

Laboratory Fermentor Model BioLab - 100



Salient Features:

- Ideal for batch, fed batch, continuous fermentation & cell-culture.
- Autoclavable / Insitu sterilisable glass & stainless steel options.
- 1-100 Ltrs. sizes, Lab. & pilot plant models available in SS & glass options.
- Autoclavable pH, DO electrodes.
- Temperature, pH, DO, Foam, level, RPM, Air flow accurate controlling & monitoring.
- PC software to record & monitor all data on PC with advanced touch screen panel.
- Totally contamination free design.
- Compact & versatile unit.


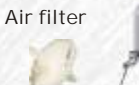








LabFermentor / BioReactor



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Vessel	Total Vol. Ltrs.	1.5	3	7	14	30
	Working Vol. Ltrs.	0.4 - 1	0.6 - 2	2 - 5	4 - 10	9 - 20
	MOC	Autoclavable Glass / SS-316 / SS-316L body with top SS flange & Flat SS, dished SS / glass bottom.				
	Design	Jacketed / Non-jacketed, Glass / SS vessels.				
Agitation	Motor & Drive	Top mounted AC/DC motor with AC/DC drive, Optional: Compact AC servo motor with servo drive.				
	RPM	100-1200 with infinite variable speed.				
	Sealing	Single / Double mechanical seal or Top mounted Zero Leakage Magnetic Drive Coupling.				
	Impeller	Six Bladed ruston turbine, Optional: Pitch blade turbine / paddles / anchor etc.				
Temperature	Fermentation	Upto 80 °C				
	Sterilization	121 °C				
	Sensor	RTD PT 100				
	Control	P.I.D. control action for both heating & cooling cycle.				
Heating	Fermentation	a) Bottom electric plate heater for non jacketed vessel. OR b) Hot water circulation bath for jacketed vessels.				
	Sterilization	a) Either in separate autoclave. OR b) Insitu sterilization by circulating steam (in jacketed vessels only)				
Standard Fittings/Ports	Ring Sparger, vent, sampler / harvest Pipe, baffles, thermowell, inoculation port with inoculum device, pH, DO antifoam probe Optional: Exhaust gas condenser,					

Optional Accessories

	Aeration	Air rotameter with flow control & 0-5 / 10 / 20 / 30 LPM Flow rate range Optional: Air thermal mass flow meter / controller.
	Air filter	Inlet / outlet air filter 0.2µ PTFE disc type Optional: Pleated type air filter in SS housing
	pH	Gel filled Autoclavable pH sensor with 3ft cable Set point rang 2 - 12 Control P.I.D. action to fixed / variable speed pumps.
	DO	Polar graphic Autoclavable Do sensor with 3ft cable Set point range 0-100% Control a) P.I.D. action through air mass flow & motor controller. b) By cascade control through air flow & motor speed.
	Foam / level	Conductivity type SS-316 teflon coated foam / level sensor with peristaltic pumps for antifoam / level liquid addition.
	Pumps	Fixed speed or variable speed peristaltic pump. 1no. for acid, 1 for alkali, 1 for feed 1, 1 for antifoam and 1 for level / feed addition.
	Control Panel	Individual low cost modular controllers for pH, DO, Temp. RPM, Air flow etc. with alarm system & acknowledgement for all parameters. All the peristaltic pumps & rotameter mounted on common panel. Optional: Totally automatic PLC based system with optional touch screen panel to monitor & control all parameters.
	Software	Bio-Soft software for control, monitor, record & configure temperature, pH, DO, Foam, RPM, level, air flow, liquid flow & totaliser etc. with online graph & history records. Optional: Common software to run multiple fermentors
	Gas Mix	For 2,3-4 gases with individual rotameter, pressure gauge, regulator & solenoid valve or by gas mass flow controller for pH & DO control in cell culture or O ₂ enrichment of sparged gases.
	Utilities	Autoclave for sterilization for sizes upto 10 ltrs. Hot water circulation system for temperature control upto 70 °C by circulating hot water inside the fermentor jacket with solenoid valves in line. Water chiller for circulating chilled water upto 5 °C inside the jacket / internal coil / exhaust condenser . Steam generator for circulating steam inside the fermentor jacket for sterilization upto 121 °C with solenoid valves in line. Air compressor, oil free with surge tank for air supply.

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