Hotplates & Stirrers
> Hotplates & Stirrers

with BioCote® antimicrobial protection

Hotplate stirrers are ideal for making solutions, combining heat with the action of a magnetic stirrer. As with the hotplates most units are available with either a robust silicon metal alloy or ceramic surface. The Stuart® hotplate stirrers are offered in the Standard 15 x 15cm and 30 x 30cm sizes.

Find out more! Please scan the QR/Mobile Tag with your smartphone for more information

UC152 and US152

Hotplate with Stirrer,

Stylish and economical general purpose hotplate stirrers designed with safety as well as performance in mind. The compact shape takes up less bench space and makes storage easier. The hotplate has an innovative LED temperature indicator scale and can also be used in conjunction with the SCT1 digital contact thermometer to accurately control sample temperature. The "Hot" warning light will flash whenever the plate temperature is above 50°C even when the hotplate is turned off and unplugged from the mains. Powerful magnets and motor give stirring speeds up to 2000rpm and is capable of mixing large volumes (up to 15 litres *).

Model UC152 has a glass ceramic top which has excellent chemical resistance. The surface is easy to clean and the thermal properties allow very high plate temperatures while ensuring the edges stay cooler, reducing the chance of accidental burns. The white surface ensures good visibility of colour changes.

Model US152 has a robust aluminium/silicon alloy top plate for excellent heat transmission. The top plate has a thin ceramic coating for added chemical resistance. A 700W element gives rapid heating and ensures even temperature distribution across the whole surface of the plate.

Both models have an integral fitting for a retort rod and are supplied with 2 x 25mm PTFE coated stir bars.

Technical Specification

	US152	UC152
Plate Material	Coated Aluminium/ Silicon	Glass ceramic
Plate Dimensions, mm	150 x 150	150 x 150
Heated Area, mm	150 x 150	120 x 120
Heater Power, Watt	700	500
Max plate temp, °C	325	450
Stirrer Speed, rpm	100 - 2000	100 - 2000
Maximum Stirring Capacity, L*	15	15
Dimensions (w x d x h), mm	172 x 248 x 120	172 x 248 x 122
Net weight, kg	2.9	2.9
Electrical supply	230V, 50Hz, 750W	230V, 50Hz, 550W
IP Rating	32	32

* Based on water contained in a 20 litre glass bottom boiling flask.

Key Features

- Choice of top plate:
  - Robust coated aluminium
  - Chemically resistant ceramic
- Flashing "Hot" warning light, mains independent
- Accurate temperature control with LED indicator scale
- Compact space saving design

UC152

US152

Ordering Information

Model	Description
UC152	Stirrer/hotplate, ceramic plate,
US152	Stirrer/hotplate, coated aluminium plate,
SCT1	Digital temperature controller (see page 37)
SR1	Retort rod, 600mm x 12mm diameter

Key Features

- Accurate liquid temperature control
- Built in retort fitting and probe holder
- Detachable temperature probe
- Bright, easy to read LED display
- Compact and light weight
- Comprehensive range of accessories

SCT1
with SCT1/1

SCT1

SCT1

Temperature Controller,

The Stuart® SCT1 temperature controller is the ideal instrument for the accurate temperature control of aqueous or oil based samples in the laboratory. Designed for use with the Stuart® range of Undergrad hotplates and hotplate stirrers, the SCT1 can be used either as a precise controller of temperature up to a maximum of 200°C or as a digital thermometer up to 325°C.

The SCT1 temperature controller features an in-built clamp allowing the controller to be mounted either on a horizontal or vertical retort rod, providing flexible positioning of the controller. In addition, the stainless steel temperature probe, used to measure the temperature of the sample, is detachable, allowing the main body of the SCT1 temperature controller to be positioned away from potentially damaging fumes. The SCT1 temperature controller regulates the hotplate to accurately control the temperature of the sample, which is set via the large LED display. When not in use the temperature probe can be held securely by the in-built probe holder.

A range of accessories is available to allow for a complete set up of temperature controller, probe and stirrer hotplate in the laboratory. An accessory probe holder clamps on to a retort rod to allow secure positioning of the temperature probe in the sample. A PTFE probe is also available as an accessory for those applications requiring a chemically resistant probe. The SCT1 is supplied as standard with a stainless steel probe.

Technical Specification

Probe	Stainless steel
Temperature range °C	20 to 200°C
Accuracy, °C	±0.5°C
Resolution	1°C
Dimensions, mm (w x d x h)	90 x 75 x 123
Net weight, kg	0.3 (inc. probe)
IP Rating	54

Ordering Information

Model	Description
SCT1	Temperature controller, digital
SCT1/1	Probe holder
SCT1/2	PTFE probe

SB162-3

Hotplate Stirrer, 3 position,

A space saving and economical unit with 3 independent heating/ stirring positions in a footprint only 600 x 270mm.

Unit only requires one power point and is ideal for quality control applications where multiple samples require simultaneous heating and stirring, under the same conditions.

A "Hot" warning light for each plate will flash whenever its temperature is above 50°C and will operate even when the hotplate is turned off and connected to the mains. The top plates are a robust aluminium/ silicon alloy, providing even plate temperature. Powerful magnets and motor give stirring speed up to 1500rpm and volumes up to 15 litres.*

Supplied complete with 3 x 25mm PTFE coated stir bars.

Technical Specification

Plate material	Al/Si alloy
Individual plate dimensions, mm	160 x 160
Heater power, W	3 x 700
Maximum plate temperature. °C	325
Speed range, rpm	100 - 1500
Dimensions, mm (w x d x h)	600 x 270 x 110
Net weight, kg	11
Electricity supply	230V, 50Hz, 2250W
IP Rating	32

* Based on water contained in a 20 litre glass bottom boiling flask.

Key Features

- Three independently controlled stirring/ heating positions
- Separate "Hot" warning lights for each plate
- Powerful magnets for strong magnetic coupling
- Easily accommodates 3 x 2 litre beakers.

SB162-3

Ordering Information

Model	Description
SB162-3	Stirrer, magnetic, 3 position with heating
SR3	Retort rod bracket
SR1	Retord rod, 600mm x 12mm

Key Features

- Choice of robust aluminum or chemically resistant ceramic tops
- Flashing "Hot" warning light to warn when top plate is too hot to touch
- Independent safety circuit to protect against overheating
- Powerful stirring action
- Ideal for handling large vessels

CB302

CB302 and SB302

Hotplates, large capacity,

Stylish and economical, general purpose stirrer hotplates designed with safety as well as performance in mind. The "Hot" warning light will flash whenever the plate temperature is above 50°C and will operate even when the hotplate is turned off and connected to the mains. Powerful magnets and motor give stirring speed up to 1500rpm and volumes up to 15 litres.

Model CB302 has a glass ceramic top that has excellent chemical and temperature resistance. The chemical properties make the surface very easy to keep clean and the thermal properties allow very high plate temperatures while ensuring the edges stay cooler, reducing the chance of accidental burns.

Model SB302 has a robust aluminium/silicon alloy top plate.
The very good heat transmission of this material gives rapid heating and ensures even temperature distribution across the whole of the plate.

With fitting for retort rod and supplied complete with 2 x 25mm PTFE coated stir bars.

Technical Specification

	CB302	SB302
Plate dimensions, mm	300 x 300	300 x 300
Heated area, mm	200 x 200	300 x 300
Plate material	Glass ceramic	Al / Si alloy
Heater power, W	1200	600
Max. plate temp. °C	450	300
Stirrer speed, rpm	100 - 1500	100 - 1500
Maximum stirring capacity	15 litres	15 litres
Dimensions, mm (w x d x h)	320 x 370 x 105	320 x 370 x 105
Net weight, kg	7	7
Electrical supply	230V, 50Hz	230V, 50Hz
IP Rating	31	31

SB302

Ordering Information

Model	Description
CB302	Stirrer/hotplate, ceramic plate, 1200W
SB302	Stirrer/hotplate, aluminum plate, 600W
SR3	Retort rod bracket
SR1	Retort rod, 600 x 12mm

CD162 and SD162

Hotplate Stirrers, digital,

Sophisticated stirrer hotplates offering digital control of both temperature and stirring speed. Comes complete with a detachable PTFE coated probe which when immersed in a liquid sample can very accurately control its temperature to within ±0.5°C even over a very long period of time.

As the hotplate heats the sample to the set temperature, the advanced microprocessor automatically measures the rate of temperature rise to judge the capacity and nature of samples (e.g. oil or aqueous). It then optimises the heating rate to minimise overshoot and time to set point. An audible alert sounds when the set temperature has been reached.

Both set and actual temperature of the sample are displayed simultaneously on a bright, easy to read vacuum fluorescent display. For maximum security, an independent safety circuit automatically sets to 20°C above the set temperature and shuts off the heater if the temperature exceeds this. Therefore, the hotplate is safe to leave on continuously, even unsupervised e.g. overnight.

Stirring action gives much better temperature uniformity within samples because the liquid is mixed effectively. Powerful magnets and motor give stirring speeds up to 1300rpm and volumes up to 15 litres*.

Stirring speed is set and displayed digitally so that exactly the same speed can be used each time for reproducibility.
If the probe is unplugged, the temperature of the top plate can be set on the display. This can be useful for applications where accurate surface temperature is important such as warming microscope slides, microarrays and specialist electronics.

There are two models to choose from:

Model **CD162** has a glass ceramic top plate, which is chemically resistant and gives very fast heat up times.

Model **SD162** has an aluminum / silicon alloy top plate which gives a very even plate temperature and quick response to changing set temperature.

With fitting for retort rod and supplied complete with PTFE coated probe and 2 x 25mm PTFE coated stirrer bars.

Key Features

- Digital setting and control of both temperature and speed
- Supplied complete with temperature probe for accurate control of liquid temperature
- Advanced safety features:
  - Flashing “Hot” warning light
  - Independent safety circuit to protect against overheating
- Choice of robust aluminium or chemically resistant ceramic tops

SD162

CD162 and SD162

Hotplate Stirrers, digital,

Technical Specification

	CD162	SD162
Plate material	Glass ceramic	Aluminium/ silicon alloy
Plate dimensions, mm	160 x 160	160 x 160
Heated area, mm	120 x 120	160 x 160
Heater power, W	500	700
Display resolution °C	1	1
Maximum plate temp. °C	450	300
Maximum liquid temp, with probe °C	200	200
Control accuracy with probe °C	±0.5°C	±0.5°C
Stirrer speed, rpm	200 - 1300	200 - 1300
Maximum stirring capacity, litres *	15	15
Net weight, kg	3.4	3.4
Dimensions, mm (w x d x h)	190 x 300 x 110	190 x 300 x 110
Electrical supply	230V, 50/60Hz, 550W	230V, 50/60Hz, 750W
IP Rating	32	32

* Based on water contained in a 20 litre glass bottom boiling flask.

CD162

Ordering Information

Model	Description
CD162	Digital stirrer/hotplate, ceramic plate, 550W
SD162	Digital stirrer/hotplate, aluminium plate, 750W
CD162/1	Temperature probe, stainless steel
CD162/2	Temperature probe, PTFE
SR1	Retort rod, 600 x 12mm
SB16/3	Protective cover

CR302

Hotplate Stirrer, with infra red heating,

Using a very efficient infra red heater of just 900W this stirrer unit will boil 1 litre of water over 30% faster than a conventional ceramic hotplate of 1200W.

Rare earth magnets give powerful stirring of up to 15 litres with feedback control from 100 to 1500rpm.

This highly efficient hotplate stirrer is ideal when large volumes of liquid need to be heated and stirred, particularly microbiological media.

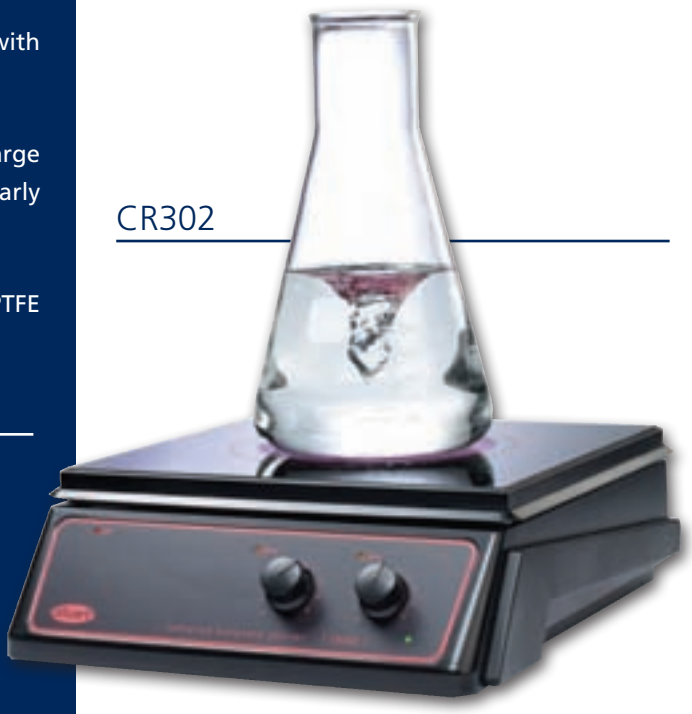
With fitting for retort rod and supplied with 2 x 25mm PTFE followers.

Technical Specification

Plate dimensions, mm	300 x 300
Heated area, mm	140 dia.
Heater power, W	900
Stirrer speed range	100 – 1500
Dimensions, mm (w x d x h)	320 x 370 x 105
Net weight, kg	4
Electricity supply	230V, 50Hz, 950W
IP rating	31

Key Features

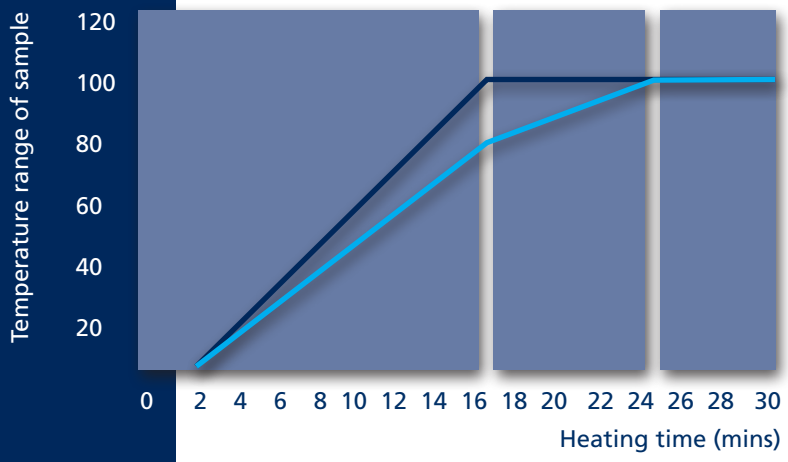
- Very efficient heating saving time and energy
- Powerful magnetic stirring
- "Hot" warning light for user safety
- Chemically resistant ceramic top



Ordering Information

Model	Description
CR302	Hotplate stirrer, infra red

Heating rates of 1 litre of water in a 2 litre beaker



Hotplates & Stirrers > Stirrers

with BioCote® antimicrobial protection

All Stuart® stirrers use powerful Neodymium magnets to offer the strongest coupling to the stirrer bar and minimise decoupling. Stuart® hotplate stirrers are available in 15 x 15cm and 30 x 30cm. With the addition of the three position unit, the SB161-3 with individual speed control for up to three flasks. Additionally the new SM5/ range of stirrers are now available, as well as the SM27 which is ideal for field applications and can be powered by standard "D" type batteries.

Find out more! Please scan the QR/Mobile Tag with your smartphone for more information

UC151 and US151

Stirrer

Powerful magnets and motor give stirring speeds up to 2000rpm and are capable of mixing large volumes (up to 15 litres *). The compact shape takes up less bench space and makes storage easier.

Model UC151 has a glass ceramic top which has excellent chemical resistance. The surface is also very easy to clean. The white surface ensures good visibility of colour changed, during titrations for example.

Model US151 has a robust stainless steel top plate that does not produce eddy currents like aluminium and so ensures a very powerful coupling and stirring action.

Both models have an integral fitting for a retort rod and are supplied with 2 x 25mm PTFE coated stir bars. The bottom is shaped to allow a retort base to slide underneath the unit if required to make experiment setup quicker.

Technical Specification

	US151	UC151
Plate Material	Stainless steel	Glass ceramic
Plate Dimensions, mm	150 x 150	150 x 150
Stirrer speed, rpm	100 - 2000	100 - 2000
Max. stirring capacity, L *	15	15
Dimensions (w x d x h), mm	172 x 248 x 109	172 x 248 x 107
Net weight, kg	2.0	2.0
Electrical supply	230V, 50Hz, 50W	230V, 50Hz, 50W
IP Rating	32	32

* Based on water contained in a 20 litre glass bottom boiling flask.

Ordering Information

Model	Description
UC151	Stirrer, ceramic plate,
US151	Stirrer, stainless steel plate,
SR1	Retort rod, 600mm x 12mm diameter

Key Features

- Choice of top plate:
  - Robust stainless steel
  - Chemically resistant ceramic
- Powerful magnets for strong stirring action
- Compact space saving design

UC151

US151

Key Features

- Battery powered or mains supply
- Tough, compact and light weight
- Variable speed up to 1300rpm

SM27

SM27

Stirrer, magnetic, portable,

Powered by long life batteries or mains power this rugged little unit can be used almost anywhere. Ideal for use inside incubators, glove boxes or in the field. Housed in a tough, chemically resistant ABS case and supplied complete with batteries.

Technical Specification

Max speed, rpm	1300
Capacity, litres H_2O	1.5
Dimensions, mm (w x d x h)	150 x 160 x 70
Net weight, kg	1.3
Electricity supply	4 x alkaline batteries or 230V, 50Hz
Battery type	1.5V, size D, IEC No. LR20
Battery life	600 hours continuous use
IP rating	41

Ordering Information

Model	Description
SM27	Portable magnetic stirrer complete with 4 x LR20 batteries and 25mm PTFE stir bar
SM27/1	Mains adapter, 9V a.c. for 230V, 50Hz supply with UK plug
SM27/2	Mains adapter, 9V a.c. for 230V, 50Hz supply with European 2 pin plug
SM27/3	Car battery adapter, 12V, Fitted with standard car cigarette/cigar plug

SM5

Mini Stirrer

The SM5 mini stirrer from Stuart is a powerful magnetic stirrer, capable of stirring up to 1 litre, the stirring speed is adjustable up to 2,000rpm. The mini stirrer is available in a choice of designs, please ensure you use the correct order code to receive your chosen model.

The unit is made from robust polypropylene with a chemically resistant polycarbonate top.

Technical Specification

Capacity, Litres	1
Speed, rpm	350 to 2,000
Weight, g	500
Dimensions, w x d x h, mm	143 x 143 x 66
Electrical supply	120-230V, 50-60Hz
IP Rating	IPX1

Ordering Information

Model	Description
SM5/STUART	Stuart mini stirrer, Stuart fascia
SM5/BIBBY	Stuart mini stirrer, Bibby fascia
SM5/SWIRL	Stuart mini stirrer, Swirl fascia

Key Features

- Lightweight stirrer
- Capable of stirring up to 1L
- Universal power adaptor
- Choice of designs
- With BioCote antimicrobial protection

SM5

Model: SM5/Stuart

SM5

Left Model: SM5/BIBBY

Middle Model: SM5/STUART

Right Model: SM5/SWIRL

Key Features

- Three independently controlled stirring positions
- Powerful magnets for strong magnetic coupling
- Stainless steel top plate

SB161-3

SB161-3

Stirrer, magnetic, 3 position,

A space saving and economical unit with three independent stirring positions in a footprint only 600 x 270mm. Easily accommodates 3 x 2 litre beakers. The stainless steel top plate is robust and, unlike aluminium, does not produce eddy currents and so ensures a very powerful coupling and stirring action. Powerful magnets and motor give stirring speed up to 1500rpm and volumes up to 15 litres *. Supplied complete with 3 x 25mm PTFE coated stir bars.

Technical Specification

Plate material	Stainless steel
Plate dimensions, mm	550 x 210
Speed range, rpm	100 to 1500
Dimensions, mm (w x d x h)	606 x 268 x 94
Net weight, kg	7
Electricity supply	230V, 50Hz, 150W
IP Rating	31

* Based on water contained in a 20 litre glass bottom boiling flask.

Ordering Information

Model	Description
SB161-3	Stirrer, magnetic, 3 position
SR3	Retort rod bracket
SR1	Retort rod, 600mm x 12mm diameter

SB301

Stirrer, magnetic, heavy duty,

Large and powerful stirrer for use with vessels up to 30 litre capacity. Powerful magnetic drive with electronic feed-back speed control which accurately maintains the set speed. Supplied complete with 1 x 100mm PTFE coated stir bar.

Technical Specification

Plate material	Stainless steel
Plate dimensions, mm	300 x 300
Speed range, rpm	100 - 600
Stirring capacity, litres	30
Dimensions, mm (w x d x h)	328 x 369 x 103
Net weight, kg	5
Electricity supply	230V, 50Hz, 50W
IP Rating	31

Ordering Information

Model	Description
SB301	Stirrer, magnetic, heavy duty
SR3	Retort rod bracket
SR1	Retort rod, 600mm x 12mm diameter

Key Features

- Robust construction with stainless steel top
- Powerful magnets for strong magnetic coupling
- Stirs up to 30 litres

SB301

Mixers

with BioCote® antimicrobial protection

There are many laboratory processes that require sample agitation, Stuart® offers one of the most thorough ranges available including, rotators, tube rollers and vortex mixers.

Find out more! Please scan the QR/Mobile Tag with your smartphone for more information

Introduction

With the ever increasing variety of vessels being used in the sciences, Stuart® offers a range of mixing products to give you the ideal solution. Each entry also has a symbol to show the type of mixing (see page 141 for guide). Some products also have a timer.

Rollers

A roller mixer is ideal for a gentle mixing action. It consists of a number of motor driven rollers which rotate at either a fixed or variable speed. When the samples are placed between these rollers, typically in tubes or bottles, they are gently rolled. During this rolling action, simultaneously a rocking action is applied whereby the rollers are gently raised and lowered at one end. This increases the effectiveness of the mixing whilst still providing a subtle mixing action. Ideal for mixing blood samples, viscous substances and liquid-solid suspensions where minimum aeration is required or for aiding de-frosting of samples.

SRT6D
Tube roller

Rotators

Mixing by rotation is more vigorous than a roller mixer, typically the sample, in either tubes or bottles, are turn end-over-end. Rotators can be based on a rotisserie type design whereby a single axis is rotated and samples are attached to this by a variety of different methods. Alternatively, a rotator can take the form of a disk rotated around its central point; samples are attached to the edge of the disk, this form of rotator is less vigorous than the rotisserie style as the angle of the disk can be lowered to lessen the end over end action. Speed adjustment is available in both types to alter the severity of the mixing action. Ideal for aerating cultures, keeping biological samples in suspension and for general mixing applications including smaller samples held in 1.5ml micro tubes.

Vortex Mixers

Vortex mixers have an electric motor with the drive shaft oriented vertically and attached to a cupped rubber piece mounted slightly off-centre. As the motor runs the rubber piece oscillates rapidly in a circular motion. When a test tube or other appropriate container is pressed into the rubber cup (or touched to its edge) the motion is transmitted to the liquid inside and a vortex is created. Most vortex mixers have variable speed settings and can be set to run continuously, or to run only when downward pressure is applied to the rubber piece. It is an ideal mixing action for re-suspending pellets, vortexing cell suspensions or drug extractions, mixing tissue samples, enzymatic and RIA assays.

SB2
Rotator

All mixers are provided with BioCote® antimicrobial protection. See page 130 for more information.

Mixers
> Rollers

with BioCote® antimicrobial protection

A roller mixer is ideal for a gentle mixing action. It consists of a number of motor driven rollers which rotate at either a fixed or variable speed. When the samples are placed between these rollers, typically in tubes or bottles, they are gently rolled. During this rolling action, simultaneously a rocking action is applied whereby the rollers are gently raised and lowered at one end. This increases the effectiveness of the mixing whilst still providing a subtle mixing action. Ideal for mixing blood samples, viscous substances and liquid-solid suspensions where minimum aeration is required or for aiding de-frosting of samples.

Find out more! Please scan the QR/Mobile Tag with your smartphone for more information

SRT6 and SRT6D

Rollers

These roller mixers provide a gentle, but highly efficient, rocking and rolling action. The six roller design has a small space saving footprint. There is a choice of two models:

- Analogue model SRT6 with fixed speed of 33rpm operated by easy to use on / off switch
- More advanced digital model SRT6D with variable speed from 5 to 60rpm and versatile timer which can be set from 1 second to 9 hours.

Recommended for mixing blood samples, viscous substances and liquid-solid suspensions where minimum aeration is required. Units can be used in incubators up to 60°C and humidity up to 80%, or in cold rooms down to 4°C. Both roller mixers are robustly constructed and designed for easy cleaning, having plastic rollers and a drip tray to collect accidental spillages. Most sizes of tubes, Bijoux, Universals and bottles can be accommodated. An accessory stacking system is available where bench space is at premium, see page 72.

Roll only versions are also available, these have had the rocking action removed, please note it is not possible to switch a unit to roll only, after production.

Technical Specification

	SRT6	SRT6D
Number of rollers	6	6
Speed	33rpm	5 to 60rpm
Amplitude	16mm	16mm
Maximum load, kg	5	5
Controls	Analogue	Digital
Timer	No	Yes
Roller size, mm (l x d)	340 x 30	340 x 30
Dimensions, mm (w x d x h)	565 x 240 x 110	565 x 240 x 110
Net weight, kg	5.1	5.1
Electrical Supply	230V, 50Hz, 50W	230V,50Hz, 50W
IP Rating	20	20

Key Features

- Rocking and rolling action for complete mixing
- Choice of analogue fixed speed or digital variable speed model
- Six roller design with small footprint
- Designed for continuous quiet operation
- Can be used in cold rooms or in incubators

SRT6D

SRT6

Ordering Information

Model	Description
SRT6	Roller mixer, 6 rollers, analogue control, fixed speed
SRT6D	Roller mixer, 6 rollers, digital control, variable speed
SRT6ROLL	Roll only version, 6 rollers, analogue control, fixed speed
SRT6DROLL	Roll only version, 6 rollers, digital control, variable speed

Key Features

- Rocking and rolling action for complete mixing
- Choice of analogue fixed speed or digital variable speed model
- Nine roller design for larger capacity
- Designed for continuous quiet operation
- Can be used in cold rooms or in incubators

SRT9D

SRT9

SRT9 & SRT9D

Rollers

These roller mixers provide a gentle, but highly efficient, rocking and rolling action. The larger capacity nine rollers design is ideal for high throughput laboratories.

There is a choice of two models:

- Analogue model SRT9 with fixed speed of 33rpm operated by easy to use on / off switch
- More advanced digital model SRT9D with variable speed from 5 to 60rpm and versatile timer which can be set from 1 second to 9 hours.

Recommended for mixing blood samples, viscous substances and liquid-solid suspensions where minimum aeration is required. Units can be used in incubators up to 60°C and humidity up to 80%, or in cold rooms down to 4°C. Both roller mixers are robustly constructed and designed for easy cleaning, having plastic rollers and a drip tray to collect accidental spillages. Most sizes of tubes, Bijoux, Universals and bottles can be accommodated. An accessory stacking system is available where bench space is at premium, see page 72.

Roll only versions are also available, these have had the rocking action removed, please note it is not possible to switch a unit to roll only, after production.

Technical Specification

	SRT9	SRT9D
Number of rollers	9	9
Speed	33rpm	5 to 60rpm
Amplitude	16mm	16mm
Maximum load, kg	5	5
Controls	Analogue	Digital
Timer	No	Yes
Roller size, mm (l x d)	340 x 30	340 x 30
Dimensions, mm (w x d x h)	565 x 360 x 110	565 x 360 x 110
Net weight, kg	6.9	6.9
Electrical Supply	230V, 50Hz, 50W	230V,50Hz, 50W
IP Rating	20	20

Ordering Information

Model	Description
SRT9	Roller mixer, 9 rollers, analogue control, fixed speed
SRT9D	Roller mixer, 9 rollers, digital control, variable speed
SRT9ROLL	Roll only version, 6 rollers, analogue control, fixed speed
SRT9DROLL	Roll only version, 6 rollers, digital control, variable speed

Stacking System

For use with Stuart® SRT Rollers

- For use with SRT rollers
- Allows up to 3 tube rollers to be stacked to save space
- Works by magnets - no need for any tools
- Fitted in minutes
- Easy to dismantle

The SRT stacking system comprises of four magnetised stacking blocks that are designed to allow rollers to be stacked on top of one another, thus saving valuable bench space. Up to three rollers can be stacked in virtually any combination.

Fitted in seconds without any need for tools the stacking blocks are easy to move into the optimum position where they hold the rollers securely in position by magnetism. They are equally as easy to dismantle if required for storage or cleaning purposes.

SRT/STACK

Ordering Information

Model	Description
SRT/STACK	Stacking system for rollers (4 x stacking blocks)

NOTE: In order to stack three rollers, 2 x SRT/STACK are required

SRT/STACK

Mixers
> Rotators

with BioCote® antimicrobial protection

Mixing by rotation is more vigorous than a roller mixer, typically the sample, in either tubes or bottles, are turn end-over-end. Rotators can be based on a rotisserie type design whereby a single axis is rotated and samples are attached to this by a variety of different methods. Alternatively, a rotator can take the form of a disk rotated around its central point; samples are attached to the edge of the disk, this form of rotator is less vigorous than the rotisserie style as the angle of the disk can be lowered to lessen the end over end action.

Find out more! Please scan the QR/Mobile Tag with your smartphone for more information

SB2

Rotator, fixed speed,

The SB2 gives gentle but effective mixing, ideal for keeping biological samples in suspension e.g. blood. The rotator can be used in incubators up to 60°C and in cold rooms down to 4°C. The rotator has a constant speed of 20rpm and the angle of rotation is fully adjustable, from horizontal for minimal mixing to vertical for full end-over-end mixing.

An integral tray catches any spillage from the rotating tubes. A choice of six tube holders are available to fulfil most applications. It is possible to use two tube holders simultaneously with our dual holder accessory.

Technical Specification

Speed range	Fixed to 20rpm
Dimensions, mm (w x d x h)	200 x 270 x 230
Net weight, kg	3.2
Electrical supply	230V, 50Hz, 50W
IP Rating	31

Key Features

- Fully adjustable mixing angle
- Constant speed of 20rpm
- Choice of tube holders to hold a number of different sized tubes
- Simple on/off control switch
- Spillage tray

SB2

Ordering Information

Model	Description
SB2	Rotator, fixed speed

Tube holders

For use with Stuart® Rotator

- Choice of six types
- Quick and easy loading and removal of tubes
- End-over-end or rolling action

Ordering Information

Model	Description	Tube diameter,	Maximum no. of tubes
End-over-end action			
SB3/1	Micro tube holder	10 - 11.5mm	40
SB3/2	Test/blood tube holder	9 - 20mm	20
SB3/3	50ml centrifuge tube holder	25 - 35mm	12
Rolling action			
SB3/4	Culture tube holder	12mm	63
SB3/5	Culture tube holder	16mm	36
SB3/6	Culture tube holder	26mm	30
Accessories			
SB2/DUAL	Multiple tube holder accessory		
SB3/1/PC	Spare clips for SB3/1 holder		

Key Features

- Fully adjustable mixing angle
- Variable speed
- Digital timer
- Choice of tube holders to hold a number of different sized tubes
- Spillage tray

SB3

SB3

Rotator, variable speed, timer,

The SB3 is ideal for aerating cultures, keeping biological samples in suspension and for general mixing applications.
The rotator can be used in incubators up to 60ºC and in cold rooms down to 4ºC.

The rotator has a variable speed of 2 to 40rpm for gentle rolling or vigorous mixing of samples and the angle of rotation is fully adjustable, from horizontal for minimal mixing to vertical for full end-over-end mixing.

A digital timer and speed display allow procedures to be accurately repeated for optimal results.

A tray catches any spillage from the rotating tubes.
Scale to measure mixing angle for future reference or continuity.
A choice of six tube holders are available to fulfil most applications. It is possible to use two tube holders simultaneously with our dual holder accessory.

Holder must be ordered separately (see page 74)

Technical Specification

Speed range	2 to 40rpm
Speed control	Digital
Timer	Yes
Net weight, kg	3.2
Dimensions, mm (w x d x h)	200 x 270 x 230
Electrical supply	230V, 50Hz, 50W
IP Rating	31

Ordering Information

Model	Description
SB3	Rotator, variable speed, timer

SB3
2 x SB3/1 and SB2/DUAL

STR4

Rotator, drive unit,

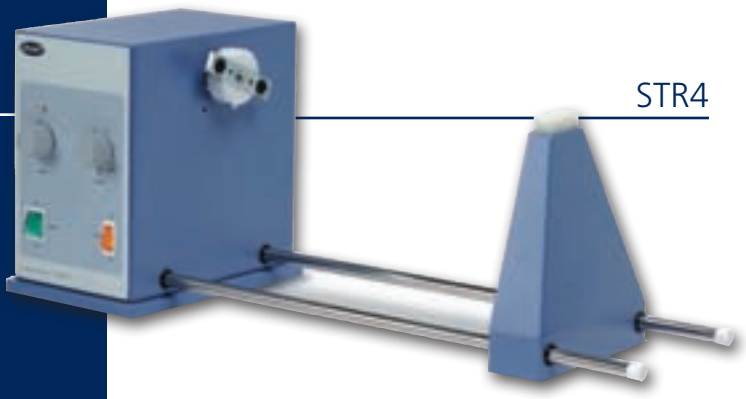
The STR4 rotator drive unit is used in conjunction with a wide range of drums designed to take different sizes and types of vessels. The five drums are designed to give different mixing actions and are listed on pages 76 to 78.

Speed of rotation is variable from 6 to 60rpm for a range of mixing applications.

For added convenience a built in analogue timer can be set from 10 to 60 minutes. Alternatively the unit can be set for continuous operation.

Key Features

- Highly versatile - accepts a choice of 5 drums
- Built in timer
- Variable speed control 6 to 60rpm



STR4

Technical Specification

Maximum load, kg	3
Rotation speed	6 to 60rpm
Dimensions, mm (w x d x h)	650 x 250 x 250
Net weight, kg	6.4
Electrical Supply	230V, 50Hz, 50W
IP Rating	31

Ordering Information

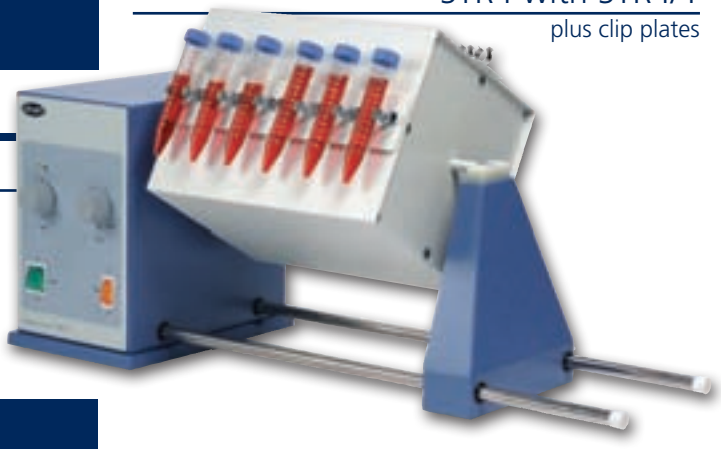
Model	Description
STR4	Rotator drive

(n.b. vessel holding drum not included and must be ordered separately)

STR4/1

Drum, test-tube holder,

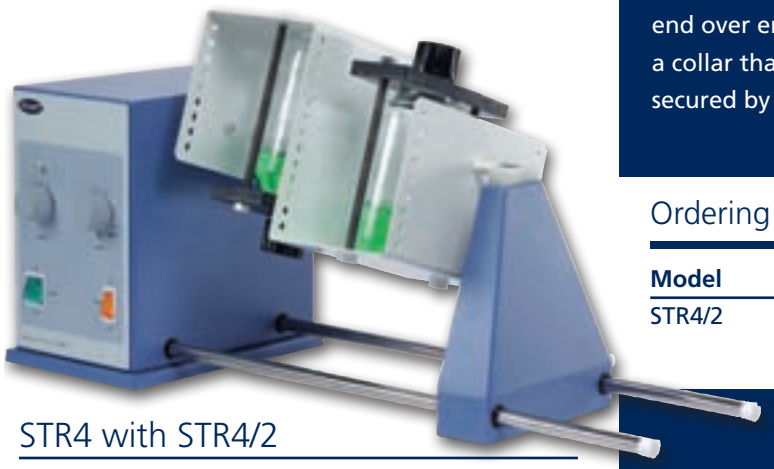
Designed to rotate test-tubes in an end-over-end movement. Comprises a square metal drum which can accommodate a choice of plates fitted with tube clips. Up to four plates can be mounted on the drum. Easy fitting via a push button mechanism.



STR4 with STR4/1
plus clip plates

Ordering Information

Model	Description
STR4/1	Drum to hold test tube clip plates
STR1/1	Clip plates for 12 x 12mm tubes (per pair)
STR1/2	Clip plates for 10 x 16mm tubes (per pair)
STR1/3	Clip plates for 8 x 19mm tubes (per pair)
STR1/4	Clip plates for 7 x 24mm tubes (per pair)



STR4 with STR4/2

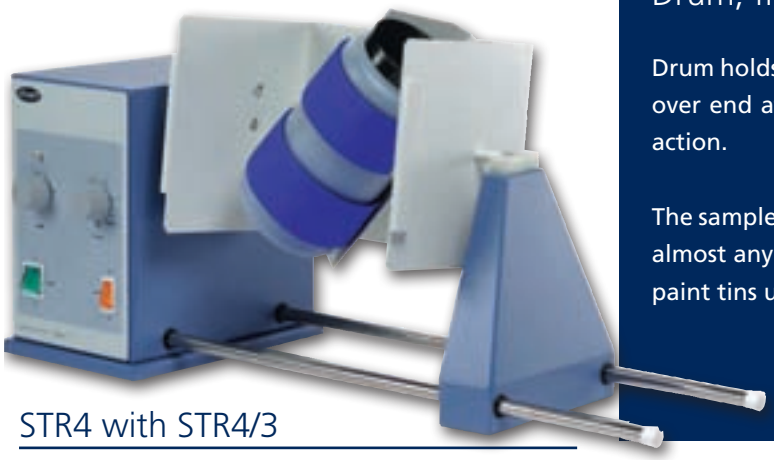
STR4/2

Drum, two platforms

This drum accepts 2 x 250ml conical flasks or reagent bottles for end over end mixing. The samples are securely held in place by a collar that fits around the neck of the flask or bottle and is secured by two washers.

Ordering Information

Model	Description
STR4/2	Drum with two platforms to hold flasks or bottles



STR4 with STR4/3

STR4/3

Drum, figure 8,

Drum holds the vessel at a 45° angle so it is rolled and turned end over end at the same time giving a vigorous figure of 8 mixing action.

The sample container is retained by a strong Velcro strap. Accepts almost any container including reagent bottles, powder jars and paint tins up to 200mm in length and 120mm diameter.

Ordering Information

Model	Description
STR4/3	Drum with figure 8 mixing action

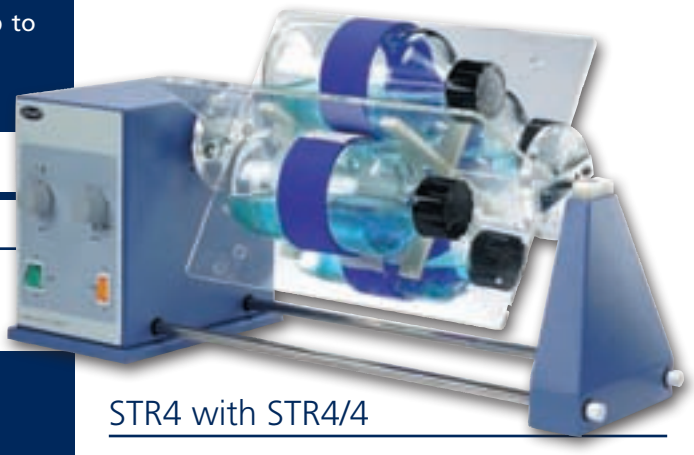
STR4/4

Drum, bottle holder,

This drum consists of a four segment Perspex® cradle. Each segment is fitted with a fully adjustable Velcro® strap to hold bottles and other containers up to 120mm diameter and up to 300mm in length.

Ordering Information

Model	Description
STR4/4	Drum with four segment cradles holding up to four bottles



STR4 with STR4/4

STR4/5

Drum, microcentrifuge tube,

Designed for thorough end over end mixing of 1.5ml microcentrifuge tubes. Four racks (included) can be held securely in the drum. Each rack can accommodate up to 60 microcentrifuge tubes, making this unit ideal for a high throughput laboratory.

Ordering Information

Model	Description
STR4/5	Drum with four segment cradles and four tube racks
SW2/1	Spare rack for 60 x 1.5ml tubes

STR4 with STR4/5

Mixers
> Vortex Mixers

with BioCote® antimicrobial protection

Vortex mixers have an electric motor with the drive shaft oriented vertically and attached to a cupped rubber piece mounted slightly off-centre. As the motor runs the rubber piece oscillates rapidly in a circular motion. When a test tube or other appropriate container is pressed into the rubber cup (or touched to its edge) the motion is transmitted to the liquid inside and a vortex is created. Most vortex mixers have variable speed settings and can be set to run continuously, or to run only when downward pressure is applied to the rubber piece. It is an ideal mixing action for re-suspending pellets, vortexing cell suspensions or drug extractions, mixing tissue samples, enzymatic and RIA assays.

Find out more! Please scan the QR/Mobile Tag with your smartphone for more information

SA8

Mixer, vortex, variable speed,

Mixing speed can be selected from 200rpm for very gentle mixing to 2500rpm for vigorous agitation. Choose between 'touch' mode or continuous operation simply by pressing a button on the fascia. Robust die-cast body avoids unnecessary movement during use. The ergonomic low profile design makes everyday vortexing comfortable for the user.

Integral retort rod fixing allows vessels to be secured above the vortex action for long-term mixing. The SA8 can mix a variety of other vessels when used in conjunction with the SA8/1 accessory pack detailed below.

Technical Specification

Speed	200 to 2500rpm
Orbit diameter, mm	4.2
Touch mode	Yes
Continuous mode	Yes
Dimensions, mm (w x d x h)	135 x 215 x 78
Net weight, kg	3.2
Electrical supply	90 – 240V, 50 / 60Hz, 20W
IP Rating	31

Ordering Information

Model	Description
SA8	Vortex mixer, variable speed

Key Features

- Variable speed control between 200 and 2500rpm
- Intermittent or continuous mode
- Stable low profile body
- Robust die-cast construction

SA8

Accessory pack

For use with SA8 above, pack contains:

1 x Plastic cradle for standard microtitre plate
1 x Circular foam insert for beakers and flasks (up to 500ml capacity)
1 x Rectangular foam insert (holds 8 x 0.2ml, 8 x 0.5ml and 16 x 1.5ml microcentrifuge tubes)
1 x Solid rectangular foam insert (blank for custom holes)

Ordering Information

Model	Description
SA8/1	Accessory pack (for use with SA8 only)

SA8 with cradle

with SA8/1Microtitre plate cradle (plate not included)

Key Features

- Fixed speed 2500rpm
- Robust die-cast construction
- Automatic press start

SA7

Mixer, vortex, fixed speed,

For rapid mixing of samples contained in test-tubes, small flasks and bottles. Starts automatically when the rubber cup is depressed and stops once vessel is removed.

Heavy die-cast body for stability during use.

Technical Specification

Speed	Fixed 2500rpm
Orbit diameter, mm	4.2
Dimensions, mm (w x d x h)	135 x 215 x 78
Net weight, kg	3.2
Electrical supply	90 – 240V, 50 / 60Hz, 20W
IP Rating	31

Ordering Information

Model	Description
SA7	Vortex mixer, fixed speed

SA3

Mixer, vortex, mini,

A simple fixed speed vortex mixer. Features polypropylene cup and suited for use with tubes up to 16mm diameter. Push and hold switch operation.

The mini-vortex mixer is very economically priced - perfect for the budget conscious laboratory.

Technical Specification

Speed	Fixed 2500rpm
Dimensions, mm (w x d x h)	80 x 140 x 80
Net weight, kg	1.3
Electrical Supply	230V, 50Hz, 50W

Ordering Information

Model	Description
SA3	Vortex mixer, mini

Key Features

- Compact size
- Push switch operation
- Low budget price

SA3

Overhead Stirrers

with BioCote® antimicrobial protection

Overhead stirrers are useful where mixing of a higher viscosity material is required, the three models available from Stuart® increase in torque to suit even the most demanding laboratory application.

Find out more! Please scan the QR/Mobile Tag with your smartphone for more information

SS10

Overhead stirrer, general purpose,

Easy to use general purpose overhead stirrer suitable for day to day laboratory use with aqueous and low viscosity liquids such as light oils, up to 15 litres. With good speed control and overload protection usually found in more advanced models, the SS10 represents excellent value for money.

- Used with volumes up to 15 litres
- Aqueous to low viscosity liquids
- Keyless chuck
- Quiet running
- Budget price

SS10

SS20

Overhead stirrer, high performance,

A powerful stirrer designed for demanding laboratory applications. Suitable for stirring liquids up to medium viscosity, including oils and microbiological media, up to 25 litre capacity. Features a hollow shaft arrangement to facilitate easy adjustment of paddle height. Advanced overload protection and sophisticated, responsive speed control.

- Used with volumes up to 25 litres
- Low to medium viscosity liquids
- Hollow shaft
- Keyless chuck

SS20

SS30

Overhead stirrer, dual torque

A versatile heavy duty stirrer with the ability to mix high viscosity liquids, including heavy oils, up to 40 litres. This stirrer has two modes of operation, which can be easily alternated, offering maximum versatility.

Mode 1 has high torque at lower speed for stirring very viscous liquids.
Mode 2 has lower torque at higher speed and provides brisk mixing of medium viscosity liquids.

Advanced overload protection and sophisticated, responsive speed control. The stirrer also features a hollow shaft for use with long paddles.

- Used with volumes up to 40 litres
- Medium to high viscosity liquids
- Two modes of torque for extra power
- Keyless chuck

SS30

Overhead Stirrers

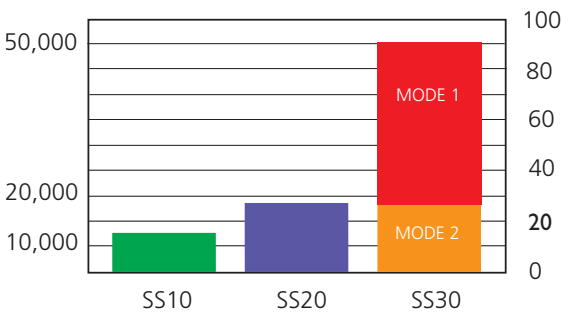
Technical Specification

	SS10	SS20	SS30
Speed range	100 - 2000rpm	100 - 2000rpm	50 - 500 / 100 - 2000rpm
Max. viscosity	10,000mPas	20,000mPas	40,000mPas
Torque at chuck	15Ncm	27Ncm	90 / 27Ncm
Chuck range	1.5 - 13mm dia	1.5 - 13mm dia.	1.5 - 13mm dia.
Hollow shaft	No	3 - 8mm dia.	3 - 8mm dia.
Dimensions, mm (w x d x h)	85 x 175 x 230	85 x 195 x 230	85 x 195 x 230
Net weight, kg	2.7	3.2	3.8
Electrical supply	230V, 50 / 60Hz, 50W	230V, 50 / 60Hz, 80W	230V, 50 / 60Hz, 80W
IP Rating	42	42	42

Ordering Information

Model	Description
SS10	Overhead stirrer, general purpose
SS20	Overhead stirrer, high performance
SS30	Overhead stirrer, dual torque

A range of stands and stirrer paddles are also available.
See page 86.
See page 137 for S.I. Base and S.I. Derived Units.



Torque profile of
Stuart overhead stirrers

Stands

For use with Stuart® overhead stirrers

Extra strong retort stands with H-pattern base for stability and robust support rod. Both versions include bosshead. Heavy duty stand recommended for use with SS30 overhead stirrer.

Technical Specification

	SS10/1	SS10/2
Base, mm (w x d x h)	400 x 350 x 25	550 x 480 x 25
Rod, mm (dia. x l)	16 x 700	25 x 850
Net weight, kg	7.6	20.2

Ordering Information

Model	Description
SS10/1	Stand, general purpose
SS10/2	Stand, heavy duty

Stirrer Paddles

For use with Stuart® overhead stirrers

Made from high grade stainless steel, there is a choice of five paddle heads and two lengths of 8mm diameter paddle rod. The heads screw on and off the rods, so they can be mixed and matched depending upon stirring requirements. This gives maximum versatility and value for money. For complete paddle, order rod plus head(s).

Technical Specification

Paddle rods	SS10/5	SS10/6
Diameter	8mm	8mm
Length	350mm	550mm

Paddle heads	SS10/10	SS10/11	SS10/12	SS10/13	SS10/14
Total width	60mm	94mm	80mm	50mm	60mm

Ordering Information

Model	Description
SS10/5	Paddle rod, 350mm
SS10/6	Paddle rod, 550mm
SS10/10	Small paddle head
SS10/11	Large paddle head
SS10/12	Large propeller head (2 blade)
SS10/13	Small propeller head (4 blade)
SS10/14	Anchor paddle head

SS10/11 SS10/14 SS10/10 SS10/12 SS10/13

Rockers and Shakers

with BioCote® antimicrobial protection

Stuart® offers a comprehensive range of shakers and rockers, units are available with four actions, orbital, linear, 3D gyratory and see-saw. Almost all actions are also available in personal sized units or larger laboratory scale models.

Find out more! Please scan the QR/Mobile Tag with your smartphone for more information

Introduction

Rockers and Shakers

Rockers

Rockers work in a similar way to platform shakers (see below) but are much less aggressive on the sample. Rockers utilise either a see saw action, where the platform rocks on a central point, or a softer 3D gyratory action where the platform moves in a three dimensional motion about the central point. A see saw action provides a wave motion in the sample, ideal for washing. A 3D gyratory action very gently swirls the sample making it ideal for delicate cell culturing, staining and de-staining procedures etc. In some cases a tier system is available where magnetic platforms can be stacked to increase capacity, without increasing the footprint.

SSL4

Seesaw rocker

Shakers

Shakers are ideal for almost any vessel from microcentrifuge tubes through petri dishes and microtitre plates to conical flasks. Shakers are available with either an orbital action where the platform moves in a circular orbit or a reciprocating linear movement where the platform moves back and forth horizontally. An orbital action provides a swirling action on the sample, ideal for aeration. A linear shaker is more aggressive making it ideal for applications such as extractions.

A flask shaker applies the movement directly to the sample vessel, rather than via a platform. The sample vessel, typically a flask or bottle, is clamped around the neck and shaken in a pivotal motion. This mimics the type of aggressive shaking action that would be generated when a flask is shaken by hand. For example you could use this piece of equipment during a solvent extraction.

SSL1

Orbital shaker

Rockers and Shakers
> Rockers

with BioCote® antimicrobial protection

Rockers utilise either a see saw action, where the platform rocks on a central point, or a gentler 3D gyratory action where the platform moves in a three dimensional motion about the central point. A see saw action provides a wave motion in the sample, ideal for washing. A 3D gyratory action very gently swirls the sample making it ideal for delicate cell culturing, staining and de-staining procedures etc. In some cases a tier system is available where magnetic platforms can be stacked to increase capacity, without increasing the footprint.

Find out more! Please scan the QR/Mobile Tag with your smartphone for more information

SSM3 and SSM4

Rockers, mini,

These compact rockers are ideal where gentle mixing is required, either on the bench or in incubators. Choice of two models:

Model **SSM3** provides a 3D gyratory motion, ideal for low foaming agitation, DNA extractions, staining and de-staining procedures etc. The angle of tilt can be moved to any position by hand to optimise mixing of vessels.

Model **SSM4** has a see-saw rocking action that creates a wave motion within vessels such as culture flasks, petri dishes etc.

Digital selection of both speed and time facilitates accurate and reproducible conditions. Both parameters are controlled via an easy to use encoder control knob and displayed on the bright LED display. Both models are supplied with a non-slip mat which holds flat based vessels securely in place during mixing. An accessory tier system can be fitted in seconds, without the need for tools, tripling the available space for samples. Each tier is securely held in place by magnets.

Technical Specification

	SSM3	SSM4
Rocking action	3D gyratory	See-saw wave
Platform dimensions, mm (w x l)	235 x 235	235 x 235
Speed range	5 to 70rpm	5 to 70rpm
Angle of tilt	3 to 12°	7°
Angle adjustable	Yes by hand	No
Maximum load, kg	3	3
Dimensions, mm (w x d x h)	240 x 300 x 165	240 x 300 x 150
Tier height, mm	125/tier	125/tier
Operational temp. range	+4 to +40°C	+4 to +40°C
Maximum permissible humidity	80%	80%
Net weight, kg	5	5
Electrical supply	230V, 50Hz, 50W	230V, 50Hz, 50W
IP Rating	30	30

Ordering Information

Model	Description
SSM3	Rocker, gyratory, mini
SSM4	Rocker, see-saw, mini
SSM3/1	Tier system (2 platforms plus 8 bar)

Key Features

- Small space saving design - ideal for personal use
- Gentle rocking action
- Choice of two models:
  - 3D gyratory action SSM3
  - See-saw wave action SSM4
- Digital speed control and built-in timer
- Optional tier system available to increase capacity

SSM4

SSM3 with SSM3/1

Key Features

- Large platform rockers – ideal for multiple users
- Gentle rocking action
- Choice of two models:
  - 3D gyratory action SSL3
  - See-saw wave action SSL4
- Digital speed control and built-in timer
- Optional tier system available to increase capacity

SSL3

SSL3 and SSL4

Rockers, lab scale,

These rockers have large platforms able to accommodate a number of samples, ideal for a busy lab. They are very quiet in operation and designed to be on continuously. Two models available:

Model **SSL3** provides a 3D gyratory motion, ideal for low foaming agitation, DNA extractions, staining and de-staining procedures etc. The angle of tilt can be moved to any position by hand to optimise mixing of vessels.

Model **SSL4** has a see-saw rocking action that creates a wave motion within vessels such as culture flasks, petri dishes etc.

Rockers are often used in conjunction with incubators and environmental chambers. Both units can be used in temperatures up to 40°C and humidity up to 80%. Both models are supplied with a non-slip mat and have digital selection of both speed and time making them very easy to operate. An accessory tier system can be fitted in seconds, without the need for tools, tripling the available space for samples. Each tier is securely held in place by magnets.

Technical Specification

	SSL3	SSL4
Rocking action	3D gyratory	See-saw wave
Platform dimensions, mm (w x l)	355 x 355	355 x 355
Speed range	5 to 70rpm	5 to 70rpm
Angle of tilt	3 to 12°	7°
Angle adjustable	Yes by hand	No
Maximum load, kg	10	10
Dimensions, mm (w x d x h)	360 x 420 x 170	360 x 420 x 160
Tier height, mm	125/tier	125/tier
Operational temp. range	+4 to +40°C	+4 to +40°C
Maximum permissible humidity	80%	80%
Net weight, kg	10	10
Electrical supply	230V, 50Hz, 50W	230V, 50Hz, 50W
IP Rating	30	30

SSL4

Ordering Information

Model	Description
SSL3	Rocker, gyratory, lab scale
SSL4	Rocker, see-saw, lab scale
SSL3/1	Tier system (2 platforms plus 8 bars) (fits both models)

It isn't always what you can see that makes the difference

Is your laboratory benchtop a breeding ground?

Everything on it harbours bacteria. Bacteria that will exponentially grow on every surface or piece of equipment you use. Unless your equipment is made by Stuart®. Stuart® is the only brand of benchtop laboratory equipment with it's entire range protected by BioCote®, a unique, invisible silver based antimicrobial solution.

The active agent in every external part of our equipment will prevent the growth of fungi and bacteria - including MRSA - at no extra cost. Stuart® manufactures a comprehensive range of benchtop science equipment available throughout this catalogue.

For more information about the benefits of BioCote® visit our website www.stuart-equipment.com. Alternatively see Page 130-131 of this catalogue.

stuart®

www.stuart-equipment.com

Rockers and Shakers
> Shakers

with BioCote® antimicrobial protection

Shakers are ideal for almost any vessel from microcentrifuge tubes through petri dishes and microtitre plates to conical flasks. Shakers are available with either an orbital action where the platform moves in a circular orbit or a reciprocating linear movement where the platform moves back and forth horizontally. An orbital action provides a swirling action on the sample, ideal for aeration. A linear shaker is more aggressive making it ideal for applications such as extractions. A flask shaker applies the movement directly to the sample vessel, rather than via a platform. The sample vessel, typically a flask or bottle, is clamped around the neck and shaken in a pivotal motion. This mimics the type of aggressive shaking action that would be generated when a flask is shaken by hand.

Find out more! Please scan the QR/Mobile Tag with your smartphone for more information

SSM5 and SSL5

Shaker, microtitre,

These compact rockers are ideal where gentle mixing is required, either on the bench or in incubators. Choice of two models:

With the combination of high speed and a tiny orbit the SS:5 range has an ideal action for mixing microtitre plates and microcentrifuge tubes. Microtitre plates are held to the platform by a highly efficient non slip mat. Microtubes can be held via the purpose built accessory racks, available separately.

The SS:5 range has adjustable speed control between 250 and 1250rpm, the speed is shown via the bright LED display and accurately controlled by an encoder. The versatile timer can be set from 1 second to 9 hours. The unit can also be set for continuous operation.

Technical Specification

	SSM5	SSL5
Platform dimensions, mm (w x l)	220 x 220	306 x 306
Number of plate positions	4	8
Speed range, rpm	250 to 1250	250 to 1250
Orbit diameter, mm	1.5	1.5
Maximum load, kg	1	2
Operational temperature range	+4 to +40°C	+4 to +40°C
Maximum permissible humidity	80%	80%
Dimensions, mm (w x d x h)	240 x 300 x 160	360 x 420 x 160
Net weight, kg	5	10
Electrical supply	230V, 50Hz, 50W	230V, 50Hz, 50W
IP Rating	31	31

Key Features

- High speed, small orbiting action – ideal for microtitre plates
- Capacity for four or eight microtitre plates
- Digital selection of speed
- In built digital timer
- Accessories available for mixing microcentrifuge tubes

SSM5

Ordering Information

Model	Description
SSM5	Shaker, microtitre, mini
SSL5	Shaker, microtitre, labscale
SSM5/1	Tube holder for 50 x 1.5ml tubes
SSM5/2	Tube holder for 50 x 0.5ml tubes
SSM5/3	Tube holder for 50 x 0.2ml tubes

Note: SSL5 can hold 2 x tube holder racks

SSL5

Key Features

- Smooth orbital shaking action
- Orbit of 16mm is ideal for larger samples, e.g. multi-well plates
- Built-in digital timer
- Variable speed control to 300rpm
- Supplied with non-slip mat for multi-well plates etc.
- Optional accessory cradle system for flasks and bottles

SSM1

SSM1 with SSM1/1

SSM1

Shaker, orbital

The compact SSM1 provides a smooth uniform circular motion with an orbit of 16mm. It is supplied with a non-slip mat that can hold up to four multi-well plates or diagnostic cards. The shaking action is ideal for samples of 0.5 to 5ml held in multi well plates, dishes and petri dishes. The shaker can be used in incubators and environmental chambers (up to 40°C and 80% humidity). Alternatively, an accessory cradle system is available that can accommodate a variety of vessels including flasks, bottles or beakers via four rubber securing bars. It turns the SSM1 into a very effective mini platform shaker. It will hold up to: 4 x 250ml or 2 x 500ml or 1 x 1000ml Erlenmeyer flasks or bottles. These larger vessels are held between the rubber bars. The flexible cradle system allows for different combinations of vessels offering maximum versatility.

Speed is variable from 30 to 300 rpm. Once set on the digital display, the shaking speed is effectively maintained even over long periods of time. Shaking times can be set to run from 1 second to 9 hours on the versatile timer, or the unit can be set for continuous operation.

Technical Specification

	SSM1
Platform dimensions, mm, (w x l)	220 x 220
Speed range	30 to 300rpm
Orbit diameter, mm	16
Maximum load, kg	3
Operational temperature range	+4 to +40°C
Maximum permissible humidity	80%
Dimensions, mm (w x d x h)	240 x 300 x 140
Net weight, kg	5
Electrical supply	230V, 50Hz, 50W
IP Rating	31

Ordering Information

Model	Description
SSM1	Shaker, orbital, mini
SSM1/1	Accessory cradle with 4 securing bars
SSM1/2	Large platform (holds up 8 plates) 345 x 259mm
SSM1/3	Clear Acrylic® lid

SSL1

Shaker, orbital,

This lab scale platform shaker has a powerful yet quiet shaking mechanism that has been designed for problem free continuous use.

Model SSL1 provides a smooth orbital shaking action with an orbit of 16mm and speed range of 30 to 300rpm, ideal for most culturing / aeration applications. It can be used in environmental chambers and CO2 incubators.

The cradle type platform has four rubber cushioned horizontal securing bars with quick release handles. They can be easily adjusted both vertically and horizontally to hold most sizes and types of vessel, including flasks, bottles and beakers. For example, they will accommodate the following Erlenmeyer flasks or bottles: 12 x 250ml or 9 x 500ml or 4 x 1000ml or 2 x 2000ml.

The main advantage of this cradle system is that it can accommodate different sizes of vessel, a common requirement where shakers are used by different people in the laboratory.

Speed is fully variable and is set digitally for consistency. The speed is microprocessor controlled and accurately maintained even over long runs. A versatile built in timer can be set from 1 second to 9 hours. After the timer has counted down, the shaker stops and sounds an alert. Alternatively the unit can be set for continuous operation.

A larger platform is available as an optional accessory (catalogue number SSL1/1). Designed to increase the capacity of the SSL1, the platform is 510 x 510mm with six securing bars. It will accommodate the following Erlenmeyer flasks or bottles:
30 x 250ml or 16 x 500ml or 9 x 1000ml or 4 x 2000ml.

When this platform is fitted, the maximum permissible speed is 150rpm. An optional flat platform the SSL1/2 is available if you would prefer not to use the cradle system.

Key Features

- Orbital shaking action – ideal for aeration applications
- Digital speed selection to 300rpm with soft start
- Built-in digital timer
- Reliable quiet drive mechanism
- Fully adjustable cradle system

SSL1

SSL1/1

SSL1

Shaker, orbital,

Technical Specification

Shaking action	Orbital
Platform dimensions, mm (w x l)	335 x 335
Speed range	30 to 300rpm
Orbit / amplitude, mm	16
Maximum load, kg	10
Dimensions, mm (w x d x h)	360 x 420 x 270
Operational temperature range	+4 to +40°C
Maximum permissible humidity	80%
Net weight, kg	11
Electrical supply	230V, 50Hz, 50W
IP Rating	31

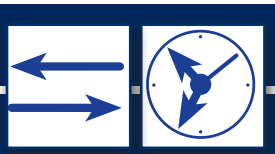
Ordering Information

Model	Description
SSL1	Shaker, orbital, lab scale
SSL1/1	Accessory platform 510 x 510mm with six rubber securing bars.
SSL1/2	Flat platform, no cradle 350 x 350mm

SSL2

SSL2

Shaker, reciprocating, lab scale



Model SSL2 has construction and control identical to SSL1 on previous pages, but with reciprocating shaking action with an amplitude of 20mm and speed range of 25 to 250 strokes / minute. It produces a rigorous side-to-side mixing action ideal for extractions etc.

Technical Specification

Shaking action	Reciprocating
Platform dimensions, mm, (w x l)	335 x 335
Speed range	25 to 250rpm
Orbit / amplitude, mm	20
Maximum load, kg	10
Operational temperature range	+4 to +40°C
Maximum permissible humidity	80%
Dimensions, mm (w x d x h)	360 x 420 x 270
Net weight, kg	11
Electrical supply	230V, 50Hz, 50W
IP Rating	31

Ordering Information

Model	Description
SSL2	Shaker, reciprocating, lab scale

SF1

Shaker, flask,

Valuable time can be taken up mixing bottles and flasks by hand. Let the SF1 take the strain. Holding up to eight flasks or bottles, up to 500ml capacity, it creates a vigorous mixing action by simulating hand shaking - especially useful for applications where prolonged shaking is required as it can be left on continuously and won't get tired!

Robust construction, mounted on four rubber feet to absorb vibration and prevent unnecessary movement on the bench. Analogue timer covers 10 to 60 minutes with a manual override. Electronic feed-back control ensures a constant speed irrespective of load. Supplied with two side arms, eight clamps and Allen key. An optional extension kit is available, catalogue number SF1/2 which consists of two extension arms and four extra clamps. It increases the capacity to twelve bottles or flasks.

Key Features

- Vigorous shaking action
- Timed operation or continuous running
- Robust construction
- Ideal for extractions

SF1

Technical Specification

Speed range	80 to 800 oscillations/min
Amplitude, mm	1.5
Dimensions, mm (w x d x h)	780 x 270 x 240
Maximum load, kg	3
Net weight, kg	8.3
Electrical supply	230V, 50Hz, 50W
IP Rating	31

Ordering Information

Model	Description
SF1	Flask shaker with two side-arms, eight clamps and Allen key
SF1/1	Spare clamp
SF1/2	2 x accessory side - arms and 4 x clamps. Allows shaker to hold up to 12 vessels