

## Control Valve for Forklift

Forklift Control Valve - Automatic control systems were first established more than 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 tool on record. This clock kept time by means of regulating the water level inside a vessel and the water flow from the vessel. A popular story, this successful tool was being made in the same way in Baghdad when the Mongols captured the city in 1258 A.D.

Different automatic machines all through history, have been utilized so as to carry out certain jobs. A common design utilized all through the 17th and 18th centuries in Europe, was the automata. This tool was an example of "open-loop" control, featuring dancing figures that will repeat the same task again and again.

Feedback or likewise known as "closed-loop" automatic control devices consist of the temperature regulator found on a furnace. This was developed in 1620 and accredited to Drebbel. Another example is the centrifugal fly ball governor developed during 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 the year 1868 "On Governors," that can describe the instabilities demonstrated by the fly ball governor. He used differential equations so as to explain the control system. 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 but not as convincingly and as dramatically as in Maxwell's analysis.

In the following one hundred years control theory made huge strides. New developments in mathematical techniques made it possible to more precisely control considerably more dynamic systems than the original fly ball governor. These updated methods consist of various developments in optimal control in the 1950s and 1960s, followed by advancement in stochastic, robust, optimal and adaptive 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.

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

The first control systems had a current output that was represented with a voltage control input. Since the proper technology to implement electrical control systems was unavailable then, designers left with the option of slow responding mechanical systems and less efficient systems. The governor is a really effective mechanical controller which is still usually utilized by some hydro plants. Eventually, process control systems became accessible previous to modern power electronics. These process control systems were often used in industrial applications and were devised by mechanical engineers using pneumatic and hydraulic control machines, a lot of which are still being used at present.