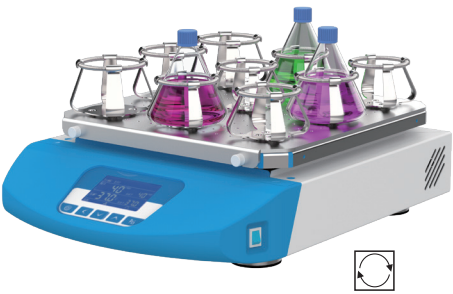


Orbital Shaker



LCD screen

Application

Orbital shaker controls the orbital movements frequency to make material dissolution, liquid mixing, microbial culture and plant tissue culture circulate in experimental container. It is widely used in plants incubate, fermentation, hybridization, bacterial culture, biochemical reactions, enzyme and tissue research or small production of biological samples.

Feature

- Adopt single-axis drive and balancing technology, smooth running, low consumption and low noise.
- Micro-computer control frequency and time, built in power off protection, it can resume work after normal power supply.
- Large LCD screen can display frequency and time, menu operate interface, easily to understand.
- 24V DC control guaranty safety use.
- Brushless DC motor, large start torque, wide speed adjustment, free maintenance.
- Adjustable motor start-up torque to avoid over load samples that can not start the instrument.
- Vibration imbalance detection. When shaker vibrates fiercely, the instrument stops automatically and smoothly.
- Many kinds of clamps and racks for selection, and the change of these parts are very easily, improve work efficient.
- Programmable controller can simplified the experiment process, realize automatically control and running.
- RS-232 and USB can be selected one of them, connect with computer, instruments can be monitored the time, alarm and rotation speed.

Safety

- **Protection on key components:** Key components have over current, over temp., over load etc safety protection, it can prevent instruments accidents without precautions.
- **Breakdown message provided:** When the instrument breakdown, the breakdown messages show on the screen to help operator easily check.

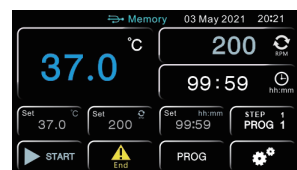
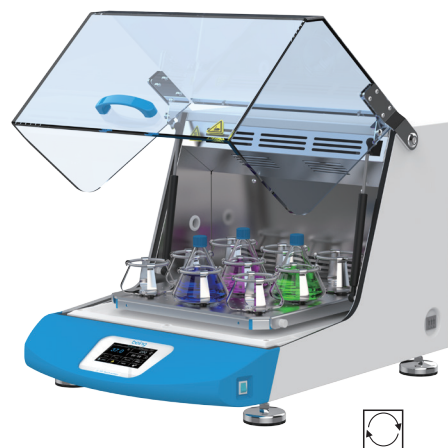


Orbital Shaker

Technical parameters

Model	BS-1	BS-2	BS-3	BS-15	BS-25	BS-35
Speed range	40 - 250rpm	40 - 300rpm		40 - 500rpm		
Frequency accuracy	±1rpm					
Amplitude	20mm			4mm	5mm	5mm
Max loading capacity	2000ml	4000ml	9000ml	2000ml	4000ml	9000ml
Display	LCD screen					
Timer	1 - 99h59min					
Platform sizes (mm)	250×250	350×350	450×450	250×250	350×350	450×450
Overall size W×D×H (mm)	290×375×110	390×495×125	490×605×137	290×375×110	390×495×125	490×605×137
Rated power	60W					
N.W	20 Kg	30Kg	40 Kg	20 Kg	30Kg	40 Kg
Powder requirement	AC220V/50Hz					
Standard configuration	250ml×8pcs	250ml×13pcs	250ml×18pcs	250ml×8pcs	250ml×13pcs	250ml×18pcs

Shaker Incubator



Colorful intelligent touch screen

Application

Shaker incubator combines incubator and shaker functions together, it provides accurate temp. control, realizes shake incubating and meet bacterium, microbe suspension incubate requirements. It is ideal instruments for Cell culture, fermentation, biochemistry, water quality analysis, plant cultivation and breeding.

Technical breakthroughs

Unique air flow technology

- Adopts continuous flow fan technology, air stability, no turbulence, temperature is uniform.
- Cycle fan speed can be automatically controlled, it can avoid the samples volatile too fast due to cycle fan is too fast.

Patented single-axis drive technology

- Patented single-axis drive and balancing technology, running stable, low noise and low consumption.

Pneumatic support technology

- Adopts pneumatic support, transparent cover height can be adjustable to any position, convenient the operation.

Large screen LCD display

- Colorful touch screen can continuously, accurately and real-time display temp, rotation speed and work time. The menu operation interface is easy to understand.

Technical features

Humanization design

- Combine incubator, shaker functions together with small space.
- Patented overall design, transparent big view windows, dynamic master the culture effect.
- With reserve test hole, outer sensors can access to test the inner cabinet temperature (option)
- Shaking platform and chamber are made of stainless steel, anti-corrosion and easy to clean.
- Standard configuration is universal clamp, it can used for different vessel with different volume.

Uninterrupted performance guaranty

- Brushless DC motor, large start torque, wide speed adjustment, free maintenance.

Safety

- **Protection on instruments:** Comply international standard secondary temp. limiter alarm system, alert the operator with sound and light alarms, ensure operator is safe without any accident.
- **Protection on key components:** Key components have over current, over temp., over load etc safety protection, it can prevent instruments accidents without precautions.
- **Protection on samples:** Working chamber temperature higher or lower the set temp., alarm starter cut down the heater, alert the operator with sound and light alarms.
- **Protection on operator:** Cabinet and door is special designed for insulation, low heat of cabinet body, ensure operator use instrument without burnt.
- **Breakdown message provided:** When the instrument breakdown, the breakdown messages show on the screen to help operator easily check.

Convenient data process

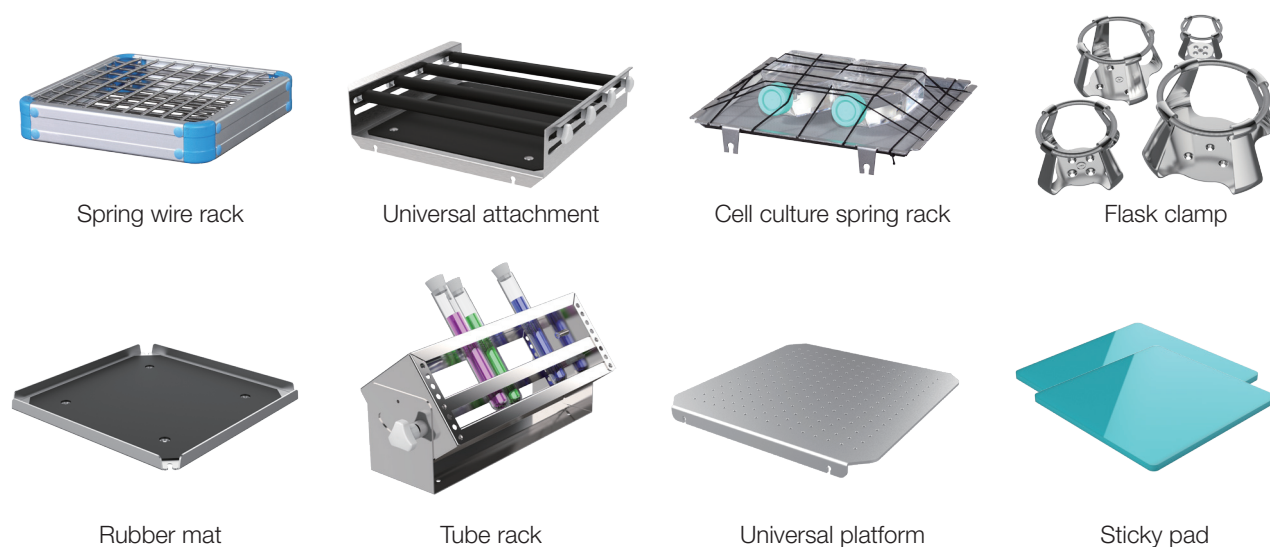
- Equip with USB as options, record temp. parameter changes (option)
- Equip with RS232 data interface, through software to remote control machine performance (option)
- Above two options can be selected only one.

Shaker Incubator

Technical parameters

Model	BSI-1	BSI-2	BSI-3	BSI-3C	BSI-15	BSI-25	BSI-35	BSI-35C
Temp. range	RT+5 - 65			4 - 65	RT+5 - 65			4 - 65
Temp. control accuracy	0.1							
Speed range	40 - 250rpm	40 - 300rpm			40 - 500rpm			
Frequency accuracy	±1rpm							
Platform size(mm)	250×250	350×350	450×450	450×450	250×250	350×350	450×450	450×450
Inside height (mm)	195	265	330	330	195	265	330	330
Overall size W×D×H(mm)	390×590×370	490×690×450	590×825×550	590×975×550	390×590×370	490×690×450	590×825×550	590×975×550
N.W	32 Kg	42 Kg	52 Kg	75 Kg	32 Kg	42 Kg	52 Kg	75 Kg
Amplitude	20mm				4mm	5mm	5mm	5mm
Running time	1 - 99h59min							
Powder requirement	AC220V/50Hz							
Rated power	450W	650W	1000W	1300W	450W	650W	1000W	1300W
Standard configuration	250ml×8pcs	250ml×13pcs	250ml×18pcs	250ml×18pcs	250ml×8pcs	250ml×13pcs	250ml×18pcs	250ml×18pcs

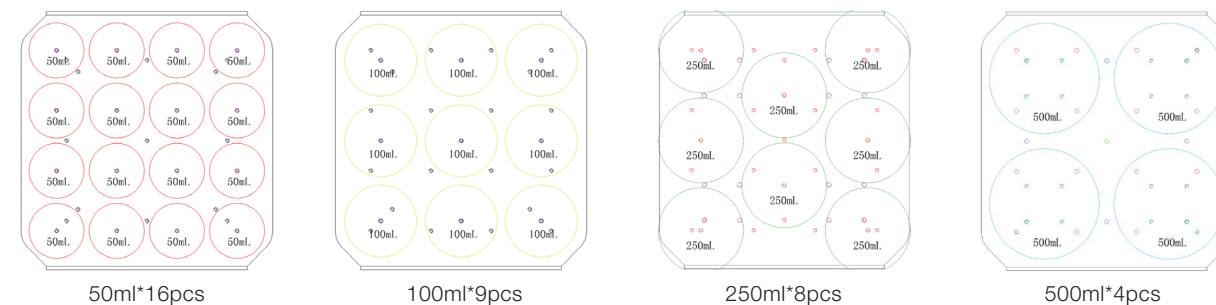
Orbital shaker & Shaker incubator accessories and configuration



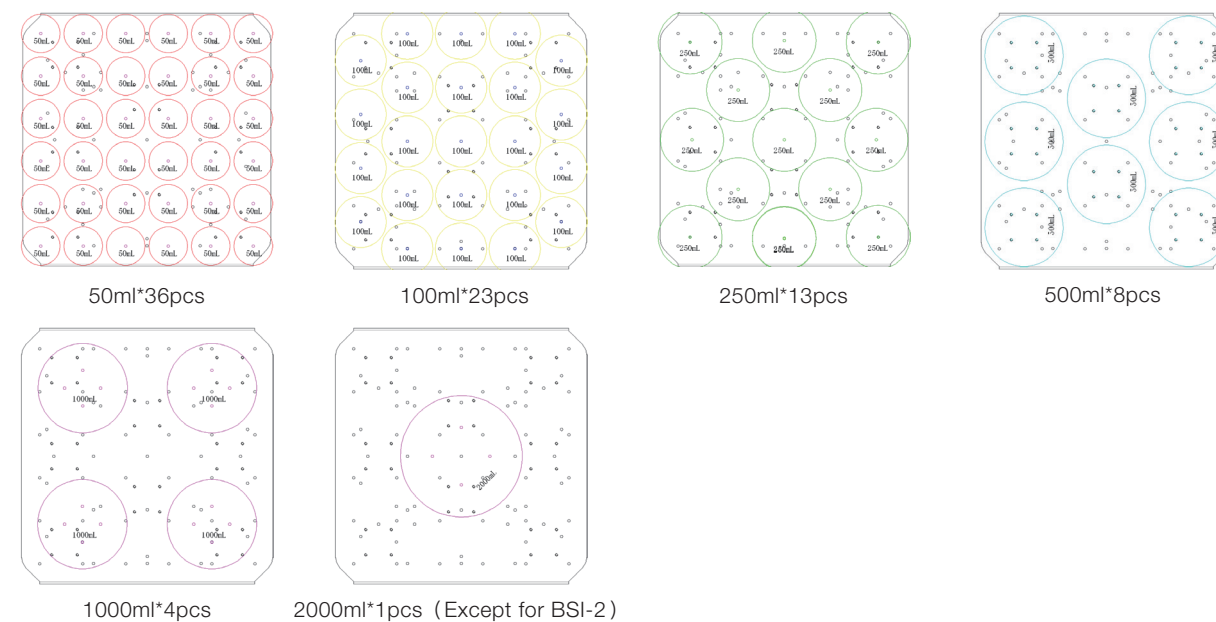
Model		BS-1	BS-2	BS-3	BSI-1	BSI-2	BSI-3
Universal Platform W×D(mm)	250×250	√			√		
	350×350		√			√	
	450×450			√			√
Spring Wire Rack W×D(mm)	250×250	√			√		
	350×350		√			√	
	450×450			√			√
Universal Attachment W×D×H(mm)	250×250×85	√			√		
	350×350×100		√			√	
	450×450×100			√			√
Cell Culture Spring Rack W×D(mm)	250×250	√			√		
	350×350		√			√	
	450×450			√			√
Rubber Mat W×D(mm)	250×250	√			√		
	350×350		√			√	
	450×450			√			√
Individual Flask Clamps (mm)	50ml	16	36	49	16	36	49
	100ml	9	23	36	9	23	36
	250ml	8	13	18	5	13	18
	500ml	4	8	16	4	8	16
	1000ml	-	4	9	-	4	9
	2000ml	-	1	4	-	-	4
Test Tube Rack	8mm×105	2	3	4	2	3	4
	10mm×72						
	12mm×72						
	14mm×42						
	17mm×26						
	25mm×14						
	30mm×12						
	35mm×10						
Sticky Pad W×D(mm)	50mm×4						
	140×140	1	4	9	1	4	9

Flask clamp placement diagram

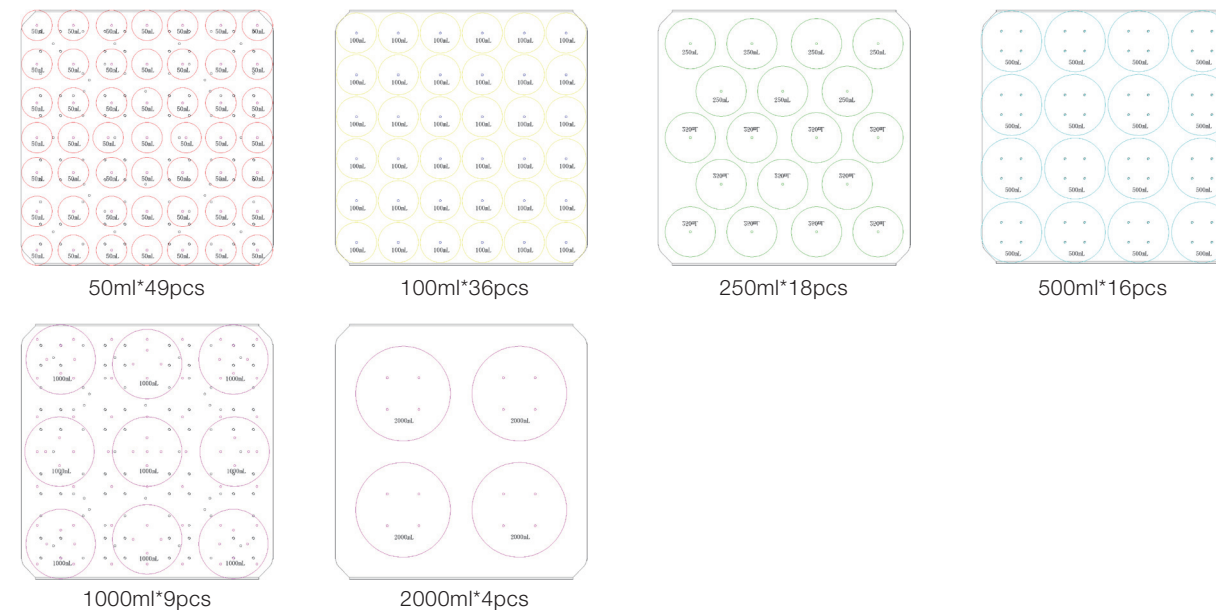
BS-1/BSI-1



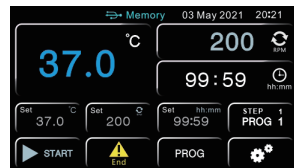
BS-2/BSI-2



BS-3/BSI-3



Chest Type Shaker Incubator



Colorful intelligent touch screen

Application

Floor standing Shaker incubator combines incubator and shaker functions together, it uses new outlook design with big touch screen,. Adopt the latest technology of motor driven system, large torque, stable work, low noise and fast heat dissipation and long lifetime. It is widely used Cell culture, fermentation, biochemistry, enzyme research experiment or medium production experiment. Especially suitable for medium production, it solves the user's problem by advanced design and high precise manufacturing art craft.

Product features

Colorful intelligent touch screen control

- Adopt 4.3 inches touch screen , intelligent touch screen control, parameters real time display, operation easily.
- Temp, rotation speed and time etc parameters fast setting.

Humanization design

- Combine incubator, shaker functions together with small space, huge capacity.
- Colorful touch screen controller, menu operation interface, multi data display at one screen, easily to observe and operate.
- Silent running.
- Fluorine-free design, environmental friendly.
- Big transparent big view windows, platform and chamber are made of stainless steel, anti-corrosion and easy to clean.

Quality guaranty

- User's set parameters can be stored automatically when power off suddenly, and it resume last program settings when power on.
- PID microcomputer control temp. and shake frequency with timer.
- Compressor and cycle fan etc key components are reliable suppliers, environmental non-free refrigerants.

Uninterrupted performance guaranty

- Brushless DC motor, large start torque, wide speed adjustment, free maintenance.

Three-eccentric axis balance drive

- Three-eccentric axis balance drive ensures all samples in the shaker platform movements at the same rotation frequency. Durable structure guarantees the shaker incubator can work properly no matter full load or high speed working.

Convenient data process

- Equip with USB as options, record temp. parameter changes (option)
- Equip with RS232 data interface, through software to remote control machine performance (option)
- Above two options can be selected only one.

Sterilization system

- The ultraviolet lamp can sterilize the chamber regularly.

Safety

- **Protection on instruments:** Comply international standard secondary temp. limiter alarm system, alert the operator with sound and light alarms, ensure operator is safe without any accident.
- **Protection on key components:** Key components have over current, over temp., over load etc safety protection, it can prevent instruments accidents without precautions.
- **Protection on samples:** Working chamber temperature higher or lower the set temp., alarm starter cut down the heater, alert the operator with sound and light alarms.
- **Protection on operator:** Cabinet and door is special designed for insulation, low heat of cabinet body, ensure operator use instrument without burnt.
- **Breakdown message provided:** When the instrument breakdown, the breakdown messages show on the screen to help operator easily check.

Multi-segment programmable control

- Multi-segment temp., speed, time program at the same time. It has normal mode or programmable mode for running. Preset parameter and work data can be shown at the same time. It simplified complicated culture requirements and realize auto control and run.

Feature extension(option)

- CO₂ concentration monitor and control.
- Lighting control.
- Humidity monitor and control.

Chest Type Shaker Incubator



USB interface



PU foamed handle



25mm test hole



304 mirror stainless steel



Pneumatic gas spring holder



Pressure balance hole

Technical parameters

Model	BSI-21	BSI-31	BSI-21C	BSI-31C
Power supplies	AC220V 50HZ			
Speed range	40 - 300 rpm			
Amplitude	26mm			
Control temp. range	RT+5 - 80		4 - 80	
Temp. resolution	0.1			
Timer range	1 - 99h59min			
Rated power	1050W		1300W	
Platform size (mm)	750×460	920×500	750×460	920×500
Overall size W×D×H (mm)	1060×680×910	1200×730×930	1060×680×910	1200×730×930
Standard configuration	250ml×28	250ml×45	250ml×28	250ml×45

With "C" means the model with refrigeration function

Max. flask clamps can be placed (single layer)

Model		BSI-21 BSI-21C	BSI-31 BSI-31C
Flask (pcs)	50 ml	82	116
	100 ml	50	66
	250 ml	28	45
	500 ml	23	28
	1000 ml	15	18
	2000 ml	8	13

Shaker Incubator



Application

Widely used in cell culture, fermentation, hybridization, biochemistry and cell tissue research with high temperature and concussion frequency. It can culture microbial cells and various type of bacteria in static and movement, especially suitable for laboratory pilot production.

Product features

Colorful intelligent touch screen control

- Adopt 4.3 inches touch screen , intelligent touch screen control, parameters real time display, operation easily.
- Temp., rotation speed and time etc parameters fast setting.

Humanization design

- Combine incubator, shaker functions together with small space, huge capacity.
- Colorful touch screen controller, menu operation interface, multi datas display at one screen, easily to observe and operate.
- Fluorine free design.
- Large toughened glass windows provides users observe the samples status with good insulation when instruments working.
- Various kinds of clamps and racks for selection, easily change racks and clamps improve work efficient.
- Inner chamber, shaker platform and shelves are made of 304 stainless steel
- On the left of chamber is placed with 50mm test hole.

Quality guaranty

- User's set parameters can be stored automatically when power off suddenly, and it resume last program settings when power on.
- PID microcomputer control temp. and shake frequency with timer.
- Compressor and cycle fan etc key components are reliable suppliers, environmental non-free refrigerants.

Uninterrupted performance guaranty

- Brushless DC motor, large start torque, wide speed adjustment, free maintenance.

Sterilization system

- The ultraviolet lamp can sterilize the chamber regularly.

Safety

- **Protection on instruments:** Comply international standard secondary temp. limiter alarm system, alert the operator with sound and light alarms, ensure operator is safe without any accident.
- **Protection on key components:** Key components have over current, over temp., over load etc safety protection, it can prevent instruments accidents without precautions.
- **Protection on samples:** Working chamber temperature higher or lower the set temp., alarm starter cut down the heater, alert the operator with sound and light alarms.

- **Protection on operator:** Cabinet and door is special designed for insulation, low heat of cabinet body, ensure operator use instrument without burnt.
- **Breakdown message provided:** When the instrument breakdown, the breakdown messages show on the screen to help operator easily check.

Three-eccentric axis balance drive

- Three-eccentric axis balance drive ensures all samples in the shaker platform movements at the same rotation frequency. Durable structure guarantees the shaker incubator can work properly no matter full load or high speed working.

Multi-segment programmable control

- Multi-segment temp., speed, time program at the same time. It has normal mode or programmable mode for running. Preset parameter and work data can be shown at the same time. It simplified complicated culture requirements and realize auto control and run.

Feature extension(Option)

- CO₂ concentration monitor and control.
- Lighting control(Stimulate the nature growth environment)
- Humidity monitor and control.

Shaker Incubator

Technical parameters

Model	BSI-9	BSI-9C	BSI-30	BSI-30C
Power supplies	AC220V 50HZ			
Speed range	40 - 300rpm			
Amplitude	20mm			
Control temp. range	RT+5 - 65	4 - 65	RT+5 - 65	4 - 65
Temp. resolution	0.1			
Uniformity(at 37°C)	±0.5			
Timer range	0 - 99h59min			
Platform size (mm)	400×340	400×340	500×420	500×420
Overall size W×D×H (mm)	635×714×1055	635×714×1055	725×720×1150	725×720×1150
Rated power	750W	950W	1100W	1300W

Max. flask clamps can be placed (single layer)

Model		BSI-9 BSI-9C	BSI-30 BSI-30C
Flask (pcs)	50 mL	29	55
	100 mL	18	30
	250 mL	11	20
	500 mL	7	12
	1000 mL	4	10
	2000 mL	-	6

Large Vertical Shaker Incubator



Application

Widely used in cell culture, fermentation, hybridization, biochemistry and cell tissue research with high temperature and concussion frequency. It can culture microbial cells and various type of bacteria in static and movement, especially suitable for laboratory pilot production.

Product features

Colorful intelligent touch screen control

- Adopt 4.3 inches touch screen, intelligent touch screen control, parameters real time display, operation easily.
- Temp., rotation speed and time etc parameters fast setting.

Humanization design

- Combine incubator, shaker functions together with small space, huge capacity.
- Colorful touch screen controller, menu operation interface, multi datas display at one screen, easily to observe and operate.
- Fluorine free design.
- Large toughened glass windows provides users observe the samples status with good insulation when instruments working.
- Various kinds of clamps and racks for selection, easily change racks and clamps improve work efficient.
- Inner chamber, shaker platform and shelves are made of 304 stainless steel.
- On the left of chamber is placed with 50mm test hole.
- Quality assurance.

Quality guaranty

- User's set parameters can be stored automatically when power off suddenly, and it resume last program settings when power on.
- PID microcomputer control temp. and shake frequency with timer.
- Compressor and cycle fan etc key components are reliable suppliers, environmental non-free refrigerants.

Uninterrupted performance guaranty

- Brushless DC motor, large start torque, wide speed adjustment, free maintenance.

Sterilization system

- The ultraviolet lamp can sterilize the chamber regularly.

Safety

- **Protection on instruments:** Comply international standard secondary temp. limiter alarm system, alert the operator with sound and light alarms, ensure operator is safe without any accident.
- **Protection on key components:** Key components have over current, over temp., over load etc safety protection, it can prevent instruments accidents without precautions.
- **Protection on samples:** Working chamber temperature higher or lower the set temp., alarm starter cut down the heater, alert the operator with sound and light alarms.
- **Protection on operator:** Cabinet and door is special designed for insulation, low heat of cabinet body, ensure operator use instrument without burnt.
- **Breakdown message provided:** When the instrument breakdown, the breakdown messages show on the screen to help operator easily check.

Large Vertical Shaker Incubator

Technical parameters

Model	BSI-52	BSI-52C	BSI-72	BSI-72C
Speed range	40 - 300rpm			
Frequency accuracy	±1rpm			
Amplitude	26mm			
Control temp. range	RT+5 - 65	4 - 65	RT+5 - 65	4 - 65
Temp. resolution	±0.1			
Temp. uniformity	at 37 ±0.8			
Timer range	0 - 99h59min			
Shelves size (mm)	750×460 double shelves		920×500 double shelves	
Overall size W×D×H (mm)	1030×875×1370		1200×875×1370	
Rated power	1900W	2250W	1900W	2250W
Standard configuration	250mL×56pcs		250mL×90pcs	

Note: If racks and clamps need to be made to customers requirements, the physical loading quantity is subject to customer requirements.

Max. flask clamps can be placed (single layer)

Model		Large vertical shaker incubator		Small vertical shaker incubator	
		BSI-52 BSI-52C	BSI-72 BSI-72C	BSI-9 BSI-9C	BSI-30 BSI-30C
Flask (pcs)	50 mL	82	116	29	37
	100 mL	50	66	18	22
	250 mL	28	45	11	14
	500 mL	23	28	7	10
	1000 mL	12	18	4	6
	2000 mL	6	10	-	-

Shaker



Application

Being shaker incubator adopts new outlook, large LCD screen, latest technology of motor driven system, Large torque, stable operation, low noise, fast heat dissipation and long service life. It is widely used in cell culture, fermentation, hybridization, biochemistry and enzyme research etc that need shaker function in laboratory experiment or pilot experiment.

Features

Colorful intelligent touch screen control

- Adopt 4.3 inches touch screen, intelligent touch screen control, parameters real time display, operation easily.
- Temp., rotation speed and time etc parameters fast setting.

Humanization design

- Silent working.
- Colorful touch screen display, multi data display at one screen, easily to observe and operate.
- Platform is stainless steel, easy to detach and clean.
- Various kinds of clamps and racks for selection, easily change racks and clamps improve work efficient.

Quality guaranty

- User's set parameters can be stored automatically when power off suddenly, and it resume last program settings when power on.
- PID microcomputer control temp. and shake frequency with timer, it starts shake gently to prevent liquid coming out from the vessels and stop the machine working.
- With rotation speed monitoring circuit. When the instrument detects rotation speed is too fast or too slow, it can stop shaking to ensure no accident occur.

Uninterrupted performance guaranty

- Brushless DC motor, large start torque, wide speed adjustment, free maintenance.

Three-eccentric axis balance drive

- Three-eccentric axis balance drive ensures all samples in the shaker platform movements at the same rotation frequency. Durable structure guarantees the shaker incubator can work properly no matter full load or high speed working.

Multi-segment programmable control

- Multi-segment temp., speed, time program at the same time. It has normal mode or programmable mode for running. Preset parameter and work data can be shown at the same time. It simplified complicated culture requirements and realize auto control and run.

Convenient data process

- Equip with USB as options, record temp. parameter changes (option)
- Equip with RS232 data interface, through software to remote control machine performance (option)
- Above two options can be selected only one.

Shaker

Technical parameters

Model	BS-21 Single shelf	BS-22 Double shelves	BS-31 Single shelf	BS-32 Double shelves
Range speed	40 - 300rpm			
Amplitude	26mm			
Timer range	1 - 99h59min			
Max load	250ml×48pcs or 500ml×30pcs or 1000ml×20pcs or 2000ml×12pcs (single shelf)		250ml×63pcs or 500ml×35pcs or 1000ml×35pcs or 2000ml×16pcs (single shelf)	
Platform size (mm)	800×600		920×640	
Platform quantity	1pcs	2pcs	1pcs	2pcs
Overall size W×D×H(mm)	895×740×460	895×740×900	1115×835×460	1115×835×900
Rated power	250W			
Power supplies	AC220V 50HZ			
Standard configuration	500ml×30pcs (single shelf)		1000ml×35pcs (single shelf)	