

Forklift Control Valves

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

Various automatic devices all through history, have been utilized to be able to accomplish certain tasks. A popular style used during the 17th and 18th centuries in Europe, was the automata. This particular piece of equipment was an example of "open-loop" control, consisting dancing figures which would repeat the same job over and over.

Feedback or likewise known as "closed-loop" automatic control tools include the temperature regulator found on a furnace. This was developed in the year 1620 and accredited to Drebbel. One more example is the centrifugal fly ball governor developed during 1788 by James Watt and utilized for regulating the speed of steam engines.

The Maxwell electromagnetic field equations, discovered by J.C. Maxwell wrote a paper in 1868 "On Governors," that was able to describing the exhibited by the fly ball governor. To be able to explain the control system, he made use of differential equations. This paper demonstrated the usefulness and importance of mathematical models and methods in relation to understanding complicated phenomena. It even signaled the start of systems theory and mathematical control. Previous elements of control theory had appeared before by not as convincingly and as dramatically as in Maxwell's study.

Within the next 100 years control theory made huge strides. New developments in mathematical techniques made it possible to more precisely control considerably more dynamic systems than the first fly ball governor. These updated techniques comprise various developments in optimal control during the 1950s and 1960s, followed by advancement in stochastic, robust, optimal and adaptive control techniques in the 1970s and the 1980s.

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

At first, control engineering was practiced as just a part of mechanical engineering. Control theories were initially studied with electrical engineering as electrical circuits can simply be described with control theory techniques. Today, control engineering has emerged as a unique discipline.

The very first control relationships had a current output which was represented with a voltage control input. Since the correct technology to be able to implement electrical control systems was unavailable at that time, designers left with the option of slow responding mechanical systems and less efficient systems. The governor is a very effective mechanical controller that is still usually used by some hydro plants. Ultimately, process control systems became offered previous to modern power electronics. These process controls systems were usually utilized in industrial applications and were devised by mechanical engineers utilizing pneumatic and hydraulic control equipments, many of which are still being used nowadays.