

Control Valve for Forklift

Control Valves 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 thought to be the first feedback control machine on record. This particular clock kept time by way of regulating the water level within a vessel and the water flow from the vessel. A popular design, this successful device was being made in the same way in Baghdad when the Mongols captured the city in 1258 A.D.

Through history, different automatic tools have been used in order to accomplish specific tasks or to simply entertain. A common European style through the seventeenth and eighteenth centuries was the automata. This machine was an example of "open-loop" control, featuring dancing figures which will repeat the same job over and over.

Feedback or "closed-loop" automatic control machines comprise the temperature regulator seen on a furnace. This was developed in the year 1620 and accredited to Drebbel. One more 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 1868 "On Governors," that could describe the instabilities exhibited by the fly ball governor. He used differential equations to explain the control system. This paper exhibited the usefulness and importance of mathematical models and methods in relation to understanding complex phenomena. It likewise 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 developments in mathematical techniques and new control theories made it possible to more precisely control more dynamic systems than the initial model fly ball governor. These updated techniques comprise various developments in optimal control during the 1950s and 1960s, followed by advancement in robust, stochastic, optimal and adaptive control methods during the 1970s and the 1980s.

New technology and applications of control methodology has helped produce cleaner engines, with more efficient and cleaner processes helped make communication satellites and even traveling in space possible.

At first, control engineering was performed as just a part of mechanical engineering. Control theories were originally studied with electrical engineering for the reason that electrical circuits can simply be explained with control theory techniques. Now, control engineering has emerged as a unique discipline.

The first controls had current outputs represented with a voltage control input. To implement electrical control systems, the correct technology was unavailable then, the designers were left with less efficient systems and the option of slow responding mechanical systems. The governor is a very effective mechanical controller that is still usually used by various hydro factories. Eventually, process control systems became available prior to modern power electronics. These process controls systems were usually used in industrial applications and were devised by mechanical engineers utilizing pneumatic and hydraulic control machines, a lot of which are still being used at present.