Forklift Control Valve

Forklift Control Valve - The earliest mechanized control systems were being used more that two thousand years ago. In Alexandria Egypt, the ancient Ktesibios water clock constructed in the third century is considered to be the very first feedback control equipment on record. This clock kept time by regulating the water level within a vessel and the water flow from the vessel. A common design, this successful equipment was being made in the same way in Baghdad when the Mongols captured the city in 1258 A.D.

Through history, various automatic equipments have been used in order to simply entertain or to accomplish specific tasks. A popular European design all through the 17th and 18th centuries was the automata. This piece of equipment was an example of "open-loop" control, comprising dancing figures that would repeat the same task over and over.

Closed loop or also called feedback controlled equipments include the temperature regulator common on furnaces. This was actually developed during the year 1620 and attributed to Drebbel. Another example is the centrifugal fly ball governor developed during 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 1868 "On Governors," which could 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 comprehending complicated phenomena. It likewise signaled the start 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 analysis.

New developments in mathematical techniques and new control theories made it possible to more precisely control more dynamic systems than the original model fly ball governor. These updated techniques include various developments in optimal control in the 1950s and 1960s, followed by progress in robust, stochastic, optimal and adaptive control techniques during the 1970s and the 1980s.

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

At first, control engineering was performed as just a part of mechanical engineering. Control theories were firstly studied with electrical engineering as electrical circuits could simply be explained with control theory methods. Now, control engineering has emerged as a unique discipline.

The first control partnerships had a current output that was represented with a voltage control input. Since the correct technology so as to implement electrical control systems was unavailable then, designers left with the option of slow responding mechanical systems and less efficient systems. The governor is a very efficient mechanical controller which is still usually used by some hydro plants. In the long run, process control systems became obtainable previous to modern power electronics. These process controls systems were normally utilized in industrial applications and were devised by mechanical engineers making use of hydraulic and pneumatic control devices, many of which are still being used these days.