

Forklift Control Valve

Forklift Control Valve - The first mechanized control systems were being utilized more than two thousand years ago. In Alexandria, Egypt, the ancient Ktesibios water clock built 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 in a vessel and the water flow from the vessel. A common style, this successful equipment was being made in a similar fashion in Baghdad when the Mongols captured the city in 1258 A.D.

Throughout history, a variety of automatic devices have been used in order to simply entertain or to accomplish specific tasks. A common European style during the seventeenth and eighteenth centuries was the automata. This machine was an example of "open-loop" control, featuring dancing figures that would repeat the same job over and over.

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. One more example is the centrifugal fly ball governor developed during 1788 by James Watt and used for regulating the speed of steam engines.

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

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

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

Initially, control engineering was carried out as just a part of mechanical engineering. Control theories were at first studied with electrical engineering in view of the fact that electrical circuits could simply be explained with control theory methods. Today, control engineering has emerged as a unique discipline.

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