



## 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<sub>2</sub> 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

<b>Vessel volume</b>	Total capacity (L)	2-10
	Working volume (L)	0.25-0.75 Total volume
<b>Vessel construction</b>	Aspect ratio (H:D)	≈2.5
	Fabrication	Glass
<b>Sterilization</b>	Autoclavable	
<b>Controller</b>	Control station	Temperature, PH, DO, antifoam, rpm
	optional controllers	Mass flow Controllers, RH, gas CO <sub>2</sub>
	Touch screen interface/ display	
<b>light</b>	Adjust the light intensity in three modes 0, 5000, 10000 lux	
<b>Temperature</b>	Range and control	Between 10-45 °C ± 0.5
	sensor	Pt100
<b>PH</b>	Control range	0-14, ±0.02
	Sensor	Hamilton/ Mettler Toledo
<b>RH (optional)</b>	Control range	0-100 %
	Sensor	Mettler Toledo
	System	Fogging system
<b>CO<sub>2</sub> (optional)</b>	Range and control	0-100%, CO <sub>2</sub> switching Solenoid valve
	Sensor	Mettler Toledo
<b>DO</b>	Sensor	Hamilton/Mettler Toledo
	Range and control	4ppb-25ppm or 1-300% sat, PID Control Cascade with agitation and Oxygen
<b>Other sensors</b>	Foam/ level	Foam
<b>Aeration</b>	Gas system	Rotameter / MFC for air and O <sub>2</sub>
	Gas inlet	Air, CO <sub>2</sub> and oxygen
<b>Exhaust</b>	Condenser and filter	Stainless steel condenser/ filter 0.2µm
<b>Pumps</b>	Standards, Options and Control	4 peristaltic pumps (acid, base, feed, foam)
<b>Utility requirements and connections</b>	Process air and oxygen	Air, CO <sub>2</sub> and O <sub>2</sub> ports
	Water return	Circulation pump
	Facility water	Heat and circulation pump and input port
	Electrical source	220V~5A 50/60Hz
<b>Communication port</b>	USB	
<b>wifi</b>	optional	
<b>Biosab software</b>	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