Forklift Control Valves

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

Various automatic devices through history, have been utilized so as to complete particular jobs. A popular style utilized throughout the seventeenth and eighteenth centuries in Europe, was the automata. This particular tool was an example of "open-loop" control, consisting dancing figures that would repeat the same job over and over.

Closed loop or otherwise called feedback controlled equipments include the temperature regulator common on furnaces. This was developed in the year 1620 and accredited to Drebbel. One more example is the centrifugal fly ball governor developed in the year 1788 by James Watt and utilized for regulating steam engine speed.

J.C. Maxwell, who discovered the Maxwell electromagnetic field equations, wrote a paper in the year 1868 "On Governors," that was able to describe the instabilities demonstrated by the fly ball governor. He made use of differential equations to be able to explain the control system. This paper demonstrated the importance and helpfulness of mathematical methods and models in relation to understanding complicated phenomena. It likewise 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.

Within the following one hundred years control theory made huge strides. New developments in mathematical techniques made it possible to more accurately control considerably more dynamic systems than the original fly ball governor. These updated techniques include different developments in optimal control in the 1950s and 1960s, followed by development in robust, stochastic, optimal and adaptive control methods in the 1970s and the 1980s.

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

At first, control engineering was practiced as a part of mechanical engineering. Also, control theory was first studied as part of electrical engineering in view of the fact that electrical circuits can often be simply explained with control theory methods. Currently, 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 right 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 very effective mechanical controller that is still often used by some hydro factories. Eventually, process control systems became offered before modern power electronics. These process controls systems were usually utilized in industrial applications and were devised by mechanical engineers utilizing pneumatic and hydraulic control equipments, a lot of which are still being used at present.