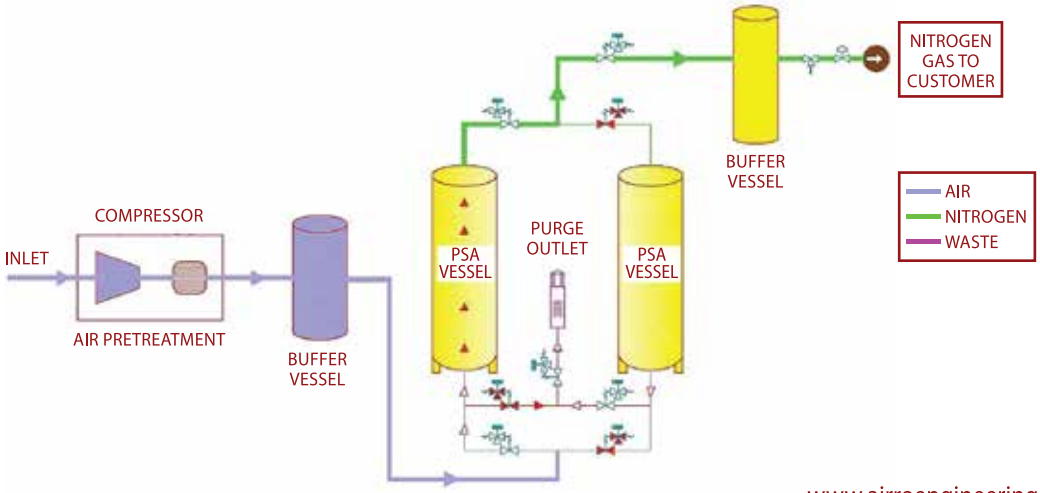
Nitrogen Gas Generator

Nitrogen gas generator produces nitrogen gas from atmospheric air based on PSA (Pressure Swing Adsorption) technology. We provide variety of PSA Nitrogen gas generator, Nitrogen Plant, in all kind of industries such as Chemicals, Pharmaceuticals, Bulk Drugs, Food, Electronic Industry, Steel, Coal Mines, etc. PSA technique is simple and reliable process of separation of nitrogen gas form compressed air by adsorption of oxygen over a compact tower of carbon molecular sieves.

The "Treated" atmospheric compressed air enters an adsorption tower where it comes in contact of carbon molecular Sieves that binds the oxygen molecules and allows nitrogen to pass through void space. Pure nitrogen flows product delivery operation and once the oxygen capturing capacity in a bed is diminished the feed switches to a new adsorption tower and the old bed is regenerated through rapid depressurization and is ready for the next cycle.

PSA Nitrogen system comprises of four main operations:

Air Compression → Air Pretreatment → Adsorption / Desorption → Product Delivery



TECHNICAL SPECIFICATION		
TYPE	MODEL - MSU	MODEL - PDC
OXYGEN	0.001% – 5%	5-10 PPM
HYDROGEN	Nil	0.5- 5.0%
NITROGEN	95-99.999%	99.9995%
ATM. DEW POINT (°C)	(-) 40 °C to (-) 60 °C	(-) 40 °C to (-) 80 °C
APPLICATIONS	Chemical Industries, Food & Pharmaceuticals Industries	Steel Industries and various heat treatment process
CAPACITIES (NM3/HR)	05 to 1000	01 to 500
Pressure	5-35 Bar	5-35 Bar

Working Principle

Nitrogen generation plant based on PSA technology consists of 2 absorber tower filled with Carbon Molecular Sieve (CMS). When pre-filtered & compressed air is passed through the one adsorber, oxygen is adsorbed on the CMS and nitrogen gas comes out as the product gas. The waste gas (Oxygen, CO_2, etc.) is discharged back into the atmosphere through silencer. During adsorption in one tower the second tower regenerates through depressurization to atmospheric pressure. This ensures continuous supply of Nitrogen gas to your process.

Salient Features

- Modular Design
- Safe & Reliable
- Hassel-free, easy to install and operate
- Completely Pre-manufactured Skids
- Fast Start-up. Fully automatic and unattended operation
- Pre-compressed bed prevents CMS bed dusting assuring maximum bed life
- Low cost on-site production
- Provide stable long term N_2 Cost

Application

- Blanketing (Pharmaceuticals, Pesticides, Agriculture)
- Metal Process (Bright Annealing, Heat Treatment, Furnace)
- Inertization Process (Chemicals, Petrochemical)
- Oil & Gas (Blanketing, Filling, Transferring)
- Food Packet(Pouch Packaging, Confectionaries)
- Laboratories (LCMS, GC)
- Tyre Filling (Automobiles)
- Power Sector
- Electronics Industries
- Autoclaves Segments
- Cement Industry

Reliability

All our products are designed to be operated on a 24/7/365 basis. Simple operation, stable gas purity, minimum maintenance costs and a maximum system availability insure maximum customer satisfaction.

Purities

Nitrogen Gas Purity up to 99.999% can be achieved.

Long Life, Low Maintenance

Unique design PSA Towers results no attrition loss of Carbon Molecular Sieves, No addition of CMS required, no-topping up required. Good quality valves ensure long-life operation and minimum maintenance.

PDC Model

To achieve high Nitrogen gas purity up to 99.9995% PDC model will be required which is mainly used in Steel Industry for brightening purpose of pipes & tubes in Furnace.

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