Hydraulic Control Valve for Forklift

Hydraulic Control Valves for Forklift - The control valve is a tool that directs the fluid to the actuator. This device will include steel or cast iron spool that is situated within a housing. The spool slides to different locations inside the housing. Intersecting channels and grooves route the fluid based on the spool's location.

The spool is centrally situated, help in place with springs. In this particular position, the supply fluid can be blocked and returned to the tank. If the spool is slid to one direction, the hydraulic fluid is directed to an actuator and provides a return path from the actuator to tank. If the spool is moved to the opposite direction, the return and supply paths are switched. When the spool is allowed to return to the center or neutral place, the actuator fluid paths become blocked, locking it into place.

The directional control is typically designed to be stackable. They usually have a valve per hydraulic cylinder and one fluid input which supplies all the valves in the stack.

So as to prevent leaking and handle the high pressure, tolerances are maintained really tight. Typically, the spools have a clearance with the housing of less than a thousandth of an inch or 25 Ã‚Âµm. In order to avoid distorting the valve block and jamming the valve's extremely sensitive parts, the valve block will be mounted to the machine' frame by a 3-point pattern.

The location of the spool may be actuated by mechanical levers, hydraulic pilot pressure, or solenoids that push the spool right or left. A seal enables a portion of the spool to stick out the housing where it is accessible to the actuator.

The main valve block controls the stack of directional control valves by flow performance and capacity. Several of these valves are designed to be proportional, as a proportional flow rate to the valve position, whereas other valves are designed to be on-off. The control valve is amongst the most sensitive and expensive components of a hydraulic circuit.