

Forklift Control Valves

Control Valves for Forklift - The earliest automatic control systems were being used over two thousand years ago. In Alexandria Egypt, the ancient Ktesibios water clock constructed in the 3rd century is considered to be the first feedback control equipment on record. This clock kept time by means of regulating the water level inside a vessel and the water flow from the vessel. A popular style, this successful machine was being made in a similar manner in Baghdad when the Mongols captured the city in 1258 A.D.

Different automatic machines through history, have been used so as to accomplish specific jobs. A common style used all through the seventeenth and eighteenth centuries in Europe, was the automata. This piece of equipment was an example of "open-loop" control, consisting dancing figures that would repeat the same job again and again.

Feedback or "closed-loop" automatic control devices comprise the temperature regulator seen on a furnace. This was developed during 1620 and attributed to Drebbel. Another example is the centrifugal fly ball governor developed during 1788 by James Watt and utilized for regulating the speed of steam engines.

J.C. Maxwell, who discovered the Maxwell electromagnetic field equations, wrote a paper in the year 1868 "On Governors," which was able to describe the instabilities demonstrated by the fly ball governor. He made use of differential equations to be able to describe the control system. This paper exhibited the importance and helpfulness of mathematical models and methods in relation to comprehending complicated phenomena. It even signaled the start of mathematical control and systems theory. Previous elements of control theory had appeared before by 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 than the original model fly ball governor. These updated methods include different developments in optimal control during the 1950s and 1960s, followed by advancement in robust, stochastic, optimal and adaptive 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.

At first, control engineering was practiced as just a part of mechanical engineering. Control theories were firstly studied with electrical engineering as electrical circuits can simply be explained with control theory methods. At present, control engineering has emerged as a unique discipline.

The first control partnerships had a current output which was represented with a voltage control input. Since the correct technology to implement electrical control systems was unavailable at that time, designers left with the alternative of slow responding mechanical systems and less efficient systems. The governor is a very effective mechanical controller which is still normally used by various hydro factories. Eventually, process control systems became offered before modern power electronics. These process controls systems were usually utilized in industrial applications and were devised by mechanical engineers making use of hydraulic and pneumatic control equipments, many of which are still being utilized today.