Control Valves for Forklift

Forklift Control Valve - Automatic control systems were primarily developed more than two thousand years ago. The ancient water clock of Ktesibios in Alexandria Egypt dating to the 3rd century B.C. is thought to be the first feedback control device 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 all through history, have been utilized to be able to complete particular tasks. A popular style utilized during the 17th and 18th centuries in Europe, was the automata. This piece of equipment was an example of "open-loop" control, featuring dancing figures which would repeat the same job over and over.

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

The Maxwell electromagnetic field equations, discovered by J.C. Maxwell wrote a paper in the year 1868 "On Governors," which was able to describing the exhibited by the fly ball governor. So as to describe the control system, he used differential equations. This paper demonstrated the usefulness and importance of mathematical methods and models in relation to comprehending complex phenomena. It even signaled the beginning of mathematical control and systems theory. Previous elements of control theory had appeared earlier by not as convincingly and as dramatically as in Maxwell's study.

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

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

In the beginning, control engineering was carried out as just a part of mechanical engineering. Control theories were originally studied with electrical engineering since electrical circuits could simply be described with control theory methods. Now, 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 then, the designers were left with less efficient systems and the choice of slow responding mechanical systems. The governor is a really efficient mechanical controller that is still usually used by various hydro factories. In the long run, process control systems became obtainable previous to modern power electronics. These process controls systems were often utilized in industrial applications and were devised by mechanical engineers utilizing hydraulic and pneumatic control devices, many of which are still being utilized these days.