Control Valves for Forklift

Control Valves for Forklift - The first automatic control systems were being utilized over two thousand years ago. In Alexandria Egypt, the ancient Ktesibios water clock built in the 3rd century is believed to be the first feedback control tool on record. This particular clock kept time by means of regulating the water level within a vessel and the water flow from the vessel. A common design, this successful equipment was being made in a similar way in Baghdad when the Mongols captured the city in 1258 A.D.

Through history, different automatic devices have been used in order to simply entertain or to accomplish specific tasks. A popular European style all through the seventeenth and eighteenth centuries was the automata. This particular machine was an example of "open-loop" control, consisting dancing figures which will repeat the same job again and again.

Closed loop or feedback controlled machines consist of the temperature regulator common on furnaces. This was developed in 1620 and accredited to Drebbel. Another example is the centrifugal fly ball governor developed during 1788 by James Watt and utilized 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 describing the exhibited by the fly ball governor. To be able to explain the control system, he used differential equations. This paper exhibited the usefulness and importance of mathematical methods and models in relation to understanding complex phenomena. It even signaled the beginning of systems theory and mathematical control. Previous elements of control theory had appeared before by not as dramatically and as convincingly as in Maxwell's study.

New control theories and new developments in mathematical techniques made it possible to more precisely control more dynamic systems than the initial model fly ball governor. These updated techniques include various developments in optimal control in the 1950s and 1960s, followed by advancement in robust, stochastic, adaptive and optimal control techniques during the 1970s and the 1980s.

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

Primarily, control engineering was carried out as a part of mechanical engineering. Furthermore, control theory was initially studied as part of electrical engineering since electrical circuits could often be simply explained with control theory methods. Today, control engineering has emerged as a unique practice.

The first controls had current outputs represented with a voltage control input. In order to implement electrical control systems, the proper technology was unavailable then, the designers were left with less efficient systems and the choice of slow responding mechanical systems. The governor is a really efficient mechanical controller that is still usually utilized by various hydro factories. Eventually, process control systems became accessible prior to modern power electronics. These process controls systems were normally utilized in industrial applications and were devised by mechanical engineers making use of pneumatic and hydraulic control equipments, lots of which are still being utilized these days.