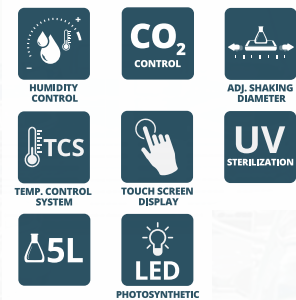
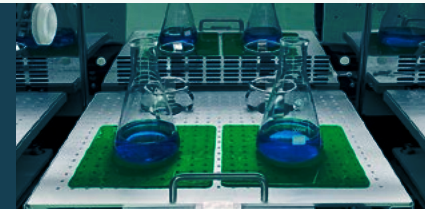




ZWYC-293G



## ULTRA COMPACT STACKABLE Shaking Incubator



The Ultra ZWYC-293G offers comprehensive solutions for shaking cultivations on small foot print, including active humidity and CO<sub>2</sub> control technology, offering exceptional flexibility, allowing for traditional shaking incubations with flasks and tubes, as well as micro-volume high-throughput microbial screening with 96-well plates.

### Features

#### Intuitive Operation with Smart Controller

The new version features 7.0" large touch screen with resolution (800x480 Pixels) and brightness (250 nit), making experiment programming and monitoring even more effortless.



Customize operational parameters and track real-time parameter, ensuring precise control over your samples' environment. PID microprocessor controller provide precise temperature control accuracy of 0.1°C. Programmable mode enables to customize and to automate changes to multiple segments of different temperature and speeds setpoints.

#### Easy Cleaning Chamber and Contamination Control

► The chamber is made of quality stainless steel with rounded corners, allowing for easy cleaning and durability.

► The chamber bottom is designed to catch and drain excess water and liquid spills in case of any breakages through the outlet on the side.

► The UV lights sterilizes the chamber with germicidal irradiation to maintain contamination-free conditions. Interlocked with door switch, the UV lights turns off automatically when door is opened to protect user's safety.



#### Maximized Capacity with Minimized Footprint

Ideal for benchtop and under-bench, but still up to two ZWYC-293G can be stacked for maximized shaking capacity with minimized floor space. Each unit runs independently. There is no special tools or kits necessary for stacking operation. Compatible to stack with former Premium Compact ZWYR-293.

#### Direct Beltless Driving System

Direct beltless driving system together with brushless DC motor provides quiet and vibration free shaking motion even when unit is operating at top speed with maximum workload.

## Flexible Shaking Diameter Options:

**Ø1-50mm Stepless Adjustable (standard):** Allowing to handle an extensive range of sample types and sizes, tailor the shaking conditions to your exact specifications, from small vials to large flasks or multi-well plates, from gentle swirling to vigorous agitation from 30-300rpm.

**Ø3mm for Microplates (Option):** Featuring optimal mixing of contents in microplates and deep well plates up to 1200rpm, achieving efficient oxygenation in each of the wells. This model revolutionizes cell culture technology by aligning with the trends of automation and high precision in handling and analytical work through high-throughput microbial screening.



Stepless Adjustable Shaking Diameter



Predrilled Tray

## Extended Chamber Capacity

- ▶ The predrilled shaking tray is included as standard accessory, clamps are excluded.
- ▶ One piece of static shelf with adjustable positions (10-20cm from ceiling, 5 levels) included as standard, providing extra flexibility for static incubation.
- ▶ Plain shaking tray is also available as option for use together with stick mats (Max. 4pcs).
- ▶ With internal height above the shaking tray of 415mm to the ceiling, the unit is compatible with 5L flasks even when the photosynthetic LED lighting panel is installed.

Capacity	P8021	P8022	P8023	P8024	P8026	P8027	P8028	P8029	P8012	P8010
	50ml	100ml	250ml	500ml	1000ml	2000ml	3000ml	5000ml	96 Well Plate	Tube Rack
<b>Plain Tray</b>	53	42	23	14	9	6	4	2	12	4
<b>Predrilled Tray</b>	33	33	23	14	9	6	4	2	12	4

## Photosynthetic LED Lighting

- ▶ The photosynthetic LED lighting panel can be equipped for the cultivation of those phototrophic organisms, such as plant culture, algae, etc.
- ▶ Light panels with light intensity up to 220  $\mu\text{mol}/(\text{m}^2 \cdot \text{s})$  guarantee even light distributions over the shaking tray.
- ▶ Available in Red & Blue, and Warm White.
- ▶ Easy programmable for day and night simulations.
- ▶ With height of 10mm, the light panel minimizes the impact on the useable internal height above the shaking tray.



Photosynthetic Lighting (Option)

## Advanced CO<sub>2</sub> controlling with Infrared (IR) sensor (Option)

For cultivations of mammalian cells and algae, well maintained CO<sub>2</sub> concentration is crucial to keep the pH value of the solution media at healthy level.

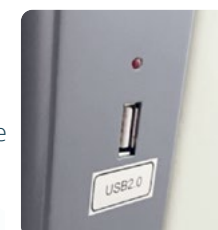
Labwit incorporates a world class single beam, dual wavelength IR CO<sub>2</sub> sensor, which guarantees superior performance and accuracy under all situations.



## Data Logging

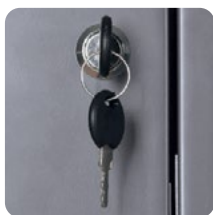
The units are equipped with USB Port as standard, so that operators could save all the operational parameters to the portable USB drive. The controller can save up to 5 days of data internally when USB drive is not connected.

Option: RS-485 interface, Built-in printer, TCP/IP interface.



## 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.



- ▶ Password protection before entering the "SET" page, and preventing unauthorized changes of critical settings.
- ▶ Key lock prevents unauthorized access to the valuable samples during cultivations.
- ▶ Automatic stop shaking motion, heating and cooling control when the door is opened.
- ▶ Sensor failure, door ajar 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.

### Specifications

<b>Machine</b>	
<b>Outside (WxDxH)</b>	840 x 764 x 625mm
<b>Inside (WxDxH)</b>	570 x 505 x 418mm
<b>Volume</b>	120L
<b>Net / Gross Weight</b>	120kg/165kg
<b>Control Panel</b>	7" (800 x 480) TFT Touch Screen
<b>Illumination</b>	LED
<b>Language</b>	English
<b>Ambient Temperature (°C)</b>	5-35°C
<b>UV Light</b>	254nm, 8W x 2 Pcs
<b>Noise Level</b>	<55 dB (1m above floor)
<b>Power</b>	765W
<b>Electricity</b>	AC 220-240 Volt, 50/60Hz
<b>Data logging</b>	USB port
<b>Static Shelf</b>	Standard, 1 piece
<b>Base Stand</b>	Standard: H 15cm Options: H 35cm or H 50cm
<b>Key Lock</b>	Yes, standard
<b>Shaking Unit</b>	
<b>Drive Type</b>	Direct Beltless Driving System
<b>Tray Size (WxD)</b>	500 x 400mm
<b>Maximum Load</b>	15kg
<b>Speed Range</b>	30-300 rpm
<b>Speed Accuracy</b>	±1 rpm
<b>Timer</b>	0 - 9999 mins
<b>Shaking Mode</b>	Orbital
<b>Shaking Diameter</b>	Ø1-50mm Stepless Adjustment

## Direct Injection Humidification System (Option)

Humidity is important for long term cell cultivations with flasks as well as where 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 Ultra Compact features 140°C steam direct injection into the chamber and active PID control with world class humidity sensor for utmost accuracy of measurement.



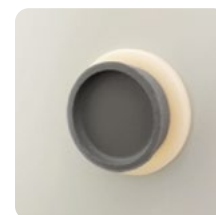
### Other Features

- ▶ Internal chamber equipped with lighting ensure complete visibility.
- ▶ Fully insulated chamber and door with double folded glass window optimize the energy efficiency.
- ▶ Ø50mm access port
- ▶ H15cm base stand.



Options:

- H35cm cabinet base stand (Single unit & Double Stack);
- H50cm frame base stand (Single unit only)



<b>Temperature</b>	
<b>Control Mode</b>	Fixed Value & Program
<b>Temperature Range (°C)</b>	Ambient - 20 to 60°C (Min. 4°C)#
<b>Temperature Accuracy (°C)</b>	0.1°C
<b>Temperature Uniformity (°C)</b>	±0.3°C @37°C
<b>Principle of Sensor</b>	PT100
<b>Air Circulation</b>	360m <sup>3</sup> /Hour
<b>Recovery (@37°C)</b>	8 mins (30 Seconds Door Opening)
<b>Control Mode</b>	Fixed Value & Program

<b>CO<sub>2</sub> (Option)</b>	
<b>Part No.</b>	P5054
<b>Principle of Sensor</b>	Infrared, NDIR
<b>CO<sub>2</sub> Range</b>	0-20%
<b>CO<sub>2</sub> Accuracy</b>	±0.15 @ 5.0%
<b>Temperature Range</b>	25-55°C
<b>CO<sub>2</sub> Recovery (@5%)</b>	5 mins (30 Seconds Door Opening)
<b>Principle of Sensor</b>	Infrared, NDIR
<b>CO<sub>2</sub> Range</b>	0-20%

Photosynthetic Lighting (Option)		
<b>Part NO.</b>	P5031RB	P5031WW
<b>Light Type</b>	LED, 50% Red, 50% Blue	LED, 100% Warm White
<b>Spectrum</b>	Red: 640-660nm, Blue: 430-450nm	4000k: 400-700nm
<b>Light Intensity</b>	Up to 350 µmol/(m <sup>2</sup> *s)	Up to 220 µmol/(m <sup>2</sup> *s)
<b>Control</b>	Yes, Individually, from 0-100% output	Yes, from 0-100% output
<b>Power</b>	120W	
<b>Control Mode</b>	Fixed Value & Programmable	
<b>Dimensions (WxDxH)</b>	550 x 430 x 10mm	

# Min. 15°C when Photosynthetic Lighting option is applied. With P5020, temperature range upgrade to 4-80°C, no UV light.

Humidity (Option)	
<b>Part No.</b>	P5053
<b>Humidity Range</b>	40-80%RH, at 25-55°C
<b>Humidity Accuracy</b>	0.1%RH
<b>Humidity Uniformity</b>	±3%RH
<b>Principle of Sensor</b>	Capacitive
<b>System</b>	Direct Steam Injection

Ø3mm Shaking Diameter (Option)	
<b>Part No.</b>	P5052
<b>Shaking Speed</b>	100-1200rpm
<b>Shaking Tray</b>	96 Well Plate Tray (P6050)
<b>Tray Size (WxD)</b>	530 x 435mm
<b>Max. Capacity</b>	96 Deep Well Plate: 2x16 pcs

Order Information	
<b>ZWYC-293G</b>	120L, Ultra Compact Shaking Incubator, 4-60°C
<b>P4003</b>	Built-in Printer
<b>P5053</b>	Direct Steam Humidification Kit for ZWYC-293G
<b>P5054</b>	IR CO <sub>2</sub> Kit for ZWYC-293G
<b>P5016</b>	RS-485 Interface
<b>P5020</b>	Temperature Upgrade, 80°C, for ZWYR-D2401; ZWYC/R-293
<b>P5031RB</b>	LED Lighting Panel and Control Kit, Red & Blue for ZWYC/R-293
<b>P5031WW</b>	LED Lighting Panel and Control Kit, Warm White for ZWYC/R-293
<b>P5032-35</b>	Cabinet Base Stand for ZWYR-293, ZWYC-293G, 840x710x350mm
<b>P5032-50</b>	Frame Base Stand for ZWYR-293, ZWYC-293G, 840x710x500mm
<b>P5033</b>	TCP/IP interface
<b>P5052</b>	Ø3mm Shaking Diameter for ZWYC-293G, 150-1200rpm, with P6050 x 1



<b>P6040</b>	Tray for ZWYC/R-293, 500x400mm, Predrilled
<b>P6041</b>	Tray for ZWYC/R-293, 500x400mm, Plain
<b>P6050</b>	96 Well Plate Tray for ZWYC-293G, 530x435mm
<b>P7029</b>	Universal Spring Pallet for: ZWYR-293, ZWYC-293G, 500x400mm
<b>P8010</b>	Tube Rack S/S
<b>P8011</b>	Tube Rack ABS Plastic
<b>P8032</b>	O Clamp for 96 Well Plate, S/S
<b>P8017</b>	Sticky Mat, 20 x 20cm

<b>P8022</b>	O Clamp, S/S, for 100ml Flask, with Spring Retainer
<b>P8023</b>	O Clamp, S/S, for 250ml Flask, with Spring Retainer
<b>P8024</b>	O Clamp, S/S, for 500ml Flask, with Spring Retainer
<b>P8025</b>	O Clamp, S/S, for 750ml Flask, with Spring Retainer
<b>P8026</b>	O Clamp, S/S, for 1000ml Flask, with Spring Retainer
<b>P8027</b>	O Clamp, S/S, for 2000ml Flask, with Spring Retainer
<b>P8028</b>	O Clamp, S/S, for 3000ml Flask, with Spring Retainer
<b>P8029</b>	O Clamp, S/S, for 5000ml Flask, with Spring Retainer

Labwit quality assurance program demands the continuous assessment and improvement of all Labwit products. The information in this leaflet could thus change without notification and does not constitute a product specification. Please contact Labwit or any of their representatives if you require more details.