Control Valves for Forklift

Control Valve for Forklift - Automatic control systems were first developed over two thousand years ago. The ancient water clock of Ktesibios in Alexandria Egypt dating to the 3rd century B.C. is considered to be the very 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 design, this successful tool was being made in the same manner in Baghdad when the Mongols captured the city in 1258 A.D.

Throughout history, different automatic tools have been used to be able to simply entertain or to accomplish specific tasks. A popular European style throughout the seventeenth and eighteenth centuries was the automata. This tool was an example of "open-loop" control, consisting dancing figures which would repeat the same task again and again.

Feedback or "closed-loop" automatic control machines comprise the temperature regulator seen on a furnace. This was actually developed in the year 1620 and attributed to Drebbel. Another example is the centrifugal fly ball governor developed in 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," that was able to explaining the exhibited by the fly ball governor. To be able to explain the control system, he used differential equations. This paper demonstrated the usefulness and importance of mathematical models and methods in relation to understanding complicated phenomena. It also signaled the beginning of systems theory and mathematical control. Previous elements of control theory had appeared before 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 accurately control more dynamic systems as opposed to the original model fly ball governor. These updated methods consist of various developments in optimal control during the 1950s and 1960s, followed by advancement in robust, stochastic, optimal and adaptive control techniques in the 1970s and the 1980s.

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

At first, control engineering was practiced as a part of mechanical engineering. Furthermore, control theory was firstly studied as part of electrical engineering as electrical circuits can often be simply 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 implement electrical control systems, the correct technology was unavailable at that time, the designers were left with less efficient systems and the option of slow responding mechanical systems. The governor is a really efficient mechanical controller that is still often used by several hydro factories. Eventually, process control systems became offered previous to modern power electronics. These process controls systems were normally utilized in industrial applications and were devised by mechanical engineers utilizing hydraulic and pneumatic control equipments, a lot of which are still being utilized at present.