

Forklift Control Valves

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 3rd century B.C. is thought to be the first feedback control machine on record. This clock kept time by means of regulating the water level within a vessel and the water flow from the vessel. A popular style, this successful equipment was being made in a similar way in Baghdad when the Mongols captured the city in 1258 A.D.

Different automatic equipment throughout history, have been used so as to carry out specific tasks. A popular style used during the seventeenth and eighteenth centuries in Europe, was the automata. This particular piece of equipment was an example of "open-loop" control, consisting dancing figures which will repeat the same job again and again.

Closed loop or otherwise called feedback controlled devices consist of the temperature regulator common on furnaces. This was actually developed in 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 the year 1868 "On Governors," that was able to explaining the exhibited by the fly ball governor. In order to describe the control system, he used differential equations. This paper demonstrated the usefulness and importance of mathematical methods and models in relation to understanding complicated phenomena. It even signaled the start of mathematical control and systems theory. Previous elements of control theory had appeared earlier by not as dramatically and as convincingly as in Maxwell's analysis.

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

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

At first, control engineering was performed as a part of mechanical engineering. Also, control theory was initially studied as part of electrical engineering since electrical circuits could often be simply explained with control theory techniques. Today, 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. Because the right 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 really efficient mechanical controller which is still normally utilized by some hydro factories. Ultimately, process control systems became obtainable prior to modern power electronics. These process controls systems were often used in industrial applications and were devised by mechanical engineers using pneumatic and hydraulic control equipments, many of which are still being utilized today.