

## Control Valves for Forklift

Forklift Control Valve - The first automatic control systems were being utilized over two thousand years ago. In Alexandria Egypt, the ancient Ktesibios water clock constructed in the 3rd century is believed to be the very first feedback control equipment on record. This clock kept time by way of regulating the water level inside a vessel and the water flow from the vessel. A common style, this successful tool was being made in the same manner in Baghdad when the Mongols captured the city in 1258 A.D.

All through history, various automatic equipments have been used to accomplish specific tasks or to simply entertain. A popular European style in the 17th and 18th centuries was the automata. This tool was an example of "open-loop" control, featuring dancing figures which will repeat the same task over and over.

Feedback or otherwise known as "closed-loop" automatic control devices consist of the temperature regulator seen on a furnace. This was actually developed in the year 1620 and accredited to Drebbel. Another example is the centrifugal fly ball governor developed in 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 the year 1868 "On Governors," that was able to describing the exhibited by the fly ball governor. To explain the control system, he made use of differential equations. This paper demonstrated the usefulness and importance of mathematical models and methods in relation to understanding complicated phenomena. It also signaled the beginning of systems theory and mathematical control. Previous elements of control theory had appeared earlier by not as convincingly and as dramatically as in Maxwell's analysis.

In the next 100 years control theory made huge strides. New developments in mathematical techniques made it possible to more accurately control considerably more dynamic systems as opposed to the original fly ball governor. These updated methods consist of various developments in optimal control during the 1950s and 1960s, followed by advancement in stochastic, robust, optimal and adaptive control methods during 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.

At first, control engineering was practiced as just a part of mechanical engineering. Control theories were at first studied with electrical engineering as electrical circuits could simply be explained with control theory methods. Now, control engineering has emerged as a unique discipline.

The first control partnerships had a current output which was represented with a voltage control input. For the reason that the correct technology in order to implement electrical control systems was unavailable at that moment, designers left with the alternative of slow responding mechanical systems and less efficient systems. The governor is a very effective mechanical controller that is still usually utilized by various hydro factories. Eventually, process control systems became obtainable before modern power electronics. These process controls systems were normally used in industrial applications and were devised by mechanical engineers using pneumatic and hydraulic control devices, many of which are still being used today.