Forklift Control Valves

Forklift Control Valve - Automatic control systems were initially developed more than two thousand years ago. The ancient water clock of Ktesibios in Alexandria Egypt dating to the 3rd century B.C. is considered to be the very first feedback control device on record. This clock kept time by way of regulating the water level in 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.

Different automatic equipment through history, have been used so as to accomplish specific tasks. A popular style utilized through the seventeenth and eighteenth centuries in Europe, was the automata. This device was an example of "open-loop" control, consisting dancing figures which would repeat the same task again and again.

Closed loop or likewise called feedback controlled machines include the temperature regulator common on furnaces. This was actually developed in the year 1620 and accredited to Drebbel. Another example is the centrifugal fly ball governor developed in the year 1788 by James Watt and used 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 describe the control system, he used differential equations. This paper exhibited the usefulness and importance of mathematical methods and models in relation to comprehending complex phenomena. It even signaled the beginning of systems theory and mathematical control. Previous elements of control theory had appeared before by not as convincingly and as dramatically as in Maxwell's analysis.

In the following one hundred years control theory made huge strides. New developments in mathematical methods made it feasible to more precisely control significantly more dynamic systems as opposed to the first fly ball governor. These updated methods include different developments in optimal control during the 1950s and 1960s, followed by progress in robust, stochastic, adaptive and optimal control methods during the 1970s and the 1980s.

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

At first, control engineering was practiced as a part of mechanical engineering. What's more, control theory was initially studied as part of electrical engineering in view of the fact that electrical circuits can often be simply described with control theory methods. At present, control engineering has emerged as a unique practice.

The first control relationships had a current output that was represented with a voltage control input. Since the correct technology to implement electrical control systems was unavailable at that moment, designers left with the option of slow responding mechanical systems and less efficient systems. The governor is a very efficient mechanical controller which is still often utilized by several hydro plants. In the long run, process control systems became obtainable previous to modern power electronics. These process controls systems were usually used in industrial applications and were devised by mechanical engineers making use of hydraulic and pneumatic control machines, many of which are still being used at present.