

Forklift Control Valve

Control Valve for Forklift - The earliest automatic control systems were being utilized more than two thousand years ago. In Alexandria Egypt, the ancient Ktesibios water clock made in the third century is considered to be the first feedback control equipment 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 design, this successful equipment 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 so as to simply entertain or to accomplish specific tasks. A common European design throughout the 17th and 18th centuries was the automata. This piece of equipment was an example of "open-loop" control, consisting dancing figures which will repeat the same job again and again.

Feedback or likewise known as "closed-loop" automatic control machines include the temperature regulator found on a furnace. This was developed during the year 1620 and attributed to Drebbel. One more 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," that was able to describe the instabilities exhibited by the fly ball governor. He utilized differential equations so as to explain the control system. This paper exhibited the importance and helpfulness of mathematical models and methods in relation to comprehending complicated phenomena. It even signaled the beginning of mathematical control and systems theory. Previous elements of control theory had appeared before but not as convincingly and as dramatically as in Maxwell's analysis.

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

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

Initially, control engineering was performed as a part of mechanical engineering. Moreover, control theory was firstly studied as part of electrical engineering because electrical circuits could often be simply explained with control theory techniques. Currently, control engineering has emerged as a unique practice.

The first control relationships had a current output which was represented with a voltage control input. Since the correct 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 used by some hydro plants. Ultimately, process control systems became obtainable previous to modern power electronics. These process controls systems were often utilized in industrial applications and were devised by mechanical engineers using pneumatic and hydraulic control machines, lots of which are still being utilized nowadays.