Control Valve for Forklift

Forklift Control Valve - The earliest automatic 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 within 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, a variety of automatic machines have been utilized so as to accomplish specific tasks or to simply entertain. A common European design in the 17th and 18th centuries was the automata. This tool was an example of "open-loop" control, consisting dancing figures that will repeat the same task over and over.

Closed loop or feedback controlled equipments include the temperature regulator common on furnaces. This was developed during 1620 and attributed to Drebbel. One more example is the centrifugal fly ball governor developed in the year 1788 by James Watt and used 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. To be able to describe the control system, he made use of differential equations. This paper demonstrated the usefulness and importance of mathematical methods and models in relation to comprehending complex phenomena. It even signaled the start of mathematical control and systems theory. Previous elements of control theory had appeared before by not as dramatically and as convincingly as in Maxwell's analysis.

In the next one hundred years control theory made huge strides. New developments in mathematical methods made it possible to more accurately control significantly more dynamic systems as opposed to the original fly ball governor. These updated techniques comprise different 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 technology and applications of control methodology has helped produce cleaner engines, with cleaner and more efficient methods helped make communication satellites and even traveling in space possible.

Originally, control engineering was carried out as just a part of mechanical engineering. Control theories were initially studied with electrical engineering for the reason that electrical circuits can simply be described with control theory methods. Today, control engineering has emerged as a unique practice.

The very first controls had current outputs represented with a voltage control input. So as to implement electrical control systems, the correct technology was unavailable at that moment, the designers were left with less efficient systems and the alternative of slow responding mechanical systems. The governor is a very efficient mechanical controller that is still normally used by various hydro factories. Eventually, process control systems became accessible before 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 machines, many of which are still being used today.