

Forklift Control Valve

Control Valve for Forklift - The earliest automatic control systems were being used more than two thousand years ago. In Alexandria, Egypt, the ancient Ktesibios water clock constructed in the third century 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 common style, this successful machine was being made in a similar way in Baghdad when the Mongols captured the city in 1258 A.D.

All through history, various automatic tools have been utilized to accomplish specific tasks or to simply entertain. A popular European design throughout the 17th and 18th centuries was the automata. This device was an example of "open-loop" control, featuring dancing figures which would repeat the same job again and again.

Closed loop or likewise called feedback controlled equipments consist of the temperature regulator common on furnaces. This was developed during the year 1620 and attributed to Drebbel. Another example is the centrifugal fly ball governor developed during 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," which was able to explain the exhibited by the fly ball governor. In order to describe the control system, he used differential equations. This paper demonstrated the importance and helpfulness of mathematical methods and models in relation to understanding complicated phenomena. It also signaled the beginning of mathematical control and systems theory. 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 precisely control more dynamic systems than the initial model fly ball governor. These updated methods include various developments in optimal control in the 1950s and 1960s, followed by progress in robust, stochastic, adaptive and optimal control techniques in 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.

Primarily, control engineering was performed as a part of mechanical engineering. In addition, control theory was initially studied as part of electrical engineering since electrical circuits can often be simply described with control theory techniques. Currently, control engineering has emerged as a unique practice.

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 at that moment, the designers were left with less efficient systems and the option of slow responding mechanical systems. The governor is a very effective mechanical controller which is still usually used by various hydro factories. Ultimately, process control systems became available previous to modern power electronics. These process control systems were often utilized in industrial applications and were devised by mechanical engineers using hydraulic and pneumatic control devices, a lot of which are still being utilized at present.