




# Instructions for Use

## **StatSpin Express 3 Centrifuge Model Number M502-22**

This manual is intended for

SSX3 - Express 3 for 100 to 240 VAC, 50/60 Hz

55-005187-001ED  
December 2021

 Beckman Coulter, Inc.  
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Brea, CA 92821 U.S.A.



**Instructions for Use****StatSpin Express 3 Centrifuge Model Number M502-22**

PN 55-005187-001ED (December 2021)

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Original Instructions

# Revision History 55-005187-001

## **ED (December, 2021)**

- Added: Product Description section
- Updated the following:
  - Copyright page
  - Symbols and Definitions
  - Safety Notices Warning and Cautions throughout
  - Accessories
  - Confirming the Contents
  - Cycle Selection
  - General Cleaning
  - Installing the System
  - Loading
  - Opening and Closing the Cover
  - Product Description
  - Specifications

## **EC (September, 2018)**

- Moved: Symbol/Regulatory Mark and a link to the website in the California Proposition 65 statement

## **EB (March, 2018)**

- Converted the StatSpin Express 3 Operations Manual to a Beckman Coulter Instructions for Use (IFU) manual, and made general clarifications to the IFU
- Added: Revision History, Safety Notice, Symbols and Definitions table, Alerts for Warning, Caution, Important, Note, and Tip explanations, Warning and Cautions, and How to Replace the Fuse
- Updated: Logo, Manufacturer address, Intended Use, and Limited Warranty statement
- Deleted: EC Rep



# Safety Notice

Read all product manuals and consult with Beckman Coulter-trained personnel before you operate the system. Do not perform any procedure before you carefully read all instructions. Always follow the product labels and the manufacturer's recommendations. If you have any questions:

- Visit <http://www.beckmancoulter.com>.
- US customers: Contact Beckman Coulter Customer Support at 1-800-854-3633.
- International customers: Contact your local distributor.

## Alerts for Warning, Caution, Important, Note, and Tip

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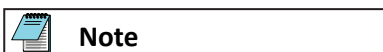
**Warning indicates a potentially hazardous situation which can cause death or serious injury. Warning can indicate the possibility of erroneous data that could cause an incorrect diagnosis.**



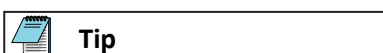
**Caution indicates a potentially hazardous situation which can cause minor or moderate injury. Caution can also alert against unsafe practices, or indicate the possibility of erroneous data that could cause an incorrect diagnosis.**



Important indicates important information to follow.



Note indicates notable information to follow.



Tip indicates information to consider.

## Safety Notice

### Warning and Cautions

## Warning and Cautions

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Pay close attention to the instructions that accompany the notes and symbols and the standard laboratory procedures outlined by your facility and local regulatory agencies.



### Warning

**Always operate the system with the cover closed and secured to avoid injury.**

**Perform system operations with caution.**

**Wear Personal Protective Equipment (PPE) such as gloves, eye shields, and lab coats.**

**Wash hands thoroughly after contact with sample media and all maintenance activities.**

**Observe all laboratory policies and procedures related to the handling of biohazardous materials.**

**Refer to the applicable sources (such as Safety Data Sheets) for specific hazard information.**



### Warning

**Do not operate the centrifuge below the minimum operating temperature. Do not store the rotor below the minimum storage temperature. Doing so will subject the rotor materials to damage. See [Specifications](#).**



### Warning

**Do not expose the rotor to strong or concentrated acids, bases, esters, aromatic or halogenated hydrocarbons, ketones, or strong oxidizing agents, or environmental influences, including natural ultra-violet radiation. Doing so will subject the rotor to corrosion or weakening of the construction.**



### Warning

**Handle and dispose of sharp fragments according to the World Health Organization's Laboratory Biosafety Manual and relevant local and national regulations.**



### Warning

**Safety protection may be impaired if the equipment is used in a manner not specified by the manufacturer.**

 **Warning**

Inspect the instrument for cracks or any physical damage to housing, cover, and rotor upon the receipt of the unit. Damage can cause unsafe operation; if damage or cracks are found, discontinue use until repairs have been performed.

 **Warning**

Only reset the cycle counter after conducting the recommended inspections and service. Resetting the cycle counter without performing the recommended inspections and service reduces the reliability and safety of the instrument.

 **Warning**

Outside of North America: do not use the power cord supplied. Use power cord for at least 3.0 Amp with an IEC320/CEE22 female connector and male connector suitable for the power outlet to be used.

 **Warning**

Picking up or moving the centrifuge during operation can cause injury to the operator and/or damage to the centrifuge.

 **Warning**

**Electromagnetic Compatibility**

This device complies with the emissions and immunity requirements as specified in the EN/IEC 61326 series of Product Family Standards for a "basic electromagnetic environment." Such equipment is supplied directly at low voltage from public mains network. This equipment is not intended for residential use.

This device generates, uses, and can radiate unintentional radio-frequency (RF) energy. If this device is not installed and operated correctly, this RF energy can cause interference with other equipment. It is the responsibility of the end user to be sure that a compatible electromagnetic environment for the device can be maintained so that the device operates as intended.

This equipment is designed for use in a PROFESSIONAL HEALTHCARE FACILITY ENVIRONMENT. It is likely to perform incorrectly if used in a HOME HEALTHCARE ENVIRONMENT. If it is suspected that performance is affected by electromagnetic interference, correct operation may be restored by increasing the distance between the equipment and the source of the interference.

In addition, other equipment can radiate RF energy to which this device is sensitive. If one suspects interference between this device and other equipment, Beckman Coulter recommends the following actions to correct the interference:

## Safety Notice

### Warning and Cautions

- Evaluate the electromagnetic environment before installation and operation of this device.
- Do not operate this device close to sources of strong electromagnetic radiation (for example: unshielded intentional RF sources), as these can interfere with proper operation. Examples of unshielded intentional radiators are handheld radio transmitters, cordless phones, and cellular phones.
- Do not place this device near medical electrical equipment that can be susceptible to malfunctions caused by close-proximity to electromagnetic fields.
- This device has been designed and tested to CISPR 11, Class A emission limits. In a domestic environment, this device can cause radio interference, in which case, you need to take measures to mitigate the interference.



#### Caution

Disconnect the power cord from the electrical outlet before performing maintenance or inspection.



#### Caution

Do not spray cleaning solutions directly onto the centrifuge bowl or housing. Overspray can reach the motor bearings or internal circuitry, causing harm to the electronics and could also cause corrosion or weakening of the construction of the protective casing.

Before using any cleaning or decontamination methods other than those recommended by the manufacturer, users should check with the manufacturer that the proposed method will not damage the equipment. Cleaning and decontamination may be necessary as a safeguard before laboratory centrifuges, rotors, and any accessories are maintained, repaired, or transferred.



#### Caution

During operation maintain a 30 cm (12 inch) clearance around the centrifuge. The clearance must be free from obstruction and away from the edge of the surface that the centrifuge is on. The appliance coupler on the rear of the instrument is considered the power source disconnect device, ensure that it is accessible after installation.



#### Caution

Follow Universal Precautions with all biological specimens, regardless of whether the specimen is known to contain an infectious agent. (See [References](#))



#### Caution

Use the same size and style tubes in opposite positions. Balance liquid in tubes to within 0.5mL. If glass tubes are used to balance rotor load, replace the glass balance tube every ten cycles to prevent possible breakage caused by the repeated stress of

centrifugation. Replace the tube inserts immediately if a tube breaks during centrifugation.

 **Caution**

Inspect rotor on a routine basis. Rotor lifespan depends on usage. Inspect rotor for cracks and replace the rotor immediately when any crack or visible wear occurs.

 **Caution**

Never operate the centrifuge without the rotor properly mounted and the locking nut tightened. Failure to install and secure the rotor correctly can damage the centrifuge.

 **Caution**

Running the centrifuge repeatedly with an unbalanced load condition can cause excessive vibrations and premature equipment failure.

 **Caution**

The cover interlock bypass is for emergency use only. Disconnect the power cord from the wall outlet and ensure the rotor has come to a complete stop before using the interlock bypass. If the equipment is not used correctly, safety can be impaired.

 **Caution**

The instructions prohibit use of the specified materials within the centrifuge

- flammable or explosive materials.
- materials which could react chemically with sufficient vigor to cause a hazard.

 **Caution**

Ensure to replace the fuse with the correct type and rating for continued protection against risk of fire and/or improper instrument operation.




 **Caution**

If the fuse continues to blow after being replaced, contact service for additional assistance.





Please use the instrument as intended. Improper use may cause damage to the instrument, inaccurate results, or potentially nullify warranties.

## Symbols and Definitions




**Table 1** Express 3 Symbols Glossary

Symbol	Description
	<p><b>Warning; Biological hazard</b></p> <p>This symbol indicates a warning of a biological hazard.</p> <p><i>ISO 7010. Graphical Symbols - Safety colors and safety signs. #W009</i></p> <p><b>Supplemental Product-Specific Manufacturer Information</b></p> <p>This symbol indicates a caution to operate only with all covers in position to decrease risk of personal injury or biohazard.</p> <p>This symbol indicates the use of biohazardous materials in the area. Use caution when working with possible infectious samples.</p> <p>Wear Personal Protective Equipment (PPE) such as gloves, eye shields, and lab coats. Handle and dispose of biohazardous materials according to your laboratory procedures.</p>
	<p><b>Consult instructions for use</b></p> <p>This symbol indicates the need for the user to consult the instructions for use.</p> <p><i>ISO 15223-1. Medical devices - Symbols to be used with medical device labels, labelling and information to be supplied - Part 1: General Requirements. #5.4.3</i></p>
	<p><b>Caution</b></p> <p>This symbol indicates the need for the user to consult the instructions for use for important cautionary information such as warnings and precautions that cannot, for a variety of reasons, be presented on the medical device itself.</p> <p><i>ISO 15223-1. Medical devices - Symbols to be used with medical device labels, labelling and information to be supplied - Part 1: General Requirements. #5.4.4</i></p>



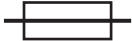


**Table 1** Express 3 Symbols Glossary (Continued)

Symbol	Description
	<p><b>Warning; Crushing of hands</b></p> <p>This symbol indicates a warning of a closing motion of mechanical parts of equipment.</p> <p><i>ISO 7010. Graphical Symbols for electrical equipment in medical practices. #W024</i></p> <p><b>Supplemental Product-Specific Manufacturer Information</b></p> <p>Use caution to avoid injury to hands when close to equipment with moving mechanical parts.</p>
	<p><b>Moving Parts Symbol</b></p> <p>This symbol indicates that there are moving parts in the area. Only operate the system when all covers are in position and use caution to reduce the risk of personal injury. While the system is operating, do not touch the moving parts of the system. Do not insert fingers or hands into any system opening.</p>
	<p><b>cNRTLus Certification Mark</b></p> <p>This symbol indicates recognition by a Nationally Recognized Testing Laboratory (NRTL) that the system has met the relevant product safety standards for the United States and Canada.</p> <p><i>OSHA, CEC</i></p>
	<p><b>RCM Symbol</b></p> <p>This symbol indicates compliance with the Australian Communications Media Authority (ACMA) requirements (safety and EMC) for Australia and New Zealand.</p>

**Table 1** Express 3 Symbols Glossary (Continued)




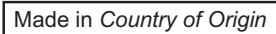




Symbol	Description
	<p><b>Recycling Symbol</b></p> <p>This symbol is required by the Waste Electrical and Electronic Equipment (WEEE) Directive of the European Union. This symbol indicates that:</p> <ol style="list-style-type: none"> <li>1. The device was put on the European Market after August 13, 2005.</li> <li>2. The device is not to be disposed of via the municipal waste collection system of any member state of the European Union.</li> </ol> <p>Customers must understand and follow all laws regarding the correct decontamination and safe disposal of electrical equipment. For Beckman Coulter products bearing this label, contact your dealer or your local Beckman Coulter Representative for more information on the take-back program that facilitates the correct collection, treatment, recovery, recycling, and safe disposal of these products.</p> <p><i>EU Directive 2002-96-EC: waste electrical and electronic equipment (WEEE)</i></p> <p>For the Japan market:</p> <p>This system is considered an industrial waste, subject to special controls for infectious waste. Before disposal of the system, refer to the <i>Waste Disposal and Public Cleaning Law</i> for compliance procedures.</p>
	<p><b>RoHS Caution Symbol</b></p> <p>This symbol indicates that this electronic information product contains certain toxic or hazardous elements, and can be used safely during its environmental protection use period. The number in the middle of the logo indicates the environmental protection use period (in years) for the product. The outer circle indicates that the product can be recycled. The logo also signifies that the product should be recycled immediately after its environmental protection use period has expired. The date on the label indicates the date of manufacture.</p> <p>These labels and materials declaration table (the Table of Hazardous Substance's Name and Concentration) meet People's Republic of China Electronic Industry Standard SJ/T11364-2006 <i>Marking for Control of Pollution Caused by Electronic Information Products</i> requirements.</p>
	<p><b>"OFF" (power)</b></p> <p>This symbol indicates disconnection from the mains, at least for mains switches or their positions, and all those cases where safety is involved.</p> <p><i>IEC 60417: Graphical symbols for use on equipment - Overview and application, #5008</i></p> <p><b>Supplemental Product-Specific Manufacturer Information</b></p> <p>This symbol indicates the off position.</p>

**Table 1** Express 3 Symbols Glossary (Continued)






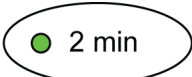
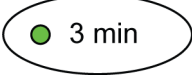
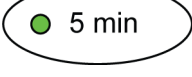

Symbol	Description
	<p><b>"ON" (power)</b></p> <p>This symbol indicates connection to the mains, at least for mains switches or their positions, and all those cases where safety is involved.</p> <p><i>IEC 60417: Graphical symbols for use on equipment - Overview and application, #5007</i></p> <p><b>Supplemental Product-Specific Manufacturer Information</b></p> <p>This symbol indicates the on position.</p>
	<p><b>Alternating current</b></p> <p>This symbol indicates on the rating plate that the equipment is suitable for alternating current only; to identify relevant terminals.</p> <p><i>IEC 60417: Graphical symbols for use on equipment - Overview and application, #5032</i></p>
	<p><b>Fuse</b></p> <p>This symbol indicates fuse boxes or their location.</p> <p><i>IEC 60417: Graphical symbols for use on equipment - Overview and application, #5016</i></p> <p><b>Supplemental Product-Specific Manufacturer Information</b></p> <p>This symbol can also indicate a fuse location and rating.</p>
	<p><b>Protective earth; protective ground</b></p> <p>This symbol indicates a terminal which is intended for connection to an external conductor for protection against electric shock in case of a fault, or the terminal of a protective earth (ground) electrode.</p> <p><i>IEC 60417: Graphical symbols for use on equipment - Overview and application, #5019</i></p>
	<p><b>Date of Manufacture</b></p> <p>This symbol indicates the date when the medical device was manufactured.</p> <p><i>ISO 15223-1. Medical devices - Symbols to be used with medical device labels, labelling and information to be supplied - Part 1: General Requirements. #5.1.3</i></p>


**Safety Notice**  
 Symbols and Definitions

**Table 1** Express 3 Symbols Glossary (Continued)

Symbol	Description
	<p><b>Manufacturer</b></p> <p>This symbol indicates the medical device manufacturer.</p> <p><i>ISO 15223-1. Medical devices - Symbols to be used with medical device labels, labelling and information to be supplied - Part 1: General Requirements. #5.1.1</i></p> <p><b>Supplemental Product-Specific Manufacturer Information</b></p> <p>This symbol indicates who the legal manufacturer of the product is.</p>
	<p><b>Catalogue Number</b></p> <p>This symbol indicates the manufacturer's catalogue number so that the medical device can be identified.</p> <p><i>ISO 15223-1. Medical devices - Symbols to be used with medical device labels, labelling and information to be supplied - Part 1: General Requirements. #5.1.6</i></p>
	<p><b>Serial number</b></p> <p>This symbol indicates the manufacturer's serial number so that a specific medical device can be identified.</p> <p><i>ISO 15223-1. Medical devices - Symbols to be used with medical device labels, labelling and information to be supplied - Part 1: General Requirements. #5.1.7</i></p>
	<p><b>Country of Origin Symbol</b></p> <p>This symbol indicates the country that the product was manufactured in.</p>
	<p><b>California Proposition 65</b></p> <p>This symbol indicates that this product can expose you to chemicals known to the State of California to cause Cancer and Reproductive Harm. For more information go to <a href="https://www.P65Warnings.ca.gov">https://www.P65Warnings.ca.gov</a>.</p>
	<p><b>Batch Code</b></p> <p>Indicates product lot number.</p>
	<p><b>Do Not Reuse</b></p> <p>Indicates product is single use only.</p>
	<p><b>Use By Date</b></p> <p>Indicates product expiration date.</p>

**Table 1** Express 3 Symbols Glossary (Continued)

Symbol	Description
	<b>Contents</b> Indicates project contents.
	<b>Temperature limitation</b> Indicates storage requirements limit.
	<b>Non-sterile</b> Indicates non-sterile product.
	<b>Start button</b> The Start button initiates the selected cycle.
	<b>Stop or Open button</b> The Stop or Open button interrupts the cycle and stops the centrifugation. This button releases the cover.
	<b>2 Minute Cycle</b> The 2 min button selects a cycle of two minutes at 7200 rpm.
	<b>3 Minute Cycle</b> The 3 min button selects a cycle of three minutes at 7200 rpm.
	<b>5 Minute Cycle</b> The 5 min button selects a cycle of five minutes at 5600 rpm.
	<b>Error or Service indicator</b> The red indicator with an adjacent wrench symbol flashes to signal an error condition or remains continuously illuminated when service is needed.

 **Note**

Buttons should be depressed with finger tips only. Never press buttons with a sharp object such as a pen, screwdriver, centrifuge insert, fingernail, etc. The buttons are membrane switches designed to be activated by finger actuation. Use with any hard or sharp object can cause damage to the tactile layer of the button, rendering the button unstable and prone to premature failure.

**Safety Notice**

Symbols and Definitions

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## Contents

## Inspecting the Packaging

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The StatSpin Express 3 and its accessories are delivered in one carton. If the centrifuge or accessories have suffered any damage in transport, inform your carrier immediately.



### Note

Save shipping carton and components to simplify return if service is required.

## Confirming the Contents

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The package contains:

- One Express 3 centrifuge (Model No. M502-22)
- One centrifuge rotor (Product No. RTX8)
- Eight tube inserts for 13x75 mm tubes (Product No. SV08)
- Eight tube inserts for 16x100 mm tubes (Product No. SV07)
- One grounded line cord (for use in North America only)
- One Instructions for Use Manual
- One manual latch release tool
- One Setting Guide
- One 5/16 inch hex key tool

## Installing the System

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- 1 Place the StatSpin Express 3 on a level surface suitable for laboratory instrumentation.



### Caution

**During operation maintain a 30 cm (12 inch) clearance around the centrifuge. The clearance must be free from obstruction and away from the edge of the surface that the centrifuge is on. The appliance coupler on the rear of the instrument is considered the power source disconnect device, ensure that it is accessible after installation.**

- 2 Position the StatSpin Express 3 away from direct sunlight and sources of heat or cold. For the acceptable range of operating temperature and humidity, refer to [Specifications](#).
  - 3 Remove the foam packaging around the rotor and in the cover before operating the centrifuge.
-

## Installation

### Connecting the Power

#### Connecting the Power

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- 1 Plug the centrifuge into a grounded outlet supplying 100-240 V @ 50-60 Hz.
- 2 Turn on the power switch (located on the rear panel, above the line cord connector).
- 3 When the instrument is ready for use, it will give a two beep signal and illuminate the two minute cycle light on the front keypad. Press the stop button to release the latch and open the cover.



**Outside of North America: do not use the power cord supplied. Use power cord for at least 3.0 Amp with an IEC320/CEE22 female connector and male connector suitable for the power outlet to be used.**

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## Intended Use

The StatSpin Express 3 is a high-speed bench top centrifuge used to rapidly separate whole blood in the original sample collection tubes.



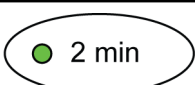
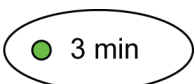
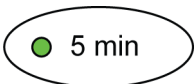

## Product Description

The eight-place 30° angle rotor included with the centrifuge produces rapid separation while minimizing potential for re-suspension of cells. The operator selects a fixed spin time of 2, 3, or 5 minutes. The rotation speed is fixed at 7200 rpm for the 2 and 3 minute cycles, producing a centrifugal force of 4440 xg at a rotor radius of 7.65 cm.

The 5 minute cycle generates 2685 xg at 5600 rpm. This setting is intended for use with large glass tubes (7 mL and 10 mL), which require lower g-forces. Five minutes at 5600 rpm produces the same degree of separation achieved with three minutes at 7200 rpm.

## Operator Controls

**Table 2** Express 3 Operator Controls

Symbol	Description
	<b>Start button</b> The Start button initiates the selected cycle.
	<b>Stop or Open button</b> The Stop or Open button interrupts the cycle and stops the centrifugation. This button releases the cover.
	<b>2 Minute Cycle</b> The 2 min button selects a cycle of two minutes at 7200 rpm.
	<b>3 Minute Cycle</b> The 3 min button selects a cycle of three minutes at 7200 rpm.
	<b>5 Minute Cycle</b> The 5 min button selects a cycle of five minutes at 5600 rpm.
	<b>Error or Service indicator</b> The red indicator with an adjacent wrench symbol flashes to signal an error condition or remains continuously illuminated when service is needed.

## System Overview

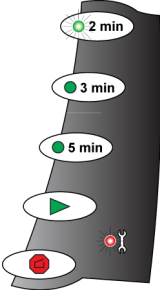
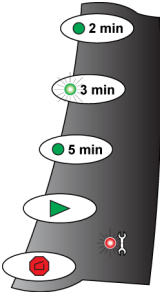
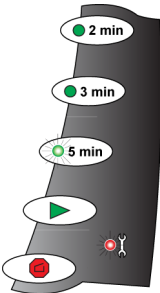
### Error Indicators

## Error Indicators

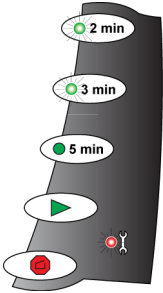
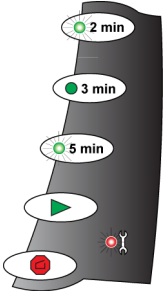
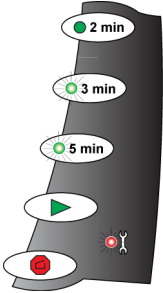
Express 3 error conditions are signaled by a flashing red Error or Service indicator on the front panel.

The cause of the error condition can be identified by the combination of green cycle time indicators that are also flashing.

**Table 3** Error Codes

Cycle Time Indicator Combination	Problem	Solution
 <p>2 min light and red indicator flashing</p>	Rotor failed to reach full speed in 30 seconds	Confirm no obstruction present in bowl. Contact customer service if error continues to occur.
 <p>3 min light and red indicator flashing</p>	Cover not latched	Confirm cover is fully seated in closed position. Contact customer service if error continues to occur.
 <p>5 min light and red indicator flashing</p>	Unable to maintain rotor speed	Confirm no obstruction present in bowl. Contact customer service if error continues to occur.

**Table 3** Error Codes (Continued)

Cycle Time Indicator Combination	Problem	Solution
 <p>2 min and 3 min lights and red indicator flashing</p>	Rotor over speed	Remove and inspect rotor. Reinstall the rotor. Contact customer service if error continues to occur.
 <p>2 min and 5 min lights and red indicator flashing</p>	Rotor out of balance	Confirm tubes are balanced in rotor and centrifuge is on level surface. Remove and inspect rotor for cracks or warping. Contact customer service if error continues to occur.
 <p>3 min and 5 min lights and red indicator flashing</p>	Locked rotor	Confirm no obstruction present in bowl. Contact customer service if error continues to occur.

## Accessories

The following accessories list identifies some common items that are used on the Express 3. If the part you need is not on the list, contact your Beckman Coulter Support Center for assistance.

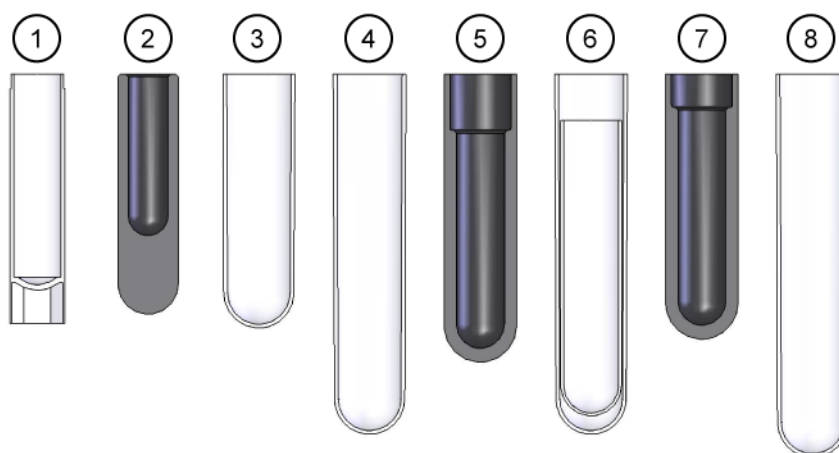
## System Overview

### Accessories

**Table 4** Accessories

Product No.	Description
SV02	Inserts for 3 mL tubes (10.25 x 64 mm) 4/pk.
SV05	Inserts for 2 mL tubes (BD Microtainers) 4/pk.
SV06	Inserts for 7 mL tubes (16 x 75 mm) 8/pk.
SV07	Inserts for 10 mL tubes (16 x 100 mm) 8/pk. Included with centrifuge.
SV08	Inserts for 5 mL tubes (13 x 75 mm) 8/pk. Included with centrifuge.
SV09	Inserts for 7 mL tubes (13 x 100 mm) 8/pk.
SV10	Insert for Greiner tubes (13 x 75 mm) 8/pk.
SV11	Insert for BD RST tubes (13 x 100 mm) 8/pk.
DL02	Disposable bowl liners 3/pk.
RTX8	8 place rotor. Included with centrifuge.

**Figure 1** StatSpin Express 3 Tube Insert Guide



- |  |                                  |
|--|----------------------------------|
| 1. SV02 10.25 x 64 mm  | 5. SV08 13 x 75 mm BD tubes      |
| 2. SV05 1.5-2.0 mL microtubes, 10.25 x 47 mm, and BD Microtainers® | 6. SV09 13 x 100 mm              |
| 3. SV06 16 x 75 mm   | 7. SV10 13 x 75 mm Greiner tubes |
| 4. SV07 16 x 100 mm  | 8. SV11 13 x 100 mm BD RST tubes |

## Opening and Closing the Cover

---

The electronically operated cover interlock mechanism prevents operation until the cover is completely closed and locked, and prevents the cover from being opened while the centrifuge is in operation. When the cover is completely closed and locked, an operating cycle can be initiated.

### Cover Interlock By-pass

To release the electronically operated cover interlock mechanism, insert the manual latch release tool into the small hole in the center of the front membrane panel. If you press the **Stop** or **Open** button and the cover does not release, push the lock lever inward about one inch (25 mm) to release the interlock mechanism. The cover interlock by-pass is for emergency use only. Misuse may expose the operator to unsafe conditions.



#### Caution

**The cover interlock bypass is for emergency use only. Disconnect the power cord from the wall outlet and ensure the rotor has come to a complete stop before using the interlock bypass. If the equipment is not used correctly, safety can be impaired.**

## Removing and Installing the Rotor

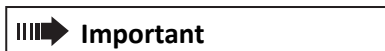
---

The Express 3 is shipped with the rotor installed and supported by a shipping retainer. To prevent possible damage to the motor mount of the centrifuge, remove the rotor whenever the centrifuge is shipped to another location.



#### Caution

**Inspect rotor on a routine basis. Rotor lifespan depends on usage. Inspect rotor for cracks and replace the rotor immediately when any crack or visible wear occurs.**



#### Important

Before operating the centrifuge, ensure that retaining nut has been tightened completely.

## Operating Instructions

### Spinning the Sample

#### Removing the Rotor

- 
- 1 Remove the tube inserts from the rotor.
  - 2 Loosen and unscrew the retaining nut using the 5/16 inch hex key tool.
  - 3 Remove the retaining nut and lift the rotor off the drive shaft.
- 

#### Reinstalling the Rotor



##### Note

There are two drive pins adjacent to the drive shaft on the rotor mount. These pins mate with the corresponding holes on the bottom of the rotor.

- 
- 1 Rotate the rotor so that wells 5 and 6 are aligned with the drive pins.
  - 2 Slide the rotor onto the shaft and push down gently to seat the drive pins in the holes.
  - 3 Place the retaining nut on the shaft and tighten securely using the 5/16 inch hex key.
- 

You will not be able to tighten the retaining nut if the drive pins are not aligned correctly. If the drive pins are not aligned correctly lift the rotor off and repeat the steps until the rotor is seated.

---

#### Spinning the Sample



##### Caution

**Never operate the centrifuge without the rotor properly mounted and the retaining nut tightened. Failure to install and secure the rotor correctly can damage the centrifuge.**

#### Loading

- 
- 1 Be sure the correct tube inserts are installed. The StatSpin Express 3 centrifuge is provided with eight tube inserts for 13 x 75-mm tubes (Product No. SV08) and eight tube inserts for 16 x 100-mm tubes (Product No. SV07). Other sizes are available (For more information, refer to [Accessories](#).)
  - 2 The rotor must be correctly balanced to ensure smooth operation. Do not spin a single tube.
-

- 3 Use the same size and style tube in the opposite position of the sample. Fill the balance tube to the same level as the sample tube.



**Caution**

**Use the same size and style tubes in opposite positions. Balance liquid in tubes to within 0.5 mL. If glass tubes are used to balance rotor load, replace the glass balance tube every ten cycles to prevent possible breakage caused by the repeated stress of centrifugation. Replace the tube inserts immediately if a tube breaks during centrifugation.**

- 4 Close and latch the centrifuge cover.
- 5 Select the spin time by pressing the appropriate cycle time button.
- 6 Press the **Start** button.

### Cycle Selection

Select spin time settings to achieve optimum results for specific applications.

**Table 5** Cycle Selection

Setting	Description	Speed	RCF
2 min	Separates plasma/serum from whole blood for chemistry, coagulation and cardiac testing.	7200 rpm	4440 xg
3 min	Separates plasma/serum in gel tubes and large plastic collection tubes from whole blood for chemistry or coagulation testing.	7200 rpm	4440 xg
5 min	Produces separation equivalent to 3 min setting. Centrifugal forces are decreased to accommodate larger glass tubes which require lower g-forces.	5600 rpm	2685 xg

### Tube Guide by Settings

**Table 6** Tube Guide by Settings

Tube Size	Insert	Tube Dimension	2 minute	3 minute	5 minute
5 mL	SV08	13x75 mm	Plastic	Plastic/Gel	Glass/ Plastic/Gel
7 mL	SV06	16x75 mm	Plastic	Plastic/Gel	Glass/ Plastic/Gel
7 mL	SV09	13x100 mm	Plastic	Plastic/Gel	Glass/ Plastic/Gel
10 mL	SV07	16x100 mm	Plastic	Plastic/Gel	Glass/ Plastic/Gel

## Operating Instructions

### Spinning the Sample

#### Unloading

- 
- 1** When the cycle completes, the rotor decelerates to a complete stop in 30 seconds or less. The instrument beeps, and latch interlock automatically unlocks.

---

  - 2** Lift the cover.

---

  - 3** Remove tubes carefully to not resuspend the sediment.

---

## Overview

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Beckman Coulter recommends that instrument operators perform periodic inspections and preventative maintenance on all devices. Contact Beckman Coulter at any time if the instrument is not functioning correctly.



### Caution

**Disconnect the power cord from the electrical outlet before performing maintenance or inspection.**



### Warning

**Do not expose the rotor to strong or concentrated acids, bases, esters, aromatic or halogenated hydrocarbons, ketones, or strong oxidizing agents, or environmental influences, including natural ultra-violet radiation. Doing so will subject the rotor to corrosion or weakening of the construction.**

## Cleaning

---

The Express 3 is supplied with a disposable bowl liner to simplify routine cleaning. Additional bowl liners are available (Product No. DL02). The liner should be replaced monthly or whenever a spill occurs. Clean the outside surfaces and control panel with a water-dampened cloth and mild detergent. Clean the inner surface or bowl with a mild detergent and, if necessary, a disinfectant, wiping with a cloth dampened with 70% alcohol or 10% bleach solution.



### Caution

**Do not spray cleaning solutions directly onto the centrifuge bowl or housing. Overspray can reach the motor bearings or internal circuitry, causing harm to the electronics and could also cause corrosion or weakening of the construction of the protective casing.**

**Before using any cleaning or decontamination methods other than those recommended by the manufacturer, users should check with the manufacturer that the proposed method will not damage the equipment. Cleaning and decontamination may be necessary as a safeguard before laboratory centrifuges, rotors, and any accessories are maintained, repaired, or transferred.**

## General Cleaning

- 
- 1 Open the centrifuge cover.
  - 2 Unplug the power cord from the electrical outlet.
-

## Maintenance

### Inspecting the Rotor Speed

- 
- 3 Remove all the tubes and inserts.

---

  - 4 Remove the rotor. For more information, refer to [Removing and Installing the Rotor](#).

---

  - 5 Remove the black gasket surrounding the chamber by pulling up one end of the gasket. Inspect the gasket for tears and excessive flattening.

---

  - 6 Remove the bowl liner and dispose. Install a new bowl liner.

---

  - 7 Reinstall the black gasket around the chamber opening.

---

  - 8 Inspect rotor for cracks or damage.

---

  - 9 Reinstall the rotor. For more information, refer to [Reinstalling the Rotor](#).

---

  - 10 Plug the power cord into the electrical outlet.
- 

### Disinfecting the Rotor

- 
- 1 Open the centrifuge cover.

---

  - 2 Unplug the power cord from the electrical outlet.

---

  - 3 Remove all the tubes and inserts.

---

  - 4 Remove the rotor. For more information, refer to [Removing and Installing the Rotor](#).

---

  - 5 The rotor and inserts can be soaked in detergent and warm water or a 10% bleach solution.

---

  - 6 Do not attempt to clean an insert that has a broken tube. Dispose of the insert immediately.

---

  - 7 Dry the rotor and inserts with a clean absorbent paper towel or allow to air dry.

---

  - 8 Inspect rotor for cracks or damage.

---

  - 9 Reinstall the rotor. For more information, refer to [Reinstalling the Rotor](#).

---

  - 10 Plug the power cord into the electrical outlet.
- 

### Inspecting the Rotor Speed

The rated speeds can be inspected with a stroboscope or photoelectric tachometer. Point the tachometer through the transparent cover at the reflective patch located near rotor center. Do not defeat any safety interlocks while performing the test. If the StatSpin Express 3 fails to achieve an operating speed of 7200 rpm  $\pm$ 5% in the 2 min and 3 min settings or 5600 rpm  $\pm$ 5% in the 5 min setting, contact Beckman Coulter Customer Support.

## Replacing the Fuse



**Caution**

If the fuse continues to blow after being replaced, contact service for additional assistance.

Items required:

- #2 flat head screwdriver.
- Replacement fuse (as required).

- 1 Turn off the instrument power and disconnect the power cord from the instrument.
- 2 Use the flat head screwdriver to remove the fuse block located below the ON and OFF switch.
- 3 Replace the fuse: 5 x 20 mm type, rated F3.0A, 250V.
- 4 Reinstall the fuse block and reconnect the power cord.

## Troubleshooting

**Table 7** No Power Light

No Power Light		
Is the instrument completely plugged into the electrical outlet?	No →	Plug power cord into the electrical outlet.
Yes ↓		
Is the electrical outlet working correctly?	No →	Try another electrical outlet.
Yes ↓		
Check the fuse.		
Is the fuse open?	Yes →	Replace fuse.
No ↓		
Contact Beckman Coulter Customer Support.		

**Table 8** Centrifuge Will Not Spin or Shuts Off

Centrifuge Will Not Spin		
Is the cover completely closed and cannot be opened manually?	No →	Completely close the cover.
Yes ↓		
Is the error light flashing?	Yes →	Identify source of error from flashing indicator lights, correct the error condition, and push the Stop or Open button to clear the error.
No ↓		
Contact Beckman Coulter Customer Support.		

**Table 9** Centrifuge Does not Open at the End of the Cycle

Centrifuge Does not Open at the End of the Cycle		
Is the bowl sealing gasket completely seated into the slot on the housing?	No →	Press the bowl gasket completely down into the housing slot.
Yes ↓		
Contact Beckman Coulter Customer Support.		

## Service

Refer all service to qualified service personnel or Contact Beckman Coulter Customer Support at 1-800-854-3633.

Be sure to complete and return the warranty card as directed.

### Decontamination before returning for service:

Any instrument or accessory containing accumulated blood or other biological or chemical deposits must be cleaned before shipment for service. This decontamination is required by Federal Law (Title 48 and 49 of the Federal Regulations) and according to the Environmental Protection Agency's Regulations for Biohazard Waste Management. Beckman Coulter cannot perform decontamination.

### Limited Warranty and Disclaimer:

Subject to the below exceptions and conditions, Beckman Coulter warrants to the original purchaser that the Equipment will be free from substantial defects in material, under normal use and service, for the period expiring twenty-four (24) months and (ii) Services will be performed in a workmanlike manner. As exclusive and sole remedy for breach of the

warranty, Beckman Coulter will, at its discretion, repair or replace any Equipment unit or part covered under this warranty returned to Beckman Coulter or an authorized repair center. Repaired or replaced instruments supplied under this warranty carry only the remaining portion of the original warranty and repairs shall not interrupt or prolong this warranty. No warranty extended hereby shall apply to any instrument that has been damaged due to misuse, negligence, accident, or damage resulting from unauthorized repairs, alterations, or improper installation.

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**Maintenance**

Service

APPENDIX A  
Specifications

**Specifications**

Product Number	SSX3
Model Number	M502-22
Spin Parameters	2 minutes: 120 seconds at 7,200 rpm, 4,440 xg
	3 minutes: 180 seconds at 7,200 rpm, 4,440 xg
	5 minutes: 300 seconds at 5,600 rpm, 2,685 xg
Acceleration Time	≤25 seconds
Deceleration Time	≤30 seconds
Electrical	100 to 240 VAC, 50/60Hz, 3.0 Amps
Dimensions	Height: 7 in
	Width: 11 in
	Depth: 10 in
	Weight: 8 3/4 lbs
Environmental	Indoor use
	Operating temperature: 2°C to 40°C
	Storage temperature -10°C to 50°C
	Maximum 80% RH between 2°C to 30°C, decreasing to 50% RH at 40°C
	Maximum altitude up to 2,000 m
	Main supply voltage fluctuations not to exceed ±10% of the nominal voltage
	Transient over-voltages according to installation category II
	Pollution degree 2
	Ingress Protection: IP20

**Specifications**  
Specifications

## References

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1. CLSI. *Protection of Laboratory Workers from Occupationally Acquired Infections; Approved Guideline-Second Edition*. CLSI document M29-A2 [ISBN 1-56238-453-8]. CLSI, 940 West Valley Rd, Suite 1400, Wayne, Pennsylvania 19087-1898 USA, 2001.
2. CDC. *Recommendations for Prevention of HIV Transmission in Health Care Settings*. MMWR (Suppl. No. 2S):2S-18S, 1987.
3. CDC. Updated: *US Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV and HIV and Recommendations for Post Exposure Prophylaxis*. Appendix A and B. MMWR 50 (RR-11): 1-42, June 29, 2001.

**References**

References



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