Photobioreactor

Saba Plant 110-B

The photobioreactor manufactured by ZFSS Co. Ltd, is known as SabaPlant 110-B. This product is used to cultivate plant cells, photosynthetic bacteria and algae and for the production of a variety of biological products, including plant metabolites, drugs, seeds, biomass and biofuels in laboratory scale.

Features and unique advantages of SabaPlant110-B are:

- **The glass vessels with different volumes and shapes (tubular, reservoirs and cubes)**
- **SabaPlant110-B is basically equipped with accurate controllers for PH, DO, temperature, agitation and foam level**
- **Control gas CO_2 and RH (optional)**
- **Equipped with a Mass Flow Controller (optional)**
- **Adjusting the intensity of light in three modes: 0, 5,000 and 10,000 lux**
- **It is placed a heat exchanger in Sabaplant110-B in air outlet to prevent the outflow of moisture from the culture medium**
- **Operation parameters and set points are displayed and easily adjusted using a flexible software. Biosab installed on a touch-screen panel PC in the control box.**
- **Store data**
- **These bioreactors are mobile and therefore easy to transport.**

Technical Specification of Saba plant 110-B		
Vessel volume	Total capacity (L)	10
	Working volume (L)	0.25-0.75 Total volume
Vessel construction	Aspect ratio (H:D)	≈2.5
	Fabrication	Glass
Sterilization	Autoclavable	
Controller	Control station	Temperature, PH, DO, antifoam, rpm
	optional controllers	Mass flow Controllers, RH, gas CO_2
	Touch screen interface/ display	
light	Adjust the light intensity in three modes 0, 5000, 10000 lux	
Temperature	Range and control	Between 10-45 ºC ± 0.5
	sensor	Pt100
PH	Control range	0-14, ±0.02
	Sensor	Hamilton/ Mettler Toledo
RH (optional)	Control range	0-100 %
	Sensor	Mettler Toledo
	System	Fogging system
CO_2 (optional)	Range and control	0-100%, CO_2 switching Solenoid valve
	Sensor	Mettler Toledo
DO	Sensor	Hamilton/Mettler Toledo
	Range and control	4ppb-25ppm or 1-300% sat, PID Control Cascade with agitation and Oxygen
Other sensors	Foam/ level	Foam
Aeration	Gas system	Rotameter for air and O_2 , solenoid valve for O_2
	Gas inlet	Air, CO_2 and oxygen
Exhaust	Condenser and filter	Stainless steel condenser/ filter 0.2µm
Pumps	Standards, Options and Control	4 peristaltic pumps (acid, base, feed, foam)
Utility requirements and connections	Process air and oxygen	Air, $CO_2$and O_2 ports
	Water return	Circulation punp
	Facility water	Heat and circulation pump and input port
	Electrical source	220V~5A 50/60Hz
Communication port	USB	
wifi	optional	
Biosab software	Control	PID for temperature, PH, DO, rpm
	Data logger	Yes
	Record	Record and send data to other software
	Output data	Graph ,table
	Flexibility	Yes
	Pump and valve	Manual and automatic