Hydraulic Control Valves for Forklift

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

The spool has a central or neutral position that is maintained with springs. In this location, the supply fluid is returned to the tank or blocked. 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 side, the return and supply paths are switched. When the spool is enabled to return to the neutral or center position, the actuator fluid paths become blocked, locking it into position.

The directional control is normally made to be stackable. They normally have one valve for every hydraulic cylinder and one fluid input which supplies all the valves inside the stack.

Tolerances are maintained really tightly, in order to tackle the higher pressures and so as to avoid leaking. The spools will often have a clearance in the housing no less than 25 Ã?â??Ã?Âµm or a thousandth of an inch. So as to avoid jamming the valve's extremely sensitive components and distorting the valve, the valve block will be mounted to the machine' frame with a 3-point pattern.

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

The main valve block is usually a stack of off the shelf directional control valves chosen by flow performance and capacity. Some valves are designed to be on-off, whereas some are designed to be proportional, as in valve position to flow rate proportional. The control valve is one of the most expensive and sensitive components of a hydraulic circuit.