Control Valve for Forklift

Forklift Control Valve - The earliest automatic control systems were being utilized over 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 tool 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 tool was being made in a similar way in Baghdad when the Mongols captured the city in 1258 A.D.

A variety of automatic machines through history, have been utilized so as to accomplish particular tasks. A popular desing used during the seventeenth and eighteenth centuries in Europe, was the automata. This piece of equipment was an example of "open-loop" control, comprising dancing figures which would repeat the same task over and over.

Feedback or "closed-loop" automatic control tools include the temperature regulator found on a furnace. This was developed during the year 1620 and attributed to Drebbel. One more example is the centrifugal fly ball governor developed during 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," that could explain the instabilities demonstrated by the fly ball governor. He made use of differential equations in order to describe the control system. This paper demonstrated the importance and helpfulness of mathematical models and methods in relation to comprehending complex phenomena. It even signaled the beginning of systems theory and mathematical control. Previous elements of control theory had appeared earlier by not as convincingly and as dramatically as in Maxwell's analysis.

Within the next one hundred years control theory made huge strides. New developments in mathematical methods made it possible to more accurately control considerably more dynamic systems than the original fly ball governor. These updated methods consist of various developments in optimal control during the 1950s and 1960s, followed by advancement in robust, stochastic, adaptive and optimal control methods 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.

Initially, control engineering was carried out as a part of mechanical engineering. In addition, control theory was firstly studied as part of electrical engineering because electrical circuits could often be simply explained with control theory techniques. Currently, control engineering has emerged as a unique practice.

The first control partnerships had a current output that was represented with a voltage control input. As the proper technology to be able to implement electrical control systems was unavailable at that time, designers left with the alternative of slow responding mechanical systems and less efficient systems. The governor is a very effective mechanical controller which is still often used by several hydro factories. Ultimately, 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 making use of hydraulic and pneumatic control equipments, many of which are still being utilized at present.