

## Premium Compact Stackable Shaking Incubator



- ACCURACY
- RELIABILITY
- FLEXIBILITY

**ZWYR-293**

## INTRODUCTION

As a new member of the premium stackable shaking incubator range, the ZWYR-293 features compact design with smaller footprints, and maximized comfort, reliability and versatility for safe handling and incubation of any cultures or products. It's ideal for any shaking application requiring controlled temperature for microbiology, cell biology, cell culture, tissue culture, biochemistry, environmental engineering, soil testing field temperature range from 4°C to 60°C.

## FEATURES

### Maximized Capacity with Minimized Footprint

Ideal for benchtop and under-bench, but still up to two ZWYR-293 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.

### Intuitive Operation with Smart Controller

5.6" LCD 640x480 touch screen panel clearly indicates all parameters, and alarm prompts, in one page display and enables all complicated program settings intuitively just with finger tips.

### Direct Beltless Driving System

Direct beltless driving system together with brushless DC motor provides quiet and vibration free shaking motion, allows extended speed ranges from 30 to 300 RPM,  $\pm 1$  RPM, even when unit is operating at top speed with maximum workload.

### Stepless Adjustable Shaking Diameter

The shaking diameter can be changed from 1-30mm for optimum oxygenation and nutrient mixing and agitation in from small to large flasks. Larger shaking diameter up to 50mm available upon request.

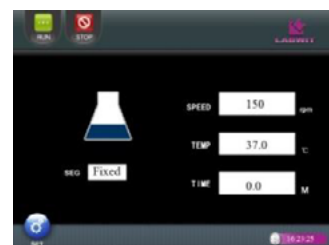
### Extended Chamber Capacity

The predrilled shaking tray (500x420mm) is included as standard accessory, taking up to 9 pcs of 1L Erlenmeyer flasks.

One piece of static shelf with adjustable positions (95-195mm 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).

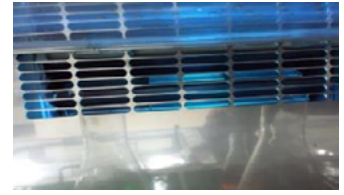
With internal height above the shaking tray of 415mm to the ceiling, the unit is compatible with 5L flasks even when the photosynthetic LED lighting panel is installed.



	P8021	P8022	P8023	P8024	P8026	P8027	P8028	P8029	P8012	P8010
	50ml	100ml	250ml	500ml	1000ml	2000ml	3000ml	5000ml	96 Well Plate	Tube Rack
P6029Tray	53	42	23	14	9	6	4	2	12	4
P6028Tray	33	33	23	14	9	6	4	2	12	4

### Easy Cleaning Chamber and Contamination Control

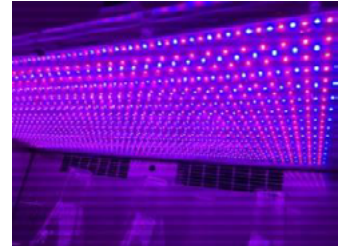
- The chamber is made of quality stainless steel with covered corners which minimizes the unnecessary chamber surfaces where contaminations can hide.
- The chamber bottom is designed to catch and drain excess water and liquid spills in case of any breakages through the outlet on the side.
- The UV sterilization system is isolated from the samples, sterilizes chamber air in the back chamber wall to maintain contamination-free conditions within the chamber even when chamber is loaded.



UV Light

### Photosynthetic LED Lightings

The photosynthetic LED lighting panel can be equipped for the cultivation of those phototrophic organisms, such as plant culture, algae, etc. Light panels available in warm white and blue & red, with light intensity up to  $220 \mu\text{mol}/(\text{m}^2 \cdot \text{s})$ . Even light distributions over the shaking tray. 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)

### 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.

- 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 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.



Φ 50mm Access Port

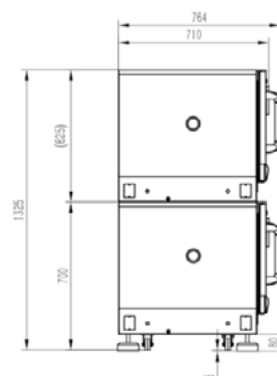
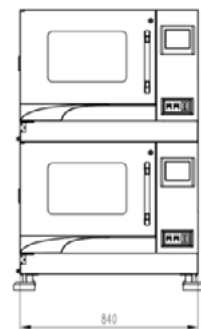
### Data Logging

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.

### Other Features

- Internal chamber equipped with lighting ensure complete visibility.
- Fully insulated chamber and door with double folded glass window optimize the energy efficiency
- Φ 50mm access port
- One piece of predrilled shaking tray included as standard, clamps excluded.



## SPECIFICATIONS:

Machine		Shaking Unit	
Outside (WxDxH)	840x764x625mm	Drive Type	Direct Beltless Driving System
Inside (WxDxH)	570*505*418mm	Tray Size (WxD)	500x420mm
Volume	120L	Maximum Load	15kg
Net / Gross Weight	120kg/165kg	Speed Range	30-300 rpm
Control Panel	TFT Touch Screen	Speed Accuracy	±1 rpm
Illumination	LED	Timer	0-9999 mins
Language	English	Shaking Mode	Orbital
Ambient TEMP.	5-35° C	Shaking Diameter	1-30mm Stepless Adjustment
UV Light	≥400 mW/m <sup>2</sup>	Temperature	
Noise Level	<55 dB (1m above floor)	Control Mode	Fixed Value & Program
Power	765W	TEMP. Range	Ambient-15 to 60°C (Min. 4°C)#
Electricity	AC 220-240 Volt, 50/60Hz	TEMP Accuracy	0.1°C
Data logging	USB port	TEMP. Uniformity	±0.5°C @37°C
Static Shelf	Standard, 1 piece	Principle of Sensor	PT100
Base Stand	Standard: H 20cm Options: H 35cm or H 50cm	Air Circulation	360m <sup>3</sup> /Hour
Key Lock	Yes, standard	Recovery (@37°C)	8 mins (30 Seconds Door Opening)
Photosynthetic Lighting			
Part NO.	P5031RB	P5031W	
Light Type	LED, 50% Red, 50% Blue	LED, 100% Warm White	
Spectrum	Red: 640-660nm, Blue: 430-450nm	4500k:400-700nm	
Light Intensity	Up to 350 μmol/(m <sup>2</sup> *s)	Up to 220 μmol/(m <sup>2</sup> *s)	
Control	Yes, Individually, from 0-100% output	Yes, from 0-100% output	
Power	120W	60W	
Control Mode	Fixed Value & Programmable		
Dimensions (WxDxH)	550x430x10mm		

# Min. 15°C when Photosynthetic Lighting option is applied.

## ORDERING INFORMATION:

Part NO.	Description	Part NO.	Description
ZWYR-293	ZWYR-293, 120L, Premium Compact Shaking Incubator, 4-60, 30-300rpm	P8021	O Clamp, S/S, for 50ml Flask, with Spring Retainer
P5031RB	LED Lighting Panel and Control Kit, Red & Blue, For ZWYR-293	P8022	O Clamp, S/S, for 100ml Flask, with Spring Retainer
P5031W	LED Lighting Panel and Control Kit, Warm White, For ZWYR-293	P8023	O Clamp, S/S, for 250ml Flask, with Spring Retainer
P5032-35	Cabinet Base Stand for ZWYR-293, 840x710x350mm	P8024	O Clamp, S/S, for 500ml Flask, with Spring Retainer
P5032-50	Frame Base Stand for ZWYR-293, 840x710x500mm	P8025	O Clamp, S/S, for 750ml Flask, with Spring Retainer
P6028	Tray for ZWYR-293, Predrilled	P8026	O Clamp, S/S, for 1000ml Flask, with Spring Retainer
P6029	Tray for ZWYR-293, Plain	P8027	O Clamp, S/S, for 2000ml Flask, with Spring Retainer
P7024	Universal Spring Pallet for ZWYR-293	P8028	O Clamp, S/S, for 3000ml Flask, with Spring Retainer
P8010	Tube Rack S/S	P8029	O Clamp, S/S, for 5000ml Flask, with Spring Retainer
P8011	Tube Rack ABS Plastic	P4003	Built-in Printer
P8032	O Clamp for 96 Well Plate, S/S	P5016	RS-485 Interface
P8017	Sticky Mat, 20 x 20cm	P5033	TCP/IP interface

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