

Centry™ 117 Microcentrifuge

User's Guide

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Introduction

The CENTRY™ 117 Microcentrifuge is a compact, touchscreen, benchtop microcentrifuge designed for separation of various research samples. The motor is brushless and requires no routine maintenance. The microcentrifuge is supplied with a COMBI-Rotor™ for 24 microtubes (1.5–2.0 mL) and two PCR-strips for micro volume samples. Adapters are available for tubes smaller than 1.5 mL. The microcentrifuge reaches speeds of up to 13,500 rpm / 16,800 x g.

Specifications

CENTRY™ 117 MICROCENTRIFUGE	
Dimensions (W x D x H)	22.86 x 30.48 x 19.7 cm / 9 x 12 x 7.75 in.
Maximum Speed	13,500 rpm
Maximum RCF	16,800 x g
Maximum Volume	1.5–2.0 mL (24 microtubes)
Admissible Sample Density	1.2 kg/dm ³
Electrical	120V / 50-60Hz / 1.3A / 2.5 AT 230V / 50-60Hz / 0.7A / 1.25 AT
Operating Temperature	4°C to 35°C / 80%RH
Warranty	2 years
Angle COMBI-Rotor for 1.5 mL Tubes (Qty 24)	
Tube Measurement	1.5 mL / 2.0 mL (10 x 40 mm)
Maximum Speed	13,500 rpm
Centrifuging radius	8.23 cm
Maximum Speed and Maximum RCF (g-value)	16,800 x g

General Safety Precautions

All users of the CENTRY 117 Microcentrifuge must read the General Safety Precautions of this manual before attempting to operate the unit!

If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Do not operate the CENTRY 117 Microcentrifuge if any of the following conditions exist:

The microcentrifuge has not been installed properly.

The microcentrifuge is partially dismantled.

Service has been attempted by unauthorized or unqualified personnel.

The rotor has not been installed securely on the motor shaft.



Rotors and accessories not belonging to the standard range are being used without permission being obtained from the manufacturer to use such rotors and/or accessories in the microcentrifuge.

Exception: microcentrifuge tubes made of plastic, normally available in the laboratory.

The microcentrifuge is located in an explosive atmosphere.

Materials to be centrifuged are combustible and/or explosive.

Materials to be centrifuged are chemically reactive.

The rotor load is not properly balanced.

Installation

Unpacking

Before unpacking the CENTRY 117 Microcentrifuge, inspect the outside of the carton for any shipping damage. The CENTRY 117 Microcentrifuge is delivered in a carton with protective foam cushioning.

1. Remove the CENTRY 117 Microcentrifuge from the carton.
2. Retain the carton and cushioning until it has been established that the CENTRY 117 Microcentrifuge is working.

NOTE

Shipping damage is the responsibility of the transportation carrier. Any claims for damage must be filed within 48 hours with the carrier.

The accessories and instruction manual supplied with the CENTRY 117 Microcentrifuge should be kept with the near its place of installation.

Installation Site Requirements

The CENTRY 117 Microcentrifuge should be installed on a rigid, even surface such as a stable laboratory bench, countertop, etc. To guarantee sufficient ventilation, ensure that the microcentrifuge has at least 15 cm (6 inches) of free space on all sides, including the rear.

NOTICE

The CENTRY 117 Microcentrifuge should not be located in areas subject to excessive heat such as in direct sunlight or near radiators or the exhaust of a compressor, as a buildup of heat may occur within the chamber.

Operation

Before operating the CENTRY 117 Microcentrifuge:

1. Check that the power source (electrical outlet on the wall) corresponds to that on the manufacturer's rating label.
2. Connect the power cord to the CENTRY 117 Microcentrifuge and the power source.

⚠ WARNING

Never attempt to operate the CENTRY 117 Microcentrifuge with rotors or adapters that show signs of corrosion or mechanical damage.

Never centrifuge strongly corrosive materials that may damage the rotors, accessories, or bowl of the unit.

Attach Rotor Lid

After the rotor has been properly secured and loaded, attach the rotor lid to the rotor. Always use the rotor lid for safety and to allow the rotor to reach proper speed. Make sure that the rotor lid snaps securely into place.

NOTE

The CENTRY 117 Microcentrifuge locks when closed and the start button is pressed.

Lid Lock

The lid will remain locked during a centrifuge run. Once the run has been completed and the rotor has come to a stop, a beep will indicate the end of a run, and the lid will unlock automatically.

⚠ WARNING

Do not attempt to open the lid of the CENTRY 117 Microcentrifuge until the rotor has come to a complete stop.

Manual Lid Release

In the event of a power failure or malfunction, it may be necessary to open the lid manually.

1. Disconnect the power cord from the wall socket.
2. Remove the plastic plug, located on the left side of the unit.
3. Pull the wire (attached to the plug) to open the lid lock manually.



Do not attempt to override the lid lock mechanism.
Doing so is dangerous and could damage the CENTRY 117 Microcentrifuge.

Speed Selection

The speed (rpm or g-force) can be selected from 1,000 to 13,500 rpm or from 100 to 16,800 x g by touching the speed display and adjusting with the up and down arrow buttons. Display of rpm/rcf can be toggled with the rPM/RCF button on the display.

Load the Rotor

Tubes to be loaded should be filled equally by eye. The difference in the weight between the tubes should not exceed 0.1 gram. Tubes should always be loaded so that there is equal spacing between all tubes. One or two additional loaded tubes may need to be added to achieve this.



Figure 1
MyTouch™ Control Panel Layout



Figure 2
Balanced Rotor Load



Figure 3
Incorrect Rotor Load

Start a Timed Run

Operating time can be selected from 0 min to 99 min by pressing the **Set Time** button and adjusting with the up and down arrow buttons. Setting the time at 0 will put the MyTouch™ in continuous run. In this mode, the CENTRY 117 Microcentrifuge will run until manually stopped.

To start a run, press the **Start/Stop** button.

When the preselected time expires, the CENTRY 117 Microcentrifuge will stop automatically.

Start/Stop a Manual Run

The CENTRY 117 Microcentrifuge may be operated for a short run by pressing and holding the **Start/Stop** button. The microcentrifuge will continue to run as long as the button is held down.

Stop a Run

To stop the CENTRY 117 Microcentrifuge prior to the expiration of set time, press the **Start/Stop** button.

Maintenance

Rotor Maintenance

The rotor should be cleaned regularly. Thorough cleaning must be performed when spinning samples containing phenol or phenol chloroform. Periodically inspect the rotor for dents, dings, scratches, discoloration, and cracks. If any damage to the rotor is found, discontinue use of the rotor immediately and replace.

ROTOR REMOVAL

The rotor can be removed for cleaning.

1. Remove the rotor securing screw from the motor shaft by turning the screw counterclockwise, using the rotor wrench.
2. Lift the rotor directly upward in a straight vertical motion.

ROTOR INSTALLATION

1. Make sure that the motor shaft and rotor mounting hole are clean.
2. Place the rotor on the motor shaft.
3. Reinstall the rotor securing screw on the motor shaft by turning it clockwise.
4. Hold the rotor with one hand and tighten the rotor securing screw, using the rotor wrench.

PCR HOLDER REMOVAL

Locate the tabs on each of the two holders and pull them inward towards the center of the rotor using a pair of pliers.

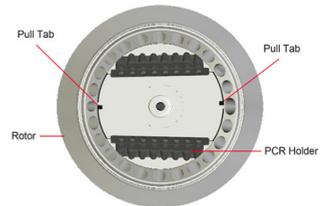


Figure 4
PCR Holders

PCR HOLDER INSTALLATION

When reinstalling the PCR holders, always ensure that both holders are installed and that the arms of each holder rest firmly against the body of the rotor (not overlapping the arm of the opposite PCR holder.)

Cleaning

The brushless motor in the microcentrifuge requires no routine maintenance. Any required service should be performed by authorized, qualified personnel only. Repairs performed by unauthorized personnel may void the warranty.

NOTE

Always keep the CENTRY 117 Microcentrifuge housing, rotor chamber, rotor, and rotor accessories clean. All parts should be wiped down periodically with a soft cloth. For more thorough cleaning, use a neutral cleaning agent (pH between 6 and 8) applied with a soft cloth.

Excessive amounts of liquid should be avoided. Liquid should not come into contact with the motor. After cleaning, ensure that all parts are dried thoroughly by hand or in a warm air cabinet (maximum temperature 50°C).

The rotor should be cleaned regularly. When spinning samples containing phenol or phenol chloroform, the rotor should be cleaned immediately after use.

DISINFECTION

Should a spill of infectious materials occur within the rotor or chamber, the unit should be disinfected. This should be performed by qualified personnel with proper protective equipment.

Replace Fuses

Check the fuse when recommended (refer to [Troubleshooting on page 13](#)).

1. Disconnect the power cord from the power inlet.
2. Locate the fuse holder in the power inlet on the rear panel.
3. Open the fuse holder drawer by inserting a small screwdriver under the tab and prying it open.
4. Remove the innermost (operative) fuse from its retaining tabs and replace the fuse if necessary.

NOTE

A spare fuse is located in the outermost chamber of the fuse drawer.

Replace only with a fuse of exactly the same value as the original.

Fuse type may be found in the Specifications section of this manual.

Troubleshooting

Overloading Rotors

The maximum load of the rotor and the maximum speed have been established by the manufacturer.



Do not attempt to exceed the maximum load and maximum speed as established by the manufacturer.

The maximum speed of the rotor has been established for liquids having a homogeneous density of 1.2 g/mL or less. In order to centrifuge liquids with a higher density it is necessary to reduce the speed. Failure to reduce the speed may result in damage to the rotor and microcentrifuge. The revised maximum speed can be calculated with the following formula:

$$\text{Reduced speed } (n_{\text{red}}) = \sqrt{\frac{1.2}{\text{Higher density value}}} \times \text{max speed } (n_{\text{max}})$$

SYMPTOM	POSSIBLE CAUSE	SOLUTION
CENTRY 117 Microcentrifuge will not start	No power supply	Check that power is being supplied to the outlet
		Check that the power cord is plugged into both the wall outlet and the back of the centrifuge
		Check that power cord is not damaged
	Blown fuse	Check fuse and replace if necessary

TROUBLESHOOTING (CONTINUED ON PAGE 14)

Lid lock will not release	Defective lid lock	Open manually and have unit serviced
	No power from PC board	Call for service
	Lid lock is jammed	Call for service
	Microcentrifuge is not receiving power	See CENTRY 117 Microcentrifuge will not start on page 13
Microcentrifuge cannot be started, although power is on	Lid not closed correctly	Close lid correctly
	No speed or time has been selected	Set speed and/or time

ERROR#	LABEL	CAUSE
1	Lid Open	Trying to start when lid is open
2	Lid Unlock	Trying start when lid lock not able to lock
3	Lid Stuck	At stop, lid will not open and is “stuck”
4	Motor Stall	Motor is not spinning
5	OV/UV/OC	Over voltage, under voltage, or over current
6	Motor Imbalance	Motor spinning imbalance
7	COMM. Error	Display could not communicate with power board, cable is bad or not connected, or noise issue
8	Over Temperature	Output stage temperature is too high

Ordering Information

PART NUMBER	DESCRIPTION
36110200	CENTRY 117 Microcentrifuge with COMBI-Rotor, 115v
36110210	CENTRY 117 Microcentrifuge with COMBI-Rotor, 230v, Euro Cord
36110220	CENTRY 117 Microcentrifuge with COMBI-Rotor, 230v, UK cord
36110230	CENTRY 117 Microcentrifuge with COMBI-Rotor, 230v, AU Cord

Warranty

Gilson warrants this instrument against defects in material under normal use and service for two years from the date of purchase. This warranty is valid only if the instrument is used in the manner described in this guide and for the purpose for which it is designed. Gilson is not responsible for consequential damages resulting from the misuse or bad cleaning or decontamination of this instrument. Enclose with the returned instrument a description of the problem that has occurred.

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