

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



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. | | | | | | |
| BIO C JA-25.50 | 363055 Single-Locking Lid [§] 363058 Dual-Locking Lid [†] | 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. | | | | | | |
| BIO C JA-25.15 | 363054 Single-Locking Lid [§] 363050 Dual-Locking Lid [†] | 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. | | | | | | |
| BIO C 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. | | | | | | |
| BIO C 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. | | | | | | |
| BIO C 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.

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

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.

[†]BioSafe when used with BioSafety lids.

[§]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 |
|---|--|-------------------------------|------------------------|--------------------|-------------|----------------------------------|
| BIO C 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. | | | | | | |
| BIO C JLA-16.250 | 363934 Single-Locking Lid [§] 363930 Dual-Locking Lid [†] | 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. | | | | | | |
| BIO C 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. | | | | | | |
| BIO C JA-14.50 | B88555 Single-Locking Lid [§] B88554 Dual-Locking Lid [†] | 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. | | | | | | |
| BIO C JA-12 | 360993 Single-Locking Lid [§] 360992 Dual-Locking Lid [†] | 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. | | | | | | |
| BIO C JLA-10.500 | 369681 [‡] | 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. | | | | | | |
| BIO C JLA-9.1000 | 366754 [‡] | 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. | | | | | | |
| BIO C JLA-8.1000 | 363688 [‡] | 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.

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.

[†]BioSafe when used with BioSafety lids. [‡]BioSafe when used with six sealed 500 mL canisters. [§]BioSafe when used with AeroSeal covers.

[‡]BioSafe only when used with 1,000 mL bottle assemblies.

[§]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. | | | | | | |
| BIO C JS-5.3 (AllSpin) | 368690 ³ | 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. | | | | | | |
| BIO C JS-5.2 | 339087 ³ | 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. | | | | | | |
| BIO C JS-4.2 | 339080 ³ | 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. | | | | | | |
| BIO C JS-4.2A | 366695 ³ | 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. | | | | | | |
| BIO C JS-4.3 | 362734 ⁴ | 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. | | | | | | |
| BIO C JS-4.0 | 339086 ³ | 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 |
| Pelletting 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 |
| Pelletting 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 ⁵ |
| 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†

| Bioseparation | 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 | ■ | ■ | ■ | ■ | ■ | ■ | | ■ | | | | ■ | | | | | | ■ | | | |
| | Microsomal membrane fraction | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | ■ | | | | | | ■ | | | |
| Mitochondria | Pelleting | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | ■ | | | | | | ■ | | | |
| | Sucrose gradient isolation | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | ■ | | | | | | ■ | | | |
| Nucleic | Pelleting | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | ■ | | | | | | ■ | | | |
| Cell Membranes | Pelleting | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | ■ | | | | | | ■ | | | |
| | Sucrose gradient isolation | ■ | ■ | ■ | ■ | ■ | ■ | | ■ | | | | ■ | | | | | | ■ | | | |
| | Binding studies | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | ■ | | | | | | ■ | ■ | ■ | |
| Ribosomes/ Polysomes | Pelleting | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | | | ■ | | | |
| | Sucrose gradient isolation | ■ | ■ | ■ | ■ | ■ | ■ | | ■ | | | | ■ | | | | | | ■ | | | |
| Cytosol | 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 | | | | | | | | | | | | | | | | | | | | ■ | ■ |
| | Spin columns | | | | | | | | | | | | | | | | | | | | ■ | |
| Cells | Pelleting bacteria | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| | Pelleting mammalian cells | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| | Density gradient separation | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | | | ■ | ■ | ■ | |
| Viruses | Pelleting | ■ | ■ | ■ | ■ | ■ | ■ | | ■ | | | | ■ | | | | | | ■ | | | |
| | PEG precipitates | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | ■ | ■ | ■ | | | | | ■ | ■ | ■ | ■ |
| | Density gradient isolation | ■ | ■ | ■ | ■ | ■ | ■ | | ■ | | | | ■ | | | | | | ■ | | ■ | |
| Blood | Pelleting | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| | Plasma protein precipitation | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | | | ■ | ■ | | |
| | Blood sample preparation | | | | | | | | | | ■ | ■ | | | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| | Density gradients to isolate blood cells | | | | | | | | | | | | | | ■ | ■ | | | ■ | ■ | ■ | ■ |

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³BioSafe when used with Aerosol covers. ⁴BioSafe when used with Aerosolve canisters. ⁵J6-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.

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.

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