



**M M HYDRO  
PNEUMATICS  
PVT LTD**

Filtration - Air | Oil | Fuel



**TRIDENT**

**AUTHORIZED BUSINESS ASSOCIATE**



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- Purity maximum upto 99.99%
- Modular aluminum construction for corrosion free
- Universal voltage 100-240V AC - 50/60Hz - 1ph
- Compact in size
- Faster payback period



Nitrogen Gas Generator

**NitroGen**

## PSA BASED NITROGEN GENERATION SYSTEM

The Trident nitrogen generator systems are perfect for anyone who wants their own flexible and reliable supply of nitrogen without compromising on quality. Trident NitroGen Generators allow you to produce the gas exactly where you need it, when you need it.

### Benefits

- Produce as per Demand ● Avoid Cylinder Availability Issues
- Avoid Logistics and Management Problem ● Faster Payback period within 1Year and lesser
- Eliminate safety risk associated with handling high pressure cylinders
- Can be used as Mobile application also ● Avoid unused gas in the cylinder.

### Principle of Operation

**Drying Cycle :** Purified (Moisture and oil free) air from the compressed air system, Passing through one of the aluminium tower filled with Carbon Molecular Sieves. The CMS selectively adsorbs oxygen, allowing nitrogen to pass through at the desired purity level.

**Regeneration Cycle :** During regeneration cycle, the sudden depressurisation brings out oxygen molecules strapped in the CMS pores to the surface of the beads. Small portion of Nitrogen from the drying tower is passes over the CMS through the regeneration orifice. This results in complete regeneration of Carbon Molecular Sieves.

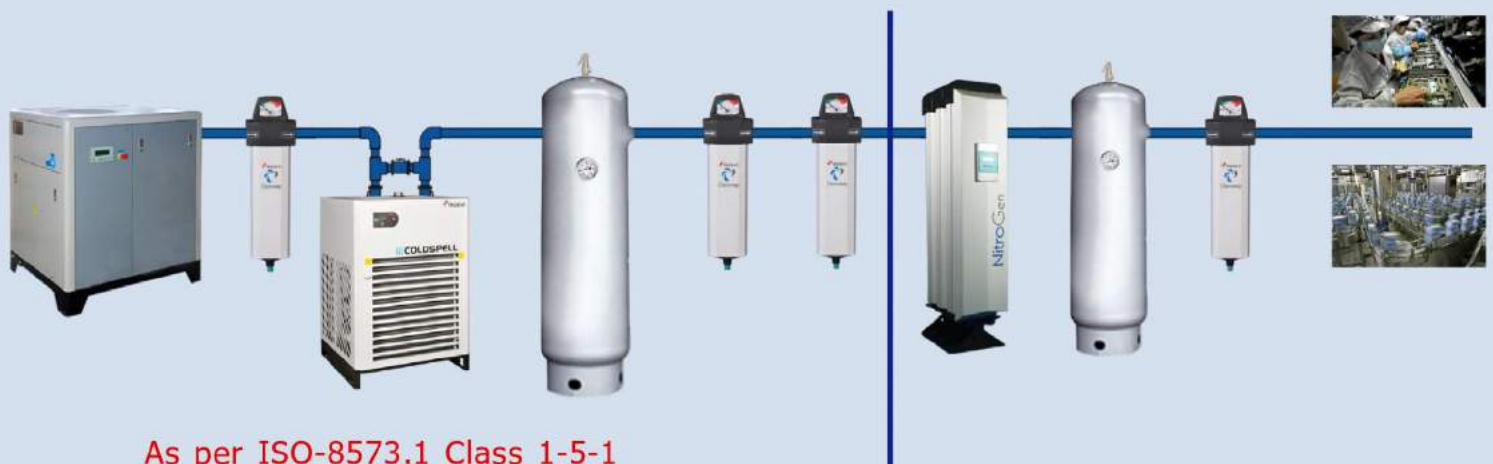
The automatic cycling of the adsorption and desorption between the two beds enables the continuous production of Nitrogen.

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

All Aluminium construction hence life long corrosion free. All the joints are modularly designed non welded gasketted technology.

Highly reliable Microprocessor based controller with LCD display of generator operations. This controller has designed to suit universal voltage.

Recommended installation is for On-site Gas Generation as per below.



As per ISO-8573.1 Class 1-5-1



Trident generators are designed in such way, it will work at site 24 x 7 without any trouble. All the components used in generators are highly reliable and tested, validated for long life period. Optional safety precautions can be addressed (Stand by gas supply mode automatically in case of any failure mode like, Purity, Power failure etc.) to give uninterrupted gas supply.

However trained service personal will attend the service calls for breakdown as well as preventive maintenance. Necessary documents will be provided and training will be given to the users to handle minor breakdowns.

- 45 service outlet in India
- Centralized service logging system
- Onsite Training for the users
- Genuine spares available at nearest point
- Competitive and effective Annual Maintenance Contracts available at the end of warranty period

#### Rated Capacity at various Purity Level

Nitrogen Purity %		99.99		99.9		99.5		99		98		97		95		Inlet air requirement in
Oxygen Level %		0.01		0.1		0.5		1.0		2.0		3.0		5.0		
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	Nm <sup>3</sup> /Hr
NitroGen 10	PG001	0.56	9.3	1.22	20.3	1.8	30.0	2.16	36.0	2.52	42.0	2.88	48.0	3.6	60.0	5.8
NitroGen 20	PG002	0.81	13.5	1.77	29.5	2.6	43.3	3.12	52.0	3.64	60.7	4.16	69.3	5.2	86.7	8.3
NitroGen 30	PG003	1.62	27.0	3.54	59.0	5.2	86.7	6.24	104.0	7.28	121.3	8.32	138.7	10.4	173.3	16.5
NitroGen 40	PG004	2.43	40.5	5.3	88.3	7.8	130.0	9.36	156.0	10.92	182.0	12.48	208.0	15.6	260.0	25
NitroGen 50	PG005	3.24	54.0	7.07	117.8	10.4	173.3	12.48	208.0	14.56	242.7	16.64	277.3	20.8	346.7	33.3

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

#### Compressed air specification

Air quality requirement is as per ISO 8573.1 - 1.5.1 (Trident product selection as per the compressed air quality class would be class 1 - filter element - grade x of 1 micron for particle removal, class 4 - Refrigeration type air dryer with pressure dew point <= +3 deg c, class 1 - filter element - grade y of 0.01 micron for oil removal.)

Inlet temperature + 5 Deg C to 40 deg C

Operating Pressure 7 bar(g) to 9 bar(g)

Electrical requirement 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.

**Treatment Products from Trident to achieve ISO 8573.1 Class 1-5-1**



**Refrigeration Dryer**

- Highly Efficient refrigeration air dryer for pretreatment of compressed air
- Dew point as per ISO 8573 class 5
- Eco friendly refrigerant (R134a, R407c)

**High Efficient Coalescing filters to remove**

- Moisture
- Dust Particle up to 0.01 micron
- Oil Aerosols up to 0.003mg/cu.m



**Microprocessor based controller with Digital Display - Optional**

- LCD Display
- Failure alarm system
- Purity
- Pressure

**Air and Nitrogen Tank**

- Compressed air and oxygen tanks are designed as per IS 2825
- Anti-corrosive paint for better life
- Optional : SS Tank
- Pressure Safety valve, Pressure gauges and draining system for automatic and manual



**ADDRESS:**

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