

stuart[®]

Microcentrifuge 8500

Operator's Manual



 **Cole-Parmer**[®]
scientific experts



Product Description

Thank you for your purchase of the Stuart Microcentrifuge. This centrifuge has been designed for applications requiring relatively low g-force, such as microfiltration, separation or quick spin downs of samples. The product is supplied with an 8-Place rotor for 0.5 – 2.0 mL tubes, a 4-Place PCR rotor that can hold 8 PCR strips and 8, 0.5, tube adapters.

Package Contents

- **Stuart Microcentrifuge: 1 Unit**
Cole-Parmer Cat. No.: 17414-70
Stuart Cat. No.: SCF4
- **8-Place Rotor for 0.5 - 2.0mL Tubes: 1 Each**
Cole-Parmer Cat. No.: 17414-71
Stuart Cat. No.: SCF4/1
- **4-Place, 8 Strip PCR Rotor: 1 Each**
Cole-Parmer Cat. No.: 17414-72
Stuart Cat. No.: SCF4/2
- **0.5mL Tube Adapters (8 each): 1 Pack**
Cole-Parmer Cat. No.: 17414-73
Stuart Cat. No.: SCF4/V05
- **Power Cord: 1 US, 1 EU, 1 UK**
- **Operator's Manual: 1 each**

Specifications

Catalog Numbers	17414-70, SCF4
Maximum speed	8500 rpm
Maximum G-Force (RCF)	3884
Capacity	8-place rotor for 0.5 – 2.0 mL tubes; 4-place, 8-strip PCR rotor for 0.2 mL tubes
Electrical	100-240 VAC, 50/60 Hz, 1 A Maximum
Dimensions	7.8 x 7.3 x 4.3 in / 198 x 185 x 109 mm
Weight	2.75 lbs / 1.25 kg
Fuse	Type: 5x20 mm SLO-BLOW 0.6 A /250 V for 200-265 VAC Operation 1.0 A/250 V for 85-160 VAC Operation
Noise level (without tubes)	<= 60 Db measured at 1 meter from centrifuge

Operating Conditions

Ambient conditions	Indoor use only, in well ventilated area
Temperature range	5°C to 40°C
Relative Humidity	10% to 80% (no condensation)
Altitude	0 to 2,000 meters
Power supply	Fluctuation not to exceed 10%
Power supply overvoltage	Category II
Environment rating	Pollution Degree 2

Maintenance, Care and Safety Precautions



Important Safety Information









Please read the following safety precautions and instruction manual before operating the Stuart Microcentrifuge.

- NEVER use the Microcentrifuge in a manner not specified in these instructions.
- NEVER use solvents or flammable liquids in or near this equipment.
- NEVER operate in a hazardous or flammable environment.
- NEVER use solvents on the unit that may attack plastic or cause cracks in the rotor.
- NEVER centrifuge materials that in combination or alone are flammable, explosive, are corrosive or that may cause any other hazard or damage this equipment.
- NEVER use materials with a density greater than 1.2g/cm, as this unit is not intended to centrifuge very dense materials.
- NEVER immerse the Microcentrifuge in water.
- NEVER move the Microcentrifuge while the unit is in operation.
- NEVER operate the Microcentrifuge with the lid open or removed.
- NEVER fill tubes while they are in the rotor; liquid spills will cause damage to the Microcentrifuge.
- NEVER operate the Microcentrifuge unless the rotor is firmly attached, the tubes are securely closed and the rotor is balanced.
- NEVER use damaged or cracked rotors.
- NEVER insert non standard tubes or other foreign articles into the rotor.
- NEVER put hand or any object in the rotor area unless the rotor has completely stopped.
- Always only use microcentrifuge tubes and tube strips made from plastic designed to withstand centrifuged forces of at least 3884 g's (RCF).
- Always only use original rotors, power cord, tube adapters and any other spare parts and accessories supplied by the centrifuge manufacturer.
- Always remove the power cord from the outlet prior to maintaining or cleaning the Microcentrifuge.
- Always observe general laboratory safety precautions and regulations when using this product.
- Always use the proper cleaning agents when performing maintenance on the Microcentrifuge.
- Always clean the rotor with a pH-neutral cleaning liquid to ensure the rotor, housing, lid and lid latches are protected from corrosion and/or mechanical damage.
- Always follow all safety measures from the Safety Data Sheet (SDS) for any reagent you use with/within the Microcentrifuge.
- Before using any cleaning or decontamination methods, except those recommended in this manual, please contact Cole-Parmer to ensure that the proposed method will not damage the equipment.
- If a single level of hazard protection is required, use containers that are tested to Risk Group II or above and, that more than one level of protection is provided for materials of a higher Risk Group.
- If a hazardous material is spilled in and/or on the product, the user has the responsibility for carrying out appropriate decontamination.
- The Microcentrifuge is intended to be used indoors (only).

Maintenance, Care and Safety Precautions

- Store the Microcentrifuge in a dry area at room temperature. Do not expose to moisture, sunlight, or excessive temperatures for extended periods of time.
- The Microcentrifuge is designed for separating aqueous solutions in specific tubes that are compatible with the G-Force (RCF) of this particular unit.
- Always work and handle this product and/or materials in a manner that DOES NOT endanger the user, any other person(s) or the environment.

	WARNING! This product does not contain bio-seals as per IEC/EN/CSA 61010-2-20 nor does it provide any level of containment in the event of a release and/or spill of radioactive, toxic, or pathogenic micro-organisms; therefore these types of materials are not recommended for use in this product.	
	WARNING! Reference Safety Data Sheet (SDS), wear essential protective equipment and adhere to all applicable local and national regulations before dispensing and/or disposing of hazardous substances.	
	WARNING! Your laboratory protocol must state that no person(s) and/or hazardous substance(s) should be within 12" (30 cm) of this centrifuge during operation.	

SYMBOLS DEFINED



WARNING



RISK OF
ELECTRIC SHOCK



EARTH

Electrical Requirements



THIS INSTRUMENT MUST BE GROUNDED

Before connection please ensure that the line supply corresponds to the power requirements below:

Power: 36W

Supply requirements: 100 - 240 VAC, 50/60Hz

The unit is provided with a power adaptor and three power cables: a UK 3-pin and a "EU" 2-pin plug for 230 V installations and a US plug for 120 V installations.

Choose power cable appropriate for your electrical installation and discard the others. Should none of the cables be suitable for connecting to the power supply, replace the plug with a suitable alternative.

OPERATION SHOULD ONLY BE UNDERTAKEN BY A QUALIFIED ELECTRICIAN.

NOTE: Refer to the equipment rating plate to ensure that the plug and fusing are suitable for the voltage and wattage stated. The wires in the power cable are as follows:

230V

BROWN - HOT/LIVE

BLUE - NEUTRAL

GREEN/YELLOW - EARTH

120V

BLACK - HOT/LIVE

WHITE - NEUTRAL

GREEN - EARTH

The appropriate power cable should be connected to the instrument BEFORE connection to the electrical outlet. Should the power cable require replacement, a cable of .75 mm² (AWG18) of harmonized code H05VV-F connected to an IEC320-C13 plug should be used.



IF IN DOUBT CONSULT A QUALIFIED ELECTRICIAN

Operating Instructions

1. Remove the Microcentrifuge from the box and examine all of the contents for breakage or missing parts. Save all packaging and paperwork.
2. Place the Microcentrifuge on a flat, stable surface. The unit should be placed in a non-hazardous environment and located near an electrical outlet.
3. With the power switch in the off position, attach the power cord to the back of the Microcentrifuge and to the grounded electrical outlet.
4. Turn the power switch to the "ON" position. The Microcentrifuge will automatically perform a safety check on the locking mechanism. Open the lid by pressing the illuminated button located on the front of the unit.
5. Insert your pre-loaded sample tubes into the rotor. Make sure all tubes are filled to equal levels and the lids are closed. Tubes must be balanced properly.
6. Close the lid and the Microcentrifuge will begin the centrifugation cycle. **IMPORTANT:** If there are loud / unusual sounds or excessive vibrations discontinue operation immediately. See the Troubleshooting section in this manual. If you cannot correct the problem, contact Cole-Parmer for assistance. **DO NOT CONTINUE TO OPERATE!**
7. When centrifugation is completed, once again, press the illuminated button on the front of unit to stop the spin cycle motor and open the lid. Do not open lid until rotor comes to a complete stop! Remove your samples from the rotor.
8. The Microcentrifuge lid is secured by two locking pins that prevents accidental lid opening during operation and greater safety for the operator. When the Centrifuge has completed the spin cycle, an automatic lid unlock will occur. If the lid does not open, press and hold the button on the front of the unit for one full second, the Centrifuge will unlock the lid again. Should the lid fail to open by pressing the front button or in the event that the power to the Microcentrifuge is interrupted, the Microcentrifuge lid can also be opened manually by inserting a flat head screw driver into the bottom of the unit and moving the release lever to the right. This will release the pins and allow the lid to open. See Figure 1, page 6.
9. The Microcentrifuge has been designed with an automatic shut-off feature that discontinues operation after 60 minutes of continuous use. This will prevent the unit from running continuously if left unattended.



CAUTION: Spin Balanced Loads Only



For proper operation, samples must always be loaded into the rotors in a balanced fashion. The tubes should be filled to the same level, lids closed and placed opposite each other in the rotor. Tubes and strips must always be loaded symmetrically.



CAUTION: Do Not Open Lid Until Rotor has Completely Stopped



Rotor Installation and Replacement


The Microcentrifuge features snap on rotors that can be installed and removed without an Allen wrench. There are no set screws to tighten or loosen.

1. Make sure the Microcentrifuge's On/Off switch is in the "Off" position.
2. Line triangular opening on the rotor with the rotor shaft and press down until the rotor snaps in place. Pull up on the rotor to remove.
3. Turn the unit back to the "On" position, load tubes per the operating instructions and close the lid to begin centrifugation.

Maintenance & Cleaning



CAUTION: Disconnect the Microcentrifuge from the power outlet before cleaning. Never pour liquid into the unit or submerge in water



The Microcentrifuge is maintenance free other than occasional cleaning. There are no user serviceable parts inside the housing other than replacing the fuse.

- To replace the fuse, make sure the On/Off switch is in the "Off" position, place the unit on its side and insert a flat head screw driver into the fuse holder found on the base and turn counter-clockwise until the fuse is released. Replace the fuse. Reposition the fuse holder and turn clockwise until fuse holder is secure, be careful not to over-tighten. Return the switch to the "On" position and begin operation.
- To clean, remove the rotors and clean with isopropyl alcohol. The housing and lid can be cleaned with a damp cloth and a mild non-corrosive detergent.
- After cleaning, ensure all parts are dried thoroughly before attempting to operate the unit.

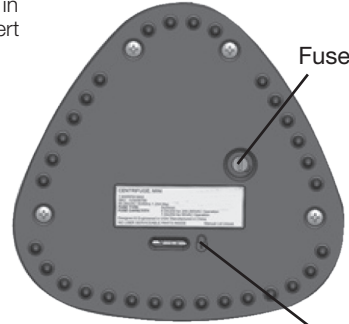


Figure 1

Manual lid release

Troubleshooting

Error	Cause	Solution
Unit does not operate	Loose cord.	Check cord.
	On/Off switch.	Turn switch to "On" position.
	Lid not closed.	Close lid until it clicks and locks in place.
	Blown fuse.	Replace fuse.
Excessive noise or vibration	Rotor not balanced.	Check tube fluid levels and symmetry.
	Rotor not installed properly.	Remove & reinstall rotor per above instructions.
	Foreign object in unit.	Check centrifuge bowl for loose tubes or objects.
Lid will not open when button is pressed	Power is off.	See above.
		Open lid manually.
Unit stops running without pressing front button	Loose cord.	Check cord.
	Lid not completely closed.	Close lid until both pins are locked.
	60-minute time limit expired.	Centrifugation cycle is complete.



Warranty Information

Microcentrifuge 2 Year Warranty

Microcentrifuge is warranted to be free of defects in materials and workmanship for 24 months from the date of purchase, providing that:

- The unit has not been opened or attempted to be opened by the end user.
- The user ensures that it has been carefully cleaned and decontaminated before returning.
- The unit has been operated according to the instructions and not in any improper way.
- The unit has not been damaged due to negligence, accident or used under abnormal conditions (temperature, corrosives, unbalanced rotors, lack of cleaning, liquid introduced into housing).
- Normal wear and tear of unit.

In order to qualify for the warranty repair; the customer must submit all warranty information required to validate proof of purchase. Visit **ColeParmer.com/product-warranty-registration** to submit information.

Should warranty service be required, repair or replacement will be provided by Cole-Parmer without charge. Freight to ship the unit to Cole-Parmer will be the responsibility of the purchaser. There are no other warranties or guarantees, implied or otherwise expressed including any warranties of application or merchantability.

In no event will this warranty obligation exceed price of product. This includes liability claims of loss of use, lost profits or any exemplary or punitive damages.

Repair

Should your Stuart Microcentrifuge require service or repair, please contact Cole-Parmer customer service. They will issue a return authorization number and advise on the proper packaging and method of shipment.

Cole-Parmer USA
 1-800-323-4340
 1-847-549-7600

Cole-Parmer UK
 +44 (0) 1785 812 121

Please include your return authorization number on the shipping label.



This equipment is labeled with the crossed out wheeled bin symbol to indicate that the equipment must not be disposed of with unsorted waste. It is your responsibility to correctly dispose of the equipment by handing it over to an authorized facility for separate collection and recycling. It is also your responsibility to decontaminate the equipment in case of biological, chemical or radioactive contamination. so as to protect from health hazards the persons involved in the disposal or recycling of products.



For more information about where you can drop off your waste equipment, please contact your local dealer from whom you originally purchased the product.

By doing so, you will help to conserve our natural resources and you will ensure that your waste products are recycled in a matter that protects human health and protects the environment.

Thank you.





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.

stuart®		Cole-Parmer®
EU Declaration of Conformity		
Product	Laboratory Equipment	
Manufacturer	Cole-Parmer 625 East Bunker Court Vernon Hills IL 60061 USA	
This declaration of conformity is issued under the sole responsibility of the manufacturer		
Object of Declaration	Microcentrifuge 8500, SCF4 <i>(reference the attached list of catalogue numbers)</i>	
<i>The object of the declaration described above is in conformity with the relevant Union Harmonisation Legislation:</i>		
Low Voltage Directive	2014/35/EU	
EMC Directive	2014/30/EU	
RoHS Directive	2011/65/EC	
<i>References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared:</i>		
IEC/EN 61010-1:2010	Safety requirements for electrical equipment for measurement, control and laboratory use. Part 1: General requirements.	
IEC/EN 61010-2-020:2016	Particular requirements for laboratory centrifuges.	
IEC/EN 61326-1:2013	Electrical equipment for measurement, control and laboratory use. EMC requirements. Part 1: General requirements.	
Signed for and on behalf of the above manufacturer		
Additional Information	Year of CE Marking: 2018	
Place of Issue	Vernon Hills, IL, USA	
Date of Issue	December 20, 2018	
Authorised Representative	Pete Hadjis	
Title	CPVH Product Development Manager	
Signature		

Cole-Parmer

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