

Forklift Control Valves

Forklift Control Valve - Automatic control systems were first created over two thousand years ago. The ancient water clock of Ktesibios in Alexandria Egypt dating to the third century B.C. is considered to be the first feedback control machine on record. This clock kept time by regulating the water level in a vessel and the water flow from the vessel. A common style, this successful tool was being made in the same way in Baghdad when the Mongols captured the city in 1258 A.D.

Different automatic devices throughout history, have been used to complete certain jobs. A popular style utilized in the 17th and 18th centuries in Europe, was the automata. This particular machine was an example of "open-loop" control, featuring dancing figures which would repeat the same task repeatedly.

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

The Maxwell electromagnetic field equations, discovered by J.C. Maxwell wrote a paper in 1868 "On Governors," that was able to describing the exhibited by the fly ball governor. So as to describe the control system, he made use of differential equations. This paper demonstrated the importance and helpfulness of mathematical models and methods in relation to understanding complicated phenomena. It likewise signaled the start of systems theory and mathematical control. Previous elements of control theory had appeared earlier 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 in the 1950s and 1960s, followed by progress in stochastic, robust, optimal and adaptive control techniques in the 1970s and the 1980s.

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

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

The very first controls had current outputs represented with a voltage control input. In order to implement electrical control systems, the proper technology was unavailable then, the designers were left with less efficient systems and the choice of slow responding mechanical systems. The governor is a really efficient mechanical controller which is still usually utilized by some hydro plants. In the long run, process control systems became available prior to modern power electronics. These process controls systems were often utilized in industrial applications and were devised by mechanical engineers using hydraulic and pneumatic control machines, a lot of which are still being utilized today.