

Control Valve for Forklift

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

All through history, a variety of automatic tools have been used to accomplish specific tasks or to simply entertain. A common European design all through the seventeenth and eighteenth centuries was the automata. This machine was an example of "open-loop" control, comprising dancing figures that will repeat the same task over and over.

Closed loop or also called feedback controlled equipments consist of the temperature regulator common on furnaces. This was developed during the year 1620 and accredited 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 utilized differential equations. This paper demonstrated the usefulness and importance of mathematical models and methods in relation to understanding complicated phenomena. It even signaled the start of mathematical control and systems theory. Previous elements of control theory had appeared earlier by not as dramatically and as convincingly as in Maxwell's study.

Within the next 100 years control theory made huge strides. New developments in mathematical methods made it feasible to more accurately control significantly more dynamic systems as opposed to the first fly ball governor. These updated techniques include different developments in optimal control during the 1950s and 1960s, followed by progress in robust, stochastic, optimal and adaptive control techniques during the 1970s and the 1980s.

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

Primarily, control engineering was performed as a part of mechanical engineering. Also, control theory was initially studied as part of electrical engineering since electrical circuits could often be simply explained with control theory techniques. Today, control engineering has emerged as a unique practice.

The first controls had current outputs represented with a voltage control input. To implement electrical control systems, the proper technology was unavailable then, 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 usually utilized by various hydro factories. Ultimately, process control systems became obtainable prior to modern power electronics. These process controls systems were usually utilized in industrial applications and were devised by mechanical engineers utilizing pneumatic and hydraulic control devices, lots of which are still being utilized at present.