



TECHNOLOGIES

Pilot Plants*Process Engineering Systems*Technical Teaching Equipment

Dry HCl Gas Generator systems available are with three Routes

- 1.Sulfuric Acid Route
2. Boiling route
- 3.Calcium Chloride System

Sulfuric Acid Route is simplest in all three routes ,No steam requirement and Smooth Operation.Please find process description and process Flow Diagram here with

Please find consumption figures for 20 Kg/hr Dry HCl Gas Plant

30-32% HCl (kg/hr)	98
98% Sulfuric Acid (kg/hr)	240
Cooling Water at + 30 ⁰ C (M ³ /Hr)	2.8
Spent acid (kg/hr)	220

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Process Description:

This process is simple to operate and has lower operating cost than the other commercially available processes.

Required quantities of 98% sulfuric acid and 30% HCl are sparged from the tank through a rotameter into Mixing Zone as to give controlled flow in the Mixing Zone. HCL gas from the solution is stripped out by the action of sulfuric acid. Required heat is supplied by dilution of 98% sulfuric acid and little steam in Evaporating Zone. HCl gas is passed through Drying Zone .In drying zone HCl Gas is enriched by drying through Sulfuric Acid. To keep more safety for dryness, HCl Gas is passed to the sulfuric acid trap. The dry product gas is measured through a rotameter and taken to a process or storage. The bottom product (spent acid) contains dilute sulfuric acid with some dissolved HCl. The bottom product is cooled in the cooling zone and taken to the spent acid storage tank.

To remove Dissolved Hydrochloride gas from Spent Sulfuric Acid to minimum, Steam Connection is provided. Slight Steam is required to keep it at higher temperature and keep minimum Solubility of HCl.

It is to be noted in this process that the only utility requirement for this system is cooling

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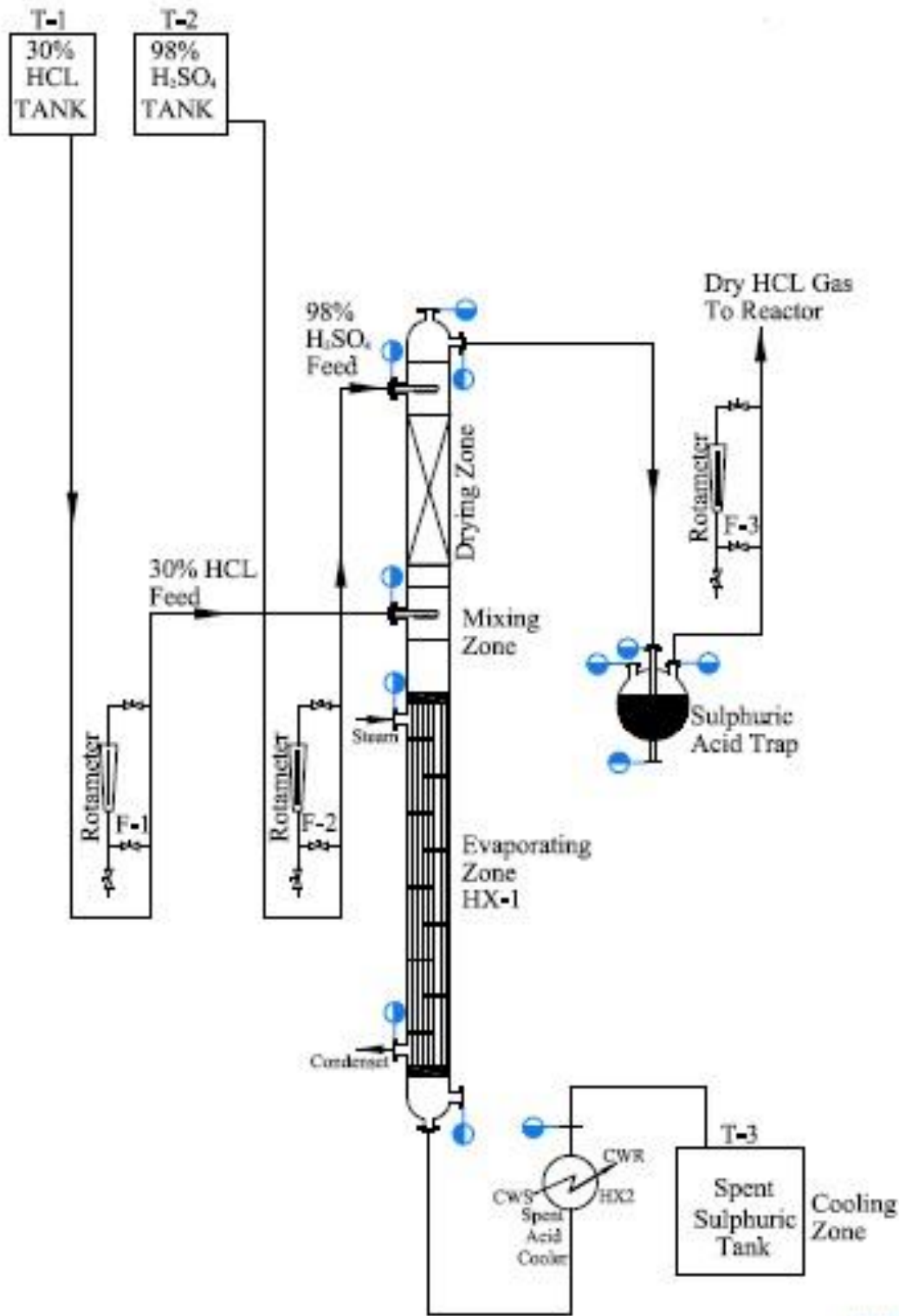
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