Forklift Control Valve

Forklift Control Valve - Automatic control systems were first established more than two thousand years ago. The ancient water clock of Ktesibios in Alexandria Egypt dating to the third century B.C. is thought to be the first feedback control machine on record. This clock kept time by regulating the water level within a vessel and the water flow from the vessel. A popular style, this successful machine was being made in the same way in Baghdad when the Mongols captured the city in 1258 A.D.

All through history, various automatic tools have been utilized to be able to simply entertain or to accomplish specific tasks. A popular European design during the seventeenth and eighteenth centuries was the automata. This 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 comprise the temperature regulator seen on a furnace. This was developed during the year 1620 and accredited to Drebbel. One more example is the centrifugal fly ball governor developed in 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," which was able to describing the exhibited by the fly ball governor. So as to explain the control system, he made use of differential equations. This paper demonstrated the importance and helpfulness of mathematical models and methods in relation to understanding complicated phenomena. It also 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 study.

New control theories and new developments in mathematical techniques made it possible to more accurately control more dynamic systems compared to the initial model fly ball governor. These updated techniques comprise different 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 technology and applications of control methodology have helped make cleaner auto engines, more efficient and cleaner chemical methods and have helped make communication and space travel satellites possible.

At first, control engineering was performed as a part of mechanical engineering. In addition, control theory was firstly studied as part of electrical engineering for the reason that electrical circuits can often be simply explained with control theory techniques. At present, control engineering has emerged as a unique discipline.

The very first controls had current outputs represented with a voltage control input. So as to implement electrical control systems, the correct technology was unavailable at that moment, the designers were left with less efficient systems and the alternative of slow responding mechanical systems. The governor is a really effective mechanical controller that is still often utilized by some hydro factories. Ultimately, process control systems became obtainable prior to modern power electronics. These process controls systems were often used in industrial applications and were devised by mechanical engineers utilizing pneumatic and hydraulic control equipments, a lot of which are still being utilized today.