Control Valve for Forklift

Forklift Control Valve - Automatic control systems were primarily developed more than 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 first feedback control equipment on record. This particular clock kept time by regulating the water level in a vessel and the water flow from the vessel. A common style, this successful tool was being made in the same way in Baghdad when the Mongols captured the city in 1258 A.D.

Throughout history, a variety of automatic tools have been used to accomplish specific tasks or to simply entertain. A common European style during the seventeenth and eighteenth centuries was the automata. This device was an example of "open-loop" control, comprising dancing figures that would repeat the same job over and over.

Feedback or also known as "closed-loop" automatic control tools comprise the temperature regulator seen on a furnace. This was actually developed in 1620 and accredited to Drebbel. Another example is the centrifugal fly ball governor developed during 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 1868 "On Governors," which was able to explaining the exhibited by the fly ball governor. In order 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 complicated phenomena. It even signaled the start of mathematical control and systems theory. Previous elements of control theory had appeared before by not as dramatically and as convincingly as in Maxwell's study.

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

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

At first, control engineering was practiced as a part of mechanical engineering. What's more, control theory was firstly studied as part of electrical engineering because electrical circuits could often be simply described with control theory techniques. Nowadays, control engineering has emerged as a unique discipline.

The very first controls had current outputs represented with a voltage control input. To be able to implement electrical control systems, the proper technology was unavailable at that moment, the designers were left with less efficient systems and the alternative of slow responding mechanical systems. The governor is a very effective mechanical controller that is still often utilized by some hydro plants. Eventually, process control systems became accessible previous to modern power electronics. These process controls systems were usually utilized in industrial applications and were devised by mechanical engineers utilizing hydraulic and pneumatic control devices, many of which are still being used these days.