

Control Valve for Forklift

Forklift Control Valves - Automatic control systems were first created more than 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 very first feedback control tool on record. This clock kept time by regulating the water level in a vessel and the water flow from the vessel. A popular design, this successful tool was being made in a similar fashion in Baghdad when the Mongols captured the city in 1258 A.D.

Throughout history, various automatic equipments have been utilized in order to simply entertain or to accomplish specific tasks. A common European style all through the 17th and 18th centuries was the automata. This device was an example of "open-loop" control, featuring dancing figures that would repeat the same task over and over.

Feedback or "closed-loop" automatic control equipments include the temperature regulator seen on a furnace. This was actually developed during 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 steam engine speed.

The Maxwell electromagnetic field equations, discovered by J.C. Maxwell wrote a paper in 1868 "On Governors," that was able to explaining the exhibited by the fly ball governor. To be able to explain the control system, he used differential equations. This paper exhibited the importance and helpfulness of mathematical methods and models in relation to comprehending complex phenomena. It also signaled the start of systems theory and mathematical control. Previous elements of control theory had appeared earlier by not as dramatically and as convincingly as in Maxwell's study.

New control theories and new developments in mathematical techniques made it possible to more precisely control more dynamic systems than the first model fly ball governor. These updated techniques comprise various developments in optimal control during the 1950s and 1960s, followed by advancement in stochastic, robust, adaptive and optimal control techniques during the 1970s and the 1980s.

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

Initially, control engineering was performed as just a part of mechanical engineering. Control theories were firstly studied with electrical engineering since electrical circuits can simply be explained with control theory techniques. Currently, control engineering has emerged as a unique discipline.

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