

Control Valve for Forklift

Forklift Control Valve - Automatic control systems were initially established more than two thousand years ago. The ancient water clock of Ktesibios in Alexandria Egypt dating to the 3rd century B.C. is considered to be the very first feedback control device on record. This particular clock kept time by way 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 way in Baghdad when the Mongols captured the city in 1258 A.D.

Through history, a variety of automatic machines have been used to be able to accomplish specific tasks or to simply entertain. A common European style through the seventeenth and eighteenth centuries was the automata. This particular machine was an example of "open-loop" control, consisting dancing figures which will repeat the same task again and again.

Feedback or otherwise known as "closed-loop" automatic control equipments include the temperature regulator found on a furnace. This was actually developed in the year 1620 and accredited to Drebbel. Another example is the centrifugal fly ball governor developed in the year 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 the year 1868 "On Governors," which could describe the instabilities exhibited by the fly ball governor. He made use of differential equations to be able to describe the control system. This paper exhibited the usefulness and importance of mathematical models and methods in relation to comprehending complicated phenomena. It also signaled the beginning of mathematical control and systems theory. Previous elements of control theory had appeared before by not as dramatically and as convincingly as in Maxwell's analysis.

New developments in mathematical techniques and new control theories made it possible to more accurately control more dynamic systems as opposed to the first model fly ball governor. These updated techniques include various 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 applications and technology of control methodology has helped make cleaner engines, with cleaner and more efficient processes helped make communication satellites and even traveling in space possible.

Originally, control engineering was carried out as just a part of mechanical engineering. Control theories were initially studied with electrical engineering since electrical circuits can simply be explained with control theory methods. Now, control engineering has emerged as a unique discipline.

The first control partnerships had a current output that was represented with a voltage control input. For the reason that the right technology so as to implement electrical control systems was unavailable then, designers left with the option of slow responding mechanical systems and less efficient systems. The governor is a very effective mechanical controller which is still normally utilized by several hydro factories. Ultimately, process control systems became available before modern power electronics. These process controls systems were usually utilized in industrial applications and were devised by mechanical engineers utilizing hydraulic and pneumatic control machines, a lot of which are still being utilized today.