Forklift Control Valves

Forklift Control Valve - Automatic control systems were primarily created over two thousand years ago. The ancient water clock of Ktesibios in Alexandria Egypt dating to the 3rd century B.C. is believed to be the first feedback control device on record. This clock kept time by regulating the water level within a vessel and the water flow from the vessel. A common style, this successful machine was being made in the same manner in Baghdad when the Mongols captured the city in 1258 A.D.

Different automatic equipment throughout history, have been utilized so as to accomplish particular tasks. A popular style used during the seventeenth and eighteenth centuries in Europe, was the automata. This piece of equipment was an example of "open-loop" control, featuring dancing figures that will repeat the same job over and over.

Feedback or otherwise known as "closed-loop" automatic control machines comprise the temperature regulator found on a furnace. This was actually developed during the year 1620 and attributed to Drebbel. Another example is the centrifugal fly ball governor developed in the year 1788 by James Watt and used for regulating steam engine speed.

J.C. Maxwell, who discovered the Maxwell electromagnetic field equations, wrote a paper in 1868 "On Governors," which can describe the instabilities exhibited by the fly ball governor. He used differential equations to explain the control system. This paper exhibited the usefulness and importance of mathematical methods and models in relation to understanding complex phenomena. It also signaled the start of mathematical control and systems theory. Previous elements of control theory had appeared earlier by not as convincingly and as dramatically as in Maxwell's analysis.

New control theories and new developments in mathematical techniques made it possible to more precisely control more dynamic systems compared to the original model fly ball governor. These updated methods include 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.

In the beginning, control engineering was carried out as a part of mechanical engineering. Also, control theory was initially studied as part of electrical engineering because electrical circuits could often be simply explained with control theory techniques. Nowadays, control engineering has emerged as a unique discipline.

The very first control relationships had a current output that was represented with a voltage control input. Because the proper technology in order to implement electrical control systems was unavailable at that time, designers left with the option of slow responding mechanical systems and less efficient systems. The governor is a very effective mechanical controller that is still often used by several hydro plants. Eventually, process control systems became accessible previous to modern power electronics. These process controls systems were often used in industrial applications and were devised by mechanical engineers utilizing hydraulic and pneumatic control devices, many of which are still being used today.