	5,000	9,000
0.05	864	8.7	3,993	22,730	22,730	30,496	126	141,009	5,000	5,000
0.01	707	8.7	3,840	22,730	22,730	24,951	126	135,604	5,000	5,000
0.005	495	8.7	3,360	22,730	13,638	17,466	126	118,654	5,000	3,000
0.001	367	8.7	3,153	22,730	11,638	12,975	126	111,338	5,000	2,560
Dew Point ⁽²⁾	-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
4,216	4,216	3,531 mm	15,094 kg
166	166	139 in.	33,277 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.



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