

Control Valves for Forklift

Control Valves for Forklift - Automatic control systems were initially established 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 first feedback control machine on record. This particular clock kept time by means of regulating the water level within a vessel and the water flow from the vessel. A popular design, this successful device was being made in the same manner in Baghdad when the Mongols captured the city in 1258 A.D.

Various automatic tools through history, have been used to carry out certain tasks. A common desing utilized all through the seventeenth and eighteenth centuries in Europe, was the automata. This particular piece of equipment was an example of "open-loop" control, consisting dancing figures that would repeat the same job again and again.

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

J.C. Maxwell, who discovered the Maxwell electromagnetic field equations, wrote a paper in the year 1868 "On Governors," that could clarify the instabilities demonstrated by the fly ball governor. He used differential equations in order to describe the control system. This paper demonstrated the usefulness and importance of mathematical methods and models in relation to comprehending complex phenomena. It likewise signaled the beginning 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 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 comprise different developments in optimal control in the 1950s and 1960s, followed by progress in stochastic, robust, adaptive and optimal control techniques in the 1970s and the 1980s.

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

At first, control engineering was carried out as just a part of mechanical engineering. Control theories were firstly studied with electrical engineering in view of the fact that electrical circuits could simply be described with control theory methods. Currently, control engineering has emerged as a unique discipline.

The very first control partnerships had a current output that was represented with a voltage control input. In view of the fact that the correct technology so as to implement electrical control systems was unavailable then, 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 normally used by various hydro factories. In the long run, process control systems became available prior to modern power electronics. These process controls systems were normally utilized in industrial applications and were devised by mechanical engineers using pneumatic and hydraulic control equipments, many of which are still being used these days.