



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

Boiling route is simplest in Operation in all three routes and spent Hydrochloric Acid can be easily salable or reused in other purpose , Smooth Operation.Please find process description and process Flow Diagram here with

Please find consumption figures for Kg Of Dry HCl Gas Plant

30-32% HCl (kg/hr)	12
98% Sulfuric Acid (kg//hr)	0.08
Cooling Water at + 30°C (M ³ /Hr)	3.4
Chilled Water -5 degc (M ³ /Hr)	2
Steam -2.5 Kg/cm ² G	3
Brine,-10, (M ³ /Hr)	2
Spent acid (kg/hr)	220

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Process Description:

The plant is designed for production of Dry HCL-Gas by the process of azeotropic distillation of 30% Hydrochloric Acid Solution. The pre - heated [optional] feed i.e. 30% Hydrochloric Acid Solution generally heated by the bottom overflow effluent (20% Hydrochloric Acid) and fed to distillation column by a pump whereby the rate of feed flow is controlled. The feed is thermo-symphonically heated through a shell and tube type re-boiler where the heat energy is supplied by steam. The thermo-symphon process helps in breaking of water - acid azeotrope and liberating of HCL vapour. The Bottom product (effluent) is a 20% HCL- solutions. Which gets cooled by cold 30% HCL-solution prior to discharge for storage. The top product HCL-Gas is dried in the Drying unit using dehydrating agent. The moisture content in the gas is expected to be $\leq 0.01\%$ depending on the efficacy of dehydrating agents.

The plant has been designed to operate as a continuous process and is the system is quite stable as all the wetted parts are from Borosilicate 3.3 Glass and PTFE.

Salient Features

- Simple Process
- No H_2SO_4 required in the process as feed
- Design compactness
- Low capital and operating costs

Floor Space requirement 2mtr. \times 1.5mtr \times 11.0mtr (Height)

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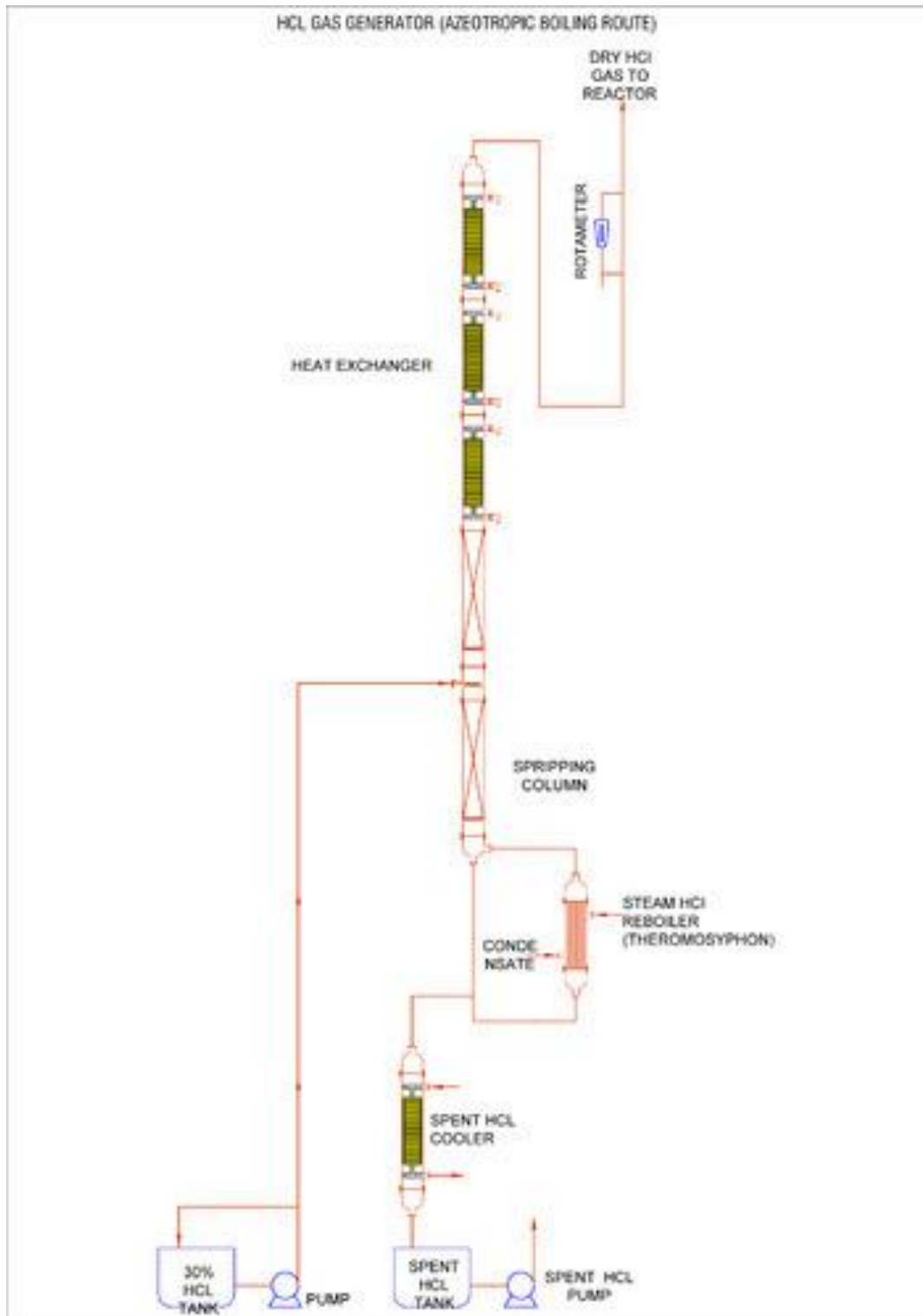
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