

LECTURE 38

PNEUMATIC VALVE

FREQUENTLY ASKED QUESTIONS

1. What is the function of a pneumatic valve?

Answer:

Function of pneumatic valve is to control the pressure, flow rate and direction of air flow in pneumatic circuits.

2. How do you classify pneumatic valves?

Answer

We can classify the pneumatic valves as

- Direction control valves
- Non – return valves
- Flow control valves
- Pressure control valves

3. What is the function of a Direction control valve?

Answer

Directional control valves start, stop or change the direction of flow in compressed air applications.

4. Mention the application of a 2 way, 3 way and 4 way DCV

Answer

2 way valves are used for ON-OFF conditions. Three way DCV are used to control single acting cylinders. Four way DCV are used to control double acting cylinders

5. What are functions of a check valve

Answer

The check valves are used to allow free flow of compressed air in only one direction and it prevents the flow of compressed air in the opposite direction. Since check valves blocks the reverse flow, they are also known as Non-return valves

6. How do you classify the DCV based on construction?

Answer

Based on construction we can classify DCV as

- 1) Poppet direction control valves
- 2) Sliding spool valves
- 3) Rotary spool valves

7. What are shuttle valves?

Answer

Shuttle valves, also known as double check valves, are used when control is required from more than one power source. It can be used as OR gate fluid logic control valve.

8. What is a quick exhaust valve?. Mention its application.

Answer

A quick exhaust valve is a typical shuttle valve. The function of quick exhaust valve is to exhaust the cylinder air to atmosphere quickly. It is used with spring return single acting cylinder to increase the piston speed of the cylinders.

9. Mention two functions of pressure control valve

Answer:

Limit the maximum system pressure

Regulate the force or torque an actuator generates

10. Mention five control elements used in valves

Answer:

Five control elements used in valves are Poppet (ball or disc), Spool, Piston, Diaphragm and sliding plates.