CRYSTAL

Beratung, Vertrieb, Service:

RIEGER
Industrievertretungen GmbH
www.rieger-iv.at

Wir sind für Sie da:
E-Mail: office@rieger-iv.at
Telefon: +43(1) 728 00 52
Fax: +43(1) 728 69 16
Rustenschacher Allee 10
1020 Wien, Austria



INCUBATOR SHAKER

Easy-to-use

- Intuitive user interface both press button models and touch screen models.
- Ready-to-use design,standard equipped with pre-drilled platform.



Reliable performance

- CE-certified for reliable continuous operation
- Precise Control with PT100 temp sensor and IR CO2 sensor
- Real-time vibration alarm to maintain a safe environment for your cultivation



Robust design

- 304 stainless steel anti-corrosion chamber
- Maintenance free DC brushless motor
- Industrial-grade Construction for 24/7 Operationi



IncuShaker® IS-6



IncuShaker® IS-4



AEOLUS™ IS-D



AEOLUS™ IS-AM



Top Hinge Incubator Shaker IS-RDD3/RSD3



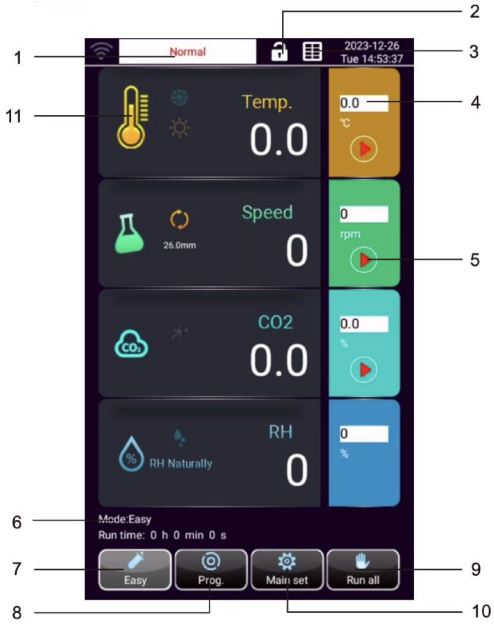
Benchtop Incubator Shaker IS-RSDA

Stackable Incubator Shaker

Intuitive Control

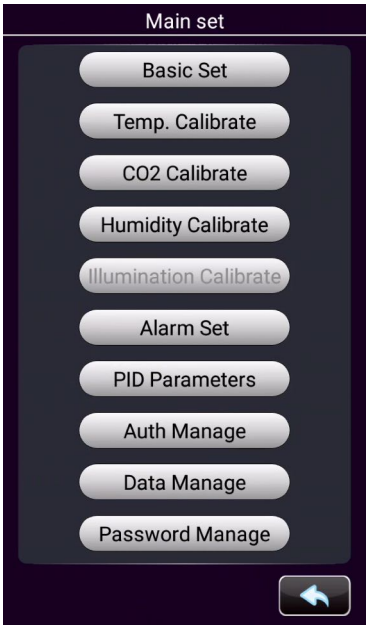
- Modularized control function is more user friendly for operation, clearly displays all the status and parameters.
- Auto-lock and password protection
- Featuring 3-level user authorization and PDF data export to comply with GMP & FDA 21 CFR Part 11

Capacitive touch screen display(Shaking incubator with CO2)*



Main Interface:

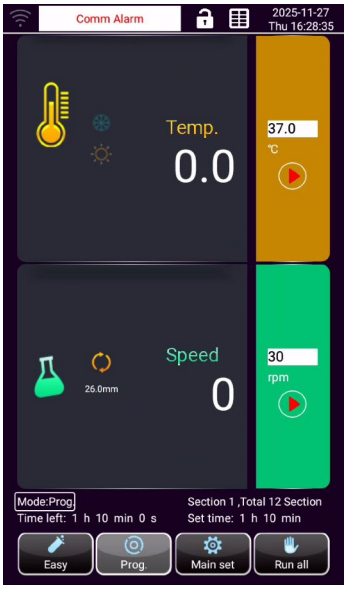
1. Display the current status of the instrument.
2. Click to sign out your account.
3. Click to check the alarm information.
4. Displays the set value and allows user to manually input the value.
5. Run/Stop button, the corresponding function can be individually controlled to run / stop.
6. Under the programmable mode, click to set the multi-segment program, can be repeated up to 5 loops.
7. Click to “Easy Mode”.
8. Click to “Programme Mode”
9. Run/Stop all button: Click to “run” and “stop" all functions.
10. Main setting: Access to setting interface(image below), which features specific settings for the user to edit.
11. Function icon buttons: Graphically displays the real-time function data.



Control Features

- Data storage: Data is stored for more than 2 years. Recorded in 1 minute intervals.
- Real-time data view: On the display, operator can view the running data from latest 7 days.
- Data export: Easily export more than 2 years of parameter data via USB
- Optional Remote WiFi monitoring accessory and smart phone app enable remote monitoring and control.
- Various Alarms: Alarms can be set to activate when parameter values deviate outside of users' set ranges.
- Alarm recording: Alarm information is stored and viewable.
- Easy Calibration: Calibrating functions onlyrequire inputting the diference between setand actual values.

Capacitive touch screen (Shaking incubator)*



Stackable Incubator Shaker

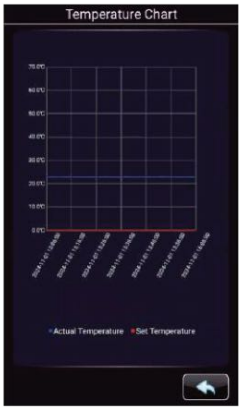
Data Management

Multiple solutions for data access

1. Data on display

Check the data history of your device and view informative graphs on screen display.
The data can be traced up to 7 days.







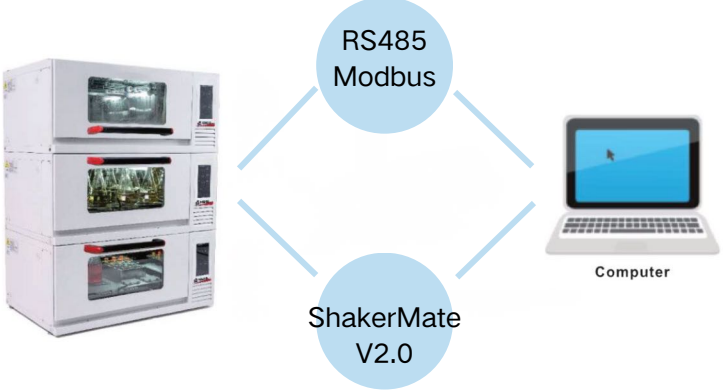
2. Built-in USB interface for fast and easy data export

Data can be stored up to 2 year, can be exported in the FDP format.



3. Modbus RTU or Modbus TCP/IP

Provide communication protocol to Intergrate with user's LAN remote monitoring system.



4. ShakermateV2.0

Crystal ShakerMate V2.0 is a software which is used for monitoring the incubator shakers via LAN. All settings and running data could be recorded and exported to a PDF file which meets the requirements of GMP & FDA 21 CFR Part 11.

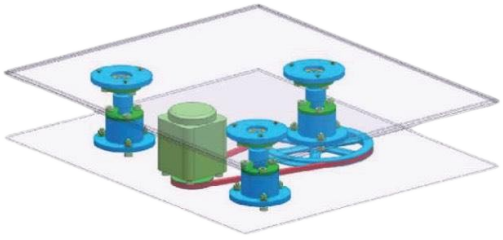
Stackable Incubator Shaker

Mechanical Drive System

1. Belt drive with Triple-eccentric counter balanced rotor*

- Provide smooth and stable shaking for heavy and uneven loading.
- Brushless motor drive provides high efficient and reliable operation.
- Low noise and longer life span.
  - **Applied on IS-6,IS-4,IS-RDD3 and IS-RSD3 models.**





2. Magnetic direct drive **

- Sealed Magnetic Drive is highly efficient, quiet, durable. and produces negligible heat that does not affect the chamber temperature.
- Three axis eccentric balance system provides stable and reliable shaking.
- Low cost as it is maintenance-free for direct drive, eliminating the need of replacing the belts. Longer life span than motor drive.

**** Magnetic drive is only applied on incubator shaker IS-6M,IS-AM and IS-D models.**

Temperature Control

- Combined PID and Fuzzy Control Technology to maintain a consistent temperature.
- Shaker with cooling is configured with inverter compressor refrigeration, which allows cooling as low as 18℃ below room temperature with low energy consumption(min temperature at 4℃).
- Precise temp uniformity to ensure reproducible cultivation results.

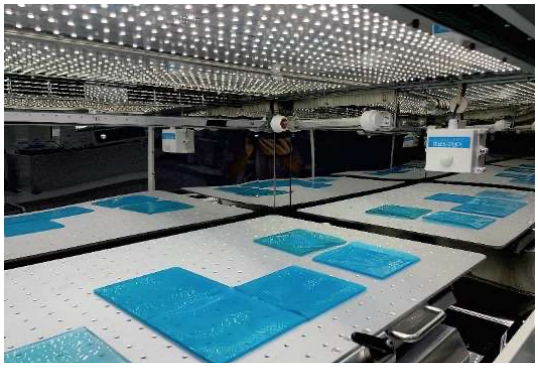
CO2 Control

- Infrared CO2 Sensor, drift-free
- Keep CO2 concentration between 0-20%

Stackable Incubator Shaker

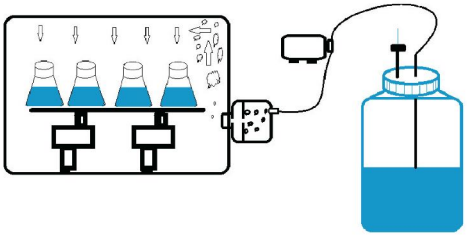
Photosynthetic Control(optional)

- White light, available for IS-6, IS-6M models
  Light intensity resolution:100Lux
  Light strength up to 20000Lux.



Active Humidity (optional)

- Set at 10% above ambient humidity, up to 90%
- No evaporation, no contamination in the chamber
- No condensation produced

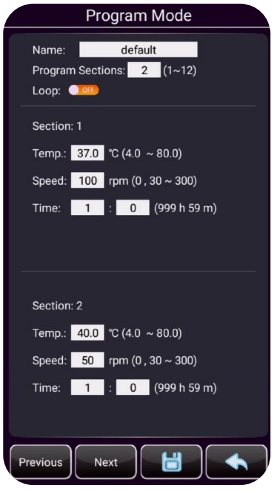


Alarm

- Audible and visual alarms if there is any deviation of temperature, speed, CO2 and humidity. Maintain a safe environment for your cultivation.

Program Mode

- Program mode allows user to set up to 12 segments of varying temperature, speed and time.Task is repeatable.
- Easy control mode with ultimate time control



Max Loading Capacity:

Flask	IS-6		IS-4		IS-AM		IS-D	
	Clamp	Sticky Mat	Clamp	Sticky Mat	Clamp	Sticky Mat	Clamp	Sticky Mat
50ml	135	187	104	112	72	80	49	64
100ml	60	112	45	72	30	56	32	49
150ml	60	104	45	60	30	42	25	36
200ml	60	84	45	54	30	42	25	36
250ml	60	77	40	45	30	30	25	25
500ml	38	40	25	28	16	20	16	25
1000ml	24	28	15	15	12	12	9	9
2000ml	15	15	12	12	8	8	6	6
3000ml	12	15	/	/	/	/	5	5
5000ml	/	8*	/	6*	/	4*	4	4

* For IS-6,IS-4 and IS-AM models, hold 5L Thomson flask only.

Stackable Incubator Shaker

Technical data



IS-4



IS-6



IS-D



IS-AM

Shaking Control				
Shaking platform	Aluminum,770x470mm	Aluminum,900×560mm	Aluminum,460x460mm	Aluminum,550x470mm
Shaking orbit	26mm or 50mm	26mm or 50mm	26mm or 50mm	26mm or 50mm
Max Loading	20kgs	20kgs	15kgs	10kgs
Speed range	0, 30~300rpm	0, 30~300rpm	0, 30~400rpm(26mm orbit) 0, 30~300pm (50mm orbit)	0, 30~300rpm
Setting accuracy	1 rpm	1rpm	1rpm	1rpm

Temperature				
Temp.Range	18℃ below ambient temperature, minimum 4℃ to 60℃	18℃ below ambient temperature, minimum 4℃ to 60℃	18℃ below ambient temperature, minimum 4℃ to 60℃	18℃ below ambient temperature, minimum 4℃ to 60℃
Setting accuracy	±0.1℃	±0.1℃	±0.1℃	±0.1℃
Uniformity	±0.3℃(@37℃)	±0.4℃(@37℃)without CO2, ±0.3℃(@37℃)with CO2	±0.3℃(@37℃)	±0.3℃(@37℃)without CO2, ±0.25℃(@37℃)with CO2
Recovery time after door opening 30s	≤6min (@37℃)	≤6min (@37℃)	≤6min (@37℃)	≤6min (@37℃)

CO2 (if available)				
CO2 sensor	IR	IR	IR	IR
Setting range	0-20%	0-20%	0-20%	0-20%
Setting accuracy	0.1%	0.1%	0.1%	0.1%
CO2 inlet pressure	0.08-0.1Mpa	0.08-0.1Mpa	0.08-0.1Mpa	0.08-0.1Mpa
Recovery time after door opening 30s	≤6min (@5%)	≤6min (@5%)	≤6min (@5%)	≤6min (@5%)

Humidity				
RH Display	Available for CO2 model	Available for CO2 model	Available for CO2 model	Available for CO2 model
Max humidity	95% for passive humidity, 90% for active humidity	95% for passive humidity, 90% for active humidity	95% for passive humidity, 90% for active humidity	95% for passive humidity, 90% for active humidity

General data				
Display	10"touch screen	10"touch screen	7"touch screen	7"touch screen
Timer	0~999h59m	0~999h59m	0~999h59m	0~999h59m
Working height	305mm	335mm	620mm	305mm
Internal dimension	865×670×491mm	1005×784×535mm	582×525×620 mm	654×681×458mm
External dimension	1240x785x(535+80 feet high)mm	1400x886x(600+80 feet high)mm	745×784×(728+80 feet)mm	970×780x(530+80 feet high)mm
Power supply	AC 220V±22V,50Hz/60Hz	AC 220V±22V,50Hz/60Hz	AC 220V±22V,50Hz/60Hz	AC 220V±22V,50Hz/60Hz
Max power consumption	1000w	1000w	1000W	730W

Stackable Incubator Shaker

IncuShaker® IS-6







Key Features

- Triple-eccentric counter balanced drive system;
- Stackable design, available either single unit or even stack up to 3 units;
- Cooling as standard function, best temp uniformity achievable ±0.3℃;
- 10"High-Res color touch screen with intuitive user interface;
- Loading capacity: 8×5L Thomson flasks with sticky mat;
- Max loading: 20kgs at 300rpm for both 26mm&50mm orbit;
- Set of UV lights on both sides for easy sterilization;
- Optional with white light to simulate sunlight (light strength up to 20,000Lux, with an increment of 100Lux)
- Optional with magnetic drive;

Wider platform, Loading more,

Dural-beam IR CO2 sensor

Auto deforst

Ordering information:

Model Number	Orbital Diameter		CO2	Motor with Belt Drive	Beltless Magnetic Drive
	26mm	50mm			
IS-6XW	√		NO	√	
IS-6B5XW		√	NO	√	
IS-6CXW	√		YES	√	
IS-6C5XW		√	YES	√	
IS-6MXW	√		NO		√
IS-6M5XW		√	NO		√
IS-6CMXW	√		YES		√
IS-6CM5XW		√	YES		√

Stackable Incubator Shaker

IncuShaker® IS-4



MOST COST EFFECTIVE





Key Features

- Triple-eccentric counter balanced drive system;
- Stackable design, available either single unit or even stack up to 3 units;
- 250L small size with better temperature uniformity, cooling as standard function;
- 10"High-Res color touch screen with intuitive user interface;
- Loading capacity: 6×5L Thomson flasks with sticky mat;
- Max loading: 20kgs at 300rpm for both 26mm&50mm orbit;
- Set of UV lights on both sides for easy sterilization;

Medium size

Dural-beam IR CO2 sensor

Auto deforst

Ordering information:

Model Number	Orbital Diameter		CO2
	26mm	50mm	
IS-4XW	√		NO
IS-4B5XW		√	NO
IS-4CXW	√		YES
IS-4C5XW		√	YES

Stackable Incubator Shaker

AEOLUS™ IS-D



PID Temperature Control
Automatic adjustment for high precision & stability

7" Touchscreen
Hi-resolution capacitive color display

Smart Alarms
Audible & visual alerts for parameter deviations

Static Shelf
Standard 556 × 472 mm shelf included

Strong Cooling
18°C below ambient temperature

Performance Graphs
Real-time monitoring & trend logging

UV Disinfection
Built-in UV sterilization, magnetic drive

CO_2 Control
Optional 0–20% CO_2 on DC variants

Key Features

- Direct Magnetic drive provides highly efficient, quiet, durable, and produces negligible heat that does not affect the chamber temperature
- SUS304 stainless steel chamber, anti-corrosion & contamination-free and easy clean
- High chamber for 5L and 6L flask
- Compact size to fit under the bench, Stackable up to 2 unit
- Static shelf is standard configured, for monolayer cells or suspension cells culture
- Max of 400RPM for 26mm orbit, with a max loading of 15kgs

Ordering information:

IS-DW	
Orbit	Φ26 mm
Speed	30–400 rpm
CO_2	—
Humidity	—

IS-D5W	
Orbit	Φ50 mm
Speed	30–300 rpm
CO_2	—
Humidity	—

IS-DCW	
Orbit	Φ26 mm
Speed	30–400 rpm
CO_2	0–20%
Humidity	~95% RH

+ CO_2

IS-DC5W	
Orbit	Φ50 mm
Speed	30–300 rpm
CO_2	0–20%
Humidity	~95% RH

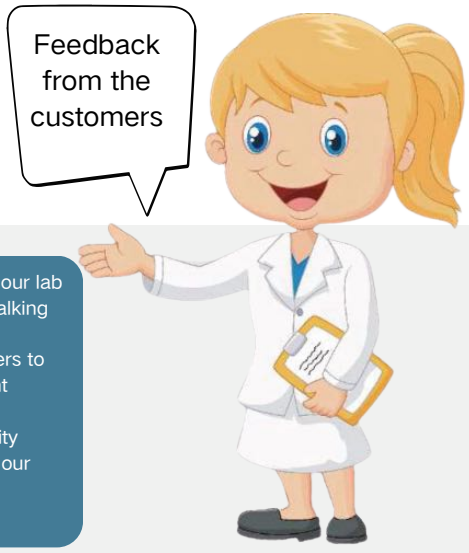
+ CO_2

Stackable Incubator Shaker

AEOLUS™ IS-AM



Beltless Magnetic Direct Drive



I personally am so impressed with how much happier and better behaved my cells are in these incubators compared to the shaker in a regular CO2 incubator, I really think a lot has to do with the humidity control.

- The size is ideal and compact to allowing our lab to place under the bench and still have walking space
- Maximum capacity allowing our researchers to utlize a variety of attachments for different volume of samples
- Affordable pricing without sacrificing quality
- Most importantly having inventory to fulfil our equipment requests without delaying our research in the lab

Key Features

◆ Magnetic drive is efficient, quiet, durable and produces negligible heat that does not affect the chamber temperature;

◆ Compact footprint to save the space, stackable up to 3 units, leftward opening door;

◆ Three axis eccentric balance system provides stable and reliable shaking;

◆ Infra-red CO2 sensor for precise and reliable CO2 detection;

◆ Loading capacity:4x5L(Thomson) flasks with sticky mat;

◆ Max loading: 20kgs at 300rpm for both 26mm&50mm orbit;

◆ Set of UV lights on both sides for easy sterilization;

Ordering information:

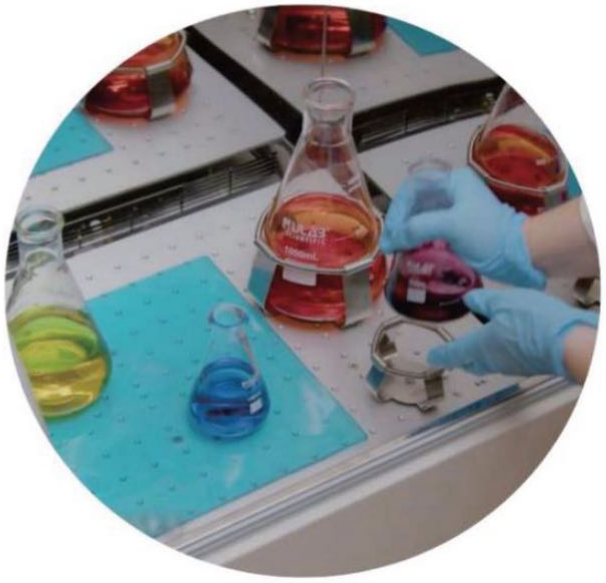
Model Number	Orbital Diameter		CO2
	26mm	50mm	
IS-AMXW	√		Without
IS-A5MXW		√	Without
IS-ACMXW	√		With
IS-A5CMXW		√	With

Benchtop Incubator Shaker

Crystal benchtop incubator shaker has a compact and space saving size. It is designed to provide an optimal environment to shake flasks, tube racks, and microplates safely. These incubators are quiet, easy to operate, and convenient to load. They are ideal for application in small volume.

- Aluminum platform to provide uniform and better thermal conductivity.
- Combined PiD and Fuzzy Control Technology to maintain a consistent temperature.
- Compact size,space saving for your laboratory
- Auto-recovery from power interruption





Max Loading Capacity:

Model No.	IS-RDD3E/IS-RSD3E		IS-RSDAW	
	clamps	sticky mat	clamps	sticky mat
50ml	42	56	28	30
100ml	25	42	15	20
150ml	24	30	11	19
200ml	20	30	10	14
250ml	20	24	9	12
500ml	12	14	4	7
1000ml	8	9	4	5
2000ml	4	4	/	/
3000ml	/	/	/	/
5000ml	/	/	/	/

Benchtop Incubator Shaker

Technical data







	IS-RDD3E	IS-RSD3E	IS-RSDAW
Description	96L top-hinge incubator shaker with cooling	96L top-hinge incubator shaker	50L bench top incubator shaker
Shaking platform	450 × 400mm	450 × 400mm	350 × 300mm
Shaking orbit	26mm	26mm	26mm
Speed range	0rpm, 30~400rpm	0rpm, 30~400rpm	0rpm, 30~300rpm
Setting accuracy	±1rpm	±1rpm	±1rpm
Temp. range	Ambient-15℃ ~60℃ (Low Limit: 4℃)	Ambient+5℃~60℃	+5℃ ~80℃
Temp. setting accuracy	±0.1℃	±0.1℃	±0.1℃
Temp. uniformity	±0.5℃ (@37℃)	±0.5℃ (@37℃)	±0.5℃ (@37℃)
Display	LCD	LCD	LED
Timer	0~999h	0~999h	0~99h
Programmable segments	6 segments	6 segments	N/A
Working chamber height	301mm	301mm	270mm
External dimension	700×650×620mm	700×650×620mm	440×535×550mm
Power	<730W	<550W	<745W
Power supply	AC220V±22V, 50/60Hz	AC220V±22V, 50/60Hz	AC220V±22V, 50/60Hz
Weight	110kgs	100kgs	50kgs

Benchtop Incubator Shaker

IS-RDD3/IS-RSD3



Crystal's versatile benchtop incubator shakers with optional refrigeration(IS-RDD3 has built-in refrigeration module with auto-defrost) are designed to provide an optimal environment to shake flasks, tube racks, and microplates safely. These incubators are quiet, easy to operate, and convenient to load. Incubator Shakers are ideal for cell culture, solubility studies, extraction procedures, protein expression and many other applications.



Key Features

- Easy to use LCD user interface
- Precise Proportional-Integral-Derivative temperature control resulting in +0.1℃ accuracy
- Highly efficient inverted compressor refrigeration system allows to set temperature as low as 15℃ below room temperature or 4℃ with low energy consumption (IS-RDD3 only)
- Clear curved tempered glass window for viewing samples without disturbing chamber temperature
- Terminal feedback system ensures precise shaking speed
- Designed to reduce noise for quiet operation
- Max capacity of 4x2L flasks
- Timer 0~999 hours
- Audible and visual alarms activate when abnormal parameters are detected
- Program mode allows user to set up to 6 segments of varying temperature and speed

Crystal's Benchtop incubator shakers feature an easy to use keypad to Set and Change parameters, as well as Stop and Run the units. In addition, indicators let users know at a glance when the Refrigeration or Heating functions are operating. Alarm conditions are also clearly indicated on the keypad.



Settings
Move cursor right
Move cursor left
Move cursor down
Plus setting value
Minus setting value
Confirm setting
Run machine
Stop machine

Benchtop Incubator Shaker

IS-RSDA

Compact size shaker with advanced features a sliding platform, and great visibility through a tempered glass door.



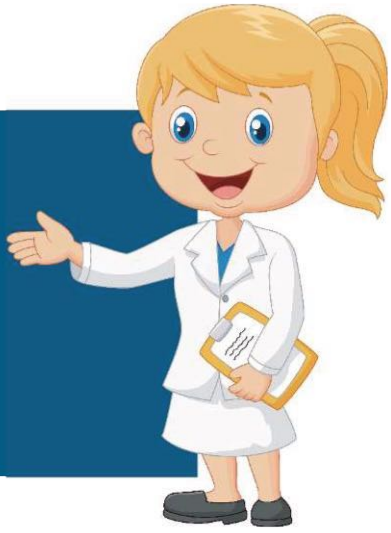


PRODUCT FEATURES:

- Versatile platform with a wide selection of accessories
- Precise temperature control(ambient +5°C~ 80°C)
- Speeds of up to 300 RPM with an orbit diameter of 26mm
- The Sliding platform feature provides easy sample handling with Max Load 5x1L
- Fits conveniently under countertops

The shaker has worked great since we received it. it heats quickly and holds temperature well. it's compact but holds more than enough flasks and tubes for us. We don't have much space so I built a stand touse the shaker over the incubator which has worked out well.

Jeffrey w. Hall, Ph.D
R&D Director - Biologicals



Accessories

Incubator Shaker Accessories



Flask Clamp

Part Number	Flask Size	Note
IS-A1	50ml	Made of polished stainless steel. Universal screw hole spacing allows secure mounting on any platform across all incubator shaker models.
IS-A2	100ml	
IS-A3	150ml	
IS-A4	200ml	
IS-A5	250ml	
IS-A6	500ml	
IS-A7	1000ml	
IS-A8	2000ml	
IS-A9	3000ml	
IS-A50	25ml	



Adjustable Test Tube Holder

Part Number	Specifications	Note
IS-A109	40 Φ16mm Holes for 15ml Tubes	Made of stainless steel and high grade ABS plastic material . Compatible with all incubator shaker models .
IS-A102	21 Φ30mm Holes for 50ml Tubes	Dimensions (WxDxH): 267x125x172mm





Test Tube Holder

Part Number	Specifications	Note
IS-A103	10 Φ30mm Holes for 50ml Tube	Additional tube stabilization function. Dimensions (WxDxH): 197x86x105mm
IS-A105	24 Φ16mm Holes for 15ml Tubes	

Multifunction Spring Platform



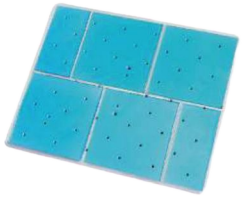
* Made of stainless steel. Can be fixed onto all incubator shaker platforms.

Part Number	Dimensions	Weight	Note
IS-A27	350x240x80mm	2.5kg	IS-RSDA model
IS-A22	450x400x80mm	5.1kg	IS-RDD3, IS-RSD3 models
IS-A63	899x539x81.5mm	13.8kg	IS-6 model
IS-A94	740x440x81.5mm	11.6kg	IS-4 model
IS-A96	550x470x80mm	6.7kg	IS-AM model

Accessories

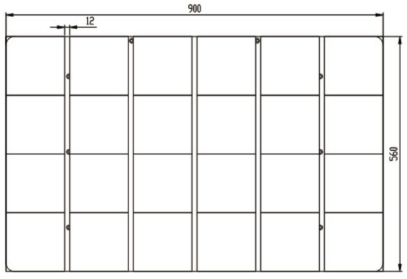
Incubator Shaker Accessories



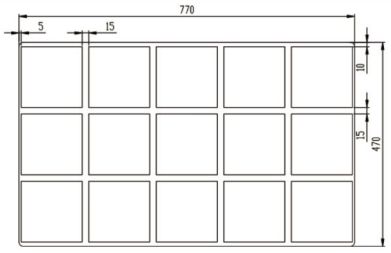


Part Number	Specifications	Note
IS-A169	140x140mm	Sticky mat,resuable

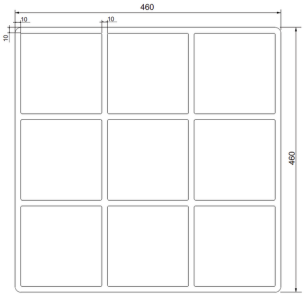
Sticky mat layout of platforms:



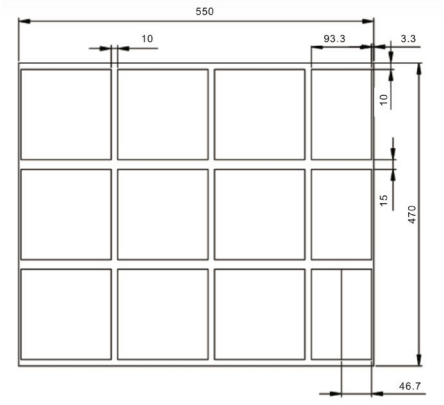
Incubator Shaker	IS-6
Platform Dimensions	900x560mm
Quantity	24pcs



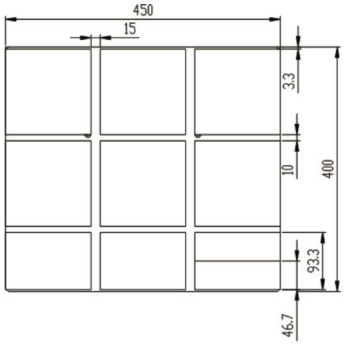
Incubator Shaker	IS-4
Platform Dimensions	770x470mm
Quantity	15pcs



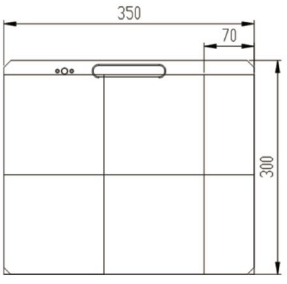
Incubator Shaker	IS-D
Platform Dimensions	460x460mm
Quantity	9pcs



Incubator Shaker	IS-AM
Platform Dimensions	550x470mm
Quantity	12pcs



Incubator Shaker	IS-RDD3/RSD3
Platform Dimensions	450x400mm
Quantity	8pcs



Incubator Shaker	IS-RDSA
Platform Dimensions	350x300mm
Quantity	5pcs

Accessories

Incubator Shaker Accessories



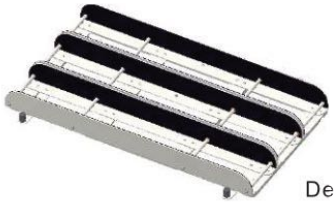
Base stand for Stackable Incubator Shakers

Part Number	Dimensions (WxDxH)	Note
IS-A62	1440x775x330mm	Used for IS-6 Model.
IS-A91	1241x651x340mm	Used for IS-4 Model.
IS-A93	971x625x340mm	Used for IS-AM Model.
IS-A216	726x693x210mm	Used for IS-D Model



96-Well Microplate Holder

Part Number	Dimensions	Note
IS-A13	136x95mm	Can be fixed on any incubator shaker platform.



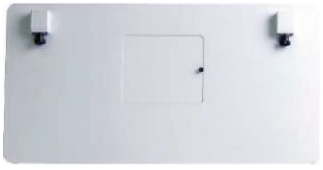
Deep Well Plate Clamp

Part Number	Specifications	Note
IS-A61	780x450x84mm	Maximum Plate Capacity: 21



Static shelf

Part Number	Dimensions (WxDxH)	Note
IS-A110	1005x600x43mm	For IS-6 Models
IS-A116	864x500x43mm	For IS-4 Models
IS-A162	600x500x43mm	For IS-AM Models



Window Shade



Part Number	Dimensions	Note
IS-A80	702x352mm	For IS-6 Models
IS-A81	652x232mm	For IS-4 Models
IS-A95	450x250mm	For IS-AM Models

Accessories

◆ Humidity Accessories



Passive Humidity

Part Number	IS-A71
Power Supply	AC110~240V, 50/60Hz

The automatic replenisher device features a sensor that monitors the water level in the humidity tray. When the level drops, water is automatically drawn from the water tank and stops once the nominal level is reached – eliminating the need for manual refilling.





Water Tank

Part Number	Dimensions (WxDxH)	Note
IS-A90	240x240x449mm	Used with IS-A71 and/or IS-A72. Capacity: 15L .



Ative Humidity

Part Number	IS-A72
Humidity Type	Active Humidity
Max . Humidity	Incubator Shaker: 90% 10% above ambient humidity
RH Set Increasement	±1%
RH Control Accuracy	±5%
Water Refill	Automatic
Power Supply	AC 220V±22V, 50/60Hz

The RH control system consists of a humidity controller and an automatic replenisher. The controller precisely regulates both heating temperature and water flow rate. As distilled water is drawn from the tank and passed through the humidifier, it generates high-temperature steam that is evenly distributed throughout the shaker chamber. This enables accurate humidity control without the need for a humidity tray, minimizing contamination risks within the chamber.

