

33 TPD ARGON RECOVERY UNIT FOR AMMONIA PLANT TAILGAS

Capacity: 33 TPD liquid argon
17 TPD nitrogen

Year Built: 1999

Shut Down: 2002

Feedstock: Tail gas from
ammonia production
process

Product Quality: Argon 99.999%
Nitrogen 98.9%

Technology: Linde of Germany

Major Equipment:

- Feed Gas Separator
- Heat Exchanger (Cold Box)
- Argon Recovery Column
- Argo Purification Column
- Nitrogen Cycle Compressor
- Expansion Booster Compressor
- Nitrogen Compressor



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BRIEF PLANT DESCRIPTION

The feed gas is cooled down to cryogenic temp in the plate-fined type of heat exchangers against separation products. In the argon recovery column the feed is separated into a CH₄ fraction, a N₂ fraction and a N₂-Ar fraction. The N₂-Ar fraction leaving as liquid side stream from the argon recovery column is fed into the argon purification column.

The argon recovery process is operated by a nitrogen cycle. The nitrogen fraction from top of the argon recovery column is warmed up in the cold box heat exchangers to ambient temperature. The discharge stream is split into 2 streams. The another part enters the nitrogen after compressor where it is compressed to higher pressure, cooled down, condensed and subcooled in the cold box heat exchanger to form the reflux for argon recovery column.

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