Forklift Control Valves

Forklift Control Valve - Automatic control systems were first established over 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 very first feedback control tool on record. This 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 machine was being made in the same manner in Baghdad when the Mongols captured the city in 1258 A.D.

Through history, various automatic equipments have been used to accomplish specific tasks or to simply entertain. A common European style in the 17th and 18th centuries was the automata. This particular device was an example of "open-loop" control, consisting dancing figures that would repeat the same job over and over.

Feedback or otherwise known as "closed-loop" automatic control tools include the temperature regulator seen on a furnace. This was developed during 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 steam engine speed.

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

In the next one hundred years control theory made huge strides. New developments in mathematical techniques made it possible to more precisely control considerably more dynamic systems than the first fly ball governor. These updated methods consist of various developments in optimal control in the 1950s and 1960s, followed by progress in robust, stochastic, optimal and adaptive control methods during the 1970s and the 1980s.

New applications and technology of control methodology has helped produce cleaner engines, with cleaner and more efficient methods 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 at first studied with electrical engineering since electrical circuits could simply be explained with control theory techniques. Now, control engineering has emerged as a unique discipline.

The very first controls had current outputs represented with a voltage control input. In order to implement electrical control systems, the correct technology was unavailable at that time, the designers were left with less efficient systems and the option of slow responding mechanical systems. The governor is a really efficient mechanical controller that is still often used by various hydro plants. In the long run, process control systems became obtainable prior to modern power electronics. These process controls systems were normally used in industrial applications and were devised by mechanical engineers making use of pneumatic and hydraulic control devices, a lot of which are still being used nowadays.