Control Valve for Forklift

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

Through history, different automatic machines have been utilized in order to accomplish specific tasks or to simply entertain. A common European style all through the seventeenth and eighteenth centuries was the automata. This particular piece of equipment was an example of "open-loop" control, comprising dancing figures which would repeat the same task over and over.

Closed loop or otherwise called feedback controlled equipments comprise the temperature regulator common on furnaces. This was developed in 1620 and accredited to Drebbel. Another example is the centrifugal fly ball governor developed during 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 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 demonstrated the usefulness and importance of mathematical methods and models in relation to understanding complicated phenomena. It likewise signaled the beginning of mathematical control and systems theory. Previous elements of control theory had appeared before by not as convincingly and as dramatically as in Maxwell's study.

In the following 100 years control theory made huge strides. New developments in mathematical techniques made it feasible to more precisely control considerably more dynamic systems than the first fly ball governor. These updated techniques include various developments in optimal control during the 1950s and 1960s, followed by development in stochastic, robust, optimal and adaptive control techniques in the 1970s and the 1980s.

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

Initially, control engineering was practiced as a part of mechanical engineering. Moreover, control theory was first studied as part of electrical engineering for the reason that electrical circuits can often be simply explained with control theory techniques. Nowadays, control engineering has emerged as a unique practice.

The very first control relationships had a current output that was represented with a voltage control input. In view of the fact that the correct technology to implement electrical control systems was unavailable at that moment, designers left with the choice of slow responding mechanical systems and less efficient systems. The governor is a really efficient mechanical controller that is still usually utilized by various hydro factories. Ultimately, process control systems became available previous to modern power electronics. These process controls systems were normally used in industrial applications and were devised by mechanical engineers using pneumatic and hydraulic control machines, a lot of which are still being used at present.