



# NITROSWING

## MODULAR PSA NITROGEN GENERATOR

Up to 99.999% Inert Gas Purity



- Patented PSA Process
- High Efficiency
- Compact & Flexible
- CRN Approved
- Electrically Approved

NOVAIR presents the new generation of NITROSWING® modular PSA generators. NITROSWING® is the result of years of research and development within NOXERIOR from NOVAIR group, offering the highest standards in terms of efficiency, flexibility and reliability:

- Unprecedented energy efficiency
- Increased purity stability
- Instant optimal working conditions
- Easy instruments upgrade
- The generators can produce nitrogen with a residual oxygen content ranging from 10ppm to 3.0 vol%.

7" HMI for real time purity monitoring and automatic & unattended operation

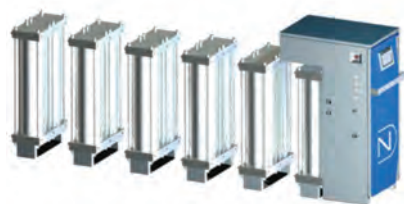
Molecular sieve modules allowing on-site easy upgrade and featuring the patented FlatFlow® technology

Ergonomic design, for a minimum footprint

Meets CSA standards and approved for use across Canada

Voltage: 115 single phase, 60 cycle

NITROSWING Modular PSA nitrogen generators can easily be upgraded at any time by simply adding modules. The smallest Master unit NS - 7 can accommodate up to 7 additional modules creating the largest capacity model NS - 56. There are a total of 8 model sizes available and the modules may also be removed to reduce capacity as required.



Example illustration shows an NS - 7 Master model unit which includes one module and by adding 5 additional modules it creates an NS - 42 Master model unit.

CRN Approved

Designed with  
**NOXERIOR**  
Next-Generation Gas Solutions

A company of  
GROUPE  
**NOVAIR**



High quality oxygen analyser with zirconium oxide measuring cell that does not expire and does not require any replacement or calibration.

Siemens PLC Controller



Allows the monitoring / remote control of the main process parameters and displays status messages such as gas purity, flow rate, total gas flow, total functioning hours and maintenance alerts.



Instrumentation inputs and outputs



Detail of modular PSA aluminum banks, based on single modules concept.

A Side Bank can also be added, consisting of a second PSA nitrogen generator, without any PLC and power supply. The add on Side Bank gets its power and control signals from the Master unit through a single cable connection.

One NITROSWING® PSA nitrogen generator can control up to three Side Banks in parallel.

Single Side Bank - 100% increase in capacity



Double Side Bank - 200% increase in capacity



Triple Side Bank - 300% increase in capacity



## First class components

Your NITROSWING® generator must always perform and that is why we utilize first class components like stainless steel process piping, valves and regulators, as well as a heavy duty PLC.

## FlatFlow® technology

Allowing a uniform distribution of gas flow over the entire molecular sieve; this patented technology makes it possible to develop a compact, highly efficient and truly flexible PSA generator for the production of nitrogen.

## Certified quality

A reliable, safe and stable nitrogen production are essential features of NITROSWING® generators. They comply with the European Pressure Equipment Directive 2014/68 EU. For food applications, we can provide food grade certificates upon request.

## Why produce nitrogen on-site?

Benefits:

- Nitrogen available 24/7: continuous production
- Guaranteed purity: continuous analysis
- Full safety
- Proven savings
- No more logistic constraints
- Instant production on-demand: no more supply chain failure
- Eco-friendly solution: zero delivery & zero emission of pollutants



## Patented Modular PSA Technology

NITROSWING® modular PSA generators implement a unique Pressure Swing Adsorption technology. Unlike twin-tower standard systems, NITROSWING® generators feature multiple modules of molecular sieve, each implementing an optimized patented PSA process.

Modular PSA unique features:

- Unlimited flexibility: production capacity can be easily adjusted directly on site without any skilled personnel
- Compact dimensions for installations even in small spaces of your production facility
- Application of non-corrosive materials such as aluminum and stainless steel, for all process components
- Easy fleet management: all NITROSWING® models feature the same components, allowing a limited spare part management and easy maintenance

## NITROSWING - Metric Capacity

Voltage: 115 single phase, 60 cycle

### Nitrogen Production Flow - m<sup>3</sup>/h - Inert Gas Purity / Residual O<sub>2</sub>

ENS side unit: 24V dc

| Gas Purity              |         | 99.999% | 99.995% | 99.99%  | 99.95%  | 99.90% | 99.50% | 99.00% | 98.00% | 97.00% |
|-------------------------|---------|---------|---------|---------|---------|--------|--------|--------|--------|--------|
| Residual O <sub>2</sub> |         | 10 ppm  | 50 ppm  | 100 ppm | 500 ppm | 0.1%   | 0.5%   | 1%     | 2%     | 3%     |
| NS-7<br>1 module        | 7.5 bar | 2.4     | 3.2     | 3.8     | 5.4     | 6.3    | 8.9    | 10.7   | 13.1   | 14.1   |
|                         | 10 bar  | 2.8     | 3.7     | 4.6     | 6.6     | 7.6    | 10.7   | 12.2   | 15     | 16.2   |
| NS-14<br>2 modules      | 7.5 bar | 4.6     | 6.3     | 7.6     | 10.7    | 12.2   | 17.7   | 21.3   | 26.1   | 28.1   |
|                         | 10 bar  | 5.5     | 7.4     | 8.7     | 13.2    | 15.1   | 21.3   | 24.3   | 29.8   | 32.3   |
| NS-21<br>3 modules      | 7.5 bar | 7.1     | 9.3     | 11.3    | 16      | 18.8   | 26.4   | 31.8   | 38.9   | 41.9   |
|                         | 10 bar  | 8.2     | 11.1    | 13      | 19.7    | 22.6   | 31.8   | 36.3   | 44.5   | 48.2   |
| NS-28<br>4 modules      | 7.5 bar | 9.4     | 12.4    | 15      | 21.2    | 24.9   | 35.1   | 42.1   | 51.7   | 55.6   |
|                         | 10 bar  | 10.9    | 14.7    | 18.3    | 26.2    | 30     | 42.2   | 48.1   | 59     | 63.9   |
| NS-37<br>5 modules      | 7.5 bar | 11.7    | 15.4    | 18.6    | 25.5    | 31     | 43.6   | 52.4   | 64.3   | 69.2   |
|                         | 10 bar  | 13.6    | 18.3    | 22.7    | 32.6    | 37.3   | 52.6   | 59.9   | 73.4   | 79.6   |
| NS-42<br>6 modules      | 7.5 bar | 13.9    | 18.6    | 22.5    | 31.5    | 37     | 52.1   | 62.6   | 76.8   | 82.6   |
|                         | 10 bar  | 16.2    | 21.9    | 27.2    | 38.9    | 44.5   | 62.8   | 71.5   | 87.7   | 95     |
| NS-49<br>7 modules      | 7.5 bar | 16.2    | 21.4    | 25.8    | 35.4    | 43     | 60.5   | 72.7   | 89.2   | 96     |
|                         | 10 bar  | 18.8    | 25.4    | 29.8    | 45.2    | 51.7   | 72.9   | 83     | 102    | 110    |
| NS-56<br>8 modules      | 7.5 bar | 18.4    | 24.3    | 29.7    | 41.6    | 48.9   | 68.9   | 82.7   | 101    | 109    |
|                         | 10 bar  | 21.4    | 28.8    | 33.9    | 51.4    | 58.8   | 83     | 94.5   | 116    | 126    |

## NITROSWING - Imperial Capacity

### Nitrogen Production Flow - scfh - Inert Gas Purity / Residual O<sub>2</sub>

| Gas Purity              |         | 99.999% | 99.995% | 99.99%  | 99.95%  | 99.90% | 99.50% | 99.00% | 98.00% | 97.00% |
|-------------------------|---------|---------|---------|---------|---------|--------|--------|--------|--------|--------|
| Residual O <sub>2</sub> |         | 10 ppm  | 50 ppm  | 100 ppm | 500 ppm | 0.1%   | 0.5%   | 1%     | 2%     | 3%     |
| NS-7<br>1 module        | 7.5 bar | 84.8    | 113.0   | 134.2   | 190.7   | 222.5  | 314.3  | 377.9  | 462.6  | 497.9  |
|                         | 10 bar  | 98.9    | 130.7   | 162.4   | 233.1   | 268.4  | 377.9  | 430.8  | 529.7  | 572.1  |
| NS-14<br>2 modules      | 7.5 bar | 162.4   | 222.5   | 268.4   | 377.9   | 430.8  | 625.1  | 752.2  | 921.7  | 992.3  |
|                         | 10 bar  | 194.2   | 261.3   | 307.2   | 466.2   | 533.3  | 752.2  | 858.1  | 1052.4 | 1140.7 |
| NS-21<br>3 modules      | 7.5 bar | 250.7   | 328.4   | 399.1   | 565.0   | 663.9  | 932.3  | 1123.0 | 1373.7 | 1479.7 |
|                         | 10 bar  | 289.6   | 392.0   | 459.1   | 695.7   | 798.1  | 1123.0 | 1281.9 | 1571.5 | 1702.2 |
| NS-28<br>4 modules      | 7.5 bar | 332.0   | 437.9   | 529.7   | 748.7   | 879.3  | 1239.5 | 1486.7 | 1825.8 | 1963.5 |
|                         | 10 bar  | 384.9   | 519.1   | 646.3   | 925.2   | 1059.4 | 1490.3 | 1698.6 | 2083.6 | 2256.6 |
| NS-37<br>5 modules      | 7.5 bar | 413.2   | 543.8   | 656.9   | 900.5   | 1094.8 | 1539.7 | 1850.5 | 2270.7 | 2443.8 |
|                         | 10 bar  | 480.3   | 646.3   | 801.6   | 1151.3  | 1317.2 | 1857.6 | 2115.3 | 2592.1 | 2811.0 |
| NS-42<br>6 modules      | 7.5 bar | 490.9   | 656.9   | 794.6   | 1112.4  | 1306.6 | 1839.9 | 2210.7 | 2712.2 | 2917.0 |
|                         | 10 bar  | 572.1   | 773.4   | 960.6   | 1373.7  | 1571.5 | 2217.8 | 2525.0 | 3097.1 | 3354.9 |
| NS-49<br>7 modules      | 7.5 bar | 572.1   | 755.7   | 911.1   | 1250.1  | 1518.5 | 2136.5 | 2567.4 | 3150.1 | 3390.2 |
|                         | 10 bar  | 663.9   | 897.0   | 1052.4  | 1596.2  | 1825.8 | 2574.4 | 2931.1 | 3602.1 | 3884.6 |
| NS-56<br>8 modules      | 7.5 bar | 649.8   | 858.1   | 1048.8  | 1469.1  | 1726.9 | 2433.2 | 2920.5 | 3566.8 | 3849.3 |
|                         | 10 bar  | 755.7   | 1017.1  | 1197.2  | 1815.2  | 2076.5 | 2931.1 | 3337.2 | 4096.5 | 4449.6 |

## NITROSWING **Master Unit:** Weights & Dimensions

| NITROSWING <sup>®</sup><br>PSA generator | Dimensions LxWxH<br>mm / inch     | Weight<br>kg / lbs |
|--|-----------------------------------|--------------------|
| NS-7                                     | 520 x 830 x 1422<br>20 x 33 x 56  | 256<br>564         |
| NS-14                                    | 520 x 955 x 1422<br>20 x 38 x 56  | 366<br>807         |
| NS-21                                    | 520 x 1183 x 1422<br>20 x 47 x 56 | 476<br>1049        |
| NS-28                                    | 520 x 1411 x 1422<br>20 x 56 x 56 | 586<br>1292        |
| NS-37                                    | 520 x 1639 x 1422<br>20 x 64 x 56 | 696<br>1534        |
| NS-42                                    | 520 x 1867 x 1422<br>20 x 74 x 56 | 806<br>1777        |
| NS-49                                    | 520 x 2095 x 1422<br>20 x 82 x 56 | 916<br>2019        |
| NS-56                                    | 520 x 2323 x 1422<br>20 x 91 x 56 | 1026<br>2262       |

## NITROSWING **Side Bank:** Weights & Dimensions

| NITROSWING <sup>®</sup><br>PSA generator | Dimensions LxWxH<br>mm / inch     | Weight<br>kg / lbs |
|--|-----------------------------------|--------------------|
| ENS-7                                    | 520 x 830 x 1422<br>20 x 33 x 47  | 256<br>564         |
| ENS-14                                   | 520 x 955 x 1422<br>20 x 38 x 47  | 366<br>807         |
| ENS-21                                   | 520 x 1183 x 1422<br>20 x 47 x 47 | 476<br>1049        |
| ENS-28                                   | 520 x 1411 x 1422<br>20 x 56 x 47 | 586<br>1292        |
| ENS-37                                   | 520 x 1639 x 1422<br>20 x 64 x 47 | 696<br>1534        |
| ENS-42                                   | 520 x 1867 x 1422<br>20 x 74 x 47 | 806<br>1777        |
| ENS-49                                   | 520 x 2095 x 1422<br>20 x 82 x 47 | 916<br>2019        |
| ENS-56                                   | 520 x 2323 x 1422<br>20 x 91 x 47 | 1026<br>2262       |

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