Control Valves for Forklift

Forklift Control Valve - The earliest automated control systems were being utilized more that two thousand years ago. In Alexandria Egypt, the ancient Ktesibios water clock built in the 3rd century is thought to be the very first feedback control tool on record. This clock kept time by way of regulating the water level within a vessel and the water flow from the vessel. A common style, this successful equipment was being made in a similar fashion in Baghdad when the Mongols captured the city in 1258 A.D.

A variety of automatic machines all through history, have been utilized so as to accomplish specific jobs. A popular desing utilized through the seventeenth and eighteenth centuries in Europe, was the automata. This particular device was an example of "open-loop" control, featuring dancing figures that would repeat the same task repeatedly.

Closed loop or also called feedback controlled tools consist of the temperature regulator common on furnaces. This was developed during the year 1620 and attributed to Drebbel. One more example is the centrifugal fly ball governor developed during the year 1788 by James Watt and utilized for regulating steam engine speed.

J.C. Maxwell, who discovered the Maxwell electromagnetic field equations, wrote a paper in 1868 "On Governors," that can describe the instabilities demonstrated by the fly ball governor. He utilized differential equations so as to explain the control system. This paper demonstrated the usefulness and importance of mathematical models and methods in relation to understanding complex phenomena. It even 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 analysis.

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 techniques include various developments in optimal control in the 1950s and 1960s, followed by advancement in stochastic, robust, adaptive and optimal control methods during the 1970s and the 1980s.

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

In the beginning, control engineering was carried out as just a part of mechanical engineering. Control theories were originally studied with electrical engineering as electrical circuits can simply be explained with control theory methods. Nowadays, control engineering has emerged as a unique discipline.

The first controls had current outputs represented with a voltage control input. So as to implement electrical control systems, the right technology was unavailable at that moment, the designers were left with less efficient systems and the choice of slow responding mechanical systems. The governor is a really efficient mechanical controller which is still often used by some hydro plants. Eventually, process control systems became offered prior to modern power electronics. These process controls systems were usually used in industrial applications and were devised by mechanical engineers making use of hydraulic and pneumatic control devices, a lot of which are still being utilized these days.