



## Cryogenic Air Separation Unit

### I.P.F introduction

Industrial Pioneers Farayand (IPF) Company, as an EPC contractor and a supplier of technology, has more than 22 years experience in designing, manufacturing, and commissioning in chemical, oil & gas, petrochemical, mineral, pharmaceutical and food industries. In this regard, to make improvement on the related local industries, IPF focuses to obtain and transferring technology from the reputable worldwide companies as follow:

- Evaporation & crystallization technology from HPD Co. (spain). (This technology has been applied in 20 purified salt plants in iran & Middle East).
- Cryogenic air separation unit technology from XAL Co. (china)
- Glass & polymer lining equipment, to increases corrosive resistance. (For the first time in Middle East)
- Factory production line for autoclave aerated concrete (AAC) from HESS Co. (Germany). (For the first time in Iran)
- Factory production line for vitamin E. (For the first time in Iran)
- Vapor recovery unit (VRU) technology form ECOTECH (Australia)

### Why cryogenic air separation unit?

- Application of cryogenic ASU in many industries such as metallurgy, oil & gas, petrochemical, chemical, new energy, medicine, pharmaceutical, copper, steel and ...
- The growing trend of using cryogenic ASU in many plants. For instance, the Oxygen replaced by air, to increase the efficiency of burning in furnace burner in SRU (Sulphuric acid Recovery Plants) and EO (Ethylene Oxide) plants.
- Cryogenic ASUs produce gases with the lowest possible content of impurities (special purity products)  
O<sub>2</sub> - 99,5...99,9 %      N<sub>2</sub> - 99,9995 %      Ar - 99,9995 %
- Cryogenic ASUs can produce several gases simultaneously (this is known as complex separation)  
O<sub>2</sub> + N<sub>2</sub>      O<sub>2</sub> + Ar      O<sub>2</sub> + Ar + N<sub>2</sub>
- Cryogenic ASUs offer the customer a choice between gas and liquid output. Implementation of various operating modes within the framework of one ASU with a wide range of product specification.
- Cryogenic ASUs consume comparatively less power while producing high purity products
- Long operation period between two warm-ups, up to 2 years
- High reliability, long service life





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### Why XAL Co.?

- XAL specializes in production of cryogenic air separation plant, oxygen plant, nitrogen plant, liquid plant, cryogenic separation and so on.
- XAL has won a good reputation, as well as been exported to more than 20 countries such as Bengal, India, Bhutan, Pakistan, Indonesia, Malaysia, Iran, Syria, Mexico, etc.
- XAL provides variety of reliable, advanced, energy-saving, competition-price air separation plants with better profit and energy-saving devotion for customers.
- Cold box for gas processing

### XAL introduction

Suzho Xinglu Air Separation Plant Science and Technology Development Co., Ltd (XAL) is taking technical research and innovation as essence, participating the marketing competition with high quality and high technology. Through development in past 19 years, XAL has grown to the pioneer of engineering, design and manufacture of air separation plant. XLA focuses on the development and innovation of technology, and specializes in designing and manufacturing the cryogenic air separation plant, LNG plant, LNG and CNG gas filling station and etc.

The plants have been applied into many fields such metallurgy, petrochemistry, Chemistry, new energy, medicine, magnetic material, and etc. Plants of XLA are exported to nearly 20 countries in North America, Middle East, South Asia and Southeast Asia.

### I.P.F and XAL agreement to acquiesce of license and technology transfer of cryogenic ASUs

I.P.F has signed an agreement with XAL as a joint cooperation for Air Separation Unit (ASU). According to agreement, Engineering activities, supervision on construction and installation and process guarantee are included in XAL's scope.

The purposes of this agreement are as followings:

- Technology Transfer and Localization for Liquid Oxygen, Nitrogen & Argon production plants.
- Technology Transfer and Localization for Design & Manufacturing of Cryogenic Storage Tanks.
- Technology Transfer and Localization for Design & Manufacturing of Cold Boxes for Both Air & Gas Processing.



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