

## Forklift Control Valve

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

Various automatic machines through history, have been used to be able to complete particular jobs. A popular desing utilized all through the 17th and 18th centuries in Europe, was the automata. This particular machine was an example of "open-loop" control, comprising dancing figures which will repeat the same job repeatedly.

Closed loop or also called feedback controlled devices include the temperature regulator common on furnaces. This was actually developed during 1620 and attributed to Drebbel. Another 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 be able to explain the control system, he made use of differential equations. This paper exhibited the importance and helpfulness of mathematical methods and models in relation to understanding complex phenomena. It also signaled the start of mathematical control and systems theory. Previous elements of control theory had appeared before by not as convincingly and as dramatically as in Maxwell's study.

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

New technology and applications of control methodology has helped make cleaner engines, with more efficient and cleaner 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 firstly studied with electrical engineering because electrical circuits could simply be described with control theory methods. Today, control engineering has emerged as a unique practice.

The very first controls had current outputs represented with a voltage control input. To be able to implement electrical control systems, the proper technology was unavailable at that moment, the designers were left with less efficient systems and the choice of slow responding mechanical systems. The governor is a really efficient mechanical controller that is still usually utilized by several hydro factories. Ultimately, process control systems became obtainable previous to modern power electronics. These process controls systems were normally used in industrial applications and were devised by mechanical engineers utilizing hydraulic and pneumatic control machines, many of which are still being utilized at present.