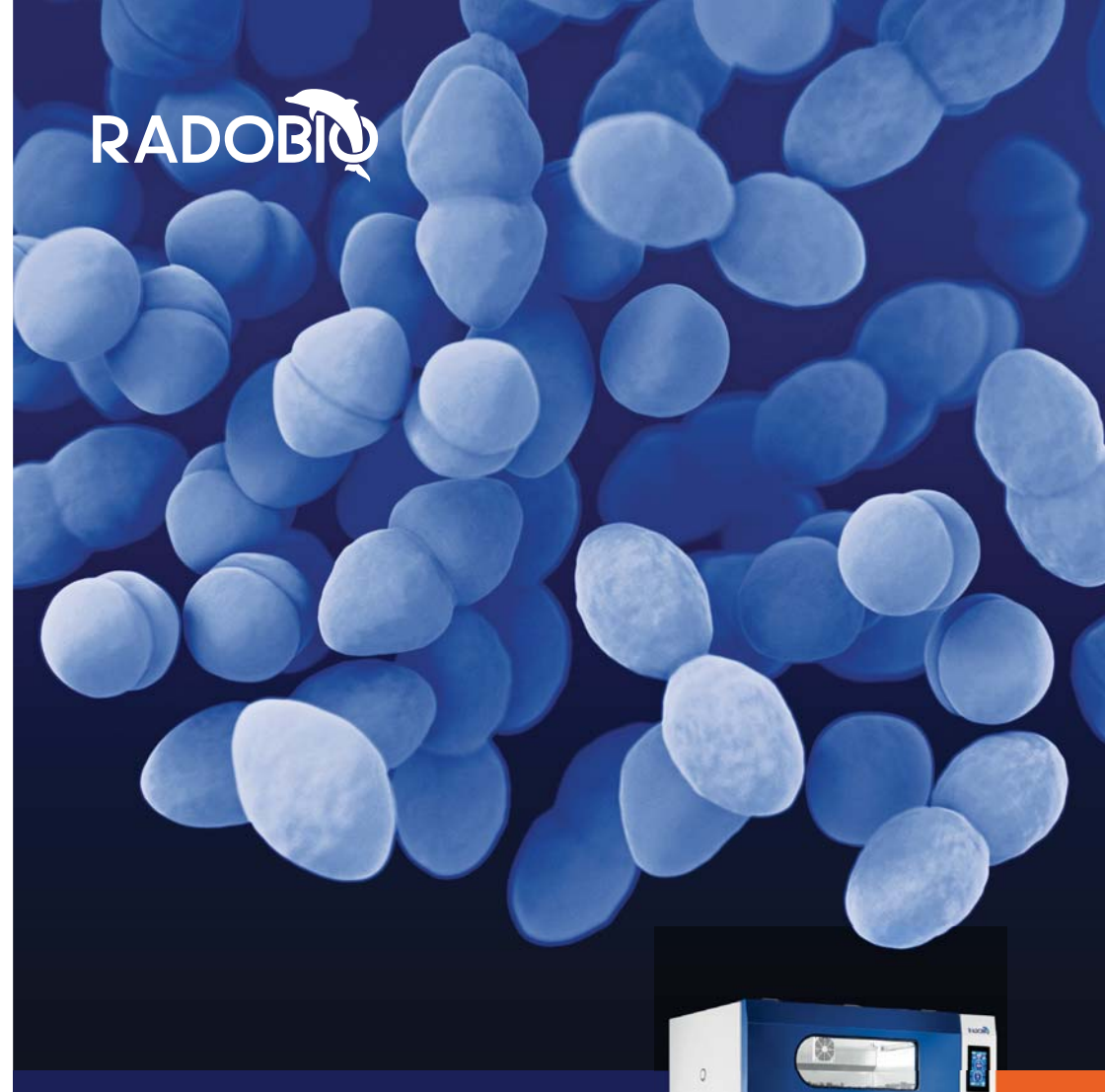


## Accessories for shaker

Item	specifications	Cat.No.
Detachable tray	370×400 mm	RP1100
	500×500 mm	RP1200
	465×590 mm	RP2100
	520×880 mm	RP3100
Universal spring mesh holder	370×400 mm	RF1100
	465×590 mm	RF2100
	500×500 mm	RF2200
	524×873 mm	RF3100
Test tube rack holder (50ML×16; 15ML×20)	330×130×90mm, Φ30/17mm	RF29W
Test tube rack holder (15ML×48)	330×112×90mm, Φ17mm	RF28W
Test tube rack holder (50ML×24)	330×130×90mm, Φ30mm	RF27W
Test tube rack holder (1.5ML×50)	278×125×50mm, Φ11mm	RF26W
Test tube rack holder (50ML×15; 15ML×28)	423×130×90mm, Φ30/17mm	RF23W
Test tube rack holder (50ML×30)	423×130×90mm, Φ30mm	RF25W
Test tube rack holder (15ML×60)	373×115×90mm, Φ17mm	RF24W
50ml flask clamp	Φ51mm	RF50
100ml flask clamp	Φ65mm	RF100
125ml flask clamp	Φ68mm	RF125
250ml flask clamp	Φ83mm	RF250
500ml flask clamp	Φ105mm	RF500
1000ml flask clamp	Φ130mm	RF1000
2000ml flask clamp	Φ165mm	RF2000
3000ml flask clamp	Φ185mm	RF3000
5000ml flask clamp	Φ240mm	RF5000
96 well deep well plate holder	130×88×90mm	RF96DPH-1
Peacock Blue Crystal sticky pad	140×140mm	RF3101
Humidification strip box	/	SRH90
Shaker Stand (S, H670mm)	1040×650×670mm	RD-ZJ670S
Shaker Stand (S, H350mm)	1040×650×350mm	RD-ZJ350S
Shaker Stand (M, H670mm)	1330×750×670mm	RD-ZJ670M
Shaker Stand (M, H350mm)	1330×750×350mm	RD-ZJ350M
Built-in blackout curtain	W700mm, H283mm	RL100
Built-in blackout curtain	W540mm, H340mm	RL105

**RADOBIO**

**RADOBIO**



UV STERILIZATION  
STACKABLE INCUBATOR SHAKER

**MS160T**  
**MS315T**

For shaking culture of microorganism  
UV sterilization stackable incubator shaker



**CONTROLTECNICA**

## Product Features

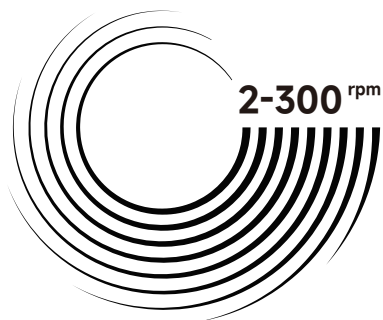
### WIDER SPEED RANGE

2~300 rpm

The unique and innovative bearing technology further broadens the speed control range, and can realize the speed control range of 2-300rpm, which provides an effective guarantee for meeting different experimental needs.

For some special applications of biological culture or reaction experiments, even using low speed can also achieve smooth rotation without stalling.

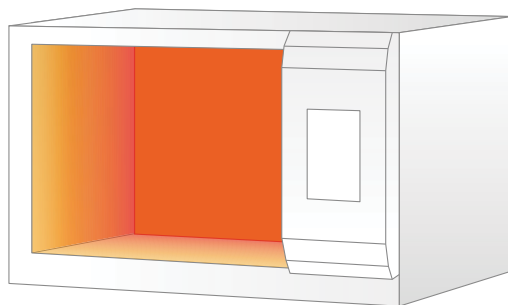
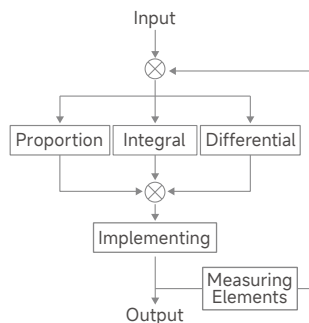
Provides excellent stability at high rotational speeds or simultaneous oscillations with multiple layers, minimizes significant abnormal shaking, and provides selectivity for high-speed culture, thereby effectively improving the efficiency of mass transfer and dissolved oxygen.



### TEMPERATURE DISTRIBUTION

$\pm 0.5^{\circ}\text{C}$

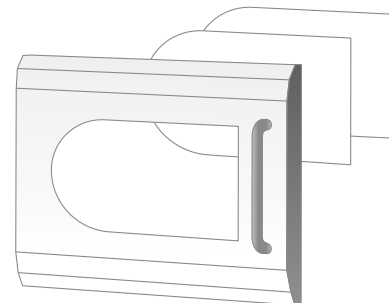
The high-efficiency and high-performance heating system distributed on the surface of each culture room, ensures optimal air circulation inside the chamber, making the temperature of the entire incubator more uniform, and stabilized. The temperature uniformity in the cabin can be controlled at  $\pm 0.5^{\circ}\text{C}$  (room temperature:  $25^{\circ}\text{C}$ ; set value:  $37^{\circ}\text{C}$ , no-load).



### ENSURE EXCELLENT INSULATION AND SECURITY

#### DOUBLE GLAZED

Internal and external double glazed safety glass doors with excellent thermal insulation and safety protection.

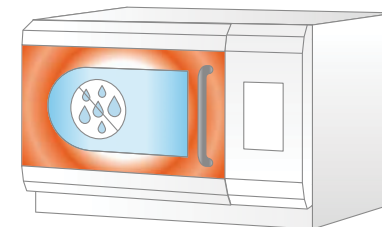


### EFFECTIVELY PREVENTS FOGGING OF THE GLASS DOOR

#### HEATING DOOR

OPTIONAL

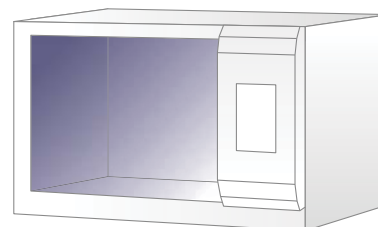
Door heating function effectively prevents condensation on the glass window, allowing good observation of the internal shake flasks even when the temperature difference between the inside and outside of the shaker is large.



### BETTER STERILIZATION EFFECT

#### UV STERILIZATION

UV sterilization unit for effective sterilization, UV sterilization unit can be opened during rest time to ensure a clean culture environment inside the chamber.



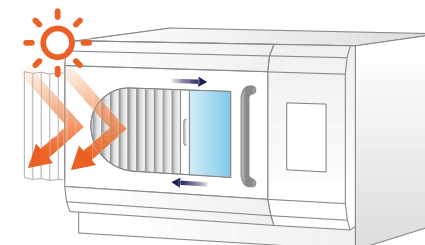
### EASY TO PUSH AND PULL FOR DARK CULTURE

#### SLIDING BLACK WINDOW

OPTIONAL

For photosensitive media or organisms, culture can be performed by pulling up the sliding black window, which can prevent sunlight (UV radiation) from entering the interior of the incubator while retaining the convenience of viewing the interior of the incubator.

The sliding black window is positioned between the glass window and the outer chamber panel, making it convenient and aesthetically pleasing, and a perfect solution to the embarrassment of taping tin foil.



## Product Features

### EASY PLACEMENT OF CULTURE FLASKS

## 8<sup>mm</sup> ALUMINUM ALLOY SLIDING TRAY

8mm thick aluminum alloy sliding tray is lighter and stronger, never deforms and is easy to clean. Push-pull design allows for easy placement of culture flasks at specific heights and spaces.



### EFFECTIVELY PREVENTING UNSAFE INCIDENTS DUE TO CLAMP BREAKAGE

## ONE-PIECE MOLDING FLASK CLAMP

All of RADOBIO's flask clamps are cut directly from a single piece of 304 stainless steel, which is stable and durable and will not break, effectively preventing unsafe incidents such as flask breakage.

The stainless steel clamps are plastic sealed to prevent cuts to the user, while reducing friction between the flask and the clamp, bringing a better silent experience.

Various culture vessel fixtures can be customized.



### EFFECTIVE IN SAVING LAB SPACE

## FLEXIBLE PLACEMENT, STACKABLE

Can be used on the floor or on the table stand in a single unit, or stacked in a double or triple units for easy operation by laboratory personnel.

Without taking up additional floor space, the shaker can be stacked up to 3 units as the culture throughput increases. Each incubator shaker in the stack operates independently, providing different incubation conditions.



### INTUITIVE CONTROL AND EASY OPERATION

## 7-INCH LCD TOUCH PANEL CONTROLLER

7-inch touch screen control panel is intuitive and easy to operate, so you can easily control the switch of a parameter and change its value without special training.

30-stage program can be set up to set different temperature, speed, time and other culture parameters, and the program can be automatically and seamlessly switched between; any parameters and historical data curve of the culture process can be viewed at any time.



### FOR OPERATOR AND SAMPLE SAFETY

## MULTI-SAFETY DESIGN

Optimized PID parameter settings that do not cause temperature overshoot during temperature rise and fall.

Fully optimized oscillation system and balancing system to ensure that no other unwanted vibrations occur during high speed oscillation.

After an accidental power failure, the shaker will remember the user's settings and automatically start up according to the original settings when the power comes back on, and automatically alert the operator of the accident that has occurred.

If the user opens the hatch during operation, the shaker oscillating plate will automatically brake flexibly until it stops oscillating completely, and when the hatch is closed, the shaker oscillating plate will automatically start flexibly until it reaches the preset oscillating speed, so there will be no unsafe events caused by sudden speed increase.

When a parameter deviates far from the set value, the sound and light alarm system is automatically turned on.

Touch screen control panel with data export USB port on the side for easy export of backup data and convenient and safe data storage.

### REDUCING BACKGROUND HEAT AND SAVING ENERGY

## WATERPROOF FAN WITHOUT HEAT



Compared with conventional fans, heatless waterproof fans can provide a more uniform and stable temperature in the chamber, while effectively reducing background heat and providing a wider range of incubation temperatures without activating the refrigeration system, which also saves energy.

### MULTI-UNIT STACKED HIGH-SPEED OPERATION WITHOUT ABNORMAL VIBRATION

## NEARLY SILENT

Stable start-up with unique bearing technology, almost noiseless operation, no abnormal vibration even when multiple layers are stacked. Stable machine operation and longer service life.

## Technical Details

		
Cat.No.	MS160T	MS315T
Quantity	1 unit	1 unit
Control interface	7.0 inch LED touch operation screen	7.0 inch LED touch operation screen
No-load rotation speed range	2-300rpm	2-300rpm
Speed control accuracy	1rpm	1rpm
Shaking throw	26/50mm (Customization is available)	26/50mm (Customization is available)
Temperature control mode	PID control mode	PID control mode
Temperature control range	4-60°C	4-60°C
Temperature display resolution	0.1°C	0.1°C
Temperature fluctuation	±0.1°C	±0.1°C
Temperature distribution	±0.5°C at 37°C	±0.5°C at 37°C
Power consumption max.	1300W	1400W
Timer	0-999h	0-999h
Tray size	590×465 mm	880×520 mm
Loading max.	35 kg	50 kg
Clamp type	Universal spring mesh, flask clamps, deep-well plate clamps, test tube holders, etc. are available	Universal spring mesh, flask clamps, deep-well plate clamps, test tube holders, etc. are available
Maximum expansion	Stackable up to 3 units	Stackable up to 3 units
Internal dimension (W×D×H)	720×632×475 mm	1070×730×475 mm
Dimension (W×D×H)	1000×725×620mm (1 unit); 1000×725×1170mm (2 units); 1000×725×1720mm (3 units)	1330×820×620mm (1 unit); 1330×820×1170mm (2 units); 1330×820×1725mm (3 units)
Maximum working height	340mm	340mm
Volume	215L	370L
Lighting	Fl tube, 30W	Fl tube, 30W
Sterilization method	UV sterilization	UV sterilization
Data export interface	USB interface	USB interface
Data storage interval	30sec-9999sec can be set	30sec-9999sec can be set
Historical data storage	250,000 messages	250,000 messages
Number of settable programs	5	5
Number of stages per program	30	30
Ambient temperature	5°C-35°C	5°C-35°C
Power supply	115/230V±10%, 50/60Hz	115/230V±10%, 50/60Hz
Weight	145kg per unit	220kg per unit
Tray capacity of shake flask	35×250ml or 24×500ml or 15×1000ml or 8×2000ml (standard with flask clamps. Various other holders are available)	60×250ml or 40×500ml or 24×1000ml or 15×2000ml (standard with flask clamps. Various other holders are available)



\*All products are tested biologically in a controlled environment. Radobio does not guarantee the consistency of field test results under different conditions.