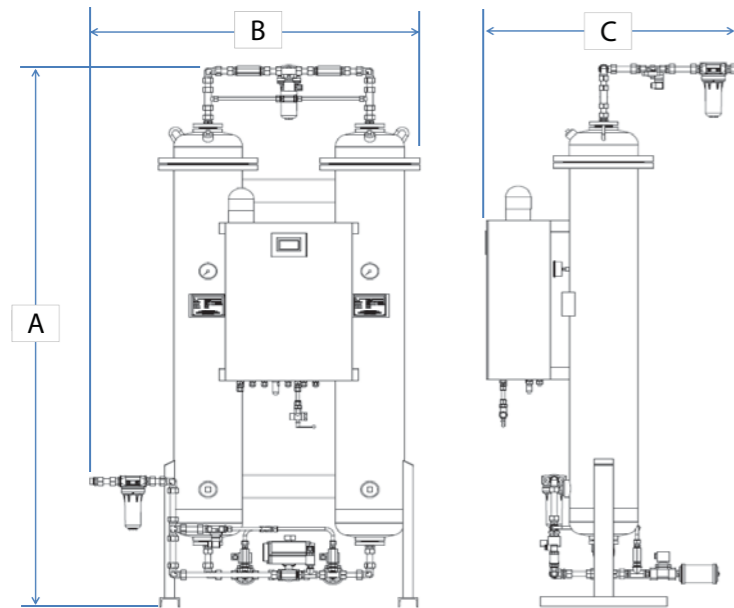


# NITROPURE NP-Series Nitrogen Generator Technical Data Sheet

Model Number	Volume Flow Rate m <sup>3</sup> /hr						Approximate Dimensions (mm)		
	95%	97%	99%	99.50%	99.90%	99.99%	A (Height)	B (Width)	C (Depth)
NP-001	5	4.21	3.27	2.2	1.51	0.82	1420	980	860
NP-002	10	8.42	6.54	4.4	3.02	1.63	2020	980	895
NP-003	15	13.14	10.2	6.86	4.71	2.55	2025	1035	895
NP-004	20	16.43	12.75	8.58	5.88	3.19	2380	1035	920
NP-005	30	25.07	19.45	13.09	8.98	4.86	2245	1145	965
NP-006	40	33.47	25.98	17.48	11.99	6.49	2120	1265	980
NP-007	50	41.83	32.46	21.85	14.98	8.12	2250	1315	1000
NP-008	65	53.31	41.38	27.85	19.1	10.34	2350	1490	1010
NP-009	80	66.45	51.57	34.71	23.8	12.89	2400	1710	1070
NP-010	100	83.48	64.79	43.61	29.91	16.2	2490	1710	1080
NP-011	125	102.6	79.62	53.59	36.75	19.91	2430	1945	1090
NP-012	150	122.2	94.87	63.85	43.79	23.72	2680	1945	1100

Inlet conditions of 7 bar g and 35°C. Pre-purified, +5°C pressure dew point  
 Systems with higher flow rates and other N2 purity levels are available upon request.



# NITROPURE

Nitrogen Generator  
 Series NP

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# NITROPURE Nitrogen Generator Series NP

## Reliable and Secured Supply of Nitrogen Gas for Your Daily Production

Convenience at your doorstep. A constant reliable supply of purified nitrogen is crucial for many industrial processes, whether you are using it in a chemical manufacturing process, electronics, laser cutting or food and beverage. Compared to commercially available nitrogen in cylinders or tanks, an onsite production of nitrogen gas offers a wide ranges of advantages in terms of cost savings and on time secured availability. NITROPURE Nitrogen Generators from Airfilter Engineering offer you the best solution for your onsite nitrogen gas demand at the lowest possible cost with maximum convenience and reliability.

## Advantages of NITROPURE over Liquid/Bottled Nitrogen Gas

- Self-generating system. Independent source of nitrogen gas
- Readily available, 24 hours a day and 7 days a week
- Simple logistic, with zero rental and transport cost
- Nitrogen gas purity available from 95% to 99.99%
- No evaporation loss, zero wastage
- No safety hazards due to constant handling of high pressure gas cylinders
- Nitrogen gas on tap. Simple piping network of nitrogen gas right up to all points of application
- Easy set-up in conjunction with existing compressed air systems
- Low unit production cost

Cost comparison - Onsite Nitrogen System vs Bottled Gas	
Requirement : 8m <sup>3</sup> /hr N <sub>2</sub> , 4000 hrs/year, 99.5% purity	
N <sub>2</sub> , Bottling	N <sub>2</sub> , Generator
Cost per m <sup>3</sup> bottled N <sub>2</sub> = 1.25USD <sup>(1)</sup> 8m <sup>3</sup> /hr x 4000hrs x 1.25USD/m <sup>3</sup> = 40,000USD/year	Compressor size to produce 8m <sup>3</sup> /hr = 7.5Kw Energy cost = 0.1USD/Kwh <sup>(2)</sup> 4000hr/year x 7.5Kwh x 0.1USD/Kwh = 3,000USD/year

Based on annual saving of USD 37.000 the expected ROI is less than 1 year

<sup>(1)</sup> Malaysian Industry average. Other price settings might apply  
<sup>(2)</sup> Malaysian electrical cost. Other cost settings might apply

## Applications

NITROPURE will benefit users with a demand for reliable and secured supply fo nitrogen gas for their application point.

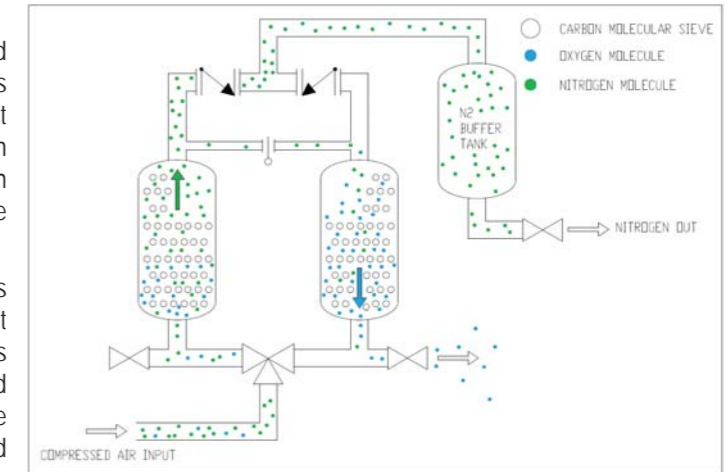
- Food & beverage Industry
- Pharmaceutical Industry
- Plastic injection molding
- Electronic Industry
- Laser Cutting
- Semi-Conductor Industry
- Chemical Industry
- Metal Treatment
- Cable & Optic Fiber Industry
- Glass Industry
- Fire Fighting Industry
- Agriculture Industry

## How does the NITROPURE work?

### Complete System Skid

The NITROPURE Generator consists of two Adsorber Vessels filled with Carbon Molecular Sieve (CMS). CMS preferentially adsorbs O<sub>2</sub> over N<sub>2</sub> allowing the purified N<sub>2</sub> to pass through as a product gas under pressure. While one of the towers is in the adsorption phase the other tower is regenerated by de-pressurizing at which time the molecular sieve releases the adsorbed gases to the atmosphere and the cycle is then repeated.

Through continuous research with different types of CMS, AFE's PSA system utilizes the most efficient CMS available in the market today. This results in a very low air to nitrogen demand ratio, thus reducing the overall cost due to reduced demand of compressed air. The PSA process involves hundreds of thousands of open/close valve operations. AFE's PSA system utilizes valves that are rated for millions of cycles to ensure reliability of operation and to provide a long service life.



### Scope of Supply :

- Pre-Filter
- PSA Generator
- After Filter
- Touch Screen Controller
- Oxygen Analyzer
- Mass Flowmeter
- Pressure Regulator

# NITROPURE



## Complete System Skid

- Optional :
- Air Compressor
  - Air Dryer (Desiccant or refrigeration)
  - N<sub>2</sub> Buffer Tank
  - N<sub>2</sub> Storage
- Either delivered in Components or Skid Mounted*

- Advantages :
- Complete system delivered
  - Only 2 tie in ports, air in, N<sub>2</sub> out
  - Complete system with one warranty
  - Factory tested before delivery

Heatless Compressed Air adsorption Dryers

Refrigeration Dryer

Air receiver tank

Nitropure

N<sub>2</sub> buffer tank

Complete system Skid mounted