Control Valves for Forklift

Forklift Control Valve - Automatic control systems were primarily established over two thousand years ago. The ancient water clock of Ktesibios in Alexandria Egypt dating to the 3rd century B.C. is considered to be the very first feedback control equipment on record. This particular clock kept time by means of regulating the water level in a vessel and the water flow from the vessel. A popular design, this successful tool was being made in the same way in Baghdad when the Mongols captured the city in 1258 A.D.

A variety of automatic machines through history, have been utilized so as to accomplish certain tasks. A popular style utilized through the seventeenth and eighteenth centuries in Europe, was the automata. This piece of equipment was an example of "open-loop" control, consisting dancing figures which will repeat the same task again and again.

Feedback or also known as "closed-loop" automatic control machines include the temperature regulator found on a furnace. This was developed during the year 1620 and attributed to Drebbel. Another example is the centrifugal fly ball governor developed in 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. In order to describe the control system, he utilized differential equations. This paper demonstrated the importance and helpfulness of mathematical methods and models in relation to comprehending complex phenomena. It also 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 analysis.

Within the next 100 years control theory made huge strides. New developments in mathematical methods made it possible to more precisely control considerably more dynamic systems as opposed to the original fly ball governor. These updated techniques consist of different developments in optimal control in the 1950s and 1960s, followed by advancement in robust, stochastic, optimal and adaptive control techniques during 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.

Initially, control engineering was carried out as a part of mechanical engineering. As well, control theory was first studied as part of electrical engineering for the reason that electrical circuits could often be simply explained with control theory methods. Nowadays, control engineering has emerged as a unique practice.

The first controls had current outputs represented with a voltage control input. To be able to implement electrical control systems, the correct 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 efficient mechanical controller which is still normally used by several hydro plants. In the long run, process control systems became accessible 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 equipments, a lot of which are still being used today.