

## 450 STPD Nitric Acid Plant for Sale

### **Capacity**

Design Capacity: 450 STPD  
Actual Max Capacity: 476 STPD

### **Product**

57 - 59% Nitric Acid

### **Process Technology**

Hercules Process

### **Major Equipment**

- Ammonia Vaporizers (new 2014)
- Cascade Cooler (new 2014)
- Economizer (new 2014)
- Air Preheater (new 2013)
- Converter, Spent Gas Reheater & Superheater (new 2012)
- Primary & Secondary Combustors (refurbished 2012)
- Entrainment Separator (refurbished 2012)
- Waste Heat Boiler 225# (new 1987)
- Ammonia Filters (new 1983)
- Ingersoll-Rand Air Compressor
- Absorption Column
- Air Mixer
- Weak Acid Separator
- Waste Heat Boiler 75#
- Ammonia Superheater
- Spare Expander
- Spare Rotor

### **Plant Status**

Production stopped in 2015  
Currently installed, mothballed



### **BRIEF PLANT DESCRIPTION**

The plant was originally commissioned in 1969 at nameplate capacity of 310 STPD. In 1974, the plant was upgraded to 375 STPD. In recent years, many new equipment items have been installed and the final capacity reached 450 STPD. The process starts with air compression. The compressor train consists of an axial compressor and a centrifugal compressor, and is driven by steam turbine on one end and a hot spent gas expander on the other end. The mixture of ammonia and air flows to the converter where ammonia is catalytically oxidized to nitric oxide (NO). The catalyst used is platinum gauze containing some palladium and rhodium. The process gas leaves the catalyst gauze at about 900 °C, and passes in succession through an exchanger train consisting of spent gas reheater/superheater, air Preheater, 225 psig waste heat boiler and 75 psig waste heat boiler. Steam of 225 psig and 75 psig is generated and exported from this process. The process gas then passes through a platinum filter to recover the valuable particles of platinum. Oxidation air is added and reacts with the NO to form NO<sub>2</sub>, which then reacts with water in the absorption column to form nitric acid. This plant has Delta V automation control system. Complete technical and operational documents are available.

### **For more information contact -**

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