

Forklift Control Valve

Control Valve for Forklift - The earliest automated control systems were being utilized over two thousand years ago. In Alexandria Egypt, the ancient Ktesibios water clock constructed in the 3rd century is believed to be the first feedback control machine on record. This clock kept time by means of regulating the water level in 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.

Through history, various automatic tools have been used to be able to accomplish specific tasks or to simply entertain. A popular European design throughout the seventeenth and eighteenth centuries was the automata. This tool was an example of "open-loop" control, consisting dancing figures that will repeat the same job repeatedly.

Feedback or otherwise known as "closed-loop" automatic control equipments include the temperature regulator found on a furnace. This was developed during the year 1620 and accredited to Drebbel. Another example is the centrifugal fly ball governor developed during 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 to explain the control system. This paper demonstrated the importance and helpfulness of mathematical models and methods in relation to comprehending complex phenomena. It even signaled the beginning of systems theory and mathematical control. Previous elements of control theory had appeared earlier by not as convincingly and as dramatically as in Maxwell's study.

In the following 100 years control theory made huge strides. New developments in mathematical methods made it possible to more precisely control significantly more dynamic systems as opposed to the first fly ball governor. These updated methods comprise different developments in optimal control during the 1950s and 1960s, followed by progress in robust, stochastic, optimal and adaptive control methods during the 1970s and the 1980s.

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

At first, control engineering was performed as a part of mechanical engineering. Also, control theory was firstly studied as part of electrical engineering since electrical circuits can often be simply described with control theory techniques. Nowadays, control engineering has emerged as a unique discipline.

The very first controls had current outputs represented with a voltage control input. To be able to implement electrical control systems, the right technology was unavailable then, the designers were left with less efficient systems and the option of slow responding mechanical systems. The governor is a very efficient mechanical controller that is still often used by various hydro factories. Eventually, process control systems became obtainable prior to modern power electronics. These process controls systems were normally used in industrial applications and were devised by mechanical engineers making use of pneumatic and hydraulic control devices, many of which are still being utilized nowadays.