

Forklift Control Valves

Forklift Control Valve - The first automated control systems were being used more than two thousand years ago. In Alexandria, Egypt, the ancient Ktesibios water clock made in the third century is thought to be the first feedback control equipment on record. This clock kept time by regulating the water level in a vessel and the water flow from the vessel. A common story, this successful tool was being made in a similar manner in Baghdad when the Mongols captured the city in 1258 A.D.

A variety of automatic equipment through history, have been used to be able to accomplish specific tasks. A popular design utilized all through the seventeenth and eighteenth centuries in Europe, was the automata. This device was an example of "open-loop" control, featuring dancing figures that will repeat the same job over and over.

Closed loop or also called feedback controlled machines consist of the temperature regulator common on furnaces. This was developed during the year 1620 and accredited to Drebbel. One more example is the centrifugal fly ball governor developed during the year 1788 by James Watt and utilized for regulating steam engine speed.

The Maxwell electromagnetic field equations, discovered by J.C. Maxwell wrote a paper in the year 1868 "On Governors," that was able to describing the exhibited by the fly ball governor. To describe the control system, he utilized differential equations. This paper exhibited the usefulness and importance of mathematical models and methods in relation to comprehending complicated phenomena. It even signaled the start of systems theory and mathematical control. Previous elements of control theory had appeared before but 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 first model fly ball governor. These updated techniques comprise various developments in optimal control during the 1950s and 1960s, followed by progress in stochastic, robust, optimal and adaptive 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.

At first, 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 could often be simply described with control theory techniques. Nowadays, control engineering has emerged as a unique practice.

The very first controls had current outputs represented with a voltage control input. To implement electrical control systems, the right technology was unavailable then, the designers were left with less efficient systems and the alternative of slow responding mechanical systems. The governor is a really effective mechanical controller that is still often used by several hydro factories. Eventually, process control systems became available before modern power electronics. These process controls systems were normally utilized in industrial applications and were devised by mechanical engineers using pneumatic and hydraulic control devices, lots of which are still being utilized nowadays.