

**NITROGEN  
GENERATOR**



since 1988

Unit - 1

## ABOUT US

**One of the leading Manufacturers of Compressed Air treatment products like:**

- ◉ Auto drain valves
- ◉ Micro filters
- ◉ Nitrogen Generator
- ◉ Refrigeration / Desiccant Air dryer
- ◉ Medical Breathing Air dryer
- ◉ Oxygen Generator
- ◉ Established in the the year 1988 - more than three decades of service to the industry.
- ◉ Strong presence in the country with wide network of more than 100 dealers / associates for Customer support.
- ◉ ISO 9001-2015 Certified by TUV Nord-NABCB Accredited body
- ◉ ISO 13485 Certified by TUV Norad-NABCB Accredited body
- ◉ UL for controllers
- ◉ Following Six Sigma process and techniques in design.
- ◉ CE certification for the Air dryers and Drains.

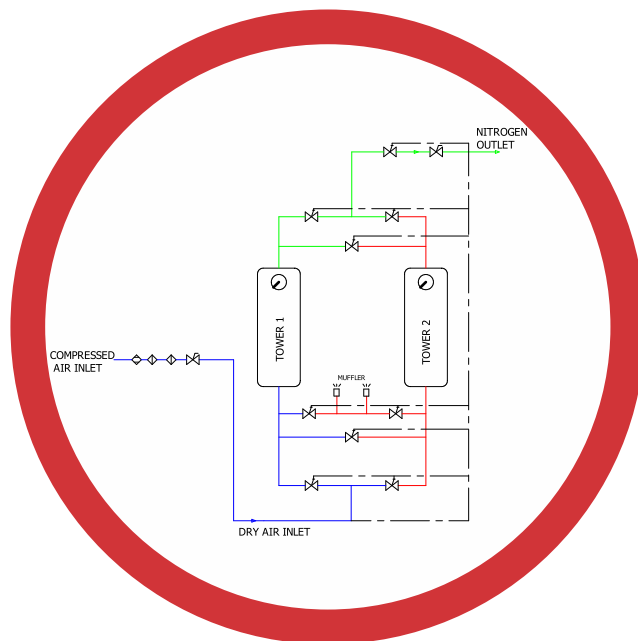
Unit - 2





### Benefits :

- Produce as per demand
- Avoid Cylinder Availability Issues
- Avoid Logistics and Management Problem
- Faster payback period within 1 year and lesser
- Eliminate safety risk associated with handling high pressure cylinders
- Can be used as mobile application also
- Avoid wastage of unused gas in the cylinder



### Principle of Operation

**Nitrogen Generation Cycle:** Purified (Moisture and Oil free) air from the compresses air system, Passing through one of the tower filled with Carbon Molecular Sieves. The CMS selctively adsorbs Oxygen, allowing nitrogen to pass through at the desired purity level.

**Equalization Cycle:** During Equalization cycle the pressure between both the tower are equalized.

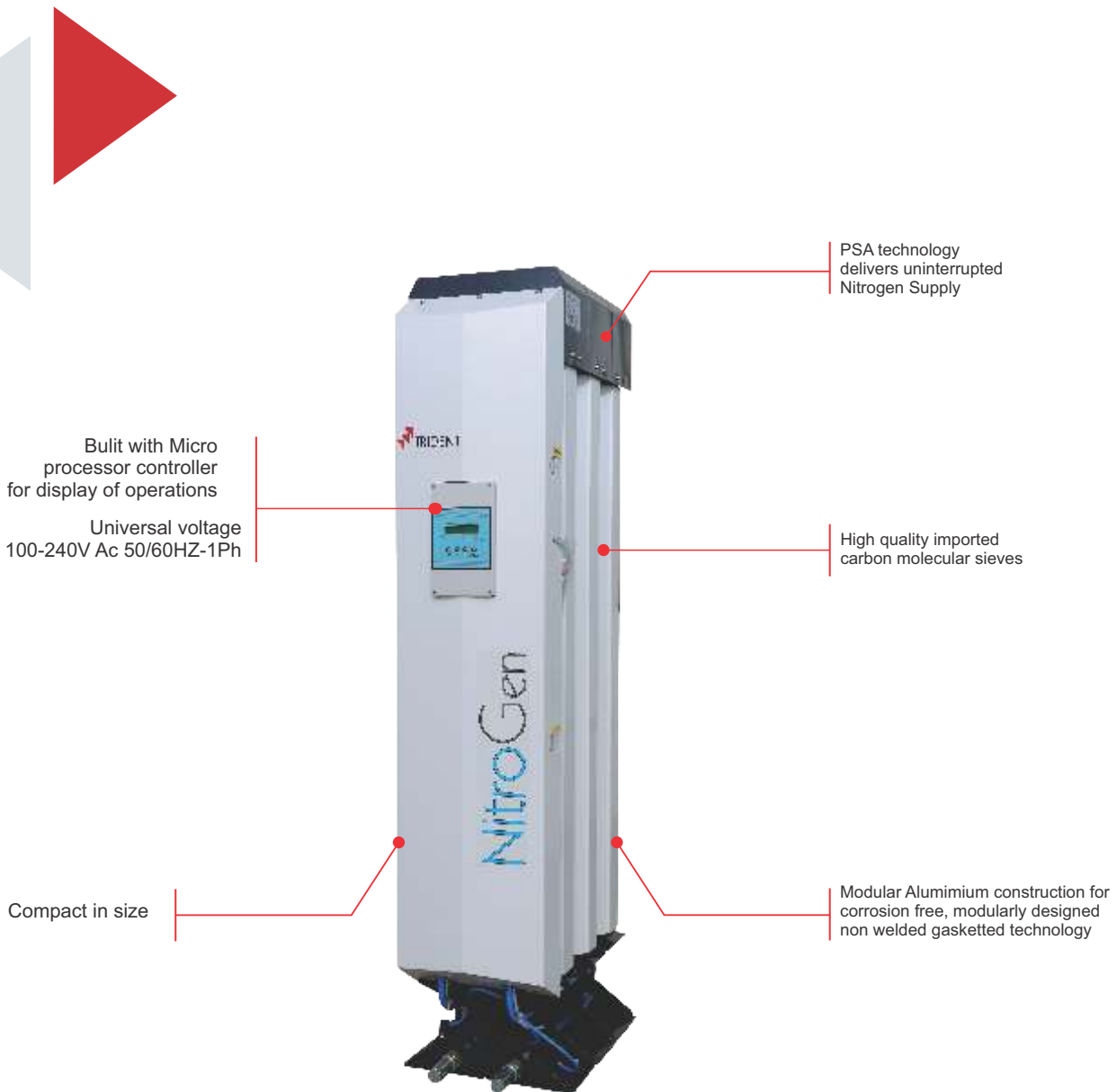
**Depressurization Cycle:** During Depressurization cycle, the sudden depressurization brings out the oxygen molecules trapped in the CMS pores to the surface of the beads. The adsorbed oxygen is released and vented into the atmosphere. This results in the complete regeneration of Carbon Molecular sieves.

The automatic cycling of the adsorption and desorption between the two beds enables the continuous generation of Nitrogen.

Detailed design of process parameters followed by extensive validation has resulted in consistant performance in Nitrogen Series.

### Recommended installation for on-site Gas Generation

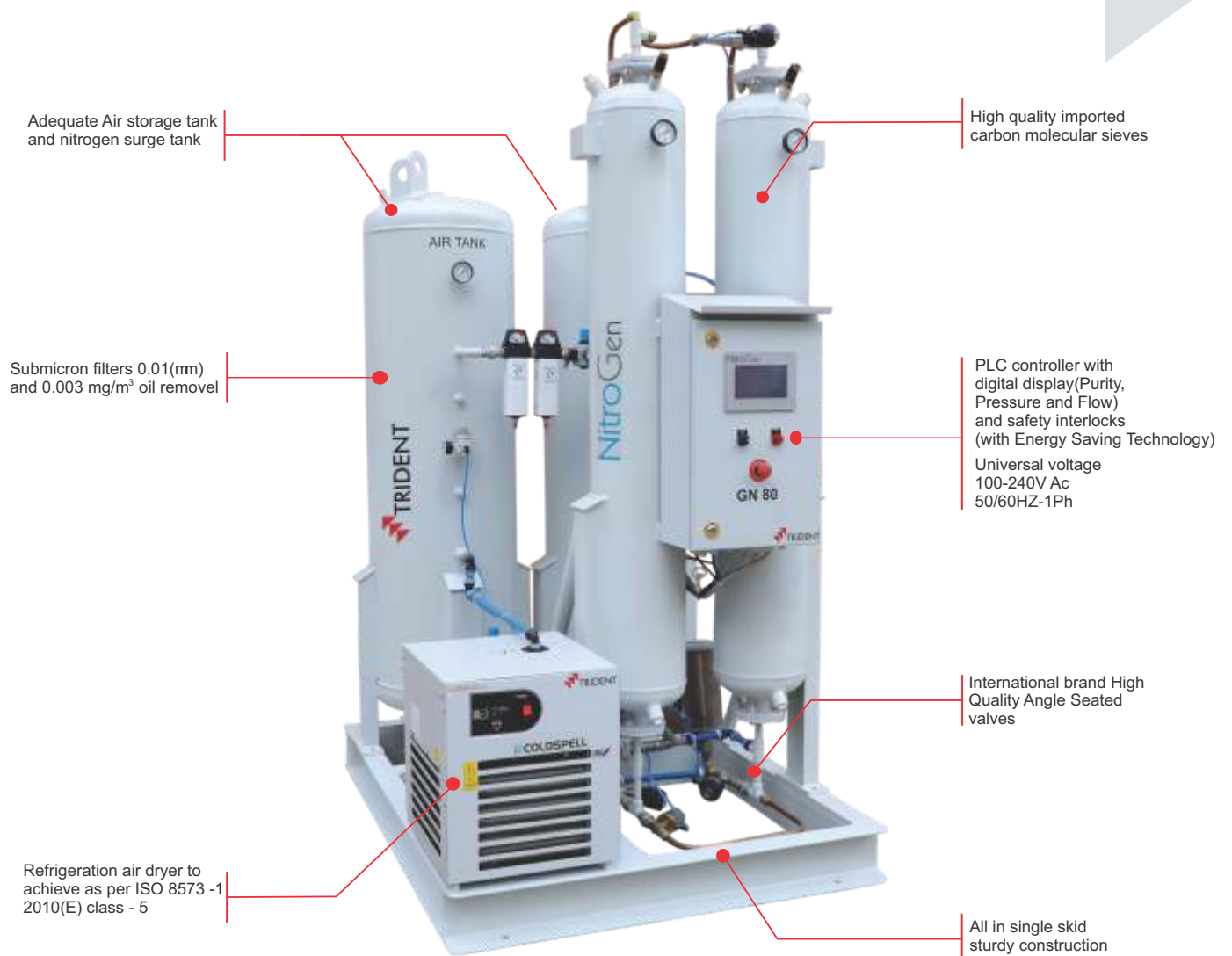




## MODULAR NITROGEN GENERATOR

● Capacity ranges from :  $0.56 \text{ Nm}^3 / \text{hr}$  to  $20.80 \text{ Nm}^3 / \text{hr}$

● Purity ranges from : 95% to 99.99%



## NITROGEN PLANT

○ Capacity ranges from : 4.84 Nm<sup>3</sup> / hr to 328 Nm<sup>3</sup> / hr

○ Purity ranges from : 95% to 99.99%



### Rated Capacity at various Purity Level

Nitrogen Purity%		99.99		99.9		99.5		99		98		97		95	
Oxygen Level%		0.01		0.1		0.5		1.0		2.0		3.0		5.0	
Air Factor		4.9		3.5		2.7		2.5		2.2		2.0		1.8	
Model	Item Code	Nm <sup>3</sup> /Hr	LPM	Nm <sup>3</sup> /Hr	LPM	Nm <sup>3</sup> /Hr	LPM	Nm <sup>3</sup> /Hr	LPM	Nm <sup>3</sup> /Hr	LPM	Nm <sup>3</sup> /Hr	LPM	Nm <sup>3</sup> /Hr	LPM
NitroGen 10	PG001	0.56	9.36	1.22	20.40	1.80	30.00	2.16	36.00	2.52	42.00	2.88	48.00	3.60	60.00
NitroGen 20	PG002	0.81	13.52	1.77	29.47	2.60	43.33	3.12	52.00	3.64	60.67	4.16	69.33	5.20	86.67
NitroGen 30	PG003	1.62	27.04	3.54	58.93	5.20	86.67	6.24	104.00	7.28	121.33	8.32	138.67	10.40	173.33
NitroGen 40	PG004	2.43	40.56	5.30	88.40	7.80	130.00	9.36	156.00	10.92	182.00	12.48	208.00	15.60	260.00
NitroGen 50	PG005	3.24	54.08	7.07	117.87	10.40	173.33	12.48	208.00	14.56	242.67	16.64	277.33	20.80	346.67

### Rated Capacity at various Purity Level

Nitrogen Purity%		99.99		99.9		99.5		99		98		97		95	
Oxygen Level%		0.01		0.1		0.5		1.0		2.0		3.0		5.0	
Air Factor		4.9		3.5		2.7		2.5		2.2		2.0		1.8	
Model	Item Code	Nm <sup>3</sup> /Hr	LPM	Nm <sup>3</sup> /Hr	LPM	Nm <sup>3</sup> /Hr	LPM	Nm <sup>3</sup> /Hr	LPM	Nm <sup>3</sup> /Hr	LPM	Nm <sup>3</sup> /Hr	LPM	Nm <sup>3</sup> /Hr	LPM
NitroGen 80	PG036	11.1	185.5	24.2	403.9	35.7	593.9	42.8	712.7	49.9	831.5	57.0	950.3	71.3	1187.9
NitroGen 150	PG037	21.5	358.7	46.9	781.7	69.00	1149.5	82.8	1379.4	96.6	1609.4	110.4	1839.3	138	2299.1
NitroGen 200	PG038	29.4	490.1	64.1	1068.3	94.3	1571	113.2	1885.2	132	2199.5	150.9	2513.7	188.6	3142.1
NitroGen 300	PG039	43.8	729.2	95.4	1589.4	140.3	2337.4	168.4	2804.9	196.4	3272.4	224.5	3739.8	280.6	4674.8
NitroGen 450	PG040	64.6	1076.0	140.8	2345.1	207.0	3448.6	248.4	4138.3	289.8	4828.1	331.2	5517.8	414.0	6897.2
NitroGen 850	PG041	117.7	1960.7	256.5	4273.2	377.2	6284.2	452.6	7541	528.1	8797.8	603.5	10054.6	754.4	12568.3



For higher capacity please contact factory. Specifications are subjected to change based on continuous improvement

Air Factor used to calculate Inlet air requirements based on Purity of N<sub>2</sub>.

Ex. Nitrogen 80 at 99% purity, requires inlet compressed air of  $42.8 \times 2.5 = 107 \text{ Nm}^3/\text{Hr}$ . FYI.

### Specification

Design operation Pressure range	7- bar (g) to 9- bar (g)
Nitrogen Pressure	7.5 - bar (g) to 9.5 - bar (g)
Inlet temperature	+5 Deg C to +40 deg C
Air quality requirement	as per ISO 8573.1-1.5.1
Electrical requirement for nitrogen generator	100 to 230 V, 50/60 hz, single phase

**Ordering Procedure :** Eg: If you required flow rate of 2.43 Nm<sup>3</sup>/ Hr at 99.99% Purity.  
Your ordering code would be : Nitrogen 40.



**Other Products :**



**Timer Operated and Level sensing drain valves**

- ◉ LDV Series
- ◉ CTD Series
- ◉ EDV Series

**Heatless Desiccant Air Dryers**

- ◉ Modular Dry Spell Plus Series
- ◉ Fabricated DP Series
- ◉ Medical Breathing Air Dryer TBAS Series



**Refrigeration Air Dryer**

- ◉ CS Series

**Submicron Filters**

- ◉ Cleansweep Filter Series
- ◉ Medical Vacuum Filter Series
- ◉ Bacteria Filter Series



**Medical Oxygen Plant**

- ◉ PSA GO Series
- ◉ Vacuum - DMOG Series



## SALES & SERVICE NETWORK



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Andhra Pradesh, Telangana  
& Chhattisgarh  
98854 45321

Kolkatta  
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