

Forklift Control Valves

Forklift Control Valve - Automatic control systems were initially established more than two thousand years ago. The ancient water clock of Ktesibios in Alexandria Egypt dating to the third century B.C. is thought 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 popular design, this successful tool 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 devices have been utilized to simply entertain or to accomplish specific tasks. A popular European style through the seventeenth and eighteenth centuries was the automata. This particular piece of equipment was an example of "open-loop" control, consisting dancing figures that would repeat the same task repeatedly.

Feedback or "closed-loop" automatic control tools consist of the temperature regulator found on a furnace. This was developed in the year 1620 and attributed to Drebbel. Another 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," which could clarify the instabilities exhibited by the fly ball governor. He made use of differential equations so as to explain the control system. This paper demonstrated the importance and helpfulness of mathematical models and methods in relation to understanding complex phenomena. It also signaled the beginning of systems theory and mathematical control. Previous elements of control theory had appeared before but not as convincingly and as dramatically as in Maxwell's analysis.

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

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

Initially, control engineering was practiced as just a part of mechanical engineering. Control theories were firstly studied with electrical engineering for the reason that electrical circuits could simply be explained with control theory techniques. Today, control engineering has emerged as a unique discipline.

The very first controls had current outputs represented with a voltage control input. In order to implement electrical control systems, the correct technology was unavailable then, the designers were left with less efficient systems and the choice of slow responding mechanical systems. The governor is a really efficient mechanical controller which is still often utilized by various hydro plants. Ultimately, process control systems became obtainable previous to modern power electronics. These process controls systems were normally utilized in industrial applications and were devised by mechanical engineers utilizing pneumatic and hydraulic control devices, many of which are still being used nowadays.