Control Valves for Forklift

Forklift Control Valve - The earliest mechanized control systems were being utilized more that two thousand years ago. In Alexandria Egypt, the ancient Ktesibios water clock built in the 3rd century is considered to be the very first feedback control equipment on record. This particular clock kept time by means of regulating the water level inside a vessel and the water flow from the vessel. A common style, this successful machine was being made in the same manner in Baghdad when the Mongols captured the city in 1258 A.D.

Throughout history, different automatic tools have been used to be able to accomplish specific tasks or to simply entertain. A popular European design during the seventeenth and eighteenth centuries was the automata. This particular piece of equipment was an example of "open-loop" control, featuring dancing figures which would repeat the same task again and again.

Closed loop or feedback controlled tools consist of the temperature regulator common on furnaces. This was developed during 1620 and accredited to Drebbel. One more example is the centrifugal fly ball governor developed during 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 1868 "On Governors," that was able to describing the exhibited by the fly ball governor. To be able to explain the control system, he utilized differential equations. This paper exhibited the usefulness and importance of mathematical models and methods in relation to comprehending complex phenomena. It even signaled the beginning of systems theory and mathematical control. Previous elements of control theory had appeared earlier by not as convincingly and as dramatically as in Maxwell's analysis.

New control theories and new developments in mathematical techniques made it possible to more precisely control more dynamic systems as opposed to the first model fly ball governor. These updated techniques comprise different developments in optimal control in the 1950s and 1960s, followed by development 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 processes and have helped make space travel and communication satellites possible.

Originally, control engineering was carried out as just a part of mechanical engineering. Control theories were at first studied with electrical engineering as electrical circuits can simply be explained with control theory methods. At present, control engineering has emerged as a unique discipline.

The very first control relationships had a current output which was represented with a voltage control input. Because the correct technology to implement electrical control systems was unavailable at that time, designers left with the choice of slow responding mechanical systems and less efficient systems. The governor is a very effective mechanical controller that is still normally utilized by several hydro plants. In the long run, process control systems became available before modern power electronics. These process controls systems were normally used in industrial applications and were devised by mechanical engineers utilizing hydraulic and pneumatic control machines, lots of which are still being used today.