Forklift Control Valves

Forklift Control Valve - Automatic control systems were initially established more than two thousand years ago. The ancient water clock of Ktesibios in Alexandria Egypt dating to the 3rd century B.C. is believed to be the very first feedback control machine on record. This clock kept time by way 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 a similar manner in Baghdad when the Mongols captured the city in 1258 A.D.

Various automatic devices all through history, have been used to carry out certain tasks. A popular style used during the 17th and 18th centuries in Europe, was the automata. This tool was an example of "open-loop" control, featuring dancing figures that will repeat the same job repeatedly.

Feedback or likewise known as "closed-loop" automatic control devices consist of the temperature regulator found on a furnace. This was actually developed during 1620 and attributed to Drebbel. Another example is the centrifugal fly ball governor developed in the year 1788 by James Watt and used for regulating the speed of steam engines.

J.C. Maxwell, who discovered the Maxwell electromagnetic field equations, wrote a paper in the year 1868 "On Governors," which could clarify the instabilities exhibited by the fly ball governor. He used differential equations in order to explain the control system. This paper exhibited the usefulness and importance of mathematical methods and models in relation to understanding complex phenomena. It also signaled the beginning 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 analysis.

New developments in mathematical techniques and new control theories made it possible to more precisely control more dynamic systems compared to the initial model fly ball governor. These updated techniques include different developments in optimal control in the 1950s and 1960s, followed by advancement in robust, stochastic, optimal and adaptive control methods in 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.

Initially, control engineering was performed as just a part of mechanical engineering. Control theories were at first studied with electrical engineering as electrical circuits can simply be described with control theory techniques. Currently, control engineering has emerged as a unique practice.

The first controls had current outputs represented with a voltage control input. In order to implement electrical control systems, the right technology was unavailable at that time, the designers were left with less efficient systems and the alternative of slow responding mechanical systems. The governor is a very efficient mechanical controller which is still often utilized by various hydro factories. 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 machines, lots of which are still being used today.