Control Valve for Forklift

Forklift Control Valve - Automatic control systems were initially developed over two thousand years ago. The ancient water clock of Ktesibios in Alexandria Egypt dating to the 3rd century B.C. is thought to be the first feedback control equipment on record. This particular clock kept time by way of regulating the water level in a vessel and the water flow from the vessel. A popular design, this successful machine was being made in a similar manner in Baghdad when the Mongols captured the city in 1258 A.D.

Throughout history, various automatic machines have been utilized to simply entertain or to accomplish specific tasks. A popular European design in the seventeenth and eighteenth centuries was the automata. This particular device was an example of "open-loop" control, consisting dancing figures which will repeat the same job again and again.

Feedback or also known as "closed-loop" automatic control tools consist of 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.

The Maxwell electromagnetic field equations, discovered by J.C. Maxwell wrote a paper in 1868 "On Governors," which was able to explaining the exhibited by the fly ball governor. So as to explain the control system, he used differential equations. This paper demonstrated the importance and helpfulness of mathematical models and methods in relation to comprehending complex phenomena. It even signaled the start 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 study.

New control theories and new developments in mathematical techniques made it possible to more accurately control more dynamic systems as opposed to the first model fly ball governor. These updated techniques comprise different developments in optimal control in the 1950s and 1960s, followed by development in stochastic, robust, adaptive and optimal control methods during the 1970s and the 1980s.

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

Initially, control engineering was performed as just a part of mechanical engineering. Control theories were at first studied with electrical engineering in view of the fact that electrical circuits can simply be explained with control theory methods. At present, control engineering has emerged as a unique practice.

The very first controls had current outputs represented with a voltage control input. To be able to implement electrical control systems, the proper technology was unavailable at that moment, the designers were left with less efficient systems and the option of slow responding mechanical systems. The governor is a very efficient mechanical controller that is still usually used by some hydro plants. In the long run, process control systems became accessible 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 equipments, lots of which are still being used today.