Hydraulic Control Valve for Forklift

Hydraulic Control Valve for Forklift - The control valve is a device which routes the fluid to the actuator. This tool will include steel or cast iron spool which is situated inside of housing. The spool slides to different places within the housing. Intersecting channels and grooves direct the fluid based on the spool's position.

The spool has a neutral or central location which is maintained by springs. In this position, the supply fluid is returned to the tank or blocked. If the spool is slid to a direction, the hydraulic fluid is directed to an actuator and provides a return path from the actuator to tank. When the spool is transferred to the opposite side, the supply and return paths are switched. Once the spool is enabled to return to the center or neutral place, the actuator fluid paths become blocked, locking it into place.

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

So as to avoid leaking and deal with the high pressure, tolerances are maintained extremely tight. Normally, the spools have a clearance with the housing of less than a thousandth of an inch or 25 Ã?â??Ã?Âµm. So as to avoid jamming the valve's extremely sensitive components and distorting the valve, the valve block would be mounted to the machine' frame with a 3-point pattern.

The location 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 portion of the spool to stick out the housing where it is easy to get to to the actuator.

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