Control Valve for Forklift

Forklift Control Valve - The earliest mechanized control systems were being utilized over two thousand years ago. In Alexandria Egypt, the ancient Ktesibios water clock built in the third century is considered to be the very 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 common design, this successful equipment was being made in the same fashion in Baghdad when the Mongols captured the city in 1258 A.D.

Different automatic machines through history, have been used to be able to complete specific jobs. A popular style used through the 17th and 18th centuries in Europe, was the automata. This piece of equipment was an example of "open-loop" control, consisting dancing figures which would repeat the same task over and over.

Feedback or also known as "closed-loop" automatic control machines comprise the temperature regulator found on a furnace. This was actually developed in the year 1620 and accredited to Drebbel. Another example is the centrifugal fly ball governor developed in the year 1788 by James Watt and used 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 can clarify the instabilities demonstrated by the fly ball governor. He utilized differential equations in order to explain the control system. This paper demonstrated the importance and helpfulness of mathematical methods and models in relation to comprehending complex phenomena. It also signaled the beginning 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 analysis.

New control theories and new developments in mathematical techniques made it possible to more accurately control more dynamic systems compared to the initial model fly ball governor. These updated techniques consist of different developments in optimal control during the 1950s and 1960s, followed by progress in stochastic, robust, optimal and adaptive control methods during the 1970s and the 1980s.

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

In the beginning, control engineering was performed as just a part of mechanical engineering. Control theories were initially studied with electrical engineering since electrical circuits could simply be explained with control theory methods. Now, control engineering has emerged as a unique practice.

The first control partnerships had a current output which was represented with a voltage control input. As the proper technology so as to implement electrical control systems was unavailable at that moment, designers left with the choice of slow responding mechanical systems and less efficient systems. The governor is a very effective mechanical controller which is still often utilized by various hydro plants. In the long run, process control systems became obtainable prior to modern power electronics. These process controls systems were normally utilized in industrial applications and were devised by mechanical engineers making use of pneumatic and hydraulic control equipments, many of which are still being utilized today.