

# Avanti Series Rotors

The force behind efficiency.



# Avanti Series Rotors

 A separation from the ordinary.

Efficiency has never held a more important role than it does in today's scientific discovery process. That's precisely why our comprehensive library of Avanti Series rotors includes our most efficient options—engineered for maximum application versatility, higher g-force, and reduced run times.

Designed to accelerate your sample separations, Avanti rotors provide a shorter path length which—when combined with high speeds—produces more efficient runs. This efficiency is reflected in the k factor.\*\* As the k factor decreases, rotor efficiency increases. With a more efficient rotor, you can spend less time waiting for results and more time parlaying them into discoveries that improve life for us all.

And for added assurance, the Avanti Series also offers a selection of BioCertified\* fixed-angle and swinging bucket rotors, ranging in capacity from 360 mL to 6 L—all independently certified to contain liquids and aerosols.

An important measure of safety in any protocol, BioCertification is especially beneficial when working with viruses and other pathogenic samples.

\*\*For more information on k factor, please refer to app note at [www.beckmancoulter.com](http://www.beckmancoulter.com)



## FIXED-ANGLE ROTORS

Rotor Type	Part No.	No. Tubes x Volume (mL)	Max Speed* (rpm)	Max Force (x g)	k Factor	Instrument
JA-30.50 Ti	363421 Single-Locking Lid 363420 Dual-Locking Lid	8x50	30,000	108,860	280	JXN-26, J-26S, JXN-30
	Harvesting bacteria, processing tissue culture, subcellular particulates, and routine pelleting such as precipitates and phase separation.					
<b>BIOC</b> JA-25.50	363055 Single-Locking Lid <sup>§</sup> 363058 Dual-Locking Lid <sup>†</sup>	8x50	25,000	75,600	418	JXN-26, J-26S, J-E, JXN-30
	High-force, efficient pelleting of cell particles from tissue homogenates. Short column virus purification.					
<b>BIOC</b> JA-25.15	363054 Single-Locking Lid <sup>§</sup> 363050 Dual-Locking Lid <sup>†</sup>	24x15	25,000	74,200	265	JXN-26, J-26S, JXN-30
	High-force, efficient pelleting of subcellular particles, bacteria, algae, and chloroplasts. Short column banding of virus and subcellular particles.					
<b>BIOC</b> JA-20.1	342095	32x15	20,000	51,500	371	JXN-26, J-26S, J-E, JXN-30
	High-force, large volume. Has two concentric rows of 15 mL tubes. Efficient separation of particles with 100 S or larger sedimentation coefficients.					
JA-21	334845	18x10	21,000	50,400	470	JXN-26, J-26S, J-E, JXN-30
	High-force, fast, efficient separation of many samples in small volume. Viruses, bacteriophage, mitochondria, and nuclei.					
<b>BIOC</b> JA-20	334831	8x50	20,000	48,400	769	JXN-26, J-26S, J-E, JXN-30
	Harvesting bacteria and cell membranes, processing tissue homogenates, and separating cell particulates.					
<b>BIOC</b> JA-18	369679	10x100	18,000	47,900	566	JXN-26, J-26S, J-E, JXN-30
	High-force, large volume. Pelleting bacteria, cell membranes, and subcellular organelles.					
JA-18.1	347824	24x1.8	18,000	42,100	156	JXN-26, J-26S, JXN-30
	High-force sedimentation in microcentrifuge-sized tubes under refrigerated conditions. Tube oriented at either a 25° or 45° angle.					



\*Maximum rotor speeds may differ between instrument models. For complete rotor specifications, please refer to our High Performance and High Capacity centrifuge catalog or visit [beckmancoulter.com](http://beckmancoulter.com).

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

**BIOC** **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 (Public Health England (PHE), Porton Down, UK or USAMRIID, Ft. Detrick, MD, USA). Improper use or maintenance may affect seal integrity and, thus, containment.

<sup>†</sup>BioSafe when used with BioSafety lids.

<sup>§</sup>Single-Locking Lid versions of these rotors have not been tested for BioCertification.

Dual-Locking Lids provide sample containment by enabling the rotor to remain sealed while being transported to a biocontainment hood.

## FIXED-ANGLE ROTORS

Rotor Type	Part No.	No. Tubes x Volume (mL)	Max Speed* (rpm)	Max Force (x g)	k Factor	Instrument
<b>BIO C</b> JA-17	369691	14x50	17,000	39,500	690	JXN-26, J-26S, J-E, JXN-30
Harvesting bacteria and cell membranes, processing tissue homogenates, and separating cell particulates.						
<b>BIO C</b> JLA-16.250	363934 Single-Locking Lid <sup>§</sup> 363930 Dual-Locking Lid <sup>†</sup>	6x250	16,000	38,400	1,090	JXN-26, J-26S, J-E, JXN-30
Lightweight rotor for harvesting bacteria and cell membranes, processing tissue homogenates, and separating cell particulates.						
<b>BIO C</b> JA-14	339247	6x250	14,000	30,100	1,764	JXN-26, J-26S, J-E, JXN-30
General-purpose, large-volume, and multi-tube processing.						
<b>BIO C</b> JA-14.50	B88555 Single-Locking Lid <sup>§</sup> B88554 Dual-Locking Lid <sup>†</sup>	16x50 conical	14,000	35,100	787	JXN-26, J-26S, J-E, JXN-30
Lightweight rotor for pelleting and density gradient separations. Separate proteins, lysate/tissue homogenates, nucleic acids, cells, viruses and blood.						
<b>BIO C</b> JA-12	360993 Single-Locking Lid <sup>§</sup> 360992 Dual-Locking Lid <sup>†</sup>	12x50 Conical	12,000	23,200	1,244	JXN-26, J-26S, J-E, JXN-30
Lightweight rotor for general pelleting of cells, bacteria, and food products. Separating of proteins, viruses, and subcellular fractions. Phase separations and binding studies.						
<b>BIO C</b> JLA-10.500	369681 <sup>‡</sup>	6x500	10,000	18,600	2,840	JXN-26, J-26S, J-E
Lightweight, high-volume, fixed-angle rotor for initial processing of tissue homogenate and other large particles.						
JA-10	369687	6x500	10,000	17,700	3,610	JXN-26, J-26S, J-E, JXN-30, J-HC
High-volume, fixed-angle rotor for initial processing of tissue homogenate and other large particles.						
<b>BIO C</b> JLA-9.1000	366754 <sup>‡</sup>	4x1,000	9,000	16,800	2,540	JXN-26, J-26S, J-E, JXN-30
Lightweight rotor for general purpose, large-volume processing, pelleting of bacteria cell organelles, viruses and precipitates.						
<b>BIO C</b> JLA-8.1000	363688 <sup>‡</sup>	6x1,000	8,000	15,970	2,482	JXN-26, J-26S, J-HC
Lightweight rotor for general purpose, large-volume processing, pelleting of bacteria subcellular organelles, viruses and precipitates.						

\*Maximum rotor speeds may differ between instrument models. For complete rotor specifications, please refer to our High Performance and High Capacity centrifuge catalog or visit [beckmancoulter.com](http://beckmancoulter.com).

**BioSafe** and **BioSafety** are terms intended to describe the enhanced biocontainment features of our products. Elutriation systems are available. Please contact your sales representative.

**BIO C** **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 (Public Health England (PHE), Porton Down, UK or USAMRIID, Ft. Detrick, MD, USA). Improper use or maintenance may affect seal integrity and, thus, containment.

<sup>1</sup>BioSafe when used with BioSafety lids. <sup>2</sup>BioSafe when used with six sealed 500 mL canisters. <sup>3</sup>BioSafe when used with AeroSeal covers.

<sup>4</sup>BioSafe only when used with 1,000 mL bottle assemblies.

<sup>§</sup>Single-Locking Lid versions of these rotors have not been tested for BioCertification.

Dual-Locking Lids provide sample containment by enabling the rotor to remain sealed while being transported to a biocontainment hood.

## SWINGING BUCKET ROTORS

Rotor Type	Part No.	No. Tubes x Volume (mL)	Max Speed* (rpm)	Max Force (x g)	k Factor	Instrument	
JS-24.38	360743	6x38.5	24,000	103,900	334	JXN-26, J-26S, JXN-30	
Harvesting bacteria, processing tissue homogenates, subcellular particulates, and routine pelleting such as precipitates and phase separations.							
JS-24.15	362396	6x15	24,000	110,500	376	JXN-26, J-26S, JXN-30	
Harvesting bacteria, processing tissue homogenates, subcellular particulates, and routine pelleting such as precipitates and phase separations.							
JS-13.1	346963	6x50	13,000	26,500	1,841	JXN-26, J-26S, J-E, JXN-30	
Density gradient centrifugation of cells. Sedimentation of nuclei and protein or nuclei acid precipitates. Clarification of tissue homogenates.							
JS-7.5	336380	4x250	7,500	10,400	5,287	JXN-26, J-26S, JXN-30	
Initial processing of cells and removal of cell debris from culture media. Accepts round-bottom bottles for easier handling of pellets.							
JS-5.0	368968	4x2,250	5,000	7,480	9,171	J-HC	
Separating bacterial, yeast, and tissue homogenates; harvesting cultures.							
<b>BIOC</b> JS-5.3 (AllSpin)	368690 <sup>3</sup>	4x500 (Conical) 24 Microplates	5,300	6,870/ 6,130	7,728/ 1,536	JXN-26, J-26S, J-E	
The highly versatile AllSpin rotor accommodates a wide assortment of labware from 5 mL, 15 mL, and 50 mL round-bottom tubes to 15 mL and 50 mL conical tubes, and 500 mL conical bottles. Ideal for sucrose/glycerol gradients, centrifugal filtration, binding studies, clearing debris/large particles, pelleting, and plasma protein precipitates.							
<b>BIOC</b> JS-5.2	339087 <sup>3</sup>	4x1,000 12 Microplates	5,200	6,840	—	J6-MI	
Rapid sedimentation of protein precipitates, large particles, cells, and cell debris. Can be used for binding studies and separating serum from whole blood.							
<b>BIOC</b> JS-4.2	339080 <sup>3</sup>	6x1,000 18 Microplates	4,200	5,020	11,504	J6-MI, J-HC	
Rapid sedimentation of protein precipitates, large particles, cells, and cell debris. Can be used for binding studies and separating serum from whole blood.							
<b>BIOC</b> JS-4.2A	366695 <sup>3</sup>	6x1,000 18 Microplates	4,200	5,020	11,504	J6-MI	
Rapid sedimentation of protein precipitates, large particles, cells, and cell debris. Can be used for binding studies and separating serum from whole blood. ARIES Smart Balance Rotor System automatically detects and corrects up to 100 grams of imbalance.							

## SWINGING BUCKET ROTORS

Rotor Type	Part No.	No. Tubes x Volume (mL)	Max Speed* (rpm)	Max Force (x g)	k Factor	Instrument
JS-4.2SM	348394	6x1,000	4,200	4,900	10,911	J6-MI
Separation of serum from whole blood and blood sample preparation.						
JS-4.2SMA	366670	6x1,000	4,200	4,900	10,911	J6-MI
Separation of serum from whole blood and blood sample preparation. ARIES Smart Balance Rotor System automatically detects and corrects up to 100 grams of imbalance.						
<b>BIOC</b> JS-4.3	362734 <sup>4</sup>	4x750	4,300	4,220	11,833	JXN-26, J-26S
Rapid sedimentation of protein precipitates, large particles, cells, binding studies, and separating serum from whole blood.						
<b>BIOC</b> JS-4.0	339086 <sup>3</sup>	4x1,000	4,000	4,050	15,296	JXN-26, J-26S, J6-MI
Rapid sedimentation of protein precipitates, large particles, cells, and cell debris, as well as binding studies and separating serum from whole blood.						



## ELUTRIATION, CONTINUOUS FLOW AND ZONAL ROTORS

Rotor Type	Part No.	Max Volume	Max Speed* (rpm)	Max Force (xg)	k Factor	Instrument
JCF-Z	335140 Standard Pellet Core	—	20,000	39,900	100	JXN-26, J-26S, JXN-30
Concentration, isolation, and purification of particles such as algae, proteins, bacteria, nanoparticles, and more. Maximum pellet size: 400 mL.						
JCF-Z	357544 Small Pellet Core	—	20,000	36,300	281	JXN-26, J-26S, JXN-30
Pelleting liquids that contain a low ratio of solids—such as bacterial cultures, or water containing clay particles or algae. Maximum pellet size: 200 mL.						
JCF-Z	357521 Large Pellet Core	—	20,000	39,900	293	JXN-26, J-26S, JXN-30
Pelleting solutions that have high solid-to-water ratios as high as 1:2 slurries. Maximum pellet size: 800 mL.						
JCF-Z	354006 Zonal Core	1,900 mL	20,000	39,900	710	JXN-26, J-26S, JXN-30
Fast startup. Dynamic loading and unloading. Isopycnic banding, linear, and discontinuous gradients. Subcellular fractions from tissue homogenates, algae, and chloroplasts.						
JCF-Z	354005 Reorienting Gradient Core	1,750 mL	20,000	39,000	779	JXN-26, J-26S, JXN-30
Static loading and unloading. Gradient reorients in rotor. Highly useful for virus purification and fragile material such as DNA strands.						
JE-5.0	356900	—	5,000	4,700	—	J-26S, J6-MI <sup>5</sup>

The counterflow centrifugation elutriation system is a gentle, yet powerful technique for harvesting large populations of living cells, resulting in high viability rates.



## ROTOR SELECTION BY APPLICATION†

Bioprocessing	Specific Application	JA-30.50 Ti	JA-25.50	JA-25.15	JA-21	JA-20.1	JA-20	JA-18	JA-18.1	JA-17	JLA-16.250	JA-14	JA-14.50	JA-12	JLA-10.500	JA-10	JLA-9.1000	JLA-8.1000	JS-24.38	JS-13.1	JS-5.3	JS-4.2	
Protein	Pelleting ammonium sulfate precipitation	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
	Sucrose/glycerol gradient	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■				■	■		
	Centrifugal filtration 1-50 mL	■	■	■	■	■					■	■	■	■						■		■	
Subcellular Fractions	Centrifugal filtration <1.0 mL																			■	■		
Chromatin/ Nucleosomes	Sucrose gradient isolation	■	■	■	■	■	■	■	■	■			■							■			
	Microsomes	Pelleting	■	■	■	■	■	■		■			■							■			
Mitochondria	Microsomal membrane fraction	■	■	■	■	■	■	■	■	■			■							■			
	Pelleting	■	■	■	■	■	■	■	■				■							■			
Nucleic	Sucrose gradient isolation	■	■	■	■	■	■	■	■	■			■							■			
	Pelleting	■	■	■	■	■	■	■	■	■			■							■			
Cell Membranes	Pelleting	■	■	■	■	■	■	■	■	■			■							■			
	Sucrose gradient isolation	■	■	■	■	■	■	■	■				■							■			
Ribosomes/ Polysomes	Binding studies	■	■	■	■	■	■	■	■	■			■							■	■	■	
	Pelleting	■	■	■	■	■	■	■	■	■	■	■	■		■	■				■			
Cytosol	Sucrose gradient isolation	■	■	■	■	■	■	■	■				■							■			
	Clarification	■	■	■	■	■	■	■	■	■			■							■			
Lysate/Tissue Homogenates	Clearing debris and large particles	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Clearing Media	Clearing debris and large particles	■	■									■	■	■		■	■	■	■	■		■	■
Nucleic Acids	Pelleting alcohol precipitation	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■				■	■		
	Phenol/chloroform extraction	■	■															■	■	■	■	■	■
	Minipreps in 96-well plates																					■	■
Cells	Spin columns																					■	
	Pelleting bacteria	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Pelleting mammalian cells	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Viruses	Density gradient separation	■	■	■	■	■	■	■	■	■	■	■	■	■						■	■	■	
	Pelleting	■	■	■	■	■	■	■	■				■							■			
	PEG precipitates	■	■	■	■	■	■	■	■	■		■	■	■						■	■	■	■
Blood	Density gradient isolation	■	■	■	■	■	■	■	■				■							■		■	
	Pelleting	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
	Plasma protein precipitation	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■				■	■		
	Blood sample preparation											■	■			■	■	■	■	■	■	■	■
	Density gradients to isolate blood cells														■	■				■	■	■	■

\*Maximum rotor speeds may differ between instrument models. For complete rotor specifications, please refer to our High Performance and High Capacity centrifuge catalog or visit [beckmancoulter.com](http://beckmancoulter.com).

**BioSafe** and **BioSafety** are terms intended to describe the enhanced biocontainment features of our products. Elutriation systems are available. Please contact your sales representative.

**BIOC** **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 (Public Health England (PHE), Porton Down, UK or USAMRIID, Ft. Detrick, MD, USA). Improper use or maintenance may affect seal integrity and, thus, containment.

<sup>3</sup>BioSafe when used with Aerosol covers. <sup>4</sup>BioSafe when used with Aerosolve canisters. <sup>5</sup>J6-MI must have door and strobe.

†Selected rotor has the capability (x g, volume, labware) to accommodate the application, but may not be the most optimal/efficient choice for the specific application.

All labware sold separately.



# Avanti Series Rotors

HIGH PERFORMANCE. HIGH CAPACITY.  
HIGH CONFIDENCE.

Coupled with our innovative labware and accessories, Avanti Series rotors offer extraordinary performance, ease, and functionality.

In addition, all Beckman Coulter instruments, rotors and labware are designed, manufactured, and tested as a system. Multi-layered BioSafety\* features, Dynamic Rotor Inertia Check, overspeed protection, and our exclusive Field Rotor Inspection Program ensure optimum safety and a full, useful lifetime for your instrument.

The Avanti Series' reputation for stunning performance and capacity is built upon more than the instrumentation. Our exclusive Avanti rotors are an essential component of streamlining your sample preparation and ultimately your discovery process. Learn more about the Avanti Series and other Beckman Coulter centrifuges at [beckmancoultercentrifugation.com](http://beckmancoultercentrifugation.com).

## Service and Support

When you invest in Beckman Coulter instruments, you're backed by an incomparable support organization. Our customer support center directs a team of engineers with extensive product knowledge who have the power to solve your technical problems quickly and efficiently. And no matter where you are in the world, as a Beckman Coulter customer you have access to experienced, courteous service long after your initial purchase. Because when your issues are taken care of, you can return your attention to critical tasks.

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



© 2017 Beckman Coulter Life Sciences. All rights reserved. Beckman Coulter, the stylized logo, and the Beckman Coulter product and service marks mentioned herein are trademarks or registered trademarks of Beckman Coulter, Inc. in the United States and other countries.

For Beckman Coulter's worldwide office locations and phone numbers, please visit "Contact Us" at [beckman.com](http://beckman.com)  
CENT-3005SB09.17