

Forklift Control Valves

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

All through history, a variety of automatic devices have been used in order to simply entertain or to accomplish specific tasks. A popular European design throughout the 17th and 18th centuries was the automata. This particular machine was an example of "open-loop" control, consisting dancing figures which will repeat the same task repeatedly.

Closed loop or otherwise called feedback controlled devices comprise the temperature regulator common on furnaces. This was developed in 1620 and attributed to Drebbel. Another example is the centrifugal fly ball governor developed during 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 the year 1868 "On Governors," which was able to describing the exhibited by the fly ball governor. So as to describe the control system, he made use of differential equations. This paper exhibited the importance and helpfulness of mathematical methods and models in relation to comprehending 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.

New developments in mathematical techniques and new control theories made it possible to more accurately control more dynamic systems compared to the original model fly ball governor. These updated methods comprise various developments in optimal control in 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 have helped produce cleaner auto engines, more efficient and cleaner chemical processes and have helped make communication and space travel satellites possible.

Originally, control engineering was performed as just a part of mechanical engineering. Control theories were at first studied with electrical engineering as electrical circuits can simply be described with control theory methods. Today, 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 right technology in order 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 really efficient mechanical controller that is still often utilized by various hydro plants. Ultimately, process control systems became accessible before modern power electronics. These process controls systems were normally used in industrial applications and were devised by mechanical engineers using hydraulic and pneumatic control machines, lots of which are still being used these days.