Control Valves for Forklift

Forklift Control Valves - The first automated control systems were being utilized more that two thousand years ago. In Alexandria Egypt, the ancient Ktesibios water clock constructed in the third century is considered to be the first feedback control machine on record. This clock kept time by way 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 the same way in Baghdad when the Mongols captured the city in 1258 A.D.

A variety of automatic tools through history, have been used in order to carry out certain tasks. A popular desing utilized during the 17th and 18th centuries in Europe, was the automata. This machine was an example of "open-loop" control, consisting dancing figures which would repeat the same task over and over.

Feedback or otherwise known as "closed-loop" automatic control equipments include the temperature regulator found on a furnace. This was developed during 1620 and attributed to Drebbel. One more example is the centrifugal fly ball governor developed during the year 1788 by James Watt and utilized for regulating the speed of steam engines.

J.C. Maxwell, who discovered the Maxwell electromagnetic field equations, wrote a paper in 1868 "On Governors," that could describe the instabilities exhibited by the fly ball governor. He used differential equations to describe the control system. This paper demonstrated the importance and helpfulness of mathematical models and methods in relation to understanding complex phenomena. It also signaled the start of systems theory and mathematical control. Previous elements of control theory had appeared earlier by not as dramatically and as convincingly as in Maxwell's study.

New developments in mathematical techniques and new control theories made it possible to more accurately control more dynamic systems than the initial model fly ball governor. These updated techniques consist of different developments in optimal control in the 1950s and 1960s, followed by advancement in robust, stochastic, adaptive and optimal control techniques in the 1970s and the 1980s.

New technology and applications of control methodology has helped produce cleaner engines, with cleaner and more efficient processes helped make communication satellites and even traveling in space possible.

Originally, control engineering was performed as just a part of mechanical engineering. Control theories were initially studied with electrical engineering as electrical circuits could simply be 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. To be able to implement electrical control systems, the correct technology was unavailable at that moment, the designers were left with less efficient systems and the alternative of slow responding mechanical systems. The governor is a very efficient mechanical controller which is still usually used by several hydro plants. Ultimately, process control systems became available previous to modern power electronics. These process controls systems were usually utilized in industrial applications and were devised by mechanical engineers utilizing pneumatic and hydraulic control equipments, lots of which are still being used these days.