Control Valves for Forklift

Control Valve for Forklift - The first 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 first feedback control equipment on record. This particular clock kept time by way of regulating the water level within a vessel and the water flow from the vessel. A popular style, this successful device was being made in a similar fashion in Baghdad when the Mongols captured the city in 1258 A.D.

Throughout history, various automatic devices have been used to be able to simply entertain or to accomplish specific tasks. A popular European design during the seventeenth and eighteenth centuries was the automata. This piece of equipment was an example of "open-loop" control, consisting dancing figures that will repeat the same task again and again.

Closed loop or also called feedback controlled machines comprise the temperature regulator common on furnaces. This was developed in the year 1620 and accredited to Drebbel. One more example is the centrifugal fly ball governor developed during 1788 by James Watt and utilized for regulating the speed of steam engines.

The Maxwell electromagnetic field equations, discovered by J.C. Maxwell wrote a paper in 1868 "On Governors," that was able to describing the exhibited by the fly ball governor. To describe the control system, he utilized differential equations. This paper exhibited the usefulness and importance of mathematical methods and models in relation to comprehending complicated phenomena. It even signaled the start 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 study.

In the following one hundred years control theory made huge strides. New developments in mathematical methods made it feasible to more accurately control considerably more dynamic systems compared to the original fly ball governor. These updated methods include different developments in optimal control in the 1950s and 1960s, followed by progress in stochastic, robust, adaptive and optimal control methods in 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.

In the beginning, control engineering was practiced as a part of mechanical engineering. What's more, 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 implement electrical control systems was unavailable then, 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 often utilized by some hydro plants. Ultimately, process control systems became accessible prior to modern power electronics. These process controls systems were often used in industrial applications and were devised by mechanical engineers making use of hydraulic and pneumatic control machines, a lot of which are still being used nowadays.