

## Control Valve for Forklift

Forklift Control Valve - Automatic control systems were primarily developed over two thousand years ago. The ancient water clock of Ktesibios in Alexandria Egypt dating to the 3rd century B.C. is considered to be the very first feedback control device 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 tool was being made in a similar fashion in Baghdad when the Mongols captured the city in 1258 A.D.

Various automatic machines all through history, have been utilized to complete certain jobs. A popular style used through the 17th and 18th centuries in Europe, was the automata. This particular piece of equipment was an example of "open-loop" control, comprising dancing figures which will repeat the same task again and again.

Closed loop or feedback controlled machines consist of the temperature regulator common on furnaces. This was developed during 1620 and attributed to Drebbel. Another example is the centrifugal fly ball governor developed during 1788 by James Watt and utilized for regulating steam engine speed.

The Maxwell electromagnetic field equations, discovered by J.C. Maxwell wrote a paper in 1868 "On Governors," that was able to describing the exhibited by the fly ball governor. So as to explain the control system, he used differential equations. This paper exhibited the importance and helpfulness of mathematical models and methods in relation to understanding complex phenomena. It likewise signaled the beginning of mathematical control and systems theory. Previous elements of control theory had appeared before by 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 as opposed to the first model fly ball governor. These updated techniques consist of various developments in optimal control in the 1950s and 1960s, followed by progress in stochastic, robust, optimal and adaptive control methods in the 1970s and the 1980s.

New applications and technology of control methodology have helped make cleaner auto engines, cleaner and more efficient chemical methods and have helped make communication and space travel satellites possible.

Initially, control engineering was practiced as just a part of mechanical engineering. Control theories were initially studied with electrical engineering as electrical circuits could simply be explained with control theory methods. Currently, control engineering has emerged as a unique practice.

The first controls had current outputs represented with a voltage control input. So as to implement electrical control systems, the correct technology was unavailable at that time, the designers were left with less efficient systems and the alternative of slow responding mechanical systems. The governor is a really efficient mechanical controller that is still normally utilized by some hydro plants. In the long run, process control systems became accessible prior 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 equipments, lots of which are still being utilized these days.