

Forklift Control Valve

Forklift Control Valve - Automatic control systems were first developed over two thousand years ago. The ancient water clock of Ktesibios in Alexandria Egypt dating to the 3rd century B.C. is thought to be the first feedback control machine on record. This particular clock kept time by means of regulating the water level inside a vessel and the water flow from the vessel. A common style, this successful equipment was being made in the same way in Baghdad when the Mongols captured the city in 1258 A.D.

All through history, different automatic machines have been utilized in order to simply entertain or to accomplish specific tasks. A popular European design throughout the 17th and 18th centuries was the automata. This device was an example of "open-loop" control, consisting dancing figures which will repeat the same task again and again.

Closed loop or feedback controlled tools consist of the temperature regulator common on furnaces. This was actually developed in 1620 and accredited to Drebbel. Another example is the centrifugal fly ball governor developed during 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 1868 "On Governors," which could describe the instabilities exhibited by the fly ball governor. He utilized differential equations so as to explain the control system. This paper demonstrated the usefulness and importance of mathematical methods and models in relation to understanding complex phenomena. It likewise signaled the beginning of systems theory and mathematical control. Previous elements of control theory had appeared earlier by not as dramatically and as convincingly as in Maxwell's study.

Within the following 100 years control theory made huge strides. New developments in mathematical methods made it possible to more accurately control considerably more dynamic systems as opposed to the original fly ball governor. These updated techniques comprise different 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 technology and applications of control methodology have helped make cleaner auto engines, more efficient and cleaner chemical processes and have helped make space travel and communication satellites possible.

At first, control engineering was practiced as just a part of mechanical engineering. Control theories were firstly studied with electrical engineering for the reason that electrical circuits could simply be described with control theory techniques. Currently, control engineering has emerged as a unique discipline.

The first control partnerships had a current output that was represented with a voltage control input. In view of the fact that the right technology to implement electrical control systems was unavailable at that moment, designers left with the option of slow responding mechanical systems and less efficient systems. The governor is a very efficient mechanical controller which is still normally used by various hydro plants. Eventually, process control systems became accessible previous to modern power electronics. These process controls systems were usually used in industrial applications and were devised by mechanical engineers utilizing hydraulic and pneumatic control machines, many of which are still being utilized today.