TRIDENT

Purity- 95% to 99.5 %

Purity- 99.9% to 99.999 %

Purity- 99.9 +0 99.998

Purity- 99.9% to 99.99 %

Purity- 95% to 99.9 %

Purity- 95% to 99.9 %

Plastic

Machine tool & Laser cutting

Pharmaceutical

Electronics Semi conductors

Food and beverages

Oil and Gas

N_2

NITROGEN
GENERATOR

Unit - 1

ABOUT US

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

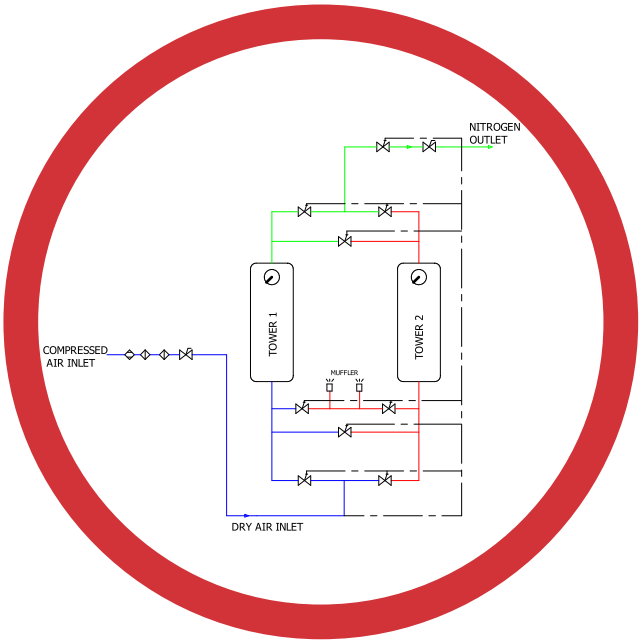
- Auto drain valves
- Micro filters
- Nitrogen Generator
- Refrigeration / Desiccant Air dryer
- Medical Breathing Air dryer
- Oxygen Generator

- 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 selsctively adsorbs Oxygen, allowing nitrogen to pass through at the desired purity level.

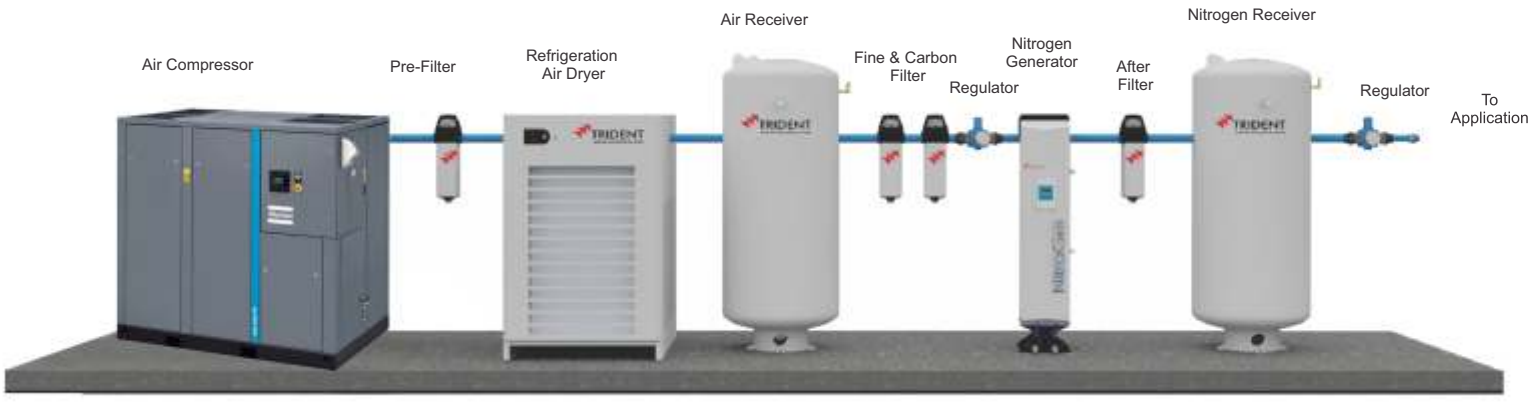
Equalization Cycle: During Equalization cycle the pressure between both the tower are equalized.

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



PSA technology
delivers uninterrupted
Nitrogen Supply

Bulit with Micro
processor controller
for display of operations

Universal voltage
100-240V Ac 50/60HZ-1Ph

High quality imported
carbon molecular sieves

Compact in size

Modular Alumimium construction for
corrosion free, modularly designed
non welded gasketted technology

MODULAR NITROGEN GENERATOR

- **Capacity ranges from : 0.56 Nm^3 / hr to 20.80 Nm^3 / hr**
- **Purity ranges from : 95% to 99.99%**

Adequate Air storage tank and nitrogen surge tank

Submicron filters 0.01(m) and 0.003 mg/m^3 oil removel

Refrigeration air dryer to achieve as per ISO 8573 -1 2010(E) class - 5

High quality imported carbon molecular sieves

PLC controller with digital display(Purity, Pressure and Flow) and safety interlocks (with Energy Saving Technology)

Universal voltage 100-240V Ac 50/60HZ-1Ph

International brand High Quality Angle Seated valves

All in single skid sturdy construction

NITROGEN PLANT

- **Capacity ranges from : 5.7 Nm^3 / hr to 328 Nm^3/ 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	Nm3/ Hr	LPM	Nm3/ Hr	LPM	Nm3/ Hr	LPM	Nm3/ Hr	LPM	Nm3/ Hr	LPM	Nm3/ Hr	LPM	Nm3/ Hr	LPM
NitroGen 10	PG026	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	PG027	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	PG028	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	PG029	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	PG030	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		2		3		5	
Air Factor		4.5		4.4		3.7		3.6		3		2.6		2.5	
Model	Item Code	Nm3/ Hr	LPM	Nm3/ Hr	LPM	Nm3/ Hr	LPM	Nm3/ Hr	LPM	Nm3/ Hr	LPM	Nm3/ Hr	LPM	Nm3/ Hr	LPM
NitroGen 80	PG036	5.7	95	9.9	165	16.2	270	18.6	310	21.7	361.67	24.8	413.33	31	516.67
NitroGen 150	PG037	10.77	179.5	19.08	318	31.29	521.5	36	600	42	700	48	800	60	1000
NitroGen 200	PG038	14.72	245.33	26.08	434.67	42.76	712.67	49.2	820	57.4	956.67	65.6	1093.33	82	1366.67
NitroGen 300	PG039	21.9	365	38.8	646.67	63.62	1060.33	73.2	1220	85.4	1423.33	97.6	1626.67	122	2033.33
NitroGen 450	PG040	32.31	538.5	57.24	954	93.87	1564.5	108	1800	126	2100	144	2400	180	3000
NitroGen 850	PG041	58.89	981.5	104.3	1738.33	171.05	2850.83	196.8	3280	229.6	3826.67	262.4	4373.33	328	5466.67

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 N2.
Ex. Nitrogen 80 at 99% purity, requires inlet compressed air of 42.8*2.5 = 107 Nm^3/Hr.

Specification

Design operation Pressure range	7- bar (g) to 9- bar (g)
Nitrogen pressure	5.5 - bar (g) to 7.5 - 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 Nm3/ Hr at 99.99% Purity.
Your ordering code would be : Nitrogen 40.

TRIDENT

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

For Detailed Specification Please Contact Factory

SALES & SERVICE NETWORK

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