Forklift Control Valves

Control Valves for Forklift - Automatic control systems were primarily developed over two thousand years ago. The ancient water clock of Ktesibios in Alexandria Egypt dating to the 3rd century B.C. is believed to be the first feedback control equipment on record. This particular clock kept time by regulating the water level within a vessel and the water flow from the vessel. A popular design, this successful equipment was being made in a similar fashion in Baghdad when the Mongols captured the city in 1258 A.D.

A variety of automatic tools throughout history, have been used in order to complete specific jobs. A popular desing used throughout the 17th and 18th centuries in Europe, was the automata. This device was an example of "open-loop" control, featuring dancing figures that would repeat the same job over and over.

Feedback or also known as "closed-loop" automatic control devices comprise the temperature regulator found on a furnace. This was developed during the year 1620 and accredited to Drebbel. Another example is the centrifugal fly ball governor developed during the year 1788 by James Watt and utilized for regulating steam engine speed.

J.C. Maxwell, who discovered the Maxwell electromagnetic field equations, wrote a paper in 1868 "On Governors," which can describe the instabilities exhibited by the fly ball governor. He utilized differential equations to be able to explain the control system. This paper demonstrated the importance and helpfulness of mathematical models and methods in relation to understanding complex phenomena. It even signaled the beginning of mathematical control and systems theory. Previous elements of control theory had appeared earlier 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 than the original model fly ball governor. These updated techniques consist of different developments in optimal control during the 1950s and 1960s, followed by development in stochastic, robust, adaptive and optimal control techniques in the 1970s and the 1980s.

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

In the beginning, control engineering was practiced as just a part of mechanical engineering. Control theories were firstly studied with electrical engineering in view of the fact that electrical circuits can simply be described with control theory techniques. Today, control engineering has emerged as a unique discipline.

The first controls had current outputs represented with a voltage control input. So as to implement electrical control systems, the proper technology was unavailable at that moment, the designers were left with less efficient systems and the option of slow responding mechanical systems. The governor is a really effective mechanical controller that 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 devices, a lot of which are still being used at present.