Manufacturer:
LW Scientific

Product Name:
LW Scientific USA E8 Centrifuge - Fixed Speed

Manufacturer Part Number:
E8C-U8AF-1503

USA E8 Test Tube Centrifuge

Instruction Manual

Model pictured:
E8 Digital Test Tube Centrifuge
Not all features available on all models - see back page for model specifications.

Introduction

The LW Scientific USA E8 Test Tube centrifuge with angled 8-place rotor spins up to eight 3.0ml-15ml test tubes. It is available in 3 models: E8F (Fixed speed), E8V (Variable speed), and E8D (Digital speed). The E8F is designed for blood separations at a fixed speed of 3500 rpm only (1534 g-force). The E8V and E8D will separate blood at 3500 rpm and can be slowed to separate other fluids at lower g-force, such as urine specimens as outlined by C.L.I.A. regulations.

Also Available:

The USA E8 centrifuge is also available as a Combination model, which includes metal tube sleeves, 8-place Crit Carriers, microtube inserts, and EZ Reader Card. These items are available for purchase to upgrade the USA E8 centrifuge:

- CNP-04CC-PRAG: Crit Carrier Pair; 4-place Crit Carriers w/ metal tube shields for angled rotor, plus EZ Reader Card
- ZIP-TBS7-MTGS: Microtube Green Tube Inserts (set of 6); 1ml-2ml, fits into most centrifuge rotor sleeves

Contact the professionals at Fiber Optic Center for a quote or to get more details.

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Installation and Set-up

Includes:

1 E8 centrifuge	1 8-Place rotor (installed)
8 15ml blue tube sleeves	8 3-4ml black tube sleeve inserts
1 12v / 8amp AC power adapter	1 3-prong wall power cord

Read the instruction manual in full before operating. Store the operation instructions in a safe place, easily accessible by the trained staff who will be operating the centrifuge.

1. Remove the centrifuge from the shipping container and inspect for any possible shipping damage. If the centrifuge appears to be damaged from shipping, please contact your distributor immediately.

2. Read and fill out the warranty form online: www.lwscientific.com/warranty_form. The warranty form documents your purchase. Failure to complete the warranty form may void any warranty claims on the unit.

3. Place the centrifuge on a sturdy, level surface. Turn the lid latch to the UNLOCK position ("U"). Open to verify that there are no loose objects or packing material in the tube chamber, and that the 8 large blue tube shields and the 8 smaller black tube shields are in place and seated in the angled 8-place rotor. The smaller tube shields can be removed when spinning larger test tubes.

4. Verify that the power switch on the front of the unit is in the OFF position. Connect the 3-prong wall power cord to the AC power adapter, and then connect the AC power adapter to the back of the centrifuge. Plug the power cord into an approved and properly grounded outlet. Do not insert specimen test tubes prior to initial test run.

5. Close the lid, turn the lid latch to the LOCKED position ("L") and turn power switch ON. For fixed and variable units, turn the timer to 10 minutes. For digital units, adjust speed to 3500rpm and set the timer to 10 minutes. Now press RUN. If there is a smooth whirring sound and the unit accelerates with little or no vibration, your E8 centrifuge is ready to operate. If there are loud, unusual sounds or if you experience excessive vibration, immediately turn the unit off. DO NOT OPERATE – Contact your dealer or LW Scientific, Inc.

Loading and Operation

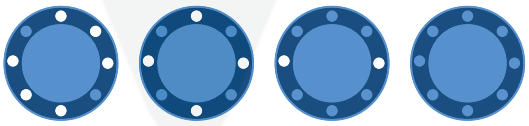
This symbol refers to hazards that may be encountered when using this product.

CAUTION means that damage to product or environment could occur
WARNING means that injury or contamination could occur

1. The large blue tube shields are designed to hold large test tubes from 5ml to 15ml (17.5mm x 130mm max). The smaller black tube shields can be inserted inside the large tube shields, and are designed to hold smaller 3.0ml to 4.5ml test tubes (usually 13mm diameter x 75-80mm tall).

   Ensure that test tubes are supported from the bottom and not hanging by their caps.

2. Spin only balanced loads. Make sure that tube shields are filled with equal weight tubes. Tubes of equal weight and size should be placed opposite each other as pictured below. Use water-filled tubes for balance if necessary. Proper sample balancing will improve sample separation and will extend the life of the centrifuge. Out of balance loads may break glass test tubes or damage the centrifuge.



3. For fixed and variable speed units, the mechanical timer should always be turned past 10 minutes to engage the spring and bell. The timer can then be turned forward or backward to select time.

4. After each run cycle has ended, the lid must be opened and closed before the next cycle is run. This allows for re-loading and re-balancing each load.

WARNINGS: Always ensure rotor is secure before each use! DO NOT OPEN WHILE SPINNING.

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Memory Feature

The Digital model has a memory feature that can recall the last 4 cycles. This will make it easier to select times and speeds for different specimens. While the lid is open, press the STOP/OPEN button 4 times, and the unit will scroll through the last 4 settings, eliminating the need to use the UP / DOWN buttons to change speeds and times.

WARNINGS: Always ensure rotor is secure before each use! DO NOT OPEN WHILE SPINNING.

The E8 centrifuge has a safety shutoff switch built into the lid latch, which will shut off power if the lid is opened. NEVER use finger to slow the rotor – wait for the rotor to come to a complete stop before loading and unloading tubes.

Cleaning & Maintenance

With proper care and maintenance, the E8 centrifuge will provide years of laboratory service. Please follow these recommended guidelines:

1. Use only quality test tubes which are rated for 1534 g-force or greater.
2. Never force a tube into the tube shield. The tube shields were designed to hold the most common sized tubes, Vaccutainers, and SST's. Some plastic, conical, and glass test tubes are too large and should not be used in the E8.
3. Keep the tube shields clean. If a tube does break, either dispose of the entire tube shield (and remove the opposite shield for proper balance) or safely dispose of the sample and broken glass and thoroughly clean and disinfect the inside and outside of the tube shield. Additional tube shields are available for purchase from LW Scientific, Inc.
4. Motor and electrical maintenance: The E8 utilizes a PMDC motor and its bearings are permanently lubricated. It should not need servicing for the life of the centrifuge. Likewise, the electrical components were designed for high reliability and should not need regular service. However, if repairs should be needed, please contact LW Scientific, Inc.
5. The E8 Digital Centrifuge is equipped with a service light indicator that, based on hours of use, alerts you when your unit needs to be inspected or serviced. At 1000 hours, a flashing amber light indicates that routine service is due soon. At 1500 hours, a solid amber light remains on for the first cycle. At 2000 hours, the service light will remain on for all cycles, indicating that service is overdue.

   When lit or flashing, the amber-colored LED light will be of equal brightness to the run and stop lights. If the service light emits a faint glow, then it is not "on" and can be ignored.

   Because of the safety issues with high g-forces in a centrifuge, it is recommended that rotors and tube sleeves be inspected every 6 months for corrosion and fatigue. If there is any indication of wear, the rotor and sleeves should be removed from service. Contact LW Scientific for return instructions so the rotor and tube sleeves can be evaluated by an LW Scientific technician for repair and replacement. It is also recommended that after 2 years of service, rotors and tube sleeves be returned to LW Scientific for inspection and possible replacement. Following these procedures will ensure safety of lab personnel as well as extend the life of the centrifuge.

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Specifications

G-Force RCF (g's)	Radius (mm)	RPM
31	112	500
80	112	800
125	112	1000
180	112	1200
245	112	1400
282	112	1500
321	112	1600
406	112	1800
501	112	2000
606	112	2200
721	112	2400
846	112	2600
982	112	2800
1127	112	3000
1282	112	3200
1364	112	3300
1450	112	3400
1534	112	3500

Maximum nominal:	3,500 RPM (+/-5%)
Maximum nominal RCF:	1,534 g
Max. Volume (8-Place Rotor):	120 ml
Max. Power:	12V, 8.0A
Height:	9.5 inches
Width:	11 inches
Weight:	9.5 lbs.
Boxed Dimensions:	13.5 x 12 x 15 inches
Boxed Weight:	12 lbs.

Fluid Recommendations:

	Speed	Time
Whole Blood	3500	10 min.
Urine	1800	5 min.

Average Speeds for Variable Unit (E8V)

Dial Setting:	RPM Range:
Low (7:00 position)	500 +/- 5%
Medium (12:00 position)	1700 - 1950
Medium (3:00 position)	3150 - 3350
High (5:00 position)	3500 +/- 5%

Ideal Setting for Urine (1700-1950rpm)

Ideal Setting for Blood (3500rpm)

The USA E8 Centrifuge is intended for use as a general purpose laboratory centrifuge.

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