

Forklift Control Valves

Forklift Control Valve - Automatic control systems were initially created over two thousand years ago. The ancient water clock of Ktesibios in Alexandria Egypt dating to the third century B.C. is thought to be the very first feedback control equipment on record. This particular clock kept time by regulating the water level inside a vessel and the water flow from the vessel. A common design, this successful machine was being made in the same fashion in Baghdad when the Mongols captured the city in 1258 A.D.

Throughout history, various automatic tools have been used so as to simply entertain or to accomplish specific tasks. A common European design in the 17th and 18th centuries 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 likewise called feedback controlled devices include the temperature regulator common on furnaces. This was developed in 1620 and accredited to Drebbel. One more example is the centrifugal fly ball governor developed during the year 1788 by James Watt and used for regulating steam engine speed.

J.C. Maxwell, who discovered the Maxwell electromagnetic field equations, wrote a paper in the year 1868 "On Governors," which could describe the instabilities exhibited by the fly ball governor. He utilized differential equations so as to describe the control system. This paper exhibited the usefulness and importance of mathematical methods and models 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 by not as convincingly and as dramatically as in Maxwell's study.

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

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

Initially, control engineering was carried out as just a part of mechanical engineering. Control theories were firstly studied with electrical engineering in view of the fact that electrical circuits could simply be explained with control theory techniques. At present, control engineering has emerged as a unique practice.

The first controls had current outputs represented with a voltage control input. So as to implement electrical control systems, the right 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 efficient mechanical controller which is still usually used by some hydro factories. Eventually, process control systems became accessible prior to modern power electronics. These process controls systems were usually used in industrial applications and were devised by mechanical engineers utilizing pneumatic and hydraulic control devices, many of which are still being utilized at present.