Control Valve for Forklift

Forklift Control Valves - The earliest mechanized control systems were being utilized over two thousand years ago. In Alexandria Egypt, the ancient Ktesibios water clock made in the third century is believed to be the first feedback control tool on record. This particular clock kept time by means of regulating the water level inside a vessel and the water flow from the vessel. A common 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, a variety of automatic tools have been used so as to simply entertain or to accomplish specific tasks. A popular European style throughout the 17th and 18th centuries was the automata. This particular tool was an example of "open-loop" control, comprising dancing figures that would repeat the same job repeatedly.

Closed loop or also called feedback controlled machines include the temperature regulator common on furnaces. This was developed in the year 1620 and attributed to Drebbel. Another 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 the year 1868 "On Governors," which can clarify the instabilities exhibited by the fly ball governor. He made use of differential equations to explain the control system. This paper demonstrated the importance and helpfulness of mathematical models and methods in relation to comprehending complex phenomena. It also signaled the start of systems theory and mathematical control. Previous elements of control theory had appeared before by not as dramatically and as convincingly as in Maxwell's study.

New control theories and new developments in mathematical techniques made it possible to more accurately control more dynamic systems than the initial model fly ball governor. These updated methods consist of different developments in optimal control during the 1950s and 1960s, followed by progress in stochastic, robust, adaptive and optimal 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 processes helped make communication satellites and even traveling in space possible.

At first, control engineering was performed as a part of mechanical engineering. Additionally, control theory was first studied as part of electrical engineering for the reason that electrical circuits could often be simply described with control theory methods. Currently, control engineering has emerged as a unique discipline.

The very first control relationships had a current output which was represented with a voltage control input. Since the correct technology to implement electrical control systems was unavailable then, designers left with the choice of slow responding mechanical systems and less efficient systems. The governor is a very efficient mechanical controller which is still often utilized by various hydro plants. Eventually, process control systems became accessible before modern power electronics. These process controls systems were often used in industrial applications and were devised by mechanical engineers making use of hydraulic and pneumatic control equipments, a lot of which are still being utilized these days.