

1,400 TPD Urea Plant for Sale

Capacity

Design 1,270 metric tons per day
Operating 1,400 metric tons per day

Plant History

Built in 1981
Many revamps after 1995
Currently in excellent condition, ready to operate

Process Technology

Stamicarbon

Major Equipment

- CO2 compressor
- 1, 2, 3 stage coolers
- High pressure ammonia pump
- Urea synthesis reactor
- Synthesis column
- Stripper
- High pressure carbamate condenser
- High pressure scrubber
- Low pressure scrubber
- Adsorption column
- Adsorption column cooler
- 1st & 2nd stage evaporator w/ separator
- Expander separator
- Primary condenser
- High pressure ejector

Consumption (per ton of urea)

- Ammonia 0.6 ton
- CO2 0.77 ton
- Steam 1.278 Gcal
- Electricity 30 KWh



BRIEF PLANT DESCRIPTION

The plant was originally designed for 1,270 TPD. After several upgrades, its current capacity increased to 1,400 TPD. If its CO2 compressor is up-scaled more, the plant can produce 1,500 TPD of urea. Major upgrades include: (a) High efficient trays (Casale) installed in urea reactor – 1996; (b) Desorption and hydrolysis section (Casale technology) – 1996; (c) Radar level meters for reactor and stripper – 2011; (d) Carbamate pumps pulsation dampers – 2011; (e) CO2 compressor Woodward control system – 1996. Urea is synthesized from liquid ammonia and CO2 gas at the pressure of 144 bar and temperature of 180 – 190 °C. CO2 is compressed at 134 – 145 bar with 4% of air injected to prevent corrosion. Ammonia is pumped at 160 – 170 bar into the high pressure carbamate condenser. Ammonia and CO2 react in the urea synthesis column to generate raw urea. Urea solution is obtained in the stripper and expanded at 2.5 – 3 bar. Evaporation has two stages in vacuum to generate urea melt at 99.7%. (This plant is compatible with Ammonia Plant #433).

For more information contact -

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