

# Bio-Master



Main Control Screen



Trend

1. Easy to Calibrate Temperature, pH,DO,Foam Sensors in use of Main Control Screen
2. Easy control of external device by fermentation controller (O<sub>2</sub>/CO<sub>2</sub> analyzer,gasmixer,Balancer,Level,External pump,Analog printer)
3. Operation method touch screen controller and the easy-way compact design takes up only a small space, even a small laboratory space can be used efficiently.
4. Intelligent self diagnostic system to maintain fermentation process from start to the end( diagnostic,setup,dead band,offset, warning,feeding, temperature for each stage to the end of the fermentation process)
5. 500ml ~ 14L Total Vol. Vessel is available in a wide range.
6. Single Jacket / Double Jacket and can be used to select the drive motor.
7. Vessels can be easily disassembled and made the operation and the sensor and pump, analyzer, such as in / output is easy.
8. Eight ways microprocessor controller system using parallel communication software Data Logging, Remote Control, including integrated control.
9. Agitation, Temp, Ph, DO, ORP, O<sub>2</sub>, Antifoam, MFC, Feed Pump, GasMix and additional parameters such as analog signals and can be controlled through a variety.
10. Feed function is linked to the DO Cascade and the culture of a variety of conditions that can be applied to the linked control program.
11. 4Gas Signals available to send control signals to directly 4gas controller from main control system.

## Standard products

Display	7inch Wide Touch TFT LCD
Agitation Range	10 ~ 1500rpm
Motor drive	AC Servo Motor, BLDC Motor / Top drive motor(mechanical drive)
Peristaltic Pumps	4 x Built in Feeding Pump(Watson Malow &Boxer)
Power Requirements	AC110~220V, 50/60Hz,Single Phase, 500W(FreeVoltage)
Dimension	W188mm x D350mm x H620mm
Weight	10Kg (Controller Only)

Sensor	<b>Basic</b>
	TEMP PH DO Anti Foam ORP
	<b>Optional</b>
	OD O2 CO2 MFM or MFC Pressure Balancer

Control System Control	Built-in SCADA System	<ul style="list-style-type: none"> <li>- Built-in SCADA System</li> <li>- Voltage Specifications : 90~260V 50/60Hz Free Voltage</li> <li>- Built-in type SMPS Module UL certification.</li> <li>- CE product certification to enable component selection and PCB ARTWORK.</li> <li>- PWM frequency control AC Servo Motor, Ac induction Motor, BLDC Motor and Is, slow down as fast and smooth implementation.</li> <li>- RS232 x 2, RS422 or RS485 communication port, USB port, apply</li> <li>- Analog Input: 12 points, analog output: 12 points, analog record: 12 points</li> <li>- Temp. PH, DO Cascade,ORP,OD,O2,Co2,Agitation,MFC,Pressure Balancer Control</li> </ul>
Communication port	Ethernet	1PC 6-8 connected to one controller (after completion of standard controller progress) Data logging, trend graph PC Contorl: process control (PID, the upper and lower values , programs, cascade, Feed)
	Record Output	Each sensor can be output by selecting data. D-SUB 25Pin Female Type, USB Excel file stored separately.
	USB	Measured data, setup data stored in the USB

## Organization configuration list

