

## Forklift Control Valves

Forklift Control Valve - Automatic control systems were first developed more than two thousand years ago. The ancient water clock of Ktesibios in Alexandria Egypt dating to the third century B.C. is thought to be the very first feedback control equipment on record. This particular clock kept time by means of regulating the water level within a vessel and the water flow from the vessel. A common design, this successful device was being made in a similar manner in Baghdad when the Mongols captured the city in 1258 A.D.

Various automatic devices through history, have been used to complete particular tasks. A common style utilized through the 17th and 18th centuries in Europe, was the automata. This piece of equipment was an example of "open-loop" control, comprising dancing figures which would repeat the same job repeatedly.

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

The Maxwell electromagnetic field equations, discovered by J.C. Maxwell wrote a paper in the year 1868 "On Governors," that was able to explaining the exhibited by the fly ball governor. In order to explain the control system, he utilized differential equations. This paper demonstrated the importance and helpfulness of mathematical methods and models in relation to understanding complex phenomena. It also signaled the beginning of systems theory and mathematical control. Previous elements of control theory had appeared before by not as dramatically and as convincingly as in Maxwell's study.

In the next 100 years control theory made huge strides. New developments in mathematical methods made it possible to more precisely control significantly more dynamic systems compared to the original fly ball governor. These updated techniques include different developments in optimal control in the 1950s and 1960s, followed by development in stochastic, robust, adaptive and optimal control techniques during the 1970s and the 1980s.

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

In the beginning, control engineering was practiced as a part of mechanical engineering. Additionally, control theory was firstly studied as part of electrical engineering because electrical circuits can often be simply explained with control theory methods. At present, control engineering has emerged as a unique practice.

The first control partnerships 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 alternative of slow responding mechanical systems and less efficient systems. The governor is a really effective mechanical controller that is still usually utilized by several hydro factories. Eventually, process control systems became obtainable previous to modern power electronics. These process controls systems were normally utilized in industrial applications and were devised by mechanical engineers making use of pneumatic and hydraulic control machines, a lot of which are still being utilized at present.