

Forklift Control Valves

Forklift Control Valve - Automatic control systems were initially created more than two thousand years ago. The ancient water clock of Ktesibios in Alexandria Egypt dating to the 3rd century B.C. is considered to be the first feedback control device on record. This particular clock kept time by way of regulating the water level within a vessel and the water flow from the vessel. A common style, this successful device was being made in a similar fashion in Baghdad when the Mongols captured the city in 1258 A.D.

Different automatic tools throughout history, have been utilized in order to accomplish certain jobs. A popular style used through the seventeenth and eighteenth centuries in Europe, was the automata. This machine was an example of "open-loop" control, comprising dancing figures that will repeat the same job repeatedly.

Closed loop or otherwise called feedback controlled machines consist of the temperature regulator common on furnaces. This was developed in the year 1620 and attributed to Drebbel. Another example is the centrifugal fly ball governor developed in 1788 by James Watt and used for regulating steam engine speed.

J.C. Maxwell, who discovered the Maxwell electromagnetic field equations, wrote a paper in the year 1868 "On Governors," that was able to explain the instabilities exhibited by the fly ball governor. He utilized differential equations to describe the control system. This paper exhibited the importance and helpfulness of mathematical models and methods in relation to understanding complicated phenomena. It even signaled the beginning of systems theory and mathematical control. Previous elements of control theory had appeared earlier but not as dramatically and as convincingly as in Maxwell's study.

New control theories and new developments in mathematical techniques made it possible to more accurately control more dynamic systems than the first model fly ball governor. These updated techniques include different developments in optimal control in the 1950s and 1960s, followed by progress in robust, stochastic, optimal and adaptive control techniques in the 1970s and the 1980s.

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

Originally, control engineering was carried out as just a part of mechanical engineering. Control theories were initially studied with electrical engineering because electrical circuits can simply be explained with control theory techniques. Today, control engineering has emerged as a unique discipline.

The first controls had current outputs represented with a voltage control input. In order to implement electrical control systems, the right technology was unavailable at that moment, the designers were left with less efficient systems and the option of slow responding mechanical systems. The governor is a really effective mechanical controller that is still usually utilized by some hydro plants. Ultimately, process control systems became accessible before modern power electronics. These process controls systems were usually used in industrial applications and were devised by mechanical engineers making use of pneumatic and hydraulic control devices, a lot of which are still being used these days.