

Control Valves for Forklift

Forklift Control Valve - Automatic control systems were primarily established 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 first feedback control tool on record. This clock kept time by regulating the water level inside a vessel and the water flow from the vessel. A popular design, this successful tool was being made in the same way in Baghdad when the Mongols captured the city in 1258 A.D.

A variety of automatic devices through history, have been used so as to complete particular jobs. A common style used all through the seventeenth and eighteenth centuries in Europe, was the automata. This tool was an example of "open-loop" control, featuring dancing figures that will repeat the same task over and over.

Closed loop or feedback controlled devices consist of the temperature regulator common on furnaces. This was actually developed during 1620 and attributed to Drebbel. One more example is the centrifugal fly ball governor developed in 1788 by James Watt and used for regulating steam engine speed.

J.C. Maxwell, who discovered the Maxwell electromagnetic field equations, wrote a paper in the year 1868 "On Governors," which could describe the instabilities demonstrated by the fly ball governor. He utilized differential equations so as to explain the control system. This paper demonstrated 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 developments in mathematical techniques and new control theories made it possible to more precisely control more dynamic systems as opposed to the initial model fly ball governor. These updated techniques include various developments in optimal control during the 1950s and 1960s, followed by development in robust, stochastic, optimal and adaptive control methods in 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 space travel and communication satellites possible.

Initially, control engineering was practiced as just a part of mechanical engineering. Control theories were at first studied with electrical engineering because electrical circuits could simply be described 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. So as to implement electrical control systems, the proper technology was unavailable then, the designers were left with less efficient systems and the option of slow responding mechanical systems. The governor is a really efficient mechanical controller that is still normally used by some hydro factories. In the long run, process control systems became obtainable previous to modern power electronics. These process controls systems were normally used in industrial applications and were devised by mechanical engineers making use of pneumatic and hydraulic control devices, many of which are still being utilized at present.