

# BIO ARK

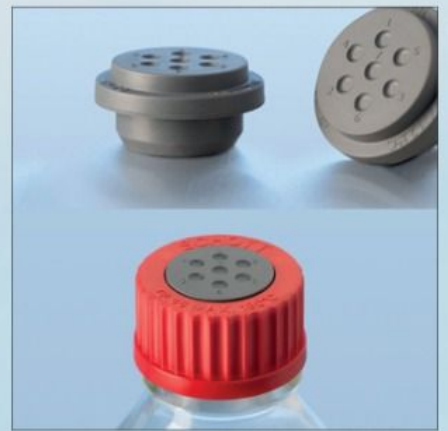
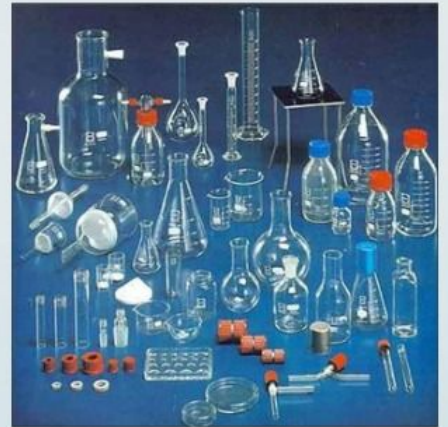
THE PASSION OF BIOREACTOR



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# Content

- Laboratory Fermenter - Glass Autoclavable/ Insitu
- Benchtop bioreactor
- Stainless steel fermentor
- Single use bioreactor
- Autoclave: Vertical / Horizontal
- Water Bath: 6/12 Hole / Constant Temp
- Centrifuges
- Deep freezer
- Biosafety Cabinet
- Vortex
- Incubator: Bacteriological / BOD
- Shaker: Orbital / Incubator / Water Bath
- Isolation Glove Box; 2 port/ 4 port
- Hot Air Oven/ vacuum oven
- Hot & Cold Test chamber
- Humidity & Environmental Test Chamber
- Kjeldhal Digestion & Distillation Apparatus
- Glass Wares & Plastic Wares
- Chiller & Air Compressor
- Electric Steam Boiler
- Silicon Tubs & "O" Rings
- Accessories
- Services



# Benchtop Bioreactor



## Operating Pressure:-

1.5 bar (Max)

Seals Silicon/PTFE

## Jacket Line:

Water inlet, water outlet,  
Vent

## Volume Ranges:

2.5 lts, 3.5 lts, 5 lts, 6.5 lts,  
15 lts

## Inner Diameter:

DN100, DN125, DN150,  
DN200

Operating Temp: -80° C

Entry-level and easy-to-operate-the vessel materials is glass, with excellent performance and compact size, making it more suitable for laboratory use. We have mature series for you to choose, or customize a suitable solution according to your needs.

## Application

1. Scale up and scale down
2. High cell density culture
3. Optimization of culture process
4. Vaccine operation
5. Biologic pharmacy
6. Photosensitive cultivation
7. Anaerobic culture
8. Biofuels research

## Laboratory Fermenter: AUTOCLAVABLE

### System Design

Compact Glass Fermenter / Bioreactor  
Suitable for both Microbial / cell Culture  
application. Complete Basic system consists  
of stirrer, aeration, Lid port etc..

All process measurement and Control  
are integrated as part of system.

### Glass Vessel

The fermenter bioreactor vessel MOC Glass  
vessel with round bottom and jacket for  
water circulation.



## **LID AND PORT**

All product Contact part with SS316L Lid port 12mm standard for all measurement probes. 12 mm needle with sterile port and necessary silicon tubes as std. All measurement probes and feed connection entry from top of the lid.

## **SAMPLING AND HARVEST**

Manual dip tube arrangement for both by pressure transfer. Sterile sampling system available as option.

## **AIR INLET / EXHAUST**

Absolute sterile air filter for 0.2 micron installed for both air inlet and exhaust suitable for autoclavable along with the vessel assembly. exhaust condenser can be attached whenever required to the system which will be provided as option.

## **AGITATION**

Easy top entry arrangement with mechanical seal/ magnetic drive as desired by the customer Ruston/marine/pith blade impeller available.

## **TEMPERATURE CIRCUIT**

Double Jacketed glass vessel equipped with inlet/outlet enable for water circulation to control the process temperature. The fermenter is sterilized in an autoclave, no heating and cooling element is installed.



## SYSTEM DESIGN

Glass vessel high flexible small bench top fermenter suitable for research and industry for both microbial and cell culture application.

## BASIC STRUCTURE:

Moc glass vessel with top & bottom SS Lid  
volume start from 2.5 lts and 3.5 lts (TV). Stirrer system available for bottom or top drive through mechanical seal or with a magnetic coupling. Vessel consists of straight or ring sparger with various height adjustable impellers.

Inner diameter : DN100/DN125 operating temperature max 130°C

Operating pressure : 1.5 bar (max) and seals : system.

Heating and cooling finger for temperature control system.

## STERILIZATION

In suit with electrical heater. Safety hood jacket for sterilization safety. 12mm needle septum arrangement to connect the peripherals.

## PUMP/FEEDING

peristaltic pump for feed addition like acid base and media

# PARALLEL BIOREACTOR



## AERATION

Sterile filter with housing, flow meter and needle assembly.

## ACCESSORIES

Option sterile sampling kit, reflux cooler and dip tube. Light illumination jacket (LED Lamps)

## SOFTWARES

customized operator interface

Display all process and set point values

profile cascade

batch management and tagging

different access level and degree consumption value trend and text area

data can be exported to excel sheet

data comparison and manipulation for different analyze events alarm, history

audit trail and compliance 21 part II etc.

## MEASUREMENT AND CONTROL

Direct digital control system (DDC) with high resolution programmable logic controller (PLC) with compact panel. Human interface via PC with SCADA and customized mimics.

DDC have option in terms of control strategy, process engineering and data management.

## DESIGN AND FEATURES

System follow the international standards for the bioprocess application  
Photo illumination lamp with control to the require LUX level for the various application  
can be adopted in the system.  
Easy dismantable and cleanable with safety  
Optimized lid and port design  
Various volume with single basic unit  
Direct coupled bottom drive  
Permits visual observation of the cultivation process  
Allow both temperature control and heat exchanger through the vessel head.

## FERMENTER / VESSEL : ( UPTO 1000 LTRS & ABOVE)

media preparation / mixing /harvest/ dosing/ storage  
sterile transfer & harvest assembly  
ESIP & SIP & CIP system  
Magnetic / mechanical seal drive system  
sterile cross transfer assembly

## MEASUREMENT CONTROLS

direct digital control by programable logic controller with SCADA  
data logging process analysis,process optimization & process management

## VESSEL ACCESSORIES

sterile transfer valve  
sterile bottle assembly  
injector valve  
hypodermic needle & sterile cross assembly  
CIP spray ball  
illumination set  
sterile harvest valve  
rupture disk  
safety valve  
sterile pressure gauge  
steam trap  
diaphragm valve  
peristaltic pump

## BIO – CONTROLS

### PROBES /MEASURING SYSTEM

antifoam probe  
gas flow meter  
level measuring probes  
PH / Redox probe  
pO2 probe  
PCO2 probe  
temperature probe  
turbidity probe  
weight measurement-loadcell, platform



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