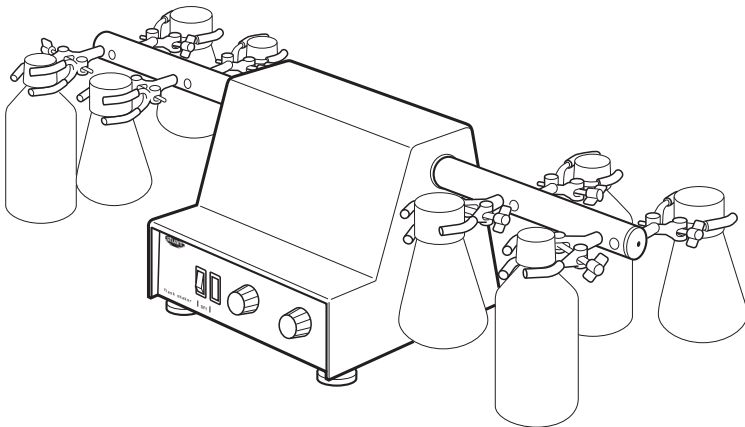




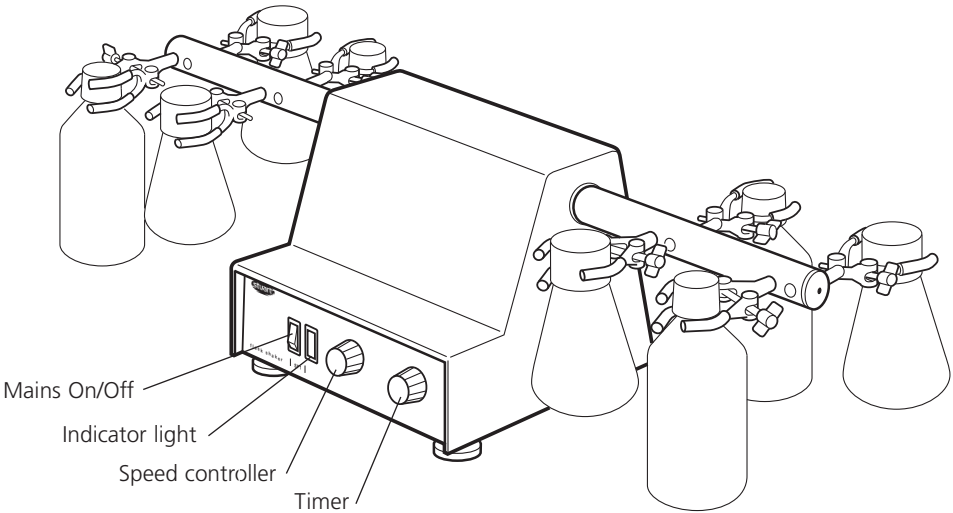
# Flask shaker

## SF1

Instructions for use  
Manuel d'utilisation  
Istruzioni per l'uso  
Instrucciones de funcionamiento  
Bedienungsanweisung



# English



## Flask shaker

SF1

### Instructions for use

## Introduction

Thank you for purchasing this piece of Stuart equipment. To get the best performance from the equipment and for your own safety, please read these instructions carefully before use. Before discarding the packaging check that all parts are present and correct.

This equipment is designed to operate under the following conditions:

- ❖ For indoor use only
- ❖ Use in a well ventilated area
- ❖ Ambient temperature range +5°C to +40°C
- ❖ Altitude to 2000m
- ❖ Relative humidity not exceeding 80%
- ❖ Mains supply fluctuation not exceeding 10%
- ❖ Over-voltage category II IEC60364-4-443
- ❖ Pollution degree 2

If the equipment is not used in the manner described in this manual and with accessories other than those recommended by Stuart, the protection provided may be impaired.

# Electrical Installation



**THIS EQUIPMENT MUST BE EARTHED**

**Before connection please ensure that the line supply corresponds to that shown on the rating plate.**

Model	Supply requirements	Power
SF1	230V, 50Hz	50W

All models are supplied with two mains leads fitted with IEC plugs for connection to the instrument. One has a U.K. 3 pin plug and the other has a 2 pin "Shuko" plug for connection to the mains. Choose the lead appropriate for your electrical installation and discard the other. Should neither lead be suitable, take the lead with the U.K. plug and replace the plug with a suitable alternative. This involves cutting off the moulded plug, preparing the cable and connecting to the re-wireable plug in accordance with its instructions.

## **THIS OPERATION SHOULD ONLY BE UNDERTAKEN BY A QUALIFIED ELECTRICIAN**

**NOTE:** Refer to the equipment's rating plate to ensure that the plug and fusing are suitable for the voltage and wattage stated.

The wires in the mains cable are coloured as follows:

BROWN - LIVE  
BLUE - NEUTRAL  
GREEN/YELLOW - EARTH

The instruments are fitted with an IEC socket at the rear of the instrument for connection of the mains lead. The appropriate mains lead should be connected **BEFORE** connection to the mains supply.

Should the mains lead need replacement, a cable of 1mm<sup>2</sup> of harmonised code H05W-F connected to an IEC320 plug should be used.

## **IF IN DOUBT CONSULT A QUALIFIED ELECTRICIAN**

# Safety Advice Before Use

- ❖ The unit should be carried with both hands, with fingers under each side of the frame.
- ❖ Never move or carry the unit while it is in use or connected to the mains supply.
- ❖ There is a danger of liquid spillage and splashing if containers are over-filled and shaken at high speed. Always build the shaking speed up slowly and never shake more rapidly than necessary.
- ❖ Ensure the load is balanced.

# General Description

The SF1 flask shaker comprises two side arms each with four clamps capable of holding bottles or flasks up to 500ml capacity. The vigorous mixing action simulates hand shaking and this motion is controllable between 80 and 800 oscillations per minute. The speed is controlled by a soft start feedback controller to avoid splashing on start up and give constant speed, irrespective of load.

There is a built-in analogue timer that can be set from 10 to 60 minutes, which automatically turns the unit off once it has counted down. There is also a manual control position for continuous operation.

Accessory side arms are available to increase the capacity to twelve bottles or flasks.

# Controls

Refer to Figure 1 to identify the controls.

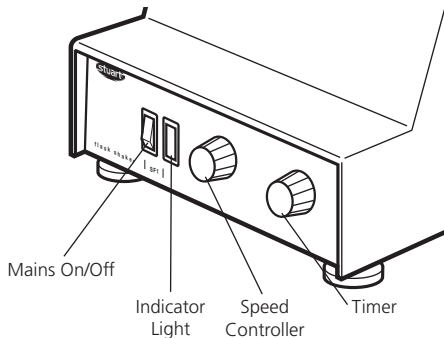


Figure 1: SF1 controls.

**Mains On/Off:** This is a rocker-type switch. Pressing the top switches the unit on and pressing the bottom switches the unit off. The switch is illuminated when the unit is on.

**Indicator light:** An amber LED illuminates when the unit is in operation.

**Speed controller:** This knob controls the speed of shaking. Turning it to the right switches the motor on and increases the shaking speed. Turning it to the left decreases the shaking speed and switches the motor off. A scale is printed around the knob as a speed guide.

**Timer:** Turning this knob to the right starts the timer. A scale in minutes is printed around the knob as a guide. Turning to the left engages continuous operation.

## Assembly

1. Fit the shaker arms into the drive shafts and tighten the grub screws with the Allen key provided.
2. Position each clamp into place ensuring they are horizontal and tighten the securing screws.

## Operation

1. Position the apparatus on a firm, level surface ensuring the shaker arms are free to move.
2. Fit the flasks to be shaken into the jaws of the clamps and tighten the grip.
3. Ensure the speed controller and timer knobs are fully to the left and turn the mains switch ON. The indicator light should be lit.
4. Turn the timer knob to the required shaking time. Then turn the speed controller to the right until the desired shaking speed is observed.

## Maintenance & Servicing



**WARNING: Ensure the unit is disconnected from the mains electricity supply before attempting maintenance or servicing.**

Periodically clean the instrument using a damp cloth and mild detergent solution. Do not use harsh or abrasive cleaning agents.

**Any repairs or replacement of parts MUST be undertaken by suitably qualified personnel.**

For a comprehensive list of parts required by service engineers conducting internal repairs, please contact the Service Department, quoting both the model number and serial number:

E-mail: [service@bibby-scientific.com](mailto:service@bibby-scientific.com)

Tel: +44 (0)1785 810475

Fax: +44 (0)1785 810471

Only spare parts supplied or specified by Stuart or its agents should be used. Fitting of non-approved parts may affect the performance of the safety features designed into the instrument. If in any doubt, please contact the Service Department of Bibby Scientific Ltd. or the point of sale.

For any other technical enquiries, please contact the Technical Support Department:

E-mail: [stuarthelp@bibby-scientific.com](mailto:stuarthelp@bibby-scientific.com)

Tel: +44 (0)1785 810433.

## Spares and Accessories

Description	Catalogue Number
Spare clamp	SF1/1
Accessory side arms x 2 with 4 clamps	SF1/2
Allen key	N10016
Fuse 3.15AL	ESF1C11(S)

# Warranty

Stuart warrants this equipment to be free from defects in material and workmanship, when used under normal laboratory conditions, for a period of **three (3)** years. In the event of a justified claim, Stuart will replace any defective component or replace the unit free of charge. This warranty does NOT apply if damage is caused by fire, accident, misuse, neglect, incorrect adjustment or repair, damage caused by installation, adaptation, modification, fitting of non-approved parts or repair by unauthorised personnel.

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[www.stuart-equipment.com](http://www.stuart-equipment.com)

# Technical Specification

## SF1

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

# Declaration of Conformity

## Flask Shaker, Model SF1

This product complies with the requirements of the EU Directives listed below:

**2004/108/EC**      **EMC Directive.**  
**2006/95/EC**      **Low voltage Directive (LVD)**

Compliance with the requirements of these Directives is claimed by meeting the following standards:

**EN 61326-1:2006 (Electrical Equipment for Measurement, Control and Laboratory use).**  
**EN 61010-1: 2001**  
**(Safety Requirements Electrical Equipment for Measurement, Control and Laboratory use)**  
**EN61010-2-051: 2003 (Particular Requirements for Laboratory Equipment for Mixing and Stirring)**

Compliance Certificates and Full Reports.

Ref: RETS0287/37 and RETS0287/38

The above certificates and reports, from a independent test house, are available upon request.

**CE mark affixed '02.**

Signed:  (Mr C. Warren)

Date: JUNE 2009

Authority: Technical Manager  
Bibby Scientific Ltd

# INSPECTION REPORT

MODEL SF1

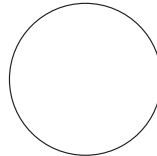
## ELECTRICAL SAFETY

- 1. Earth continuity
- 2. Insulation
- 3. Flash test

## FUNCTIONAL

- 1. Indicators
- 2. Speed/Timer control
- 3. Visual acceptance

**QUALITY CONTROL INSPECTOR**



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