

Forklift Control Valve

Control Valve for Forklift - Automatic control systems were first created more than two thousand years ago. The ancient water clock of Ktesibios in Alexandria Egypt dating to the 3rd century B.C. is believed to be the very first feedback control tool on record. This particular clock kept time by way of 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.

All through history, various automatic equipments have been used to be able to accomplish specific tasks or to simply entertain. A popular European design through the seventeenth and eighteenth centuries was the automata. This piece of equipment was an example of "open-loop" control, consisting dancing figures which will repeat the same job over and over.

Closed loop or likewise called feedback controlled tools consist of the temperature regulator common on furnaces. This was actually developed in the year 1620 and accredited to Drebbel. One more example is the centrifugal fly ball governor developed in 1788 by James Watt and used for regulating the speed of steam engines.

J.C. Maxwell, who discovered the Maxwell electromagnetic field equations, wrote a paper in 1868 "On Governors," that could explain the instabilities demonstrated by the fly ball governor. He utilized differential equations to explain the control system. This paper exhibited the usefulness and importance of mathematical methods and models in relation to understanding complicated phenomena. It also signaled the start of mathematical control and systems theory. Previous elements of control theory had appeared earlier by not as convincingly and as dramatically as in Maxwell's study.

In the next 100 years control theory made huge strides. New developments in mathematical techniques made it feasible to more precisely control significantly more dynamic systems than the first fly ball governor. These updated methods comprise different developments in optimal control in the 1950s and 1960s, followed by development in stochastic, robust, optimal and adaptive control methods 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 space travel and communication satellites possible.

Primarily, control engineering was carried out as a part of mechanical engineering. Also, control theory was firstly studied as part of electrical engineering as electrical circuits can often be simply described with control theory techniques. At present, control engineering has emerged as a unique practice.

The very first control partnerships had a current output which was represented with a voltage control input. Because the proper technology to be able to implement electrical control systems was unavailable at that moment, designers left with the alternative of slow responding mechanical systems and less efficient systems. The governor is a very efficient mechanical controller which is still normally utilized by several hydro plants. Ultimately, process control systems became obtainable before modern power electronics. These process controls systems were often used in industrial applications and were devised by mechanical engineers making use of pneumatic and hydraulic control machines, a lot of which are still being used nowadays.