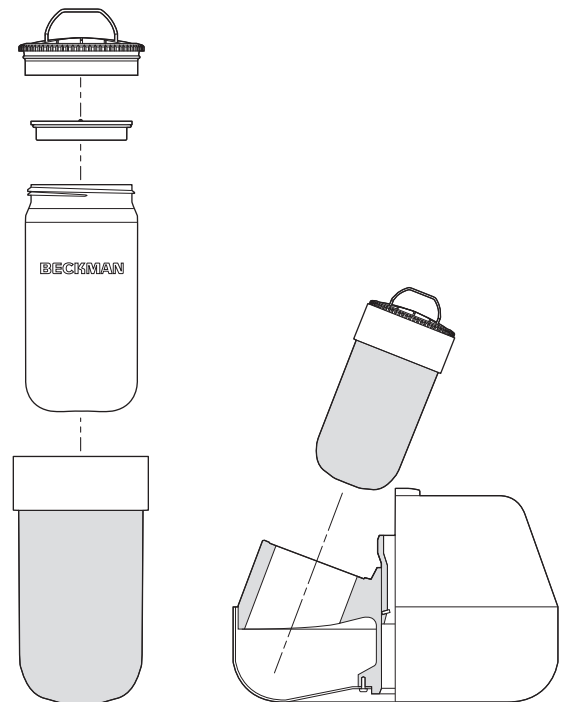


# Instructions For Use

## **J-Lite JLA-8.1000 and JLA-9.1000 Fixed-Angle Rotor Assemblies**

For Use in Beckman Coulter  
Avanti J Series Centrifuges



PN J-TB-073GC  
February 2014



Beckman Coulter, Inc.  
250 S. Kraemer Blvd.  
Brea, CA 92821 U.S.A.



**J-Lite JLA-8.1000 and JLA-9.1000**  
**Fixed-Angle Rotor Assemblies**  
PN J-TB-073GC (February 2014)

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Printed in the USA

# Safety Notice

Read all product manuals and consult with Beckman Coulter-trained personnel before attempting to use this equipment. Do not attempt to perform any procedure before carefully reading all instructions. Always follow product labeling and manufacturer's recommendations. If in doubt as to how to proceed in any situation, contact your Beckman Coulter Representative.

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

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**WARNING** indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



**CAUTION** indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury.

**NOTE** NOTE is used to call attention to notable information that should be followed during installation, use, or servicing of this equipment.

## Safety Information for the J-Lite JLA-8.1000 and JLA-9.1000 Fixed-Angle Rotor Assemblies

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These rotors were developed, manufactured, and tested for safety and reliability as part of a Beckman Coulter centrifuge/rotor system. Their safety or reliability cannot be assured if used in a centrifuge not of Beckman Coulter's manufacture or in a Beckman Coulter centrifuge that has been modified without Beckman Coulter's approval.

Handle body fluids with care because they can transmit disease. No known test offers complete assurance that such fluids are free of micro-organisms. Some of the most virulent—Hepatitis (B and C) viruses, HIV (I–V), atypical mycobacteria, and certain systemic fungi—further emphasize the need for aerosol protection. Handle other infectious samples according to good laboratory procedures and methods to prevent spread of disease. Because spills may generate aerosols, observe proper safety precautions for aerosol containment. Do not run toxic, pathogenic, or radioactive materials in this rotor without taking appropriate safety precautions. Biosafe containment should be used when Risk Group II materials (as identified in the World Health Organization *Laboratory Biosafety Manual*) are handled; materials of a higher group require more than one level of protection.

The rotors and accessories are not designed for use with materials capable of developing flammable or explosive vapors. Do not centrifuge such materials in nor handle or store them near the centrifuge.

**Safety Notice**

Safety Information for the J-Lite JLA-8.1000 and JLA-9.1000 Fixed-Angle Rotor Assemblies

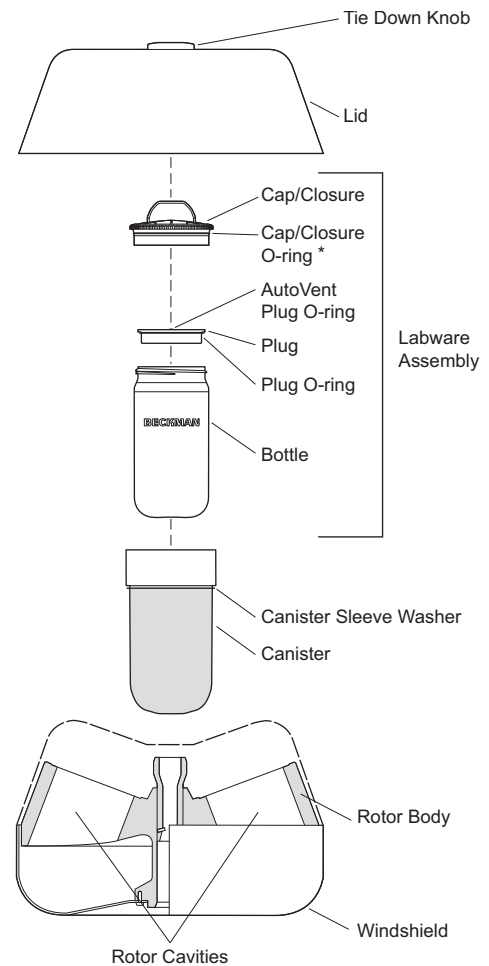
If disassembly reveals evidence of leakage, you should assume that some fluid escaped the rotor. Apply appropriate decontamination procedures to the centrifuge and accessories as required.

Never exceed the maximum rated speed of the rotor and labware in use. Refer to the section on [Run Speeds](#).

Do not use sharp tools on these rotors that could cause scratches in the rotor surface. Corrosion begins in scratches and may open fissures in the rotor with continued use.

**Additional information for the safe use of the J-Lite JLA-8.1000 and JLA-1.000 rotor assemblies.  
Please read before use.**

- Use all rotor components during each run, as shown. Six canisters must be run at all times in the JLA-8.1000, and four in the JLA-9.1000, whether loaded or empty. Do not place cap/ closures on top of empty canisters.
- NEVER load sample directly into a canister. Load sample into a bottle, seal the bottle with a plug and a cap/closure as described in this manual, and place the sealed bottle inside a canister.
- NEVER place a bottle directly into a rotor cavity. Place filled, sealed labware assemblies in canisters, previously installed in the rotor body.
- Check cap/closures, plugs, and their O-rings before each run to ensure that they are in good condition. The cap/closures must be free of crazing or other defects. The plug and cap/closure O-rings\* must be free of defects, and must be dry and unlubricated to ensure seal integrity.
- Before each use, inspect each bottle, cap/closure, and plug for cracks or damage. *Do not use damaged components.*
- Place filled canisters in at least two opposing cavities; place empty canisters in the other cavities. Make sure that filled canisters are loaded symmetrically into the rotor and that opposing containers are filled to the same level with liquid of the same density.
- Place the rotor lid on top of the rotor body and securely fasten the round tie-down knob.
- Opposing filled canisters, plus labware and sample, must weigh within 30 grams of each other.
- Although rotor components and accessories made by other manufacturers may fit in the JLA-8.1000 and JLA-9.1000 rotors, their safety in these rotors cannot be ascertained by Beckman Coulter. Use of other manufacturers' components or accessories in these rotors may void the rotor warranty and should be prohibited by your laboratory safety officer. Use only the components and accessories listed in this publication in these rotors.



\* Cap/closure O-ring included only with bottle assemblies 363676 and 363678.

**Safety Notice**

Safety Information for the J-Lite JLA-8.1000 and JLA-9.1000 Fixed-Angle Rotor Assemblies

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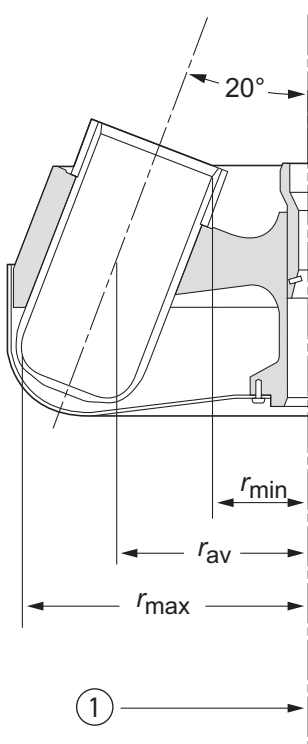
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# J-Lite JLA-8.1000 and JLA-9.1000 Fixed-Angle Rotor Assemblies

## Specifications for the JLA-8.1000 Fixed-Angle Rotor Assembly

**NOTE** The JLA-8.1000 rotor can be used in Avanti JXN-26, J-26S XP series, Avanti J-26 XP series, and in discontinued Avanti J-20 series and Avanti J-20 XP series centrifuges only.



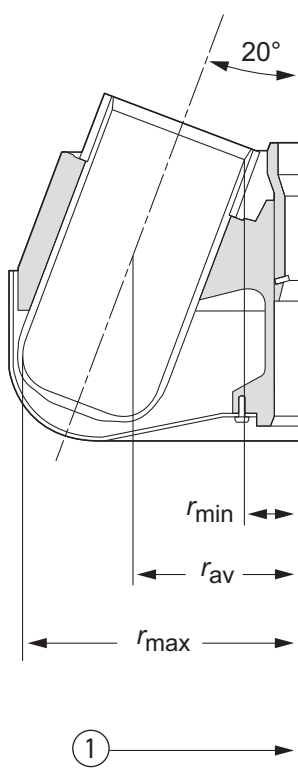
1. Axis of Rotation

Maximum speed .....	8000 RPM
Critical speed range <sup>a</sup> .....	200 to 400 RPM
Maximum solution density .....	1.2 g/mL
Relative Centrifugal Field <sup>b</sup> at maximum speed	
At $r_{max}$ (222.8 mm) .....	$15,970 \times g$
At $r_{av}$ (171 mm) .....	$12,300 \times g$
At $r_{mins}$ (119 mm) .....	$8530 \times g$
$k$ factor at maximum speed (full 1000-ml bottle) .....	2482
Conditions requiring speed reductions .....	see <a href="#">Run Speeds</a>
Number of removable canisters .....	6
Available bottle and tubes .....	see <a href="#">Table 1</a>
Nominal dimensions of largest bottle .....	$95 \times 191$ mm
Nominal bottle capacity .....	1000 mL
Nominal rotor capacity .....	6 liters
Weight of fully loaded rotor (with lid) .....	34.6 kg (76 lb)
Minimum installation weight (rotor body and windshield) .....	16.8 kg (37 lb)
Weight of single empty canister .....	630 gams (1.4 lb)
Maximum sample load for each canister at rated speed (including bottle, plug, cap/closure, and sample) .....	1500 grams (3.3 lb)
Approximate acceleration time to maximum speed (rotor fully loaded) .....	6 min
Approximate deceleration time from maximum speed (rotor fully loaded, max. brake) .....	3 min
Maximum allowable imbalance of opposing loads .....	30 grams
Rotor body material .....	aluminum
Canister material .....	carbon fiber epoxy composite
Plug material .....	polycarbonate or polyetherimide (PEI)
Cap/closure material ....	polyphenylsulfone (PPSU) or polyphenylene sulfide (PPS)

a. The critical speed range is the range of speeds over which the rotor shifts so as to rotate about its center of mass. Passing through the critical speed range is characterized by some vibration.

## Specifications for the JLA-9.1000 Fixed-Angle Rotor Assembly

**NOTE** Before the JLA-9.1000 rotor can be used in an Avanti J series centrifuge shipped before January 1998, a field upgrade of the centrifuge is required. Contact Beckman Coulter Field Service for information.



1. Axis of Rotation

Maximum speed.....	9000 RPM
Critical speed range <sup>a</sup> .....	200 to 400 RPM
Maximum solution density.....	1.2 g/mL
Relative Centrifugal Field <sup>b</sup> at maximum speed	
At $r_{\max}$ (185 mm).....	$16,800 \times g$
At $r_{\text{av}}$ (143 mm).....	$12,200 \times g$
At $r_{\text{mins}}$ (82 mm).....	$7440 \times g$
$k$ factor at maximum speed (full 1000-ml bottle).....	2544
Conditions requiring speed reductions.....	see <a href="#">Run Speeds</a>
Number of removable canisters.....	4
Available bottle and tubes.....	see <a href="#">Table 1</a>
Nominal dimensions of largest bottle.....	$95 \times 191$ mm
Nominal bottle capacity.....	1000 mL
Nominal rotor capacity.....	4 liters
Weight of fully loaded rotor (with lid).....	20.8 kg (45.9 lb)
Minimum installation weight (rotor body and windshield).....	10.8 kg (23.9 lb)
Weight of single empty canister.....	630 grams (1.4 lb)
Maximum sample load for each canister at rated speed (including bottle, plug, cap/closure, and sample).....	1500 grams (3.3 lb)
Approximate acceleration time to maximum speed (rotor fully loaded).....	$2 \frac{1}{2}$ min
Approximate deceleration time from maximum speed (rotor fully loaded, max. brake).....	3 min
Maximum allowable imbalance of opposing loads.....	30 grams
Rotor body material.....	aluminum
Canister material.....	carbon fiber epoxy composite
Plug material.....	polycarbonate or polyetherimide (PEI)
Cap/closure material.....	polyphenylsulfone (PPSU) or polyphenylene sulfide (PPS)

a. The critical speed range is the range of speeds over which the rotor shifts so as to rotate about its center of mass. Passing through the critical speed range is characterized by some vibration.

b. Relative Centrifugal Field (RCF) is the ratio of the centrifugal acceleration at a specified radius and speed ( $r\omega^2$ ) to the standard acceleration of gravity ( $g$ ) according to the following formula:  $RCF = r\omega^2/g$  — where  $r$  is the radius in millimeters,  $\omega$  is the angular velocity in radians per second ( $2\pi \text{ RPM}/60$ ), and  $g$  is the standard acceleration of gravity ( $9807 \text{ mm/s}^2$ ). After substitution:  $RCF = 1.12r(\text{RPM}/1000)^2$

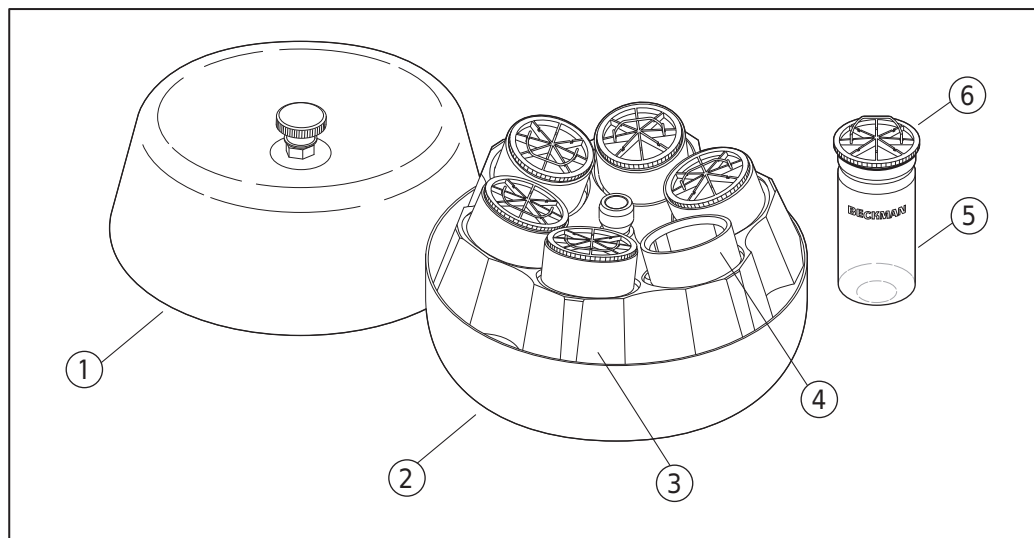
## Description

*These rotors have been manufactured in a facility that maintains certifications to both ISO 9001:2008 and ISO 13485:2003. They are for use in the specified Beckman Coulter centrifuges.*

The J-Lite JLA-8.1000 fixed-angle rotor assembly, rated for 8000 RPM, has a tube angle of 20 degrees from the axis of rotation and is used in Beckman Coulter Avanti JXN-26, J-26S XP series, Avanti J-26 XP series, and discontinued Avanti J-20 series and Avanti J-20 XP series centrifuges. The J-Lite JLA-9.1000 fixed-angle rotor assembly, rated for 9000 RPM, also has a tube angle of 20 degrees from the axis of rotation and is used in all Beckman Coulter Avanti J series centrifuges. These rotors develop centrifugal forces that can efficiently pellet cells from large volumes of culture media, cell particles from tissue homogenates, or subcellular organelles.

The JLA-8.1000 and 9.1000 rotor assemblies consist of a rotor body with attached windshield, a rotor lid and lid knob, and six (JLA-8.1000) or four (JLA-9.1000) removable carbon fiber composite canisters (see [Figure 1](#) and [Figure 2](#)). The canisters are interchangeable, allowing the use of multiple sets of canisters with a single rotor body

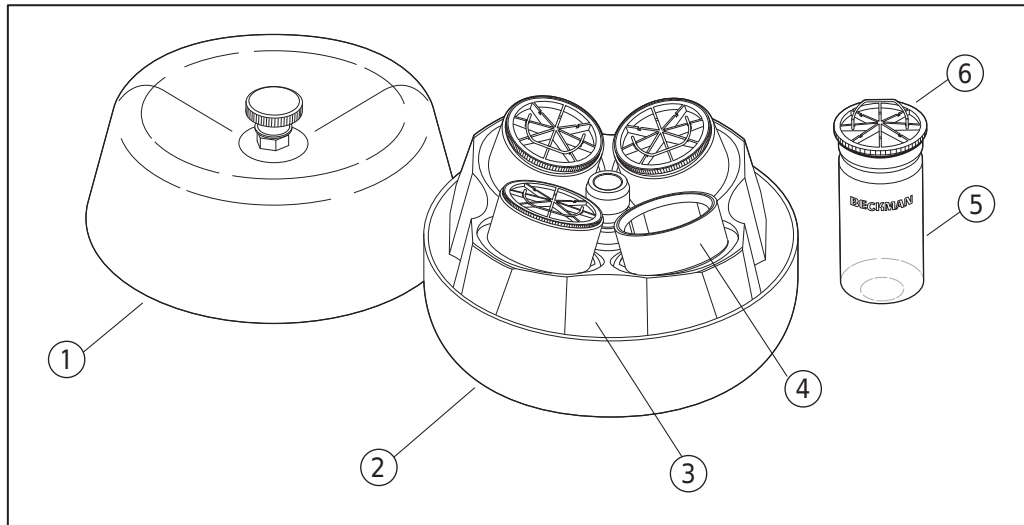
**Figure 1** The JLA-8.1000 Fixed-Angle



- |               |                |
|---------------|----------------|
| 1. Lid        | 4. Canister    |
| 2. Windshield | 5. Bottle      |
| 3. Rotor Body | 6. Cap/Closure |

The rotor body, windshield, and lid are made of anodized aluminum. The canisters are made of carbon fiber epoxy composite, with a nickel-plated aluminum sleeve. Two pins in the rotor drive hole seat alongside the centrifuge drive hub teeth, preventing the rotor from slipping during centrifugation. The lid tie-down knob assembly secures the rotor to the centrifuge drive hub.

**Figure 2** The JLA-9.1000 Fixed-Angle Rotor



- |               |                |
|---------------|----------------|
| 1. Lid        | 4. Canister    |
| 2. Windshield | 5. Bottle      |
| 3. Rotor Body | 6. Cap/Closure |

The rotors, with bottle assemblies 363676, 363678, A98812, and A98813 have been tested\* with and without HarvestLine System liners (369256) to demonstrate containment of microbiological aerosols under normal conditions of the associated Beckman Coulter centrifuge when used and maintained as instructed.

For warranty information, see the Warranty at the back of this manual. Each canister is marked with an individual serial number and expiration date; *do not use a canister after the expiration date.*

## Preparation and Use

Specific information about the JLA-8.1000 and JLA-9.1000 rotor assemblies is given here. Information common to these and other rotors is contained in the manual *Rotors and Tubes for J Series Centrifuges* (publication JR-IM-10), which should be used together with this manual for complete rotor and accessory information.

**NOTE** Although rotor components and accessories made by other manufacturers may fit in the JLA-8.1000 and JLA-9.1000 rotors, their safety in these rotors cannot be ascertained by Beckman Coulter. Use of other manufacturers' components or accessories in these rotors may void the rotor warranty and should be prohibited by your laboratory safety officer. Use only the components and accessories listed in this publication in these rotors.

\* Validation of microbiological containment was done at an independent third-party testing facility (CAMR, Porton Down, UK, or USAMRIID, Ft. Detrick, MD, U.S.A.). Improper use or maintenance may affect seal integrity and thus containment.

## Bottles and Tubes

The JLA-8.1000 and JLA-9.1000 rotor assemblies use the bottles and tubes listed in [Table 1](#). Be sure to use only those items listed and to observe the maximum fill volumes and speed limits shown. Refer to *Chemical Resistances* (publication IN-175) for information on the chemical compatibilities of bottle and accessory materials.

**Table 1** Bottles and Tubes Used in the JLA-8.1000 and JLA-9.1000 Rotors

Bottle or Tube			Max Fill Volume (mL)	Required Accessory				
Dimensions and Volume	Description	Part Number		Description	Part Number	Max No. Tubes per Adapter	Max Speed <sup>a</sup> /RCF/ <i>k</i> factor in JLA-9.1000	Max Speed <sup>a</sup> /RCF/ <i>k</i> factor in JLA-8.1000
95 × 191 mm 1000 mL	polycarbonate bottle with cap/closure and plug made with USP Class VI material	A98812	1000 <sup>b</sup>	none	—	—	9000/ 16,800/ 2544	8000/ 15,970/ 2482
95 × 191 mm 1000 mL	polypropylene bottle with polyphenylsulfone cap/closure and plug made with USP Class VI material	A98813	1000 <sup>b</sup>	none	—	—	9000/ 16,800/ 2544	8000/ 15,970/ 2482
95 × 191 mm 1000 mL	polypropylene bottle with polyphenylene sulfide cap/closure and plug made with USP class VI material	B29896	1000 <sup>b</sup>	none	—	—	9000/ 16,800/ 2544	8000/ 15,970/ 2482
95 × 191 mm 1000 mL	polycarbonate bottle with cap/closure and plug	363676	1000 <sup>b</sup>	none	—	—	9000/ 16,800/ 2544	8000/ 15,970/ 2482
95 × 191 mm 1000 mL	polypropylene bottle with cap/closure and plug	363678	1000 <sup>b</sup>	none	—	—	8000/ 13,300/ 3220	7000/ 12,200/ 3242
69 × 160 mm 500 mL	polycarbonate bottle w/cap assy	355605	465	adapter	363683 <sup>c</sup>	1	9000 —	8000 —
69 × 160 mm 500 mL	polypropylene bottle w/cap assy	355607	445	adapter	363683 <sup>c</sup>	1	8000 —	8000 —

**Table 1** Bottles and Tubes Used in the JLA-8.1000 and JLA-9.1000 Rotors (Continued)

Bottle or Tube			Max Fill Volume (mL)	Required Accessory				
Dimensions and Volume	Description	Part Number		Description	Part Number	Max No. Tubes per Adapter	Max Speed <sup>a</sup> /RCF/ k factor in JLA-9.1000	Max Speed <sup>a</sup> /RCF/ k factor in JLA-8.1000
62 × 120 mm 250 mL	polypropylene wide-mouth bottle w/cap assy	356011	250	adapters	362750 <sup>c</sup> in 363683 <sup>c</sup>	1	9000 —	8000 —
62 × 120 mm 250 mL	polycarbonate wide-mouth bottle w/cap assy	356013	250	adapters	362750 <sup>c</sup> in 363683 <sup>c</sup>	1	9000 —	8000 —
29 × 104 mm 50 mL	polycarbonate bottle w/ liquid-tight cap assy	357000	45	adapters	356996 <sup>d</sup> in 363683 <sup>c</sup>	1	9000 —	8000 —
29 × 104 mm 50 mL	polypropylene bottle w/ liquid-tight cap assy	357001	45	adapters	356996 <sup>d</sup> in 363683 <sup>c</sup>	1	9000 —	8000 —
29 × 104 mm 50 mL	polypropylene bottle w/screw cap	357003	40	adapters	356996 <sup>d</sup> in 363683 <sup>c</sup>	1	9000 —	8000 —
29 × 104 mm 50 mL	polypropylene thickwall tube w/snap-on cap	357005	36.5	adapters	356996 <sup>d</sup> in 363683 <sup>c</sup>	1	9000 —	8000 —
				natural 29-mm cap	356264 <sup>e</sup>			
				red 29-mm cap	357369 <sup>e</sup>			
				green 29-mm cap	357360 <sup>e</sup>			
				yellow 29-mm cap	357361 <sup>e</sup>			
				blue 29-mm cap	357362 <sup>e</sup>			
29 × 104 mm 50 mL	polypropylene thickwall tube, no cap	357007	50	adapters	356996 <sup>d</sup> in 363683 <sup>c</sup>	1	9000 —	8000 —
29 × 104 mm 50 mL	polycarbonate open-top tube	363647	40	adapters	356996 <sup>d</sup> in 363683 <sup>c</sup>	1	9000 —	8000 —
29 × 104 mm 50 mL	polycarbonate tube w/snap-on cap	363664	40	adapters	356996 <sup>d</sup> in 363683 <sup>c</sup>	1	9000 —	8000 —



**Table 1** Bottles and Tubes Used in the JLA-8.1000 and JLA-9.1000 Rotors (Continued)

Bottle or Tube			Max Fill Volume (mL)	Required Accessory				
Dimensions and Volume	Description	Part Number		Description	Part Number	Max No. Tubes per Adapter	Max Speed <sup>a</sup> /RCF/ <i>k</i> factor in JLA-9.1000	Max Speed <sup>a</sup> /RCF/ <i>k</i> factor in JLA-8.1000
17 × 119 mm 15 mL	conical polypropylene open-top tube	355663	15	adapters	356960 <sup>d</sup> in 363683 <sup>c</sup>	5	6500 —	6500 —
Bio-Vials 14 × 55 mm 4 mL	polypropylene, capped	566353	4	adapters	342098 <sup>f</sup> in 362750 <sup>c</sup> in 363683 <sup>c</sup>	1	9000 —	8000 —

- a. Maximum speeds listed are guidelines only. These speeds have been achieved in reliability tests at Beckman Coulter, but, because of manufacturing variances, no guarantee of performance is expressed or implied
- b. Do not fill above the maximum fill line marked on the bottle. Minimum fill volume for bottles 363676 and A98812 is 500 mL; minimum fill volume for bottles 363678, A98813, and B29896 is 1000 mL.
- c. Polyethylene terephthalate (PET).
- d. Polypropylene.
- e. Polypropylene, package of 25.
- f. Acetal.

The specially designed Beckman Coulter 1000-mL bottles are sealed using attached plugs and patented cap/closures (see [Figure 3](#)).

Silicone O-rings on the plug and the cap/closure\* create the seals (*the O-rings must be free of defects, dry, properly seated, and unlubricated to ensure sealing*).

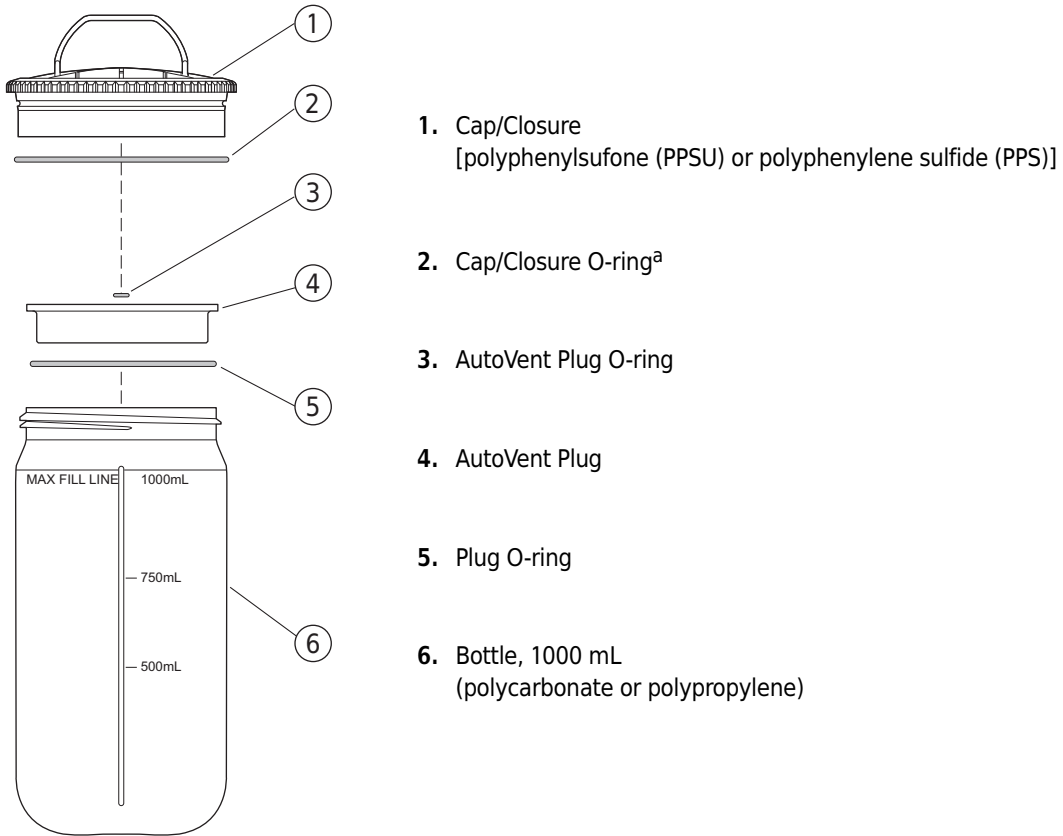
Bottles may be centrifuged at normal operating temperatures (from 2 to 25°C; bottle A98813 can be centrifuged up to 40°C), but should be tested under simulated conditions first when working at temperatures below 2°C or above 25°C.

**NOTE** The useful life of plastic bottles varies slightly between lots, but will largely depend on handling and usage. We highly recommend that you pretest labware in the rotor using water samples to determine your optimal operating conditions.

The manufacturing process can cause small cosmetic flaws on polycarbonate and polypropylene bottles. These flaws, which may appear as irregular or scraped surface areas, are cosmetic only. They do not affect the function nor shorten the life of the bottle.

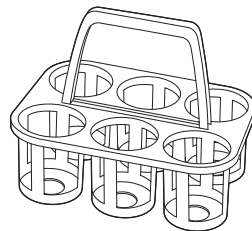
\* Applies to bottle assemblies 363676 and 363678 only.

**Figure 3** 1 000-mL Bottle Assemblies Used in the JLA-8.1000 and JLA-9.1000 Rotor Assemblies\*



a. Applies to bottle assemblies 363676 and 363678 only.

A six-place rack (974627) for carrying the bottles is provided with labware kit 392574. Extra racks may be ordered.

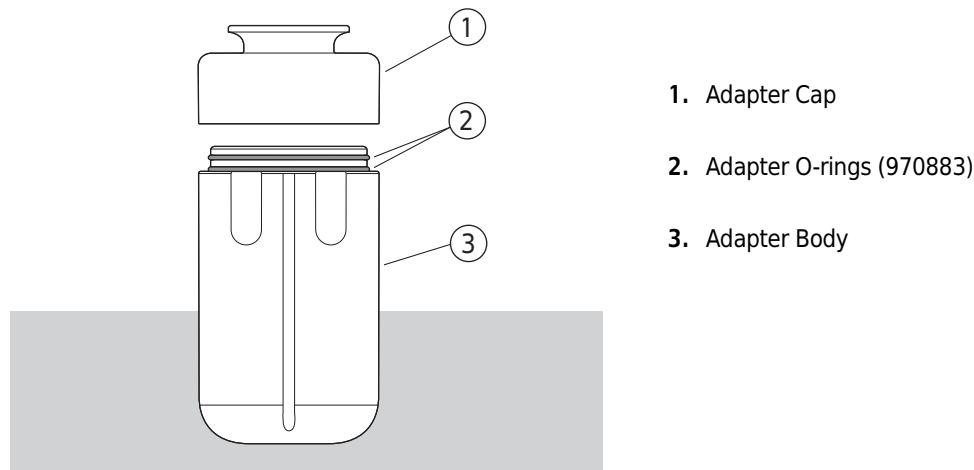


Bottle Rack (974627)

The 500-mL adapter (363683, see [Figure 4](#)) enables the use of 500-mL, 250-mL, 50-mL, and 15-mL bottles and tubes, and Bio-Vials. Labware smaller than 500 mL must be placed in another adapter, or in more than one other adapter, before being placed in the 500-mL adapter. See [Table 1](#) for a list of bottles, tubes, and adapters that can be used.

\* See the [Supply List](#) for part numbrs.

**Figure 4** The 500-mL Adapter for the JLA-8.1000 and JLA-9.1000 Rotors



## HarvestLine System Liners

The HarvestLine System (369264), consisting of nonsterile polyetherurethane liners that are placed inside the rotor bottles, is available for use with the JLA-8.1000 and JLA-9.1000 rotors. The HarvestLine System provides a convenient method of loading, recovering, and storing samples. The liners are loaded with sample through a funnel or fermentor hose. A valve in the liner neck is sealed, and the liner necks are folded to fit inside the 1000-mL bottles. The bottles are sealed with rotor plugs and cap/closures, and the sealed bottles are placed into the rotor canisters for centrifugation. After centrifugation, the liner valves are cut off and the supernatant is decanted, either for storage or disposal. The liners can then be heat-sealed for pellet storage or disposal.

This rotor manual does not contain instructions for use of the HarvestLine System. HarvestLine System instructions are contained in Litpak 369263, which contains document J-TB-093, *HarvestLine System Liner Kit 369264*.

## Prerun Safety Checks

Read the [Safety Notice](#) section at the front of this manual before using the rotor.

- 1 Make sure that the rotor and lid are clean and show no signs of corrosion or cracking.
- 2 Inspect the canisters for damage (see [About Composite Canisters](#), later in this manual).
- 3 Before each use, inspect each bottle, cap/closure, and plug for cracks or damage.  
*Do not use damaged components.*

- 
- 4 Check the chemical compatibilities of all materials used.  
Refer to *Chemical Resistances* (publication IN-175), included in the *Rotors and Tubes CD*.
- 
- 5 Use only the bottles, tubes, and adapters listed in [Table 1](#)
- 

## Rotor Preparation

- 
- 1 Before each run, make sure the rotor is seated on the centrifuge drive hub, with the rotor drive pins alongside the teeth on the top surface of the hub, and that the lid knob is tight.
- 
- 2 If you run less than a full load, arrange the loaded canisters opposite each other in the rotor and place empty canisters in the other cavities.
    - a. Fill opposing bottles to the same level with liquid of the same density.
    - b. *Place a canister, loaded or empty, in each rotor position during a run.*
- 
- 3 Make sure that the plug and cap/closure O-rings\* are in good condition, are properly installed, and that they are completely *dry and unlubricated*.  
If the O-rings or the sealing area are wet, bottle leakage may result.
- 
- 4 For low-temperature runs (from approximately 2 to 10°C), precool the rotor, canisters, labware, and sample in the centrifuge or in a refrigerator before use, especially before short runs.  
A suggested rotor precooling cycle is a minimum of 30 minutes at 2000 RPM at the required temperature.
- 
- 5 After high-temperature runs (40°C), the cap/closure may be difficult to remove.
    - a. To prevent sticking, spray a light coating of polytetrafluoroethylene (PTFE) spray (366772) on the *top surface only* of the plug.
    - b. Allow the plug to dry completely before use.
- 

\* Applies to bottle assemblies 363676 and 363678 only.

## Installing the Rotor

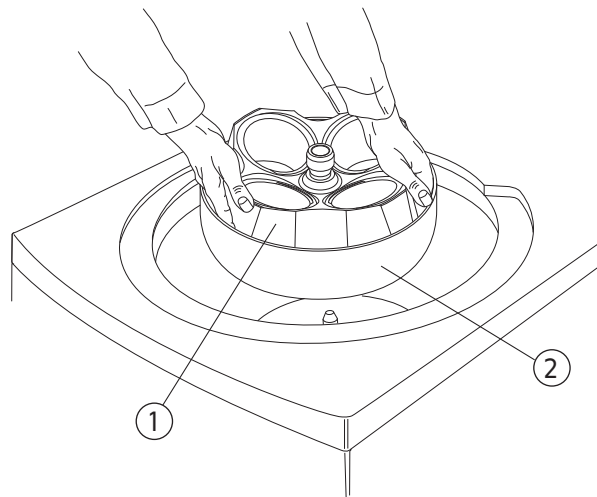
- 1 Hold the rotor by the scalloped areas between the canister cavities and carefully lower the rotor straight down onto the centrifuge drive hub (see [Figure 5](#)).  
Do not hold the rotor by the windshield during installation

**NOTE** Do not drop the rotor onto the hub or the hub could be damaged.



**If the rotor is left in the centrifuge between runs, make sure the rotor is seated on the drive hub and the tie-down knob is tight before each run.**

**Figure 5** Installing the Rotor (JLA-9.1000 shown)



1. Rotor Scallop  
(four total on JLA-9.1000  
six on JLA-8.1000)
2. Windshield

- 2 Turn the rotor slightly around the centrifuge drive hub to ensure that the rotor is properly seated.
- 3 After canisters are installed, place the lid on the rotor and tighten the lid tie-down knob to secure the rotor to the centrifuge drive hub.

## Loading the Canisters

**NOTE** canisters run in opposite positions in the rotor must balance to within 30 grams of each other. Load opposing canisters with the same type of labware containing the same amounts of fluid of equal density. Do not exceed the rated maximum sample load for any single canister, which is 1500 grams (3.3 lb), including bottle, sample, plug, and cap/closure.

## Working with Physiological Fluids

### **WARNING**

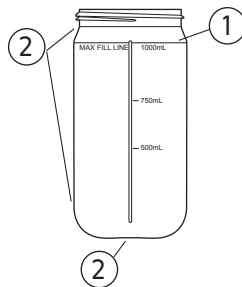
Handle body fluids with care because they can transmit disease. No known test offers complete assurance that they are free of micro-organisms. Some of the most virulent — Hepatitis (B and C) viruses, HIV (I-V), atypical mycobacteria, and certain systemic fungi — further emphasize the need for aerosol protection. Take appropriate safety precautions when handling toxic, pathogenic, or other hazardous materials.

When working with potentially hazardous materials, always fill and open containers in an appropriate hood or biological safety cabinet. In addition, it is strongly recommended that all containers carrying physiological fluids be capped to prevent leakage.

### Loading the 1000-mL Bottle and Labware Assemblies

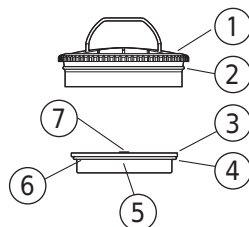
- 1 Inspect the bottles that you will be using, especially in the areas shown in the illustration. Do not use bottles that are cracked or deformed.

- 2 Fill a bottle with sample.  
*Do not fill above the maximum fill line marked on the bottle.*  
See [Table 1](#) for complete fill volume and run speed information.



1. Do not fill above this line
2. Inspect here

- 3 Regularly inspect the cap/closure you will be using.



1. Cap/Closure
2. O-ring<sup>a</sup>
3. Plug
4. O-ring
5. Plug/Bottle Interface
6. Inspect here
7. AutoVent Plug O-ring

a. Applies to bottle assemblies 363676 and 363678 only.

- a. Inspect the O-ring groove\* threaded areas, inside and out, for cracking.
- b. Regularly inspect the plug in the areas behind the O-ring for cracking.
- c. Make sure that the O-rings are in place and in good condition, and that for the plug, both the O-ring and the plug/bottle interface are completely dry.
- d. Make sure that the large and small plug O-rings are in place.
- e. For the cap/closure, make sure that the area around the O-ring is completely dry.\*
- f. *Do not lubricate the O-rings.*

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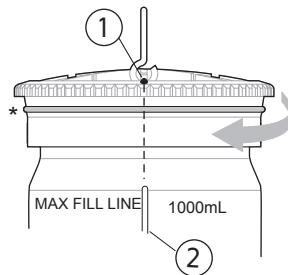
**4** Place a plug on the bottle.

- a. Then place a cap/closure over the plug and tighten firmly by hand, to where the scribe mark is as closely as possible aligned with the vent line on the bottle, or beyond the line if possible.

You cannot over tighten the closure by hand.

Tools are available to assist in tightening and loosening cap/closures.

See [Bottle Grip and Wrench \(Kit 36670\)](#) below.



1. Tighten the cap/closure until this mark is as closely as possible aligned with the bottle vent line
2. Vent Line

---

**5** Place the filled, sealed labware assembly into an empty canister, using a twisting motion to ensure proper seating.

- a. Place the canister into a cavity in the installed rotor.



**Bottles MUST be placed into canisters. NEVER place a bottle directly into a rotor cavity.**

---

**6** Repeat steps 1 through 5 for all of the bottles to be run.

---

**7** Make sure that a canister is installed in every rotor position (run empty canisters without cap/closures).

Opposing filled canisters, plus labware and sample, must weigh within 30 grams of each other.

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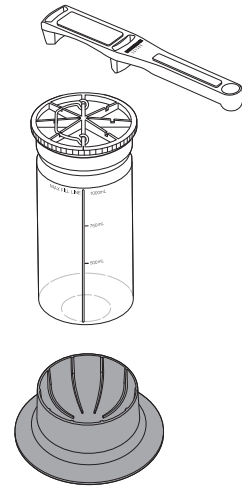
\* Applies to bottle assemblies 363676 and 363678 only.

### Bottle Grip and Wrench (Kit 36670)

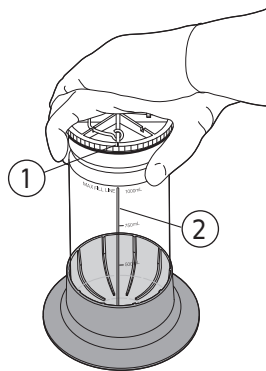
It is very important that bottles be tightly sealed before a run to prevent leakage. Some users may find it difficult to hand-tighten the parts adequately. Kit 36670, provided with labware kit 392574, contains a bottle grip and a wrench that are designed to simplify tightening and loosening cap/closures to seal and unseal bottles.

#### Using the Bottle Grip

The bottle grip seats on any flat surface and holds the bottle snugly in place, leaving both hands free for loading and sealing. It is not necessary to affix the grip to the surface; pressing down as you turn the cap/closure prevents the grip from moving.



- 1 Inspect all parts as described in [Loading the 1000-mL Bottle and Labware Assemblies](#), above.
- 2 Place an empty bottle in the grip, with the bottle vent line toward you.
  - a. Push down until the bottle is seated.



1. Scribe Mark
2. Vent Line

- 3 Fill the bottle.
- 4 Place a plug on the bottle.
- 5 Place a cap/closure over the plug.



---

**6** Tighten the cap/closure.

*Without the Wrench*

Grasp the cap/closure with both hands, push down for leverage, and turn the cap/closure to the right (clockwise) until the scribe mark on the cap/closure is as closely as possible aligned with the bottle vent line, or beyond the mark if possible.

*Using the Wrench*

**NOTE** The wrench provides additional leverage for tightening and loosening the cap/closure.

Hold the narrow end of the wrench in one hand and insert the two prongs in any position in the top of the cap/closure. Place your other palm on the flat textured area over the prongs. Press down with your palm and tighten the cap/closure until the scribe mark on the cap/closure is as closely as possible aligned with the vent line on the bottle, or beyond the mark if possible. Loosen sealed bottles by pressing down and turning the wrench to the left (counterclockwise).

---

**7** Remove the bottle from the bottle grip, load it into a canister, and then into the rotor.

---

### Loading the 500-mL Adapters

---

**1** Prepare the 500-mL adapter by making sure that the two O-rings are in place as shown in [Figure 4](#).

*Do not lubricate the O-rings.*

---

**2** Fill and seal the bottles or tubes to be used in the 500-mL adapters.

---

**3** If 500-mL bottles are used, place each bottle directly into a 500-mL adapter.

- a.** For bottles of different sizes, first load the bottles into the adapters listed in [Table 1](#) and then place the filled bottle/adapter assembly into the 500-mL adapters.

*Do not load sample directly into the 500-mL adapter.*

---

**4** Place the adapter cap on the adapter, push down, and twist.

The bottom edge of the adapter cap will not touch the top of the adapter, but the assembly is sealed by the O-rings and will seal completely during centrifugation.

- 
- 5** Hold the adapter by the adapter body, not by the adapter cap, and place the filled adapter into a canister.

No special orientation of the adapter in the canister is required.

Make sure that six canisters are loaded into the JLA-8.1000 rotor, or four canisters in the JLA-9.1000 rotor, prior to centrifugation.

---

## Temperature

Enter the run temperature according to the instructions in your centrifuge instruction manual.

**NOTE** To ensure that the rotor assembly reaches the required temperature during the run, precool or prewarm the rotor, canisters, labware, and sample to the required run temperature before starting the run.

## Removal and Sample Recovery



If disassembly reveals evidence of leakage, you should assume that some fluid escaped the rotor. Apply appropriate decontamination procedures to the ultracentrifuge and accessories.

### Removing 1000-mL Bottles

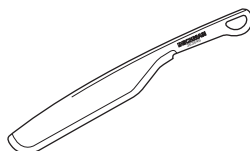
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- 1** Unscrew the rotor lid knob.  
Remove the lid and set it aside.
- 
- 2** Grasp the metal handle on top of each cap/closure and, using a lifting and twisting motion, lift the sealed bottle assemblies out of each canister.  
If required, place the sealed bottles under a safety hood before removing the cap/closures and plugs.  
Use caution when opening the sealed assemblies.  
Tools are available to assist in tightening and loosening cap/closures.  
See [Bottle Grip and Wrench \(Kit 36670\)](#), above.
-

## Removing Pellets from 1000-mL Bottles

- 1 Use the spatula provided to remove pellet from the bottle.

Do not use a metal tool to remove pellet, as metal could scratch or damage the bottle and shorten the bottle's useful life.



Spatula for removing pellets (363646)

## Removing 500-mL Adapters

- 1 After centrifugation, remove the 500-mL adapters from the canisters by grasping each adapter cap top and pulling up until you can grasp the adapter body.

Then, holding the adapter body, remove the adapter completely and set it on a flat surface.

- 2 To remove the adapter cap, hold the adapter firmly in one hand and, with the other hand, twist and lift off the cap.

Placing your fingers in the indentations in the adapter may help you to grip the adapter tightly. Some users may find the adapter caps difficult to remove.

To facilitate removal, use the bottle grip tool described above.

## Run Times

The  $k$  factor of the rotor is a measure of the rotor's pelleting efficiency. Beckman Coulter has calculated the  $k$  factors for all of its rotors, at maximum rated speed with full tubes or bottles, using the following formula:

$$k = \frac{\ln(r_{\max}/r_{\min})}{\omega^2} \times \frac{10^{13}}{3600} \quad \text{EQ 1}$$

where  $\omega$  is the angular velocity of the rotor in radians per second ( $\omega = 0.105 \times \text{RPM}$ ),  $r_{\max}$  is the maximum radius, and  $r_{\min}$  is the minimum radius.

After substitution:

$$k = \frac{(2.533 \times 10^{11}) \ln(r_{\max}/r_{\min})}{\text{RPM}^2} \quad \text{EQ 2}$$

In the JLA-8.1000 rotor, the  $k$  factor is 2482 for full 1000-mL bottles at 8000 rpm. In the JLA-9.1000 rotor, the  $k$  factor is 2544 for full 1000-mL bottles at 9000 RPM. At reduced speeds, the  $k$  factors will be different. Calculate  $k$  factors for these containers using [EQ 2](#).

Use the  $k$  factor in the following equation to estimate the run time  $t$  (in hours) required to pellet particles of known sedimentation coefficient  $s$  (in Svedberg units, S).

$$t = \frac{k}{s} \quad \text{EQ 3}$$

Run times can be estimated for centrifugation at less than maximum speed by adjusting the  $k$  factor as follows:

$$k_{\text{adj}} = k \left( \frac{8000^*}{\text{actual run speed}} \right)^2 \quad \text{EQ 4}$$

\*for the JLA-8.1000 rotor; 9000 for the JLA-9.1000 rotor.

Run times can also be estimated from data established in prior experiments using a different rotor if the  $k$  factor of the previous rotor is known. For any two rotors, a and b:

$$\frac{t_a}{t_b} = \frac{k_a}{k_b} \quad \text{EQ 5}$$

## Run Speeds

The centrifugal force at a given radius in a rotor is a function of speed. Comparisons of forces between different rotors are made by comparing the rotors' relative centrifugal fields (RCF). When rotational speed is adjusted so that identical samples are subjected to the same RCF in two different rotors, the samples are subjected to the same force. The RCF at a number of rotor speeds is provided in [Table 2](#).

Do not select rotational speeds that exceed the limits in [Table 1](#).

When solutions more dense than 1.2 g/mL are centrifuged in the JLA-8.1000 rotor, use [EQ 6](#) to calculate the reduced maximum allowable rotor speed. Use [EQ 7](#) to calculate the reduced maximum allowable rotor speed for the JLA-9.1000 rotor.

$$\text{reduced maximum speed} = (8000 \text{ RPM}^*) \sqrt{\frac{1.2 \text{ g/mL}}{\text{density of tube contents}}} \quad \text{EQ 6}$$

$$\text{reduced maximum speed} = (9000 \text{ RPM}^*) \sqrt{\frac{1.2 \text{ g/mL}}{\text{density of tube contents}}} \quad \text{EQ 7}$$

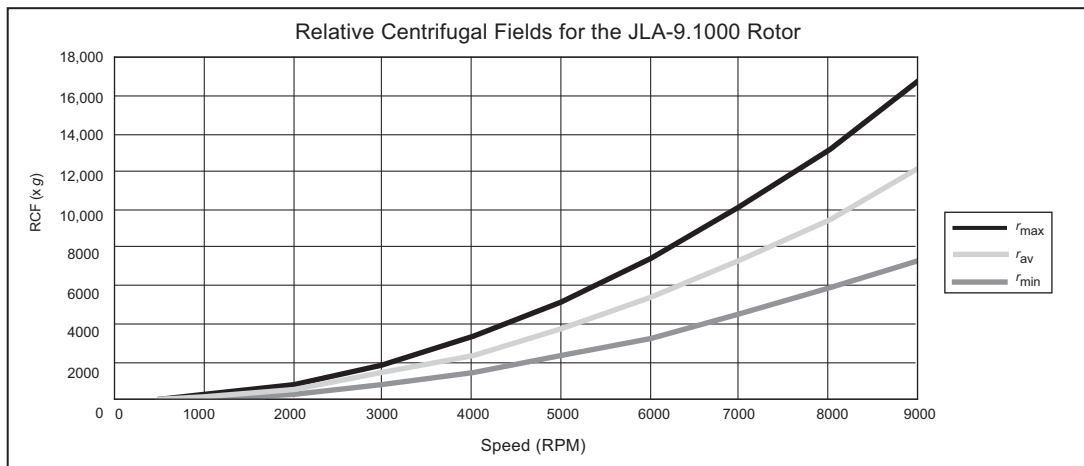
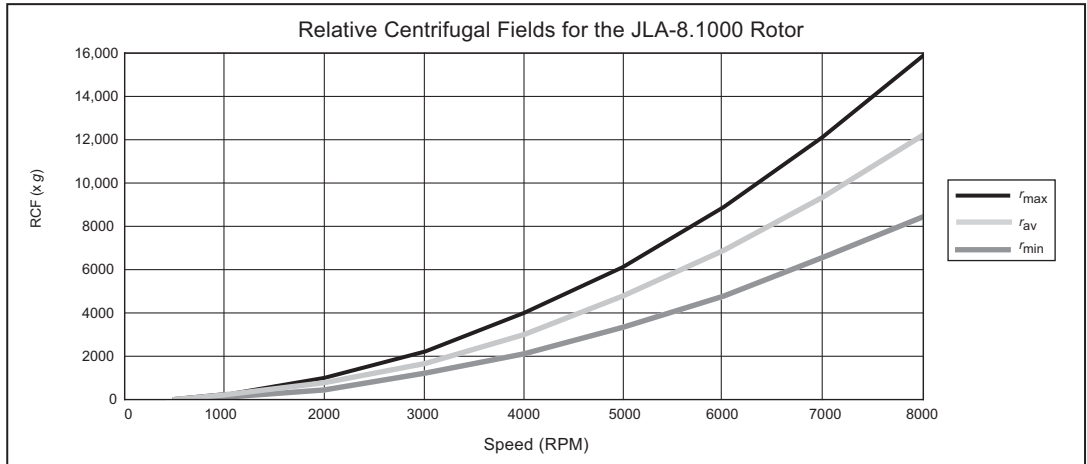
\*The maximum speed for 1000-mL polypropylene bottles (363678) is 7000 RPM in the JLA-8.1000 and 8000 RPM in the JLA-9.1000.

**Table 2** Relative Centrifugal Fields for the JLA-8.1000 and JLA-9.1000 Rotors<sup>a</sup>

JLA-8.1000 Rotor				JLA-9.1000 Rotor			
Rotor Speed (RPM)	Relative Centrifugal Field (× g)			Rotor Speed (RPM)	Relative Centrifugal Field (× g)		
	At $r_{max}$ (222.8 mm)	At $r_{av}$ (171 mm)	At $r_{min}$ (119 mm)		At $r_{max}$ (185 mm)	At $r_{av}$ (134 mm)	At $r_{min}$ (82 mm)
8000	15,970 <sup>b</sup>	12,300	8530	9000	16,800	12,200	7440
7000	12,200	9380	6530	8000	13,300	9610	5880
6000	8950	6900	4800	7000	10,200	7350	4500
5000	6220	4790	3330	6000	7460	5400	3310
4000	3980	3060	2130	5000	5180	3750	2300
3000	2240	1720	1200	4000	3320	2400	1470
2000	995	766	533	3000	1870	1350	830
1000	249	192	133	2000	829	600	370
500	62	48	33	1000	207	150	92
				500	52	38	23

a. Entries in this table are calculated from the formula  $RCF = 1.12r (RPM/1000)^2$  and then rounded to three significant digits.

b. Not rounded.



## Care and Maintenance

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### Cap/Closure and Plug Inspection and Maintenance

Plug and cap/closure performance depend on proper use and maintenance.

- 
- 1** Check the O-rings before each use to make sure that they are in good condition and are completely dry.  
Replace the O-rings if they are damaged, torn, or dirty.  
*O-ring integrity is the key to successful function of cap/closure\* and plug assemblies.*
  - 2** Do not lubricate the cap/closure O-rings\* or plug O-rings.  
If they are lubricated, they will cause the assembly to seal too tightly during centrifugation.
  - 3** If crazing or cracks appear on or in a cap/closure or plug, replace the cap/closure and plug immediately with a new cap/closure and plug assembly.  
Do not continue to use damaged or suspect cap/closures, plugs, or other assembly components.  
Replace labware assemblies at the first sign of damage to any of the components.
- 

### Canister Inspection and Maintenance

Regularly inspect each canister as described below.

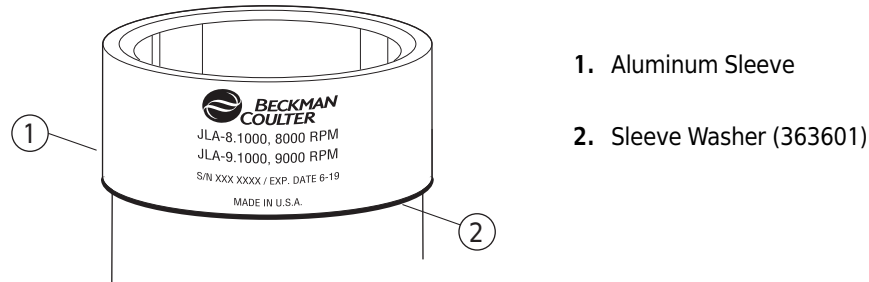
- 
- 1** Before each use, inspect the canisters (363686) for deep cracks.  
If any cracking or other damage is visible on the outside wall, *do not use the canister*.  
Contact Beckman Coulter Field Service.<sup>†</sup>
  - 2** If a crack or blemish appears after a canister is dropped from a height of several feet, or after it strikes a sharp edge of a bench or table, autoclave the canister and then return it to Beckman Coulter for inspection.  
Include a written explanation of the reason for the return.
- 

\* Applies to bottle assemblies 363676 and 363678 only.

† Call 1-800-742-2345 (U.S.A. or Canada) outside the U.S., contact your local Beckman Coulter office, or visit us on the web at [www.beckmancoulter.com](http://www.beckmancoulter.com).

- 3** Each canister has an expiration date, which is engraved on the aluminum sleeve around the top of the canister (see [Figure 6](#)). *Do not use the canister after this date.*

**Figure 6** canister Sleeve Washer



New canisters can be used with the same rotor body.  
See the Warranty at the back of this manual for more information.

- 4** Each canister has a polyetherimide (PEI) sleeve washer (363601) beneath the aluminum sleeve (see [Figure 6](#)), which acts as a cushion between the canister and the rotor body.  
Before each use, make sure that the sleeve washer is securely in place.  
If the canister is exposed to high temperatures and/or autoclaving, the washer may loosen; if this happens, press it back into place with your finger.  
If the washer becomes deformed so that it no longer stays on the canister, replace it.

## About Composite Canisters

The carbon fiber epoxy composite material used in the JLA-8.1000 and JLA-9.1000 canisters is extremely strong and ideally suited to the high stresses produced by centrifugal force. The canisters will retain their strength throughout their 7-year life, but will exhibit certain cosmetic changes with time. The canisters also require different inspection and handling procedures than all-metal rotor components.

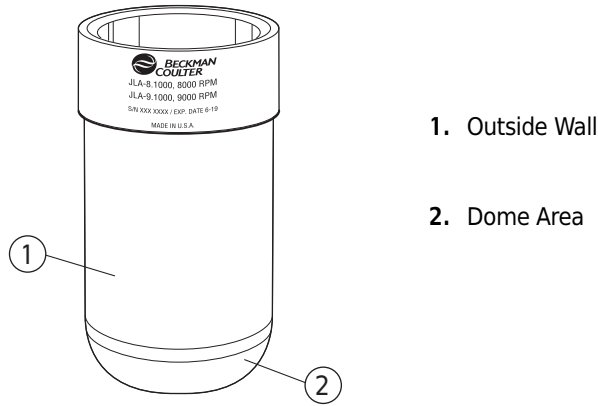
After several thousand centrifuge run cycles, surface cracks may appear in the canister dome area (see [Figure 7](#)) and may increase in number with continued use. Surface cracks are not uncommon in carbon fiber components, and *do not affect the structural integrity of the canister*. However, cracks or other damage on the outside wall should be inspected by a Beckman Coulter representative.

Repeated autoclaving of the canisters may cause the following conditions, all of which are cosmetic in nature during the 7-year warranty period:

- an increase in the number of surface cracks in the dome area,
- increased visibility of existing surface cracks,
- a change in canister color due to oxidation of the epoxy, and
- formation of a white, powdery residue on the outside wall of the canister; this residue can be wiped off with a soft, damp cloth.

Repeated autoclaving may also cause the sleeve washer (363601) to deform so that it no longer stays on the canister. If this happens, replace the washer.

**Figure 7** canister Dome Area



## Rotor Body Inspection and Maintenance

- 1** Periodically (at least monthly) inspect the rotor body for rough spots, pitting, or heavy discoloration.

If any of these signs are evident, do not use the rotor.

Contact Beckman Coulter Field Service for information about the Field Rotor Inspection Program (FRIP) and the rotor repair center.\*
- 2** Before using the rotor, inspect the rotor drive pins to ensure that they are not damaged.

Damaged drive pins can prevent the rotor from seating properly on the centrifuge drive hub (Avanti J series centrifuges only).

To inspect the drive pins, turn the rotor upside down and look into the drive hole in the center of the rotor.

If the drive pins appear damaged, contact Beckman Coulter Field Service.
- 3** Do not use sharp tools on the aluminum rotor body, as corrosion begins in scratches and may open fissures in the metal with repeated use.

If the rotor body is scratched, contact Beckman Coulter Field Service about having it re-anodized.

Do not use sharp objects or tools on the composite canisters, as the composite material is easily damaged.

\* Call 1-800-742-2345 (U.S.A. or Canada) outside the U.S., contact your local Beckman Coulter office, or visit us on the web at [www.beckmancoulter.com](http://www.beckmancoulter.com).



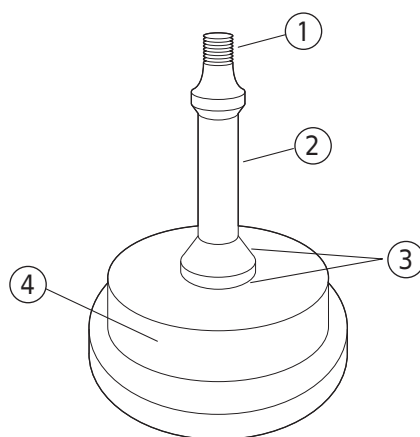
- 4** To prevent corrosion of the aluminum rotor body, store the rotor in a dry environment with the lid removed.

Do not store the rotor in the centrifuge.

- 5** To prevent abrasion of the metal rotor tie-down components, place the rotor lid upside down on a flat surface and put two or three drops of Tri-Flow\* oil (392645) between the lid adapter and the lid stem (see [Figure 8](#)).

This area should be lubricated every few weeks or after each autoclave cycle.

**Figure 8** Lubricating the Lid Stem



1. Lubrication Area (Spinkote)
2. Lid Stem
3. Lubrication Points (Tri-Flow)
4. Lid Adapter

- 6** To provide lubrication between the rotor and the centrifuge drive hub, apply a thin coat of Spinkote lubricant (306812) to the threads of the rotor tie-down knob before each run.

- 7** If the rotor is left in the centrifuge between runs, leave the centrifuge power off and the door open.

Refer to *Chemical Resistances* (In-175) for chemical compatibilities of rotor and accessory materials. Your Beckman Coulter representative provides contact with the Field Rotor Inspection Program and the rotor repair center.

## Cleaning

*Wash the rotor and rotor components immediately if salts or other corrosive materials are used or if spillage has occurred. Do not allow corrosive materials to dry on the rotor.*

Under normal use, wash the rotor frequently (at least weekly) to prevent buildup of residues.

\* Manufactured by Thompson & Formby, Inc., 10136 Magnolia Drive, Olive Branch, MS 38654, U.S.A.



- 1 Wash the rotor, canisters, plugs, cap/closures, and 500-mL adapters and adapter caps in a mild detergent, such as Solution 555 (339555), that will not damage the rotor and components.  
Dilute the detergent with water (10 parts water to 1 part detergent).  
The Rotor Cleaning Kit (339558) contains two special plastic-coated brushes and two quarts of Solution 555 for use with rotors and accessories.
- 2 O-rings on the 500-mL adapters can be left in place during cleaning unless spillage has occurred. To remove them, use fingers or a tool that will not damage the O-rings.  
Thoroughly wash and dry them before replacing them on the adapter.  
*Do not lubricate adapter O-rings.*
- 3 Thoroughly rinse the cleaned rotor and components with distilled water.
- 4 Air-dry the rotor, lid, and canisters upside down.  
*Do not use acetone to dry rotor components.*

**⚠ CAUTION**

**Do not wash the rotor components or accessories in a dishwasher. Do not soak components in detergent solution for long periods of time, such as overnight.**

**Do not use acetone, methylethyl ketone (MEK), chloroform, cyclohexane, or organic solvents on the canisters at any time. These substances will damage the epoxy resin surface material.**

## Decontamination



If the anodized aluminum rotor body becomes contaminated with radioactive material, it should be decontaminated using a solution that will not damage the anodized surfaces. Beckman Coulter has tested a number of solutions and found several that do not harm anodized aluminum: RadCon Surface Spray or IsoClean Solution (for soaking),\* and Radiacwash.†

\* In the United States, contact Nuclear Associates (New York); in Eastern Europe and Commonwealth States, contact Victoreen GmbH (Munich); in South Pacific, contact Gammasonics Pty. Ltd. (Australia); in Japan, contact Toyo Medic Co. Ltd. (Tokyo).

† In the United States, contact Biodex Medical Systems (Shirley, NY); internationally, contact the U.S. office to find the dealer nearest you.

 **CAUTION**

**IsoClean can cause fading of colored anodized surfaces. Use it only when necessary and remove it promptly from rotor surfaces.**

For radioactive decontamination of the canisters, RadCon Surface Spray and Radiacwash can be used. Do not soak the canisters in these solutions for long periods; *use the minimum immersion times specified by the solution manufacturers.*

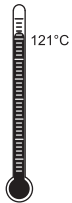
While Beckman Coulter has tested these methods and found that they do not damage components, no guarantee of sterility or disinfection is expressed or implied. Consult your laboratory safety officer regarding the proper decontamination methods to use.

If the rotor or other components are contaminated with toxic or pathogenic materials, follow appropriate decontamination procedures as outlined by your laboratory safety officer. Refer to *Chemical Resistances (IN-175)* to evaluate your rotor's ability to withstand a given chemical solution.

 **CAUTION**

**Strongly alkaline solutions will damage the rotor body.**

## Sterilization and Disinfection



The rotor body, canisters, cap/closures, polypropylene bottles, and polyetherimide (PEI) plugs can be autoclaved at 121°C for up to 20 minutes. Remove canisters from the rotor body during autoclaving. Place polypropylene bottles into the autoclave upside down to prevent bottle deformation.

The 500-mL adapter, adapter cap, and O-rings can be autoclaved at 121°C for 15 minutes. Repeated autoclaving will reduce the life of these components. For this reason, cold sterilization methods are recommended.

*Do not autoclave polycarbonate bottles, bottle plugs, or the polyethylene bottle rack (974627) or spatula (363646).* Use cold sterilization methods as described below.

Low concentrations of hydrogen peroxide (less than 6%) and bleach (less than 10%) may be used on all rotor components, bottles, and accessories. Ethanol (70%) may be used on all rotor components except the polycarbonate bottles and plugs. Hydrogen peroxide and bleach may cause discoloration and corrosion of the anodized rotor surfaces. Use the minimum exposure time for each solution, rinse thoroughly with distilled water, and dry with a soft cloth, per laboratory standards.

 **CAUTION**

**Ethanol is a flammability hazard. Do not use it in or near operating centrifuges.**

No guarantee of sterility or disinfection is expressed or implied through the use of these disinfection methods.

When sterilization or disinfection is a concern, consult your laboratory safety officer regarding proper methods to use.

Refer to publication IN-192 (included with each box of tubes) for tube sterilization and disinfection procedures.

## Returning a Rotor

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Before returning a rotor or accessory for any reason, prior permission must be obtained from Beckman Coulter, Inc. A return authorization form may be obtained from your local Beckman Coulter sales office. The return form should contain the following information:

- rotor type and serial number,
- history of use (approximate frequency of use),
- reason for the return,
- original purchase order number, billing number, and shipping number, if possible,
- name and email address of the person to be notified upon receipt of the rotor or accessory at the factory,
- name and email address of the person to be notified about repair costs, etc.

To protect our personnel, it is the customer's responsibility to ensure that all parts are free from pathogens and/or radioactivity. Sterilization and decontamination must be done before returning the parts. Smaller items (such as tubes, bottles, etc.) should be enclosed in a sealed plastic bag.

*All parts must be accompanied by a note, plainly visible on the outside of the box or bag, stating that they are safe to handle and that they are not contaminated with pathogens or radioactivity. **Failure to attach this notification will result in return or disposal of the items without review of the reported problem.***

Use the address label printed on the return form when mailing the rotor and/or accessories.

Customers located outside the United States should contact their local Beckman Coulter office.

## Supply List

See the Beckman Coulter *High Performance, High Speed, High Capacity Rotors, Tubes & Accessories* catalog (BR-8102) available at [www.beckmancoulter.com](http://www.beckmancoulter.com), call Beckman Coulter Customer Service at 1-800-742-2345 (U.S.A. or Canada), or contact your local Beckman Coulter Representative for detailed information about ordering parts and supplies. For your convenience, a partial list is given below.

### Replacement Rotor Parts and Labware

**NOTE** In the kits and assemblies listed below, cap/closures, plugs, and adapters are shipped with the O-rings installed and one spare of each O-ring is provided.

Description	Part Number
Bottle assembly, 1000-mL polycarbonate made from USP Class VI material, set of two includes: <ul style="list-style-type: none"> <li>• 1000-mL polycarbonate bottles, set of two (366751)</li> <li>• Cap/closure and plug assemblies, set of two (A99028)</li> </ul>	A98812
Bottle assembly, 1000-mL polypropylene made from USP Class VI material, set of two includes: <ul style="list-style-type: none"> <li>• 1000-mL polypropylene bottles, set of two (A98814)</li> <li>• Cap/closure and plug assemblies, set of two (A99028)</li> </ul>	A98813
Bottle assembly, 1000-mL polypropylene made from USP Class VI material with polyphenylene sulfide cap/closure, set of two includes: <ul style="list-style-type: none"> <li>• 1000-mL polypropylene bottles, set of two (A98814)</li> <li>• Cap/closure and plug assemblies, set of two (B29895)</li> </ul>	B29896
Bottle assembly, 1000-mL polycarbonate, set of two includes: <ul style="list-style-type: none"> <li>• Two 1000-mL polycarbonate bottles (366751)</li> <li>• Two cap/closure and plug assemblies (363680)</li> </ul>	363676
Bottle assembly, 1000-mL polypropylene, set of two includes: <ul style="list-style-type: none"> <li>• Two 1000-mL polypropylene bottles (366752)</li> <li>• Two cap/closure and plug assemblies (363680)</li> </ul>	363678
Labware Kit includes: <ul style="list-style-type: none"> <li>• One six-place bottle rack (974627)</li> <li>• One spatula (363646)</li> <li>• One tool kit (366770)</li> </ul>	392574

Description	Part Number
HarvestLine System liner kit includes: <ul style="list-style-type: none"> <li>• 120 HarvestLine System liners (nonsterile polyetherurethane, USP 23 class VI) (369256)</li> <li>• One stainless steel filling rack (368740)</li> <li>• One funnel (977472)</li> <li>• Instructional CD (369367)</li> </ul>	369264
Bottle rack (polyethylene, holds six 1000-mL bottles)	974627
Canisters, set of two	363686
Canister sleeve washer, set of six	363601
Lid assembly, JLA-8.1000	363563
Lid assembly, JLA-9.1000	363583
Tool Kit includes: <ul style="list-style-type: none"> <li>• One bottle grip (366763)</li> <li>• One wrench (367309)</li> </ul>	366770
500-mL Adapter assembly includes: <ul style="list-style-type: none"> <li>• Adapter, polyethylene teraphthalate (PET)</li> <li>• One adapter cap, polycarbonate</li> <li>• One adapter O-rings, silicone, set of two (replacement part number 970883)</li> </ul>	363683
<b>Labware Replacement Part Numbers for Bottle Assemblies 363676 and 363678</b>	
Cap/closure and plug assembly, set of two includes: <ul style="list-style-type: none"> <li>• Two cap/closures with O-rings</li> <li>• Two AutoVent polycarbonate plugs with O-rings</li> <li>• Two additional cap/closure O-rings</li> <li>• Two additional large plug O-rings</li> <li>• Two additional AutoVent plug O-rings</li> </ul>	363680
Plug assembly, AutoVent polycarbonate, set of two includes: <ul style="list-style-type: none"> <li>• Two polycarbonate AutoVent plugs with O-rings</li> <li>• Two additional large plug O-rings</li> <li>• Two additional AutoVent plug O-rings</li> </ul>	366748
Plug assembly, AutoVent polyetherimide (PEI), set of two includes: <ul style="list-style-type: none"> <li>• Two polyetherimide (PEI) AutoVent plugs with O-rings</li> <li>• Two additional large plug O-rings</li> <li>• Two additional AutoVent plug O-rings</li> </ul>	366749

Description	Part Number
Bottles, 1000-mL polycarbonate, set of two	366751
Bottles, 1000-mL polypropylene, set of two	366752
Cap/closure replacement assembly, set of six	366768
Cap/closure replacement O-rings, set of six	366769
AutoVent plug replacement O-rings, set of six includes: <ul style="list-style-type: none"> <li>• Six large plug O-rings</li> <li>• Six AutoVent plug O-rings</li> </ul>	366767
<b>Labware Replacement Part Numbers for Bottle Assemblies A98812 and A98813</b>	
Cap/closure and plug assembly, set of two includes: <ul style="list-style-type: none"> <li>• Two cap/closures</li> <li>• Two AutoVent polypropylene plugs with O-rings</li> <li>• Two additional large plug O-rings</li> <li>• Two additional AutoVent plug O-rings</li> </ul>	A99028
Plug assembly, AutoVent polypropylene, set of two includes: <ul style="list-style-type: none"> <li>• Two polypropylene AutoVent plugs with O-rings</li> <li>• Two additional large plug O-rings</li> <li>• Two additional AutoVent plug O-rings</li> </ul>	393898
Bottles, 1000-mL polycarbonate made from USP Class VI material, set of two	366751
Bottles, 1000-mL polypropylene made from USP Class VI material, set of two	A98814
Cap/closure replacement assembly made from USP Class VI material, set of six	B10317
AutoVent plug replacement O-rings made from USP Class VI material, set of six includes: <ul style="list-style-type: none"> <li>• Six large plug O-rings (A98818)</li> <li>• Six AutoVent plug O-rings (A98816)</li> </ul>	B10320
<b>Labware Replacement Part Numbers for Bottle Assemblies B29896</b>	
Cap/closure and plug assembly, set of two includes: <ul style="list-style-type: none"> <li>• Two cap/closures</li> <li>• Two AutoVent polypropylene plugs with O-rings</li> <li>• Two additional large plug O-rings</li> <li>• Two additional AutoVent plug O-rings</li> </ul>	B29895

Description	Part Number
Plug assembly, AutoVent polypropylene, set of two includes: <ul style="list-style-type: none"> <li>• Two polypropylene AutoVent plugs with O-rings</li> <li>• Two additional large plug O-rings</li> <li>• Two additional AutoVent plug O-rings</li> </ul>	393898
Bottles, 1000-mL polypropylene made from USP Class VI material, set of two	A98814
Cap/closure replacement assembly made from USP Class VI material, set of six	B29894
AutoVent plug replacement O-rings made from USP Class VI material, set of six includes: <ul style="list-style-type: none"> <li>• Six large plug O-rings (A98818)</li> <li>• Six AutoVent plug O-rings (A98816)</li> </ul>	B10320

## Supplies

**NOTE** For MSDS information, go to the Beckman Coulter website at [www.beckmancoulter.com](http://www.beckmancoulter.com).

Description	Part Number
Rotor Cleaning Kit	339558
Solution 555 (1 qt)	339555
Spinkote lubricant (2 oz)	306812
Spatula, polyethylene (for removing pellet from 1000-mL bottles)	363646
Polytetrafluorethylene (PTFE) spray	366772
Tri-flow lubricant (2 oz)	392645

**NOTE** Suggested Permanent Marking Pens: Sanford Laundry Marking Pen, item #31161, black; Sanford Permanent Metallic Marker, item #76115, gold; Sanford Permanent Metallic Marker, item #68820, silver.



# Beckman Coulter, Inc.

## JLA-8.1000 and JLA-9.1000 Rotor Warranty

Subject to the conditions specified below and the warranty clause of the Beckman Coulter terms and conditions of sale in effect at the time of sale, Beckman Coulter, Inc., agrees to correct either by repair, or, at its election, by replacement, any defects of material or workmanship which develop within seven (7) years after delivery of the JLA-8.1000 or JLA-9.1000 rotor to the original buyer by Beckman Coulter or by an authorized representative, provided that investigation and factory inspection by Beckman Coulter discloses that such defect developed under normal and proper use. Should a Beckman Coulter centrifuge be damaged due to a failure of a rotor covered by this warranty, Beckman Coulter will supply free of charge all centrifuge parts required for repair.

### Replacement

Any product claimed to be defective must, if requested by Beckman Coulter, be returned to the factory, transportation charges prepaid, and will be returned to Buyer with the transportation charges collect unless the product is found to be defective, in which case Beckman Coulter will pay all transportation charges.

A defective rotor will be replaced by Beckman Coulter at its then current list price less a credit based upon the age of the rotor (years since date of purchase). The Buyer shall not receive credit until the claimed defective rotor is returned to Beckman Coulter's Indianapolis, Indiana facility, or delivered to a Beckman Coulter Field Service representative.

The replacement price (cost to Buyer) for the respective rotor shall be calculated as follows:

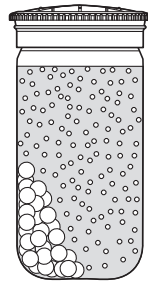
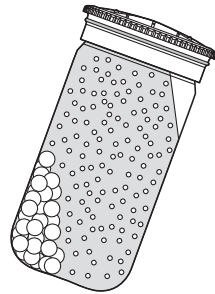
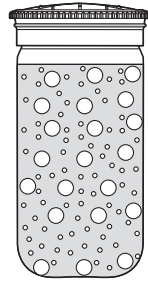
$$\text{Replacement price} = \text{Current rotor list price} \times \frac{\text{years}}{7}$$

### Conditions

1. Except as otherwise specifically provided herein, this warranty covers the JLA-8.1000 and the JLA-9.1000 rotor only and Beckman Coulter shall not be liable for damage to accessories or ancillary supplies including but not limited to (i) bottles, (ii) bottle contents, (iii) cap/closures, or (iv) plugs.
2. This warranty is void if the rotor has been subjected to customer misuse such as operation or maintenance contrary to the instructions in the Beckman Coulter rotor or centrifuge manual.
3. This warranty is void if the JLA-8.1000 or JLA-9.1000 rotor is operated with a rotor drive unit or in a centrifuge unmatched to the rotor characteristics, or is operated in a Beckman Coulter centrifuge that has been improperly disassembled, repaired, or modified.
4. Each canister, whether purchased with a complete rotor assembly or purchased separately, is covered by this warranty for seven (7) years from the date of purchase, and will be replaced or repaired during such period according to the terms and conditions of this warranty.
5. A canister should not be used after the expiration date marked on the canister. If the marked date is fewer than 7 years from the date of purchase, the expiration date becomes the date of purchase plus 7 years. Use of a canister after such expiration date voids Beckman Coulter's warranty obligations with respect to any rotor and/or centrifuge in which such a canister is used.

**Disclaimer**

IT IS EXPRESSLY AGREED THAT THE ABOVE WARRANTY SHALL BE IN LIEU OF ALL WARRANTIES OF FITNESS AND OF THE WARRANTY OF MERCHANTABILITY AND THAT BECKMAN COULTER INC., SHALL HAVE NO LIABILITY FOR SPECIAL OR CONSEQUENTIAL DAMAGES OF ANY KIND WHATSOEVER ARISING OUT OF THE MANUFACTURE, USE, SALE, HANDLING, REPAIR, MAINTENANCE, OR REPLACEMENT OF THE PRODUCT.



## Related Documents

### **Rotors and Tubes for J2, J6, and Avanti J Series Centrifuges (JR-IM-10)**

- Rotors
- Tubes, Bottles, and Accessories
- Using Tubes, Bottles, and Accessories
- Using Fixed-Angle Rotors
- Using Swinging-Bucket Rotors
- Using Vertical-Tube and Rack-Type Rotors
- Care and Maintenance
- Chemical Resistances for Beckman Coulter Centrifugation Products
- Temperature Compensation Tables
- Gradient Materials
- Blood Component Separation
- References
- Glossary

Available in hard copy or electronic pdf by request.

### **Rotors and Tubes CD (369668)**

- Rotors and Tubes for Tabletop Preparative Ultracentrifuges
- Rotors and Tubes for J2, J6, Avanti J Series Centrifuges
- Rotors and Tubes for Preparative Ultracentrifuges
- Rotor Safety Bulletin
- Chemical Resistances for Beckman Coulter Centrifugation Products

Included with shipment of instrument.

### **Additional References**

- Chemical Resistances for Beckman Coulter Centrifugation Products (IN-175)
- Beckman Coulter High Performance, High Speed, High Capacity Rotors, Tubes & Accessories catalog (BR-8102)
- HarvestLine System Liner Kit 369264 (J-TB-093)
- Use and Care of Centrifuge Tubes and Bottles (IN-192)

Available in hard copy or electronic pdf by request, also available at [www.beckmancoulter.com](http://www.beckmancoulter.com)

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