Control Valves for Forklift

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

A variety of automatic tools through history, have been utilized to carry out specific jobs. A popular desing utilized during the 17th and 18th centuries in Europe, was the automata. This piece of equipment was an example of "open-loop" control, featuring dancing figures which would repeat the same task again and again.

Closed loop or also called feedback controlled machines comprise the temperature regulator common on furnaces. This was actually developed during 1620 and accredited to Drebbel. One more 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 the year 1868 "On Governors," which was able to explaining the exhibited by the fly ball governor. In order to describe the control system, he made use of differential equations. This paper exhibited the usefulness and importance of mathematical methods and models in relation to understanding complicated phenomena. It even signaled the beginning 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 analysis.

Within the next one hundred years control theory made huge strides. New developments in mathematical techniques made it possible to more accurately control significantly more dynamic systems than the original fly ball governor. These updated methods comprise various developments in optimal control during the 1950s and 1960s, followed by advancement in stochastic, robust, optimal and adaptive control methods in the 1970s and the 1980s.

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

Originally, control engineering was practiced as just a part of mechanical engineering. Control theories were at first studied with electrical engineering as electrical circuits could simply be described with control theory techniques. Today, control engineering has emerged as a unique discipline.

The very first control relationships had a current output that was represented with a voltage control input. For the reason that the correct technology so as to implement electrical control systems was unavailable then, designers left with the alternative of slow responding mechanical systems and less efficient systems. The governor is a really effective mechanical controller that is still often used by various hydro factories. Ultimately, process control systems became obtainable prior to modern power electronics. These process controls systems were usually 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 utilized at present.