Control Valves for Forklift

Control Valves for Forklift - The earliest automatic control systems were being used more that two thousand years ago. In Alexandria Egypt, the ancient Ktesibios water clock made in the 3rd century is considered to be the first feedback control device on record. This particular clock kept time by means of regulating the water level within a vessel and the water flow from the vessel. A common design, this successful device was being made in a similar fashion in Baghdad when the Mongols captured the city in 1258 A.D.

A variety of automatic devices all through history, have been used so as to complete particular jobs. A common desing utilized in the 17th and 18th centuries in Europe, was the automata. This particular device was an example of "open-loop" control, comprising dancing figures which will repeat the same task over and over.

Closed loop or likewise called feedback controlled tools comprise the temperature regulator common on furnaces. This was developed during the year 1620 and accredited to Drebbel. One more example is the centrifugal fly ball governor developed during the year 1788 by James Watt and used for regulating steam engine speed.

J.C. Maxwell, who discovered the Maxwell electromagnetic field equations, wrote a paper in the year 1868 "On Governors," that can explain the instabilities demonstrated by the fly ball governor. He made use of differential equations in order to describe the control system. This paper exhibited the usefulness and importance of mathematical models and methods in relation to understanding complicated phenomena. It also signaled the start of mathematical control and systems theory. Previous elements of control theory had appeared before by not as dramatically and as convincingly as in Maxwell's analysis.

New control theories and new developments in mathematical techniques made it possible to more accurately control more dynamic systems compared to the first model fly ball governor. These updated techniques include various developments in optimal control in the 1950s and 1960s, followed by progress in stochastic, robust, optimal and adaptive control methods in the 1970s and the 1980s.

New applications and technology of control methodology have helped produce cleaner auto engines, cleaner and more efficient chemical methods and have helped make space travel and communication satellites possible.

Primarily, control engineering was performed as a part of mechanical engineering. In addition, control theory was initially studied as part of electrical engineering since electrical circuits can often be simply explained with control theory methods. Nowadays, control engineering has emerged as a unique practice.

The very first controls had current outputs represented with a voltage control input. So as to implement electrical control systems, the correct technology was unavailable at that time, the designers were left with less efficient systems and the choice of slow responding mechanical systems. The governor is a really effective mechanical controller which is still usually used by various hydro plants. Ultimately, process control systems became accessible prior to modern power electronics. These process controls systems were normally utilized in industrial applications and were devised by mechanical engineers using hydraulic and pneumatic control equipments, a lot of which are still being utilized these days.