

## Forklift Control Valve

Forklift Control Valve - Automatic control systems were primarily developed more than two thousand years ago. The ancient water clock of Ktesibios in Alexandria Egypt dating to the 3rd century B.C. is believed to be the very first feedback control tool on record. This clock kept time by means of regulating the water level in 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, a variety of automatic equipments have been used to accomplish specific tasks or to simply entertain. A popular European design during the 17th and 18th centuries was the automata. This particular tool was an example of "open-loop" control, consisting dancing figures which will repeat the same job again and again.

Closed loop or otherwise called feedback controlled tools include the temperature regulator common on furnaces. This was developed in 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 1868 "On Governors," that could clarify the instabilities exhibited by the fly ball governor. He utilized differential equations in order to describe the control system. This paper exhibited the usefulness and importance of mathematical methods and models in relation to comprehending complicated phenomena. It also signaled the beginning of mathematical control and systems theory. Previous elements of control theory had appeared earlier but not as dramatically and as convincingly as in Maxwell's analysis.

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

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

At first, control engineering was performed as a part of mechanical engineering. Furthermore, control theory was first studied as part of electrical engineering as electrical circuits could often be simply explained with control theory methods. Currently, 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. Since the correct technology in order to implement electrical control systems was unavailable at that moment, designers left with the option of slow responding mechanical systems and less efficient systems. The governor is a really efficient mechanical controller that is still usually utilized by several hydro factories. In the long run, process control systems became accessible before modern power electronics. These process controls systems were often used in industrial applications and were devised by mechanical engineers using pneumatic and hydraulic control devices, a lot of which are still being utilized nowadays.