

HIGH-PERFORMANCE & HIGH-CAPACITY CENTRIFUGES

INGENUITY MEETS PRACTICALITY.

PRODUCT CATALOG



BRILLIANCE
at every turn.





Avanti J-26S XPI
CENTRIFUGE


ENHANCES YOUR WORKFLOW
EASY TO USE POWERFUL
TIME-SAVERS SUSTAINABLE
STREAMLINED MORE CONTROL
MORE THROUGHPUT


INTRODUCTION

Since the introduction of the first commercial ultracentrifuge in 1947 – the classic Beckman Model L – Beckman Coulter has been at the forefront of centrifuge innovation. Although the physics of this basic separation technique never change, Beckman Coulter continually designs new and innovative rotors and accessories, and develops advanced methods that allow the forces of centrifugation to be applied in new ways.

This centrifuge product selection guide is designed to help you determine the most efficient centrifuge tools for your laboratory.

Each section begins with a brief description of instruments that Beckman Coulter offers within that centrifuge category. Because biocontainment is a major concern in today's laboratories, Beckman Coulter provides a number of options that address this issue. Special BioSafe instruments and accessories are available across our centrifuge product line and are identified with this icon:

 **BioSafe and BioSafety** are terms intended to describe the enhanced biocontainment features of our products.

 **BioCertified** is a term used to describe our products which have been tested and validated to demonstrate containment of microbiological aerosols by an independent, third-party facility (CAMR, Porton Down, UK, or USAMRIID, Ft. Detrick, MD, USA, or TÜV NORD CERT GmbH Große Bahnstraße 31 Hamburg, Germany). Improper use or maintenance may affect seal integrity and, thus, containment.

Rotors with the BioCertified symbol have been tested to demonstrate containment of aerosols under normal operating conditions of the associated Beckman Coulter centrifuge when used and maintained as instructed.

Following the centrifuge descriptions, listings of their rotors are included with information on speed and g-force capability. Also included is information on tubes and bottles that can be used and the adapters they require.



Tubes and bottles are cross-referenced in a separate section which provides details on tube materials, chemical compatibility, tube designs, and tube closure options.

A reference section at the back of the guide includes quick reference charts on instrument and tube selection as well as frequently used formulas.

For the most recent and up-to-date information, please see the IFU on beckman.com/techdocs.



Contact your local Beckman Coulter office
Please visit us at beckman.com/contact-us

Additional centrifugation resources:
beckman.com/centrifuges

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HIGH PERFORMANCE CENTRIFUGATION

Avanti JXN Series



A new level of freedom and high performance.

Whatever your application, from simple pelleting to rate zonal separations, the Avanti JXN Series offers newfound momentum. Rely on the Avanti JXN-26 to boost your productivity, or reach speeds of up to 30,000 rpm with the Avanti JXN-30.

Flexibility reaches a whole new level with the MobileFuge remote application for Avanti centrifuges. Users can easily monitor and control centrifuge functions via computer, using Virtual Network Computing (VNC) software or mobile device using the custom MobileFuge app available for Apple® iOS and Android™ devices. Whether you are across the lab or across the campus, you can always keep an eye on your centrifuge. Work has never been so flexible.

Ergonomic design

- Low work surface height for easier installation and unloading of rotors
- Foot pedal for hands-free door operation
- Door swings up and out of the way for easy access to the rotor chamber
- Large digital readouts make operation simpler

Gain flexibility with MobileFuge

- Set and monitor run parameters and email diagnostic results
- Control and monitor the centrifuge from your Apple® iOS and Android™ device with MobileFuge
- Get alerts and diagnostics remotely

Intuitive interface

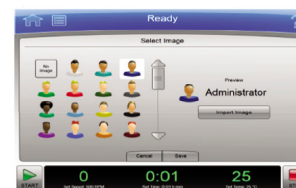
- User-friendly, large LCD screen
- View set and actual run conditions simultaneously
- Select rotor by name, not by arcane number code
- 11 accel/12 decel rates
- Delay start
- Run times to 99:59, Hold, and ω^{2t} integrator for applications that require exquisite reproducibility

Safe and sustainable

- Friction Reduction System (FRS) allows quicker, quieter, and cooler runs
- Uses less energy than traditional centrifuges
- BioSafe+ options
- Dynamic rotor inertia check
- High-torque, Switched Reluctance (SR) drive cycle shortens cycle times*

Advanced, easy-to-use data management

- Perfect to support shared lab or GMP environments
- On-screen text sensitive “help” screen
- Up to 1,000 user-defined programs
- Set up and store numerous protocols
- Password protection for up to 50 unique user profiles
- Network multiple instruments
- Data logging and real-time run graphing



Versatile across rotors and applications

- Compatible with an extensive library of rotors
- Fixed-angle and swinging bucket options available
- Fully compatible with lightweight J-Lite rotors
- Dynamic Rotor Inertia Check (DRIC) and rotor recognition provide redundant safety checks to assure no rotor can be run above its rated speed
- Temperature control is optimized ensuring sample quality and avoiding unwanted artifacts
- SW and FA rotors capable of greater than 100,000 x g



HIGH PERFORMANCE CENTRIFUGATION

| Specifications | Avanti JXN-26 | Avanti JXN-30 |
|--|---|---|
| Maximum Speed/g-Force | 26,000 rpm / 81,770 x g | 30,000 rpm / 110,500 x g |
| Maximum Capacity | 6 Liters | 4 Liters |
| Speed Control | Low Speed (1,000 to 10,000): ± 10 rpm High Speed (10,001 to max): ± 0.1% rpm | Low Speed (1,000 to 10,000): ± 10 rpm High Speed (10,001 to max): ± 0.15% rpm |
| Set Temperature | -10°C to 40°C in 1° increments | -20° to 40° C in 1° increments |
| Temperature Control | ± 2°C of chamber temperature after equilibration ^a | ±2° C of chamber temperature after equilibration ^a |
| Ambient Operating Range | 16°C to 38°C ^b | 16° C to 38° C ^b |
| Accel Decel | Maximum, timed (1 to 10 min from 0 to 500 rpm) Maximum, timed (1 to 10 min from 500 to 0 rpm) or coast | Maximum, timed (1 to 10 min from 0 to 500 rpm) Maximum, timed (1 to 10 min from 500 to 0 rpm) or coast |
| Heat Output | 5,120 BTU/hr (1.5 kW) ^c | 5,120 BTU / hr (1.5 kW) |
| Drive Type / Cooling | SR* drive / Air-cooled | SR* drive / Air-cooled |
| Refrigeration | Refrigerant R452A (HFO) | Refrigerant R452A (HFO) |
| Noise output (1 m in front of instrument, 1.5 m above the floor) | 62 dBA ^d | 62 dBA |
| Dimensions (with door closed) | 71 W x 86 D x 86 H cm (28 W x 34 D x 34 H in) | 71 W x 86 D x 86 H cm (28 W x 34 D x 34 H in) |
| Weight | 290 kg (640 lbs) | 310 kg (680 lbs) |
| HEPA Filter | Pharmaceutical-grade sterilizing filter system | Pharmaceutical-grade sterilizing filter system |

| Part Numbers** | | | |
|---|-------------------|--------------------------|----------------------------|
| Model | 230 V, 50 Hz, 24A | 200-240 V, 50/60 Hz, 24A | 220 V, 3-Phase, 50 Hz, 12A |
| Avanti JXN-26 IVD*** | B38623 | B38619 | B38618 |
| Avanti JXN-26 Non-IVD | B37912 | B34183 | B34182 |
| Make BioSafe† with HEPA filter kit for Avanti JXN-26 (external mount) | B37916 | B37916 | B37916 |
| Model | 230 V, 50 Hz, 24A | 200-240 V, 50/60 Hz, 24A | 220 V, 3-Phase, 50 Hz, 12A |
| Avanti JXN-30 IVD*** | B38624 | B38621 | B38620 |
| Avanti JXN-30 Non-IVD | B37913 | B34193 | B34192 |

- a: Proprietary algorithm applied to provide an estimated sample temperature.
- b: To reach temperatures above ambient, the centrifuge is dependent on the frictional heat generated inside the chamber during operation. At low run speeds or low ambient temperatures, the centrifuge may not be able to achieve some higher temperatures.
- c: JA-20 rotor running at 20,000 rpm at 4°C.
- d: JA-30.50 Ti rotor with chamber precooled and running at 26,000 rpm.
- * SR drives are manufactured by Beckman Coulter, Inc. with technology licensed from Switched Reluctance Drives Limited.
- ** Availability varies by geography. Contact your local sales representative to determine the correct part numbers for ordering.
- *** IVD: In Vitro Diagnostic Products. These products are labeled "For In Vitro Diagnostic Use.
- † BioSafe is a term intended to describe the enhanced biocontainment features of our products.

HIGH PERFORMANCE CENTRIFUGATION

Avanti J-26S XP Series High Performance Centrifuge



One instrument with many possibilities.

The Avanti J-26S combines high performance, complete BioSafety* systems and long-term durability, making it an incredibly capable choice for any lab environment. Along with high speed, it offers low heat output, imbalance tolerance and low noise.

Versatility is delivered by a vast range of separations. Plus, ergonomic design features, such as lower instrument height and hand-free door operation, makes it easy to use. For extra peace of mind, the Avanti J-26S has an impact-resistant lid, a full containment barrier and automatic rotor identification.

| Specifications | |
|-------------------------------|--|
| Maximum Speed/g-Force | 26,000 rpm / 81,800 x g |
| Maximum Capacity | 6 Liters |
| Speed Control | Low Speed ± 10 rpm of set speed High Speed $\pm 0.1\%$ rpm of set speed |
| Set Temperature | -10°C to 40°C in 1° increments |
| Temperature Control | $\pm 2^\circ\text{C}$ of set temperature |
| Ambient Operating Range | 16°C to 38°C |
| Accel / Decel Profiles | 2 / 3 |
| Heat Output | 6900 BTU/hr (2.0 kW) |
| Drive Type / Cooling | SR** drive / Air-cooled |
| Refrigeration | Refrigerant R452A (HFO) |
| Sound Level | 57 dBA (0.91 m / 3 ft from instrument at maximum speed) |
| Dimensions (with door closed) | 71 W x 86 D x 86 H cm (28 W x 34 D x 34 H in) |
| Weight | 290 kg (640 lbs) |
| User-Defined Programs | None |
| Time Settings | 1 to 180 minutes, Hold |
| Delayed Start | No |
| Key Lock-Out | No |

* BioSafety is a term intended to describe the enhanced biocontainment features of our products.

** SR drives are manufactured by Beckman Coulter, Inc. with technology licensed from Switched Reluctance Drives Limited.

| Part Numbers | | | |
|-------------------------------------|---------------------------|----------------|-----------------------------|
| Model | 200/208/240 V 50/60 Hz | 230 V 50 Hz | 220/380 V 50 Hz, 3-Phase |
| Avanti J-26S XP | B14535 | B14536 | B14537 |
| Avanti J-26S XP with Elutriation | B14541 | B14542 | B14543 |
| BioSafe Package | 200/208/240 V 50/60 Hz | 230 V 50 Hz | 220/380 V 50 Hz, 3-Phase |
| Avanti J-26S XP | B22984 | B22985 | B22987 |
| Sterile Filter | | | |
| HEPA Filter Kit for Avanti J-Series | | | 354368 |



HIGH PERFORMANCE CENTRIFUGATION

Avanti J-E High Performance Centrifuge



Compact High Performance Centrifuge that fits directly in your lab

Whether your application is related to cellular, genetic, or protein analysis, the Avanti J-E with speeds up to 21 000 rpm (53 300 x g) coupled with powerful SR* drive technology provides you with fast separations.

A comprehensive line of labware, with up to twenty-four 96-well microtiter plate processing, 4 x 1L bottles, and HarvestLine System Liners extend the versatility of this centrifuge. For clinical research applications, conical tubes and bottles for swinging bucket rotors spin volumes of 15, 50, 250, and 500 mL for effective blood component isolation with a variety of gradient kits.

The J-E is energy efficient for low heat output plus the quiet operation ensures a comfortable, productive work environment.

| Specifications | |
|---------------------------------|--|
| Maximum Speed | 21 000 rpm |
| Maximum g-force | 53 300 x g |
| Speed Control | Actual rotor speed, ± 50 rpm of set speed |
| Drive Type | Switched Reluctance Drive* |
| Drive Cooling | Air-cooled |
| Centrifuge Warranty | 1 year |
| Drive Warranty | 2 years |
| Refrigeration System | Non-CFC, non-ozone-depleting refrigerant |
| Max. Capacity Volume | 4 000 mL |
| Ambient Temperature Range | 15° to 35°C |
| Set Temperature Range | -10° to 40°C in 1° increments |
| Temperature Control | ± 2°C of set |
| Time Setting | 1 min. to 99:59 hours, hold |
| Acceleration/Deceleration Rates | 2 accel/3 decel |
| Heat Output | 2.0 kW (6 900 BTU/hr) |
| Sound Level | < 64 dBa (3 ft. from instrument at maximum speed) |
| Dimensions | 63.5 cm x 80 cm x 91.4 cm (25 in. W x 31.5 in. D x 36 in. H) |
| Weight | 267.4 kg (589 lb) |

* Manufactured under license from Switched Reluctance Drives Limited, Harrogate, UK.

| Part Numbers | | | |
|------------------------|--------------------|----------------|-------------------|
| | 208/240 V 60 Hz | 230 V 50 Hz | 200 V 50/60 Hz |
| Avanti J-E | 369001 | 369003 | 369005 |
| BIOE Avanti J-E | 969352 | A20698 | A20699 |



Avanti J-E High Performance Centrifuge

HIGH CAPACITY CENTRIFUGATION

Avanti J-HC Centrifuge



The capacity to impress.

The Avanti J-HC High Capacity Centrifuge provides you with a complete solution for batch bioprocessing. A maximum of 9 liters can be spun at speeds of 5 000 rpm and $7\,480 \times g$ for greater sample throughput. This allows processing of up to 36 liters per hour when harvesting bacteria. Enhanced operator safety is provided with disposable HarvestLine System Liners. The Avanti J-HC's Friction Reduction System (FRS) allows for quicker, quieter, and cooler runs.

Specifications

| | |
|----------------------------------|---|
| Maximum Speed | 10 000 rpm |
| Maximum g -force | 17,100 $\times g$ (JA-10 rotor @ 10 000 rpm) |
| Speed Control | ± 25 rpm of set speed |
| Max. Capacity | 9 000 mL |
| Single Bucket Volume | 2 250 mL |
| Set Temperature Range | -10° to 40°C |
| Temperature Control | $\pm 2^\circ\text{C}$ |
| User Defined Programs | Up to 30 two-step programs |
| Maximum Heat Dissipation to Room | 2.0 kW (6 900 BTU/hr) |
| Noise Level | 60 dBA (3 ft. from instrument at 10 000 rpm) |
| Weight | 300 kg (660 lb) |
| Dimensions | 71 cm \times 86 cm \times 86 cm (28 in. W \times 34 in. D \times 34 in. H) |

Part Numbers

| | 200/208/240 V 50/60 Hz | 230 V 50 Hz | 220 V 50 Hz, 3-Phase |
|-------------|---------------------------|----------------|-------------------------|
| Avanti J-HC | 367501 | 367502 | 367503 |



Avanti J-HC High Capacity Bioprocessing Centrifuge System

HIGH PERFORMANCE/HIGH CAPACITY CENTRIFUGATION

Rotor Compatibility Chart

| | Avanti JXN-30 Max. RPM/ g-Force | Avanti JXN-26 Max. RPM/ g-Force | Avanti J-26S Max. RPM/ g-Force | Avanti J-E Max. RPM/ g-Force | Avanti J-HC | Angle | Containment |
|-------------------------|---------------------------------------|---------------------------------------|--------------------------------------|------------------------------------|------------------|-------|---|
| Fixed-Angle Rotors | | | | | | | |
| JA-30.50 Ti | 30 000 108 860 | 26 000 81 800 | 26 000 81 800 | N/A | N/A | 34° | Single- or dual-locking lid/fluid annulus |
| JA-25.50 [†] | 25 000 75 600 | 25 000 75 600 | 25 000 75 600 | 21 000 53 300 | N/A | 34° | Single- or dual-locking lid/fluid annulus BIOC |
| JA-25.15 [†] | 25 000 74 200 | 25 000 74 200 | 25 000 74 200 | N/A | N/A | 25° | Single- or dual-locking lid/fluid annulus BIOC |
| JA-21 | 21 000 50 400 | 21 000 50 400 | 21 000 50 400 | 21 000 50 400 | N/A | 40° | |
| JA-20.1 [†] | 20 000 51 500 | 20 000 51 500 | 20 000 51 500 | 20 000 51 500 | N/A | 23° | |
| JA-20 [†] | 20 000 48 400 | 20 000 48 400 | 20 000 48 400 | 20 000 8 400 | N/A | 34° | BIOC |
| JA-18.1 | 18 000 42 100 | 18 000 42 100 | 18 000 42 100 | N/A | N/A | 45° | N/A |
| JA-18 [†] | 18 000 47 900 | 18 000 47 900 | 18 000 47 900 | 16 000 37 800 | N/A | 23° | N/A BIOC |
| JA-17 [†] | 17 000 39 800 | 17 000 39 500 | 17 000 39 500 | 17 000 39 800 | N/A | 25° | BIOC |
| JLA-16.250 [†] | 16 000 38 400 | 16 000 38 400 | 16 000 38 400 | 16 000 38 400 | N/A | 25° | Single- or dual-locking lid/fluid annulus BIOC |
| JA-14.50 [†] | 14 000 35 000 | 14 000 35 000 | 14 000 35 000 | 14 000 35 000 | N/A | 35° | Single- or dual-locking lid/fluid annulus BIOC |
| JA-14 [†] | 14 000 30 100 | 14 000 30 100 | 14 000 30 100 | 14 000 30 100 | N/A | 25° | BIOC |
| JA-12 [†] | 12 000 23 200 | 12 000 23 200 | 12 000 23 200 | 12 000 23 200 | N/A | 35° | Single- or dual-locking lid/fluid annulus BIOC |
| JLA-12.500 [†] | 12 000 26 890 | 12 000 26 890 | N/A | N/A | N/A | 30° | Dual-locking lid/fluid annulus BIOC |
| JLA-10.500 [†] | N/A | 10 000 18 500 | 10 000 18 500 | 10 000 18 500 | N/A | 20° | Sealing canister covers BIOC |
| JA-10 | 10 000 17 700 | 10 000 17 700 | 10 000 17 700 | 10 000 17 700 | 10 000 17 700 | 25° | |
| JLA-9.1000 | 9 000 16 800 | 9 000 16 800 | 9 000 16 800 | 6 300 8 230 | N/A | 20° | Integrated bottle seal |
| JLA-8.1000 [†] | N/A | 8 000 15 970 | 8 000 15 970 | N/A | 8 000 15 970 | 20° | Integrated bottle seal BIOC |

[†] This rotor was tested to demonstrate containment of microbiological aerosols under normal operating conditions of the associated Beckman Coulter centrifuge, when used and maintained as instructed. Validation of the microbiological containment was done at an independent, third-party facility (CAMR, Porton Down, UK or USAMARIID, Ft. Detrick, MD, USA). Improper use or maintenance may affect seal integrity and, thus, containment.

HIGH PERFORMANCE/HIGH CAPACITY CENTRIFUGATION

1. Instruments

2. Rotors


3. Tubes & Bottles

4. Tools & Supplies

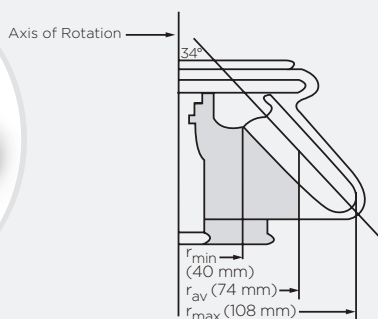
5. Reference

6. Support

Rotor Compatibility Chart (continued)

| | Avanti JXN-30 Max. RPM/ g-Force | Avanti JXN-26 Max. RPM/ g-Force | Avanti J-26S Max. RPM/ g-Force | Avanti J-E Max. RPM/ g-Force | Avanti J-HC | Angle | Containment |
|--|---------------------------------------|---------------------------------------|--------------------------------------|------------------------------------|----------------|-------|--|
| Swinging Bucket Rotors | | | | | | | |
| JS-24.38 | 24 000 103 900 | 10 000 18 000 | 10 000 18 000 | N/A | N/A | Horz. | Cap, O-ring |
| JS-24.15 | 24 000 110 500 | 10 000 19 200 | 10 000 19 200 | N/A | N/A | Horz. | Cap, O-ring |
| JS-13.1 | 13 000 26 500 | 13 000 26 500 | 13 000 26 500 | N/A | N/A | Horz. | |
| JS-7.5 | 7 500 10 400 | 7 500 10 400 | 7 500 10 400 | N/A | N/A | Horz. | N/A |
| JS-5.3 | N/A | 5 300 6 130 | 5 300 6 130 | 5 300 6 130 | N/A | Horz. | N/A |
| JS-4.3 | N/A | 4 300 4 220 | 4 300 4 220 | N/A | N/A | Horz. | Bucket Covers |
| JS-4.0 | N/A | 4 000 4 050 | 4 000 4 050 | N/A | N/A | Horz. | Aeroseal Cover  |
| JS-5.0 | N/A | N/A | N/A | N/A | 5 000 7 480 | Horz. | |
| JS-4.2 | N/A | N/A | N/A | N/A | 4 200 5 020 | Horz. | Aeroseal Cover |
| JS-4.2A | N/A | N/A | N/A | N/A | 4 200 5 020 | Horz. | Aeroseal Cover |
| Elutriation, Continuous Flow, and Zonal Rotors | | | | | | | |
| JE-5.0 | N/A | N/A | 5 000 4 700 | N/A | | | |
| JCF-Z Std. Core | 20 000 39 900 | 20 000 39 900 | 20 000 39 900 | N/A | | | |
| JCF-Z Large Core | 20 000 39 900 | 20 000 39 900 | 20 000 39 900 | N/A | | | |
| JCF-Z Small Core | 20 000 36 300 | 20 000 36 300 | 20 000 36 300 | N/A | | | |
| JCF-Z Reograd Core | 20 000 39 900 | 20 000 39 900 | 20 000 39 900 | N/A | | | |
| JCF-Z Zonal Core | 20 000 39 900 | 20 000 39 900 | 20 000 39 900 | N/A | | | |

JA-30.50 TI 8 x 50 mL



Fixed-Angle Rotor, Titanium

For use in Avanti J Series centrifuges (except Avanti J-E and J-HC) centrifuges.

Major applications: Harvesting bacteria, processing tissue homogenates, subcellular particulates, routine pelleting such as precipitates and phase separations.

| Max. RPM | Max. g | k Factor | Number of Tubes Volume/Size | Rotor Capacity |
|----------|---------|----------|--|----------------|
| 30 000** | 108 860 | 280 | 8 x 50 mL 29 x 104 mm 1.125 x 4 in | 400 mL |

No. 363420. JA-30.50 Fixed-Angle Ti Rotor with Dual Lock Lid.

No. 363421. JA-30.50 Fixed-Angle Ti Rotor with Single Lock Lid.

| Tubes and Bottles | | | | | | | | | |
|--|------------------------------|----------|----------|----------------------|--------------------|-------------------|---------|----------|---------------|
| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | g-Force | k Factor | Maximum Speed |
| Bottles with Screw-On Caps | | | | | | | | | |
| Polypropylene | 50.0 | 357003 | 25 | 29 x 104 | --- | --- | 75 600 | 403 | 25 000 |
| Polycarbonate | 10.0 | 355672 | 25 | 16 x 80 | 361703 (qty. of 2) | 1 | 91 000 | 244 | 30 000 |
| | 50.0 | 357002 | 25 | 29 x 104 | --- | --- | 75 600 | 403 | 25 000 |
| Bottles with Cap Assemblies | | | | | | | | | |
| Polypropylene | 50.0 | 357001 | 6 | 29 x 104 | --- | --- | 108 800 | 280 | 30 000* |
| Polycarbonate | 50.0 | 357000 | 6 | 29 x 104 | --- | --- | 108 800 | 280 | 30 000 |
| Tubes with Snap-On Caps | | | | | | | | | |
| Polypropylene | 1.5 | 357448 | 500 | 9.5 x 38 | 361705 (qty. of 2) | 3 | 73 400 | 126 | 30 000 |
| Thickwall Polycarbonate | 50.0 | 363664 | 25 | 29 x 104 | --- | --- | 48 400 | 629 | 20 000 |
| Polypropylene | 1.5 | 356090 | 500 | 9.5 x 38 | 361705 (qty. of 2) | 3 | 73 400 | 126 | 30 000 |
| Thickwall Polypropylene | 50.0 | 357005 | 25 | 29 x 104 | --- | --- | 48 400 | 629 | 20 000 |
| Open-Top Tubes | | | | | | | | | |
| Thickwall Polycarbonate | 50.0 | 363647 | 25 | 29 x 104 | --- | --- | 108 800 | 280 | 30 000* |
| Thickwall Polypropylene | 50.0 | 357007 | 25 | 29 x 104 | --- | --- | 108 800 | 280 | 30 000 |
| Adapters for Non-Beckman Coulter Tubes/Bottles | | | | | | | | | |
| Round Bottom Glass Tube | 30.0*** | --- | --- | 29 x 104 | 870331 (qty. of 1) | 1 | *** | --- | *** |

* At 2°C; at 25°C, maximum speed must be limited to 26 000 rpm for tube 357001 and 29 000 rpm for tube 363647.

** Reaches 30,000 rpm in the Avanti JXN-30 centrifuge only. Reaches 26,000 rpm, 81 770 RCF in the Avanti JXN-26.

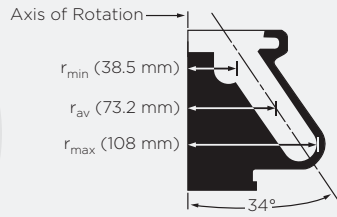
*** Observe manufacturer's maximum speed and fill guidelines

Rotor Replacement Parts

| | |
|--------|--|
| 870612 | O-ring for Rotor Lid |
| 11757 | Small O-ring for Rotor Lid |
| 363424 | Lid Assembly, BioSafety (tie-down assembly included) |
| 363430 | Lid Assembly, Single-locking |
| 363431 | Tie-down for Single-locking Lid |

| Adapters | |
|----------|--------|
| 361703 | 361705 |
| | |

JA-25.50 **BIOC** 8 x 50 mL



Fixed-Angle Rotor, Aluminum

For use in Avanti J Series centrifuges.

Major applications: Harvesting bacteria, processing tissue homogenates, subcellular particulates, routine pelleting such as precipitates and phase separations.

| Max. RPM | Max. g | k Factor | Number of Tubes Volume/Size | Rotor Capacity |
|----------|--------|----------|--|----------------|
| 25 000 | 75 600 | 418 | 8 x 50 mL 29 x 104 mm 1.125 x 4 in | 400 mL |

No. 363058. JA-25.50 Fixed-Angle Rotor with BioSafety Lid.

No. 363055. JA-25.50 Fixed-Angle Rotor with Single Lock Lid.

| Tubes and Bottles | | | | | | | | | |
|--|------------------------------|----------|----------|----------------------|--------------------|-------------------|---------|----------|---------------|
| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | g-Force | k Factor | Maximum Speed |
| Bottles with Screw-On Caps | | | | | | | | | |
| Polypropylene | 50.0 | 357003 | 25 | 29 x 104 | --- | --- | 75 600 | 418 | 25 000 |
| Polycarbonate | 10.0 | 355672 | 25 | 16 x 80 | 361703 (qty. of 2) | 1 | 63 240 | 350 | 25 000 |
| | 50.0 | 357002 | 25 | 29 x 104 | --- | --- | 75 600 | 418 | 25 000 |
| Bottles with Cap Assemblies | | | | | | | | | |
| Polypropylene | 50.0 | 361694 | 24 | 29 x 104 | --- | --- | 75 600 | 418 | 25 000 |
| Polycarbonate | 50.0 | 361693 | 24 | 29 x 104 | --- | --- | 75 600 | 418 | 25 000 |
| Tubes with Snap-On Caps | | | | | | | | | |
| Thickwall Polycarbonate | 50.0 | 363664 | 25 | 29 x 104 | --- | --- | 48 400 | 653 | 20 000 |
| Thickwall Polypropylene | 1.5 | 356090 | 500 | 9.5 x 38 | 361705 (qty. of 2) | 3 | 50 960 | 182 | 25 000 |
| | 50.0 | 357005 | 25 | 29 x 104 | --- | --- | 48 400 | 653 | 20 000 |
| Open-Top Tubes | | | | | | | | | |
| Polypropylene | 1.5 | 357448 | 500 | 9.5 x 38 | 361705 (qty. of 2) | 3 | 50 960 | 182 | 25 000 |
| Thickwall Polycarbonate | 50.0 | 363647 | 25 | 29 x 104 | --- | --- | 75 600 | 418 | 25 000 |
| Thickwall Polypropylene | 50.0 | 357007 | 25 | 29 x 104 | --- | --- | 75 600 | 418 | 25 000 |
| Adapters for Non-Beckman Coulter Tubes/Bottles | | | | | | | | | |
| Round Bottom Glass Tube | 30.0 | --- | --- | 29 x 104 | 870331 (qty. of 1) | 1 | ** | --- | ** |

* Order cap separately (pkg. of 25): 356264 (natural), 357359 (red), 357360 (green), 357361 (yellow), or 357362 (blue).

** Observe manufacturer's maximum speed and fill guidelines

Rotor Replacement Parts

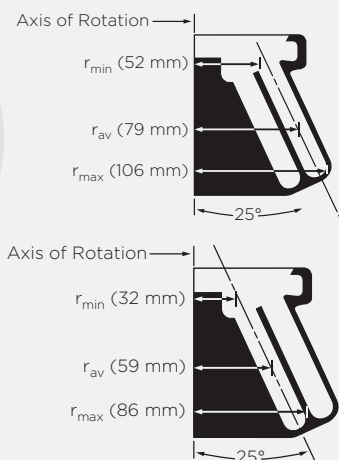
| | |
|--------|--|
| 870612 | O-ring for Rotor Lid |
| 11757 | Small O-ring for Rotor Lid |
| 363023 | Lid Assembly, BioSafety (Tie-down Assembly included) |
| 363053 | Lid Assembly, Single Lock (Tie-down Assembly included) |

Adapters

361703 | 361705



JA-25.15 **BIOC** 24 x 15 mL



Fixed-Angle Rotor, Aluminum

For use in Avanti J Series centrifuges (except Avanti J-E) centrifuges.

Major applications: Harvesting bacteria, processing tissue homogenates, subcellular particulates, routine pelleting such as precipitates and phase separations.

| | Max. RPM | Max. <i>g</i> | <i>k</i> Factor | Number of Tubes Volume/Size | Rotor Capacity |
|-----------|----------|---------------|-----------------|--|----------------|
| Outer Row | 25 000 | 74 200 | 265 | 24 x 15 mL 18 x 100 mm 0.75 x 4 in | 360 mL |
| Inner Row | 25 000 | 60 200 | 380 | | |

No. 363050. JA-25.15 Fixed-Angle Rotor with BioSafety Lid.

No. 363054. JA-25.15 Fixed-Angle Rotor, Single Lock Lid.

| Tubes and Bottles | | | | | | | | | |
|--|------------------------------|----------|----------|----------------------|--------------------|-------------------|-----------------------------|-----------------------------|---------------|
| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | <i>g</i> -Force (outer row) | <i>k</i> Factor (outer row) | Maximum Speed |
| Bottles with Screw-On Caps | | | | | | | | | |
| Polycarbonate | 10.0 | 355672 | 25 | 16 x 80 | 342327 | 1 | 60 200 | 204 | 25 000 |
| Open-Top Tube | | | | | | | | | |
| Thickwall Polypropylene | 4.0 | 355644 | 25 | 13 x 64 | 303313 | 1 | 49 000 | 120 | 25 000 |
| | 10.0 | 355640 | 25 | 16 x 76 | 342327 | 1 | 56 700 | 180 | 25 000 |
| Thickwall Polycarbonate | 4.0 | 355645 | 25 | 13 x 64 | 303313 | 1 | 49 000 | 120 | 25 000 |
| | 10.0 | 355630 | 25 | 16 x 76 | 342327 | 1 | 56 700 | 180 | 25 000 |
| | 15.0 | 342080* | 100 | 18 x 98 | --- | --- | 74 200 | 265 | 25 000 |
| Thickwall Polyethylene | 15.0 | 342081* | 100 | 18 x 98 | --- | --- | 74 200 | 265 | 25 000 |
| Thickwall Polypropylene | 15.0 | 342082* | 100 | 18 x 98 | --- | --- | 74 200 | 265 | 25 000 |
| Adapters for Non-Beckman Coulter Tubes/Bottles | | | | | | | | | |
| Round Bottom Glass Tube | 3.0 | --- | --- | 12 x 75 | 342329 (qty. of 1) | 1 | ** | --- | ** |

* To order caps for 15-mL tubes 342080, 342081, and 342082, use part number 343656 for a package of 50.

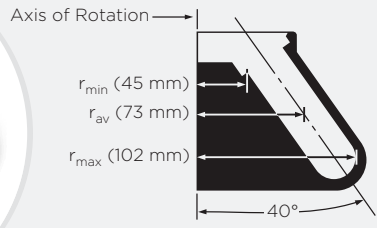
** Observe manufacturer's maximum speed and fill guidelines

Rotor Replacement Parts

| | |
|--------|--|
| 964911 | Large O-ring for Rotor Lid |
| 11757 | Small O-ring for Rotor Lid |
| 363024 | Lid Assembly, BioSafety (Tie-down Assembly included) |
| 363052 | Rotor Lid Assembly, Single Lock (Tie-down Assembly included) |

| Adapters | |
|----------|--------|
| 303313 | 342327 |

JA-21 18 x 10 mL



Fixed-Angle Rotor, Aluminum

For use in Avanti J Series centrifuges.

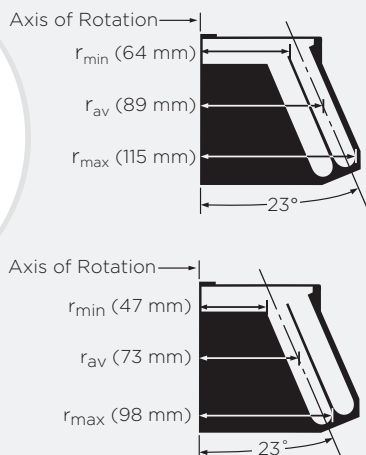
| Max. RPM | Max. <i>g</i> | <i>k</i> Factor | Number of Tubes Volume/Size | Rotor Capacity |
|----------|---------------|-----------------|--|----------------|
| 21 000 | 50 400 | 470 | 18 x 10 mL 16 x 80 mm 0.625 x 3 in | 180 mL |

No. 334845. JA-21 Fixed-Angle Rotor for 21 000 rpm operation.

| Tubes and Bottles | | | | | | | | | |
|--|------------------------------|----------|----------|----------------------|--------------------|-------------------|-----------------|-----------------|---------------|
| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | <i>g</i> -Force | <i>k</i> Factor | Maximum Speed |
| Bottles with Screw-On Caps | | | | | | | | | |
| Polycarbonate | 10.0 | 355672 | 25 | 16 x 80 | --- | --- | 50 400 | 470 | 21 000 |
| Open-Top Tubes | | | | | | | | | |
| Thickwall Polypropylene | 10.0 | 355640 | 25 | 16 x 76 | --- | --- | 50 400 | 470 | 21 000 |
| Thickwall Polycarbonate | 10.0 | 355630 | 25 | 16 x 76 | --- | --- | 50 400 | 470 | 21 000 |
| Adapters for Non-Beckman Coulter Tubes/Bottles | | | | | | | | | |
| Round Bottom | 5.0 | --- | --- | 12 x 75 | 356972 (qty. of 1) | 1 | --- | --- | --- |

Rotor Replacement Parts

| | |
|--------|---|
| 870612 | O-ring for Rotor Lid |
| 870980 | O-ring for Rotor Hub |
| 335107 | Rotor Lid |
| 343631 | Lid Attachment Bolt Assembly |
| 369349 | Rotor Lid Assembly (Tie-down Assembly included) |



Fixed-Angle Rotor, Aluminum

For use in Avanti J Series centrifuges.

Major applications: High-force, large-volume separation of particles with 100 S or larger sedimentation coefficients.

| | Max. RPM | Max. g | k Factor | Number of Tubes Volume/Size | Rotor Capacity |
|-----------|----------|--------|----------|--------------------------------|-------------------|
| Outer Row | 20 000 | 51 500 | 371 | 32 x 15 mL 18 x 99 mm | 480 mL |
| Inner Row | 20 000 | 43 900 | 465 | 0.625 x 4 in | |

No. 342095. JA-20.1 Fixed-Angle Rotor for 20 000 rpm operation.

| Tubes and Bottles | | | | | | | | | |
|--|------------------------------|----------|----------|----------------------|--------------------|-------------------|---------|-----------|---------------------------|
| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | g-Force | k Factor* | Maximum Speed (Outer Row) |
| Bottles with Screw-On Caps | | | | | | | | | |
| Polycarbonate | 10.0 | 355672 | 25 | 16 x 80 | 342327 | 1 | 47 900 | 325 | 20 000 |
| Open-Top Tubes | | | | | | | | | |
| Thickwall Polypropylene | 10.0 | 355640 | 25 | 16 x 76 | 342327 | 1 | 47 900 | 325 | 20 000 |
| Thickwall Polycarbonate | 10.0 | 355630 | 25 | 16 x 76 | 342327 | 1 | 47 900 | 325 | 20 000 |
| | 15.0 | 342080 | 100 | 18 x 98 | --- | --- | 51 500 | 371 | 20 000 |
| Thickwall Polyethylene | 15.0 | 342081 | 100 | 18 x 98 | --- | --- | 51 500 | 371 | 20 000 |
| Thickwall Polypropylene | 15.0 | 342082 | 100 | 18 x 98 | --- | --- | 51 500 | 371 | 20 000 |
| Adapters for Non-Beckman Coulter Tubes/Bottles | | | | | | | | | |
| Round Bottom | 3.0 | --- | --- | 12 x 75 | 342329 (qty. of 1) | 1 | --- | --- | --- |
| | 5.0 | --- | --- | 12 x 75 | 356971 (qty. of 1) | 1 | --- | --- | --- |
| | 8.0 | --- | --- | 13 x 100 | 356977 (qty. of 1) | 1 | --- | --- | --- |
| | 15.0 | --- | --- | 16 x 99 | 342348 (qty. of 1) | 1 | --- | --- | --- |
| | 15.0 | --- | --- | 18 x 99 | 342643 (qty. of 1) | --- | --- | --- | --- |

Caps for 15-mL Tubes

343656 Caps (box of 50) for 342080, 342081, and 342082 Tubes

Rotor Replacement Parts

834301 O-ring for Rotor Lid
 811656 O-ring for Rotor Body
 358368 Lid Attachment Bolt Assembly
 341976 Rotor Lid
 364915 Tie-down Kit
 392889 Hold-down Knob, for use with filtration tubes regularly run without lid (in J2/J6 centrifuges only)
 338896 Rotor Removal Tool
 338689 Adapter Collar for 338896 Rotor Removal Tool

* Measured using the outer row of tubes.

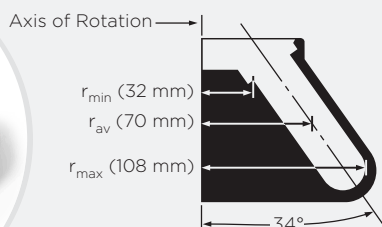
Adapters

342327



JA-20 **BIOC**

8 x 50 mL

**Fixed-Angle Rotor, Aluminum**

For use in Avanti J Series centrifuges.

Major applications: Harvesting bacteria and cell membranes, processing tissue homogenates, separating cell particulates.

| Max. RPM | Max. <i>g</i> | <i>k</i> Factor | Number of Tubes Volume/Size | Rotor Capacity |
|----------|---------------|-----------------|--|----------------|
| 20 000 | 48 400 | 769 | 8 x 50 mL 29 x 104 mm 1.125 x 4 in | 400 mL |

No. 334831. JA-20 Fixed-Angle Rotor for 20 000 rpm operation.

| Tubes and Bottles | | | | | | | | | | |
|--|------------------------------|----------|----------|----------------------|-------------------|--------------------|-----------------|---------------------|---------------|--------|
| Tube Style/Material | Minimum Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | <i>g</i> -Force | <i>k</i> Factor | Maximum Speed | |
| Bottles with Screw-On Caps | | | | | | | | | | |
| Polyethylene | 50.0 | 357003 | 25 | 29 x 104 | --- | --- | 48 400 | 769 | 20 000 | |
| Polycarbonate | 10.0 | 355672 | 25 | 16 x 80 | 342327/870329 | 1 | 43 500 | 650 | 20 000 | |
| | 50.0 | 357002 | 25 | 29 x 104 | --- | --- | 48 400 | 769 | 20 000 | |
| Bottles with Cap Assemblies | | | | | | | | | | |
| Polypropylene | 50.0 | 357001 | 6 | 29 x 104 | --- | --- | 48 400 | 769 | 20 000 | |
| Polycarbonate | 50.0 | 357000 | 6 | 29 x 104 | --- | --- | 48 400 | 769 | 20 000 | |
| Tubes with Snap-On Caps | | | | | | | | | | |
| Polypropylene | Natural | 1.5 | 357448 | 500 | 9.5 x 38 | 344497* | 6 | 48 400 | 769 | 20 000 |
| Thickwall Polycarbonate | | 50.0 | 363647 | 25 | 29 x 104 | --- | --- | 48 400 | 769 | 20 000 |
| Polyethylene | | 1.8 | 340196 | 500 | 11 x 39 | 344497* | 6 | 48 400 [†] | 769 | 20 000 |
| Thickwall Polypropylene | | 50.0 | 357005 | 25 | 29 x 104 | --- | --- | 48 400 | 769 | 20 000 |
| | Orange | 1.5 | 356094 | 500 | 11 x 38 | 344497* | 6 | 48 400 | 769 | 20 000 |
| | Yellow | 1.5 | 356093 | 500 | 11 x 38 | 344497* | 6 | 48 400 | 769 | 20 000 |
| | Blue | 1.5 | 356091 | 500 | 11 x 38 | 344497* | 6 | 48 400 | 769 | 20 000 |
| | Natural | 1.5 | 356090 | 500 | 9.5 x 38 | 344497* | 6 | 48 400 | 769 | 20 000 |
| Open-Top Tubes | | | | | | | | | | |
| Thickwall Polypropylene | | 50.0 | 357007 | 25 | 29 x 104 | --- | --- | 48 400 | 769 | 20 000 |
| Adapters for Non-Beckman Coulter Tubes/Bottles | | | | | | | | | | |
| Round Bottom | | 5.0 | --- | --- | 12 x 75 | 356970 (qty. of 1) | 1 | --- | --- | --- |
| | | 8.0 | --- | --- | 13 x 100 | 356976 (qty. of 1) | 1 | --- | --- | --- |
| | | 15.0 | --- | --- | 18 x 80 | 870329 (qty. of 1) | 1 | --- | --- | --- |
| | | 30.0 | --- | --- | 29 x 104 | 870331 (qty. of 1) | 1 | --- | --- | --- |

Rotor Replacement Parts

| | |
|--------|---|
| 870612 | O-ring for Rotor Lid |
| 811656 | O-ring for Rotor Hub |
| 364914 | Tie-down Kit |
| 368998 | Rotor Lid |
| 392889 | Hold-down Knob, for use with filtration tubes regularly run without lid (in J2/J6 centrifuges only) |
| 338896 | Rotor Removal Tool |
| 338689 | Adapter Collar for 338896 Rotor Removal Tool |

Cap Assembly Replacement Parts

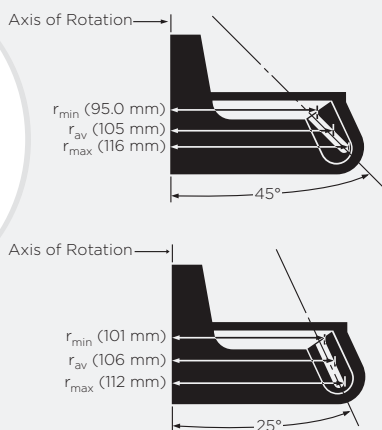
| | |
|--------|---|
| 356284 | Cap for 357000 and 357001 Bottle |
| 358627 | Insert for 357000 and 357001 Cap Assembly; order only as a replacement part |
| 961582 | O-ring for 357000 and 357001 Bottle |

* Can be double-stacked. Force will vary depending on tube position.

† Calculated at r_{max} , *g*-force will be less for tubes located in upper adapter when adapters are stacked. Force will also vary depending on tube position in adapter.**Adapters**

| 342327 | 344497 | 870329 |
|--------|--------|--------|
| | | |

JA-18.1 24 x 1.8 mL



Fixed-Angle Rotor, Aluminum

For use in Avanti J Series centrifuges (except Avanti J-E).
Major applications: High-force sedimentation in microcentrifuge tubes under refrigerated conditions.

| Max. RPM at 45° Angle* | Max. <i>g</i> | <i>k</i> Factor | Number of Tubes Volume/Size | Rotor Capacity |
|------------------------|---------------|-----------------|--|----------------|
| 18 000 | 42 100 | 156 | 24 x 1.8 mL 11 x 38 mm 0.4 x 1.5 in. | 43.2 mL |

| Max. RPM at 25° Angle* | Max. <i>g</i> | <i>k</i> Factor | Number of Tubes Volume/Size | Rotor Capacity |
|------------------------|---------------|-----------------|--|----------------|
| 17 000 | 36 300 | 91 | 24 x 1.8 mL 11 x 38 mm 0.4 x 1.5 in. | 43.2 mL |

No. 347824. JA-18.1 Fixed-Angle Rotor. Includes 24 reversible adapters.

| Tubes and Bottles | | | | | | | | | | |
|-------------------------|----------|------------------------------|----------|----------|----------------------|--------------------|--------------------|-----------------|-----------------|----------------|
| Tube Style/Material | | Minimum Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters* | Tubes per Adapter† | <i>g</i> -Force | <i>k</i> Factor | Maximum Speed* |
| Tubes with Snap-On Caps | | | | | | | | | | |
| Polypropylene | Natural | 1.5 | 357448 | 500 | 9.5 x 38 | 347562 | 1 | 42 100 | --- | 18 000 |
| Polyethylene | | 1.8 | 340196 | 500 | 11 x 39 | 347562 | 1 | 42 100 | --- | 18 000 |
| Polypropylene | Orange | 1.5 | 356094 | 500 | 11 x 38 | 347562 | 1 | 42 100 | --- | 18 000 |
| | Yellow | 1.5 | 356093 | 500 | 11 x 38 | 347562 | 1 | 42 100 | --- | 18 000 |
| | Blue | 1.5 | 356091 | 500 | 11 x 38 | 347562 | 1 | 42 100 | --- | 18 000 |
| | Natural | 1.5 | 356090 | 500 | 9.5 x 38 | 347562 | 1 | 42 100 | --- | 18 000 |
| | Natural‡ | 1.5 | 343169 | 500 | 11 x 38 | 347562 | 1 | 42 100 | --- | 18 000 |

* Adapters included with rotor. Adapters are reversible, so that tube angle can be set at either 45° or 25°, depending on application requirements.

Rotor Replacement Parts

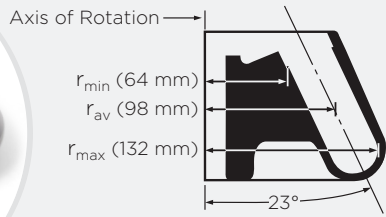
| | |
|--------|---------------------|
| 11921 | O-ring |
| 347821 | Rotor Knob Assembly |
| 364918 | Tie-down Kit |

Adapters

347562



JA-18 **BIOC** 10 x 100 mL



Fixed-Angle Rotor, Aluminum

For use in Avanti J Series centrifuges.
Major applications: High-force, large-volume. Pelleting bacteria, cell membranes, and subcellular organelles.

| Max. RPM | Max. g | k Factor | Number of Tubes Volume/Size | Rotor Capacity |
|--|--------|----------|--|----------------|
| 18 000 (16 000 rpm* at 4°C and below) | 47 900 | 566 | 10 x 100 mL 38 x 102 mm 1.5 x 4 in | 1 L |

No. 369679. JA-18 Fixed-Angle Rotor for 18 000 rpm operation.

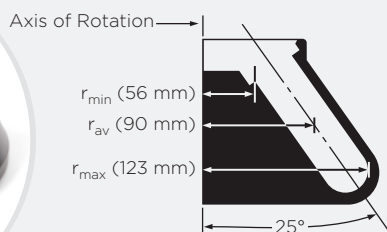
| Tubes and Bottles | | | | | | | | | | |
|--|------------------------------|----------|----------|----------------------|---------------------------|-------------------|---------|----------|---------------|--------|
| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | g-Force | k Factor | Maximum Speed | |
| Quick-Seal Tubes | | | | | | | | | | |
| Polypropylene | 100.0 | 345776 | 25 | 38 x 102 | --- | --- | 47 900 | 566 | 18 000 | |
| Ultra-Clear | 100.0 | 345778 | 25 | 38 x 102 | --- | --- | 47 900 | 566 | 18 000 | |
| Bottles with Cap Assemblies | | | | | | | | | | |
| Polycarbonate | 70.0 | 355620 | 6 | 38 x 102 | --- | --- | 47 900 | 566 | 18 000 | |
| Polypropylene | 94.0 | 355624 | 6 | 38 x 102 | --- | --- | 47 900 | 566 | 18 000 | |
| Bottles with Screw-On Caps | | | | | | | | | | |
| Polypropylene | 50.0 | 357003 | 25 | 29 x 104 | 347539 | 1 | 44 000 | --- | 18 000 | |
| Polycarbonate | 50.0 | 357002 | 25 | 29 x 104 | 347539 | 1 | 44 000 | --- | 18 000 | |
| Tubes with Snap-On Caps | | | | | | | | | | |
| Polypropylene | Orange | 1.5 | 356094 | 500 | 11 x 38 | 344497/347539*** | 6 | 35 000 | --- | 18 000 |
| | Yellow | 1.5 | 356093 | 500 | 11 x 38 | 344497/347539*** | 6 | 35 000 | --- | 18 000 |
| | Blue | 1.5 | 356091 | 500 | 11 x 38 | 344497/347539*** | 6 | 35 000 | --- | 18 000 |
| | Natural | 1.5 | 356090 | 500 | 9.5 x 38 | 344497/347539*** | 6 | 35 000 | --- | 18 000 |
| | Polypropylene | 1.5 | 357448 | 500 | 9.5 x 38 | 344497/347539*** | 6 | 35 000 | --- | 18 000 |
| Polyethylene | Natural† | 1.5 | 343169 | 500 | 11 x 38 | 344497/347539*** | 6 | 35 000 | --- | 18 000 |
| | | 1.8 | 340196 | 500 | 11 x 39 | 344497/347539*** | 6 | 35 000 | --- | 18 000 |
| Open-Top Tubes | | | | | | | | | | |
| Thickwall Polycarbonate* | 50.0 | 363647 | 25 | 29 x 104 | 347539 | 1 | 44 000 | --- | 18 000 | |
| Thickwall Polypropylene* | 50.0 | 357007 | 25 | 29 x 104 | 347539 | 1 | 44 000 | --- | 18 000 | |
| Adapters for Non-Beckman Coulter Tubes/Bottles | | | | | | | | | | |
| Round Bottom | 5.0 | --- | --- | 12 x 75 | 356969 (qty. of 1) | 3 | --- | --- | --- | |
| Round Bottom | 10.0 | --- | --- | 13 x 100 | 356975 (qty. of 1) | 3 | --- | --- | --- | |
| Conical | 15.0 | --- | --- | 17 x 120 | 356962 (qty. of 1) | 1 | --- | --- | --- | |
| Round Bottom | 15.0 | --- | --- | 18 x 80 | 870329/347539 (qty. of 1) | 1 | --- | --- | --- | |
| Round Bottom | 30.0 | --- | --- | 29 x 104 | 870331/347539 (qty. of 1) | 1 | --- | --- | --- | |
| Conical | 50.0 | --- | --- | 30 x 115 | 356963 (qty. of 1) | 1 | --- | --- | --- | |

* A cap is available for these tubes, but it cannot be used in the JA-18 rotor; for a cap to use when storing samples, order cap 356262.
 † Can be double-stacked. Force will vary depending on tube position.
 ‡ With separate cap.
 *** These adapters fit inside one another to accommodate smaller bottles and tubes.

Rotor Replacement Parts

| | |
|--------|------------------------|
| 346947 | Tie-down Bolt Assembly |
| 346965 | Rotor Removal Tool |
| 364845 | Rotor Lid Assembly |
| 364917 | Tie-down Kit, IRIS |

| Adapters | |
|----------|--------|
| 344497 | 347539 |
| | |



Fixed-Angle Rotor, Aluminum

For use in Avanti J Series centrifuges.

Major applications: High-force, large-volume. Pelleting bacteria, cell membranes, and subcellular organelles.

| Max. RPM | Max. <i>g</i> | <i>k</i> Factor | Number of Tubes Volume/Size | Rotor Capacity |
|----------|---------------|-----------------|---|----------------|
| 17 000 | 39 800 | 690 | 14 x 50 mL 29 x 104 mm 1.125 x 4 in | 700 mL |

No. 369691. JA-17 Fixed-Angle Rotor.

| Tubes and Bottles | | | | | | | | | |
|--|------------------------------|---------------------|----------|----------------------|---------------------------|-------------------|-----------------|-----------------|---------------|
| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | <i>g</i> -Force | <i>k</i> Factor | Maximum Speed |
| Bottles with Cap Assemblies | | | | | | | | | |
| Polypropylene | 50.0 | 357001 | 6 | 29 x 104 | --- | --- | 39 800 | 690 | 17 000 |
| | 50.0 | 361694 | 24 | 29 x 104 | --- | --- | 39 800 | 690 | 17 000 |
| Polycarbonate | 50.0 | 357000 | 6 | 29 x 104 | --- | --- | 39 800 | 690 | 17 000 |
| | 50.0 | 361693 | 24 | 29 x 104 | --- | --- | 39 800 | 690 | 17 000 |
| Bottles with Screw-On Caps | | | | | | | | | |
| Polypropylene | 50.0 | 357003 | 25 | 29 x 104 | --- | --- | 39 800 | 690 | 17 000 |
| Polycarbonate | 10.0 | 355672 | 25 | 16 x 80 | 342327/870329 | 1 | 32 000 | 500 | 17 000 |
| | 50.0 | 357002 | 25 | 29 x 104 | --- | --- | 39 800 | 690 | 17 000 |
| Tubes with Snap-On Caps | | | | | | | | | |
| Polypropylene | 50.0 | 357005 [†] | 25 | 29 x 104 | --- | --- | 39 800* | 690 | 17 000 |
| Open-Top Tubes | | | | | | | | | |
| Thickwall Polycarbonate | 50.0 | 363647 | 25 | 29 x 104 | --- | --- | 39 800 | 690 | 17 000 |
| Thickwall Polypropylene | 50.0 | 357007 | 25 | 29 x 104 | --- | --- | 39 800 | 690 | 17 000 |
| Adapters for Non-Beckman Coulter Tubes/Bottles | | | | | | | | | |
| Round Bottom | 5.0 | --- | --- | 12 x 75 | 356970 (qty. of 1) | 1 | --- | --- | --- |
| | 8.0 | --- | --- | 13 x 100 | 356976 (qty. of 1) | 1 | --- | --- | --- |
| | 10.0 | --- | --- | 16 x 80 | 342327/870329 (qty. of 1) | 1 | --- | --- | --- |
| | 15.0 | --- | --- | 18 x 80 | 870329 (qty. of 1) | 1 | --- | --- | --- |
| | 30.0 | --- | --- | 29 x 104 | 870331 (qty. of 1) | 1 | --- | --- | --- |

Cap Assembly Replacement Parts

| | |
|--------|--|
| 356284 | Cap for 357000 and 357001 Tubes |
| 358627 | Insert for 357000 and 357001 Cap Assembly; order only for use in tubes |
| 961582 | O-ring for 357000 and 357001 Cap Assembly |

Rotor Replacement Parts

| | |
|--------|---|
| 878951 | O-ring for Rotor Lid |
| 811656 | O-ring for Rotor Hub |
| 369760 | Lid Assembly |
| 364913 | Tie-down Kit |
| 392889 | Hold-down Knob (used to run filtration tubes without lid) |

[†] A maximum of seven tubes can be used, placed in every other rotor hole (tubes placed in adjacent holes will hit one another).

Rotor Supplies

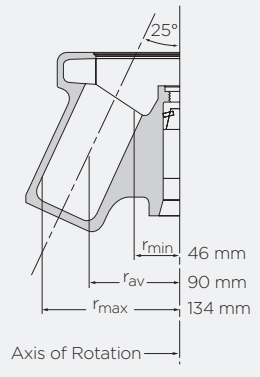
| | |
|--------|--|
| 338896 | Rotor Removal Tool |
| 338689 | Adapter Collar for 338896 Rotor Removal Tool |
| 356970 | Acetal Adapter (qty. 1), fits 12 mm tubes |
| 356976 | Acetal Adapter (qty. 1), fits 13 mm tubes |

Adapters

342327 870329



JLA-16.250 **BIOC** 6 x 250 mL



Fixed-Angle Rotor, Aluminum

For use in Avanti J Series centrifuges.

Major applications: General purpose, large-volume and multitube processing. Lightweight alternative to conventional 6 x 250 rotors; empty rotor weight is 10.3 kg (22.7 lb).

| Max. RPM | Max. g | k Factor | Number of Tubes Volume/Size | Rotor Capacity |
|----------|--------|----------|---|----------------|
| 16 000 | 38 400 | 1 090 | 6 x 250 mL 62 x 120 mm 2.5 x 5.5 in | 1.5 L |

No. 363930. J-LITE JLA-16.250 Rotor Assembly with BioSafety Lid.

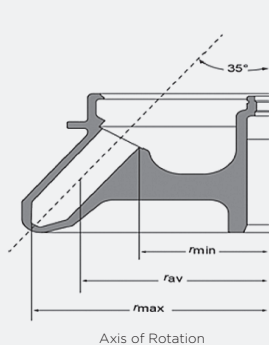
No. 363934. Rotor Assembly with Single Lock Lid.

| Tubes and Bottles | | | | | | | | | |
|--|------------------------------|----------|----------|----------------------|--------------------|-------------------|---------|----------|---------------|
| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | g-Force | k Factor | Maximum Speed |
| Bottles with Screw-On Caps | | | | | | | | | |
| Polypropylene | 50.0 | 357003 | 25 | 29 x 104 | 356997 | 1 | 32 200 | 650 | 16 000 |
| Polycarbonate | 50.0 | 357002 | 25 | 29 x 104 | 356997 | 1 | 32 200 | 660 | 16 000 |
| Bottles with Cap Assemblies | | | | | | | | | |
| Polypropylene | 50.0 | 357001 | 6 | 29 x 104 | 356997 | 1 | 32 200 | 650 | 16 000 |
| Polycarbonate | 50.0 | 357000 | 6 | 29 x 104 | 356997 | 1 | 32 400 | 660 | 16 000 |
| Wide-mouth Polycarbonate | 250.0 | 356013 | 6 | 62 x 120 | --- | --- | 38 500 | 1 090 | 16 000 |
| Wide-mouth Polypropylene | 250.0 | 356011 | 6 | 62 x 120 | --- | --- | 38 500 | 1 070 | 16 000 |
| Tubes with Snap-On Caps | | | | | | | | | |
| Polycarbonate | 50.0 | 363664 | 25 | 29 x 104 | 356997 | 1 | 32 100 | 400 | 16 000 |
| Polypropylene | 50.0 | 357005 | 25 | 29 x 104 | 356997 | 1 | 32 100 | 400 | 16 000 |
| BioVials | | | | | | | | | |
| Polypropylene | 4.0 | 566353 | 1000 | 14 x 55 | 342098 | 9 | 2 300 | 10 700 | 4 000 |
| Adapters for Non-Beckman Coulter Tubes/Bottles | | | | | | | | | |
| Round Bottom | 5.0 | --- | --- | 12 x 75 | 356968 (qty. of 1) | 9 | --- | --- | --- |
| Round Bottom | 7.0 | --- | --- | 13 x 100 | 356974 (qty. of 1) | 8 | --- | --- | --- |
| Conical | 15.0 | --- | --- | 17 x 119 | 356964 (qty. of 1) | 4 | --- | --- | --- |
| Conical | 50.0 | --- | --- | 30 x 104 | 356966 (qty. of 1) | 1 | --- | --- | --- |
| Round Bottom | 50.0 | --- | --- | 30 x 104 | 356997 (qty. of 1) | 1 | --- | --- | --- |

Rotor Replacement Parts

| | |
|--------|--|
| 363931 | Double-locking Lid Assembly |
| 363935 | Single-locking Lid Assembly |
| 893502 | Large O-ring for Lid Assembly (5.987 dia.) |
| 893503 | Small O-ring for Lid Assembly (1.046 dia.) |

| Adapters | | |
|----------|--------|--------|
| 342098 | 356997 | 356964 |
| | | |



Fixed-Angle Rotor, Aluminum

For use in Avanti J Series centrifuges.

Major applications: Pelleting and Density Gradient Separations. Proteins, lysate/tissue homogenates, nucleic acids, cells, viruses and blood.

| Max. RPM | Max. g | k Factor | Number of Tubes Volume/Size | Rotor Capacity |
|----------|--------|----------|-----------------------------------|----------------|
| 14 000 | 35 000 | 787 | 16 x 50 mL Conical 30 x 115 mm | 800 mL |

No. B88555. JA-14.50 Fixed-Angle Rotor with Single-Locking Lid for 14000 rpm operation. Tubes and bottles not included.

No. B88554. JA-14.50 Fixed-Angle Rotor for BioSafe Dual-Locking Lid for 14000 rpm operation. Tubes and bottles not included.

| Tubes and Bottles | | | | | | | | | |
|---|------------------------------|----------|----------|-------------------------|-------------------|-------------------|---------|----------|---------------|
| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Size (mm) / Volume (mL) | Required Adapters | Tubes per Adapter | g-Force | k Factor | Maximum Speed |
| Polycarbonate Round Bottom Open-Top Tube | 15 mL | 342080 | 1 | 18 x 100 mm / 15 mL | B89430 (qty 2) | 1 | 33,400 | 665 | 14,000 |
| Polypropylene Round Bottom Open-Top Tube | 15 mL | 342081 | 1 | 18 x 100 mm / 15 mL | B89430 (qty 2) | 1 | 33,400 | 665 | 14,000 |
| Polyethylene Round Bottom Open-Top Tube | 15 mL | 342082 | 1 | 18 x 100 mm / 15 mL | B89430 (qty 2) | 1 | 33,400 | 665 | 14,000 |
| Adapters for Non-Beckman Coulter Tubes/Bottles | | | | | | | | | |
| Polypropylene Conical Tube w/Cap ^{b,c,d,e,g} | 50 mL | --- | --- | --- | NA | --- | --- | --- | ** |
| Polypropylene Conical Tube w/Cap ^{b,c,e,g} | 15 mL | --- | --- | --- | B89429 (qty 2) | --- | --- | --- | ** |
| Polypropylene Conical Tube with Tethered Cap ^h | 5 mL | --- | --- | --- | B89431 (qty 2) | --- | --- | --- | ** |
| Spin Filtration Conical ⁱ | 50 mL | --- | --- | --- | NA | --- | --- | --- | ** |
| Spin Filtration Conical ⁱ | 15 mL | --- | --- | --- | B40156 (qty 2) | --- | --- | --- | ** |

- a. Use only the items listed here and observe fill volumes and maximum run speeds.
- b. Manufactured by Greiner.
- c. Manufactured by BD Falcon.
- d. Manufactured by VWR.
- e. Manufactured by Corning.
- g. Manufactured by NUNC.
- h. Manufactured by Eppendorf.
- i. Manufactured by Pall.
- j. Manufactured by Millipore.
- ** Use manufacturer's recommendations for tube and bottle RCF limits. The corresponding RPM and k factor can be calculated using the equations on pages 1 and 15 of the JA-24.50 rotor manual.

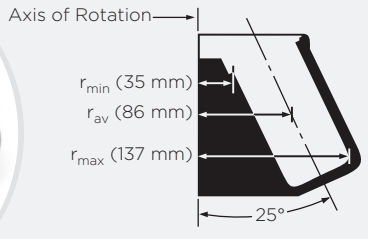
Rotor Replacement Parts

| | |
|--------|---|
| B19947 | Dual-Locking Lid |
| B19952 | Single-Locking Lid |
| 885501 | Lid O-Ring (ethylene propylene rubber) |
| 961696 | Rotor Body O-Ring (ethylene propylene rubber) |

Supplies

| | |
|--------|------------------------------------|
| 360998 | Rotor removal tool |
| 339558 | Rotor Cleaning Kit |
| 335148 | Silicone vacuum grease (1 oz) |
| 339555 | Solution 555 (1 qt) |
| 306812 | Spinkote Lubricant (2 oz) |
| 338765 | Stem Lifter (adapter removal) tool |

JA-14 **BIOC** 6 x 250 mL



Fixed-Angle Rotor, Aluminum

For use in Avanti J Series centrifuges.

Major applications: General-purpose, large-volume and multi-tube processing. Adapters permit use of up to 30 each 15-mL tubes and up to 72 each 3-mL tubes.

| Max. RPM | Max. g | k Factor | Number of Tubes Volume/Size | Rotor Capacity |
|----------|--------|----------|---|----------------|
| 14 000 | 30 100 | 1 764 | 6 x 250 mL 62 x 120 mm 2.5 x 4.8 in | 1.5 L |

No. 339247. JA-14[®] Fixed-Angle BioSafety Rotor for 14 000 rpm operation.

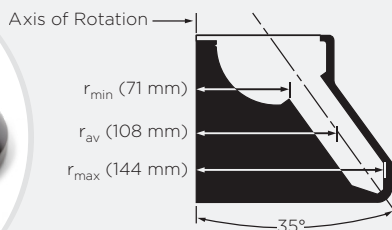
| Tubes and Bottles | | | | | | | | | |
|--|------------------------------|----------|----------|----------------------|---------------------------|-------------------|---------|----------|---------------|
| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | g-Force | k Factor | Maximum Speed |
| Bottles with Screw-On Caps | | | | | | | | | |
| Polypropylene | 50.0 | 357003 | 25 | 29 x 104 | 356997 | 1 | 30 100 | 1 764 | 14 000 |
| Polycarbonate | 50.0 | 357002 | 25 | 29 x 104 | 356997 | 1 | 30 100 | 1 764 | 14 000 |
| Conical Polypropylene | 230.0 | 356989 | 4 | 60 x 120 | 356983 (qty. of 4) | 1 | 8 600 | 6 158 | 7 500 |
| Conical Polycarbonate | 230.0 | 356987 | 4 | 60 x 120 | 356983 (qty. of 4) | 1 | 8 600 | 6 158 | 7 500 |
| Bottles with Cap Assemblies | | | | | | | | | |
| Polypropylene | 50.0 | 357001 | 6 | 29 x 104 | 356997 | 1 | 30 100 | 1 764 | 14 000 |
| Polypropylene | 50.0 | 361694 | 24 | 29 x 104 | 356997 | 1 | 30 100 | 1 764 | 14 000 |
| Polycarbonate | 50.0 | 357000 | 6 | 29 x 104 | 356997 | 1 | 30 100 | 1 764 | 14 000 |
| Wide-mouth Polycarbonate | 250.0 | 356013 | 6 | 62 x 120 | --- | --- | 30 100 | 1 764 | 14 000 |
| Wide-mouth Polypropylene | 250.0 | 356011 | 6 | 62 x 120 | --- | --- | 30 100 | 1 764 | 14 000 |
| Tubes with Snap-On Caps | | | | | | | | | |
| Polycarbonate | 50.0 | 363664 | 25 | 29 x 104 | 356997 | 1 | 30 100 | 1 764 | 14 000 |
| Thickwall Polypropylene | 50.0 | 357005 | 25 | 29 x 104 | 356997 | 1 | 30 100 | 1 764 | 14 000 |
| Open-Top Tubes | | | | | | | | | |
| Thickwall Polycarbonate | 50.0 | 363647 | 25 | 29 x 104 | 356997 | 1 | 30 100 | 1 764 | 14 000 |
| Thickwall Polypropylene | 50.0 | 357007 | 25 | 29 x 104 | 356997 | 1 | 30 100 | 1 764 | 14 000 |
| BioVials | | | | | | | | | |
| Polypropylene | 4.0 | 566353 | 1000 | 14 x 55 | 342098* | 9 | 20 000 | --- | 14 000 |
| Adapters for Non-Beckman Coulter Tubes/Bottles | | | | | | | | | |
| Round Bottom | 5.0 | --- | --- | 12 x 75 | 356968 (qty. of 1) | 9 | --- | --- | --- |
| Round Bottom | 7.0 | --- | --- | 13 x 100 | 356974 (qty. of 1) | 8 | --- | --- | --- |
| Conical | 15.0 | --- | --- | 17 x 119 | 356964 (qty. of 1) | 4 | --- | --- | --- |
| Round Bottom | 30.0 | --- | --- | 29 x 104 | 356997/870331 (qty. of 1) | 1 | --- | --- | --- |
| Conical | 50.0 | --- | --- | 30 x 104 | 356966 (qty. of 1) | 1 | --- | --- | --- |
| Round Bottom | 50.0 | --- | --- | 30 x 104 | 356997 (qty. of 1) | 1 | --- | --- | --- |
| Round Bottom | 150.0 | --- | --- | 53 x 114 | 339362 (qty. of 1) | 1 | --- | --- | --- |
| Conical | 230.0 | --- | --- | 60 x 120 | 356983 (qty. of 4) | 1 | --- | --- | --- |

* Can be double-stacked.

Rotor Replacement Parts

| | |
|--------|--|
| 346965 | Rotor Removal Tool |
| 870137 | Spring Pin for JA-14 Rotor Lid |
| 870138 | O-ring for Rotor Lid |
| 811656 | O-ring for Rotor Body |
| 360473 | Rotor Lid Assembly (includes Tie-down Kit) |

| Adapters | | | |
|----------|--------|--------|--------|
| 342098 | 356983 | 356997 | 356995 |
| | | | |



Fixed-Angle Rotor, Aluminum

For use in Avanti J Series centrifuges.

Major applications: Pelletting cells, bacteria, or subcellular fractions; phase separations; binding studies.

| Max. RPM | Max. <i>g</i> | <i>k</i> Factor | Number of Tubes Volume/Size | Rotor Capacity |
|----------|---------------|-----------------|--|----------------|
| 12 000* | 23 200 | 1 244 | 12 x 50 mL 30 x 103 mm (conical) 1.17 x 4 in | 600 mL |

No. 360992. JA-12⁹ Fixed-Angle Rotor with Dual-locking BioSafety Lid

No. 360993. JA-12 Fixed-Angle Rotor with Single-locking Lid

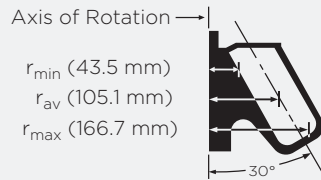
| Tubes and Bottles | | | | | | | | | |
|--|------------------------------|----------|----------|----------------------|--------------------|-------------------|-----------------|-----------------|---------------|
| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | <i>g</i> -Force | <i>k</i> Factor | Maximum Speed |
| Conical* | 50.0 | --- | --- | --- | --- | --- | 23 200 | --- | 12 000 |
| Adapters for Non-Beckman Coulter Tubes/Bottles | | | | | | | | | |
| Conical | 15.0 | --- | --- | 17 x 119 | 393088 (qty. of 1) | 1 | --- | --- | --- |

* Tested using Corning and Falcon 50-mL conical tubes.

Rotor Replacement Parts

| | |
|--------|-------------------------------------|
| 364846 | Dual-locking Lid Assembly |
| 360991 | Single-locking Lid Assembly |
| 360999 | Tie-down Bolt (for use without lid) |
| 961696 | O-ring for Rotor Body |
| 961697 | O-ring for Rotor Lid |
| 364919 | Tie-down Kit (Single) |
| 364922 | Tie-down Kit (Dual-lock) |
| 360998 | Rotor Removal Tool |

JLA-12.500 **BIOC** 6 x 500 mL



Fixed-Angle Rotor, Aluminum

For use in Avanti JXN-26 and JXN-30 centrifuges.

Major applications: High-volume and centrifugal force, ideal for protein precipitation and lysate clarification.

| Max. RPM | Max. <i>g</i> | <i>k</i> Factor | Fluid <i>k</i> Factor | Number of Tubes Volume/Size | Rotor Capacity |
|----------|---------------|-----------------|-----------------------|--|----------------|
| 12 000 | 26 890 | 2 363 | 1 277* | 6 x 500 mL 69 x 160 mm 2.75 x 6.5 in | 3 L |

No. C55767. J-Lite JLA-12.500 Fixed-Angle Rotor

| Tubes and Bottles | | | | | | | | | |
|---|------------------------------|----------|----------|----------------------|-------------------|-------------------|-----------------|-----------------|---------------|
| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | <i>g</i> -Force | <i>k</i> Factor | Maximum Speed |
| Polypropylene with Cap Assembly | 500 | 361691 | 6 | 69 x 160 | --- | --- | 26 642 | 1 277 | 12 000 |
| Polycarbonate with Cap Assembly | 500 | 361690 | 6 | 69 x 160 | --- | --- | 18 711 | 3 398 | 10 010 |
| Wide-mouth polypropylene with Cap | 250 | 356011 | 6 | 62 x 120 | 362750 | 1 | 18 263 | 2 777 | 10 020 |
| Wide-mouth polycarbonate with Cap | 250 | 356013 | 6 | 62 x 120 | 362750 | 1 | 18 263 | 2 777 | 10 020 |
| Polycarbonate round bottom tube with cap and plug | 50 | 357000 | 6 | 29 x 104 | 356996 | 1 | 16 011 | 1 643 | 10 040 |
| Polycarbonate round bottom tube with cap and plug | 50 | 357001 | 6 | 29 x 104 | 356996 | 1 | 16 011 | 1 643 | 10 040 |
| Polycarbonate round bottom tube with cap | 50 | 357002 | 25 | 29 x 104 | 356996 | 1 | 16 011 | 1 643 | 10 040 |
| Polycarbonate round bottom tube with cap | 50 | 357003 | 25 | 29 x 104 | 356996 | 1 | 16 011 | 1 643 | 10 040 |
| Adapters for Non-Beckman Coulter Tubes/Bottles | | | | | | | | | |
| Polypropylene conical tube with cap | 50 | 356965 | 1 | 29 x 115 | --- | 1 | --- | --- | --- |
| Polypropylene conical tube with cap | 15 | 356960 | 1 | 17 x 120 | --- | 5 | --- | --- | --- |

Rotor Replacement Parts

| | |
|--------|-------------------------------|
| C72536 | Rotor Lid Assembly |
| C70015 | Lid O-ring Kit |
| 335148 | Silicone Vacuum Grease (1 oz) |
| 306812 | Spinkote Lubricant (2 oz) |

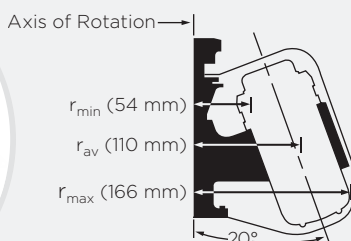
* *k*-Factor at maximum sample volume and maximum speed of PP Bottle (361691)

Adapters

356965 | 356960



JLA-10.500 **BIOC** 6 x 500 mL



Fixed-Angle Rotor, Aluminum

For use in Avanti J Series centrifuges (excluding Avanti JXN-30).
Major applications: Large-volume for initial processing of bacteria or other cells from fermentors, clearing cell debris from homogenates, or pelleting subcellular organelles and protein precipitates.

| Max. RPM | Max. g | k Factor | Number of Tubes Volume/Size | Rotor Capacity |
|----------|--------|----------|--|----------------|
| 10 000 | 18 600 | 2 850 | 6 x 500 mL 69 x 160 mm 2.75 x 6.5 in | 3 L |

No. 369681. J-LITE JLA-10.500 Rotor Assembly. Includes 6 canisters with secondary BioSafety liquid closures.

No. 360828. JLA-10.500 canisters with secondary BioSafety liquid closures (set of 2).

| Tubes and Bottles | | | | | | | | | |
|--|------------------------------|----------|----------|----------------------|---------------------|-------------------|---------|----------|---------------|
| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | g-Force | k Factor | Maximum Speed |
| Bottles with Cap Assemblies | | | | | | | | | |
| Polypropylene | 50.0 | 357001 | 6 | 29 x 104 | 356996 | 1 | 12 000 | 2 840 | 10 000 |
| Polycarbonate | 50.0 | 357000 | 6 | 29 x 104 | 356996 | 1 | 12 000 | 2 840 | 10 000 |
| | 500.0 | 361690 | 6 | 69 x 160 | --- | --- | 18 600 | 2 840 | 10 000 |
| Polypropylene | 500.0 | 361691 | 6 | 69 x 160 | --- | --- | 11 900 | 4 440 | 8 000 |
| Wide-mouth Polycarbonate | 250.0 | 356013 | 6 | 62 x 122 | 362750** (set of 2) | 1 | 17 700 | 2 840 | 10 000 |
| Wide-mouth Polypropylene | 250.0 | 356011 | 6 | 62 x 122 | 362750** (set of 2) | 1 | 17 700 | 2 840 | 10 000 |
| Bottles with Screw-On Caps | | | | | | | | | |
| Polypropylene | 50.0 | 357003 | 25 | 29 x 104 | 356996 | 1 | 12 000 | 2 840 | 10 000 |
| Polycarbonate | 50.0 | 357002 | 25 | 29 x 104 | 356996 | 1 | 12 000 | 2 840 | 10 000 |
| Tubes with Snap-On Caps | | | | | | | | | |
| Polycarbonate | 50.0 | 363664 | 25 | 29 x 104 | 356996 | 1 | 12 000 | 2 840 | 10 000 |
| Polypropylene | 50.0 | 357005 | 25 | 29 x 104 | 356996 | 1 | 12 000 | 2 840 | 10 000 |
| Open-Top Tubes | | | | | | | | | |
| Thickwall Polycarbonate | 50.0 | 363647 | 25 | 29 x 104 | 356996 | 1 | 12 000 | 2 840 | 10 000 |
| Thickwall Polypropylene | 50.0 | 357007 | 25 | 29 x 104 | 356996 | 1 | 12 000 | 2 840 | 10 000 |
| BioVials | | | | | | | | | |
| Polypropylene | 4.0 | 566353 | 1000 | 14 x 55 | 362750/342098** | 9 | --- | --- | 10 000 |
| Adapters for Non-Beckman Coulter Tubes/Bottles | | | | | | | | | |
| Round Bottom | 4.0 | --- | --- | 12 x 75 | 356967 (qty. of 1) | 11 | --- | --- | --- |
| Round Bottom | 7.0 | --- | --- | 13 x 100 | 356973 (qty. of 1) | 8 | --- | --- | --- |
| Round Bottom | 15.0 | --- | --- | 17 x 100 | 356994 (qty. of 1) | 5 | --- | --- | --- |
| Conical | 15.0 | --- | --- | 17 x 120 | 356995 (qty. of 1) | 5 | --- | --- | --- |
| Round Bottom | 30.0 | --- | --- | 25 x 105 | 359398 (qty. of 1) | 1 | --- | --- | --- |
| Conical | 50.0 | --- | --- | 29 x 115 | 356965 (qty. of 1) | 1 | --- | --- | --- |

* BioVials require adapters P/N 362750 AND 342098 to run in the JLA-10.500. Two adapters P/N 342098 can be double-stacked inside of one adapter P/N 362750 per rotor cavity if greater capacity is desired.

** These adapters fit inside one another to accommodate smaller bottles and tubes.

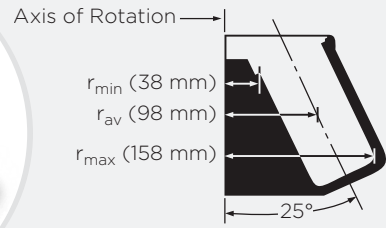
Rotor Replacement Parts

| | |
|--------|--|
| 363334 | Rotor Lid Assembly |
| 360828 | Canister (set of 2 with 2 canister closures) |
| 360842 | Canister Closure Assembly (1) |
| 360848 | O-ring for Canister Closure (set of 12) |
| 363335 | Canister Rack |
| 360834 | Canister Sleeve Washer |

Adapters



JA-10 6 x 500 mL



Fixed-Angle Rotor, Aluminum

For use in Avanti J Series centrifuges.
Major applications: Large-volume for initial processing of tissue homogenates and other large particles.

| Max. RPM | Max. g | k Factor | Number of Tubes Volume/Size | Rotor Capacity |
|----------|--------|----------|--|----------------|
| 10 000 | 17 700 | 3 610 | 6 x 500 mL 69 x 160 mm 2.75 x 6.5 in | 3 L |

No. 369687. JA-10 Fixed-Angle Rotor for 10 000 rpm operation. Includes carrying handle.

| Tubes and Bottles | | | | | | | | | |
|--|------------------------------|----------|----------|----------------------|---------------------|-------------------|---------|----------|---------------|
| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | g-Force | k Factor | Maximum Speed |
| Bottles with Cap Assemblies | | | | | | | | | |
| Polypropylene | 50.0 | 357001 | 6 | 29 x 104 | 356996 | 1 | 12 000 | --- | 10 000 |
| Polycarbonate | 50.0 | 357000 | 6 | 29 x 104 | 356996 | 1 | 12 000 | --- | 10 000 |
| Wide-mouth Polycarbonate | 250.0 500.0 | 356013 | 6 | 62 x 120 | 362750** (set of 2) | 1 | 17 700 | --- | 10 000 |
| | | 355605 | 6 | 69 x 160 | --- | --- | 17 700 | --- | 10 000 |
| Wide-mouth Polypropylene | 250.0 500.0 | 356011 | 6 | 62 x 120 | 362750** (set of 2) | 1 | 17 700 | --- | 10 000 |
| | | 355607 | 6 | 69 x 160 | --- | --- | 11 300 | --- | 8 000 |
| Bottles with Screw-On Caps | | | | | | | | | |
| Polypropylene | 50.0 | 357003 | 25 | 29 x 104 | 356996 | 1 | 12 000 | --- | 10 000 |
| Tubes with Snap-On Caps | | | | | | | | | |
| Polycarbonate | 50.0 | 363664 | 25 | 29 x 104 | 356996 | 1 | 12 000 | --- | 10 000 |
| Polypropylene | 50.0 | 357005 | 25 | 29 x 104 | 356996 | 1 | 12 000 | --- | 10 000 |
| Open-Top Tubes | | | | | | | | | |
| Thickwall Polycarbonate | 50.0 | 363647 | 25 | 29 x 104 | 356996 | 1 | 12 000 | --- | 10 000 |
| Thickwall Polypropylene | 50.0 | 357007 | 25 | 29 x 104 | 356996 | 1 | 12 000 | --- | 10 000 |
| BioVials | | | | | | | | | |
| Polypropylene | 4.0 | 566353 | 1000 | 14 x 55 | 362750/342098** | 9 | --- | --- | 10 000 |
| Adapters for Non-Beckman Coulter Tubes/Bottles | | | | | | | | | |
| Round Bottom | 4.0 | --- | --- | 12 x 75 | 356967 (qty. of 1) | 11 | --- | --- | --- |
| Round Bottom | 7.0 | --- | --- | 13 x 100 | 356973 (qty. of 1) | 8 | --- | --- | --- |
| Round Bottom | 15.0 | --- | --- | 17 x 100 | 356994 (qty. of 1) | 5 | --- | --- | --- |
| Conical | 15.0 | --- | --- | 17 x 120 | 356960 (qty. of 1) | 5 | --- | --- | --- |
| Round Bottom | 30.0 | --- | --- | 25 x 105 | 359398 (qty. of 1) | 1 | --- | --- | --- |
| Conical | 50.0 | --- | --- | 29 x 115 | 356965 (qty. of 1) | 1 | --- | --- | --- |

* BioVials require adapters P/N 362750 AND 342098 to run in the JA-10. Two adapters P/N 342098 can be double-stacked inside of one adapter P/N 362750 per rotor cavity if greater capacity is desired.

** These adapters fit inside one another to accommodate smaller bottles and tubes.

Rotor Replacement Parts

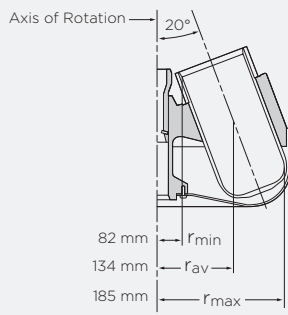
| | |
|--------|-----------------------|
| 334827 | Rotor Removal Tool |
| 870139 | O-ring for Rotor Lid |
| 811656 | O-ring for Rotor Body |
| 364911 | Tie-down Kit |
| 392122 | Rotor Lid |

Adapters



JLA-9.1000 **BIOC** 4 x 1000 mL

For use in Avanti J Series centrifuges.



Fixed-Angle Rotor, Aluminum

For use in Avanti J Series centrifuges.

Major applications: General purpose, large-volume processing, pelleting of bacteria, subcellular organelles, viruses, and precipitates. Empty rotor weight is 23.9 lb (10.8 kg).

| Max. RPM | Max. g | k Factor | Number of Tubes Volume/Size | Rotor Capacity |
|----------|--------|----------|--|----------------|
| 9 000 | 16 800 | 2 544 | 4 x 1000 mL 95 x 191 mm 3.8 x 7.65 in. | 4 L |

No. 366754. J-LITE JLA-9.1000 Rotor Package. Includes rotor body, lid, carbon fiber canisters, and labware kit 392574.

No. C71484. J-LITE JLA-9.1000 Rotor Package. Includes rotor body, lid, carbon fiber canisters, labware kit 392574, and 4 polycarbonate bottles with cap assemblies (two C31600).

No. C69545. J-LITE JLA-9.1000 Rotor Package. Includes rotor body, lid, carbon fiber canisters, labware kit 392574, and 4 polypropylene bottles with cap assemblies (two C31597).

| Tubes and Bottles | | | | | | | | | |
|--|------------------------------|------------------|----------|----------------------|---------------------------|-------------------|----------------|----------------|----------------|
| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | g-Force | k Factor | Maximum Speed* |
| Bottles with Cap Assemblies* | | | | | | | | | |
| J-LITE PC-1000 ⁺ (Polycarbonate) | 1000.0 | C31600 | 2 | 95 x 191 | ----- | ----- | 16 800 | 2 544 | 9 000 |
| J-LITE PP-1000 [†] (Polypropylene) with Polyphenylsulfone Cap | 1000.0 | C31597 | 2 | 95 x 191 | ----- | ----- | 16 800 | 2 544 | 9 000 |
| J-LITE PP-1000 [†] (Polypropylene) with Polyphenylene Sulfide Cap | 1000.0 | B29896 | 2 | 95 x 191 | ----- | ----- | 16 800 | 2 544 | 9 000 |
| Polypropylene | 50.0 | 357001 | 6 | 29 x 104 | 356996/363683** | 1 | ----- | ----- | 9 000 |
| Polycarbonate | 50.0 | 357000 | 6 | 29 x 104 | 356996/363683** | 1 | ----- | ----- | 9 000 |
| Wide-mouth Polycarbonate | 250.0 500.0 | 356013 355605 | 6 6 | 62 x 120 69 x 160 | 362750/363683** 363683 | 1 1 | ----- ----- | ----- ----- | 9 000 9 000 |
| Wide-mouth Polypropylene | 250.0 500.0 | 356011 355607 | 6 6 | 62 x 120 69 x 160 | 362750/363683** 363683 | 1 1 | ----- ----- | ----- ----- | 9 000 8 000 |
| Bottles Only | | | | | | | | | |
| J-LITE PC-1000 (Polycarbonate) | 1000.0 | 366751 | 2 | 95 x 191 | ----- | ----- | 16 800 | 2 544 | 9 000 |
| J-LITE PP-1000 (Polypropylene) | 1000.0 | A98814 | 2 | 95 x 191 | ----- | ----- | 16 800 | 2 544 | 9 000 |
| J-LITE PP-1000 [‡] (Polypropylene) | 1000.0 | B29048 | 12 | 95 x 191 | ----- | ----- | 16 800 | 2 544 | 9 000 |

* When used with carbon fiber canisters.

* *Bottle assemblies include cap/closure. The cap/closure serves the dual purpose of sealing the bottle and providing a secondary seal on the carbon-fiber canister to minimize sample loss resulting from bottle leak or failure.*

† *PC-1000 must be run with cap/closure; minimum fill volume is 500 mL.*

‡ *PP-1000 must be run with cap/closure; minimum fill volume is 1000 mL.*

** *These adapters fit inside one another to accommodate smaller bottles and tubes.*

Patented HarvestLine System Liners



Disposable liners provide easy-to-use, low-cost sample containment, and storage

Adapters

356996 362750 342098



JLA-9.1000 (continued)

4 x 1000 mL

| Tubes and Bottles | | | | | | | | | |
|----------------------------|------------------------------|----------|----------|----------------------|------------------------|-------------------|---------|----------|----------------|
| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | g-Force | k Factor | Maximum Speed* |
| Bottles with Screw-On Caps | | | | | | | | | |
| Polypropylene | 50.0 | 357003 | 25 | 29 x 104 | 356996/363683** | 1 | ----- | ----- | 9 000 |
| Tubes with Snap-On Caps | | | | | | | | | |
| Polycarbonate | 50.0 | 363664 | 25 | 29 x 104 | 356996/363683** | 1 | ----- | ----- | 9 000 |
| Polypropylene | 50.0 | 357005 | 25 | 29 x 104 | 356996/363683** | 1 | ----- | ----- | 9 000 |
| Open-Top Tubes | | | | | | | | | |
| Thickwall Polycarbonate | 50.0 | 363647 | 25 | 29 x 104 | 356996/363683** | 1 | ----- | ----- | 9 000 |
| Thickwall Polypropylene | 50.0 | 357007 | 25 | 29 x 104 | 356996/363683** | 1 | ----- | ----- | 9 000 |
| BioVials | | | | | | | | | |
| Polypropylene | 4.0 | 566353 | 1000 | 14 x 55 | 342098/362750/363683** | 1 | ----- | ----- | 9 000 |

** These adapters fit inside one another to accommodate smaller bottles and tubes.

Labware Kit Part Number 392574

Includes: 1 ea. 974627 Bottle Rack (holds 6 bottles)
1 ea. 363646 Spatula
1 ea. 366770 Tool Kit

Accessories

974627 Bottle Rack (holds 6 bottles for easy transport)
363646 Spatula
A99028 Polyphenylsulfone Cap/Closure Assembly (set of 2)
(Includes cap/closure, O-ring, plug, and plug O-ring)
B29895 Polyphenylene Sulfide Cap/Closure Assembly (set of 2)
(Includes cap/closure, O-ring, plug, and plug O-ring)
393898 Plug Assembly, AutoVent Polycarbonate (set of 2)
366749 Plug Assembly, AutoVent polyetherimide (PEI)(set of 2)
366770 Tool Kit (includes one bottle grip and one wrench)
366772 Polytetrafluoroethylene (PTFE) Spray
369264 HarvestLine System Liner Kit
(Includes 369256 one-liter bottle liners (qty 120), 368740 filling rack, 977472 funnel, and 369267 instructional CD.)
369256 HarvestLine System Liners
Fits JLA-8.1000 or JLA-9.1000 one-liter bottles (qty. 120).

Rotor Replacement Parts

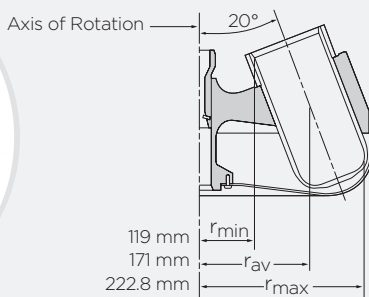
363583 Rotor Lid Assembly
363686 J-LITE 1000 Removable Canister (set of 2)
363601 Canister Sleeve Washer (set of 6)
B10317 Polyphenylsulfone Cap/Closure Replacement Assembly (set of 6)
B29894 Polyphenylene Sulfide Cap/Closure Replacement Assembly (set of 6)
B10319 Cap/Closure Replacement O-rings (set of 6)
B10320 AutoVent Plug Replacement O-rings (set of 6)
Includes six large plug O-rings and six AutoVent plug O-rings.

Adapters

356996 362750 342098



JLA-8.1000 **BIOC** 6 x 1000 mL



Fixed-Angle Rotor, Aluminum

For use in Avanti JXN-26, Avanti J-26XP Series centrifuges and Avanti J-HC.

Major applications: General purpose, large-volume processing, pelleting of bacteria, cell organelles, viruses, and precipitates. Empty rotor weight is 16.8 kg (37 lb).

| Max. RPM | Max. <i>g</i> | <i>k</i> Factor | Number of Bottles Volume/Size | Rotor Capacity |
|----------|---------------|-----------------|--|----------------|
| 8 000 | 15 970 | 2 482 | 6 x 1000 mL 95 x 191 mm 3.8 x 7.65 in. | 6 L |

No. 363688. J-LITE JLA-8.1000 Rotor Package. Includes rotor body, BioSafety* lid, carbon fiber canisters, and labware kit 392574.

No. C71485. J-LITE JLA-8.1000 Rotor Package. Includes rotor body, lid, carbon fiber canisters, labware kit 392574, and 6 polycarbonate bottles with cap assemblies (three C31600).

No. C69544. J-LITE JLA-8.1000 Rotor Package. Includes rotor body, lid, carbon fiber canisters, labware kit 392574, and 6 polypropylene bottles with cap assemblies (three C31597).

| Tubes and Bottles | | | | | | | | | |
|---|------------------------------|------------------|----------|----------------------|----------------------------|-------------------|-----------------|-----------------|----------------|
| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | <i>g</i> -Force | <i>k</i> Factor | Maximum Speed |
| Bottles with Cap Assemblies** | | | | | | | | | |
| J-LITE PC-1000+ (Polycarbonate) | 1000.0 | C31600 | 2 | 95 x 191 | ----- | ----- | 15 970 | 2 482 | 8 000 |
| J-LITE PP-1000† (Polypropylene) with Polyphenylsulfone Cap | 1000.0 | C31597 | 2 | 95 x 191 | ----- | ----- | 15 970 | 2 482 | 8 000 |
| J-LITE PP-1000 (Polypropylene) with Polyphenylene Sulfide Cap | 1000.0 | B29896 | 2 | 95 x 191 | ----- | ----- | 15 970 | 2 482 | 8 000 |
| Polypropylene | 50.0 | 357001 | 6 | 29 x 104 | 356996/363683*** | 1 | ----- | ----- | 8 000 |
| Polycarbonate | 50.0 | 357000 | 6 | 29 x 104 | 356996/363683*** | 1 | ----- | ----- | 8 000 |
| Wide-mouth Polycarbonate | 250.0 500.0 | 356013 355605 | 6 6 | 62 x 120 69 x 160 | 362750/363683*** 363683 | 1 1 | ----- ----- | ----- ----- | 8 000 8 000 |
| Wide-mouth Polypropylene | 250.0 500.0 | 356011 355607 | 6 6 | 62 x 120 69 x 160 | 362750/363683*** 363683 | 1 1 | ----- ----- | ----- ----- | 8 000 8 000 |
| Bottles Only | | | | | | | | | |
| J-LITE PC-1000 (Polycarbonate) | 1000.0 | 366751 | 2 | 95 x 191 | ----- | ----- | 15 970 | 2 482 | 8 000 |
| J-LITE PP-1000 (Polypropylene) | 1000.0 | A98814 | 2 | 95 x 191 | ----- | ----- | 15 970 | 2 482 | 8 000 |
| J-LITE PP-1000 (Polypropylene) | 1000.0 | B29048 | 12 | 95 x 191 | ----- | ----- | 15 970 | 2 482 | 8 000 |

* When used with carbon fiber canisters.

** Bottle assemblies include cap/closure. The cap/closure serves the dual purpose of sealing the bottle and providing a secondary seal on the carbon-fiber canister to minimize sample loss resulting from bottle leak or failure.

† PC-1000 must be run with cap/closure; minimum fill volume is 500 mL.

‡ PP-1000 must be run with cap/closure; minimum fill volume is 1 000 mL.

*** These adapters fit inside one another to accommodate smaller bottles and tubes.

Patented HarvestLine System Liners



Disposable liners provide easy-to-use, low-cost sample containment, and storage

Adapters

356996 362750 342098



JLA-8.1000 (continued) 6 x 1000 mL

| Tubes and Bottles | | | | | | | | | |
|----------------------------|------------------------------|----------|----------|----------------------|------------------------|-------------------|---------|----------|---------------|
| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | g-Force | k Factor | Maximum Speed |
| Bottles with Screw-On Caps | | | | | | | | | |
| Polypropylene | 50.0 | 357003 | 25 | 29 x 104 | 356996/363683** | 1 | ----- | ----- | 8 000 |
| Tubes with Snap-On Caps | | | | | | | | | |
| Polypropylene | 50.0 | 363664 | 25 | 29 x 104 | 356996/363683** | 1 | ----- | ----- | 8 000 |
| Polypropylene | 50.0 | 357005 | 25 | 29 x 104 | 356996/363683** | 1 | ----- | ----- | 8 000 |
| Open-Top Tubes | | | | | | | | | |
| Thickwall Polycarbonate | 50.0 | 363647 | 25 | 29 x 104 | 356996/363683** | 1 | ----- | ----- | 8 000 |
| Thickwall Polypropylene | 50.0 | 357007 | 25 | 29 x 104 | 356996/363683** | 1 | ----- | ----- | 8 000 |
| BioVials | | | | | | | | | |
| Polypropylene | 4.0 | 566353 | 1000 | 14 x 55 | 342098/362750/363683** | 1 | ----- | ----- | 9 000 |

** These adapters fit inside one another to accommodate smaller bottles and tubes.

Labware Kit Part Number 392574

- Includes:
- 1 ea. 974627 Bottle Rack (holds 6 bottles)
 - 1 ea. 363646 Spatula
 - 1 ea. 366770 Tool Kit

Accessories

- 974627 Bottle Rack (holds 6 bottles for easy transport)
- 363663 Bottle Rack (holds 3 bottles for easy transport)
- 363646 Spatula
- A99028 Polyphenylsulfone Cap/Closure Assembly (set of 2)
(Includes cap/closure, O-ring, plug, and plug O-ring)
- B29895 Polyphenylene Sulfide Cap/Closure Assembly (set of 2)
(Includes cap/closure, O-ring, plug, and plug O-ring)
- 393898 Plug Assembly, AutoVent Polycarbonate (set of 2)
- 366749 Plug Assembly, AutoVent polyetherimide (PEI) (set of 2)
- 366770 Tool Kit (includes one bottle grip and one wrench)
- 366772 Polytetrafluoroethylene (PTFE) Spray
- 369264 HarvestLine System Liner Kit (includes 369256 one-liter bottle liners (qty. 120), P/N 368740 filling rack, P/N 977472 funnel, and P/N 369267 instructional CD.)
- 369256 HarvestLine System Liners (fits JLA-8.1000 or JLA-9.1000 one-liter bottles (qty. 120).

Rotor Replacement Parts

- 363563 Rotor Lid Assembly
- 363686 J-LITE Removable Canister (set of 2)
- 363601 Canister Sleeve Washer (set of 6)
- B10317 Polyphenylsulfone Cap/Closure Replacement Assembly (set of 6)
- B29894 Polyphenylene Sulfide Cap/Closure Replacement Assembly (set of 6)
- B10319 Cap/Closure Replacement O-rings (set of 6)
- B10320 AutoVent Plug Replacement O-rings (set of 6)
(Includes six large plug O-rings and six AutoVent plug O-rings)

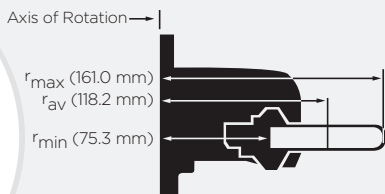
Adapters

356996 362750 342098



JS-24.38

6 x 38.5 mL



Swinging-Bucket Rotor, Aluminum, Titanium Buckets

For use in Avanti J Series centrifuges (except Avanti J-E).

Major applications: Harvesting bacteria, processing tissue homogenates, subcellular particulates, routine pelleting such as precipitates and phase separations.

| Max. RPM | Max. g | k Factor | Number of Tubes Volume/Size | Rotor Capacity |
|----------|---------|----------|---|----------------|
| 24 000* | 103 900 | 334 | 6 x 38.5 mL 25 x 89 mm 1 x 3.5 in | 231 mL |

No. 360743. JS-24.38 Swinging-Bucket Rotor, with six 38.5-mL buckets.

| Tubes and Bottles | | | | | | | | | |
|---------------------------|------------------------------|----------|----------|----------------------|-------------------------------|-------------------|---------|----------|----------------|
| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | g-Force | k Factor | Maximum Speed* |
| Quick-Seal Bell-Top Tubes | | | | | | | | | |
| Polypropylene | 15.0 | 343664 | 50 | 25 x 38 | 355536 ⁺ | 1 | 103 900 | 167 | 24 000 |
| | 27.0 | 343665 | 50 | 25 x 64 | 355536 ⁺ | 1 | 103 900 | 260 | 24 000 |
| | 33.0 | 344623 | 50 | 25 x 83 | 355536 ⁺ | 1 | 103 900 | 317 | 24 000 |
| konal Polypropylene | 8.5 | 358652 | 50 | 25 x 38 | 358156 355536 ⁺ | 1 | 103 900 | 167 | 24 000 |
| Open-Top Tubes | | | | | | | | | |
| Polypropylene | 38.5 | 326823 | 50 | 25 x 89 | --- | --- | 103 900 | 334 | 24 000 |
| konal Polypropylene | 25.0 | 358125 | 50 | 25 x 76 | 358156 | 1 | 95 500 | 297 | 24 000 |
| | 30.0 | 358126 | 50 | 25 x 89 | 358156 | 1 | 103 900 | 334 | 24 000 |
| Thickwall Polypropylene | 32.0 | 355642 | 25 | 25 x 89 | --- | --- | 103 900 | 334 | 24 000 |
| Thickwall Polycarbonate | 32.0 | 355631 | 25 | 25 x 89 | --- | --- | 103 900 | 334 | 24 000 |
| Ultra-Clear | 38.5 | 344058 | 50 | 25 x 89 | --- | --- | 103 900 | 334 | 24 000 |

* Reaches 24 000 rpm in the Avanti JXN-30 centrifuge only. Not recommended for use in Avanti J-25 Series (max. speed 10 000 rpm), or Avanti J-26 XP Series (max. speed 10 000 rpm). Incompatible with all J2 Series.

⁺ Modified polyphenylene oxide Floating Spacer.

Rotor Replacement Parts

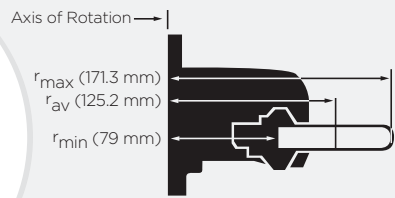
| | |
|--------|---|
| 362397 | Bucket Set - 38 mL (set of 6 with caps and O-rings) |
| 812715 | Bucket O-ring |
| 362785 | Rotor Stand |

| Adapters | |
|----------|--------|
| 355536 | 358156 |



JS-24.15

6 x 15 mL



Swinging-Bucket Rotor, Aluminum, Titanium Buckets

For use in Avanti J Series centrifuges (except Avanti J-E).
 Major applications: Harvesting bacteria, processing tissue homogenates, subcellular particulates, routine pelleting such as precipitates and phase separations.

| Max. RPM | Max. g | k Factor | Number of Tubes Volume/Size | Rotor Capacity |
|----------|---------|----------|--|----------------|
| 24 000* | 110 500 | 376 | 6 x 15 mL 16 x 96 mm 0.625 x 3.75 in | 90 mL |

No. 362396. JS-24.15 Swinging-Bucket Rotor with six 15-mL buckets.

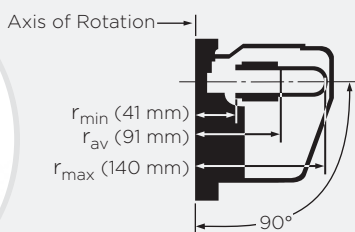
| Tubes and Bottles | | | | | | | | | |
|---------------------------|------------------------------|----------|----------|----------------------|-------------------|-------------------|---------|----------|----------------|
| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | g-Force | k Factor | Maximum Speed* |
| Quick-Seal Bell-Top Tubes | | | | | | | | | |
| Polypropylene | 4.2 | 356562 | 50 | 16 x 38 | 355579† | 1 | 110 500 | 193 | 24 000 |
| | 6.3 | 345830 | 50 | 16 x 45 | 355579† | 1 | 110 500 | 215 | 24 000 |
| | 8.0 | 344621 | 50 | 16 x 58 | 355579† | 1 | 110 500 | 261 | 24 000 |
| | 10.0 | 344622 | 50 | 16 x 67 | 355579† | 1 | 110 500 | 293 | 24 000 |
| Open-Top Tubes | | | | | | | | | |
| Polypropylene | 15.0 | 361707 | 50 | 16 x 96 | --- | --- | 110 500 | 376 | 24 000 |
| konal Polypropylene | 12.5 | 361708 | 50 | 16 x 93 | 358155 | 1 | 108 500 | 368 | 24 000 |
| Ultra-Clear | 15.0 | 361706 | 50 | 16 x 96 | --- | --- | 110 500 | 376 | 24 000 |

* Reaches 24 000 rpm in the Avanti JXN-30 centrifuge only. Not recommended for use in Avanti J-25 Series (max speed 10 000 rpm), or Avanti J-26 XP Series (max. speed 10 000 rpm). Incompatible with all J2 Series.
 † Modified polyphenylene oxide Floating Spacer.

| Rotor Replacement Parts | |
|-------------------------|---|
| 362398 | Bucket Set - 15 mL (set of 6 with caps and O-rings) |
| 815472 | Bucket O-ring |
| 362785 | Rotor Stand |
| 364802 | Rotor and Adapter Assembly |

| Adapters | |
|----------|--------|
| 358155 | 355579 |
| | |

JS-13.1 6 x 50 mL



Swinging-Bucket Rotor, Aluminum

For use in Avanti J Series centrifuges.

Major applications: Harvesting bacteria, processing tissue homogenates, separating cell particulates. Isolation of cell membrane using density gradients.

| Max. RPM | Max. g | k Factor | Number of Tubes Volume/Size | Rotor Capacity |
|----------|--------|----------|--|----------------|
| 13 000 | 26 500 | 1 841 | 6 x 50 mL 29 x 105 mm 1.125 x 4 in | 300 mL |

No. 346963. JS-13.1 Swinging-Bucket Rotor for 13 000 rpm operation. Includes carrying handle. Tubes and bottles not included.

| Tubes and Bottles | | | | | | | | | | |
|--|------------------------------|---------------------|----------|----------------------|--------------------|-------------------|---------|----------|---------------|--|
| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | g-Force | k Factor | Maximum Speed | |
| Bottles with Screw-On Caps | | | | | | | | | | |
| Polypropylene | 50.0 | 357003 | 25 | 29 x 104 | --- | --- | 26 500 | 1 840 | 13 000 | |
| Polycarbonate | 10.0 | 355672 | 25 | 16 x 80 | 342327/870329 | 1 | 26 500 | 1 840 | 13 000 | |
| | 50.0 | 357002 | 25 | 29 x 104 | --- | --- | 26 500 | 1 840 | 13 000 | |
| Tubes with Snap-On Caps | | | | | | | | | | |
| Polypropylene | 50.0 | 357005 [†] | 25 | 29 x 104 | --- | --- | 26 500 | 1 840 | 13 000 | |
| Polycarbonate | 50.0 | 363664 [†] | 25 | 29 x 104 | --- | --- | 26 500 | 1 840 | 13 000 | |
| Polyethylene | 1.8 | 340196 | 500 | 11 x 39 | 344497* | 3 | 26 500 | 1 840 | 13 000 | |
| Polypropylene | Natural | 357448 | 500 | 9.5 x 38 | 344497* | 3 | 26 500 | 1 840 | 13 000 | |
| Polypropylene | Orange | 356094 | 500 | 11 x 38 | 344497* | 3 | 26 500 | 1 840 | 13 000 | |
| | Yellow | 356093 | 500 | 11 x 38 | 344497* | 3 | 26 500 | 1 840 | 13 000 | |
| | Blue | 356091 | 500 | 11 x 38 | 344497* | 3 | 26 500 | 1 840 | 13 000 | |
| | Natural | 356090 | 500 | 9.5 x 38 | 344497* | 3 | 26 500 | 1 840 | 13 000 | |
| Open-Top Tubes | | | | | | | | | | |
| Thickwall Polycarbonate | 10.0 | 355630 | 25 | 16 x 76 | 342327/870329 | 4/1 | 8 000 | --- | 13 000 | |
| Adapters for Non-Beckman Coulter Tubes/Bottles | | | | | | | | | | |
| Round Bottom | 5.0 | --- | --- | 12 x 75 | 356970 (qty. of 1) | 1 | --- | --- | --- | |
| | 8.0 | --- | --- | 13 x 100 | 356976 (qty. of 1) | 1 | --- | --- | --- | |
| | 15.0 | --- | --- | 18 x 80 | 870329 (qty. of 1) | 1 | --- | --- | --- | |
| | 30.0 | --- | --- | 29 x 104 | 870331 (qty. of 1) | 1 | --- | --- | --- | |

* Can be double-stacked. Force will vary depending on tube position.

† Cannot be run with caps in this rotor.

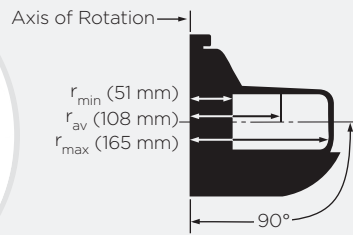
Rotor Replacement Parts

| | |
|--------|-------------------------|
| 346965 | Rotor Removal Tool |
| 346976 | Buckets (set of 6) |
| 364862 | Rotor Tie-down Assembly |
| 364921 | Tie-down Kit |
| 346979 | Windshield Bowl Trim |
| 346964 | Rotor Lid Assembly |

| Adapters | | |
|----------|--------|--------|
| 342327 | 344497 | 870329 |
| | | |

JS-7.5

4 x 250 mL



Swinging-Bucket Rotor, Aluminum

For use in Avanti J Series centrifuges (except Avanti J-E).

Major applications: Initial processing of cells and removal of cell debris from culture media.

| Max. RPM | Max. <i>g</i> | <i>k</i> Factor | Number of Tubes Volume/Size | Rotor Capacity |
|----------|---------------|-----------------|---|----------------|
| 7 500 | 10 400 | 5 287 | 4 x 250 mL 62 x 136 mm 2.5 x 5.5 in | 1 L |

No. 336380. JS-7.5 Swinging-Bucket Rotor for 7 500 rpm operation. Includes four 250-mL buckets. Multitube carriers available separately. Tubes and bottles not included.

No. 362212. JS-7.5 Rotor without buckets.

Multitube Carriers

For added versatility, three Multitube Carriers are available for the JS-7.5 Rotor. These Carriers require no adapters to accommodate 50-mL conical tubes, 50-mL round-bottom tubes, and 5-mL round-bottom tubes. Multitube carriers are interchangeable with the buckets of the JS-7.5 Rotor.

50-mL Conical Tube Carrier

No. 362213. Multitube Carrier for 50-mL conical tubes. Holds three tubes per carrier for maximum rotor capacity of 12 x 50-mL conical tubes. Set of two.



Major applications: General-purpose pelleting (especially of cells), as well as nucleic acid precipitations and isolation of mononuclear cells using Ficoll-Paque.

| Max. RPM | Max. <i>g</i> | <i>k</i> Factor | Number of Tubes Volume/Size | Rotor Capacity |
|----------|---------------|-----------------|---|----------------|
| 7 500 | 10 580 | 4 140 | 12 x 50 mL (conical) 29 x 103 mm 1.125 x 4 in | 600 mL |

50-mL Round-Bottom Tube Carrier

No. 362214. Multitube Carrier for 50-mL round-bottom tubes. Holds four tubes per carrier for maximum rotor capacity of 16 x 50-mL tubes. Set of two.



Major applications: General-purpose centrifugation.

| Max. RPM | Max. <i>g</i> | <i>k</i> Factor | Number of Tubes Volume/Size | Rotor Capacity |
|----------|---------------|-----------------|---|----------------|
| 7 500 | 10 080 | 3 959 | 16 x 50 mL 29 x 104 mm 1.125 x 4 in | 800 mL |

Tubes for 250-mL Bucket

| Tubes and Bottles | | | | | | | | | | |
|-----------------------------|------------------------------|----------|----------|----------------------|--------------------|-------------------|-----------------|-----------------|---------------|--|
| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | <i>g</i> -Force | <i>k</i> Factor | Maximum Speed | |
| Bottles with Screw-On Caps | | | | | | | | | | |
| Polycarbonate | 250.0 | 355673 | 6 | 62 x 136 | 336389 | 1 | 10 400 | 5 290 | 7 500 | |
| Polypropylene | 50.0 | 357003 | 25 | 29 x 104 | 356997 | 1 | 9 000 | --- | 7 500 | |
| Bottles with Cap Assemblies | | | | | | | | | | |
| Polycarbonate | 50.0 | 355603 | 6 | 16 x 76 | 356997 | 1 | 9 000 | --- | 7 500 | |
| | 50.0 | 357000 | 6 | 29 x 104 | 356997 | 1 | 9 000 | --- | 7 500 | |
| Conical Polycarbonate | 230.0 | 356987 | 6 | 62 x 141 | 356983 (qty. of 4) | 1 | 10 400 | 5 290 | 7 500 | |
| Wide-mouth Polycarbonate | 250.0 | 356013 | 6 | 62 x 120 | --- | --- | 10 400 | 5 290 | 7 500 | |
| Conical Polypropylene | 230.0 | 356989 | 6 | 62 x 141 | 356983 (qty. of 4) | 1 | 10 400 | 5 290 | 7 500 | |
| Wide-mouth Polypropylene | 250.0 | 356011 | 6 | 62 x 120 | --- | --- | 10 400 | 5 290 | 7 500 | |

JS-7.5 (continued) 4 x 250 mL

Tubes for 250-mL Bucket (continued)

| Tubes and Bottles | | | | | | | | | |
|---------------------------|------------------------------|----------|----------|----------------------|-------------------|-------------------|---------|----------|---------------|
| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | g-Force | k Factor | Maximum Speed |
| Tubes with Snap-On Caps | | | | | | | | | |
| Polycarbonate | 50.0 | 363664 | 25 | 29 x 104 | 356997 | 1 | 9 000 | --- | 7 500 |
| Polypropylene | 50.0 | 357005 | 25 | 29 x 104 | 356997 | 1 | 9 000 | --- | 7 500 |
| Open Top Tubes | | | | | | | | | |
| Polycarbonate (Graduated) | 50.0 | 363647 | 25 | 29 x 104 | 356997 | --- | 10 080 | 5 290 | 7 500 |
| Polypropylene (Graduated) | 50.0 | 357007 | 25 | 29 x 104 | 356997 | 4 | 9 000 | --- | 7 500 |
| BioVials | | | | | | | | | |
| Polypropylene | 4.0 | 566353 | 1000 | 14 x 55 | 342098* | 9 | --- | --- | 7 500 |

Tubes for 4-place Carrier




| Tubes and Bottles | | | | | | | | | |
|--|------------------------------|----------|----------|-----------|-------------------|-------------------|---------|----------|---------------|
| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Size (mm) | Required Adapters | Tubes per Adapter | g-Force | k Factor | Maximum Speed |
| Bottles with Screw-On Caps | | | | | | | | | |
| Polypropylene | 50.0 | 357003 | 25 | 29 x 104 | 356997 | 1 | 10 400 | --- | 7 500 |
| Polycarbonate | 50.0 | 357002 | 25 | 29 x 104 | 356997 | 1 | 10 400 | --- | 7 500 |
| Tubes with Snap Caps | | | | | | | | | |
| Polycarbonate | 50.0 | 363664** | 25 | 29 x 104 | --- | --- | 10 400 | --- | 7 500 |
| Polypropylene | 50.0 | 357005** | 25 | 29 x 104 | --- | --- | 10 400 | --- | 7 500 |
| Open-Top Tubes | | | | | | | | | |
| Thickwall Polycarbonate | 50.0 | 363647 | 25 | 29 x 104 | --- | --- | 10 400 | --- | 7 500 |
| Adapters for Non-Beckman Coulter Tubes/Bottles | | | | | | | | | |
| Round Bottom | 5.0 | --- | 1 | 12 x 75 | 356968 | 9 | --- | --- | --- |
| Round Bottom | 7.0 | --- | 1 | 13 x 199 | 356974 | 8 | --- | --- | --- |
| Conical | 15.0 | --- | 1 | 17 x 118 | 356964 | 4 | --- | --- | --- |
| Round Bottom | 15.0 | --- | 1 | 18 x 98 | 356995 | 5 | --- | --- | --- |
| Round Bottom | 15.0 | --- | 1 | 18 x 80 | 870329 | 1 | --- | --- | --- |
| Round Bottom | 30.0 | --- | 1 | 29 x 104 | 870331 | 1 | --- | --- | --- |
| Round Bottom | 30.0 | --- | 1 | 29 x 103 | 356997/870331 | 1 | --- | --- | --- |
| Conical | 50.0 | --- | 1 | 30 x 104 | 356996 | 1 | --- | --- | --- |
| Round Bottom | 50.0 | --- | 1 | 30 x 104 | 356997 | 1 | --- | --- | --- |
| Round Bottom | 150.0 | --- | 1 | 53 x ___ | 339362 | 1 | --- | --- | --- |

* Adapter 342098 can be double-stacked to increase rotor capacity.

** See Rotor Manual for instructions on positioning these tubes in the carrier.

Rotor Replacement Parts

| | |
|--------|---|
| 885367 | Retaining Ring for Rotor Knob Shaft if purchased after 1/1/81. If purchased before 1/1/81, use 885367 and 336747. |
| 816952 | Polyethylene Rotor Foot |
| 362216 | 250-mL Buckets (set of 2) |
| 362212 | JS-7.5 Rotor without carriers or buckets |
| 364920 | Tie-down Kit |
| 362213 | 3 x 50 mL Conical Multitube Carriers (set of 2) |
| 362214 | 4 x 50 mL Round-bottom Multitube Carriers (set of 2) |
| 362215 | 24 x 5 mL Round-bottom Multitube Carriers (set of 2) |

| Adapters | | | | |
|---|---|---|---|---|
| 336389 | 342098 | 356964 | 356983 | 356997 |
|  |  |  |  |  |

1. Instruments

2. Rotors

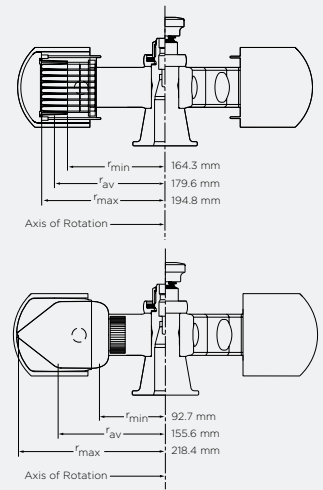
3. Tubes & Bottles

4. Tools & Supplies

5. Reference

6. Support

JS-5.3 ALLSPIN **BIOC** 24 Microplates



Swinging-Bucket Rotor, Anodized Aluminum

For use in Avanti J-E and J-26S centrifuges only.
Major applications: Rapid sedimentation of protein precipitates, large particles, cells, and cell debris. It can be used for binding studies and separating serum from whole blood.

| Max. RPM | Max. g | Number of Tubes Volume | Rotor Capacity |
|----------|--------|---|----------------|
| 5 300 | 6 870 | 4 x 500 mL | 2 L |
| 5 300 | 6 130 | 24 microplates 8 deep-well microplates | 2 L |

No. 368690. JS-5.3 Swinging-Bucket Rotor. Four-place rotor with anodized aluminum buckets designed for use with adapters to accommodate a wide range of tubes and bottles. Rotor buckets are interchangeable with microplate carriers. Includes tie-down knob.
No. 969314. JS-5.3 Swinging-Bucket Rotor Package. Includes rotor, buckets, tie-down knob, and microplate carrier kit (368914).

Microplate Carrier Kit

No. 368914. Microplate Carrier Kit. Includes 4 carriers (368905) and 4 support pads (369382).

Replacement Parts for Microplate Carriers

- 369382 Support Pads (set of 4)
- 368914 Microplate Carrier (set of 4)
- 368417[§] Aeroseal Covers for JS-5.3 AllSpin Rotor (set of 2)
- 368706 Bucket Upgrade Kit (set of 4 blue buckets)^{***}



| Tubes and Bottles | | | | | | |
|---|---------------------------|---------------|-------------------|--------------------|---------------------|--|
| Size | Required Adapter (pkg. 4) | Adapter Color | Tubes per Adapter | g-Force* | Maximum Speed | |
| 5 mL round, 13 mm diameter, variable lengths | 392071 | Beige | 33 | 6 145 | 5 300 | |
| 10 mL round, 16 mm diameter, variable lengths | 392072 | Purple | 24 | 6 145 | 5 300 | |
| 15 mL round, 17 mm diameter, variable lengths | 392073 | Red | 20 | 6 145 | 5 300 | |
| 15 mL conical, 17 mm diameter, variable lengths | 392075 | Green | 18 | 6 425 [†] | 5 300 | |
| 50 mL round, 29 mm diameter, variable lengths | 392074 | Yellow | 8 | 6 145 | 5 300 | |
| 50 mL conical, 30 x 115 mm | 392076 | Black | 7 | 6 480 [†] | 5 300 | |
| 250 mL round/230 mL conical | 392077 | Yellow | 1 | 6 670 | 5 300 [‡] | |
| 250 mL conical, 60 x 172 mm | 392079 | Orange | 1 | 6 870 | 5 300 | |
| 500 mL conical [£] | 392078 | Blue | 1 | 6 870 | 5 300 | |
| 15 mL conical | 356964 (each) | Yellow | 4 | 6 670 | 5 300 ^{**} | |
| 50 mL conical | 356966 (each) | Yellow | 1 | 6 670 | 5 300 ^{**} | |

* Maximum RCF and speed for adapters. Use manufacturers' recommendations for tube and bottle limits.
** Use this adapter inside the 250-mL adapter (392077)
*** Rotors with black buckets require Bucket Upgrade Kit 368706
† Maximum RCF for labware tested in this adapter is 4 000 x g. Use manufacturers' recommendations for max g-force.
‡ Requires a cushion (356983) to be placed at bottom of adapter.
£ When used with optional Aeroseal Covers, P/N 368417.
£ Cannot be used with bucket cover

| Adapters | | | | | | | | | | |
|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 392071 | 392072 | 392073 | 392074 | 392075 | 392076 | 392079 | 392077 | 392078 | 356966 | 356964 |
| | | | | | | | | | | |

JS-5.3 ALLSPIN (continued)

4 x 500 mL

1. Instruments

2. Rotors

3. Tubes & Bottles

4. Tools & Supplies

5. Reference

6. Support

| Description | Nominal Volume per Well | Part No. | Quantity | Maximum Speed | Accessory Description* | Part No. | Quantity |
|--|-------------------------|----------|----------|---------------|---|----------------------------|-----------------|
| Microplates | | | | | | | |
| Multiwell Polystyrene Plate, 96-Well, Nonsterile | 300 µL | 609844 | 100 | 5 300 | Cap Strip, Nonsterile† Cap Strip, Sterile† Aluminum Foil Lid‡ | 267002 267005 538619 | 12 12 100 |
| Deep-Well Polystyrene Plate, 96-Well, Nonsterile | 1 mL | 267001 | 24 | 5 300 | Cap Strip, Nonsterile Cap Strip, Sterile Aluminum Foil Lid | 267002 267005 538619 | 12 12 100 |
| Deep-Well Polystyrene Plate, 96-Well, Sterile | 1 mL | 267004 | 24 | 5 300 | Cap Strip, Nonsterile Cap Strip, Sterile Aluminum Foil Lid | 267002 267005 538619 | 12 12 100 |
| Deep-Well Polypropylene Plate, 96-Well, Nonsterile | 1 mL | 267006 | 24 | 5 300 | Cap Strip, Nonsterile Cap Strip, Sterile Aluminum Foil Lid | 267002 267005 538619 | 12 12 100 |
| Deep-Well Polypropylene Plate, 96-Well, Sterile | 1 mL | 267007 | 24 | 5 300 | Cap Strip, Nonsterile Cap Strip, Sterile Aluminum Foil Lid | 267002 267005 538619 | 12 12 100 |
| Square-Well Polystyrene Plate, | 2 mL | 140504 | 24 | 5 300 | Aluminum Foil Lid | 538619 | 100 |

* When stacking polypropylene multiwell plates, place a support pad (369382) beneath the bottom plate and a cap strip between the plates to prevent breakage during centrifugation. Also use the support pad beneath all polystyrene deep-well plates.

† Caps are optional.

‡ Requires 4-inch soft-rubber roller (538618) for installation.

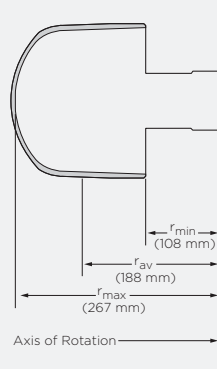
Rotor Replacement Parts

| | |
|--------|--------------------------------------|
| 368690 | JS-5.3 rotor assembly |
| 368410 | Rotor tie-down knob |
| 368706 | Bucket (set of 4) |
| 368914 | Microplate carrier kit |
| | Contains: |
| | 368905 Microplate carrier (set of 4) |
| | 369382 Support pad (set of 4) |

Rotor Supplies

Replacement tube and bottle adapters (set of 2):

| | |
|--------|--|
| 368907 | Beige (13 mm dia) |
| 368909 | Purple (16 mm dia) |
| 368910 | Red (17 mm dia) |
| 368911 | Yellow (29 mm dia) |
| 368915 | Green (15 mL conical) |
| 368916 | Black (50 mL conical) |
| 369385 | Orange (250 mL conical) |
| 369383 | Yellow (250 mL round/230 mL conical) |
| 369384 | Blue (500 mL conical) |
| 538618 | Rubber Roller, 4-in., for sealing foil microplate lids |



Swinging-Bucket Rotor, Anodized Aluminum

For use in Avanti J-HC centrifuges.

Major applications: Separating bacterial, yeast, and tissue homogenates; harvesting cultures.

| Max. RPM | Max. <i>g</i> | <i>k</i> Factor | Number of Containers | Rotor Capacity |
|----------|---------------|-----------------|----------------------|----------------|
| 5 000 | 7 480 | 9 171 | 4 x 2.25 L | 9 L |

No. 367820. JS-5.0 Swinging-Bucket Rotor Assembly with Labware Kit. Four-place rotor with anodized aluminum buckets. Includes 4 cups, 4 cup covers with plugs, 8 red cup gaskets, 4 green liner gaskets, 60 air vent filters, 50 HarvestLine System Liners, 2 cup racks, 1 spatula.

Labware Kit

No. 368732. Includes 4 cups, 4 cup covers with plugs, 8 red cup gaskets, 4 green liner gaskets, 60 air vent filters, 50 HarvestLine System Liners, 2 cup racks, 1 spatula.

Container Assembly

No. 368730. Includes 4 cups, 4 covers with plugs, and 4 cup gaskets (369257).

HarvestLine System Liners

No. 368735. Set of 50 polyethylene system liners (food grade compliant).

Rotor Accessories

| | |
|--------|----------------------------------|
| 368727 | Rack |
| 367891 | Spatula (set of 2) |
| 369259 | Partition (set of 4) |
| 367837 | Buckets (set of 4) |
| 369257 | Gaskets, Cup (red, set of 4) |
| 369261 | Gaskets, Liner (green, set of 4) |

Rotor Replacement Parts

| | |
|--------|-----------------------|
| 346965 | Rotor Removal Tool |
| 367824 | Tie-down Bolt |
| 368521 | Tie-down Tool |
| 369258 | Plug, cover, set of 4 |

JS-4.3 **BIOC**** 4 x 750 mL

For use in Avanti J-26 XP Series.

1. Instruments

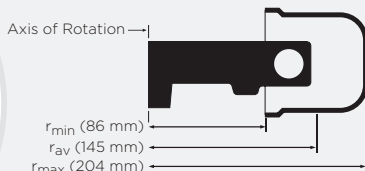
2. Rotors

3. Tubes & Bottles

4. Tools & Supplies

5. Reference

6. Support



Swinging-Bucket Rotor, Anodized Aluminum

For use in Avanti J-26 XP Series.

Major applications: Rapid sedimentation of protein precipitates, large particles, cells, and cell debris. It can be used for binding studies and separating serum from whole blood.

| Max. RPM | Max. g | k Factor | Number of Tubes Volume/Size | Rotor Capacity |
|----------|--------|----------|---|----------------|
| 4 300 | 4 220 | 11 800 | 4 x 750 mL 96 x 130 mm 3.8 x 5.2 in | 3 L |

No. 362734. JS-4.3 Swinging-Bucket BioSafety Rotor. Four-place rotor with anodized aluminum buckets designed for use with modular disk adapters to accommodate a variety of tubes (as indicated in the chart below) and other adapters and blood bag cups. Can be used with Beckman Coulter Aerosolve Canisters which are designed to provide added protection from aerosols. Rotor buckets are interchangeable with microplate carriers.

Bucket Covers

No. 361264. Set of two. Transparent bucket covers for JS-4.3 Buckets to contain broken tubes. Includes gasket and clips.

Aerosolve Canisters

BIOC No. 359232. Set of four.

BIOC No. 359481. Set of two.

Aerosolve Canisters fit in JS-4.3 Rotor Buckets. These canisters feature an O-ring seal and are completely transparent so a broken tube can be seen and proper precautions taken before the seal is broken. Canisters can also be used as 500-mL wide-mouth bottles. Specially-designed adapters accommodate most popular tubes within the canister (see table at end of this rotor section).



Tubes and Bottles

| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters Set of 2/Set of 4 | Tubes per Adapter | g-Force | k Factor | Maximum Speed |
|----------------------------|------------------------------|----------|----------|----------------------|--|-------------------|----------------|----------|---------------|
| Bottles with Screw-On Caps | | | | | | | | | |
| Polycarbonate | 50.0 | 357002 | 25 | 29 x 104 | 359474/359153 | 7 | 3 830 | --- | 4 300 |
| | 250.0 | 355673 | 6 | 62 x 136 | 359486/359164 | 4 | 3 670 | --- | 4 300 |
| | 750.0 | 358299 | 6 | 96 x 130 | 349946 (ea.) 349846 (set of 6) | 1 1 | 4 040 4 040 | --- | 4 300 |
| Polypropylene | 50.0 | 357003 | 25 | 29 x 104 | 359474/359153 | 7 | 3 830 | --- | 4 300 |
| | 500.0 | 355665 | 6 | 69 x 159 | 359486/359164 | 4 | 4 150 | --- | 4 300 |
| | 750.0 | 356855 | 6 | 96 x 130 | 349946 (ea.) 349846 (set of 6) | 1 1 | 4 040 4 040 | --- | 4 300 |
| Conical Polycarbonate | 230.0 | 356987 | 4 | 62 x 141 | 356983 (4-pk)/349946* 356985 (ea.) | 1 | 4 040 | --- | 4 300 |
| Conical Polypropylene | 230.0 | 356989 | 4 | 62 x 141 | 356983 (4-pk)/349946* 356985 (ea.) | 1 | 4 040 | --- | 4 300 |
| Wide-mouth Polypropylene | 250.0 | 356011 | 6 | 62 x 122 | 349946 (ea.) | 1 | 4 040 | --- | 4 300 |
| Wide-mouth Polycarbonate | 250.0 | 356013 | 6 | 62 x 122 | 349946 (ea.) | 1 | 4 040 | --- | 4 300 |

* Use adapter 356983 with adapter 349946.

** When used with optional Aerosolve Canisters, P/N 359232 and 359481.

Adapters

| 344517 | 349846 | 349945 | 349946 | 354495 | 354511 | 356983 | 356985 | 359469 | 359470 | 359471 | 359473 | 359474 | 359484 | 359486 |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | | | | | | | | | | | | | |

JS-4.3 (continued) 4 x 750 mL

MicroPlus Carriers

No. 362394. MicroPlus Carrier Assembly. Includes carrier, base, and rubber pad to cushion plates. Each carrier can hold up to 3 microplates, 1 deep-well/square well plate, 1 rack of MiniTubes, or other labware in 96-well format. Set of 2. Maximum allowable speed is 3,250 rpm (1924 x g).

Replacement Parts for MicroPlus Carrier

- 361302 Base and Rubber Pads (set of 2)
- 361291 Rubber Pads (set of 4)
- 361304 MicroPlus Carriers (set of 2)

Tubes and Bottles (continued)

| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters Set of 2/Set of 4 | Tubes per Adapter | g-Force | k Factor | Maximum Speed | |
|------------------------------------|------------------------------|----------|----------|----------------------|-------------------------------------|-------------------|---------|----------|---------------|-------|
| Bottles with Cap Assemblies | | | | | | | | | | |
| Polypropylene | 50.0 | 357001 | 6 | 29 x 104 | 359474/359153 | 7 | --- | --- | 4 300 | |
| | | | | | 359486/359164 | 4 | --- | --- | | |
| | 50.0 | 361694 | 6 | 29 x 104 | 359474/359153 | 7 | --- | --- | 4 300 | |
| | | | | | 359486/359164 | 4 | --- | --- | 4 300 | |
| Polycarbonate | 50.0 | 357000 | 6 | 29 x 104 | 359474/359153 | 7 | --- | --- | 4 300 | |
| | | | | | 359486/359164 | 4 | --- | --- | | |
| | 50.0 | 361693 | 24 | 29 x 104 | 359474/359153 | 7 | --- | --- | 4 300 | |
| | | | | | 359486/359164 | 4 | --- | --- | 4 300 | |
| Wide-mouth Polypropylene | 500.0 | 355607 | 6 | 69 x 160 | 349945 (ea.) | 1 | --- | --- | 4 300 | |
| Wide-mouth Polycarbonate | 250.0 | 358275 | 25 | 62 x 122 | 349946 (ea.) | 1 | --- | --- | 4 300 | |
| Wide-mouth Polypropylene | 250.0 | 358326 | 25 | 62 x 120 | 349946 (ea.) | 1 | --- | --- | 4 300 | |
| Bottles | | | | | | | | | | |
| Polypropylene | 500.0 | 355650 | 6 | 69 x 159 | 349945 (ea.) | 1 | --- | --- | 4 300 | |
| Open-Top Tubes | | | | | | | | | | |
| Thickwall Polypropylene | 10.0 | 355640 | 25 | 16 x 76 | 359471/359150 | 19 | --- | --- | 4 300 | |
| | | | | | 359484/359162 | 12 | --- | --- | | |
| Thickwall Polycarbonate | 10.0 | 355630 | 25 | 16 x 76 | 359471/359150 | 19 | --- | --- | 4 300 | |
| | | | | | 359484/359162 | 12 | --- | --- | | |
| | 15.0 | 342080 | 100 | 18 x 98 | 359473/359152 | 14 | --- | --- | 4 300 | |
| | 50.0 | 363664 | 25 | 29 x 104 | 359474/359153 | 7 | --- | --- | 4 300 | |
| | | | | | 359486/359164 | 4 | --- | --- | | |
| Thickwall Polyethylene | 15.0 | 342081 | 100 | 18 x 98 | 359473/359152 | 14 | --- | --- | 4 300 | |
| Thickwall Polypropylene | 15.0 | 342082 | 100 | 18 x 98 | 359473/359152 | 14 | --- | --- | 4 300 | |
| | 50.0 | 357007 | 25 | 29 x 104 | 359474/359153 | 7 | --- | --- | 4 300 | |
| | | | | | 359486/359164 | 4 | --- | --- | | |
| Graduated Polycarbonate | 50.0 | 363075 | 8 | 29 x 104 | 359474/359153 | 7 | --- | --- | 4 300 | |
| | | | | | 359486/359164 | 4 | --- | --- | | |
| Tubes with Snap-On Caps | | | | | | | | | | |
| Polypropylene | 1.5 | 357448 | 500 | 9.5 x 38 | 359469/359148 | 26 | --- | --- | 4 300 | |
| | | | | | 354511 (ea.)* | | --- | --- | | |
| | | | | | 354495 (ea.) | 26 | --- | --- | | |
| Polyethylene | White | 1.8 | 340196 | 500 | 11 x 39 | 359469/359148 | 26 | --- | --- | 4 300 |
| | | | | | | 354511 (ea.)* | | --- | --- | |
| | | | | | 354495 (ea.) | 26 | --- | --- | | |
| Polypropylene | 50.0 | 357005 | 25 | 29 x 104 | 359474/359153 | 7 | --- | --- | 4 300 | |
| | | | | | 359486/359164 | 4 | --- | --- | | |
| | Natural† | 1.5 | 343169 | 500 | 11 x 38 | 359469/359148 | 26 | --- | --- | 4 300 |
| | | | | | 354511 (ea.)* | | --- | --- | | |
| | | | | | 354495 (ea.) | 26 | --- | --- | | |
| Natural† | 1.5 | 356090 | 500 | 9.5 x 38 | 359469/359148 | 26 | --- | --- | 4 300 | |
| | | | | | 354511 (ea.)* | | --- | --- | | |
| | | | | | 354495 (ea.) | 26 | --- | --- | | |

Adapters



JS-4.3 (continued)

4 x 750 mL

| Tubes and Bottles (continued) | | | | | | | | | | |
|-------------------------------------|--------|------------------------------|----------|----------|----------------------|---|-------------------|---------|----------|---------------|
| Tube Style/Material | | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters Set of 2/Set of 4 | Tubes per Adapter | g-Force | k Factor | Maximum Speed |
| Tubes with Snap-On Caps (continued) | | | | | | | | | | |
| Polypropylene | Blue | 1.5 | 356091 | 500 | 11 x 38 | 359469/359148 354511 (ea.)* 354495 (ea.) | 26 | --- | --- | 4 300 |
| | Yellow | 1.5 | 356093 | 500 | 11 x 38 | 359469/359148 354511 (ea.)* 354495 (ea.) | 26 | --- | --- | 4 300 |
| | Orange | 1.5 | 356094 | 500 | 11 x 38 | 359469/359148 354511 (ea.)* 354495 (ea.) | 26 | --- | --- | 4 300 |
| BioVials | | | | | | | | | | |
| Polypropylene | | 4.0 | 566353 | 1 000 | 14 x 55 | 359470/359149 344517 (ea.) | 24 10 | --- | --- | 4 300 |

| Aerosolve Canisters | | | | | | | Part No. |
|--------------------------------|---------------------------------|----------------------------|-------------------|------------------------|--------------------------------------|--------------------------------------|----------|
| Aerosolve Canisters for JS-4.3 | | | | | | | 343686 |
| Aerosolve Canister Adapters | | | | | | | |
| Color Code | Typical Tube/Bottle Volume (mL) | Maximum Tube Diameter (mm) | Tubes per Adapter | Tubes per JS-4.3 Rotor | Adapter Assembly Part No. (set of 4) | Adapter Assembly Part No. (set of 2) | |
| White | 1.5 | 11 | 24 | 96 | 354495 | ----- | |
| Blue | 3 and 5 | 12 | 24 | 96 | 359482 | 359160 | |
| Tan | 5 | 13 | 24 | 96 | 359489 | 358993 | |
| Orange | 10 | 14 | 18 | 72 | 359483 | 359161 | |
| Purple | 12 | 16 | 12 | 48 | 359484 | 359162 | |
| | 3 and 5 | 12 | 6 | 24 | | | |
| White (vials) | 15 | 14 | 10 | 40 | 344517 | ----- | |
| Green | 15 and 20 | 18 | 12 | 48 | 359485 | 359163 | |
| | 3 and 5 | 12 | 6 | 24 | | | |
| Light Green (conical) | 15 | 17 | 6 | 24 | 359487 | 358991 | |
| | 3 and 5 | 12 | 6 | 24 | | | |
| Lime Green (conical) | 50 | 30 | 4 | 16 | 359488 | 358992 | |
| | 3 and 5 | 12 | 4 | 16 | | | |
| Yellow | 50 | 29 | 4 | 16 | 359486 | 359164 | |
| | 3 and 5 | 12 | 4 | 16 | | | |
| Orange | 230 | 62 | 1 | 4 | --- | 356985 | |
| Canister Kit | 500 | --- | --- | --- | 359481 | 359232 | |

* Tube retainer (P/N 354511) is sold separately.

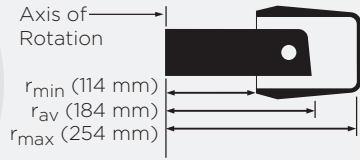
† Cap separate.

Rotor Replacement Parts

| | |
|--------|--|
| 361261 | Aluminum Buckets, weight-matched set of 4 |
| 361251 | Rotor Yoke, forged stainless steel |
| 361264 | Bucket Cover Kit |
| 361304 | MicroPlus Multiwell Plate Carriers, with bases and pads (set of 2) |
| 361302 | Replacement Bases for MicroPlus Carriers, with pads (set of 2) |
| 362737 | Knob Assembly |

| Adapters | | | | | | | | | | | | | | |
|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 344517 | 349846 | 349945 | 349946 | 354495 | 354511 | 356983 | 356985 | 359469 | 359470 | 359471 | 359473 | 359474 | 359484 | 359486 |
| | | | | | | | | | | | | | | |

JS-4.2 **BIOC** 6 x 1000 mL



Swinging-Bucket Rotor (Windshielded), Anodized Aluminum

For use in Avanti J-HC centrifuges

Major applications: Rapid sedimentation of protein, rotor material, precipitates, large particles, cells, and cell debris. It can be used for binding studies and separating serum from whole blood.

| Max. RPM | Max. g Capacity | Rotor | Approximate Accel/Decel Time (min:sec) |
|----------|-----------------|---|--|
| 4 200 | 5 020 | 6 Liters, 6 Blood Bags, 18 Microplates, 336 RIA-Tubes | 2:30/3:00 |

No. 339080. JS-4.2[®] Swinging-Bucket BioSafety Rotor. Windshielded, six-place rotor with aluminum rotor yoke and removable aluminum swinging buckets. Buckets are interchangeable with Microplate Carriers 358682† for spinning microtiter plates and MiniTube Racks.

| Tubes and Bottles | | | | | | | | | | |
|-----------------------------|------------------------------|----------|----------|----------------------|----------------------------------|-------------------|---------|----------|---------------|--|
| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | g-Force | k Factor | Maximum Speed | |
| Bottles with Screw-On Caps | | | | | | | | | | |
| Polycarbonate | 10.0 | 355672 | 25 | 16 x 80 | 341977 | 19 | 5 020 | --- | 4 200 | |
| | 50.0 | 357002 | 25 | 29 x 104 | 339103 | 7 | 5 020 | --- | 4 200 | |
| | 250.0 | 355673 | 6 | 62 x 136 | 339108 | 1 | 5 020 | --- | 4 200 | |
| | 500.0 | 355664 | 6 | 69 x 160 | 339109 | 1 | 5 020 | --- | 4 200 | |
| | 750.0 | 358299† | 6 | 96 x 130 | 356096 (set of 6) | 1 | 5 020 | --- | 4 200 | |
| | 1000.0 | 355675 | 6 | 97 x 167 | 356096 (set of 6) | 1 | 5 020 | --- | 4 200 | |
| Polypropylene | 50.0 | 357003 | 25 | 29 x 104 | 339103 | 7 | 5 020 | --- | 4 200 | |
| | 500.0 | 355665 | 6 | 69 x 159 | 339109 | 1 | 5 020 | --- | 4 200 | |
| | 750.0 | 356855** | 6 | 96 x 130 | 356096 (set of 6) | 1 | 5 020 | --- | 4 200 | |
| | 1000.0 | 355676** | 6 | 97 x 167 | 356096 (set of 6) | 1 | 5 020 | --- | 4 200 | |
| Teflon | 50.0 | 363076 | 8 | 28.5 x 107 | 339103 | 7 | 5 020 | --- | 4 200 | |
| Wide-mouth Polycarbonate | 250.0 | 356013 | 6 | 62 x 120 | 339108 | 1 | 5 020 | --- | 4 200 | |
| | 500.0 | 355605 | 6 | 69 x 160 | 339109 | 1 | 5 020 | --- | 4 200 | |
| Wide-mouth Polypropylene | 250.0 | 356011 | 6 | 62 x 120 | 339108 | 1 | 5 020 | --- | 4 200 | |
| | 500.0 | 355607 | 6 | 69 x 160 | 339109 | 1 | 5 020 | --- | 4 200 | |
| Conical Polycarbonate | 230.0 | 356987* | 6 | 62 x 120 | 356983(4-pk)/339108 [§] | 1 | 5 020 | --- | 4 200 | |
| Conical Polypropylene | 230.0 | 356989* | 6 | 62 x 141 | 356983(4-pk)/339108 [§] | 1 | 5 020 | --- | 4 200 | |
| Bottles with Cap Assemblies | | | | | | | | | | |
| Polypropylene | 50.0 | 357001 | 6 | 29 x 104 | 339103 | 7 | 5 020 | --- | 4 200 | |
| | 50.0 | 361694 | 6 | 29 x 104 | 356997 | 1 | 5 020 | --- | 4 200 | |
| Polycarbonate | 50.0 | 357000 | 6 | 29 x 104 | 339103 | 7 | 5 020 | --- | 4 200 | |
| | 70.0 | 355620 | 6 | 38 x 102 | 339104 | 2 | 5 020 | --- | 4 200 | |
| Polypropylene | 100.0 | 355624 | 6 | 38 x 102 | 339104 | 2 | 5 020 | --- | 4 200 | |
| Bottles | | | | | | | | | | |
| Polycarbonate | 70.0 | 355655 | 6 | 38 x 102 | 339104 | 2 | 5 020 | --- | 4 200 | |
| | 500.0 | 355649 | 6 | 69 x 160 | 339109 | 1 | 5 020 | --- | 4 200 | |
| Wide-mouth Polycarbonate | 250.0 | 358275 | 25 | 62 x 122 | 339108 | 1 | 5 020 | --- | 4 200 | |
| Polypropylene | 100.0 | 355626 | 6 | 38 x 102 | 339104 | 2 | 5 020 | --- | 4 200 | |
| | 500.0 | 355650 | 6 | 69 x 159 | 339109 | 1 | 5 020 | --- | 4 200 | |
| Wide-mouth Polypropylene | 250.0 | 358326 | 25 | 62 x 120 | 339108 | 1 | 5 020 | --- | 4 200 | |

* When used with optional Aerosal Covers, P/N 343686.

† Adapter used in Aerosolve Canister (P/N 359232).

** These bottles require a sleeve rather than an adapter.

§ These adapters fit inside one another to accommodate smaller bottles and tubes.

| Adapters | | | | | | | | | | | |
|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 339100 | 339101 | 339102 | 339103 | 339104 | 339108 | 339109 | 341977 | 354511 | 356096 | 356983 | 356997 |
| | | | | | | | | | | | |

JS-4.2 (continued)

6 x 1000 mL

1. Instruments

2. Rotors

3. Tubes & Bottles

4. Tools & Supplies

5. Reference

6. Support

| Tubes and Bottles (continued) | | | | | | | | | | |
|-------------------------------|----------|------------------------------|----------|----------|----------------------|-------------------|-------------------|---------|----------|---------------|
| Tube Style/Material | | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | g-Force | k Factor | Maximum Speed |
| Tubes with Snap-On Caps | | | | | | | | | | |
| Polypropylene | Natural | 1.5 | 357448 | 500 | 9.5 x 38 | 339100/354511** | 26 | 5 020 | --- | 4 200 |
| Polycarbonate | | 50.0 | 363664 | 25 | 29 x 104 | 356997 | 1 | 5 020 | --- | 4 200 |
| Polyethylene | Natural | 1.8 | 340196 | 500 | 11 x 39 | 339100/354511** | 26 | 5 020 | --- | 4 200 |
| Polypropylene | Natural† | 1.5 | 343169 | 500 | 11 x 38 | 339100/354511** | 26 | 5 020 | --- | 4 200 |
| | Natural | 1.5 | 356090 | 500 | 9.5 x 38 | 339100/354511** | 26 | 5 020 | --- | 4 200 |
| | Blue | 1.5 | 356091 | 500 | 11 x 38 | 339100/354511** | 26 | 5 020 | --- | 4 200 |
| | Yellow | 1.5 | 356093 | 500 | 11 x 38 | 339100/354511** | 26 | 5 020 | --- | 4 200 |
| | Orange | 1.5 | 356094 | 500 | 11 x 38 | 339100/354511** | 26 | 5 020 | --- | 4 200 |
| | | | 50.0 | 357005 | 25 | 29 x 104 | 339103 | 7 | 5 020 | --- |
| BioVials | | | | | | | | | | |
| Polypropylene | | 4.0 | 566353 | 1 000 | 14 x 55 | 339101 | 24 | 5 020 | --- | 4 200 |
| Open-Top Tubes | | | | | | | | | | |
| Polypropylene | | 10.0 | 355640 | 25 | 16 x 76 | 341977 | 19 | 5 020 | --- | 4 200 |
| Polycarbonate | | 10.0 | 355630 | 25 | 16 x 76 | 341977 | 19 | 5 020 | --- | 4 200 |
| | | 15.0 | 342080 | 100 | 18 x 98 | 339102 | 14 | 5 020 | --- | 4 200 |
| | | 50.0 | 363647 | 25 | 29 x 104 | 339103 | 7 | 5 020 | --- | 4 200 |
| Polyethylene | | 15.0 | 342081 | 100 | 18 x 98 | 339102 | 14 | 5 020 | --- | 4 200 |
| Polypropylene | | 15.0 | 342082 | 100 | 18 x 98 | 339102 | 14 | 5 020 | --- | 4 200 |
| | | 50.0 | 357007 | 25 | 29 x 104 | 339103 | 7 | 5 020 | --- | 4 200 |

* These tubes cannot be run with bucket covers in place.
 † Cap separate.

** These adapters fit inside one another to accommodate smaller bottles and tubes.

Blood-Bag Cups

No. 339127. Yellow cup with inner diameter of 88 mm for single- and double-packs. Set of two.

No. 339129. Red cup with inner diameter of 98 mm for triple- and quad-packs. Sold individually.



Microplate Carriers

No. 358682. Special carriers, interchangeable with buckets, slip onto yoke of JS-4.2 Rotor. Each carrier holds three microplates for a total capacity of 18 per run. Max. speed 2 500 rpm, max RCF 1 500 x g. Set of two.



Aeroseal Covers[§] **BIOC**

No. 343686. Cover for round buckets of JS-4.2. Features O-ring seal to provide added aerosol protection. Transparent so broken tubes can be detected and proper precautions taken before breaking seal. Quantity 1.



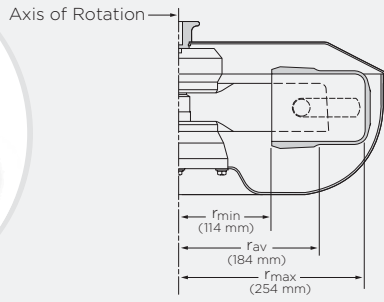
Rotor Replacement Parts

| | |
|--------|--|
| 367045 | Rotor Tie-down Kit |
| 348392 | Cover Assembly |
| 368575 | Buckets (qty: 6, blue-anodized) |
| 339096 | Bail for Adapter (curved arm at top) |
| 349817 | Bail for Adapter (straight arm at top) |

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

| Adapters | | | | | | | | | | | |
|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 339100 | 339101 | 339102 | 339103 | 339104 | 339108 | 339109 | 341977 | 354511 | 356096 | 356983 | 356997 |
| | | | | | | | | | | | |

JS-4.2A **BIOC**** 6 x 1000 mL



Swinging-Bucket Rotor (Windshielded), Anodized Aluminum

For use in Avanti J-HC centrifuges

Major applications: Rapid sedimentation of protein precipitates, large particles, cells, and cell debris. It can be used for binding studies and separating serum from whole blood.

| Max. RPM | Max. g | Rotor Capacity | Approximate Accel/Decel Time (min:sec) |
|----------|--------|---|--|
| 4 200 | 5 020 | 6 Liters, 6 Blood Bags, 18 Microplates, 336 RIA-Tubes | 2:30/3:00 |

No. 366695. JS-4.2A[®] Swinging-Bucket BioSafety Rotor. Windshielded, six-place rotor with aluminum rotor yoke and removable aluminum swinging buckets. Buckets are interchangeable with Microplate Carriers 358682[†] for spinning microtiter plates and MiniTube Racks. ARIES "Smart Balance" technology provides imbalance compensation for rotors with buckets that are unbalanced up to 100 grams.

| Tubes and Bottles | | | | | | | | | | |
|-----------------------------|------------------------------|----------------------|----------|----------------------|-----------------------|-------------------|---------|----------|---------------|--|
| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | g-Force | k Factor | Maximum Speed | |
| Bottles with Screw-On Caps | | | | | | | | | | |
| Polycarbonate | 10.0 | 355672 | 25 | 16 x 80 | 341977 | 19 | 5 020 | --- | 4 200 | |
| | 50.0 | 357002 | 25 | 29 x 104 | 339103 | 7 | 5 020 | --- | 4 200 | |
| | 750.0 | 358299* | 6 | 96 x 130 | 356096 (set of 6) | 1 | 5 020 | --- | 4 200 | |
| | 1000.0 | 355675* [£] | 6 | 97 x 167 | 356096 (set of 6) | 1 | 5 020 | --- | 4 200 | |
| Polycarbonate | 250.0 | 355673 | 6 | 62 x 136 | 339108 | 1 | 5 020 | --- | 4 200 | |
| | 500.0 | 355664 | 6 | 69 x 160 | 339109 | 1 | 5 020 | --- | 4 200 | |
| Polypropylene | 500.0 | 355665 | 6 | 69 x 159 | 339109 | 1 | 5 020 | --- | 4 200 | |
| | 750.0 | 356855* | 6 | 96 x 130 | 356096 (set of 6) | 1 | 5 020 | --- | 4 200 | |
| | 1000.0 | 355676* [£] | 6 | 97 x 167 | 356096 (set of 6) | 1 | 5 020 | --- | 4 200 | |
| Wide-mouth Polycarbonate | 250.0 | 358275 | 25 | 62 x 122 | 339108 | 1 | 5 020 | --- | 4 200 | |
| | 250.0 | 356013 | 6 | 62 x 120 | 339108 | 1 | 5 020 | --- | 4 200 | |
| | 500.0 | 355605 | 6 | 69 x 160 | 339109 | 1 | 5 020 | --- | 4 200 | |
| Wide-mouth Polypropylene | 250.0 | 358326 | 25 | 62 x 122 | 339108 | 1 | 5 020 | --- | 4 200 | |
| | 250.0 | 356011 | 6 | 62 x 120 | 339108 | 1 | 5 020 | --- | 4 200 | |
| | 500.0 | 355607 | 6 | 69 x 160 | 339109 | 1 | 5 020 | --- | 4 200 | |
| Conical Polycarbonate | 230.0 | 356987 | 4 | 60 x 120 | 356983 (4-pk)/339108* | 1 | 5 020 | --- | 4 200 | |
| Conical Polypropylene | 230.0 | 356989 | 4 | 60 x 120 | 356983 (4-pk)/339108* | 1 | 5 020 | --- | 4 200 | |
| Bottles | | | | | | | | | | |
| Polycarbonate | 70.0 | 355655 | 6 | 38 x 102 | 339104 | 2 | 5 020 | --- | 4 200 | |
| | 500.0 | 355649 | 6 | 69 x 160 | 339109 | 1 | 5 020 | --- | 4 200 | |
| Polypropylene | 50.0 | 357003 | 25 | 29 x 104 | 339103 | 7 | 5 020 | --- | 4 200 | |
| | 100.0 | 355626 | 6 | 38 x 102 | 339104 | 2 | 5 020 | --- | 4 200 | |
| | 500.0 | 355650 | 6 | 69 x 159 | 339109 | 4 | 5 020 | --- | 4 200 | |
| Bottles with Cap Assemblies | | | | | | | | | | |
| Polypropylene | 50.0 | 357001 | 6 | 29 x 104 | 339103 | 7 | 5 020 | --- | 4 200 | |
| | 50.0 | 361694 | 6 | 29 x 104 | 356997 | 1 | 5 020 | --- | 4 200 | |
| Polycarbonate | 50.0 | 357000 | 6 | 29 x 104 | 339103 | 7 | 5 020 | --- | 4 200 | |
| | 70.0 | 355620 | 6 | 38 x 102 | 339104 | 2 | 5 020 | --- | 4 200 | |
| Polypropylene | 100.0 | 355624 | 6 | 38 x 102 | 339104 | 2 | 5 020 | --- | 4 200 | |

† Microplate carriers cannot be run in the Avanti J-HC centrifuge.
 * These bottles require a sleeve rather than an adapter.
 ** When used with optional AeroSeal Covers, P/N 343686

+ These adapters fit inside one another to accommodate smaller bottles and tubes.
 £ can't be used with the AeroSeal covers

| Adapters | | | | | |
|----------|--------|--------|--------|--------|--------|
| 339103 | 339104 | 339108 | 339109 | 341977 | 356096 |
| | | | | | |

JS-4.2A (continued) 6 x 1000 mL

| Tubes and Bottles (continued) | | | | | | | | | | |
|-------------------------------|---------|------------------------------|----------|----------|----------------------|-------------------|-------------------|---------|----------|---------------|
| Tube Style/Material | | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | g-Force | k Factor | Maximum Speed |
| Tubes with Snap-On Caps | | | | | | | | | | |
| Polypropylene | Natural | 1.5 | 357448 | 500 | 9.5 x 38 | 339100/354511** | 26 | 5 020 | --- | 4 200 |
| Polycarbonate | | 50.0 | 363664 | 25 | 29 x 104 | 356997 | 1 | | | 4 200 |
| Polyethylene | Natural | 1.5 | 340196 | 500 | 11 x 39 | 339100/354511** | 26 | 5 020 | --- | 4 200 |
| Polypropylene | Natural | 1.5 | 356090 | 500 | 9.5 x 38 | 339100/354511** | 26 | 5 020 | --- | 4 200 |
| | Natural | 1.5 | 343169 | 500 | 11 x 38 | 339100/354511** | 26 | 5 020 | --- | 4 200 |
| | Blue | 1.5 | 356091 | 500 | 11 x 38 | 339100/354511** | 26 | 5 020 | --- | 4 200 |
| | Yellow | 1.5 | 356093 | 500 | 11 x 38 | 339100/354511** | 26 | 5 020 | --- | 4 200 |
| | Orange | 1.5 | 356094 | 500 | 11 x 38 | 339100/354511** | 26 | 5 020 | --- | 4 200 |
| | | | 50.0 | 357005 | 25 | 29 x 104 | 339103 | 7 | 5 020 | --- |
| BioVials | | | | | | | | | | |
| Polypropylene | | 4.0 | 566353 | 1 000 | 14 x 55 | 339101 | 24 | 5 020 | --- | 4 200 |
| Open-Top Tubes | | | | | | | | | | |
| Polypropylene | | 10.0 | 355640 | 25 | 16 x 76 | 341977 | 19 | 5 020 | --- | 4 200 |
| Polycarbonate | | 10.0 | 355630 | 25 | 16 x 76 | 341977 | 19 | 5 020 | --- | 4 200 |
| | | 15.0 | 342080 | 100 | 18 x 98 | 339102 | 14 | 5 020 | --- | 4 200 |
| | | 50.0 | 363647 | 25 | 29 x 104 | 356997 | 7 | 5 020 | --- | 4 200 |
| Polyethylene | | 15.0 | 342081 | 100 | 18 x 98 | 339102 | 14 | 5 020 | --- | 4 200 |
| Polypropylene | | 15.0 | 342082 | 100 | 18 x 98 | 339102 | 14 | 5 020 | --- | 4 200 |
| | | 50.0 | 357007 | 25 | 29 x 104 | 339103 | 7 | 5 020 | --- | 4 200 |

** These adapters fit inside one another to accommodate smaller bottles and tubes.

Blood-Bag Cups

No. 339127. Yellow cup with inner diameter of 88 mm for single- and double-packs. Sold individually.

No. 339129. Red cup with inner diameter of 98 mm for triple- and quad-packs. Sold individually.



Microplate Carriers

No. 358682. Special carriers, interchangeable with buckets, slip onto yoke of JS-4.2A Rotor. Each carrier holds three microplates for a total capacity of 18 per run. Max. speed 2 500 rpm. Set of two.



Aerosol Covers[§] **BIOC**

No. 343686. Cover for round buckets of JS-4.2A. Features O-ring seal to provide added aerosol protection. Transparent so broken tubes can be detected and proper precautions taken before breaking seal. Quantity 1.



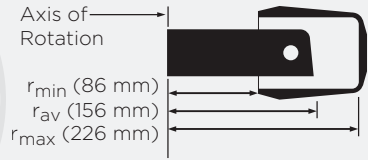
Rotor Replacement Parts

| | |
|--------|--|
| 367045 | Rotor Tie-down Kit |
| 348392 | Cover Assembly |
| 368575 | Buckets (qty: 6, blue-anodized) |
| 339096 | Bail for Adapter (curved arm at top) |
| 349817 | Bail for Adapter (straight arm at top) |

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

| Adapters | | | | | | | | |
|----------|--------|--------|--------|--------|--------|--------|--------|--------|
| 339100 | 339101 | 339102 | 339103 | 339108 | 339109 | 354511 | 356983 | 356997 |
| | | | | | | | | |

JS-4.0 **BIOC*** 4 x 1000 mL



Swinging-Bucket Rotor (Unshielded), Aluminum

For use in Avanti J-26S centrifuges.
Major applications: Rapid sedimentation of protein precipitates, large particles, cells, and cell debris. It can be used for binding studies and separating serum or plasma from whole blood.

| Max. RPM | Max. g | Rotor Capacity | Approximate Accel/Decel Time |
|----------|--------|---|------------------------------|
| 4 000 | 4 050 | 4 Liters, 4 Blood Bags, 12 Microplates, 148 RIA Tubes | 2:00/1:30 min. |

No. 339086. JS-4.0 Swinging-Bucket BioSafety Rotor. Unshielded, four-place rotor with aluminum rotor yoke and removable aluminum swinging buckets. Buckets are interchangeable with Microplate Carriers for spinning microtiter plates and MiniTube Racks. Note: requires tie-down kit P/N 367045 for use with Avanti J-26S Series centrifuges.

| Tubes and Bottles | | | | | | | | | | |
|-----------------------------|------------------------------|----------|----------|----------------------|------------------------|-------------------|---------|----------|---------------|--|
| Tube Style/Material | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | g-Force | k Factor | Maximum Speed | |
| Bottles with Screw-On Caps | | | | | | | | | | |
| Polycarbonate | 10.0 | 355672 | 25 | 16 x 80 | 341977 | 19 | --- | --- | 4 000 | |
| | 50.0 | 357002 | 25 | 29 x 104 | 339103 | N/A | --- | --- | 4 000 | |
| | 250.0 | 355673 | 6 | 62 x 136 | 339108 | 1 | --- | --- | 4 000 | |
| | 500.0 | 355664 | 6 | 69 x 160 | 339109 | 1 | --- | --- | 4 000 | |
| | 750.0 | 358299 | 6 | 96 x 130 | 356096 (set of 6) | 1 | --- | --- | 4 000 | |
| | 1000.0 | 355675 | 6 | 97 x 167 | 356096 (set of 6) | 1 | --- | --- | 4 000 | |
| Polypropylene | 50.0 | 357003 | 25 | 29 x 104 | 339103 | 7 | --- | --- | 4 000 | |
| | 500.0 | 355665 | 6 | 69 x 159 | 339109 | 1 | --- | --- | 4 000 | |
| | 750.0 | 356855 | 6 | 96 x 139 | 356096 (set of 6) | 1 | --- | --- | 4 000 | |
| | 1000.0 | 355676 | 6 | 97 x 167 | 356096 (set of 6) | 1 | --- | --- | 4 000 | |
| Wide-mouth Polycarbonate | 250.0 | 356013 | 6 | 62 x 120 | 339108 | 1 | --- | --- | 4 000 | |
| | 500.0 | 355605 | 6 | 69 x 160 | 339109 | 1 | --- | --- | 4 000 | |
| Wide-mouth Polypropylene | 250.0 | 356011 | 6 | 62 x 120 | 339108 | 1 | --- | --- | 4 000 | |
| | 500.0 | 355607 | 6 | 69 x 160 | 339109 | 1 | --- | --- | 4 000 | |
| Conical Polycarbonate | 230.0 | 356987 | 4 | 60 x 120 | 356983 (4-pk)/339108** | 1 | --- | --- | 4 000 | |
| Conical Polypropylene | 230.0 | 356989 | 4 | 60 x 120 | 356983 (4-pk)/339108** | 1 | --- | --- | 4 000 | |
| Bottles with Cap Assemblies | | | | | | | | | | |
| Polypropylene | 50.0 | 357001 | 6 | 29 x 104 | 339103 | N/A | --- | --- | 4 000 | |
| | 50.0 | 361694 | 6 | 29 x 104 | 356997 | 1 | --- | --- | 4 000 | |
| Polycarbonate | 50.0 | 357000 | 6 | 29 x 104 | 339103 | N/A | --- | --- | 4 000 | |
| | 70.0 | 355620 | 6 | 38 x 102 | 339104 | 2 | --- | --- | 4 000 | |
| Polypropylene | 100.0 | 355624 | 6 | 38 x 102 | 339104 | 2 | --- | --- | 4 000 | |
| Bottles | | | | | | | | | | |
| Polycarbonate | 70.0 | 355655 | 6 | 38 x 102 | 339104 | 2 | --- | --- | 4 000 | |
| | 500.0 | 355649 | 6 | 69 x 160 | 339109 | 1 | --- | --- | 4 000 | |
| Wide-mouth Polycarbonate | 250.0 | 358275 | 25 | 62 x 122 | 339108 | 1 | --- | --- | 4 000 | |
| Polypropylene | 100.0 | 355626 | 6 | 38 x 102 | 339104 | 2 | --- | --- | 4 000 | |
| | 500.0 | 355650 | 6 | 69 x 159 | 339109 | 1 | --- | --- | 4 000 | |
| Wide-mouth Polypropylene | 250.0 | 358326 | 25 | 62 x 122 | 339108 | 1 | --- | --- | 4 000 | |

* When used with optional Aeroseal Covers P/N 343686.
** These adapters fit inside one another to accommodate smaller bottles and tubes.

| Adapters | | | | | | | | | | |
|----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 339100 | 339101 | 339102 | 339103 | 339104 | 339108 | 339109 | 341977 | 354511 | 356096 | 356983 |
| | | | | | | | | | | |

| Tubes and Bottles (continued) | | | | | | | | | | |
|--|----------|------------------------------|----------|----------|----------------------|---|-------------------|---------|----------|---------------|
| Tube Style/Material | | Nominal Volume per Tube (mL) | Part No. | Quantity | Cavity Diameter (mm) | Required Adapters | Tubes per Adapter | g-Force | k Factor | Maximum Speed |
| Tubes with Snap-On Caps | | | | | | | | | | |
| Polypropylene | Natural | 1.5 | 357448 | 500 | 9.5 x 38 | 339100/354511** | 26 | --- | --- | 4 000 |
| Polycarbonate | | 50.0 | 363664 | 25 | 29 x 104 | 365997 | 7 | --- | --- | 4 000 |
| Polyethylene | | 1.8 | 340196 | 500 | 11 x 39 | 339100/354511** | 26 | --- | --- | 4 000 |
| Polypropylene | Orange | 1.5 | 356094 | 500 | 11 x 38 | 339100/354511** | 26 | --- | --- | 4 000 |
| | Yellow | 1.5 | 356093 | 500 | 11 x 38 | 339100/354511** | 26 | --- | --- | 4 000 |
| | Blue | 1.5 | 356091 | 500 | 11 x 38 | 339100/354511** | 26 | --- | --- | 4 000 |
| | Clear | 1.5 | 356090 | 500 | 9.5 x 38 | 339100/354511** | 26 | --- | --- | 4 000 |
| | Natural* | 1.5 | 343169 | 500 | 11 x 38 | 339100/354511** | 26 | --- | --- | 4 000 |
| | | 50.0 | 357005 | 25 | 29 x 104 | 339103 | 7 | --- | --- | 4 000 |
| Open-Top Tubes | | | | | | | | | | |
| Polypropylene | | 10.0 | 355640 | 25 | 16 x 76 | 341977 | 19 | --- | --- | 4 000 |
| Polycarbonate | | 10.0 | 355630 | 25 | 16 x 76 | 341977 | 19 | --- | --- | 4 000 |
| | | 15.0 | 342080 | 100 | 18 x 98 | 339102 | 14 | --- | --- | 4 000 |
| | | 50.0 | 363647 | 25 | 29 x 104 | 339103 | 7 | --- | --- | 4 000 |
| Polyethylene | | 15.0 | 342081 | 100 | 18 x 100 | 339102 | 14 | --- | --- | 4 000 |
| Polypropylene | | 15.0 | 342082 | 100 | 18 x 98 | 339102 | 14 | --- | --- | 4 000 |
| | | 50.0 | 357007 | 25 | 29 x 104 | 356997 | 7 | --- | --- | 4 000 |
| BioVials | | | | | | | | | | |
| Polypropylene | | 4.0 | 566353 | 1000 | 14 x 55 | 339101 | 24 | --- | --- | 4 000 |
| Adapters for Non-Beckman Coulter Tubes/Bottles | | | | | | | | | | |
| Round Bottom | | 3.0 & 5.0 | --- | --- | 12 x 75 | 339119 (double stacked) adapter (qty. of 1) | 19 | --- | --- | --- |
| Round Bottom | | 3.0 & 5.0 | --- | --- | 12 x 133 | 339100 (qty. of 1) | 37 | --- | --- | --- |
| Round Bottom | | 10.0 | --- | --- | 14 x 133 | 339101 (qty. of 1) | 24 | --- | --- | --- |
| Round Bottom | | 12.0 | --- | --- | 16 x 133 | 341977 (qty. of 1) | 19 | --- | --- | --- |
| Conical | | 15.0 | --- | --- | 17 x 119 | 356995 (qty. of 1) | 5 | --- | --- | --- |
| Round Bottom | | 20.0 | --- | --- | 18 x 133 | 339102 (qty. of 1) | 14 | --- | --- | --- |
| Conical | | 50.0 | --- | --- | 30 x 136 | 345386 (qty. of 1) | 4 | --- | --- | --- |
| Round Bottom | | 50.0 | --- | --- | 35 x 136 | 341794 (qty. of 1) | 4 | --- | --- | --- |

* Cap separate.

** These adapters fit inside one another to accommodate smaller bottles and tubes.



Blood-Bag Cups

No. 339127. Yellow cup with inner diameter of 88 mm for single- and double-packs. Sold individually.

No. 339129. Red cup with inner diameter of 98 mm for triple- and quad-packs. Sold individually.



Microplate Carriers

No. 358680. Special carriers, interchangeable with buckets, slip onto yoke of JS-4.0 Rotor. Each carrier holds three microplates for a total capacity of 12 per run. Maximum speed 2 600 rpm (1450 x g). Set of two.



Aerosol Covers **BIOC**

No. 343686. Cover for round buckets of JS-4.0. Features O-ring seal to provide added aerosol protection. Transparent so broken tubes can be detected and proper precautions taken before breaking seal. Quantity 1.



Rotor Replacement Parts

| | |
|--------|---|
| 339031 | Rotor Tie-down Screw |
| 341710 | Bucket Set (set of 4) |
| 878439 | Torquing Bar for Rotor Tie-down Screw |
| 367045 | Rotor Tie-down Kit for Avanti J-26S XP Series centrifuges |

How To Order the JCF-Z Rotor

For a complete Beckman Coulter JCF-Z Rotor system, the following components are required.

1. A JCF-Z Rotor (choose according to application; continuous flow, zonal, or reorienting gradient).
2. Optional high-flow seal assembly for processing up to 100 liters/hour.
3. An appropriate bracket assembly (for Avanti J Series instruments only).
4. A pump system (not supplied by Beckman Coulter, but recommendations below).
5. A Beckman Coulter Avanti J Series centrifuge (excluding J-E).

Continuous-Flow Rotors

No. 335140. JCF-Z Continuous-Flow Rotor, Titanium, Standard Pellet Core. Includes Standard continuous-flow core (pellet size 400 mL), standard-flow rotating seal assembly, and tool kit. Bracket kit required for use with Avanti J Series centrifuges, and pump system required for all applications.

| Max. RPM | Max. g | k Factor | Rotor Capacity |
|----------|--------|----------|----------------|
| 20 000 | 39 900 | 100 | 660 mL |

No. 357544. JCF-Z Continuous-Flow Rotor, Titanium, Small Pellet Core. Includes Small Pellet continuous-flow core (pellet size 200 mL), standard-flow rotating seal assembly, and tool kit. Bracket kit required for use with Avanti J Series centrifuges, and pump system required for all applications.

| Max. RPM | Max. g | k Factor | Rotor Capacity |
|----------|--------|----------|----------------|
| 20 000 | 36 300 | 281 | 240 mL |

No. 357521. JCF-Z Continuous-Flow Rotor, Titanium, Large Pellet Core. Includes Large Pellet continuous-flow core (pellet size 800 mL), standard-flow rotating seal assembly, and tool kit. Bracket kit required for use with Avanti J Series centrifuges, and pump system required for all applications.

| Max. RPM | Max. g | k Factor | Rotor Capacity |
|----------|--------|----------|----------------|
| 20 000 | 39 900 | 293 | 1 250 mL |

Bracket Kits for use with Avanti J-Series centrifuges

No. 363843. Bracket Kit, for use with Avanti J-25 Series and Avanti J-301 centrifuges, and standard Cole-Parmer size-16 tubing (6.4 mm, 1/4-in. O.D.). For other size tubing, see optional kits below.

No. 366431. Bracket Kit, for use with Avanti J-26 XP Series centrifuges, and standard Cole-Parmer size-16 tubing (6.4 mm, 1/4-in. O.D.). For other size tubing, see optional kits below.

No. 363844. Size-14 Tubing Adapter Kit, for use with Cole-Parmer size-14 tubing (4.8 mm, 3/16 in.). Order in addition to one of above Bracket Kits.

No. 363845. Size-15 Tubing Adapter Kit, for use with Cole-Parmer size-15 tubing (9.5 mm, 3/8 in.). Order in addition to one of above Bracket Kits.

Recommended Pumps

The chosen pump must meet the following requirements: (a) has a continuously adjustable flow rate from 6 to 100 mL/min; (b) has a flow rate controllable to within $\pm 1.5\%$; (c) has a flow rate independent of back pressure up to 40 psi; and (d) has pulsation less than 5% of flow rate.

We recommend Cole-Parmer Masterflex L/S Standard Digital Pump E-77921-00 (115 VAC), or L/S Standard Digital Pump E-77921-07 (230 VAC). These are not available from Beckman Coulter, but may be ordered direct from Cole-Parmer (625 East Bunker Court, Vernon Hills, Illinois 60061-1844 USA, Phone 847-549-7600, Fax 847-549-7676, TDD hotline: 800-833-7400, E-mail: info@coleparmer.com). Contact Cole-Parmer directly to receive current ordering information for these or comparable pumps.

These pumps include: Easy-Load* pump head model E-07518-12 (accepts L/S 15 and L/S 24 tubing), 10 ft. (3 m) of Tygon* LFL L/S 24 tubing model E-06429-24 (flow range of 28 to 1700 ml/min), and 10 to 600 rpm standard digital drive model E-07523-20 (115 VAC) or E-07523-27 (230 VAC).

Zonal Rotor

No. 354006. JCF-Z Zonal Rotor, Titanium.

Includes Zonal core, standard-flow rotating seal assembly, and tool kit. Bracket kit required for use with Avanti J Series centrifuges, and pump system required for all applications.

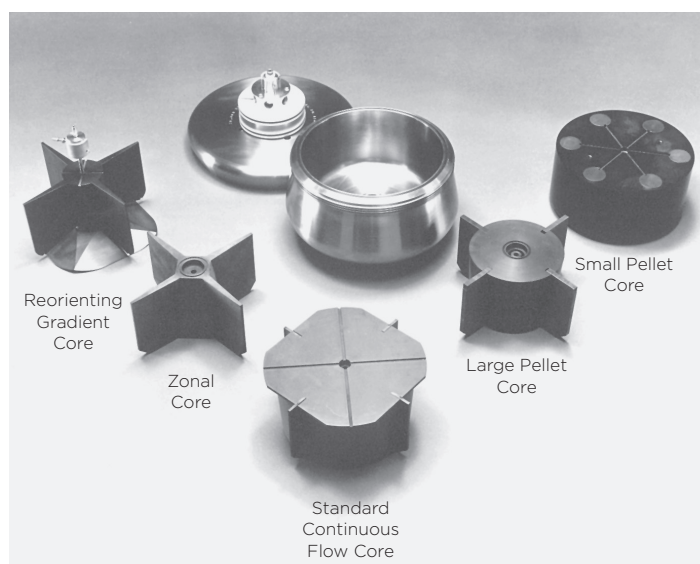
| Max. RPM | Max. g | k Factor | Rotor Capacity |
|----------|--------|----------|----------------|
| 20 000 | 39 900 | 710 | 1 900 mL |

Interchangeable Cores and Accessories

| | |
|--------|---|
| 335130 | Continuous-flow Core, Standard |
| 350641 | Continuous-flow Core, Large-Pellet |
| 350601 | Continuous-flow Core, Small-Pellet |
| 335141 | Zonal Core |
| 343348 | Zonal Keylock Switch for J2-21 |
| 335142 | Standard-flow, Rotating Seal Assembly required for Zonal- and Continuous-flow Operation |
| 335134 | High-flow Seal Assembly Kit: permits processing up to 100 liters/hour in Continuous-flow Core |

JCF-Z-Rotor Replacement Parts

| | |
|--------|---|
| 335144 | Rotating Seal, Carbon-graphite |
| 812715 | O-ring for JCF-Z Rotor Plug (Min. order 12) |
| 815473 | O-ring for JCF-Z Rotor Lid Stem, 5/8" O.D. (Min. order 6) |
| 824412 | O-ring for JCF-Z Rotating Seal, 3/4" O.D. (Min. order 6) |
| 854519 | O-ring for bottom of JCF-Z-Rotor Bowl (Min. order 6) |
| 366190 | Bearing, Stainless Steel |
| 870655 | O-ring for JCF-Z Rotating Seal, .502 O.D. (Min. order 6) |
| 870688 | O-ring for JCF-Z Rotor Lid, 7.188 O.D. |
| 335143 | Tool Kit |



For use in Avanti J Series centrifuges (except Avanti J-E).

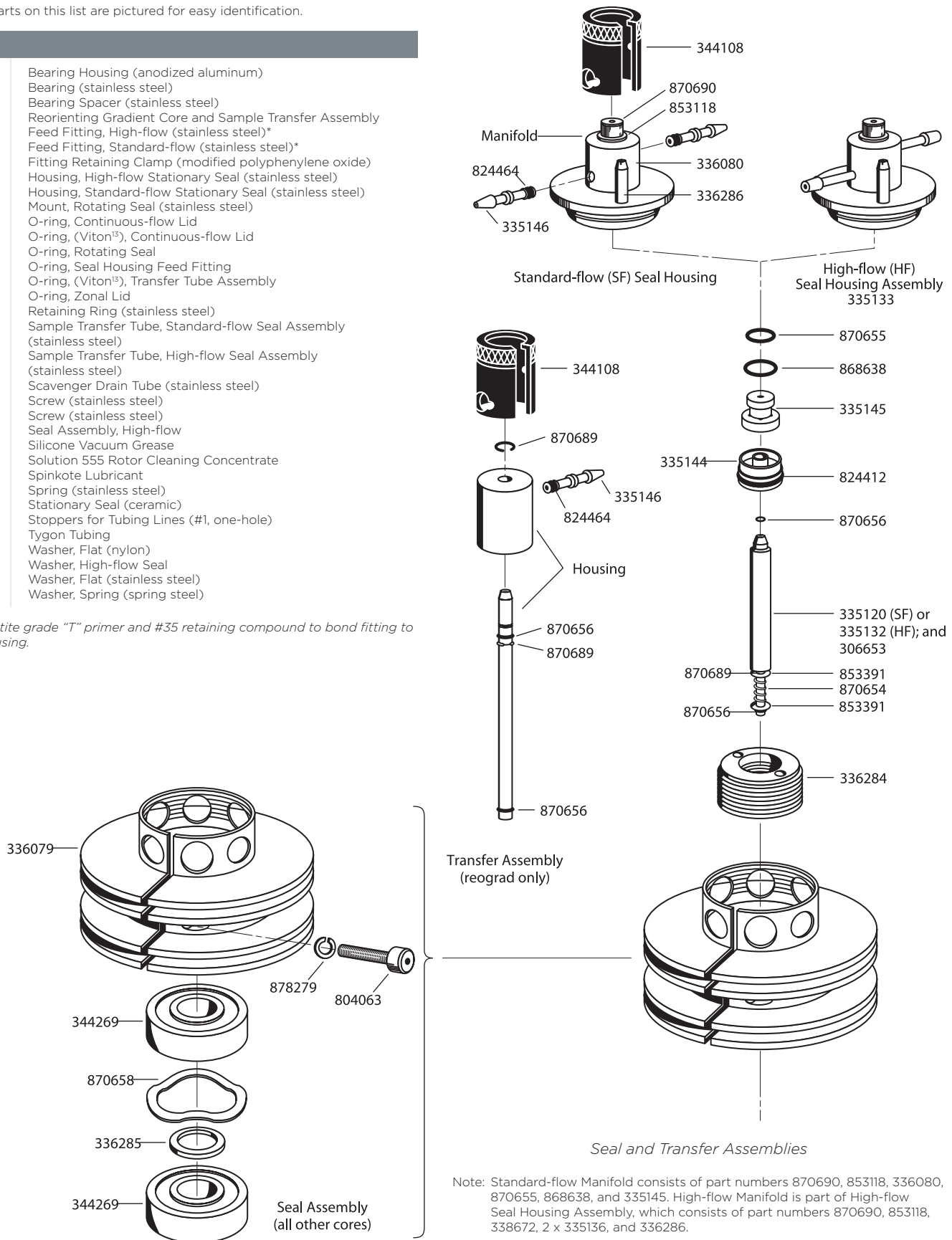
JCF-Z (continued)

Many of the parts on this list are pictured for easy identification.

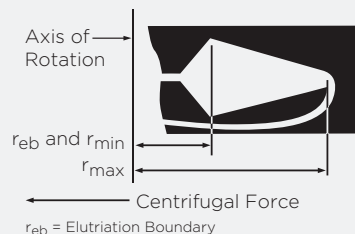
Supply List

| | |
|--------|---|
| 336079 | Bearing Housing (anodized aluminum) |
| 366190 | Bearing (stainless steel) |
| 336285 | Bearing Spacer (stainless steel) |
| 350585 | Reorienting Gradient Core and Sample Transfer Assembly |
| 335136 | Feed Fitting, High-flow (stainless steel)* |
| 335146 | Feed Fitting, Standard-flow (stainless steel)* |
| 344108 | Fitting Retaining Clamp (modified polyphenylene oxide) |
| 338672 | Housing, High-flow Stationary Seal (stainless steel) |
| 336080 | Housing, Standard-flow Stationary Seal (stainless steel) |
| 336284 | Mount, Rotating Seal (stainless steel) |
| 870526 | O-ring, Continuous-flow Lid |
| 817033 | O-ring, (Viton ¹⁵), Continuous-flow Lid |
| 824412 | O-ring, Rotating Seal |
| 824464 | O-ring, Seal Housing Feed Fitting |
| 870656 | O-ring, (Viton ¹⁵), Transfer Tube Assembly |
| 870315 | O-ring, Zonal Lid |
| 870689 | Retaining Ring (stainless steel) |
| 335120 | Sample Transfer Tube, Standard-flow Seal Assembly (stainless steel) |
| 335132 | Sample Transfer Tube, High-flow Seal Assembly (stainless steel) |
| 336286 | Scavenger Drain Tube (stainless steel) |
| 804063 | Screw (stainless steel) |
| 870690 | Screw (stainless steel) |
| 335133 | Seal Assembly, High-flow |
| 335148 | Silicone Vacuum Grease |
| 339555 | Solution 555 Rotor Cleaning Concentrate |
| 306812 | Spinkote Lubricant |
| 870654 | Spring (stainless steel) |
| 335145 | Stationary Seal (ceramic) |
| 336403 | Stoppers for Tubing Lines (#1, one-hole) |
| 306653 | Tygon Tubing |
| 878279 | Washer, Flat (nylon) |
| 853118 | Washer, High-flow Seal |
| 853391 | Washer, Flat (stainless steel) |
| 870658 | Washer, Spring (spring steel) |

* Use Loctite grade "T" primer and #35 retaining compound to bond fitting to seal housing.



Note: Standard-flow Manifold consists of part numbers 870690, 853118, 336080, 870655, 868638, and 335145. High-flow Manifold is part of High-flow Seal Housing Assembly, which consists of part numbers 870690, 853118, 338672, 2 x 335136, and 336286.



Elutriator Rotor

For use in Avanti J-26S XP centrifuge.*

For use in Avanti J-26S XP Series and J6-MI centrifuges equipped with viewport door and strobe assembly.

| Max. RPM | Max. g | Maximum Volume | Elutriation Boundary |
|----------|--------|----------------|----------------------|
| 5 000 | 4 700 | 40 mL | 86 mm (2,410 g) |

No. 356900. JE-5.0 Elutriator Rotor Assembly. Includes bypass chamber and supplies, and features a quick-release assembly which can be autoclaved for sterile operation. Order elutriation chamber(s) separately. (For complete Elutriation System, a number of components are necessary. See *How to Order* below.)

Elutriation Chamber

| Description | Part No. | Max. Cells Recovered per Run | Minimum Cells Required for Loading per Fraction | Max Elutriated Buffer Volume |
|-------------|----------|------------------------------|---|------------------------------|
| 40-mL | 356940 | 1010 | 10 ⁷ | 1000 mL |
| 5-mL | 356943 | 1010 | 10 ⁷ | 1000 mL |
| Sanderson | 356945 | 1010 | 10 ⁵ | 1000 mL |

How to Order

For a complete Beckman Coulter Elutriation System, the following components are required:

1. An Elutriator Rotor Assembly
2. An Elutriation Chamber
3. An Elutriation Centrifuge equipped with viewport door and strobe assembly.

Beckman Coulter Avanti J-26S XP centrifuges can be ordered as Elutriation Centrifuges fully equipped with the appropriate door and strobe assembly. See Section 1 for ordering information.

Also necessary but not available from Beckman Coulter is a pump that meets the following requirements: (a) has continuously adjustable flow rate from 6 to 100 mL/min; (b) has flow rate controllable to within ± 1.5%; (c) has flow rate independent of back pressure up to 40 psi; and (d) has pulsation less than 5% of flow rate. Recommended pumps are listed below.

To Upgrade an Existing Beckman Coulter Centrifuge

For Avanti J-26S XP Series, order the appropriate kit listed below (order only one kit):

No. 366562. 50/60 Hz. For use with Avanti J-26S XP. Kit includes Strobe Lamp/Control Assembly and Door Assembly with Viewport.

Recommended Pump (not supplied by Beckman Coulter)

We recommend the Cole-Parmer Masterflex Digital Drive Pump System. These are not available from Beckman Coulter, but may be ordered directly from Cole-Parmer (625 East Bunker Court, Vernon Hills, Illinois 60061-1844 USA, Phone 847-549-7600, Fax 847-549-7676, TDD hotline: 800-833-7400, E-mail: info@coleparmer.com). Contact Cole-Parmer directly to receive current ordering information for these or comparable pumps.

A complete pump consists of one each of the following components:

1. Easy-Load pump head (stainless steel)
2. Tygon L/S 16 tubing standard drive (10 to 600 rpm, 115 VAC or 230 VAC)

Supplies

| | |
|--------|--|
| 335148 | Silicone Vacuum Grease, 1 oz |
| 339555 | Solution 555 Cleaning Concentrate, 1 qt |
| 306812 | Spinkote Lubricant (for rotor/shaft interface), 2 oz |
| 357520 | Tubing, Tygon 1/8-in. (I.D.) × 1/4-in. (O.D.) |
| 357580 | Tubing, Silicone 3/16-in. (I.D.) × 5/16-in. (O.D.) (for rotating seal-assembly connection) |

Tools

| | |
|--------|---|
| 927784 | Pliers for Retaining Clip (bearing removal) |
| 016223 | Wrench, 1/8-in. Hex Driver |
| 927766 | Wrench, 5/16-in. Hex T-handle |
| 029840 | Wrench, 5/32-in. Hex Driver |
| 001884 | Wrench, 5/64-in. Hex Driver |
| 817305 | Wrench, 9/64-in. Hex Angle |

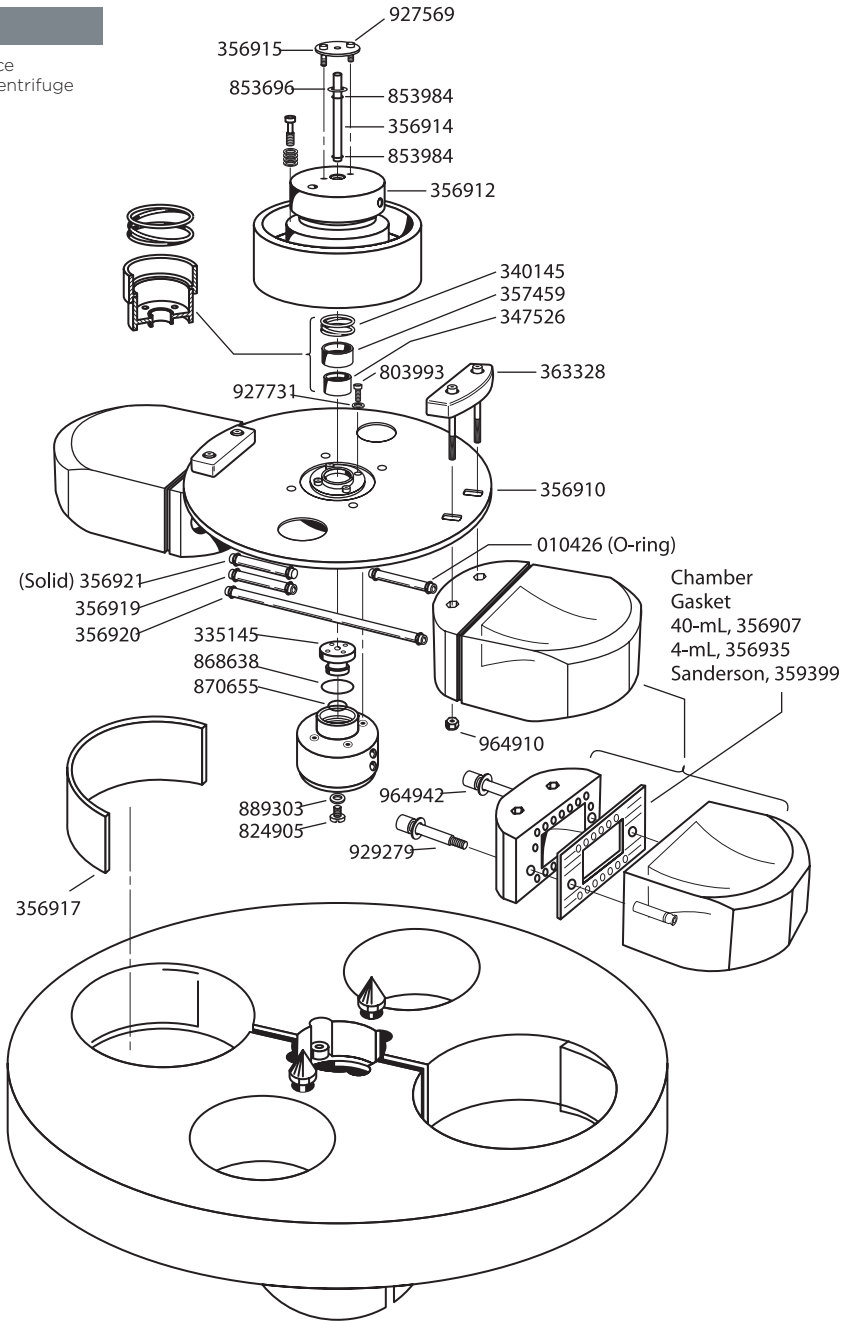
* When properly equipped for elutriation.

JE-5.0 (continued)

Elutriation

Replacement Parts

| | |
|--------|--|
| 358291 | Quick-release Seal Assembly 5.0 with counterbalance |
| 366922 | Anchor Cable Assembly for Avanti J-26 XP Series centrifuge |
| 358182 | Anchor Cable Assembly for J6-MI centrifuge |
| 355161 | Ball Bearing, S.C.D. |
| 356014 | Cable Retainer |
| 356940 | Chamber, Large (40-mL), "A" |
| 356941 | Chamber, Large (40-mL), "B" |
| 356943 | Chamber, Standard (5-mL), "A" |
| 356944 | Chamber, Standard (5-mL), "B" |
| 356945 | Chamber, Sanderson (5-mL), "A" |
| 356946 | Chamber, Sanderson (5-mL), "B" |
| 849660 | Chamber Mounting Nut |
| 356917 | Chamber Pad |
| 356907 | Chamber Gasket, 40-mL |
| 356935 | Chamber Gasket, 4-mL |
| 359399 | Chamber Gasket, Sanderson, 4-mL |
| 356930 | Chamber Mount |
| 356921 | Chamber Tube (solid) |
| 356942 | Counterbalance |
| 927768 | Fitting, Inlet Line (to seal assembly), 3/16 in. I.D. |
| 000148 | Fuse, Strobe, 1.0 A-TD 250 VAC |
| 870671 | Glass Plate for Lapping Seal (4 x 5 in.) |
| 356912 | Housing, Bearing |
| 356911 | Housing, Seal |
| 870655 | O-ring, Small, Seal Housing |
| 011519 | O-ring, Small, Bearing Shaft |
| 868638 | O-ring, Large, Seal Housing |
| 853984 | O-ring, Center Tube |
| 853696 | O-ring, Retaining, Center Tube |
| 010426 | O-ring, Transfer Tube |
| 356910 | Plate, Chamber/Seal Support |
| 340148 | Pressure Gauge Assembly |
| 347549 | Reflector, rpm |
| 878681 | Retaining Clip, Bearing Assembly |
| 356915 | Retaining Plate, Transfer Tube |
| 927286 | Retaining Ring, Internal |
| 335213 | Sample Reservoir, 30-mL |
| 335197 | Sample Reservoir, 75-mL |
| 803993 | Screw, Cap (support plate to seal housing) |
| 927569 | Screw, Cap (retaining plate) |
| 841717 | Screw, Chamber Mounting |
| 824905 | Screw, Housing |
| 929279 | Screw, Shoulder (chamber assembly) |
| 347526 | Seal, Rotating, Black |
| 335145 | Seal, Stationary, White |
| 347543 | Syringe Assembly |
| 356913 | Shaft (bearing) |
| 357459 | Spacer (spring/seal) |
| 340145 | Spring (seal assembly) |
| 356920 | Tube, Long |
| 356919 | Tube, Short |
| 356914 | Tube, Transfer |
| 870669 | Valve, Stopcock (3-way) |
| 021623 | Washer, Flat (bearing housing to support plate) |
| 887438 | Washer, Flat (bearing housing to support plate) |
| 889303 | Washer, Flat (seal housing) |
| 927730 | Washer, Spring (retaining plate) |
| 927731 | Washer, Spring (support plate to seal housing) |
| 852685 | Washer, Spring (bearing assembly, 3 required) |
| 878475 | "Y" Hose Fitting |
| 347978 | Flash Tube |



Exploded View of JE-5.0 Parts with Part Numbers

TUBES AND BOTTLES

Tubes and Bottles for Every Application

No single tube design or material will meet all application requirements. A number of factors should be considered when a supply of tubes is ordered: the particular technique to be used, the nature of the sample and any solvent or gradient media, the desirability of reusing the tubes, and certain convenience factors. The properties listed below provide a guide for anyone involved in the tube selection process.

- **Strength and Flexibility**, to resist permanent deformation even when run in fixed angle rotors without tube caps
- **Chemical Resistance** to a wide range of bases, acids, and solvents
- **Transparency** to permit a clear view of fractions and bands after centrifugation
- **Thin enough** to be sliced or punctured after centrifugation for fraction collection
- **Impermeable to Water** to prevent aqueous solutions from permeating the tube wall and reaching the rotor cavity
- **Surface Properties** that prevent the adherence of nucleic acids and proteins
- **Temperature Tolerance** throughout a wide range of operating temperatures, without deforming at high temperatures or cracking when used close to 0°C
- **Autoclavable** for convenient sterilization and reuse
- **Contaminant-free** to avoid leaching extraneous materials into the sample, especially materials visible in the sensitive 240-280 nm range
- **Odor-free** for pleasant handling

The full line of Beckman Coulter tubes includes a number of tube materials, each with its own distinct combination of properties to meet a variety of application requirements. Available are transparent, translucent, and opaque tubes; tubes that can be sliced or punctured; tubes that can be sterilized and reused; and tubes that are resistant to a variety of chemical compounds.

TUBES AND BOTTLES

Tube Selection Considerations

Compatibility of Tube Material with Solvents and Sample

The chemical compatibility of the tube materials with the gradient-forming medium or other solvent is a prime consideration. Neutral sucrose and salt solutions cause no problem. But alkaline solutions, such as those frequently used for the separation of single-stranded forms of DNA, cannot be used in Ultra-Clear tubes or polycarbonate tubes and bottles. Sometimes DMSO is used in preparation of sucrose gradients for sedimentation of denatured RNA. Polycarbonate and Ultra-Clear tubes are incompatible with DMSO, so polypropylene tubes should be used.

The last column of the "Quick Reference Chart to Tube Materials and Their Properties" on page 2-3 gives some guidelines to the chemical resistances of the various tube materials. It must be emphasized, however, that other conditions of centrifugation (g -force, duration of run, etc.) have considerable effect on how well a tube material will withstand a particular solvent. Beckman Coulter publication IN-175, "Chemical Resistances for Beckman Coulter Centrifugation Products" (found on the Beckman Coulter web site at www.beckmancoultercentrifugation.com) provides more detailed information about the chemical resistances of the various tube materials. The wisest course is to test any questionable combination under operating conditions before making the actual run.

The type of sample, in some cases, will affect selection of a specific tube material. DNA, in its denatured or single-stranded form, will adhere to the surface of some tube materials. Polypropylene would be the best choice. (Most of this work is done in highly alkaline media which are incompatible with polycarbonate.)

Lipoprotein separations are most often done in Ultra-Clear tubes because they are clear and sliceable; these properties simplify fraction location and recovery by tube slicing. When small lipoprotein samples are to be recovered by a fractionating device and clear tubes are desirable, there are alternatives: cellulose propionate, polycarbonate, and Ultra-Clear tubes.

Hazardous materials, either pathogenic or radioactive, should be centrifuged with extreme care. All possible precautions must be taken to avoid leakage of the sample into the rotor cavity during centrifugation.

To determine the optimum tube material for your specific sample and gradient medium, refer to the quick reference chart on page 2-4.

Gradient Formation and Fractionation

When choosing a tube for a density gradient run, some thought should be given to gradient formation and fractionation. If the bands or zones formed during centrifugation are indistinct, they may not be visible through a translucent material such as polypropylene. If optimum band visualization is important, Ultra-Clear tubes or tubes

of polycarbonate or cellulose propionate should be used. Whenever collection of bands or zones must be done by puncturing the tube or slicing, a thin, flexible tube wall is required. Ultra-Clear or polypropylene tubes should be used, depending on the need for transparency.

As there are currently no wettable plastic centrifuge tubes available, gradients should be loaded into plastic tubes from the bottom up to avoid mixing.

High Temperature Centrifugation

Although modern centrifuges and rotors can operate at temperatures as high as 45°C, one cannot assume that every tube can be safely run over 25°C. Stainless steel and glass are the only materials which will not experience some deformation when subjected to high temperatures and long centrifugation times. Plastic tubes undergo some degree of softening at temperatures higher than 25°C. Whether or not this will cause permanent deformation is not a question of temperature alone. The centrifugal force field used, the duration of the centrifugation, the type of rotor, and even the tube angle all have an effect.

It's obviously impossible to give exact temperature limits for plastic tubes when so many other variables are involved. The safest policy is to pretest the tubes under the actual experimental conditions, but with water, rather than a valuable sample.

Tube Sizes

Tube sizes as indicated in the following charts are nominal sizes, and may vary somewhat from actual filling capacities. If a thickwall tube is run uncapped, the maximum filling volume will depend on the tube angle of the rotor to be used. See appropriate rotor instruction manuals for maximum filling levels of tubes.

Tube Cleaning, Sterilization, and Reuse

If tubes are to be reused, special care must be taken during cleaning and sterilization. All tubes can be washed by hand with a mild detergent such as Solution 555 diluted 5-to-1 or 10-to-1 with water. This is particularly important for polycarbonate tubes and bottles which should not be exposed to a detergent with a pH higher than 8. Tubes and bottles should not be washed in commercial dishwashers as the detergents and high temperatures are too harsh. Solvents such as alcohol or acetone react unfavorably with many tube materials. If an organic solvent must be used in the cleaning procedure, consult bulletin IN-175 for a table of tube material/solvent compatibilities (or review the same document on the Beckman Coulter web site at www.beckmancoultercentrifugation.com).

The method chosen for sterilization has direct bearing on the number of reuses one can expect from a tube. Tubes and bottles of polypropylene, polyethylene, and glass can all be autoclaved, although in general, cold sterilization methods are not as harsh as autoclaving. Cold sterilization is recommended for both polycarbonate and Ultra-Clear.

TUBES AND BOTTLES

If maximum reuse is a major consideration, either polypropylene (preferably thickwall) or polycarbonate tubes and bottles should be selected, and cold sterilization methods used. If these tubes are run completely filled in swinging bucket rotors, most of them can be reused a number of times. Chances of permanent deformation will be greater whenever the tubes are run in fixed angle rotors, without caps, and/or partially filled. All of these conditions tend to stress the centripetal edge of the tube unduly. All tubes that have been used or autoclaved previously must be individually examined for signs of deformation or cracking before using them again.

Tube Closures

When other considerations have been resolved, convenience may be a deciding factor. Without a doubt, the most convenient tube closure is none at all; none are required for tubes run in swinging bucket rotors.

For tubes run in fixed angle rotors, alternatives to the standard tube cap assemblies are available. Bottles have three-piece cap assemblies which are easier to use than the more complex tube cap assemblies. Polycarbonate bottles are available for general-purpose fixed angle rotors, and are used frequently for differential centrifugation where band recovery is not a problem. Thickwall tubes can be run in all fixed angle rotors without caps, provided they are partially filled. (Refer to rotor manuals for more information on fill volumes.)

When closed tubes are required, Beckman Coulter offers some innovative and convenient options.

A Quick-Reference Chart to Tube Materials and Their Properties

| Property | Thinwall Polypropylene | Thickwall Polypropylene | Ultra-Clear | Polycarbonate | Polypropylene | Polyethylene | Cellulose Propionate |
|---|------------------------|-------------------------|-------------|---------------|---------------|-------------------------|----------------------|
| Optical | transparent | translucent | transparent | transparent | translucent | transparent/translucent | transparent |
| Autoclaveable | yes | yes | no | yes** | yes | no | no |
| Puncturable | yes | no | yes | no | no | yes | no |
| Sliceable | yes | no* | yes | no | no* | no | no* |
| Reusable | no | yes | no | yes | yes | yes | no |
| Acids (dilute or weak) | S | S | S | M | S | S | S |
| Acids (strong) | U | S | U | U | S | S | U |
| Alcohols (aliphatic) | U | S | U | U | S | S | U |
| Aldehydes | M | M | S | M | M | S | U |
| Bases | S | S | U | U | S | S | U |
| Esters | U | M | U | U | M | S | M |
| Hydrocarbons (aliphatic) | U | M | U | U | S | U | S |
| Hydrocarbons (aromatic and halogenated) | U | U | U | U | M | M | S |
| Ketones | U | M | U | U | M | M | U |
| Oxidizing Agents (strong) | U | U | U | M | M | M | M |
| Salts | S | S | M | M | S | S | S |

S = satisfactory resistance M = marginal resistance U = unsatisfactory resistance

* Polypropylene, polycarbonate, and cellulose propionate tubes with diameters of 5 to 13 mm may be sliced using the CentriTube Slicer (PN 347960) and appropriate adapter plate.

** Table life will be significantly reduced by autoclaving.

Note: This information has been consolidated from a number of sources and is provided only as a guide to the selection of tube materials. Soak tests at 1 g (at 20°C) established the data for most of the materials; reactions may vary under the stress of centrifugation, or with extended contact or temperature variations. To prevent failure and loss of valuable sample, ALWAYS TEST SOLUTIONS UNDER OPERATING CONDITIONS BEFORE USE.

Warning: Do not use flammable substances in or near an operating centrifuge.

TUBES AND BOTTLES

General Filling and Sealing Requirements for Tubes and Bottles

| | Tube or Bottle | Swinging-Bucket Rotors | Fixed-Angle Rotors |
|----------------------------------|-------------------|---|---|
| Polypropylene | Thinwall tubes | Within 2 to 3 mm of top | Full with cap |
| | Thickwall tubes | At least 1/2 full | 1/2 full to max. capless level or full with cap |
| | Quick-Seal tubes | Full and heat-sealed | Full and heat-sealed |
| | Bottles | Min. to max. (see rotor manual) with screw-on cap or cap assembly | 1/2 full to max. (see rotor manual) with screw-on cap assembly |
| Ultra-Clear | Open-top tubes | Within 2 to 3 mm of top | Full with cap |
| | Quick-Seal tubes | Not used | Full and heat-sealed |
| Polycarbonate | Thickwall tubes | At least 1/2 full | 1/2 full capless level or full with cap or cap assembly |
| | Bottles | At least 1/2 full | Min. to max. (see rotor manual) with screw-on cap or cap assembly |
| Stainless Steel | Tubes | Any level | Any level with cap or cap assembly |
| Polypropylene | Tubes and bottles | At least 1/2 full | 1/2 to max. capless level or full with cap or cap assembly |
| Polyethylene | Tubes | At least 1/2 full | 1/2 to max. capless level or full with cap or cap assembly |
| Polytetrafluoroethylene (Teflon) | Tubes and bottles | At least 1/2 full | 1/2 full to max. capless level or full with cap |
| Polyphenylsulfone (PPSU) | Container | At least 1/2 full | N/A |

TUBES AND BOTTLES

High-Performance and High-Capacity Bottles

| Nominal Capacity | Size mm | Material | Bottle & Cap Assy | Bottle with Screw-On Caps | Bottle Only | Insert Only | O-ring | Screw-On Cap Only |
|---------------------|-------------|----------|-------------------|---------------------------|--------------|--------------|--------------|-------------------|
| 10 mL | 16 x 80 | PC | N.A. | 355672 | N.A. | N.A. | N.A. | N.A. |
| 10 mL | 16.1 x 81.1 | PE | N.A. | 364695 | N.A. | N.A. | N.A. | N.A. |
| 10 mL | 16.1 x 81.1 | PTFE | N.A. | 364693 | N.A. | N.A. | N.A. | N.A. |
| 26.3 mL | 25 x 89 | PC | 355616 | N.A. | 340382 | 335258 | 870385 | 335259 |
| 30 mL | 25.3 x 92 | PE | 363073 | N.A. | N.A. | N.A. | N.A. | N.A. |
| 30 mL | 25.3 x 92 | PC | N.A. | 363070 | N.A. | N.A. | N.A. | N.A. |
| 40 mL | 29 x 104 | PC | N.A. | 355628 | N.A. | N.A. | N.A. | N.A. |
| 50 mL | 28.5 x 107 | PTFE* | N.A. | 363076 | N.A. | N.A. | N.A. | N.A. |
| 50 mL | 29 x 104 | PE | 357001 361694 | 357003 | N.A. | 358627 | 961582 | 356284 |
| 50 mL | 29 x 104 | PC | 357000 361693 | 357002 | N.A. | 358627 | 961582 | 356284 |
| 70 mL | 38 x 102 | PC | 355620 | N.A. | 355655 | 334545 | 870384 | 334547 |
| 85 mL | 38 x 104 | PC | 363081 | N.A. | N.A. | N.A. | N.A. | N.A. |
| 85 mL | 38 x 104 | PP | N.A. | 364719 363082 | N.A. N.A. | N.A. N.A. | N.A. N.A. | N.A. N.A. |
| 100 mL | 38 x 102 | PP | 355624 | 355624 | 355626 | N.A. | N.A. | 355625 |
| 180 mL | 55 x 104 | PE | N.A. | 361245 | N.A. | N.A. | N.A. | N.A. |
| 230 mL | 62 x 141 | PE | 356989 | N.A. | 356988 | N.A. | N.A. | 344691 |
| 230 mL | 62 x 141 | PC | 356987 | N.A. | 356986 | N.A. | N.A. | 344691 |
| 250 mL | 62 x 120 | W PC | 356013 | 355673 | 358275 | N.A. | 927860 | 358977 |
| 250 mL | 62 x 122 | W PP | 356011 | N.A. | 358326 | N.A. | 927860 | 358977 |
| 250 mL round bottom | 62 x 136 | PC | N.A. | 355673 | N.A. | N.A. | N.A. | 356261 |
| 500 mL | 69 x 160 | W PC | 355605 | 355664 | 355649 | 334419 | 870411 | 356260 |
| 500 mL | 69 x 160 | W PP | 355607 | 355665 | 355650 | 334419 | 870411 | 356260 |
| 500 mL | 69 x 160 | W PC | 361690 | N.A. | 355649 | N.A. | 927860 | 360954 |
| 500 mL | 69 x 160 | W PP | 361691 | N.A. | 355650 | N.A. | 927860 | 360954 |
| 750 mL | 96 x 130 | PC | N.A. | 358299 | 358297 | N.A. | N.A. | 344693 |
| 750 mL | 96 x 130 | PP | N.A. | 356855 | 349815 | N.A. | N.A. | 344693 |
| 1000 mL | 95 x 191 | PC | A98812 | N.A. | 366751 | 393898 | A98817 | B10317 |
| 1000 mL | 95 x 191 | PP | A98813 | N.A. | A98814 | 393898 | A98817 | B10317 |
| 1000 mL | 95 x 191 | PP | B29896 | N.A. | A98814 | 393898 | A98817 | B29894 |
| 1000 mL | 95 x 191 | PP | C31597 | N.A. | N.A. | C31604 | B10320 | C31603 |
| 1000 mL | 95 x 191 | PC | C31600 | N.A. | 366751 | C31604 | B10320 | C31603 |
| 1000 mL | 97 x 167 | PC | N.A. | 355675 | 341984 | N.A. | N.A. | 344693 |
| 1000 mL | 97 x 167 | PP | N.A. | 355676 | 341985 | N.A. | N.A. | 344693 |

PC = Polycarbonate PE = Polyethylene PP = Polypropylene PPSU = Polyphenylsulfone
 PTFE = Polytetrafluoroethylene C = Conical W = Wide-Mouth N.A. = Not Available

* With high-speed screw-on caps.

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Adapters and Sleeves for Non-Beckman Coulter Tubes and Bottles*

| Rotor | Tube Vol. | Size mm | # of Places | Part Number |
|----------------------|-----------|--------------|-------------|-------------|
| JA-30.50 | 5 mL | 12 x 75 | 1 | 356970 |
| | 7 mL | 13 x 100 | 1 | 356976 |
| JA-25.50 | 5 mL | 12 x 75 | 1 | 356970 |
| | 7 mL | 13 x 100 | 1 | 356976 |
| JA-21 | 5 mL | 12 x 75 | 1 | 356972 |
| JA-20.1 | 5 mL | 12 x 75 | 1 | 356971 |
| | 7 mL | 13 x 100 | 1 | 356977 |
| JA-20 | 5 mL | 12 x 75 | 1 | 356970 |
| | 7 mL | 13 x 100 | 1 | 356976 |
| JA-18 | 5 mL | 12 x 75 | 3 | 356969 |
| | 7 mL | 13 x 100 | 3 | 356975 |
| | 15 mL | Conical | 1 | 356962 |
| | 50 mL | Conical | 1 | 356963 |
| JA-17 | 5 mL | 12 x 75 | 1 | 356970 |
| | 7 mL | 13 x 100 | 1 | 356976 |
| JLA 16.250/ JA-14 | 5 mL | 12 x 75 | 9 | 356968 |
| | 7 mL | 13 x 100 | 8 | 356974 |
| | 15 mL | Conical | 4 | 356964 |
| | 15 mL | Round-bottom | 5 | 356995 |
| | 50 mL | Conical | 1 | 356966 |
| | 50 mL | Round-bottom | 1 | 356997 |
| JLA-10.500 | 5 mL | 12 x 75 | 10 | 356967 |
| | 7 mL | 13 x 100 | 9 | 356973 |
| | 15 mL | Conical | 5 | 356960 |
| | 15 mL | Round-bottom | 5 | 356994 |
| | 50 mL | Conical | 1 | 356965 |
| | 50 mL | Round-bottom | 1 | 356996 |
| JLA-12.500 | 15 mL | Conical | 5 | 356960 |
| | 50 mL | Conical | 1 | 356965 |

| Rotor | Tube Vol. | Size mm | # of Places | Part Number |
|---------------------|-----------|--------------|-------------|-------------|
| JA-10 | 5 mL | 12 x 75 | 10 | 356967 |
| | 7 mL | 13 x 100 | 9 | 356973 |
| | 15 mL | Conical | 5 | 356960 |
| | 15 mL | Round-bottom | 5 | 356994 |
| | 50 mL | Conical | 1 | 356965 |
| JS-13.1 | 5 mL | 12 x 75 | 1 | 356970 |
| | 7 mL | 13 x 100 | 1 | 356976 |
| JS-7.5 | 5 mL | 12 x 75 | 9 | 356968 |
| | 7 mL | 13 x 100 | 8 | 356974 |
| | 15 mL | Conical | 4 | 356964 |
| | 50 mL | Conical | 1 | 356966 |
| JS-4.2 & JS-4.2A | 3 mL | Conical | 26 | 339100 |
| | 15 mL | Conical | 14 | 339102 |
| | 250 mL | Conical | 1 | 349849 |

Adapters for Glass Tubes in Beckman Coulter Rotors*

| Rotor | Tube Volume | Tube Material | Adapter Part Number |
|-------------|-------------|----------------------|---------------------|
| JA-30.50 | 15 mL | Corex, Pyrex | 870329 |
| | 30 mL | Corex | 870331 |
| JA-25.50 | 15 mL | Corex, Pyrex | 870329 |
| | 30 mL | Corex | 870331 |
| JA-20.1 | 15 mL | Pyrex | 342643 |
| JA-20/JA-17 | 15 mL | Corex, Pyrex | 870329 |
| | 30 mL | Corex | 870331 |
| JA-18 | 15 mL | Corex, Pyrex | 870329/347539 |
| | 30 mL | Corex | 870331/347539 |
| JA-14 | 150 mL | Corex | 339362 |
| | 30 mL | Corex | 356997/870331 |
| | 15 mL | Corex | 356995 |
| | 15 mL | Corex, Pyrex Conical | 356964 |
| JA-10.500 | 150 mL | Corex | 362750/339362 |
| | 30 mL | Corex | 356996/870331 |
| | 15 mL | Corex, Pyrex Conical | 356960 |
| JA-10 | 150 mL | Corex | 362750/339362 |
| | 30 mL | Corex | 356996/870331 |
| | 15 mL | Corex, Pyrex Conical | 356960 |

| Rotor | Tube Volume | Tube Material | Adapter Part Number |
|---------------------|-------------|---|---------------------|
| Rotor Volume | Tube | Tube Material Part Number | Adapter |
| JS-13.1 | 30 mL | Corex | 870331 |
| | 15 mL | Corex, Pyrex | 870329 |
| JS-7.5 | 150 mL | Corex | 339362 |
| | 30 mL | Corex | 356997/870331 |
| | 15 mL | Corex, Pyrex | 356995 |
| JS-4.2 & JS-4.2A | 3 mL | Pyrex Conical | 339100 |
| | 15 mL | Corex, Pyrex, Corex & Pyrex Conical and Conical Graduated | 339102 |
| | 30 mL | Corex | 341977 |
| | 150 mL | Corex | 339108/339362 |

* Check with tube manufacturer for maximum allowable g-force.

TUBES AND BOTTLES

Tubes and Bottles Used in High-Performance and High-Capacity Rotors

| Nominal Filling Capacity (mL) | Nominal Size (mm) | Inches | Part No. | Rotors |
|--|-------------------|--------------|------------------|---|
| Quick-Seal Polypropylene Tubes | | | | |
| 100.0 | 38 x 102 | 1.5 x 4.0 | 345776 | JA-18 |
| Quick-Seal Ultra-Clear Tubes | | | | |
| 100.0 | 38 x 102 | 1.5 x 4.0 | 345778 | JA-18 |
| Quick-Seal Bell-Top Tubes, Polypropylene | | | | |
| 4.3 | 16 x 38 | 0.65 x 2.5 | 356562 | JS-24.15 |
| 6.3 | 16 x 45 | 0.65 x 1.8 | 345830 | JS-24.15 |
| 8.0 | 16 x 58 | 0.65 x 2.25 | 344621 | JS-24.15 |
| 8.5 | 25 x 38 | 0.65 x 2.5 | 358652 (konical) | JS-24.38 |
| 10.0 | 16 x 67 | 0.65 x 2.5 | 344622 | JS-24.15 |
| 15.0 | 25 x 38 | 1 x 1.5 | 343664 | JS-24.38 |
| 23.0 | 25 x 76 | 1 x 1.5 | 358654 (konical) | JS-24.38 |
| 27.0 | 25 x 64 | 1 x 2.5 | 343665 | JS-24.38 |
| 33.0 | 25 x 83 | 1 x 3.25 | 344623 | JS-24.38 |
| Open-Top Tubes, Polypropylene | | | | |
| 15.0 | 16 x 96 | 0.65 x 3.85 | 361707 | JS-24.15 |
| 25.0 | 25 x 76 | 1.0 x 3.0 | 358125 (konical) | JS-24.38 |
| 30.0 | 25 x 89 | 1.0 x 3.5 | 358126 (konical) | JS-24.38 |
| 38.5 | 25 x 89 | 1.0 x 3.5 | 326823 | JS-24.38 |
| Open-Top Tubes, Polypropylene, Thickwall | | | | |
| 4.0 | 13 x 64 | 0.5 x 2.5 | 355644 | JA-25.15 |
| 10.0 | 16 x 76 | 0.65 x 3.0 | 355640 | JA-25.15, JA-21, JA-20.1, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 12.5 | 16 x 95 | 0.625 x 3.75 | 361708 (konical) | JS-24.15 |
| 32.0 | 25 x 89 | 1.0 x 3.5 | 355642 | JS-24.38 |
| Open-Top Tubes, Polycarbonate | | | | |
| 15.0 | 18 x 100 | 0.725 x 4.0 | 342080 | JA-25.15, JA-20.1, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 50.0 | 29 x 104 | 1.125 x 4.0 | 363647 | JA-30.50, JA-25.50, JA-20, JA-18, JA-17, JA-14, JLA-10.500, JA-10, JLA-9.1000, JLA-8.1000, JS-7.5, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| Open-Top Tubes, Polycarbonate, Thickwall | | | | |
| 4.0 | 13 x 64 | 0.5 x 2.5 | 355645 | JA-25.15 |
| 10.0 | 16 x 76 | 0.65 x 3.0 | 355630 | JA-25.15, JA-21, JA-20.1, JS-13.1, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 32.0 | 25 x 89 | 1.0 x 3.5 | 355631 | JS-24.38 |
| Open-Top Tubes, Polyethylene, Thickwall | | | | |
| 15.0 | 18 x 100 | 0.725 x 4.0 | 342081 | JA-25.15, JA-20.1, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| Open-Top Tubes, Polypropylene, Thickwall | | | | |
| 4.0 | 13 x 64 | 0.5 x 2.5 | 355645 | JA-25.15 |
| 15.0 | 18 x 100 | 0.725 x 4.0 | 342082 | JA-25.15, JA-20.1, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 50.0 | 29 x 104 | 1.125 x 4.0 | 357007 | JA-30.50 Ti, JA-25.50, JA-20, JA-18, JA-17, JLA-16.250, JA-14, JLA-10.500, JA-10, JLA-9.1000, JLA-8.1000, JS-7.5, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| Open-Top Tubes, Ultra-Clear | | | | |
| 15.0 | 16 x 96 | 0.65 x 3.8 | 361706 | JS-24.15 |
| 38.5 | 25 x 89 | 1.0 x 3.5 | 344058 | JS-24.38 |

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| Nominal Filling Capacity (mL) | Nominal Size (mm) | Inches | Part No. | Rotors |
|--|-------------------|--------------|---------------------------------|--|
| Tubes with Snap-On Caps, Polypropylene | | | | |
| 1.5 | 9.5 x 38 | 0.4 x 1.5 | 357448 - Natural | JA-30.50 Ti, JA-25.50, JA-20, JA-18.1, JA-18, JS-13.1, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| Tubes with Snap-On Caps, Polycarbonate | | | | |
| 50.0 | 29 x 104 | 1.125 x 4.0 | 363664 | JA-30.50 Ti, JA-25.50, JLA-16.250, JA-14, JLA-10.500, JA-10, JLA-9.1000, JLA-8.1000, JS-13.1, JS-7.5, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| Tubes with Snap-On Caps, Polypropylene | | | | |
| 1.5 | 9.5 x 38 | 0.4 x 1.5 | 356090 - Natural | JA-30.50 Ti, JA-25.50, JA-20, JA-18, JA-18.1, JS-13.1, JS-5.2, JS-4.2, JS-4.3, JS-4.2A, JS-4.0, JS-3.0 |
| 1.5 | 11 x 38 | 0.4 x 1.5 | 356091 - Blue | JA-20, JA-18, JA-18.1, JS-13.1, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 1.5 | 11 x 38 | 0.4 x 1.5 | 356093 - Yellow | JA-20, JA-18, JA-18.1, JS-13.1, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 1.5 | 11 x 38 | 0.4 x 1.5 | 356094 - Orange | JA-20, JA-18, JA-18.1, JS-13.1, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 1.5 | 11 x 38 | 0.4 x 1.5 | 343169 - Natural (cap separate) | JA-18.1, JA-18, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 50.0 | 29 x 103 | 1.125 x 4.0 | 357005 - Natural (cap separate) | JA-30.50 Ti, JA-25.50, JA-20, JA-17, JLA-16.250, JA-14, JLA-10.500, JA-10, JLA-9.10000, JLA-8.1000, JS-13.1, JS-7.5, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| Tubes with Snap-On Caps, Polyethylene | | | | |
| 1.8 | 11 x 39 | 0.4 x 1.5 | 340196 - Natural | JA-20, JA-18.1, JA-18, JS-13.1, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| Bio-Vial Tubes | | | | |
| 4.0 | 14 x 55 | .5625 x 2.25 | 566353 - Polypropylene | JLA-16.250, JA-14, JLA-10.500, JA-10, JLA-9.1000, JLA-8.1000, JS-7.5, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| Bottles Only | | | | |
| 70.0 | 38 x 102 | 1.5 x 4.0 | 355655 - Polycarbonate | JS-5.2, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 100.0 | 38 x 102 | 1.5 x 4 | 355626 - Polypropylene | JS-5.2, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 500.0 | 69 x 160 | 2.75 x 6.5 | 355649 - Polycarbonate | JS-5.2, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 500.0 | 69 x 160 | 2.75 x 6.5 | 355650 - Polypropylene | JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 1000.0 | 95 x 191 | 3.75 x 7.5 | 366751 - Polycarbonate | JLA-9.1000, JLA-8.1000 |
| 1000.0 | 95 x 191 | 3.75 x 7.5 | A98814 - Polypropylene | JLA-9.1000, JLA-8.1000 |
| Bottles with Cap Assemblies, Polycarbonate | | | | |
| 50.0 | 29 x 104 | 1.25 x 4.25 | 361693 | JA-25.50, JA-17, JS-4.3 |
| 50.0 | 29 x 104 | 1.25 x 4.25 | 357000 | JA-30.50 Ti, JA-20, JA-17, JLA-16.250, JA-14, JLA-10.500, JLA-12.500, JA-10, JLA-9.1000, JLA-8.1000, JS-7.5, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 70.0 | 38 x 102 | 1.5 x 4.0 | 355620 | JA-18, JS-5.2, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 500.0 | 62 x 166 | 2.75 x 6.5 | 361690 | JLA-10.500, JLA-12.500 |
| 250.0 | 62 x 122 | 2.5 x 4.75 | 358275 (wide mouth) | JS-5.2, JS-4.2, JS-4.3, JS-4.2A, JS-4.0, JS-3.0 |
| 500.0 | 69 x 160 | 2.75 x 6.5 | 355605 (wide mouth) | JA-10, JLA-9.1000, JLA-8.1000, JS-5.2, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 1000.0 | 95 x 191 | 3.8 x 7.65 | C31600 | JLA-9.1000, JLA-8.1000 |

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| Nominal Filling Capacity (mL) | Nominal Size (mm) | Inches | Part No. | Rotors |
|--|-------------------|-------------|---------------------|--|
| Bottles with Cap Assemblies, Polypropylene | | | | |
| 50.0 | 29 x 104 | 1.25 x 4.0 | 357001 | JA-30.50 Ti, JA-20, JA-17, JLA-16.250, JA-14, JLA-10.500, JLA-12.500, JA-10, JLA-9.1000, JLA-8.1000, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 50.0 | 29 x 104 | 1.25 x 4.0 | 361694 | JA-25.50, JA-17, JA-14, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 10.4 | 16 x 76 | 0.6 x 3.0 | 355603 | JS-7.5 |
| 250.0 | 62 x 120 | 2.5 x 4.75 | 358326 (wide mouth) | JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 500.0 | 69 x 160 | 2.75 x 6.5 | 355607 (wide mouth) | JA-10, JLA-9.1000, JLA-8.1000, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 500.0 | 69 x 160 | 2.75 x 6.5 | 361691 | JLA-10.500, JLA-12.500 |
| 1000.0 | 95 x 191 | 3.8 x 7.65 | C31597 | JLA-9.1000, JLA-8.1000 |
| Bottles with Screw-On Caps, Polypropylene | | | | |
| 50.0 | 29 x 104 | 1.25 x 4.0 | 357003 | JA-30.50 Ti, JA-25.50, JA-20, JA-18, JA-17, JLA-16.250, JA-14, JLA-10.500, JLA-12.500, JA-10, JLA-9.1000, JLA-8.1000, JS-13.1, JS-7.5, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| Bottles with Screw-On Caps, Polycarbonate | | | | |
| 10.0 | 16 x 80 | 0.6 x 3.2 | 355672 | JA-30.50 Ti, JA-25.50, JA-25.15, JA-21, JA-20.1, JA-20, JA-17, JS-13.1, JS-5.2, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 50.0 | 29 x 104 | 1.25 x 4.0 | 357002 | JA-30.50 Ti, JA-25.50, JA-20, JA-18, JA-17, JLA-16.250, JA-14, JLA-10.500, JLA-12.500, JA-10, JS-13.1, JS-7.5, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 230.0 | 62 x 141 | 2.5 x 5.25 | 356987 (conical) | JA-14, JS-7.5, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 250.0 | 62 x 120 | 2.5 x 4.75 | 356013 (wide mouth) | JLA-16.250, JA-14, JLA-10.500, JLA-12.500, JA-10, JLA-9.1000, JLA-8.1000, JS-7.5, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 250.0 | 62 x 136 | 2.5 x 5.5 | 355673 | JS-7.5, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 500.0 | 69 x 160 | 2.75 x 6.5 | 355664 | JS-5.2, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 750.0 | 96 x 130 | 3.75 x 5.25 | 358299 | JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 1000.0 | 97 x 167 | 3.75 x 6.75 | 355675 | JS-5.2, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| Bottles with Screw-On Caps, Polypropylene | | | | |
| 100.0 | 38 x 102 | 1.5 x 4.0 | 355624 | JA-18, JS-5.2, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 230.0 | 62 x 141 | 2.5 x 5.5 | 356989 (conical) | JA-14, JS-7.5, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 250.0 | 62 x 120 | 2.5 x 4.75 | 356011 (wide mouth) | JLA-16.250, JA-14, JLA-10.500, JLA-12.500, JA-10, JLA-9.1000, JLA-8.1000, JS-7.5, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 500.0 | 69 x 159 | 2.75 x 6.5 | 355665 | JA-10, JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 750.0 | 96 x 130 | 3.75 x 5.25 | 356855 | JS-5.2, JS-4.3, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| 1000.0 | 97 x 167 | 4.0 x 6.75 | 355676 | JS-5.2, JS-4.2, JS-4.2A, JS-4.0, JS-3.0 |
| Bottles with Screw-On Caps, Polytetrafluoroethylene (PTFE) | | | | |
| 50.0 | 28.5 x 107 | 1.25 x 4.25 | 363076 | JS-4.2 |

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HarvestLine System Liners

Unique design enhances productivity

HarvestLine disposable bottle liners provide a significant improvement in the centrifugation of biological material. HarvestLine System Liners save time in the handling and retrieval of sample. Used in Avanti Series centrifuges, these unique liners provide a convenient method of loading, recovering, and storing samples.

HarvestLine liners can be sterilized (gamma radiation), placed in a freezer (-70°C) for prolonged storage, and are compatible with commonly used chemicals and solvents. They facilitate the harvesting of:

- Mammalian and insect culture separations
- Bacterial, yeast, and tissue homogenate isolations
- Virus harvesting for vaccine production—viral vector gene therapy and monoclonal antibody production.

JLA-8.1000 and JLA-9.1000 Fixed Angle Rotor with Liners

The 6 x 1 liter JLA-8.1000 rotor system with liners is ideal for harvesting bacterial and yeast cell cultures from fermenters, clearing cell debris from homogenates, or purifying large-volume viruses and polysaccharides for vaccine production. The 4 x 1 liter JLA-9.1000 rotor provides up to 16 800 x g for high throughput.

JS-5.0 Swinging Bucket Rotor with Liners

The 4 x 2.25 liter JS-5.0 rotor with liners is ideal for greater sample throughput. Use this system to separate bacterial, yeast, and tissue homogenates. At 7 480 x g, the rotor harvests E. coli at a clearing rate of 99% in less than 10 minutes (throughput of better than 36 liters per hour).

Specifications

| | |
|--|-------------------------------------|
| Maximum Speed in the JS-5.0 rotor in the JLA-8.1000 rotor in the JLA-9.1000 rotor | 5 000 rpm 8 000 rpm 9 000 rpm |
|--|-------------------------------------|

| | |
|--|---------------------------------------|
| Maximum g-force in the JS-5.0 rotor in the JLA-8.1000 rotor in the JLA-9.1000 rotor | 7 480 x g 15 970 x g 16 800 x g |
|--|---------------------------------------|

| | |
|----------|-----------------------------------|
| Run Time | Up to 20 min. instrument set time |
|----------|-----------------------------------|

| | |
|-------------------|------------|
| Temperature Range | 4° to 10°C |
|-------------------|------------|

| | |
|---------------------------|-----------------------------------|
| Acceleration/Deceleration | Up to instrument maximum settings |
|---------------------------|-----------------------------------|



HarvestLine System for JLA-8.1000 and JLA-9.000 Rotors



HarvestLine System for JS-5.0 Rotor

Part Numbers

| | |
|--------|---|
| 369264 | HarvestLine System Liner Kit Includes 369256 one-liter bottle liners (qty 120), 368740 filling rack, 977472 funnel, and 369267 instructional CD. |
| 369256 | HarvestLine System Liners Fits JLA-8.1000 or JLA-9.1000 one-liter bottles (qty. 120). |
| 368735 | HarvestLine System Liners Fits JS-5.0 J-Wide Cups (qty. 50). |
| C15217 | HarvestLine System Liners - Sterile Fits JLA-8.1000 or JLA-9.1000 one-liter bottles (qty. 6). |

TOOLS AND SUPPLIES

Rotor Cleaning Kit



339558 Rotor Cleaning Kit. Contains two 946-mL bottles of Solution 555 Rotor Cleaning Concentrate, 339379 Rotor Cleaning Brush, and 339380 Rotor Cleaning Brush

Replacement Parts/Supplies

339555 Solution 555 Rotor Cleaning Concentrate (min. order two Bottles)

339379 Rotor Cleaning Brush, 5/8-in. (16 mm) and 1-in. (25.4 mm), for Rotor Cavity diameters from 7/16-in. (11 mm) to 1-in. (25.4 mm) (min. order three Brushes)

339380 Rotor Cleaning Brush, 1 1/4-in. (32 mm) and 1 1/2-in. (38 mm), for Rotor Cavity diameters from 1-in. (25.4 mm) to 1 1/2-in. (38 mm) (min. order three Brushes)

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Guide to Centrifuge Selection

Centrifugation is a basic separation technique that is utilized at multiple stages in the study of sample components. Flexible rotor and adapter systems for each Beckman Coulter centrifuge allow them to be used across multiple application areas. To help you select the most appropriate centrifuge for your work, the following charts provide brief descriptions of the kinds of separations typically achieved using various centrifuges. These charts list frequent separation requirements for each sample type, and identify the centrifuges that are typically used to meet those requirements.

In addition to the separation and isolation of sample particles, centrifugation is increasingly being used as an analytical technique for the study of macromolecular interactions and the determination of molecular weights. Instruments for these applications are also listed below.

Quick-Reference Guide to Centrifuge Selection

| Materials to Be Isolated | Specific Application | Centrifuges Typically Used | |
|------------------------------|--|----------------------------|-------------|
| | | Avanti J | Avanti J+HC |
| Proteins | Ammonium sulfate precipitates Centrifugal filtration | • • | • |
| Subcellular Fractions | | | |
| Chromatin/Nucleosomes | Sucrose gradient isolation | • | • |
| Microsomes | Pelleting Sucrose gradient isolation Microsomal membrane fractionation | • • • | |
| Mitochondria | Pelleting Sucrose gradient isolation | • • | • |
| Nuclei | Pelleting | • | • |
| Membranes | Pelleting Sucrose/Percoll gradient fractionation Binding studies | • • • | • • • |
| Ribosomes/Polysomes | Pelleting Size fractionation in sucrose gradients | • • | |
| Cytosol | Clarification | • | • |

REFERENCE

Quick-Reference Guide to Centrifuge Selection *(continued)*

| Materials to Be Isolated | Specific Application | Centrifuges Typically Used | |
|-----------------------------------|--|----------------------------|------------------|
| | | Avanti J | Avanti J-HC |
| Preparative Centrifugation | | | |
| Lysates/Homogenates | Clearing debris and large particles | • | • |
| Nucleic Acids | | | |
| DNA | Alcohol precipitation Phenol/CHCl ₃ extraction Size fractionation in sucrose gradients Minipreps in 96-well plates Spin columns | • • • • • | • • |
| RNA | Phenol/CHCl ₃ extraction Alcohol precipitation Lithium precipitation | • • • | |
| Cells | Isolation of mononuclear cells on Ficoll-Hypaque Pelleting bacteria Pelleting mammalian cells Elutriation of viable cells Other density gradient separations | • • • | • • • • |
| Viruses | Pelleting PEG precipitates Density gradient isolations | • • • | |
| Blood | Plasma preparation Blood-cell products | | |

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Useful Formulas

k Factor

To determine *k* factor

$$k = \frac{\ln(r_{\max}/r_{\min})}{\omega^2} \times \frac{10^{-13}}{3600} \quad \text{OR} \quad k = \frac{2.53 \times 10^5 \ln(r_{\max}/r_{\min})}{(\text{RPM}/1000)^2}$$

To determine pelleting time (*t*)

$$t = \frac{k}{s} \quad \text{where } s = \text{sedimentation coefficient in Svedbergs}$$

To relate pelleting time between rotors

$$\frac{k_1}{t_1} = \frac{k_2}{t_2}$$

To adjust *k* factor for runs less than maximum rotor speed

$$k_{\text{adj}} = k \left(\frac{\text{maximum rated speed of rotor}}{\text{actual run speed}} \right)^2$$

To relate relative centrifugal force (RCF) to speed (RPM):

$$\text{RCF}_{\max} = 1.12 r_{\max} \left(\frac{\text{RPM}}{1000} \right)^2 \quad \text{OR} \quad \text{RPM} = 10^3 \sqrt{\frac{\text{RCF}}{1.12 r_{\max}}}$$

To relate the sedimentation coefficient (s) to rotational speed:

$$s = \frac{dr}{dt} \times \frac{1}{\omega^2 r}$$

Svedberg unit (S) equivalent:

$$S = 10^{-13} \text{ seconds}$$

Reduced run speed for dense solutions:

$$\text{reduced run speed} = \text{max rated speed of rotor} \times \sqrt{A/B}$$

where A = max. permissible density of rotor tube contents, and
B = actual density of the tubes to be centrifuged

SUPPORT SERVICES

Field Service Support

Most of us appreciate the need for careful design, handling, and maintenance of certain kinds of laboratory equipment—the optics of a spectrophotometer, for example. It may not be obvious, however, that anything as substantial looking as a centrifuge rotor must be properly maintained during use in order for it to fulfill its life expectancy.

If you consider that, during rotation, a High-Performance Centrifuge Rotor may experience more than 110,000 times the force of gravity, it becomes apparent that seemingly minor flaws will assume much greater significance at these *g*-forces. In effect, one gram will “weigh” 110 kilograms, and a tiny flaw in a critical part may generate stresses greater than the rotor was designed to withstand.

We at Beckman Coulter maintain stringent quality standards and rigorously test every rotor design. Specific instructions for care and maintenance are included in the rotor manual that accompanies each rotor. And our Field Rotor Inspection Program is available at no charge to all users of Beckman Coulter High-Performance Centrifuges and Ultracentrifuges.

Field Rotor Inspection Program. What Is It?

Our Field Rotor Inspection Program (FRIP) has two purposes: to prevent premature rotor failures by detection of stress corrosion, metal fatigue, wear or damage to anodized coatings; and to instruct laboratory personnel in the proper care of rotors.

Contact your local Beckman Coulter Service Office for details on the Field Rotor Inspection Program. Using nondestructive methods (fiber optics borescopy and dye-penetrant analysis), they may find signs of corrosion or other damage. If so, they will recommend repair or replacement, and a potentially costly failure may be prevented.

To give a fuller understanding of rotors, a comprehensive slide presentation is also offered. Centrifuge users are informed about maintenance procedures, rotor damage, and its significance. The stress corrosion of aluminum rotors, in particular, can be greatly reduced by good laboratory practice.

For more information about the Field Rotor Inspection Program (FRIP), please go to: <http://www.beckmancoulter.com/FRIP>.

Sometimes rotor corrosion is so bad it can be seen by the naked eye, while at other times it is not so apparent. If you have doubt about the condition of a single Beckman Coulter rotor, you may

return it to the factory where it will be inspected free of charge by our metallurgists. The rotor will be examined by a variety of nondestructive methods, including ultrasound which is capable of detecting internal flaws. Before shipping the rotor, you must contact the nearest Beckman Coulter Sales and Service office for specific instructions. A written statement must accompany each rotor, indicating that it is safe to handle, (*i.e.* free of any pathogenic or radioactive contamination).

Rotor Safety Seminars

To help you get the most from your Beckman Coulter rotors, Rotor Safety Seminars are frequently presented by our Field Service engineers. Seminars are designed to remind centrifuge users about the importance of proper rotor care and maintenance.

When you attend a Beckman Coulter Rotor Safety Seminar, you will have an opportunity to ask questions that are specific to your particular situation, and you will learn:

- What causes corrosion in a rotor, where it starts, what it does to the rotor, and how to avoid it
- The proper way to clean and store rotors
- How to get longer life from your rotor

On-Site Rotor Inspection and Maintenance

Specially trained Beckman Coulter Field Service engineers are available at your request for on-site inspection and minor rotor maintenance. Rotors that are free of biological and radiological contamination can be brought to these sessions for immediate inspection so you can continue operating your centrifuge with confidence in the condition of your rotors.

A Comprehensive Approach to Centrifuge System Care

Throughout the world, Beckman Coulter Field Service engineers are on hand to provide the support you need. So you can operate your centrifuges worry-free, a number of programs are in place that cover preventive maintenance of your system, including parts, labor, drive systems, and rotors. It all adds up to a comprehensive approach to maximizing your system investment.

Contact your local Beckman Coulter Sales and Service office to find out the specifics about the program available in your area.

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A global presence. Focused on individuals.

We may not be a household name. Yet we touch people the world over by developing, manufacturing and marketing discovery systems and products that improve human health.

For over 75 years, we've been building a global reputation in hospitals, labs, and universities, where our life science research instruments are relied upon to perform vital roles day in and day out. Whether helping to solve complex biological problems, investigate the causes of disease, or find potential new cures, Beckman Coulter is focused on innovations that ultimately lead to healthier lives.

beckman.com/centrifuges



BioSafe and BioSafety are terms intended to describe the enhanced biocontainment features of our products.



BioCertified is a term used to describe our products which have been tested and validated to demonstrate containment of microbiological aerosols by an independent, third-party facility (CAMR, Porton Down, UK, or USAMRIID, Ft. Detrick, MD, USA, or TÜV NORD CERT GmbH Große Bahnstraße 31 Hamburg, Germany). Improper use or maintenance may affect seal integrity and, thus, containment.



BioEnhanced is a term intended to describe our products' enhanced level of biocontainment by design.



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