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To meet the requirement of various conditions in pneumatic applications, signal processing devices are often used. The following gates or valves are used, depending on the required conditions.

- OR Gate – Shuttle Valve – Used to select one of the two input signals
- AND Gate- Two Pressure Valve- To combine two input signals i.e to satisfy two conditions at the same time
- NOT Gate- 3/2 way, normally open, pilot operated Directional Control Valve- Used to negate the function

Shuttle Valve

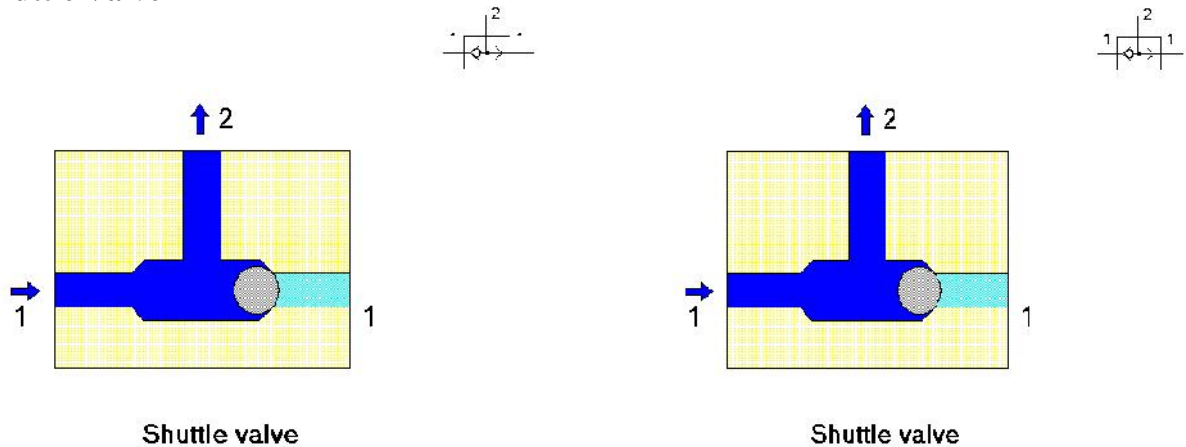
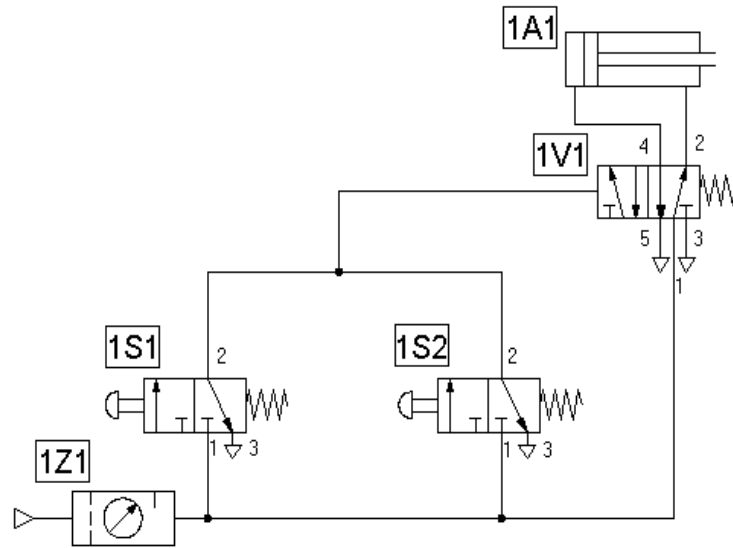


Figure 5.1 Shuttle Valve

- An Input Signal [1] can be applied on either side of the valve to obtain an out put signal at port 2. A small aluminum or plastic ball or spool is used as the shuttle which blocks the port opposite to the input signal.

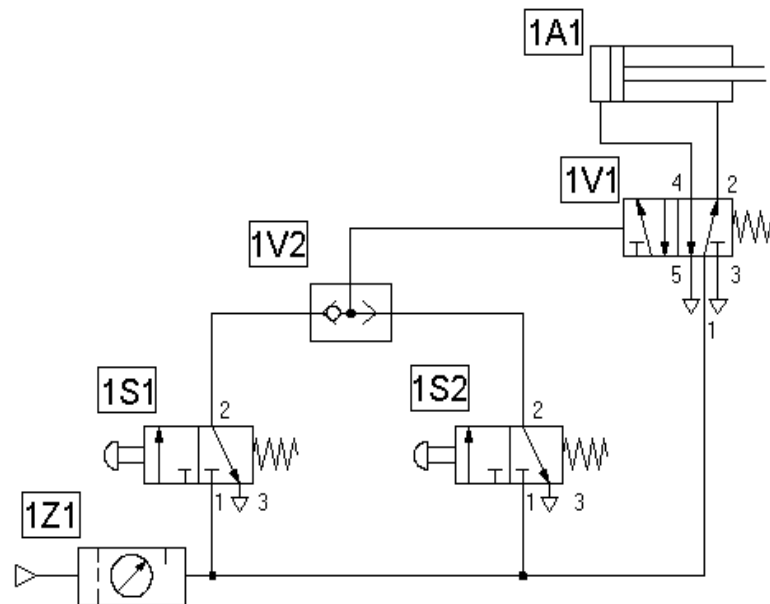
OR Combination without Shuttle Valve



Circuit diagram: Shuttle valve

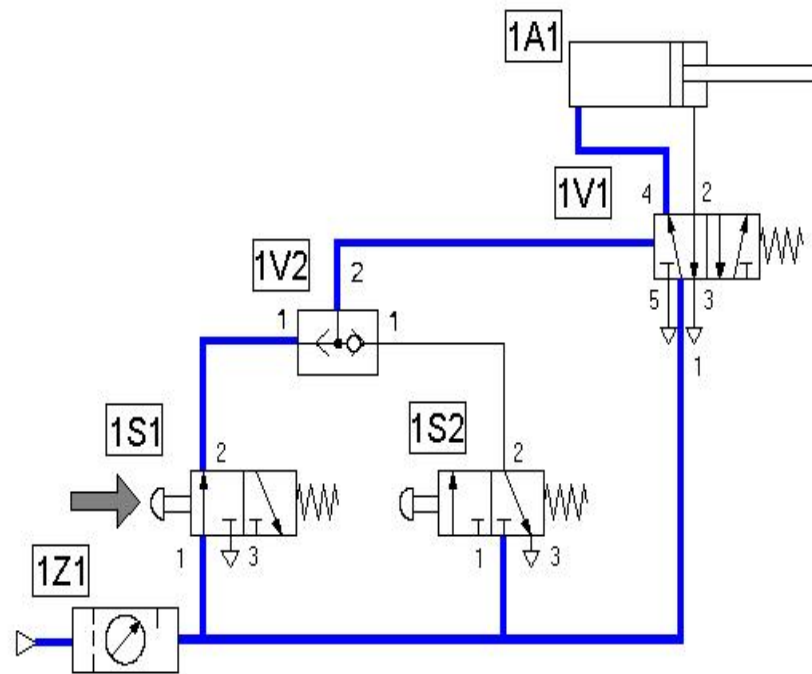
Figure 5.2 Circuit Diagram without Shuttle Valve

Use of Shuttle Valve



Circuit diagram: Shuttle valve

Figure 5.3 Circuit Diagram with Shuttle Valve



Circuit diagram: Shuttle valve

Figure 5.4 Circuit Diagram with Shuttle Valve (Actuated)