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





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

PN 55-005187-001EC (September 2018)

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Original Instructions

Revision History

55-005187-001 EC, 09/2018

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

55-005187-001 EB, 03/2018

- 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

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Revision History

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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



Warning indicates a potentially hazardous situation which, if not avoided, could 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, if not avoided, 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.

Express 3 Warning and Cautions

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.

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Warning

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

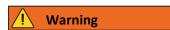
Perform system operations with caution.

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 Material Safety Data Sheets) for specific hazard information.



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.

Marning

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.

Warning

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

Warning

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

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.

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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.



Electromagnetic Wave and Noise

The system generates, uses, and can radiate radio frequency energy. If the system is not installed and operated correctly, this energy can cause interference with other equipment. In addition, other equipment can radiate radio frequency energy to which the system is sensitive. If you suspect interference between the system and other equipment, Beckman Coulter recommends the following actions to correct the interference:

- This equipment complies with the emission and immunity requirements described in this part of the EN/IEC 61326 -1.
- As to emission, this system has been designed and tested to CISPR 11 Class A, so in a
 domestic environment, it may cause radio interference, in which case, you may need to
 take measure to mitigate the interference.
- It is recommended to evaluate the electromagnetic environment prior to operations of the system.
- Do not use this system in close proximity to sources of strong electromagnetic radiation (for example, unshielded intentional RF sources). As they can interfere with the proper operation.
- Do not use mobile or cordless telephones and transceivers in the same room as the system.
- Do not use medical equipment that can be susceptible to malfunctions caused by Electric Magnetic Field (EMF) near the system.



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

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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.

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.



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.



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.

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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.



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.



This product may contain a chemical known to the State of California to cause cancer, or birth defects or other reproductive harm.



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



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.

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Symbols and Definitions

Table 1 Express 3 Symbols Glossary

Symbol Description		
A	Warning; Biological hazard	
	To warn of a biological hazard.	
	IEC 60878. Graphical Symbols for electrical equipment in medical practices. #7010-W009	
	Supplemental Product-Specific Manufacturer Information	
	This label indicates a caution to operate only with all covers in position to decrease risk of personal injury or biohazard.	
	This label indicates the use of biohazardous materials in the area. Use caution when working with possible infectious samples.	
	Wear Personal Protective Equipment (PPE) such as gloves, eye shields, and lab coats. Handle and dispose of biohazardous materials according to your laboratory procedures.	
™ 1	Consult instructions for use	
	Indicates the need for the user to consult the instructions for use.	
	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	
\wedge	Caution	
<u> </u>	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.	
	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	
\wedge	Moving Parts Symbol	
	The moving parts 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.	

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 Table 1
 Express 3 Symbols Glossary (Continued)

Symbol	Description		
c B us	cNRTLus Certification Mark 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. OSHA, CEC		
&	RCM Symbol This symbol indicates compliance with the Australian Communications Media Authority (ACMA) requirements (safety and EMC) for Australia and New Zealand.		
	 Recycling Symbol This label is required by the Waste Electrical and Electronic Equipment (WEEE) Directive of the European Union. The presence of this label indicates that: 1. The device was put on the European Market after August 13, 2005. 2. The device is not to be disposed of via the municipal waste collection system of any member state of the European Union. 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 local Beckman Coulter office for more information on the take-back program that facilitates the correct collection, treatment, recovery, recycling, and safe disposal of these products. EU Directive 2002-96-EC: waste electrical and electronic equipment (WEEE) For the Japan market: This system is considered an industrial waste, subject to special controls for infectious waste. Before disposal of the system, refer to the Waste Disposal and Public Cleaning Law for compliance procedures. 		

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 Table 1
 Express 3 Symbols Glossary (Continued)

Symbol	Description
新國。日期 / Mg. Date	RoHS Caution Symbol 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. 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 Marking for Control of Pollution Caused by Electronic Information Products requirements.
	"OFF" (power) To indicate disconnection from the mains, at least for mains switches or their positions, and all those cases where safety is involved. IEC 60417: Graphical symbols for use on equipment - Overview and application, #5008 Supplemental Product-Specific Manufacturer Information This symbol indicates the off position.
	"ON" (power) To indicate connection to the mains, at least for mains switches or their positions, and all those cases where safety is involved. IEC 60417: Graphical symbols for use on equipment - Overview and application, #5007 Supplemental Product-Specific Manufacturer Information This symbol indicates the on position.
~	Alternating current To indicate on the rating plate that the equipment is suitable for alternating current only; to identify relevant terminals. IEC 60417: Graphical symbols for use on equipment - Overview and application, #5032

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 Table 1
 Express 3 Symbols Glossary (Continued)

Symbol	Description
	Fuse
	To identify fuse boxes or their location.
	IEC 60417: Graphical symbols for use on equipment - Overview and application, #5016
	Supplemental Product-Specific Manufacturer Information
	This symbol is used to identify a fuse location and rating.
	Protective earth; protective ground
	To identify any 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.
	IEC 60417: Graphical symbols for use on equipment - Overview and application, #5019
П	Date of Manufacture
	To indicate the date when the medical device was manufactured.
	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
DEE	Catalogue Number
[NET]	Indicates the manufacturer's catalogue number so that the medical device can be identified.
	ISO 15223-1. Medical devices - Symbols to be used with medical device labels, labelling and information to be supplied - Part 1: General Requirements. #5.1.4
CNI	Serial number
	Indicates the manufacturer's serial number so that a specific medical device can be identified.
	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
Made in Country of Origin	Country of Origin Symbol
	This symbol indicates the country that the product was manufactured.

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 Table 1
 Express 3 Symbols Glossary (Continued)

Symbol	Description	
Info for USA only: California Proposition 65 WARNING Cancer & Reproductive Harm www.P65Warnings.ca.gov	California Proposition 65 This product can expose you to chemicals known to the State of California to cause Cancer and Reproductive Harm. For more information go to https://www.P65Warnings.ca.gov.	
4	Temperature limitation Indicates storage requirements limit.	
NON STERILE	Non-sterile Indicates non-sterile product.	
	Start button The Start button initiates the selected cycle.	
	Stop or Open button The Stop or Open button interrupts the cycle and stops the centrifugation. This button releases the cover.	
2 min	2 Minute Cycle The 2 min button selects a cycle of two minutes at 7200 rpm.	
3 min	3 Minute Cycle The 3 min button selects a cycle of three minutes at 7200 rpm.	
5 min	5 Minute Cycle The 5 min button selects a cycle of five minutes at 5600 rpm.	
• 1	Error or Service indicator The red indicator with an adjacent wrench symbol flashes to signal an error condition or remains continuously illuminated when service is needed.	



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.

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Inspecting the Packaging

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.



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

Confirming the Contents

The package contains:

- One Express 3 centrifuge (Model No. M502-22)
- One centrifuge rotor (Product No. RTX8)
- Eight rotor inserts for 13x75 mm tubes (Product No. SV08)
- Eight rotor 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

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



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.

- **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 lid before operating the centrifuge.

Connecting the Power

1 Plug the centrifuge into a grounded outlet supplying 100-240 V @ 50-60 Hz.

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Installation

Connecting the Power

- **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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System Overview

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.

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 (7mL 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 2.1 Express 3 Operator Controls

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

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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 2.2 Error Codes

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

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 Table 2.2
 Error Codes (Continued)

Cycle Time Indicator Combination	Problem	Solution
2 min and 3 min lights and red indicator flashing	Rotor over speed	Remove and inspect rotor. Reinstall the rotor. Contact customer service if error continues to occur.
2 min and 5 min lights and red indicator flashing	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.
3 min and 5 min lights and red indicator flashing	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.

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System Overview

Accessories

 Table 2.3
 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.		

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Operating Instructions

Opening and Closing the Cover

The electrically 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.



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.



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.



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

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.

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Operating Instructions

Spinning the Sample

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 0.5mL. 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.

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- **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 3.1 Cycle Selection

Setting	Description	Speed	RCF
2 min	Produces high quality plasma/serum from whole blood for chemistry, coagulation and cardiac testing.	7200 rpm	4440 xg
3 min	Produces high quality 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 3.2 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

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.

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Operating Instructions

Spinning the Sample

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Maintenance

Overview

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.



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



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.

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.



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.

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.

General Cleaning

- **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.

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Maintenance

Inspecting the Rotor Speed

- Remove the black gasket surrounding the chamber by pulling up one end of the gasket.
- Remove the bowl liner and dispose. Install a new bowl liner.
- Replace the black gasket around the chamber opening.
- Inspect rotor for cracks or damage.
- Reinstall the rotor. For more information, refer to Reinstalling the Rotor.
- Plug the power cord into the electrical outlet.

Disinfecting the Rotor

- Open the centrifuge cover.
- Unplug the power cord from the electrical outlet.
- 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.
- Do not attempt to clean an insert that has a broken tube. Dispose of the insert immediately.
- Dry the rotor and inserts with a clean absorbent paper towel or allow to air dry.
- Inspect rotor for cracks or damage.
- Reinstall the rotor. For more information, refer to Reinstalling the Rotor.
- 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 ±5% in the 2 min and 3 min settings or 5600 rpm ±5% in the 5 min setting, contact Beckman Coulter Customer Support.

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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 4.1 No Power Light

No P	ower 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.		

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Table 4.2 Centrifuge Will Not Spin or Shuts Off

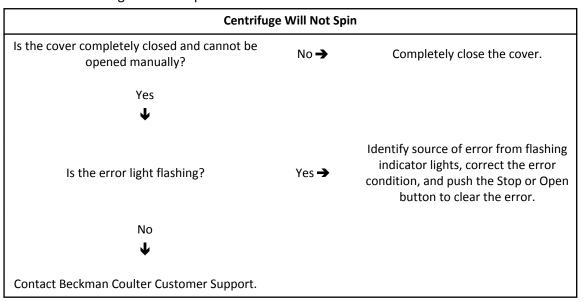


Table 4.3 Centrifuge Does not Open at the End of the Cycle

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 shall 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

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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.

THE WARRANTIES IN THIS SECTION ARE PROVIDED IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, AND ARE YOUR EXCLUSIVE REMEDIES RELATING TO PERFORMANCE OF THE PRODUCTS OR SERVICES. BECKMAN COULTER DISCLAIMS ALL OTHER WARRANTIES, INCLUDING WITHOUT LIMITATION, ANY WARRANTY ABOUT THE MERCHANTABILITY OF THE PRODUCTS, INFRINGEMENT OR THEIR FITNESS FOR A PARTICULAR PURPOSE. IF ANY IMPLIED WARRANTIES APPLY AS A MATTER OF LAW, THEY ARE LIMITED IN DURATION TO THE LENGTH OF THE TERM OF THIS AGREEMENT.

Representations and warranties made by any representatives, salespersons or agents of Beckman Coulter, which are inconsistent or in conflict with or in addition to the terms of this Agreement, will not be binding upon Beckman Coulter unless reduced to writing and approved by an expressly authorized officer of Beckman Coulter.

Limitation of Liability:

BECKMAN COULTER'S TOTAL LIABILITY AND YOUR EXCLUSIVE REMEDY UNDER THIS AGREEMENT WILL BE LIMITED TO DIRECT MONEY DAMAGES NOT TO EXCEED THE AMOUNT PAID BY YOU UNDER THIS AGREEMENT DURING THE TWELVE MONTHS PRECEDING THE DATE THAT THE CLAIM FIRST ACCRUED. THIS LIABILITY LIMIT IS CUMULATIVE AND ALL DAMAGES PAID TO YOU UNDER THIS AGREEMENT WILL BE AGGREGATED IN CALCULATING THE SATISFACTION OF BECKMAN COULTER'S LIABILITY LIMIT. BECKMAN COULTER WILL NOT BE RESPONSIBLE FOR ANY DAMAGES THAT YOU MAY INCUR FROM DELAYED SHIPMENT OR PRODUCT SELECTION, WHETHER LIABILITY IS ASSERTED IN CONTRACT, TORT, WARRANTY OR OTHERWISE. BECKMAN COULTER WILL HAVE NO LIABILITY TO YOU, OR ANY THIRD PARTIES FOR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL, EXEMPLARY OR PENAL LOSS OR DAMAGE OF ANY NATURE WHATSOEVER (INCLUDING WITHOUT LIMITATION LOSS OF PROFITS OR LOSS OF USE), EVEN IF BECKMAN COULTER WAS ADVISED OF THE POSSIBILITY OF SUCH DAMAGES AND WHETHER OR NOT SUCH DAMAGES WERE FORESEEABLE.

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Maintenance

Service

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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			
	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 should not to exceed ±10%			
	Transient over-voltages according to installation category II			
	Pollution degree 2			
	Ingress Protection: IP20			



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 Specification.

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Specifications

Specifications

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APPENDIX B References

References

- 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.

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References

References

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