Forklift Control Valve

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

Through history, a variety of automatic machines have been utilized so as to accomplish specific tasks or to simply entertain. A common European style throughout the seventeenth and eighteenth centuries was the automata. This machine was an example of "open-loop" control, consisting dancing figures which will repeat the same task repeatedly.

Closed loop or also called feedback controlled equipments include the temperature regulator common on furnaces. This was developed during the year 1620 and attributed to Drebbel. One more example is the centrifugal fly ball governor developed in 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 describing 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 models and methods in relation to comprehending complex phenomena. It likewise 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 study.

New developments in mathematical techniques and new control theories made it possible to more accurately control more dynamic systems as opposed to the original model fly ball governor. These updated methods include various developments in optimal control in the 1950s and 1960s, followed by advancement in stochastic, robust, optimal and adaptive 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 methods helped make communication satellites and even traveling in space possible.

At first, control engineering was carried out as a part of mechanical engineering. Additionally, control theory was initially studied as part of electrical engineering as electrical circuits could often be simply explained with control theory techniques. Now, control engineering has emerged as a unique discipline.

The first controls had current outputs represented with a voltage control input. To implement electrical control systems, the correct technology was unavailable then, the designers were left with less efficient systems and the alternative of slow responding mechanical systems. The governor is a very efficient mechanical controller which is still usually utilized by various hydro plants. Ultimately, process control systems became offered previous to modern power electronics. These process controls systems were usually used in industrial applications and were devised by mechanical engineers using hydraulic and pneumatic control machines, many of which are still being utilized at present.