Forklift Control Valve

Forklift Control Valve - The earliest mechanized control systems were being utilized more that two thousand years ago. In Alexandria Egypt, the ancient Ktesibios water clock constructed in the third century is thought to be the first feedback control device on record. This clock kept time by way of regulating the water level inside a vessel and the water flow from the vessel. A popular design, this successful equipment was being made in a similar way in Baghdad when the Mongols captured the city in 1258 A.D.

Through history, different automatic machines have been used in order to simply entertain or to accomplish specific tasks. A common European design during the 17th and 18th centuries was the automata. This machine was an example of "open-loop" control, featuring dancing figures that would repeat the same job repeatedly.

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

The Maxwell electromagnetic field equations, discovered by J.C. Maxwell wrote a paper in the year 1868 "On Governors," which was able to explaining the exhibited by the fly ball governor. In order to explain the control system, he used differential equations. This paper demonstrated the usefulness and importance of mathematical models and methods in relation to comprehending complex phenomena. It even signaled the beginning of systems theory and mathematical control. Previous elements of control theory had appeared before 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 accurately control more dynamic systems than the first model fly ball governor. These updated techniques consist of different developments in optimal control in the 1950s and 1960s, followed by advancement in stochastic, robust, optimal and adaptive control methods during the 1970s and the 1980s.

New applications and technology of control methodology have helped make cleaner auto engines, more efficient and cleaner chemical methods and have helped make communication and space travel satellites possible.

At first, control engineering was performed as a part of mechanical engineering. As well, control theory was firstly studied as part of electrical engineering since electrical circuits could often be simply explained with control theory methods. Nowadays, control engineering has emerged as a unique practice.

The very first control relationships had a current output that was represented with a voltage control input. Since the right technology in order to implement electrical control systems was unavailable at that time, designers left with the alternative of slow responding mechanical systems and less efficient systems. The governor is a really efficient mechanical controller that is still often used by various hydro factories. Eventually, process control systems became offered 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 equipments, lots of which are still being used today.