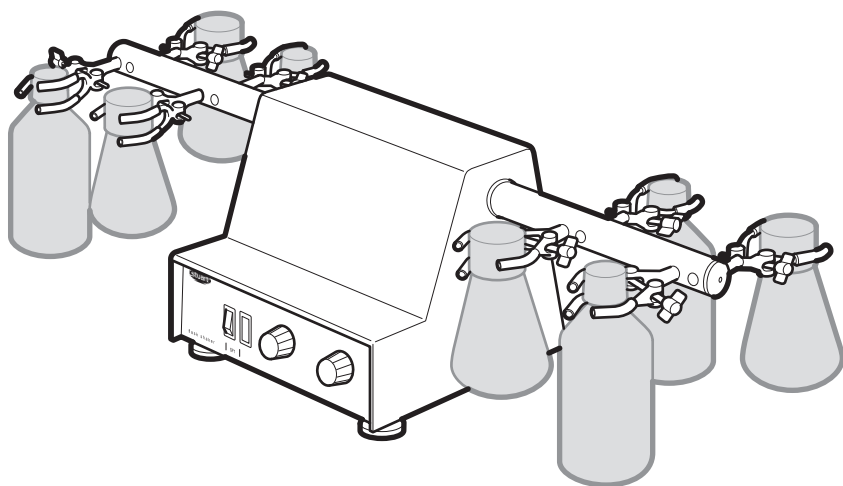


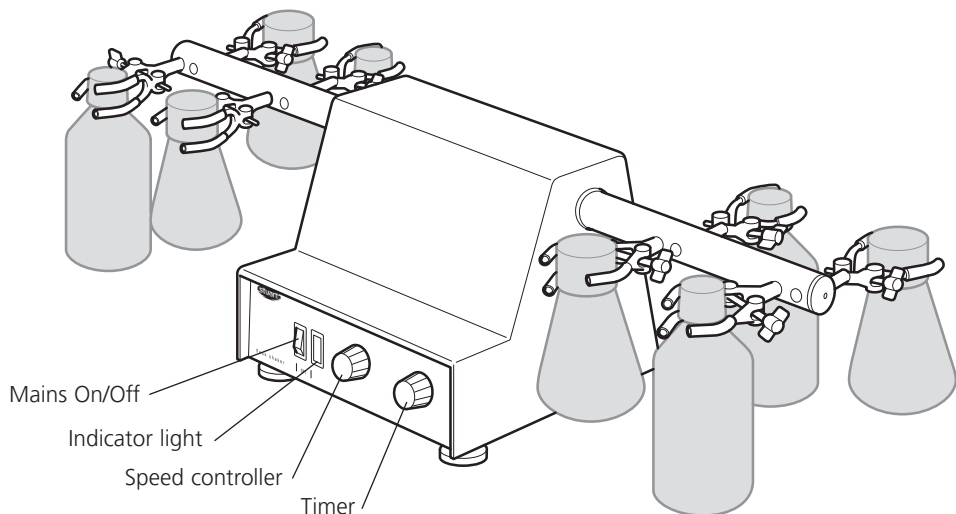


Flask Shaker
SF1



Instruction Manual

Version 2.2



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 “Schuko” 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 1mm² 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.
- ❖ Do not mix flammable liquids or use the equipment in hazardous atmospheres.
- ❖ In case of mains interruption, a fault or mechanical failure, the unit will continue to operate on removal of fault.
- ❖ Mechanical energy can lead to breakage of glass vessels. Use with care.
- ❖ Do not position the unit such that it is difficult to disconnect it from the mains by removing the mains cable from the socket at the back.

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.

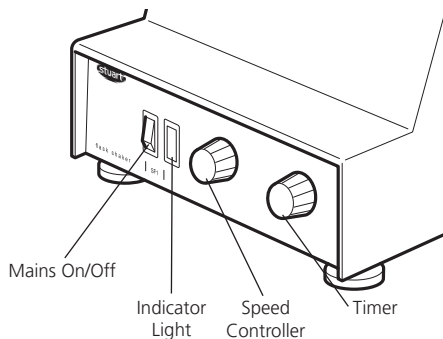


Figure 1: SF1 controls.

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:

Email: cpservice@coleparmer.com
Tel: +44 (0)1785 810475

Only spare parts supplied or specified by Cole-Parmer 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 Cole-Parmer or the point of sale.

For any other technical enquiries, please contact the Technical Support Department:
Email: cptechsupport@coleparmer.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

Cole-Parmer Ltd. 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, Cole-Parmer 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.

Cole-Parmer Ltd,
Beacon Road,
Stone,
Staffordshire,
ST15 0SA,
United Kingdom
Email: cpservice@coleparmer.com
Tel: +44 (0)1785 810475
Web: 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

Notes



This product meets the applicable harmonized standards for radio frequency interference and may be expected not to interfere with, or be affected by, other equipment with similar qualifications. We cannot be sure that other equipment used in its vicinity will meet these standards

and so we cannot guarantee that interference will not occur in practice. Where there is a possibility that injury, damage or loss might occur if equipment malfunctions due to radio frequency interference, or for general advice before use, contact the manufacturer.



EU Declaration of Conformity

Product	Laboratory Equipment	File Number	P225
Manufacturer	Cole-Parmer Ltd Beacon Road Stone, Staffordshire ST15 0SA United Kingdom		

This declaration of conformity is issued under the sole responsibility of the manufacturer

Object of Declaration Flask Shaker
(reference the attached list of catalogue numbers)

The object of the declaration described above is in conformity with the relevant Union Harmonisation Legislation:

Low Voltage Directive	2006/95/EC	(until 19 April 2016)
	2014/35/EU	(from 20 April 2016)
EMC Directive	2004/108/EC	
RoHS Directive	2011/65/EC	

References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared:

IEC/EN 61010-1:2010	Safety requirements for electrical equipment for measurement, control and laboratory use. Part 1: General requirements.
IEC/EN 61010-2-051:2015	Particular requirements for laboratory equipment for mixing and stirring.
IEC/EN 61326-1:2006	Electrical equipment for measurement, control and laboratory use. EMC requirements. Part 1: General requirements (Class A).

Signed for and on behalf of the above manufacturer

Additional Information	Year of CE Marking: 2002
Place of Issue	Stone, Staffordshire, UK
Date of Issue	June 2009. Revised 06 February 2017
Authorised Representative	Carl Warren
Title	Technical Manager
Signature	

INSPECTION REPORT

MODEL _____

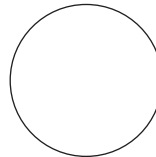
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| 2. Insulation | <input checked="" type="checkbox"/> |
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FUNCTIONAL

- | | |
|------------------------|-------------------------------------|
| 1. Indicators | <input checked="" type="checkbox"/> |
| 2. Speed/Timer control | <input checked="" type="checkbox"/> |
| 3. Visual acceptance | <input checked="" type="checkbox"/> |

QUALITY CONTROL INSPECTOR



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