

85 - 120 STPD Nitric Acid Plant

Capacity:

Design 85 – 100 STPD
Maximum 120 STPD

History:

Commissioned 1964 and 1968
Shut down 2015

Product

57% Nitric Acid

Major Equipment

- Air Compressor (Joy manufacturing)
- Expander (Northington)
- Steam Turbine (Demag)
- Absorption Tower
- Combustor
- Abator Boiler
- Waste Heat Boiler (2010)
- Air Preheater (2009)
- Cooler Condenser (2002)
- Tail Gas Heater (1994)
- Tail Gas Preheater (1993)
- Turbine Gas Heater (1990)

Spares

- Gear Box Set
- High Speed Rotor for Compressor
- Compressor Shaft & Impeller
- Expander Baffles
- Steam Turbine Shaft with slinger
- Bull Gear Assembly with Pinion
- Hoffman Blower
- Bearings
- Nozzle Ring
- Shrink Rings



BRIEF PLANT DESCRIPTION

This nitric acid production line consists of two Weatherly-designed process nitric acid plants. The first plant was installed and commissioned in 1964, the second plant in 1968. Plant #1 had design capacity of 85 short tons per day; Plant #2 100 short tons per day. Plant #2 shut down in April 2013. Its compressor train required major repair. Plant #1 abandoned its absorb tower in 2013 and used the absorption section of Plant #2 for production till July 2015 when the plant was finally shut down. The combination of Plant #1 and #2 makes a complete production line to reach capacity as high as 120 short tons per day. The plants replaced many equipment items with new ones in the recent years. Currently both plants are cleaned and purged, but not under nitrogen blanket. Many equipment items from the heat trains are already dismantled and stored in warehouse and yard. The production line has four process sections: gas preparation, oxidation and cooling, acid formation, and tail gas decoloration. The compressor train includes air compressor (Joy Manufacturing), expander (Northington) and steam turbine (Demag). The plant has advanced process of emission control to limit NOx at 5 ppm. Detailed technical documentation is available.

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