

## Forklift Control Valves

Forklift Control Valve - The first automated control systems were being used more than two thousand years ago. In Alexandria, Egypt, the ancient Ktesibios water clock made in the third century is believed to be the first feedback control device 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 manner in Baghdad when the Mongols captured the city in 1258 A.D.

Different automatic tools through history, have been utilized to carry out specific tasks. A popular style utilized throughout the seventeenth and eighteenth centuries in Europe, was the automata. This machine was an example of "open-loop" control, consisting of dancing figures which would repeat the same task repeatedly.

Closed loop or otherwise called feedback controlled equipments include the temperature regulator common on furnaces. This was developed in the year 1620 and accredited to Drebbel. One more 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 1868 "On Governors," that can explain the instabilities exhibited by the fly ball governor. He used 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 complex phenomena. It likewise signaled the start of mathematical control and systems theory. Previous elements of control theory had appeared earlier but not as convincingly and as dramatically as in Maxwell's study.

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

New applications and technology of control methodology have helped make cleaner auto engines, more efficient and cleaner chemical methods and have helped make space travel and communication satellites possible.

Primarily, control engineering was performed as a part of mechanical engineering. In addition, control theory was initially studied as part of electrical engineering because electrical circuits can often be simply described with control theory techniques. Nowadays, control engineering has emerged as a unique discipline.

The very first control relationships had a current output that was represented with a voltage control input. For the reason that the correct technology to be able to implement electrical control systems was unavailable at that time, designers left with the alternative of slow responding mechanical systems and less efficient systems. The governor is a very efficient mechanical controller which is still normally used by several hydro factories. Ultimately, process control systems became available prior to modern power electronics. These process control systems were usually utilized in industrial applications and were devised by mechanical engineers making use of hydraulic and pneumatic control devices, a lot of which are still being used these days.