

## Forklift Control Valves

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

Through history, various automatic devices have been utilized in order to simply entertain or to accomplish specific tasks. A popular European style throughout the seventeenth and eighteenth centuries was the automata. This particular piece of equipment was an example of "open-loop" control, consisting of dancing figures which would repeat the same task repeatedly.

Closed loop or otherwise called feedback controlled devices comprise 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 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," that was able to explain the exhibited by the fly ball governor. So as to describe the control system, he utilized differential equations. This paper demonstrated the usefulness and importance of mathematical models and methods in relation to comprehending complex phenomena. It likewise signaled the start 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 study.

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

In the beginning, control engineering was practiced as a part of mechanical engineering. As well, control theory was initially studied as part of electrical engineering since electrical circuits can often be simply explained with control theory techniques. Today, control engineering has emerged as a unique discipline.

The first control systems had a current output that was represented with a voltage control input. For the reason that the correct technology to be able to implement electrical control systems was unavailable at that time, designers left with the choice of slow responding mechanical systems and less efficient systems. The governor is a really effective mechanical controller which is still usually utilized by several hydro plants. Ultimately, process control systems became obtainable previous to modern power electronics. These process control systems were normally used in industrial applications and were devised by mechanical engineers utilizing pneumatic and hydraulic control devices, many of which are still being utilized these days.