

The bioreactor's main purpose is to provide a suitable and regulated environment for cell growth and product production. The scale-up offers the appropriate mass transfer rates while keeping in mind that scale-up is usually limited by oxygen supply and carbon dioxide removal, especially at extremely high cell densities. The design and mode of running a bioreactor should fulfill the requirements of output and specified process variables to generate higher quality products consistently and cost-effectively. Scale-up criteria are primarily concerned with reactor geometry, impeller speed, and aeration rate. Easy to maintain and adjust various organisms for the specific reaction in the reactor.