

## Control Valves for Forklift

Control Valve for Forklift - Automatic control systems were initially created more than two thousand years ago. The ancient water clock of Ktesibios in Alexandria Egypt dating to the third century B.C. is considered to be the first feedback control tool on record. This clock kept time by means of regulating the water level within a vessel and the water flow from the vessel. A popular design, this successful device was being made in the same fashion in Baghdad when the Mongols captured the city in 1258 A.D.

Throughout history, a variety of automatic equipments have been used so as to accomplish specific tasks or to simply entertain. A popular European design all through the seventeenth and eighteenth centuries was the automata. This tool was an example of "open-loop" control, consisting dancing figures that will repeat the same task over and over.

Feedback or also known as "closed-loop" automatic control devices comprise 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 in 1788 by James Watt and utilized for regulating the speed of steam engines.

The Maxwell electromagnetic field equations, discovered by J.C. Maxwell wrote a paper in 1868 "On Governors," which was able to describing the exhibited by the fly ball governor. To be able to explain the control system, he used differential equations. This paper demonstrated the usefulness and importance of mathematical methods and models in relation to understanding complex phenomena. It likewise signaled the beginning of mathematical control and systems theory. Previous elements of control theory had appeared earlier by not as convincingly and as dramatically as in Maxwell's study.

New developments in mathematical techniques and new control theories made it possible to more precisely control more dynamic systems as opposed to the first model fly ball governor. These updated techniques comprise various developments in optimal control in the 1950s and 1960s, followed by development in stochastic, robust, adaptive and optimal control methods in the 1970s and the 1980s.

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

At first, control engineering was practiced as just a part of mechanical engineering. Control theories were firstly studied with electrical engineering in view of the fact that electrical circuits can simply be described with control theory methods. Nowadays, control engineering has emerged as a unique practice.

The very first control relationships had a current output which was represented with a voltage control input. As the proper technology in order to implement electrical control systems was unavailable at that time, designers left with the choice of slow responding mechanical systems and less efficient systems. The governor is a really efficient mechanical controller that is still usually used by various hydro plants. Ultimately, process control systems became offered previous to modern power electronics. These process controls systems were often utilized in industrial applications and were devised by mechanical engineers utilizing hydraulic and pneumatic control devices, many of which are still being used today.