Forklift Control Valve

Control Valves for Forklift - Automatic control systems were first established over 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 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 design, this successful device was being made in the same manner in Baghdad when the Mongols captured the city in 1258 A.D.

Through history, a variety of automatic equipments have been utilized to accomplish specific tasks or to simply entertain. A common European design during the seventeenth and eighteenth centuries was the automata. This tool was an example of "open-loop" control, consisting dancing figures which will repeat the same task again and again.

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

J.C. Maxwell, who discovered the Maxwell electromagnetic field equations, wrote a paper in 1868 "On Governors," which was able to clarify the instabilities demonstrated by the fly ball governor. He utilized differential equations in order to explain the control system. This paper exhibited the usefulness and importance of mathematical methods and models in relation to comprehending complex phenomena. It likewise signaled the start of mathematical control and systems theory. Previous elements of control theory had appeared earlier by not as convincingly and as dramatically as in Maxwell's study.

New control theories and new developments in mathematical techniques made it possible to more precisely control more dynamic systems as opposed to the original model fly ball governor. These updated techniques include different developments in optimal control in the 1950s and 1960s, followed by advancement in robust, stochastic, optimal and adaptive control methods during the 1970s and the 1980s.

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

In the beginning, control engineering was practiced as just a part of mechanical engineering. Control theories were originally studied with electrical engineering since electrical circuits could simply be explained with control theory methods. Currently, 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 proper technology was unavailable then, the designers were left with less efficient systems and the alternative of slow responding mechanical systems. The governor is a very efficient mechanical controller which is still often utilized by various hydro factories. Ultimately, process control systems became offered prior to modern power electronics. These process controls systems were often utilized in industrial applications and were devised by mechanical engineers using hydraulic and pneumatic control machines, a lot of which are still being used at present.