

Valve Interview Q & A

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1. What are the steps in selection of valve?

What to handle, liquid, gas or powder, fluid nature, function, construction material, disc type, stem type, how to operate, bonnet type, body ends, delivery time, cost, warranty.

2. What are functions of valves?

Isolation, regulation, non-return and special purposes.

3. What are isolating valves?

Gate, ball, plug, piston, diaphragm, butterfly, pinch.

4. What are regulation valves?

Globe, needle, butterfly, diaphragm, piston, pinch.

5. What are non-return valves?

check valve

6. What are special valves?

multi-port, flush bottom, float, foot, pressure relief, breather.

7. What materials are used for construction of valves?

Cast iron, bronze, gun metal, carbon steel, stainless steel, alloy carbon steel, polypropylene and other plastics, special alloys.

8. What is trim?

Trim is composed of stem, seat surfaces, back seat bushing and other small internal parts that normally contact the surface fluid.

9. Which standard specifies trim numbers for valve?

API 600.

10. What are wetted parts of valve?

All parts that come in contact with surface fluid are called wetted parts.

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11. What is wire drawing?

This term is used to indicate the premature erosion of the valve seat caused by excessive velocity between seat and seat disc, when valve is not closed tightly.

12. What is straight through valve?

Valve in which the closing operation of valve is achieved by 90 degrees turn of the closing element.

13. What pressure tests are carried out on valves?

Shell-hydrostatic, seat-hydrostatic, seat-pneumatic

14. What are available valve operators?

Handlever, handwheel, chain operator, gear operator, powered operator likes electric motor, solenoid, pneumatic and hydraulic operators, Quick acting operators for non-rotary valves (handle lift).

15. What are two types of ball valve?

Full port design and regular port design, according to type of seat, soft seat and metal seat.

16. What are ball valve body types?

Single piece, double piece, three piece, the short pattern, long pattern, sand witch and flush bottom design.

17. Why ball valves are normally flanged?

Because of soft seat PTFE which can damage during welding.

18. What are butterfly valve types?

Double flange type, wafer lug type and wafer type.

19. What are types of check valve?

Lift check valves and swing check valves.

20. What are non-slam check valves?

Swing check valve, conventional check valve, wafer check valve, tilting disc check valve, piston check valve, stop check Valve, ball check valve.

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21. Where stop check valve is used ?

In steam generation by multiple boilers, where a valve is inserted between each boiler and the main steam header. It can be optionally closed automatically or normally.

22. Where diaphragm valves are used ?

Used for low pressure corrosive services as shut off valves.

23. What is barstock valve?

Any valve having a body machined from solid metal (barstock). Usually needle or globe type.

24. What is BIBB valve?

A small valve with turned down end, like a faucet.

25. What is bleed valve?

Small valve provided for drawing off liquid.

26. What is blowdown valve?

Refers to a plug type disc globe valve used for removing sludge and sedimentary matter from the bottom of boiler drums, vessels, driplegs etc.

27. What is breather valve?

A special self acting valve installed on storage tanks etc. to release vapor or gas on slight increase of internal pressure (in the region of ½ to 3 ounces per square inch).

28. What is drip valve?

A drain valve fitted to the bottom of a driplet to permit blowdown.

29. What is flap valve?

A non return valve having a hinged disc or rubber or leather flap used for low pressure lines.

30. What is hose valve?

A gate or globe valve having one of its ends externally threaded to one of the hose thread standards in use in the USA. These Valves are used for vehicular and firewater connections.

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31. What is paper-stock valve?

A single disc single seat gate valve (slide gate) with knife edged or notched disc used to regulate flow of paper slurry or other fibrous slurry.

32. What is root valve?

A valve used to isolate a pressure element or instrument from a line or vessel, or a valve placed at the beginning of a branch from the header.

33. What is slurry valve?

A knife edge valve used to control flow of non-abrasive slurries.

34. What is spiral sock valve?

A valve used to control flow of powders by means of a twistable fabric tube or sock.

35. What is throttling valve?

Any valve used to closely regulate flow in the just-open position.

36. What is vacuum breaker?

A special self-acting valve or any valve suitable for vacuum service, operated manually or automatically, installed to admit gas (usually atmospheric air) into a vacuum or low-pressure space. Such valves are installed on high points of piping or vessels to permit draining and sometimes to prevent siphoning.

37. What is quick acting valve ?

Any on/off valve rapidly operable, either by manual lever, spring or by piston, solenoid or lever with heat-fusible link releasing a weight which in falling operates the valve. Quick acting valves are desirable in lines conveying flammable liquids. Unsuitable for water or for liquid service in general without a cushioning device to protect piping from shock.

38. What is diverting valve ?

This valve switch flow from one main line to two different outlets. WYE type and pneumatic control type with no moving part.

39. What is sampling valve?

Usually of needle or globe pattern, placed in branch line for the purpose of drawing all samples of process material thru the branch.

40. What are blow off valve?

It is a variety of globe valve confirming with boiler code requirements and specially designed for boiler blowoff service. WYE pattern and angle type, used to remove air and other gases from boilers etc.

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41. What is relief valve?

Valve to relieve excess pressure in liquids in situations where full flow discharge is not required, when release of small volume of liquid would rapidly lower pressure.

42. What is safety valve?

Rapid opening (popping action) full flow valve for air and other gases.

43. What is foot valve?

Valve used to maintain a head of water on the suction side of sump pump, basically a lift check valve with integrated strainer.

44. What is float valve?

Used to control liquid level in tanks, operated by float, which rises with liquid level and opens the valve to control water level. It can also remove air from system, in which case, air flows out of system in valve open condition, but when water reaches valve, float inside valve raises to close the valve and stop flow of water. Used in drip legs.

45. What are flush bottom valves?

Special type of valves used to drain out the piping, reactors and vessels, attached on pad type nozzles.

46. What are types of flush bottom valves?

Valves with discs opening into the tank and valves with disks into the valve.

47. What are the uses of three-way valve?

Alternate connection of the two supply lines to a common delivery vise versa, isolating one safety valve, division of flow with isolation facility.

48. What are uses of four way valve?

Reversal of pump suction and delivery, By pass of strainer or meter, reversal of flow through filter, heat exchanger or dryer.

49. What is metal seated lubricated plug valve?

A plug valve with no plastic material, where grease is applied to contacting surfaces for easy operation.

50. What are three patterns of plug valve design?

Regular pattern, short pattern and ventury pattern.