

Control Valves for Forklift

Forklift Control Valves - Automatic control systems were first established more than two thousand years ago. The ancient water clock of Ktesibios in Alexandria Egypt dating to the third century B.C. is believed to be the first feedback control tool on record. This clock kept time by way of regulating the water level in a vessel and the water flow from the vessel. A common style, this successful device was being made in the same manner in Baghdad when the Mongols captured the city in 1258 A.D.

All through history, different automatic equipments have been utilized so as to simply entertain or to accomplish specific tasks. A common European style in the seventeenth and eighteenth centuries was the automata. This tool was an example of "open-loop" control, featuring dancing figures which would repeat the same task again and again.

Closed loop or also called feedback controlled equipments comprise the temperature regulator common on furnaces. This was actually developed during the year 1620 and accredited to Drebbel. Another example is the centrifugal fly ball governor developed during 1788 by James Watt and used for regulating the speed of steam engines.

The Maxwell electromagnetic field equations, discovered by J.C. Maxwell wrote a paper in 1868 "On Governors," which was able to describing the exhibited by the fly ball governor. In order to explain the control system, he made use of differential equations. This paper demonstrated the importance and helpfulness of mathematical models and methods in relation to comprehending complex phenomena. It likewise signaled the start 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 next one hundred years control theory made huge strides. New developments in mathematical techniques made it possible to more precisely control significantly more dynamic systems as opposed to the first fly ball governor. These updated methods consist of different developments in optimal control in the 1950s and 1960s, followed by advancement in robust, stochastic, adaptive and optimal control techniques in the 1970s and the 1980s.

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

Initially, control engineering was performed as just a part of mechanical engineering. Control theories were originally studied with electrical engineering because electrical circuits could simply be described with control theory methods. Now, control engineering has emerged as a unique discipline.

The first controls had current outputs represented with a voltage control input. To be able to implement electrical control systems, the right technology was unavailable at that moment, the designers were left with less efficient systems and the choice of slow responding mechanical systems. The governor is a really efficient mechanical controller that is still normally used by several hydro factories. Eventually, process control systems became accessible previous to modern power electronics. These process controls systems were normally utilized in industrial applications and were devised by mechanical engineers making use of pneumatic and hydraulic control equipments, many of which are still being utilized today.