Pilot Scale Bioreactor (Make: FERMEX)

- Pilot-scale bioreactors typically have working volumes 20 liters and serve as a bridge between lab-scale and industrial-scale production.
- Dual-vessel setup — one main bioreactor vessel and one media/seed vessel.
- Sensors: Integrated pH, DO (Dissolved Oxygen), temperature, and foam sensors for real-time monitoring.
- Pressure Gauge & Safety Valves: Ensures safe operation under pressurized conditions.
- Peristaltic Pumps: For controlled addition of acid, base, antifoam, and nutrients.

Instrument Capabilities

- Suitable for batch, fed-batch, and continuous fermentation processes.
- Can cultivate bacteria, yeast, fungi, and mammalian cells under controlled conditions.
- Enables precise control of temperature, pH, DO, agitation, and aeration.
- Supports scale-up studies from lab to pilot scale.
- Facilitates optimization of bioprocess parameters for product yield improvement.

Sample Type

- Ethanol
- Microbial metabolites
- Pharmaceutical products
- Protein and enzymes

Sample Preparation

- As per user requirements

Applications

- Used in research, biopharmaceutical production, enzyme and metabolite synthesis, and wastewater studies
- Microbial fermentation – production of enzymes, organic acids, ethanol, antibiotics, and other metabolites.
- Biopolymer production – synthesis of PHAs, bioplastics, or polysaccharides.
- Bioremediation studies – degradation of pollutants using microbial consortia.

References

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