



## **Bench top Fermenter**

### **SabaFerm110**

The Bench top Fermenter manufactured by ZFSS Co., is known as SabaFerm110. This product is used for microbial cultures, including bacteria, yeasts, fungi and for the production of various biological products, including medicines, vaccines, enzymes, solvents, biofuels, organic acids, amino acids, dairy industry initiators, animal feed and poultry products, etc. in laboratory scale.



#### **Features and unique advantages of SabaFerm110 are:**

- **Easy operation.**
- **Various vessels 2,5 and 10 liters.**
- **Autoclavable several times .**
- **Exhaust gas condenser minimizes evaporation.**
- **SabaFerm110 is basically equipped with accurate controllers for PH, DO, temperature, agitation and foam level.**
- **Equipped with a PID control processor.**
- **Equipped with PC with touch screen panel.**
- **Operation parameters and set points are displayed and easily adjusted using flexible software. The Biosab installed on a touch-screen panel PC in the control box.**
- **Display the operating time of each of the pumps (acid, base, antifoam and feed).**
- **store data in each operation and the ability to read and print them easily.**
- **warning based on user defined patterns.**
- **SabaFerm110 permits rapid fermentation process development for a broad range of application.**

## Technical Specification of Bench-top Fermenter (SabaFerm110)

<b>Vessel volume</b>	Total capacity (L)	2	5	10
	Working volume (L)	0.4-1.5	1.5-3.8	2.5-7.5
<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		
	Touch screen interface/ display			
<b>Agitation</b>	Brushless Servo Drive	120 W/5A	180 W/5A	
	Range and control	10-1100 rpm		
	Impellers	Two Rushton impellers	Three Rushton impellers	
	Baffles	Three fixed baffles		
<b>Temperature</b>	Range and control	Water temperature until 60°C		
	sensor	Pt100		
<b>PH</b>	Control range	0-14, ±0.02		
	Sensor	Mettler Toledo or Hamilton		
<b>DO</b>	Range and control	4ppb-25ppm or 1-300% sat, PID Control Cascade with agitation and Oxygen		
	Sensor	Mettler Toledo or Hamilton		
<b>Other sensors</b>	Foam/ level	Foam		
	Optional sensors	OD		
<b>Aeration</b>	Gas system	Mass Flow controller and Rotameter for air and O <sub>2</sub>		
	Gas inlet	Air and oxygen		
<b>Exhaust</b>	Condenser and filter	Stainless steel condenser/ 0.2 μm filter		
<b>Pumps</b>	Standards, Options and Control	4 peristaltic pumps (acid, base, feed, foam)		
	Speed	Fixed/variable		
<b>Utility requirements and connections</b>	Process air and oxygen	Air 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>Net weight</b>	Control station	28 kg		
	Vessel (for 5 L)	Glass (4.1 kg)		
		Without condenser (11.1 kg)		
		With condenser (12.1 kg)		
<b>Dimensions</b>	Cm (L*W*H) (for 5 L)	Control unit (45*37.5*69)		
		Vessel without condenser and motor (30*30*56)		
		Vessel, the whole package (30*30*75)		
<b>Communication port</b>	USB			
<b>wifi</b>	Optional			
<b>Biosab software</b>	Control	PID for temperature, PH, DO and RPM		
	Data logger	Yes		
	Output data	Graph, table		
	Flexibility	Yes		
	Pump and valve	Manual and automatic		