

Forklift Control Valves

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

Throughout history, various automatic machines have been used to simply entertain or to accomplish specific tasks. A common European style during the 17th and 18th centuries 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 likewise called feedback controlled machines comprise 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 the year 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," which could explain the instabilities exhibited by the fly ball governor. He made use of differential equations to be able to explain the control system. This paper exhibited the usefulness and importance of mathematical methods and models in relation to understanding complicated phenomena. It likewise signaled the beginning 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 analysis.

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

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

Initially, control engineering was performed as just a part of mechanical engineering. Control theories were firstly studied with electrical engineering because electrical circuits can simply be explained with control theory methods. At present, control engineering has emerged as a unique practice.

The very first controls had current outputs represented with a voltage control input. So as to implement electrical control systems, the right technology was unavailable at that moment, the designers were left with less efficient systems and the alternative of slow responding mechanical systems. The governor is a really efficient mechanical controller that is still often utilized by some hydro factories. In the long run, process control systems became accessible previous to modern power electronics. These process controls systems were often utilized in industrial applications and were devised by mechanical engineers using hydraulic and pneumatic control machines, lots of which are still being utilized nowadays.