

Forklift Control Valves

Forklift Control Valve - Automatic control systems were primarily created over two thousand years ago. The ancient water clock of Ktesibios in Alexandria Egypt dating to the third century B.C. is considered to be the first feedback control machine on record. This clock kept time by regulating the water level inside a vessel and the water flow from the vessel. A popular story, 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 equipment throughout history, have been utilized to complete certain tasks. A common device utilized all through the seventeenth and eighteenth centuries in Europe, was the automata. This particular piece of equipment was an example of "open-loop" control, consisting dancing figures that would repeat the same task again and again.

Closed loop or also 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 1868 "On Governors," which was able to explain the exhibited by the fly ball governor. To be able to explain the control system, he made use of differential equations. This paper exhibited the importance and helpfulness of mathematical methods and models in relation to understanding complicated phenomena. It likewise signaled the beginning of mathematical control and systems theory. Previous elements of control theory had appeared earlier but 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 compared to the first model fly ball governor. These updated techniques include different developments in optimal control during 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 have helped make cleaner auto engines, more efficient and cleaner chemical processes and have helped make communication and space travel satellites possible.

Initially, control engineering was performed as a part of mechanical engineering. Moreover, control theory was first studied as part of electrical engineering since electrical circuits could often be simply explained with control theory techniques. Now, control engineering has emerged as a unique discipline.

The very first control relationships had a current output which was represented with a voltage control input. As the proper technology to be able 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 often utilized by some hydro plants. In the long run, process control systems became offered before modern power electronics. These process controls systems were usually utilized in industrial applications and were devised by mechanical engineers utilizing hydraulic and pneumatic control equipments, a lot of which are still being utilized these days.