

Forklift Control Valves

Forklift Control Valve - The earliest automatic control systems were being used over two thousand years ago. In Alexandria Egypt, the ancient Ktesibios water clock built in the third century is considered to be the first feedback control equipment on record. This clock kept time by means of regulating the water level inside a vessel and the water flow from the vessel. A common design, this successful device was being made in a similar manner in Baghdad when the Mongols captured the city in 1258 A.D.

A variety of automatic machines all through history, have been used to carry out particular tasks. A common desing used through the 17th and 18th centuries in Europe, was the automata. This particular piece of equipment was an example of "open-loop" control, comprising dancing figures that would repeat the same job repeatedly.

Closed loop or otherwise called feedback controlled devices comprise the temperature regulator common on furnaces. This was developed during 1620 and accredited to Drebbel. Another example is the centrifugal fly ball governor developed during the year 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 the year 1868 "On Governors," that can clarify the instabilities exhibited by the fly ball governor. He utilized differential equations to explain the control system. This paper exhibited the usefulness and importance of mathematical methods and models in relation to comprehending complicated phenomena. It even signaled the beginning of mathematical control and systems theory. Previous elements of control theory had appeared earlier by not as dramatically and as convincingly as in Maxwell's analysis.

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

New technology and applications of control methodology have helped produce cleaner auto engines, cleaner and more efficient chemical methods and have helped make communication and space travel satellites possible.

Originally, control engineering was practiced as just a part of mechanical engineering. Control theories were initially studied with electrical engineering for the reason that electrical circuits could simply be explained with control theory methods. Currently, control engineering has emerged as a unique practice.

The first control partnerships had a current output that was represented with a voltage control input. Since the proper technology to be able to implement electrical control systems was unavailable then, designers left with the option of slow responding mechanical systems and less efficient systems. The governor is a really effective mechanical controller which is still often utilized by several hydro plants. In the long run, process control systems became obtainable prior to modern power electronics. These process controls systems were usually used in industrial applications and were devised by mechanical engineers making use of pneumatic and hydraulic control devices, many of which are still being used nowadays.