



ZWYC-290A

ULTIMATE-CELL STACKABLE Shaking Incubator



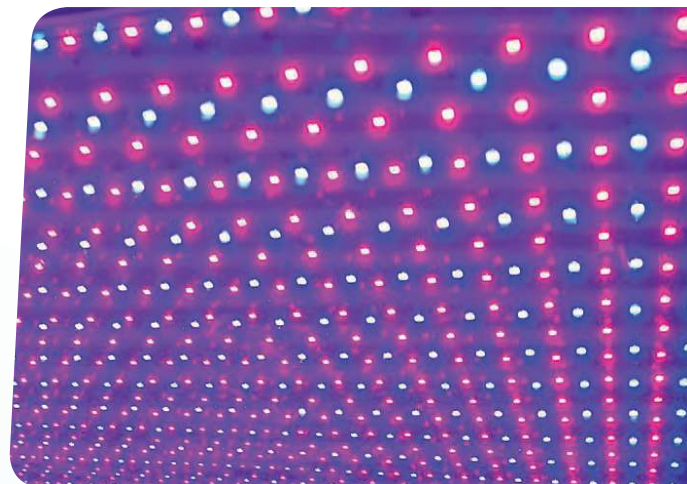
Thanks to the ongoing development of both technology and functionality requirements from our industry, Labwit has been thriving to innovate and is now able to offer our latest and comprehensive solution for microbial, mammalian and plant cell incubation needs, the inspiring ZWYC-290A Ultimate-cell Stackable Shaking Incubator.

The spaces in the labs are spacious and expensive, The ZWYC-290A can be stacked up to 2-3 units high to offer multiplied incubation capacity on a single unit footprint. Stacking also can be easily managed at a later time. Each compartment unit operates independently with cooling as standard, and can be upgraded with modular controlling options of, active humidity control, CO₂ concentration controls.

In addition, Ultimate-cell is also available for WiseKonec Plus™ system option for remote monitoring and controlling the unit via PC or Smartphones at any time anywhere.



The introduction of fingerprint encrypted system prevents unauthorized access to the working chamber, hence significantly enhancing the security of the precious samples inside.



Intuitive Touch Screen Panel

Integrated: Comprehensive information available at fingertips. The screen panel clearly indicates all basic operational parameters, such as temperature, speed and timer; as well as the optional parameters, for example, humidity level, and CO₂ concentration just in one page.

User friendly: Graphic user interface, easy to operate with icons and prompts, which makes it easy change the operating parameters settings, even those multi set points under programmable mode intuitively.

Intelligent: Self diagnostic alarm system monitors all functions and parameters and prompts in case of errors, which are clearly indicated in the touch screen panel.



Quin Drive Self Balance Driving System

Innovated Quin Drive system ensures smooth and reliable orbital shaking movement with a speed between 30-300rpm, even when there is imbalanced or maximum loading on the shaking platform. To achieve the maximized flexibility for all applications requiring optimized oxygen transfer rate, the shaking diameter can be steplessly adjusted from 1-50mm. Long life brushless motor provides consistent and no vibration shaking motion, maintenance free and low heat emissions.

Extended Chamber Capacity

The chamber is one of the biggest of its range and can take up to 32 pieces of 500ml Erlenmeyer flasks while the plain shaking tray (#P6023) and sticky mats are used.



Moreover, the traditional predrilled shaking tray (#P6022) with dedicated holes for fixing flask clamps are also available. With extended effective inner height as 425 mm, the unit chamber is always compatible with 5000ml flasks even when the photosynthetic LED lighting is equipped.

The maximum capacity for various Erlenmeyer flask clamps is shown in the table.

Excellent Temperature Controlling System

New solid polyurethane casing optimizes the insulation of the chamber, Together with the sound air circulation system and PID controller ensures evenly distributed air flow as well as accurate and uniformed temperature control across the chamber.

Sound cooling system with CFC free refrigerant and automatic defrosting system ensures long term stable operation at as low as 4°C, or 20°C lower than ambient. Microprocessor controller provides unmatched versatility by enabling users to create personalized program (with up to 9 segment, with cycles) to automate changes to function parameters.



Direct Injection Humidification System

Humidity is important for long term cell cultivations with flasks as well as when micro plates are used. Active controlled humidification system can effectively reduce evaporations during cultivation, hence, preventing the samples from drying out.



The humidification system of Ultimate-cell features 140°C steam direct injection into the chamber and active PID control with world class humidity sensor for utmost accuracy of measurement.

Advanced CO₂ controlling with Infrared (IR) sensor

The effective controlling of CO₂ concentration is essential for cultivations of mammalian cells and algae. The CO₂ concentration is well maintained between 0-20% to keep the pH value of the solution media at healthy level.



Labwit incorporates a world class single beam, dual wavelength IR CO₂ sensor, which guarantees superior performance and accuracy to the situations where temperature and humidity fluctuate rapidly, such as when the door is opened frequently.

Flask (ml)	P8021 50ml	P8022 100ml	P8023 250ml	P8024 500ml	P8026 1000ml	P8027 2000ml	P8028 3000ml	P8029 5000ml	P8012 96 Well Plate	P8010 Tube Rack
P6023 Tray	98	72	50	32	18	11	8	6	24	8
P6022 Tray	91	70	40	26	15	11	8	5	15	8

Photosynthetic LED Lightings

Ultimate-cell can be equipped with LED lighting panel for the cultivation of those phototrophic organisms, such as plant culture, algae, etc. The combinations of light spectra are optional upon request, and the light intensity is programmable to simulate day/night cycles. Single white color and dual blue & red color lighting options available.

Contamination Control

UV Sterilization

The UV sterilization system is isolated from the samples, sterilizes chamber air in the back chamber wall to maintain contamination-free conditions within the chamber.



Easy Cleaning Chamber

The chamber bottom is designed to catch and drain excess water and liquid spills in case of flask breaks through an outlet on the side.

Password and Fingerprint Encryption Door System

Password screen and door locking system prevents unauthorized changes of operational parameters as well as access to the valuable samples during long terms cultivation, enhancing the safety and reliability of the applications.

Complete Protection For Cell Culture

This model has been designed to include many features for the comprehensive of the application and the sample safety, hence providing you with added peace of mind.

- Automatic stop shaking motion and heating when the door is opened.
- Sensor failure alarm.
- Over-current and leakage protection.
- Non-volatile memory guarantees data integrity in the event of power interruption.
- Audible and visual alarm when parameter deviates from the set point.
- Independent temperature limit protection against over temperature.

Machine	
Outside (WxDxH)	1320x870x590mm (Side Cooling)*
Inside (WxDxH)	940x570x480mm
Volume	257L
Net/Gross Weight (with Cooling)	200kg/275kg
Control Panel	TFT Touch Screen
Illumination	Halogen
Operation Menu in	English
Ambient Temperature	5-35°C
UV Light	≥400 mW/m ²
Noise Level	<70 dB (1m above floor)
Power	1150W
Electricity	AC 220-240 Volt, 50/60Hz
Fingerprint System	Option
CO ₂	
Principle of Sensor	Infrared, NDIR
CO ₂ Range	0-20%
CO ₂ Accuracy	±0.15 @ 5.0%
Temperature Range	25-55°C
CO ₂ Supply Auto Switch	Option
CO ₂ Recovery (@5%)	5 mins (30 Seconds Door Opening)
Humidity	
Humidity Range	40-80%RH, at 25-55°C
Humidity Accuracy	0.1%RH
Humidity Uniformity	±3%RH
Principle of Sensor	Capacitive
System	Direct Steam Injection
Water Heater	150W
Humidifier Power	400W
Recovery (@70%RH)	10 mins (30 Seconds Door Opening)

Shaking Unit	
Drive Type	Quin Drive System
Tray Size	850x450mm
Maximum Load	25kg
Speed Range	30-300 rpm
Speed Accuracy	±1 rpm
Timer	0-9999 mins
Shaking Mode	Orbital
Shaking Diameter	1-50mm Stepless Adjustment

Temperature	
Control Mode	Fixed Value & Program
Temperature Range	Ambient-15 to 60°C (Min. 4°C) #
Temperature Accuracy	0.1°C
Temperature Uniformity	±0.5°C @37°C
Principle of Sensor	PT100
Air Circulation	360m ³ /Hour
Recovery (@37°C)	10 mins (30 Seconds Door Opening)

Photosynthetic Lighting	
Light Type	LED, 50% Red, 50% Blue
Spectrum	Red: 640-660nm, Blue: 430-450nm
Light Intensity	13,000 Lux (Red: 6500 Lux, Blue: 6500 Lux)
Control	Yes, Individually, from 0-100% output
Control Mode	Fixed Value & Programmable
Dimensions (WxDxH)	890x500x10mm
Power	300W

* Or without side cooling compartment, 1080*870*590mm

Min. Operating Temperature: 15°C when Photosynthetic Lighting option is applied.



Order Information

ZWYC-290A	ZWYC-290A, 257Lx1, Ultimate-Cell Stackable Shaking Incubator, 4-60, 30-300rpm
P5011	LED Lighting Panel and Control Kit, For ZWYR-D2401/D2402/D2403, ZWYC-290A, 890x500mm
P5012	Base Stand for ZWYC-290A, 1080x720x500mm
P5013	Direct Steam Humidification Kit for ZWYC-290A
P5014	IR CO ₂ Kit for ZWYC-290A
P5015	WiseKonec™ Plus Data Connection Kit
P6022	Tray for ZWYC-290A, Predrilled
P6023	Tray for ZWYC-290A, Plain
P8010	Tube Rack S/S
P8011	Tube Rack ABS Plastic
P8012	Clamp for 96 Well Plate, S/S
P8017	Sticky Mat, 20 x 20cm
P8021	O Clamp, S/S, for 50ml Flask, with Spring Retainer
P8022	O Clamp, S/S, for 100ml Flask, with Spring Retainer
P8023	O Clamp, S/S, for 250ml Flask, with Spring Retainer
P8024	O Clamp, S/S, for 500ml Flask, with Spring Retainer
P8025	O Clamp, S/S, for 750ml Flask, with Spring Retainer
P8026	O Clamp, S/S, for 1000ml Flask, with Spring Retainer
P8027	O Clamp, S/S, for 2000ml Flask, with Spring Retainer
P8028	O Clamp, S/S, for 3000ml Flask, with Spring Retainer
P8029	O Clamp, S/S, for 5000ml Flask, with Spring Retainer

* S/S: Stainless Steel

