Liquid Oxygen Nitrogen Plants

We provide highly advanced liquid oxygen plants which are extensively used in oxygen and nitrogen production industries. These are highly renowned among our valued clients for its effectual functioning. This plant requires low power consumption and zero maintenance for the machines.

Below mentioned are its main equipments:

1) Air compressor: Screw/ low pressure- type:

We offer highly advanced range of compressor series which has unique combination, low operation and maintenance cost with high dependability. It has the screw type rotary compressors which offer trouble free operation.

Centrifugal Type: this compressor is highly efficient and economical, which makes sure the consistent and high source of air supply.

2) Pre-cooling system

We use highly effective pre-cooling system which is skid equipment provided with the main purpose of cooling the air to range of 5 to 8 degree Celsius and discharges the condensed water. These compressors are of Europe make and are very efficient

3) Universal Boschi Purifier

The universal boshci purifier helps in the removal of moisture, carbon dioxide, hydrocarbons and gases which are considered as the impurities in the process of air separation. The double layered molecular sieves from the zeochem with alumina acts as an absorbent.

For the purity of the final product like oxygen and nitrogen in the air separation column, the process purifier is important for the entire process. It includes 2 skid mounted molecular sieve regeneration batteries works on night shifts and switch alternatively for manually or by PLC control.

4) Air separation unit

Air separation unit holds the key to the entire air separation process and the mixture of oxygen and nitrogen is separated by the difference in their liquefication temperatures.

For determining the quality of final product ie oxygen and nitrogen in terms of quality and quantity, the design and efficiency of the A.S.Y helps majorily. The boschi design includes the highly efficient fin type aluminum heat exchangers and column, in which the entire upper column is packed, thus lowering down the operational pressure and growing the oxygen, nitrogen and argon recovery.

The argon is attained by the new technique utilizing the full rectification without using the hydrogen and de oxo unit thus saving on:

- Power costs
- Operational costs
- Investment

These features make these machines highly cost effective and flexible with effective and research and development.

5) Turbo Expander

It is a gas or oil bearing expansion refrigeration turbine which is very efficient than any other expansion device. This expander works on the process of induced cooling via expansion in which the operational pressure is lowered and the performance of the distillation column becomes stable for the consistent production and high purity.

Following are its technical specifications:

Models	UBTL SERIES UBT40, UBT80, 100, 120, 150 , 180, 200, 220, 250, 300, 350, 400, 500, 600, 800 & 1000.
Oxygen production	
Oxygen Output (cu. Mtr/hr)	40 TO 50,000m3/hour
Oxygen Purity (%)	99.6%
Oxygen Pressure in cylinders	150 bar(kg/cm2) 200 optional
Nitrogen production	
Nitrogen Pressure out of Column (bar)	40 to 50,000 m3/hr.*
Nitrogen Output (cu. Mtr/hr)	99.9% to 99.99/3ppm opt.
Nitrogen Purity (ppm optional)	150 bar(kg/cm2)
Nitrogen filling in cylinders(optional)	150 bar(kg/cm2)
Type	
Operation Pressure (bar)	7 bar(kg/cm2)
Operation Period	24 hours -continuous
Air compressor	Rotary/screw
Expander	turbo
Downtime for repair	Very low due to screw compressor and low working pressure there are no leakages.
Air separation unit	High yield >99%
Exchanger efficiency(plate fin type)	Very high
Oxygen & nitrogen production	Simultaneous (no loss of oxygen)
Power	
Connected	AS PER CAPACITY
Consumed(abt.)	AS PER MODEL
Specific power per m3 of oxygen	UPTO 0.6 UNITS DEPENDING ON CAPACITY

Specific power per m3 of oxygen +nitrogen(pure)	0.2 to0.4kwh(units)
Voltage 3 phase**	380-415 50/60 hz or as per country

Following are its salient features:

- All plants use “Oil free” rotary screw /centrifugal oil compressor working between 0.6 to 1.0 mpa
- All plants incorporate Aluminum Brazed exchangers and packed columns for high efficiency.
- Turbo expanders (Oil or Air Bearing) for trouble free operation
- All plants above “500” are supplied with automatic PLC control
- Engineering support along with complete quality control is provided by our company
- We provide qualified engineers for Supervision, Installation and start up of all our plants as well as training of manpower at customers’ site
- Very low power consumption with proven performance and virtually Zero maintenance required for the machines
- 100% reliability for oxygen gas quality for industrial & hospital use