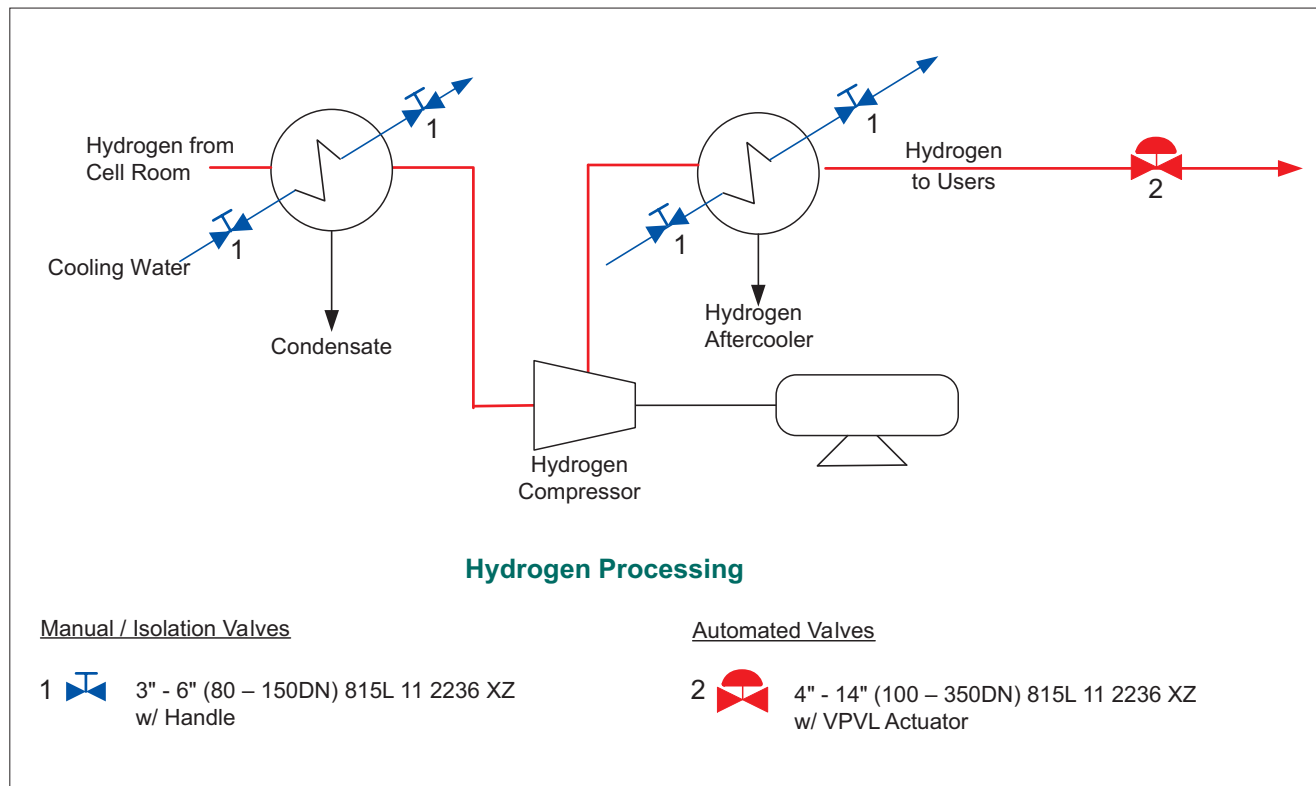


# Chlorine Hydrogen Processing



## Hydrogen Processing

Hydrogen from the cell is quite pure and requires little processing. It can be an internal source of energy because, as a byproduct, its cost is low and its combustion forms minimum pollutants. It can be used to synthesize HCl from chlorine present in liquefaction tail gas and in the brine section.

## Hydrogen Compression and Cooling

Because of the high purity of electrolytic hydrogen ( $H_2$ ), its processing in a preparation for use is simple. A combination of compression and cooling makes it available at desirable conditions.

## Neles Solution

$H_2$  exits the cell at 194°F (90°C) and is cooled to about 70°F (21°C) before distribution to users. The  $H_2$  temperature is cooled through a series of heat exchangers.

Manual high-performance Class 150 lugged Wafer-Sphere™ valves control cooling water to the heat exchanges (1 ).

Carbon Steel by 316SS is recommended. The  $H_2O$  is at 70°F (21°C) and 90 psi (6 bar).

Hydrogen is distributed to operations (users) at 70°F (21°C) and 45 psi (3 bar). Automated Class 150 lugged Wafer-Sphere with Carbon Steel bodies and 316SS trim and actuators are situated to automatically isolate the heat exchanger and user process (2 ).

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