Control Valve for Forklift

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

All through history, different automatic equipments have been utilized to simply entertain or to accomplish specific tasks. A popular European style throughout the seventeenth and eighteenth centuries was the automata. This particular tool was an example of "open-loop" control, featuring dancing figures that would repeat the same task over and over.

Feedback or likewise known as "closed-loop" automatic control devices consist of the temperature regulator found on a furnace. This was developed during 1620 and attributed to Drebbel. One more example is the centrifugal fly ball governor developed during the year 1788 by James Watt and used 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," that was able to describing the exhibited by the fly ball governor. In order to explain the control system, he utilized differential equations. This paper exhibited the usefulness and importance of mathematical models and methods in relation to understanding complex phenomena. It also signaled the beginning of systems theory and mathematical control. Previous elements of control theory had appeared earlier by not as convincingly and as dramatically as in Maxwell's study.

New control theories and new developments in mathematical techniques made it possible to more precisely control more dynamic systems than the original model fly ball governor. These updated methods include different developments in optimal control in the 1950s and 1960s, followed by development in robust, stochastic, adaptive and optimal control techniques in the 1970s and the 1980s.

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

Initially, control engineering was performed as a part of mechanical engineering. Furthermore, control theory was initially studied as part of electrical engineering as electrical circuits can often be simply described with control theory methods. Today, control engineering has emerged as a unique discipline.

The very first controls had current outputs represented with a voltage control input. In order 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 really efficient mechanical controller that is still often utilized by several hydro plants. Ultimately, process control systems became accessible before modern power electronics. These process controls systems were normally utilized in industrial applications and were devised by mechanical engineers making use of pneumatic and hydraulic control devices, many of which are still being used today.