

Thermostat System with Air Lifter Vessel

Description

The Air lifter system is specifically applied for cell lines that require air mixing functions. The unique agitator-free design helps cells circulate within the vessel without breaking the morphology.

One of the main applications of air lifter system is plant cells culture. With large vessel surface area and optional external light source, plant cells are able to perform photosynthesis reaction easily.

Double jacketed and single wall vessels (with and without temperature control) are both available upon request.

The air lifter system is run by either manual or programmable mode with real-time recording. This ensures that your scientific results can be optimized and each batch of your fermentation process can be analyzed. Full accessories are also offered as a standard package to help first-time users quickly set up their fermentation process.



Features

- **Micro-sparger and adjustable draft tube** to facilitate water circulation and achieve high aeration efficiencies
- **Single wall or double jacketed vessels** available
- **Colorful touch screen and Graphical user interface** for easy operation
- **Real-time trend data recording** ensures best fermentation performance
- **2-stage DO cascade** for precise DO(Dissolved oxygen) level control
- **Ethernet remote control** ability allows you navigate and operate your fermentation process from your desktop
- **No additional software required**
- **Low voltage DC brushless motor**
- **Quick connectors** for easy operation
- **4 built-in assignable and programmable peristaltic pumps** for automatic pH, Antifoam and Feeding control
- **Full accessories** are offered as a standard package

Application:

Ideal for agitator-sensitive cells such as Plant cells, Mushroom, Fungus and Algae culture.

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INNOVATIVE CULTIVATION SOLUTIONS

Thermostat System with Air Lifter Vessel includes:

Controller	Thermostat System Controller
	Built-in rotameter
	4x built-in pump head
Vessel	Air lifter vessel (includes glass body, head plate, draft tube,T handing bar, 2 probe adaptors)
	Condenser assembly
	Micro sparger assembly
Probes	1x pH probe and 1x pH cable
	1x DO probe and 1x DO cable
	1x Temperature probe and 1x Temperature cable (Double jacketed vessel only)
	1x Foam/Level Sensor and 1x Foam/Level Sensor cable
Start-up Kit	Please see Page 43



Thermostat System with Air Lifter Vessel

Specification

Vessel	Type	Double Jacketed	Single wall (W/O temperature control)
	Working volume(Liter)	5 Liter	
Total volume(Liter)	6.9 Liter		
Material	Borosilicate glass / 316L stainless steel for headplate and all fittings		
Control unit	Control panel	10.4" Colorful touch-screen Interface	
	Communication port	Remote control through Ethernet (SCADA) Data export through USB port RS-485 port for system extension	
	Program storage	Up to 59,994 process programs	
	Log data storage	Up to 10 process monitoring data files	
	Cabinet material	ABS front panel and painted iron housing	
	Dimension	Footprint: W x D = 400 x 500 mm (15.75" x 19.69") Height = 740 mm (29.13 ")	
	Rated voltage	110V or 220V; 50/60 Hz	
Aeration	Inlet gas flow-meter	0, 1 - 10LPM	
	Tube	Adjustable draft tube	
	Sparger	Micro-sparger	
Temperature (Double jacketed vessel only)	Control system	Thermostat system; Built-in heat exchanger (400 W heater/water circulation pump); Automatic cooling water valve	
	Range	5°C (41°F) above coolant up to 60°C (140°F)	
	Resolution	0.1°C	
	Probe	Platinum RTD probe (Pt 100)	
	Control mode	Programmable 15 steps PID control	
pH	Range	2 -14 pH	
	Resolution	0.01 pH	
	Probe	Gel-filled electrode; Autoclavable	
	Control mode	PID, One point control with adjustable dead band	
DO	Range	0 – 200%	
	Resolution	0.1%	
	Probe	Polarographic DO sensor; Autoclavable	
	Control mode	Cascade function to response to a. Increase or decrease agitation speed b. Oxygen enrichment module (optional) c. Start substrate feeding program	
ORP	Measurement range	-/+ 2000 mV	
	Resolution	1 mV	
	Probe	Gel-filled electrode; Autoclavable (optional)	
Foam	Probe	316L stainless steel with insulated Teflon tube; On/Off control	

Peristaltic pump	Pump number	4 built-in pumps; One external pump (optional, RS-485 interface with relay output)
	Motor type	Precise stepping motor; minimum speed is 1 rpm
	Speed range	0 – 65 rpm
	Resolution	1 rpm
	Control mode	Programmable 15 steps feeding control; Pump can be assigned for Acid, Base, Antifoam and Substrate
Exhaust	Device type	316L stainless steel condenser
Utility requirement	Power supply	100-120V 50/60Hz or 210-230V 50/60Hz with electrical safety cutoff switch
	Water	2 Bar maximum (29 psi)
	Air	1 Bar maximum, must be dry, oil-free and filtered (14.5 psi)
	Autoclave	For sterilization

Ordering Information

Cat. No.	Description
FS-01-C051P-110/ 220V	Complete Thermostat Fermentation System for 5L Single Wall Air Lifter Vessel, 110V/ 220V
FS-01-C052P-110/ 220V	Complete Thermostat Fermentation System for 5L Double Jacketed Air Lifter Vessel, 110V/ 220V
Controller (includes Thermostat System Controller, Built-in rotameter and 4x built-in pump head)	
FS-01-110/ 220V	Winpact Thermostat System Controller, 110V/ 220V
Vessels (includes Air lifter vessel, Condenser assembly and Micro sparger assembly)	
FS-V-C051	5L Single Wall Air Lifter Vessel
FS-V-C052	5L Double Jacketed Air Lifter Vessel
Optional item	
FS-O-ORP-101	ORP monitoring kit, includes 120mm ORP probe, ORP probe cable, probe adaptor
FS-O-ORP-102	ORP monitoring kit, includes 225mm ORP probe, ORP probe cable, probe adaptor
FS-O-ORP-103	ORP monitoring kit, includes 325mm ORP probe, ORP probe cable, probe adaptor
FS-O-ORP-104	ORP monitoring kit, includes 425mm ORP probe, ORP probe cable, probe adaptor
FS-O-OE	O ₂ Enrichment Module, includes Oxygen Enrichment Valve and Adjustable Flow Meter