

## Argon Plants

We supply argon plants which are renowned among our valued clients for its effectual functioning. These are highly appreciated for high tensile strength and low maintenance cost.

Following are its main equipments:

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

The advanced series which are accessible from the market have different combination of fulfilling client requirement for:

- Low installation,
- Operating and maintenance costs
- With high dependability
- Easy usage

The screw rotary compressors are advanced and trouble free.

Centrifugal Type:

It is highly efficient, economical, consistent and is highly reliable source of air supply. It has very low maintenance cost which is very good for the compressor.

2) Pre-cooling system

The pre cooling system is highly effective skid mounted equipment and is offered with the primary purpose of cooling down the air to temperature of 5 to 8 degrees & helps in discharging of condensed water. These compressors are of European origin.

3) Universal Boschi Purifier

The universal boschi 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 structure includes the double layered molecular sieves from the “Zeochem” (Switzerland) with alumina which acts as a 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 liquefaction 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 full upper column is packed, thus falling 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 operational costs, power costs and investment. These features make these machines highly cost effective and flexible with effective and research and development.

### 3) Turbo Expander

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

Following are its technical specifications:

Model	UBT 60
Oxygen production	
Oxygen Output (cu. Mtr/hr)	60m <sup>3</sup> /hour
Oxygen Purity (%)	99.6%
Oxygen Pressure in cylinders	150 bar(kg/cm <sup>2</sup> )
Nitrogen production	
Nitrogen Pressure out of Column (bar)	5 bar
Nitrogen Output (cu. Mtr/hr)	50-100 m <sup>3</sup> /hr.*
Nitrogen Purity (ppm optional)	99.9% to 99.99/3ppm opt.
Nitrogen filling in cylinders(optional)	150 bar(kg/cm <sup>2</sup> )
Type	Low pressure
Operation Pressure (bar)	7 bar(kg/cm <sup>2</sup> )
Operation Period	24 hours -continuous
Air compressor	Rotary/screw
Expander	turbo
Downtime for repair	Very low(2-3%)
Air separation unit	High yield >99%
Exchanger efficiency(plate fin type)	Very high
Oxygen & nitrogen production	Simultaneous (no loss of oxygen)
Power	Very low
Connected	80 kw
Consumed WITH FILLING	48kw
Specific power per m <sup>3</sup> of oxygen	0.80kwh
Specific power per m <sup>3</sup> of oxygen +nitrogen(pure)	0.40kwh

Below mentioned are its salient features:

- Air intake filter and silencer
- Inlet guide vanes
- After cooler

- Check valve and flexible discharge compensator
- Cooling water manifold
- Drain traps on all coolers
- Compensators on air and water inlet and outlet
- Main motor
- Complete lubrication system
- Control and safety system
- Integrated modulating blow-off valve and silencer
- Clear capital costs, no surprises
- A complete plug in and run compressed air system
- Easy and low cost installation, no foundations
- Low energy consumption at full and partial load
- High reliability and peace of mind
- Low maintenance cost and service friendly
- Caring for the environment
- Completely oil-free without seal air consumption, no risk of oil-contaminated Super silenced version (optional)