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.

**Chlorine Vaporizer**

Chlorine Vaporizer

**Manual/Isolation Valve**
4 1/4” (8DN) 9FA 2236 XT
5 1” (25DN) 9FA 2236 XT
6 1/4” (8DN) 9FAC 2271 XT
7 1 1/2” - 2” (40 – 50DN) 7150C 2271 XTZ1
8 1” - 2” (25 – 50DN) 7150 31 2236 XTZ1

**Rotary Control Valves**
1 1” - 2” (25 – 50DN) 7150 31 2236 XTZ1 w/ QPX Actuator w/ Positioner *
2 1 1/2” - 2” (40 – 50DN) 7150C 31 2271 XTZ1 w/ QPX Actuator w/ Positioner *

**Emergency Shutdown Valve**
3 2” - 3” (50 – 80DN) 7150C 31 2271 XTZ1 w/ VPVL Actuator Spring Return FC

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

**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 Cl₂ 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 Cl₂ cools and produces less vapor. The process of turning Cl₂ 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 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 isolate the vaporizer, hot H₂O or steam control valves. Manual Cl₂ valves isolate the Cl₂ control valve. A thread end valve isolates the Hot H₂O or steam pressure gauge. The Cl₂ gas pressure gauge is isolated by a threaded Cl₂ valve. The condensate outlet and vaporizer drain lines shut off with 1" (25DN) thread-end valve.