## Control Valve for Forklift

Forklift Control Valve - Automatic control systems were initially developed more than two thousand years ago. The ancient water clock of Ktesibios in Alexandria Egypt dating to the 3rd century B.C. is thought to be the first feedback control equipment on record. This particular clock kept time by regulating the water level inside a vessel and the water flow from the vessel. A popular design, this successful machine was being made in a similar way in Baghdad when the Mongols captured the city in 1258 A.D.

Various automatic tools throughout history, have been utilized in order to complete specific jobs. A popular style used in the 17th and 18th centuries in Europe, was the automata. This piece of equipment was an example of "open-loop" control, featuring dancing figures that will repeat the same job over and over.

Feedback or "closed-loop" automatic control devices comprise the temperature regulator seen on a furnace. This was actually developed in the year 1620 and attributed to Drebbel. Another example is the centrifugal fly ball governor developed in the year 1788 by James Watt and utilized 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," which was able to describe the instabilities exhibited by the fly ball governor. He made use of differential equations in order to explain the control system. This paper demonstrated the usefulness and importance of mathematical models and methods in relation to comprehending complicated 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 analysis.

Within the next 100 years control theory made huge strides. New developments in mathematical methods made it feasible to more accurately control significantly more dynamic systems than the first fly ball governor. These updated methods include various developments in optimal control during the 1950s and 1960s, followed by advancement in stochastic, robust, adaptive and optimal control techniques during the 1970s and the 1980s.

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

Originally, control engineering was performed as just a part of mechanical engineering. Control theories were initially studied with electrical engineering because electrical circuits could simply be described with control theory techniques. Nowadays, control engineering has emerged as a unique discipline.

The first controls had current outputs represented with a voltage control input. So as to implement electrical control systems, the proper 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 very efficient mechanical controller that is still usually used by some hydro plants. Ultimately, process control systems became available prior to modern power electronics. These process controls systems were normally used in industrial applications and were devised by mechanical engineers utilizing pneumatic and hydraulic control devices, many of which are still being utilized today.