

Forklift Control Valve

Forklift Control Valve - Automatic control systems were first developed over 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 very first feedback control equipment on record. This clock kept time by means of regulating the water level within a vessel and the water flow from the vessel. A common design, this successful device was being made in a similar fashion in Baghdad when the Mongols captured the city in 1258 A.D.

Various automatic devices all through history, have been used in order to complete specific tasks. A popular desing used throughout the 17th and 18th centuries in Europe, was the automata. This device was an example of "open-loop" control, comprising dancing figures which will repeat the same job repeatedly.

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

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

In the following one hundred years control theory made huge strides. New developments in mathematical methods made it feasible to more precisely control considerably more dynamic systems as opposed to the original fly ball governor. These updated techniques consist of different developments in optimal control in 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 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 performed as just a part of mechanical engineering. Control theories were firstly studied with electrical engineering in view of the fact that electrical circuits could simply be explained with control theory techniques. At present, control engineering has emerged as a unique practice.

The first controls had current outputs represented with a voltage control input. So as to implement electrical control systems, the correct technology was unavailable then, the designers were left with less efficient systems and the alternative of slow responding mechanical systems. The governor is a very effective mechanical controller which is still often utilized by some hydro plants. Ultimately, process control systems became available prior to modern power electronics. These process controls systems were often used in industrial applications and were devised by mechanical engineers utilizing pneumatic and hydraulic control devices, lots of which are still being utilized at present.