Hydraulic Control Valves for Forklift

Hydraulic Control Valves for Forklift - The control valve is actually a device that routes the fluid to the actuator. This device would consist of cast iron or steel spool which is situated in a housing. The spool slides to different locations inside the housing. Intersecting channels and grooves direct the fluid based on the spool's location.

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

The directional control is typically intended to be stackable. They normally have a valve for each and every hydraulic cylinder and one fluid input that supplies all the valves in the stack.

Tolerances are maintained really tightly, to be able to handle the higher pressures and to avoid leaking. The spools will often have a clearance in the housing no less than 25 Ã‚Âµm or a thousandth of an inch. To be able to prevent jamming the valve's extremely sensitive components and distorting the valve, the valve block would be mounted to the machine' frame by a 3-point pattern.

A hydraulic pilot pressure, mechanical levers, or solenoids could actuate or push the spool right or left. A seal enables a part of the spool to protrude outside the housing where it is easy to get to to the actuator.

The main valve block controls the stack of directional control valves by capacity and flow performance. Some 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 among the most expensive and sensitive parts of a hydraulic circuit.