Forklift Control Valves

Forklift Control Valve - The earliest mechanized control systems were being utilized more that two thousand years ago. In Alexandria Egypt, the ancient Ktesibios water clock built in the 3rd century is thought to be the very first feedback control equipment on record. This clock kept time by means of regulating the water level inside a vessel and the water flow from the vessel. A popular style, this successful equipment was being made in a similar fashion in Baghdad when the Mongols captured the city in 1258 A.D.

Different automatic machines through history, have been utilized so as to carry out certain tasks. A popular desing utilized in the 17th and 18th centuries in Europe, was the automata. This particular piece of equipment was an example of "open-loop" control, featuring dancing figures that would repeat the same task over and over.

Feedback or otherwise known as "closed-loop" automatic control devices include the temperature regulator seen on a furnace. This was developed during 1620 and attributed 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," that was able to describing the exhibited by the fly ball governor. To be able to describe 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 start of mathematical control and systems theory. Previous elements of control theory had appeared earlier by not as dramatically and as convincingly as in Maxwell's study.

Within the following 100 years control theory made huge strides. New developments in mathematical techniques made it possible to more precisely control significantly more dynamic systems than the original fly ball governor. These updated techniques include different developments in optimal control during the 1950s and 1960s, followed by progress in stochastic, robust, adaptive and optimal control techniques in the 1970s and the 1980s.

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

At first, control engineering was carried out as a part of mechanical engineering. What's more, control theory was firstly studied as part of electrical engineering because electrical circuits can often be simply explained with control theory methods. Now, control engineering has emerged as a unique practice.

The very first control relationships had a current output that was represented with a voltage control input. Since the right technology so as to implement electrical control systems was unavailable at that time, designers left with the option of slow responding mechanical systems and less efficient systems. The governor is a very effective mechanical controller which is still usually utilized by some hydro factories. In the long run, 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 using pneumatic and hydraulic control devices, a lot of which are still being utilized today.