



Lab Companion Laboratory Equipment

• Shakers and incubated shakers

Both non-temperature and temperature controlled high capacity shakers. Covering a wide range of capacity and temperature needs (ambient, incubated, and refrigerated). All come with the ability to run in both orbital or reciprocal motion, forward and backward directions, and all models offer full programmability.

• Water baths

Standard water baths, Boiling baths, Circulating baths and Refrigerated baths—with temperature ranges from -35°C to 150°C , there is a solution to every application. Only CFC free refrigerants are used and the efficiency of the Jeio Tech refrigeration technology means low energy costs.

• Ovens and Incubators

A wide range of both Ovens and Incubators are available. Many volume options. Excellent temperature ranges cover most high temperature and low temperature applications. Quality construction materials and features – stainless steel interiors, PID-AT temperature control, programmable temperature settings, gravity convection, fan circulation, and CFC free refrigerants ensure maintenance free operation.

• Other products

Ultrasonic baths, Magnetic drives, Magnetic and Hotplate Stirrers.

Reliability and Environmental Testing Equipment

The large range of temperature and humidity test chambers provide the best conditions possible for weathering and degradation tests. Fuzzy logic controls and the widest humidity range available make these TH Series chambers the most cost effective available.

Industrial products

Hard disc tester, Pressure heat tester, Ageing oven for electronics, Pipe creep tester, Pipe burst tester (plastic pipes).



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FLOOR INCUBATED SHAKER

MODEL IS-971 / 971R / 971RF



TM

We thank all our customers for their contribution and support over the years in the development of our new IS-971(R, RF) incubated shakers.

Jeio Tech Co., Ltd is striving to achieve leading brand recognition status with the Lab Companion range of products by providing the best possible selection of equipment for Biological, Chemical, and Environmental laboratories around the world.

The range of temperature controlled and shaking products are all made under ISO9001 guideline and conform with the European CE requirements to ensure complete safety under the most extreme conditions.

Jeio Tech CLS-Control System

The CLS-Control system (Patent no.0328729) is our enhanced safety controller developed by our engineers and was designed to allow our equipment to be operated in environments that require perfect thermal safety—including areas where flammable chemicals are used.

In most cases with other brands of lab equipment, the CPU comprises both control and safety features together. In the event of the CPU failing, the logic controlling the safety features will often be compromised.

Jeio Tech has separated these two important elements and now has an independent safety system running alongside the performance controller.

When any risk factors are sensed (eg: voltage peaks, short circuit, over temperature etc) the machine will go into a recoverable safety mode as follows:

- ▶ The power supply to individual components is isolated by a magnetic switch, leaving only the earth in circuit.
- ▶ Details of the fault are displayed (indicator codes)
- ▶ Audio and visual alarms are set off to alert the user and remain on until attended.

User friendly aspects of the CLS-Control System

The system provides the following functions in addition to the safety features.

- ▶ Wait on and off timer allows the user to preset the running time (both start up and shut down) for unattended operation!
- ▶ Auto/Manual run. After a power interruption, the user can select continued operation (auto) or cease the protocol (manual) based on the criteria and event.

Applications

- Molecular Biology
- Cell culture (Plant and Animal cells)
- Fermentation (Pharmaceutical and Biotech-DNA and Enzymes)
- Hybridization Studies
- Environmental Technology (Waste water and Soil Analysis)
- Medical Research
- Special Chemical Production
- Genetic Research and Drug Discovery Protocols
- Microbiology on Food Associated Organisms

Features

Controls

- CLS (Custom Logical Safe) control system
- PID auto-tuning
- Internal built-in re-calibration (Temperature signal can be calibrated by user with BIAS function)
- Wait on and off timer allows the user to preset the running time (both startup and shutdown) for unattended operation
- Run Time up to 99hr 59min
- Membrane touch type Key pad
- Temperature control range Amb,+5°C~60°C/Amb,+ 9°F - 140°F
- (R type: +4°C ~ 60°C/ + 40°F to 140°F)



Constructions

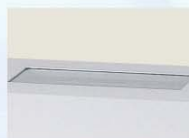
These large capacity floor model incubated shakers are designed for a wide variety of science applications. A PID microprocessor allows the user to monitor and precisely control the full range of shaking speed and chamber temperature.

Using these large floor model incubated shakers accommodates a wide variety of science applications. Chamber temperature can be precisely controlled and monitored over the full range with the PID microprocessor.

Excellent Temperature uniformity ($\pm 1.0^{\circ}\text{C}$ at 38°C / $\pm 1.8^{\circ}\text{F}$ at 100°F) is provided by a blower system that circulates air throughout the insulated chamber. A Stainless steel interior prevents rust and corrosion and is easy to clean.



The door has a large tempered glass viewing window allowing one to observe flask contents.



Air cylinder assists with door opening and guards against sudden door closing. Casters easily transport the unit around the laboratory. The door can be secured with a key and lock to prevent unauthorized access. When the door is opened, the platform stops moving, and the fan stops circulating to prevent excessive temperature changes. An audible alarm is emitted if the door is opened for more than one minute.

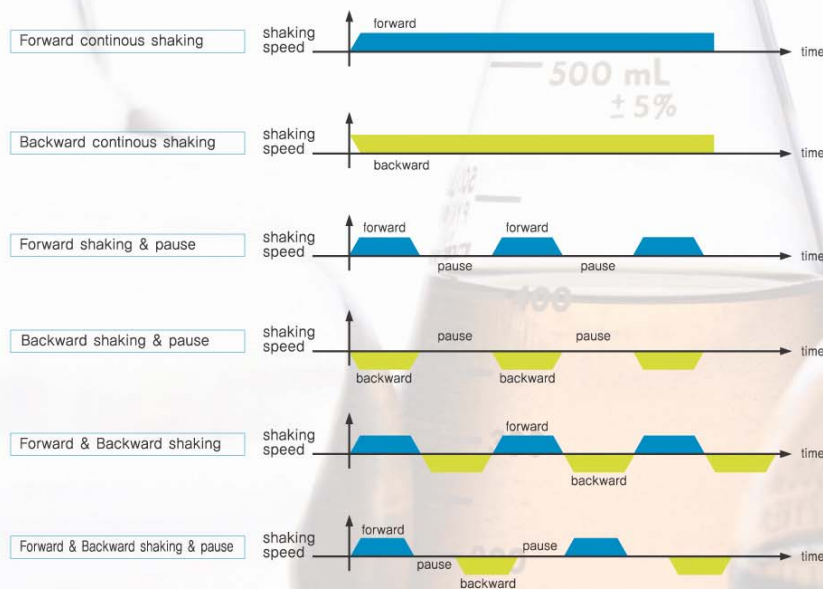


RS-232 communication interface with FREE software and cables provide the ability to graphically display and record the parameters of time and temperature – helpful for GLP and GMP requirements.



Shaking systems

- Orbital and Reciprocal Shaking Motions
- Programmable motion: Clockwise, Anti-clockwise and Pause
- Exact speed control by digital opto-electric feed-back control system
- Brushless D.C. motor and Anti-weight fly wheel system for less vibration and noise
- Shaking time: 999hr 59min 59sec (maximum)
- Shaking amplitude: 30, 40, 60 and 70mm (standard: 30mm) / 1.2", 1.6", 1.97", 2.75" Available (1.2" standard)
- Shaking speed: 10 to 300 rpm



Safety

OVER TEMP

Machine stops automatically if the temperature inside the chamber is over the 'Over Temp. Limit'. This protects user and machine from sudden inflammable accident.

DOOR OPEN ALARM

Door LED is flickering and alarm sounds if the door is opened more than 5 min. Then the machine stops operating.

Please close the door for next operation

SAFETY CIRCUIT

Machine is protected from over voltage or heater overloading

CFC-FREE

CFC-Free refrigerant is used for environmental protection

Accessories



Universal platform



Spring Wire Rack



Rubber Mat



Flask Clamps



Separating Funnels



Test Tube Rack

Ordering information

Incubated Shaker

Catalog Number	Description
AAH23306K	Incubated Shaker IS-971, 230V 50/60Hz
AAH23336U	Incubated Shaker IS-971, 120V 60Hz
AAH23321K	Incubated Shaker IS-971R, Refrigerated, 230V 60Hz
AAH23322K	Incubated Shaker IS-971R, Refrigerated, 230V 50Hz
AAH23346U	Incubated Shaker IS-971R, Refrigerated, 120V 60Hz
AAH23351K	Incubated Shaker IS-971RF, Refrigerated, Fluorescent light, 230V 60Hz
AAH23352K	Incubated Shaker IS-971RF, Refrigerated, Fluorescent light, 230V 50Hz
AAA23356U	Incubated Shaker IS-971RF, Refrigerated, Fluorescent light, 120V 60Hz

Accessories for IS-971 series

Catalog Number	Description
AAA23503	SA-503 Universal platform for IS-971 series (needed for mounting accessories)
AAA23523	SE-524 Spring wire rack for IS-971 series
AAA23533	SE-534 Rubber mat for IS-971 series

Flask Clamps on Universal platform

Catalog Number	Description	Max. Capacity
AAA23550	SE-550 for 50ml Round flask	85
AAA23551	SE-551 for 100ml Round flask	43
AAA23552	SE-552 for 250ml Round flask	36
AAA23553	SE-553 for 500ml Round flask	23
AAA23554	SE-554 for 1000ml Round flask	12
AAA23555	SE-555 for 2000ml Round flask	6

Flask Clamps on Spring wire rack

Catalog Number	Description	Max. Capacity
AAA23550	SE-550 for 50ml Round flask	40
AAA23551	SE-551 for 100ml Round flask	28
AAA23552	SE-552 for 250ml Round flask	15
AAA23553	SE-553 for 500ml Round flask	10
AAA23554	SE-554 for 1000ml Round flask	8
AAA23555	SE-555 for 2000ml Round flask	4

Clamps for Separating Funnels

Catalog Number	Description	Max. Capacity
AAA23562	SE-562 for 250ml Separating funnels	11
AAA23563	SE-563 for 500ml Separating funnels	9
AAA23564	SE-562 for 1000ml Separating funnels	5
AAA23565	SE-562 for 2000ml Separating funnels	4

Test tube Racks

Catalog Number	Tube Rack Holds	Rack Max. Capacity
For Test Tubes, Maximum 6 Racks on Universal Platform		
AAA23581	8mm Tubes	86
AAA23582	10mm Tubes	86
AAA23583	12mm Tubes	58
AAA23584	14mm Tubes	58
AAA23585	16mm Tubes	32
AAA23586	25mm Tubes	19

Specifications

MODEL	IS-971	IS-971R	IS-971RF	
Chamber volume	250L (8.8 cu ft)			
Permissible environmental condition	Temperature 5°C to 40°C (41°F to 104°F) Maximum relative humidity 80% Altitude up to 2,000m (6,560ft)			
Controller	Digital PID auto tuning, 9 step programmed control, 999 cycle			
Temperature	Range	Amb. +5°C~60°C Amb. +9°F~140°F	+4°C~60°C +40°F~140°F	
	Uniformity	±1.0°C at 38°C / ±1.8°F at 100°F		
	Accuracy	±0.1°C at 38°C / ±0.18°F at 100°F		
	Timer	Wait on time, Wait off time (Max. 99hr 59min, Min. 1min)		
	Sensor	Pt 100Ω		
Shaking	Motion	Orbital(forward, backward, pause):Standard, Reciprocating :Option		
	Frequency	10 to 300rpm		
	Amplitude	30, 40, 50, 60, 70mm available(30mm standard) 1.2", 1.6", 1.97", 2.75" available(1.2" standard)		
	Accuracy	±1 at 100rpm		
	Timer	Run time(999hr 59min 59sec) Pause, Forward, Backward(Max. 59min 59sec, Min. 10sec)		
Material	Driving System	Brushless DC motor with feedback control		
	Internal	Stainless Steel, 0.8mm(0.03")		
	External	Steel, 1.0mm(0.04"), powder coating		
	Platform	Anodized aluminum plate, 4.0mm(0.16")		
Lid	With viewing glass window and supported by gas spring			
Insulation	Nonflammable polystyrene, 25mm(1")			
Safety device	CLS(Custom Logical Safe)-control system			
Over temp. limit	Hydraulic over temp. limit			
Print interface	RS 232			
Refrigerator(AC100V)	-	1/3HP(LBP)	1/3HP(LBP)	
Refrigerator(AC120V)	-	1/6HP(HBP)	1/4HP(HBP)	
Refrigerator(AC230V)	-	1/6HP(HBP)	1/4HP(HBP)	
Heater	Incoloy fin, 550W X 2EA			
Size (W×D×H)	Internal	895 X 634 X 429mm (35" X 25" X 17")		
	External	1250 X 798 X 1050mm (49" X 32" X 42")		
	Platform	755 X 481mm (30" X 19")		
Electric Requirements	AC100V, 50/60Hz	8.5A	12.5A	13.5A
	AC120V, 60Hz	6.5A	10.5A	11.5A
	AC230V, 50/60Hz	4.1A	6.2A	7.2A
Weight(net)	180 Kg / 395 lbs	195 Kg / 418 lbs	210 Kg / 462 lbs	