Control Valve for Forklift

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

Different automatic tools through history, have been used in order to carry out specific tasks. A common style utilized during the 17th and 18th centuries in Europe, was the automata. This piece of equipment was an example of "open-loop" control, consisting dancing figures which would repeat the same job repeatedly.

Feedback or likewise known as "closed-loop" automatic control equipments include the temperature regulator seen on a furnace. This was actually developed during 1620 and accredited to Drebbel. Another example is the centrifugal fly ball governor developed in 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," that can describe the instabilities exhibited by the fly ball governor. He made use of differential equations so as to describe 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 beginning of mathematical control and systems theory. Previous elements of control theory had appeared earlier by not as dramatically and as convincingly as in Maxwell's study.

In the following one hundred years control theory made huge strides. New developments in mathematical techniques made it feasible to more accurately control considerably more dynamic systems as opposed to the first fly ball governor. These updated methods comprise different 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 have helped produce cleaner auto engines, more efficient and cleaner chemical methods and have helped make communication and space travel satellites possible.

In the beginning, control engineering was performed as a part of mechanical engineering. In addition, control theory was first studied as part of electrical engineering in view of the fact that electrical circuits could often be simply described with control theory methods. At present, control engineering has emerged as a unique discipline.

The first control relationships had a current output that was represented with a voltage control input. In view of the fact that the right technology to be able 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 very efficient mechanical controller which is still normally used by several hydro plants. Eventually, process control systems became offered previous to modern power electronics. These process controls systems were normally used in industrial applications and were devised by mechanical engineers utilizing hydraulic and pneumatic control machines, lots of which are still being utilized nowadays.