



**The RevSpin 102**

**Instruction Manual**

**RS-102**

## **Instruction Manual for the RevSpin Microcentrifuge, RS-102**

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NOTE: This manual contains important information, safeguards and operating instructions for the operation of the RevSpin model RS-102 microcentrifuge by Alternative Pioneering Research & Development, Inc. (APR&D, Inc.) To maximize the use of this centrifuge, please read the following instructions carefully.

Alternative Pioneering  
Research and Development, Inc.  
August, 2003

### Recommended Safeguards

1. NEVER ATTEMPT TO OPERATE THIS PRODUCT WITH THE COVER REMOVED!!
2. While spinning, never attempt to remove the cover or touch the rotor
3. While unit is operating, do not lift from bench or invert.
4. Never place objects other than the appropriate microtubes in your rotor .
5. Never operate with a cracked, loose or damaged rotor or cover
6. Always make sure the rotor is properly balanced with equally weighted tubes in opposite holes of the rotor (Operating this unit with an unbalanced rotor will cause severe vibration and damage, which is not covered by your warranty!)
7. Never attempt to disassemble or modify the RS-102
8. Never hold down or bypass the safety switch
9. Before operating, make sure the rotor is fully pressed onto the shaft. You will hear and feel a slight 'click'.
10. Do not clean or spill on any parts with solvents that may attack plastic or cause cracks in the rotor
11. If the RevSpin RS-102 is used in a manner not specified by the manufacturer, the protection provided by the unit may be impaired.

### Intended uses for the RevSpin RS-102:

The RS-102 is only intended for biological samples and is not recommended for pathogenic, or particulate samples. Toxic, reactive, radioactive or flammable materials must not be used in the RS-102. Total weight limit for biological materials placed in the unit should not exceed 20grams per tube.

The RevSpin RS-102 is intended for indoor use with a temperature range of 2C-40C. The RS-102 is not intended for high altitude use.

### Recommended Room and Storage Conditions:

- Do not store your RS-102 in direct sunlight, or in dusty or poorly ventilated areas.
- Do not store in a cold or moist room for extended periods of time.
- Never immerse your RS-102 in water.

#### Introduction

Thank you for purchasing the RevSpin RS-102 microcentrifuge. We are confident that when used correctly, our microcentrifuge will provide years of reliable service in your lab or classroom. We have made every effort to use high quality, durable parts to deliver the performance expected of instruments costing 2 to 3 times as much.

You may enjoy checking out our web site at [www.revsci.com](http://www.revsci.com). Along with specific information about our products, we have included links to other related sites where you will find useful information on classroom demonstrations and experiments which require the use of a microcentrifuge.

Please let us know what you think of our products, positive or negative, so we can continue to enhance and improve our products in the future.

Sincerely yours,

*REVOLUTIONARY SCIENCE*

## Operating Instructions

### (1) PLACEMENT:

Place unit on a stable, flat and clean surface, at least 6 inches away from the edge of the counter and other moving equipment. Make sure the power cord is clear of hot surfaces and other hazards.

### (2) PREPARE MICRO-TUBES:

Prepare samples in micro-tubes so that tubes are filled to equal levels.

### (3) OPENING THE COVER:

To remove the cover, press button and lift up.

Note: Removing cover while rotor is turning will activate the emergency stop mode. This will shorten motor brush life and may re-mix samples.

### (4) LOADING:

With the cover off, you can access the rotor, which may be loaded in place or removed for convenience. The rotor has 16 holes. Be sure to never load the rotor in an asymmetrical or uneven manner. Load your REVOLUTIONARY SCIENCE RS-102 only with a symmetrical placement of an even number of micro-tubes in the same ring of holes. For example, 2 tubes of equal weight will cause imbalance if one is placed in the outer ring of holes, and the other is placed opposite in the inner ring. If only one sample needs to be spun, you must add a second tube on the opposite side of equal weight.

### (5) REMOVING THE ROTOR

The rotor is designed to snap into place on the shaft. To remove, grip the rotor on both sides and lift firmly. If the rotor does not slide off with hand force, it may be gently pried off with two appropriate levers evenly applied to opposite sides. After several removals and insertions, the fit should become less tight,

(6) INSTALLING THE ROTOR

Before operating, make sure the rotor is fully pressed onto the shaft until you feel a slight 'click'. If the rotor is not fully pressed down, it may instantly rub, or eventually rise up the shaft and rub on the inside of the cover. This will instantly melt a permanent scar on the inside of the cover. If the rotor becomes loose on the shaft, or the two halves begin to separate, do not use it! If under warranty, return the rotor to the factory for replacement. If out of warranty, or the failure is not due to a manufacturing defect, you may order a new rotor from the dealer or from Revolutionary Science (Many of our customer find it useful to purchase multiple rotors for multiple projects or work groups. You will find they are very reasonably priced!)

(7) CONNECTING THE POWER:

Plug the power cord to your RS-102 into a grounded electrical outlet of the appropriate voltage. The RS-102 requires only 180 watts, so any circuit should do. Make sure the cord is routed safely away from mechanical hazards and hot surfaces. Avoid routing the cord where others may trip on it or snag it.

(8) TO OPERATE THE RS-102

Replace the cover after loading the rotor. The motor will run only when the cover is locked in place. Select the proper speed for the task at hand. The pulse mode may be used to deliver lower speeds than the low speed setting of 6,000 RPM by pulsing the motor briefly a few times. Since the RS-102 is not equipped with a timer, we recommend using a separate timer with an alarm to keep track of your spin times. We do not recommend running spin times of longer than 30 minutes, or operating the unit unattended.

(9) TO PROPERLY STOP THE RS-102 :

To stop the operation at the desired time, the operator must turn the knob to the OFF position. The rotor will usually stop in less than 30 seconds. The rotor will instantly stop if the cover is rotated, but the use of this function will shorten the life of the motor brushes. In addition, if the cover is loosened while the rotor is turning, the rotor may instantly and permanently damage the cover by rubbing on the inside surface.

(10) UNLOADING THE MICRO-TUBES:

Once the rotor has completely stopped, the operator may push the button and lift up the cover and remove the tubes, or remove the rotor and unload the tubes elsewhere.

## Care and Maintenance

Your centrifuge should be cleaned periodically to ensure optimum performance. Only clean your RevSpin RS-102 when you are sure that it is not plugged in or spinning. Using a soft cloth soaked in water and mild detergent, wipe the outside of the unit and both sides of the cover. Be careful not to scratch the plastic surfaces with abrasive cleaners or dirty clothes. Make sure you clean any dust or debris from the bottom of the rubber base to permit the rubber to do its job, and avoid sliding around on the bench.

You may remove the rotor for thorough cleaning. The rotor may be immersed in water and mild detergent. Do not allow the rotor to remain wet for more than a few minutes, since the steel ball that provides the snap mounting to the shaft may rust. The rotor should be thoroughly drained and dry before re-mounting on the motor shaft. Avoid spilling water into the unit. If water is spilled, quickly invert the unit and allow to drain for several minutes. Do not disassemble the unit or you will void your warranty. Do not operate on wet surfaces.

## BRUSH REPLACEMENT

The RS-102 uses a brush type motor. After many hours of use the brushes may need replacement. Worn brushes will cause intermittent operation. Due to safety concerns, we strongly recommend you return the unit to the factory for service. Reassembly of this unit is much tougher than dis-assembly. Call customer support for a cost estimate. Brushes that wear out during the 2 year warranty will be replaced at no charge.

### Centrifuge Specifications

Model No.: RS-102  
Power requirements: 110 -120 VAC 60 HZ 1.5 amps, grounded cord  
Net weight: 5 lb.  
Dimensions: 9 inches tall x 7.5 inches diameter  
Motor: Ball bearing, PMDC, brush type  
Speed selections: Off/Pulse/6,000/10,000  
RPM: Low-6,000 High-10,000  
RCF: Low speed-1735/2245  
High speed-4819/6238  
Rotor capacity: 16 tubes, 1.5 or 2.0 ml  
Rotor type: 45°, unique vertical loading, glass reinforced  
Warranty: 2 year, repair or replacement

### How to contact us

Mailing address:  
Revolutionary Science  
13229 St Croix Ave, STE 7  
Lindstrom, MN 55045  
USA

Phone: 651 257-0633  
Fax: 775 218-7015  
E-mail: [customersupport@revsci.com](mailto:customersupport@revsci.com)  
Web site: [www.revsci.com](http://www.revsci.com)

### Registration

For your reference and to expedite answers to your questions, please complete the following information for your future reference:

Date Purchased \_\_\_\_\_  
Serial Number \_\_\_\_\_  
Model Number \_\_\_\_\_  
Purchased From \_\_\_\_\_

### Full Two Year Warranty

Your RevSpin RS-102 is warranted to be free from defect of material or workmanship under normal use for a period of two years from date of purchase. If your RS-102 proves to be defective within this warranty period, Revolutionary Science will repair or replace your unit at our option. This warranty will be void if malfunction is caused by accident, misuse, or negligence, including tampering, abuse, or damage in transit. This warranty excludes any relief for incidental or consequential damages. Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you. This warranty gives you specific legal rights, you may also have other rights which may vary from state to state. Your RS-102 comes with several built in safety features. Any attempt to interfere with the operation of these features makes this warranty null and void.

To validate this warranty, be sure to complete and return the Warranty Card.

Please fill out this page, or a copy of it, and send it to the address below to validate your warranty.

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Warranty Registration Card  
for the RevSpin RS-102 Microcentrifuge  
(Please Print)

Date Purchased \_\_\_\_\_ Serial Number \_\_\_\_\_

Purchased From \_\_\_\_\_

Name of Purchaser \_\_\_\_\_

☐ Company ☐ School ☐ Individual (Please check one)

Name of institution \_\_\_\_\_

Department \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

Intended use \_\_\_\_\_

Where did you hear of our product? \_\_\_\_\_

Comments \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Mail to: Revolutionary Science  
13229 St Croix Ave, STE 7, Lindstrom, MN 55045 USA

[illegible]

**Revolutionary Science**  
**Lindstrom, MN**  
**USA**