

PIPING INTERVIEW QUESTIONNAIRE

COMPRESSORS

1 What are the types of compressors?

Ans : Positive Displacement, Centrifugal and Axial, rotary screw, rotary vane, rotary lobe, dynamic, liquid ring compressors.

2 What are types of compressor drives?

Ans : Electric motor, gas turbine, steam turbine and gas engine.

3 How Centrifugal compressors work ?

Ans : Highspeed impellers increase the kinetic energy of the gas, converting this energy into higher pressures in a divergent outlet passage called a diffuser. Large volume of gas at moderate pressure.

4 What are types of steam turbine and why are they popular?

Ans : Condensing and non-condensing, Popular because can convert large amounts of heat energy into mechanical work very efficiently.

5 Where gas turbine drive is used ?

Ans : Deserts and offshore platforms where gas is available, for gas transmission, gas lift, liquid pumping, gas re-injection and process compressors.

6 What are the auxillary equipments of compressor?

Ans : Lube oil consoles, Seal oil consoles, Surface condensers, Condensate pump, Air blowers, Inlet air filters, Wast heat system, compressor suction drum, knock out pot, Pulsation dampner, volume bottles, Inter and after coolers.

7 What are the types of seal oil system?

Ans : Gravity and pressurized.

8 What factors to be considered while designing compressor housing?

Ans : Operation, Maintenance, Climate conditions, Safety, Economics.

9 What are the compressor housing design points?

Ans : Floor elevation, building width, building elevation, hook centerline elevation.

10 What are the types of compressor cases?

Ans : Horizontal split case, Vertical split case.

11 What are compressor suction line requirements?

Ans : Minimum 3D straight pipe between elbow and inlet nozzle, increases based on inlet piping layout. 4D

12. What are necessary parts of inlet line of compressor?

Ans : Block Valve, Strainer, Break out flanges in both inlet and outlet to remove casing covers, Straightening vane in inlet line if not enough straight piece in inlet line available, PSV in interstage line and in discharge line before block valve.

13. What points to be considered for reciprocating compressor piping layout?

Ans : High pulsation, simple line as low to grade as possible for supporting, analog study, all branches close to line support and on top, Isolate line support from adjacent compressor or building foundations

14. What are the types of compressor shelters?

Ans : On ground with no shelter, Open sided structure with a roof, Curtain wall structure (Temperate climates), Open elevated installation, Elevated multicompressor structure.

DRUMS

1 What are drum internals?

Ans : Demister pads, Baffles, Vortex breakers, Distribution piping.

2 What are drum elevation requirements?

Ans : NPSH, minimum clearance, common platforming, maintenance, operator access.

3 What are drum supports?

Ans : Skirt for large drums, legs, lugs, saddles for horizontal drums.

4 What are necessary nozzles for non-pressure vessel?

Ans : Inlet, outlet, vent, manhole, drain, overflow, agitator, temperature element, level instrument, and steamout connection.

5 What are necessary nozzles for pressure vessel?

Ans : Inlet, outlet, manhole, drain, pressure relief, agitator, level guage, pressure gauge, temperature element, vent and for steamout.

6 What is preferred location for level instrument nozzles?

Ans : Away from the turbulence at the liquid outlet nozzle, although the vessel is provided with a vortex breaker, instrument should be set in the quiet zone of the vessel for example on the opposite side of the weir or baffle or near the vapor outlet end.

7 What is preferred location for process nozzles on drum?

Ans : Minimum from the tangent line.

1. What is preferred location for steam out nozzle on drum?

Ans : At the end opposite to the maintenance access.

2. What is preferred location for vent ?

Ans : AT the top section of drum at the end opposite the steam out connecton.

3. What is preferred location for pressure instrument nozzle on drum?

Ans : Must be anywhere in the vapor space, preferable at the top section of drum

4. What is preferred location for temperature instrument?

Ans : Must be in liquid space, preferably on the bottom section of drum.

5. What is preferred location for drain?

Ans : Must be located at the bottom section of drum.