Forklift Control Valves

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

A variety of automatic devices all through history, have been used in order to carry out particular jobs. A common style utilized in the seventeenth and eighteenth centuries in Europe, was the automata. This particular device was an example of "open-loop" control, consisting dancing figures that would repeat the same task repeatedly.

Feedback or also known as "closed-loop" automatic control machines consist of the temperature regulator found on a furnace. This was developed during the year 1620 and attributed 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 1868 "On Governors," which was able to explaining the exhibited by the fly ball governor. To be able to explain the control system, he made use of differential equations. This paper exhibited the usefulness and importance of mathematical models and methods in relation to comprehending complicated phenomena. It even signaled the beginning of systems theory and mathematical control. Previous elements of control theory had appeared earlier by not as dramatically and as convincingly as in Maxwell's study.

New control theories and new developments in mathematical techniques made it possible to more accurately control more dynamic systems compared to the first model fly ball governor. These updated techniques consist of different developments in optimal control during the 1950s and 1960s, followed by progress in robust, stochastic, optimal and adaptive control techniques during the 1970s and the 1980s.

New technology and applications of control methodology have helped make cleaner auto engines, more efficient and cleaner chemical processes and have helped make space travel and communication satellites possible.

At first, control engineering was carried out as just a part of mechanical engineering. Control theories were at first studied with electrical engineering since electrical circuits can simply be described with control theory techniques. Now, control engineering has emerged as a unique practice.

The first control relationships had a current output that was represented with a voltage control input. As the right technology so as to implement electrical control systems was unavailable then, designers left with the option of slow responding mechanical systems and less efficient systems. The governor is a really effective mechanical controller which is still usually utilized by several hydro plants. Eventually, process control systems became available before modern power electronics. These process controls systems were usually utilized in industrial applications and were devised by mechanical engineers using hydraulic and pneumatic control machines, many of which are still being used these days.