Forklift Control Valves

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

All through history, various automatic equipments have been utilized to simply entertain or to accomplish specific tasks. A popular European design throughout the 17th and 18th centuries was the automata. This tool was an example of "open-loop" control, featuring dancing figures which would repeat the same job repeatedly.

Closed loop or also called feedback controlled machines comprise the temperature regulator common on furnaces. This was developed during the year 1620 and attributed to Drebbel. One more example is the centrifugal fly ball governor developed in 1788 by James Watt and used for regulating steam engine speed.

J.C. Maxwell, who discovered the Maxwell electromagnetic field equations, wrote a paper in 1868 "On Governors," that was able to explain the instabilities exhibited by the fly ball governor. He made use of differential equations so as to describe the control system. This paper exhibited the usefulness and importance of mathematical methods and models in relation to understanding complex phenomena. It also signaled the beginning of mathematical control and systems theory. Previous elements of control theory had appeared before by not as convincingly and as dramatically as in Maxwell's analysis.

In the next 100 years control theory made huge strides. New developments in mathematical methods made it feasible to more accurately control considerably more dynamic systems compared to the first fly ball governor. These updated methods include various developments in optimal control during the 1950s and 1960s, followed by development 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 methods helped make communication satellites and even traveling in space possible.

Originally, control engineering was performed as just a part of mechanical engineering. Control theories were originally studied with electrical engineering for the reason that electrical circuits could simply be described with control theory techniques. Nowadays, control engineering has emerged as a unique discipline.

The very first controls had current outputs represented with a voltage control input. To be able to implement electrical control systems, the correct technology was unavailable then, the designers were left with less efficient systems and the option of slow responding mechanical systems. The governor is a really efficient mechanical controller which is still often utilized by some hydro factories. Eventually, process control systems became offered before 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 devices, lots of which are still being used these days.