TYPES OF NRV

Spring in-line Check Valve

Spring Y Check Valve

Foot Check Valve

Swing Check Valve

Ball Check Valve

Lift Check Valve

Piston Check Valve

Wafer Check Valve

Dual Plate Check Valve

Diaphragm Check Valve

Nozzle Check Valve

Stop Check Valve

HOW NRV WORKS?

NRV aka CHECK VALVE

A ball check valve closes the orifice using a free-floating or spring-loaded ball that rests on the sealing seat. To help the ball into the seat and form a positive seal, the sealing seat is often conically tapered. This stops reverse flow. The ball is forced from its seat, allowing flow, when the fluid pressure on the intake side exceeds the cracking pressure. The ball will close with the back pressure or through the spring if the inlet pressure does not exceed the cracking pressure or if there is back pressure, thereby sealing the orifice. True union ball check valves make it simple to take out and change balls, doing away with the need to purchase a new valve. Take a look at our page about ball check valves.

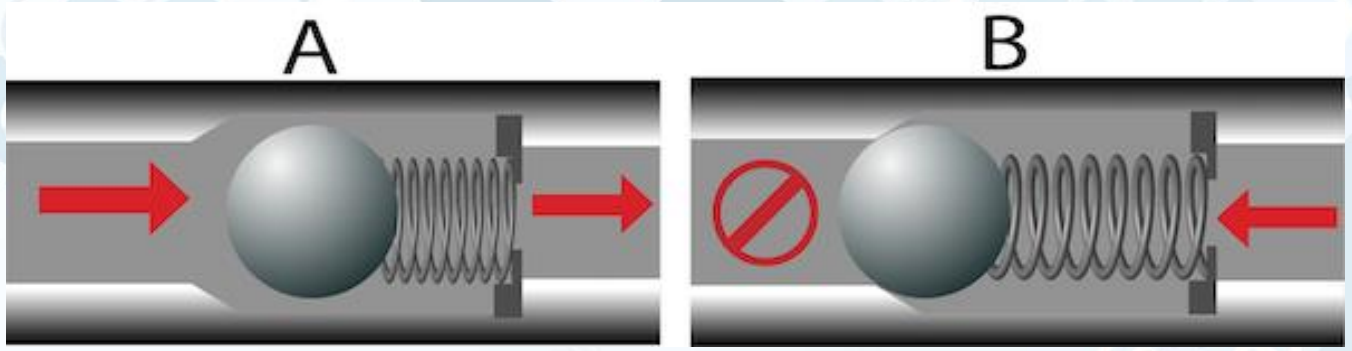


Figure 1: Spring loaded ball check valve in the open position allowing flow (A), and in the closed position preventing backflow (B)

SHUTTLE VALVE (OR VALVE)

Shuttle valve will have three port. Figure shows the shuttle valve, source 1 and source 2 are inlet ports and there is also one port which is outlet port

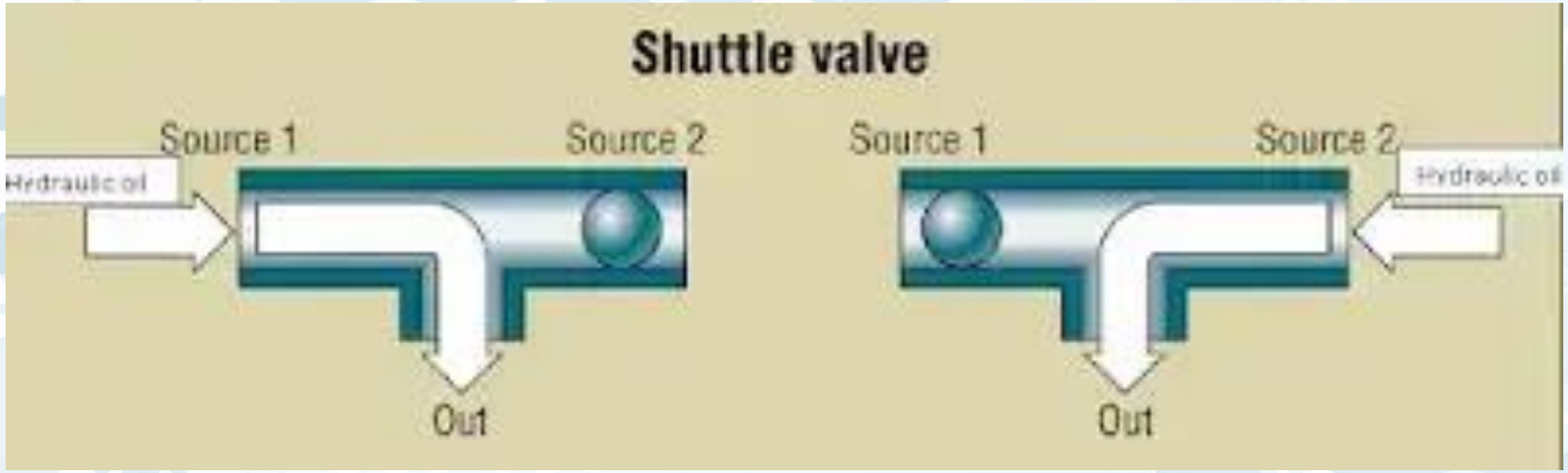
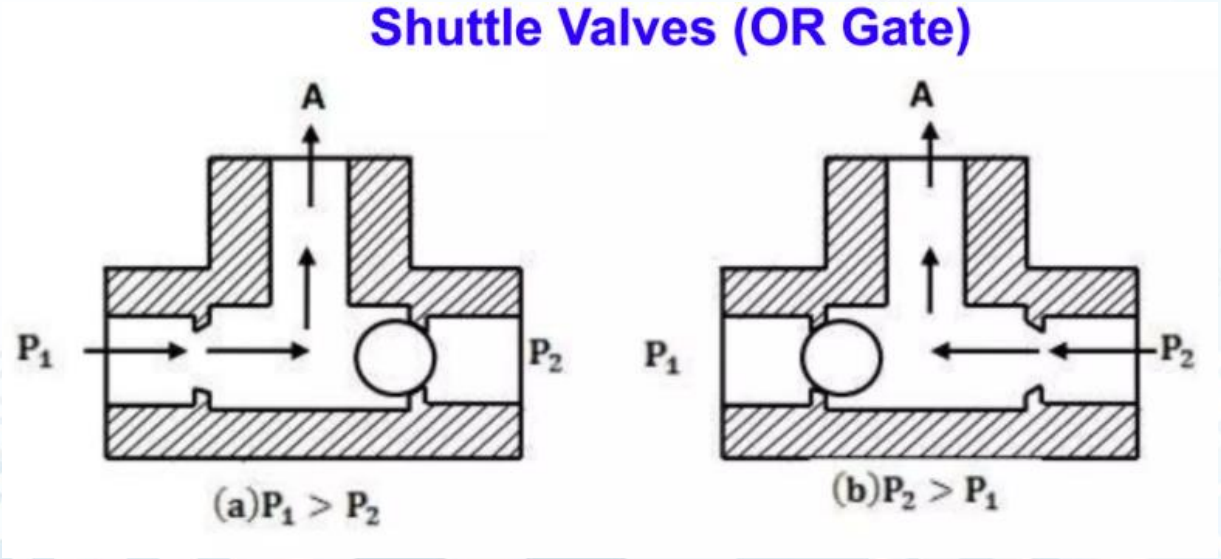


Figure 2: Ports of Shuttle Valve

SHUTTLE VALVE (OR VALVE) WORKING PRINCIPLE



Shuttle Valve allows two alternate flow sources to be connected in a one-branch circuit. Have two inlets P1 and P2 and one outlet A. Outlet receive a flow from inlet that allow higher pressure flow.

If P1 is greater than P2, the ball (poppet) will slides to the right and allows the flow from P1 to outlet (A)

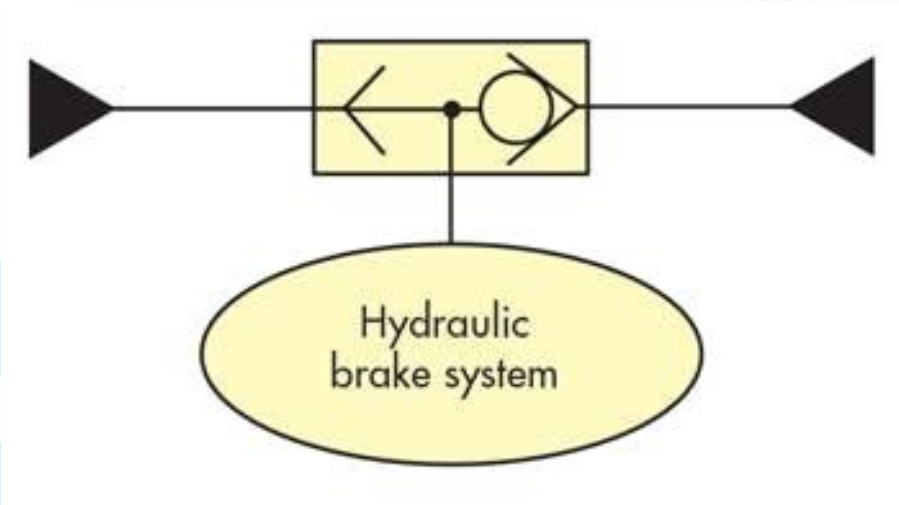
If P2 is greater than P1, the ball (poppet) will slides to the left and allows the flow from P2 to outlet (A)

SHUTTLE VALVE (OR VALVE) APPLICATION

1) ALTERNATE PUMP

A primary pump inlet P1 and a secondary pump inlet P2 connected to the system outlet A is one of the example of the use of a shuttle valve. In a situation where the primary pump loses pressure, the secondary pump serves as a backup, supplying flow to the system. Because receiving a pressure input signal from either P1 or P2 results in the transmission of a pressure output signal to A.

SHUTTLE VALVE (OR VALVE) APPLICATION



2) ALTERNATE BRAKE

The shuttle valve described above enables quick switching of control between master cylinders or stations. Many automobiles and systems come with dual driving stations or additional control stations with independent hydraulic inputs. These are directed to the necessary output via the shuttle valve.

DUAL PRESSURE VALVE (AND VALVE)

Dual pressure valve have three port. Two airport for inlet and one outlet

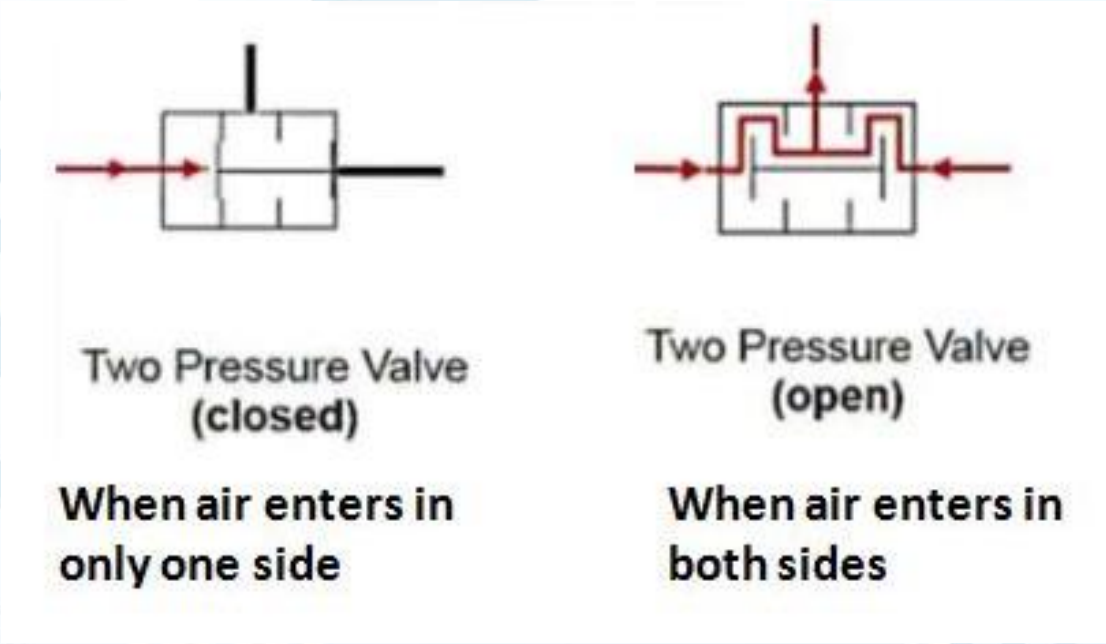


Figure 3: Ports of Dual Pressure Valve

APPLICATION OF NRV

Check valves are frequently employed in a number of applications for one of four reasons because of the way they work:

- To protect equipment downstream from backflow damage
- To prevent contamination due to reverse flow
- To prevent siphoning
- To keep a vacuum seal

They are used in practically every industry as a result of their purpose. They are applied to typical home appliances like washing machines, dishwashers, and sewer lines. They are utilized on boilers, furnaces, gas systems, pumping applications, or vacuum systems for industrial uses. On water and CO2 lines, they are widely employed as aquarium check valves. Additionally, a tiny check valve is a common option when space is at a premium yet dependable operation is still required. Water and air applications, which are covered in greater detail below, are two of the most typical check valve uses.