Forklift Control Valves

Control Valve for Forklift - The earliest automatic control systems were being utilized over two thousand years ago. In Alexandria Egypt, the ancient Ktesibios water clock made in the third century is considered to be the very first feedback control equipment on record. This particular clock kept time by regulating the water level within a vessel and the water flow from the vessel. A popular design, this successful tool was being made in a similar fashion in Baghdad when the Mongols captured the city in 1258 A.D.

Through history, various automatic machines have been utilized to be able to simply entertain or to accomplish specific tasks. A common European design through the 17th and 18th centuries was the automata. This particular tool was an example of "open-loop" control, comprising dancing figures that would repeat the same task again and again.

Closed loop or likewise called feedback controlled machines include the temperature regulator common on furnaces. This was developed during the year 1620 and attributed 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 the year 1868 "On Governors," which was able to describing the exhibited by the fly ball governor. So as to explain the control system, he utilized differential equations. This paper demonstrated the importance and helpfulness of mathematical models and methods in relation to understanding complex phenomena. It also signaled the start of mathematical control and systems theory. Previous elements of control theory had appeared earlier by not as dramatically and as convincingly as in Maxwell's study.

New control theories and new developments in mathematical techniques made it possible to more accurately control more dynamic systems compared to the initial model fly ball governor. These updated methods consist of different developments in optimal control in the 1950s and 1960s, followed by progress in robust, stochastic, optimal and adaptive control methods in the 1970s and the 1980s.

New technology and applications of control methodology has helped make cleaner engines, with cleaner and more efficient processes helped make communication satellites and even traveling in space possible.

Initially, control engineering was carried out as just a part of mechanical engineering. Control theories were firstly studied with electrical engineering since electrical circuits could simply be explained with control theory techniques. Nowadays, control engineering has emerged as a unique practice.

The very first control relationships had a current output that was represented with a voltage control input. Because the proper technology so as 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 usually used by several hydro factories. In the long run, process control systems became offered previous to modern power electronics. These process controls systems were often used in industrial applications and were devised by mechanical engineers using hydraulic and pneumatic control devices, many of which are still being utilized these days.