Forklift Control Valve

Control Valves for Forklift - The earliest automated control systems were being used over two thousand years ago. In Alexandria Egypt, the ancient Ktesibios water clock constructed in the 3rd century is believed to be the very first feedback control equipment on record. This particular clock kept time by regulating the water level within a vessel and the water flow from the vessel. A common style, this successful machine was being made in a similar manner in Baghdad when the Mongols captured the city in 1258 A.D.

Various automatic machines throughout history, have been utilized to accomplish specific tasks. A popular style used during the seventeenth and eighteenth centuries in Europe, was the automata. This machine was an example of "open-loop" control, comprising dancing figures that would repeat the same task over and over.

Closed loop or likewise called feedback controlled tools include 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 the year 1788 by James Watt and used for regulating steam engine speed.

The Maxwell electromagnetic field equations, discovered by J.C. Maxwell wrote a paper in 1868 "On Governors," which was able to describing the exhibited by the fly ball governor. So as to explain the control system, he used differential equations. This paper exhibited the usefulness and importance of mathematical methods and models in relation to understanding complex phenomena. It likewise signaled the start of systems theory and mathematical control. 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 as opposed to the original fly ball governor. These updated methods include various 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 have helped produce cleaner auto engines, more efficient and cleaner chemical methods and have helped make communication and space travel satellites possible.

In the beginning, control engineering was performed as just a part of mechanical engineering. Control theories were at first studied with electrical engineering in view of the fact that electrical circuits could simply be explained with control theory methods. At present, control engineering has emerged as a unique practice.

The very first control partnerships had a current output that was represented with a voltage control input. In view of the fact that the proper technology in order to implement electrical control systems was unavailable then, designers left with the alternative of slow responding mechanical systems and less efficient systems. The governor is a very effective mechanical controller that is still usually used by some hydro plants. Eventually, process control systems became offered prior to modern power electronics. These process controls systems were usually utilized in industrial applications and were devised by mechanical engineers utilizing pneumatic and hydraulic control devices, a lot of which are still being utilized at present.