

Q1: What is trickle bed reactor?

A1: Trickle-bed reactors is most widely used type of three-phase reactors. The gas and liquid co-currently flow downward over a fixed bed of catalyst particles. Concurrent down-flow of gas and liquid over a fixed-bed of catalyst. Liquid trickles down, while gas phase is continuous. In a trickle-bed, various flow regimes are distinguished, depending on gas and liquid flow rates, fluid properties and packing characteristics. Approximate dimensions of commercial trickle-bed reactors are a height of 10 m and a diameter of 2 m.

Q2: What is fluidised bed reactor?

A2: A fluidized bed reactor (FBR) is a type of [reactor](#) device that can be used to carry out a variety of [multiphase](#) chemical reactions. In this type of reactor, a [fluid](#) (gas or liquid) is passed through a granular solid material (usually a [catalyst](#) possibly shaped as tiny spheres) at high enough [velocities](#) to suspend the solid and cause it to behave as though it were a fluid. This process, known as [fluidization](#), imparts many important advantages to the FBR. As a result, the fluidized bed reactor is now used in many industrial applications

Q3: What are the advantages of fluidised bed reactor?

A3: Advantages of fluidised bed reactor are

- The smooth, liquid-like flow of particles allows continuous automatically controlled operations with ease of handling.
- The rapid mixing of solids leads to nearly isothermal conditions throughout the reactor, hence the operation can be controlled simply and reliably.
- It is suited to large-scale operations.

Q4: What are the disadvantages of fluidised bed reactor?

A4: Disadvantages of fluidised bed reactor are

- The difficult-to-describe flow of gas, with its large deviation from plug flow and the bypassing of solids by bubbles, represents an inefficient contacting system.
- The rapid mixing of solids in the bed leads to non-uniform residence times of solids in the reactor.
- Friable solids are pulverized and entrained by the gas.
Erosion of pipes and vessels from abrasion by particles

Q5: What are the different types of fluidised bed reactor?

A5: There are different type of FBR such as Fix fluidised bed reactor.circulating fluidised bed reactor.