Control Valves for Forklift

Control Valve for Forklift - The earliest automatic control systems were being utilized more that two thousand years ago. In Alexandria Egypt, the ancient Ktesibios water clock built in the third century is considered to be the first feedback control equipment on record. This clock kept time by means of regulating the water level within a vessel and the water flow from the vessel. A popular style, this successful machine was being made in a similar manner in Baghdad when the Mongols captured the city in 1258 A.D.

A variety of automatic tools throughout history, have been used in order to accomplish certain jobs. A popular style utilized in the 17th and 18th centuries in Europe, was the automata. This particular piece of equipment was an example of "open-loop" control, comprising dancing figures which will repeat the same task over and over.

Closed loop or likewise called feedback controlled tools comprise the temperature regulator common on furnaces. This was actually developed during 1620 and accredited to Drebbel. Another example is the centrifugal fly ball governor developed in the year 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 the year 1868 "On Governors," which was able to describing the exhibited by the fly ball governor. So as to describe the control system, he used differential equations. This paper exhibited the usefulness and importance of mathematical methods and models in relation to comprehending 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 analysis.

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

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

In the beginning, control engineering was carried out as just a part of mechanical engineering. Control theories were at first studied with electrical engineering since electrical circuits can simply be described with control theory techniques. At present, control engineering has emerged as a unique discipline.

The first controls had current outputs represented with a voltage control input. So as to implement electrical control systems, the right technology was unavailable then, the designers were left with less efficient systems and the option of slow responding mechanical systems. The governor is a very effective mechanical controller that is still often utilized by various hydro factories. Eventually, process control systems became obtainable prior to modern power electronics. These process controls systems were normally utilized in industrial applications and were devised by mechanical engineers using hydraulic and pneumatic control equipments, lots of which are still being used at present.