

NITROGEN PLANTS & GAS BOOSTING SYSTEMS

PSA Technology With Gas Boosters

In this technology route, Nitrogen is generated using a Pressure Swing Adsorption (PSA) generator that is fed with compressed air. It offers a cost effective, reliable and safe alternative to typical Nitrogen gas supplies such as commercial cylinder or LIN (liquefied nitrogen) that are logistically cumbersome. Our system is designed to provide on demand and continuous supply of nitrogen to the required process and can also fill cylinders. It can be run 24X7 and has low maintenance requirements. The system can boost Nitrogen to any desired pressure up to 1200 b, using Haskel USA air driven gas boosters.

Benefits :

In-house Quality Control.

Upto 90% cost savings compared to typical gas cylinder or LIN supply.

Investment pay-back is achievable within 12-24 months depending on use.

This easy to use system is also simple to install, requires minimal maintenance and eliminates safety hazards associated with traditional gas supplies.

Features:

Can be operated from a standard factory compressed air supply or a dedicated air compressor.

Electrical requirement of only 230V AC

Integral oxygen analyser for continuous purity monitoring.

Compact design, modular concept for easy expansion.

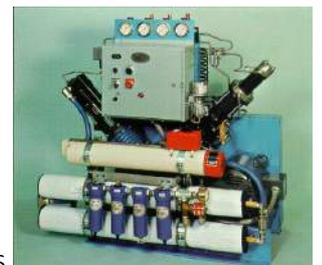
Purity level : 95% to 99.999%

Charging/Outlet Pressure : upto 1200 b

Outlet Dew Point : upto -70 Deg C

Applications: y

- Food Industry
- Chemical and Pharmaceutical industry
- Defence Labs for high purity nitrogen
- Electronics industry
- Glass and lighting industry
- Gas Production Units
- Oil and Gas
- Automobile
- Coal Mines



Membrane Generator With Rix Non Lubricated Oil Free Compressor

In this technology route, Nitrogen is generated using a Membrane generator that is fed with compressed air. Just as the system above, this also offers a cost effective, reliable and safe alternative to typical nitrogen gas supplies such as cylinder or liquefied nitrogen that are logistically cumbersome. This system too is designed to provide on demand and continuous supply of nitrogen to the required process and can also fill cylinders. It can be run 24X7 and has low maintenance requirements. The system can boost Nitrogen to any desired pressure up to 300 b, using Rix USA non lubricated Oil Free electric compressors. Very compact compared to the option above.



Gem Pressure Systems (India) Pvt.Ltd

Factory: 5-11 Sharif Nagar, RCI Road, Hyderabad-500 005 A.P. INDIA

Phone: 91-40-64640125, 64645125 Mb : 9963144481

Admin Off: 4-2-254, Old Bhoiguda, Secunderabad - 500003 A.P. INDIA. Telefax: 91-40-27711742

E-mail: info@gemengg.com, Website: www.gemengg.com



NITROGEN PURIFICATION & COMPRESSION SYSTEM

Indigenous R&D, for defence industry, primarily for JT cooler - in missile seeker head application, led to our development of the system shown below for taking any common industrial supply Nitrogen, processing it to achieve the stringent standards that meets Defence Standards as indicated in the table below and then boost the gas to 400 b.

The number of users who require ultra pure Nitrogen is on the increase, especially for food processing, electronics, aerospace and general industrial processes.

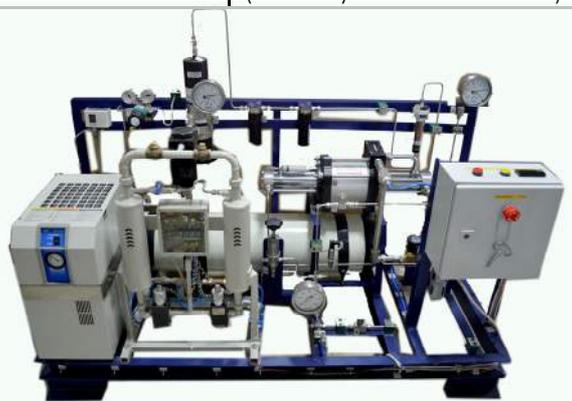
The system is fully automated through PLC controls and the operation is simply by a push button.

This process of purification is a must for better picture clarity in Thermal Imaging Systems. In the system shown below the flow is 25 to 60 slpm. However we could increase the flow by customisation to meet your requirement.

The system could be static, or mounted on a trolley, even with an all electric prime mover.

If compressed air is an issue for driving the gas booster, we could offer the same system with an electric drive, non lubricated, oil free gas compressor from the range of products of our associate Rix USA.

Sl No	Contaminant	Worst Case In Source Nitrogen (supply gas)	Best Case After Treatment Def Stan 58/96
1	Nitrogen	99.99%	99.9999%
2	Oxygen	≤ 100 ppm	≤ 1 ppm
3	Water Vapour	≤ 10.2 ppm (-) 60°C	≤ 1.4 ppm or A DPT (-) 74°C
4	CO	≤ 100 ppm	≤ 0.5 ppm
5	CO ₂	≤ 100 ppm	≤ 0.5 ppm
6	Methane	≤ 100 ppm	≤ 5 ppm
7	Hydrocarbon	≤ 100 ppm	≤ 0.05 ppm
8	Solid Matter (all kinds)	Level 10 of NAS 16381	≤ 5 μ (NAS 16381- Level 00)
9	Condensate (all kinds)	≤ 100 ppm	≤ 5 ppm
10	Argon	0.9%	No mention in spec - (not likely to affect JT cooler)



Gem Pressure Systems (India) Pvt.Ltd

Factory: 5-11 Sharif Nagar, RCI Road, Hyderabad-500 005 A.P. INDIA

Phone: 91-40-64640125, 64645125 Mb : 9963144481

Admin Off: 4-2-254, Old Bhoiguda, Secunderabad - 500003 A.P. INDIA. Telefax: 91-40-27711742

E-mail: info@gemengg.com, Website: www.gemengg.com

