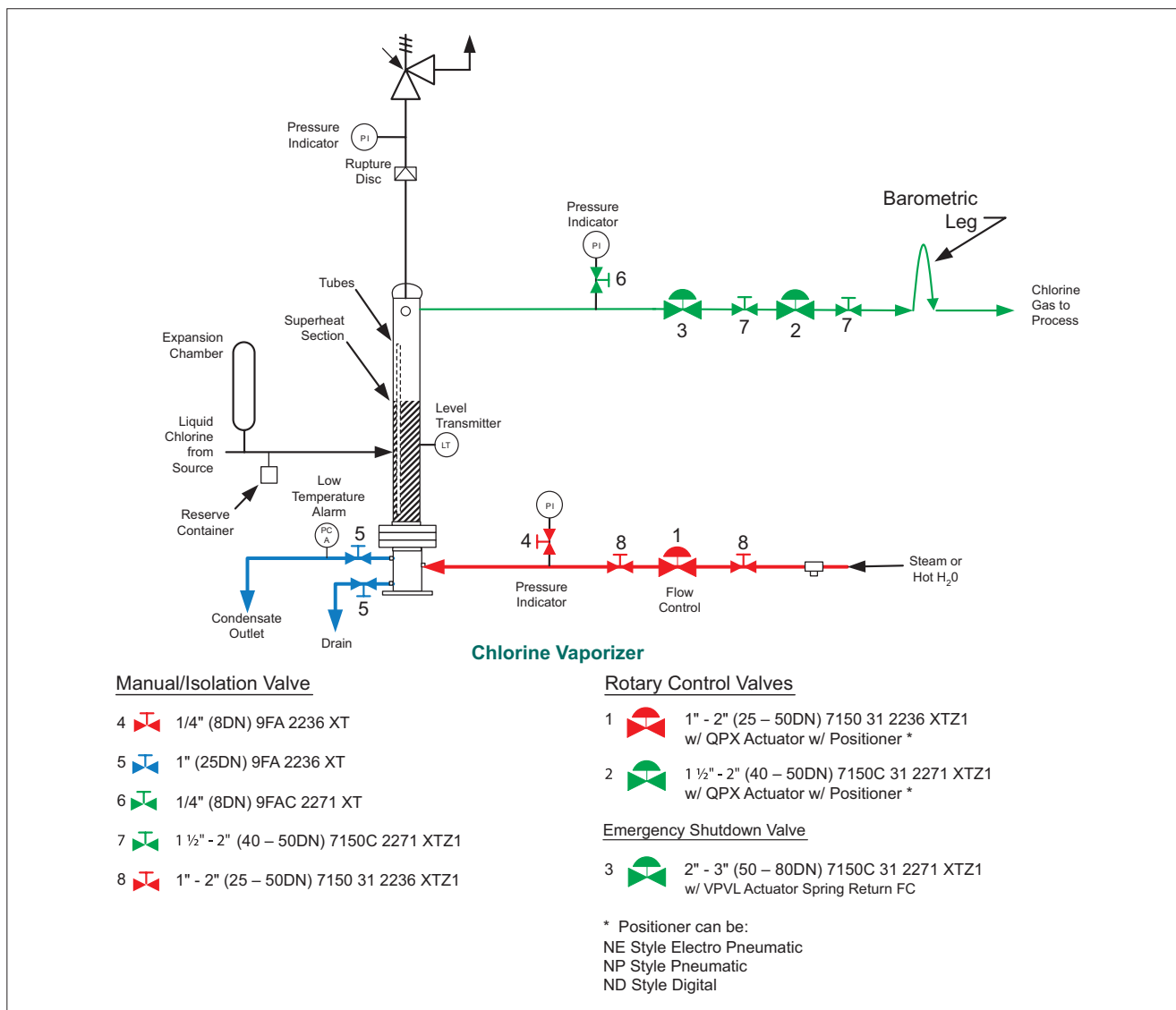


Chlorine Vaporizer






Chlorine Processing






Chlorine is often supplied to a process as a vapor but is delivered to a processing site in liquid form, usually in a bulk container.

Vaporizing

It is possible to withdraw Cl_2 from the vapor space in a bulk container. However, it's impossible to sustain high feed rates. As the vapor is released, the pressure drops and the Cl_2 cools and produces less vapor. The process of turning Cl_2 liquid to vapor involves the application of heat under controlled conditions. The vaporizer is where this occurs.

Valve Requirements

(1 ) Hot water at 140°F (60°C) or 75 psi (5 bar) steam is modulated to maintain vapor producing temperature in the liquid Cl₂ chamber of the vaporizer. (2 ) Cl₂ feeds the process at about 90°F (32°C) and 80 psi (6 bar) through a rotary control ball valve. Process pressure regulates valve position. A fail closed emergency shut down valve (3 ) isolates the vaporizer from process and can be instrumented to fail on signal from a variety of sources. Shut-off logic is process dependent.

There are numerous drain and isolation valves. Flanged manual valves (8 ) isolate the vaporizer, hot H₂O or steam control valves. Manual Cl₂ valves (7 ) isolate the Cl₂ control valve. A thread end valve (4 ) isolates the Hot H₂O or steam pressure gauge. The Cl₂ gas pressure gauge is isolated by a threaded Cl₂ valve (6 ). The condensate outlet and vaporizer drain lines shut off with 1" (25DN) thread-end valve (5 ).

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