

## Control Valve for Forklift

Forklift Control Valve - The first automated control systems were being used over 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 manner in Baghdad when the Mongols captured the city in 1258 A.D.

A variety of automatic devices throughout history, have been used in order to accomplish certain tasks. A popular style used all through the seventeenth and eighteenth centuries in Europe, was the automata. This device was an example of "open-loop" control, featuring dancing figures that will repeat the same job over and over.

Feedback or also known as "closed-loop" automatic control machines comprise the temperature regulator found on a furnace. This was actually developed in the year 1620 and attributed to Drebbel. One more example is the centrifugal fly ball governor developed during the year 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 1868 "On Governors," that was able to explaining the exhibited by the fly ball governor. To describe the control system, he utilized differential equations. This paper exhibited the importance and helpfulness of mathematical methods and models in relation to comprehending complex phenomena. It also signaled the start of systems theory and mathematical control. Previous elements of control theory had appeared earlier 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 accurately control more dynamic systems compared to the initial model fly ball governor. These updated techniques consist of different developments in optimal control during the 1950s and 1960s, followed by progress in robust, stochastic, adaptive and optimal control methods 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.

Primarily, control engineering was practiced as a part of mechanical engineering. Also, control theory was firstly studied as part of electrical engineering since electrical circuits could often be simply explained with control theory techniques. Now, 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 right technology was unavailable at that time, the designers were left with less efficient systems and the choice of slow responding mechanical systems. The governor is a very effective mechanical controller that is still usually utilized by various hydro plants. Ultimately, process control systems became obtainable prior to modern power electronics. These process controls systems were normally used in industrial applications and were devised by mechanical engineers making use of pneumatic and hydraulic control equipments, lots of which are still being utilized today.