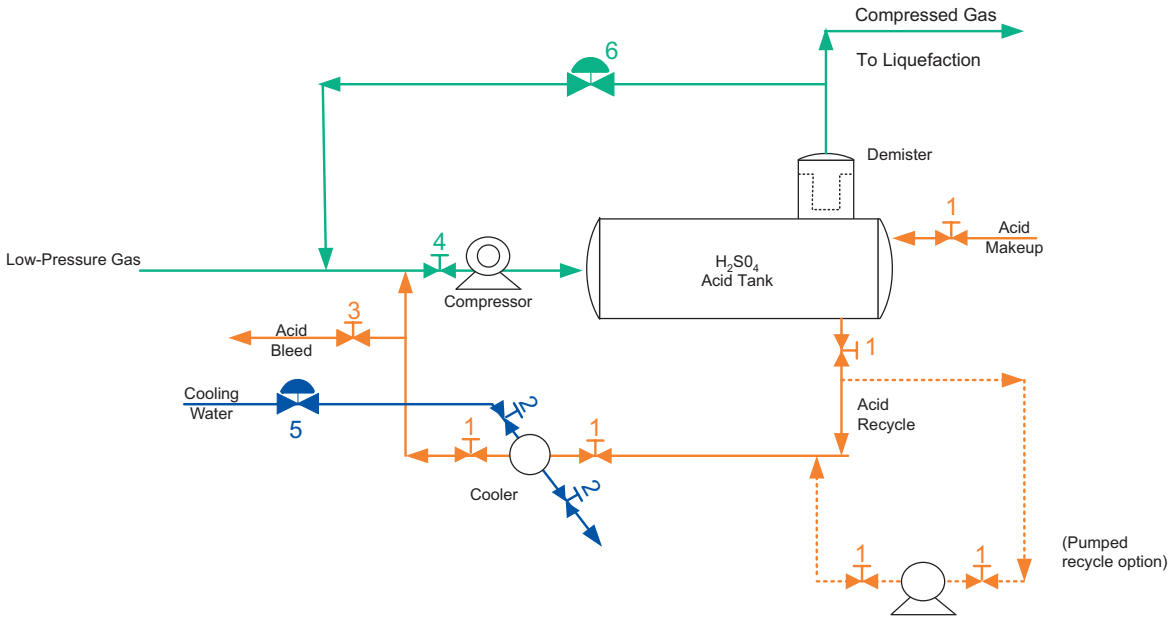
Chlorine Compression



Compression

Manual Isolation

1 2" - 3" (50 – 80DN) 7150 31 2235 TTT1

2 2" - 3" (50 – 80DN) 7150 31 2236 XTZ1

3 1" (25DN) 7150 31 2235 TTT1

4 6" - 8" (150 – 200DN) 815LC 11 2271 XZ
w/ Gear Actuator
Alt.
4" - 6" (100 – 200DN) 7150C 31 2271 XTZ1
w/ Gear Actuator

Rotary Control

5 1 ½" - 2" (40 – 50DN) 7150 31 2236 XTZ1
w/ QPX Actuator w/ Positioner *

6 4" - 6" (100 – 200DN) 815LC 11 2271 XZ
w/ QPX Actuator w/ Positioner *

Alt.
3" - 4" (80 – 100DN) 7150 31 2271 XTZ1
w/ QPX Actuator w/ Positioner *

* Positioner can be:

NE Style Electro Pneumatic
NP Style Pneumatic
ND Style Digital

Chlorine Processing

Cl_2 is compressed before the liquefaction process. In large, modern plants, centrifugal compression is the standard. Smaller plants tend toward liquid ring compression. Liquid ring compression is demonstrated in this process.

Compression

Compression of Cl_2 generates heat. The heat is absorbed by H_2SO_4. The H_2SO_4 temperature is controlled by circulating the acid through a cooler that is maintained by H_2O in acid recycle process. Acid make-up reservoir is from the same source of H_2SO_4 as utilized in Cl_2 drying.

Valve Requirements

The H_2SO_4 is circulated at about 45 psi (3 bar) and 90°F (32°C). 2" – 3" (50 – 80DN) Class 150 valves with Carbon Steel with Alloy 20 ball and stem are preferred material for isolation valves (1).

An acid bleed valve is situated in the recycle line. A manual 1" (25DN) class 150 Carbon Steel valve with Alloy 20 ball and stem is required (3).

Cooling water is at 70°F (21°C) and 70 psi (4.5 bar). 2" – 3" (50 – 80DN) class 150 valves with Carbon Steel by 316SS ball and stem are preferred material (2). Cooling water control is 1 1/2" – 2" (40 – 50DN) Class 150 valves with QPX spring diaphragm actuator with positioner and accessories as specified (5).

Low pressure to vacuum Cl_2 gas is at 50°F (10°C). Compressor isolation is an ideal application for a manual lugged Wafer-Sphere® valve with Carbon Steel body and Monel® disc and shaft (4).

Cl2 gas control is suited for a lugged Wafer-Sphere with Carbon Steel body and Monel disc and shaft with QPX spring diaphragm actuator with positioner and, accessories as specified (6).

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