

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 believed to be the very first feedback control equipment on record. This clock kept time by regulating the water level in a vessel and the water flow from the vessel. A popular style, this successful equipment was being made in a similar manner in Baghdad when the Mongols captured the city in 1258 A.D.

Throughout history, different automatic tools have been utilized in order to simply entertain or to accomplish specific tasks. A popular European style through the seventeenth and eighteenth centuries was the automata. This tool was an example of "open-loop" control, comprising dancing figures that will repeat the same task repeatedly.

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

The Maxwell electromagnetic field equations, discovered by J.C. Maxwell wrote a paper in 1868 "On Governors," that was able to describing the exhibited by the fly ball governor. In order to describe the control system, he made use of differential equations. 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 before by not as dramatically and as convincingly as in Maxwell's analysis.

Within the next one hundred years control theory made huge strides. New developments in mathematical techniques made it possible to more precisely control significantly more dynamic systems as opposed to the first fly ball governor. These updated methods include different developments in optimal control during the 1950s and 1960s, followed by development in robust, stochastic, optimal and adaptive control techniques during the 1970s and the 1980s.

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

Originally, control engineering was practiced as just a part of mechanical engineering. Control theories were firstly studied with electrical engineering for the reason that electrical circuits can simply be explained with control theory methods. Now, control engineering has emerged as a unique practice.

The very first control relationships had a current output which was represented with a voltage control input. As the proper technology to be able 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 really efficient mechanical controller that is still often utilized by several hydro factories. 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 using hydraulic and pneumatic control devices, lots of which are still being utilized these days.