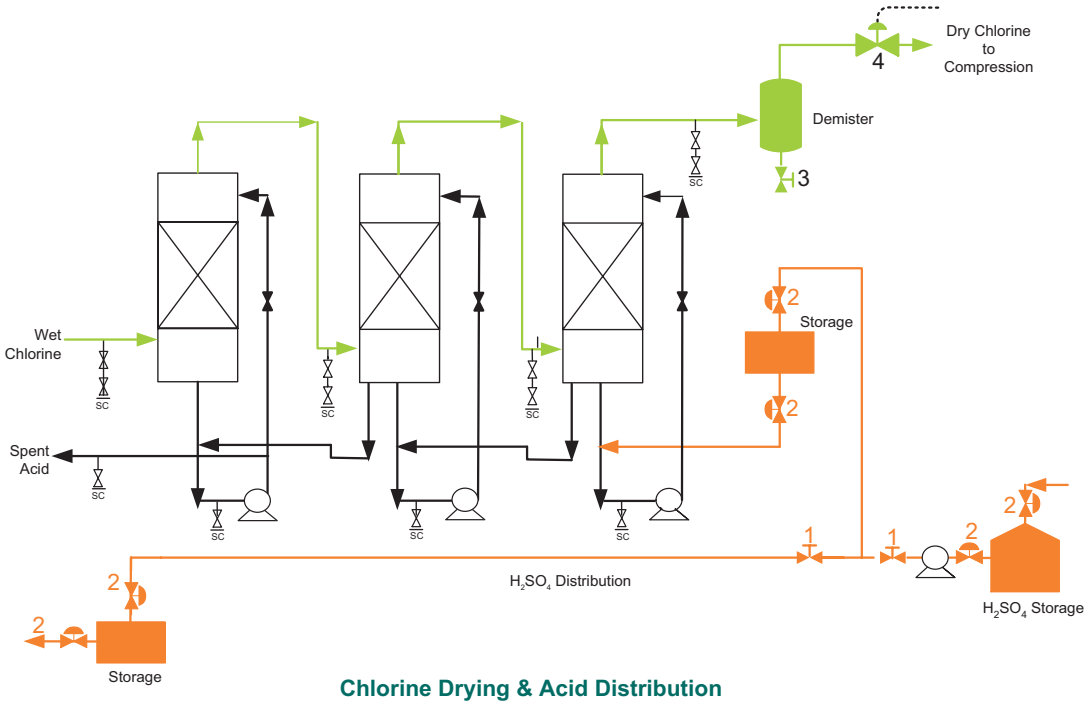
Chlorine
Drying & Acid Distribution



Chlorine Drying & Acid Distribution

Manual/Isolation Valves

1 2" & 3" (50 & 80DN) 7150 31 2235 XTZ1

3 2" (50DN) 7150C 31 2271 XTZ1

Automated or Rotary Control

2 2" & 3" (50 & 80DN) 7150 31 2235 XTZ1 w/ VPVL Actuator

4 4" - 18" (100 – 450DN) 815LC 11 2271 XZ w/ QPX Actuator w/ Positioner *

* Positioner can be:
NE Style Electro Pneumatic
NP Style Pneumatic
ND Style Digital

Chlorine Processing

The second phase for drying Cl_2 gas from the cooling system is to contact it with concentrated H_2S0_4. This occurs in a series of columns.

Drying

Cooled Cl2 gas entering the drying columns has some moisture eliminated by the cooling and chilling process. Additional drying occurs as moisture in the Cl_2 gas is absorbed by 96% H_2S0_4.

Drying (Con't.)

The H2S04 is stored on-site in companion facilities and flows through the columns counter to the Cl_2 gas. As the Cl_2 moves through the drying process, it dries the Cl_2 gas to a level of 50 ppm. At the same time, H_2S0_4 becomes dilute exiting a spent acid at 70% - 80% H_2S0_4. The spent acid contains Cl_2 and is subjected to dechlorination process before reconcentration or disposal.

The dry Cl_2 gas exists in the last column at 50 ppm. Cl_2 at this moisture level is not corrosive to ferrous metals.

Valve Requirements

Sulfuric acid is at ambient conditions and 45 psi (3 bar). The distribution is through 2" – 3" (50 – 80DN) line size with automated and manual valves situated at control points on tanks (2) and manual valves on pump and tank isolation (1). Carbon steel valves with alloy trim are the preferred materials.

Automated valves are equipped with actuators, solenoids, communication terminals and an on-off beacon.

Cl_2 is compressed in the next phase but between the drying column and compression, the Cl_2 is filtered through a demister. There is a 2" (50DN) flanged manual drain valve (3) on the demister and a high-performance butterfly modulating control valve (4) regulating Cl_2 gas to the compression process.

Neles Solution

Modulating control valves include QPX spring diaphragm actuator with positioner and accessories as specified.

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