New! Allegra® X-12 Series Centrifuges

Streamline Cell and General Separations.

- Spins T-25 cm² and T-75 cm² Canted Neck Cell Culture Flasks with exclusive adapters*
- Exclusive ARIES™ Smart Balance Rotor recognizes *and* corrects imbalance up to 50 grams opposing loads
- Variety of certified biocontainment options
- Enhanced ease-of-use features
- Accepts samples from 1.5 mL to 750 mL

The Allegra X-12 Series Centrifuges provide versatile, high-capacity performance for a wide variety of cell culture, plasma and general-purpose separations. Its exclusive ARIES™ rotor corrects imbalances up to 50 grams opposing loads. The rotors handle a wide range of tubes (from 1.5 mL to 750 mL), blood bag cups, T-25 cm² and T-75 cm² canted neck cell culture flasks, bottles and microplates.

Aerosolve™ canisters for the 4x750 mL (SX4750) and 4x750 mL ARIES (SX4750A) rotors minimize contamination from broken or leaking tubes. Clear plastic allows for viewing from top to bottom.

Each centrifuge features automatic door interlock and rugged brushless drive to provide reliability and performance. 10 available user defined programs,10 independent acceleration and 11 deceleration profiles are available. These profiles can be set by rpm or *g*-force. Allegra X-12 Series Centrifuges also include automatic rotor identification and end-of-run audible alert.

Specifications

	Allegra X-12R	Allegra X-12
Max. Speed(swinging-bucket):	3,270 x *g*/3750 rpm	3,270 x *g*/3750 rpm
Max. Speed(fixed-angle):	11,400 x *g*/10.200 rpm	11,400 x *g*/10.200 rpm
Max. Capacity:	4x750 mL	4x750 mL
Temperature Range:	-10°C to +40°C (selectable)	+18°C to 22°C (preset)
Drive:	brushless induction	brushless induction
Accel/Decel Rates:	10/11	10/11
Run Time:	Up to 99 hrs., 59 min., hold; pulse (short run)	Up to 99 hrs., 59 min., hold; pulse (short run)
Refrigeration	Yes, CFC-Free	Constant Controlled Temperature
Dimensions with lid closed:	76.2W x 62.2D x 34.3H cm 30W x 24.5D x 13.5H in	76.2W x 62.2D x 34.3H cm 30W x 24.5D x 13.5H in
Weight without Rotor:	121 kg (267 lbs.)	121 kg (267 lbs.)
Electrical:	208 V, 60 Hz	208 V, 60 Hz
CSA and CE Certified	Yes	Yes

Ordering Information: Supplied with a one-year parts and labor warranty. Rotors and accessories are sold separately.

Cat. No.	Description
BK392472	Allegra X-12 Centrifuge, 208 V, 60 Hz
BK392302	Allegra X-12R Centrifuge, 208 V, 60 Hz

T-25 cm² and T-75 cm² Canted Neck Cell Culture Flask Adapters for 4X750mL Swinging-bucket Rotors (SX4750 and SX4750A)*

*Eliminate Steps In Your Culturing Process With Exclusive Cell Culture Flask Adapters**

By direct centrifugation of cell culture flasks**, Allegra X-12 Series centrifuges eliminate the entire transfer step to and from conical tubes for cell separation:

- Saving transfer time and labor
- Eliminating the use of 15 mL or 50 mL conical tubes
- Reducing a potential contamination Step

For more information on T-25 cm² and T-75 cm² cell culture flask adapters, request AIB# A-1974A.

Ordering Information:

Cat. No.	Description	Color	Pack of
BK369292	Corning*** 75 cm² Canted Neck Flask Adapters 1 Flask/Bucket	Orange	2
BK369295	Corning*** 25 cm² Canted Neck Flask Adapters 2 Flasks/Bucket	Green	2

** Patent Pending*

Adapters currently available for Corning T-25cm² and T-75cm² canted neck cell culture flasks.*

****Corning is a registered trademark of Corning, Inc.*

The Exclusive ARIES™ Smart Balance Rotor System

The exclusive ARIES Smart Balance Rotor System is available on the 4x750 mL Swinging-bucket rotor (SX4750A) for the Allegra X-12 Series Centrifuges.
It is especially advantageous when running larger volume bottles or a large number of smaller volume tubes. ARIES allows you to "eye balance" your samples with more confidence. If an imbalance of up to 50 grams opposing loads occurs – the ARIES device automatically recognizes *AND* corrects it, so you can complete the run without interruption. This important Beckman Coulter technology can save hundreds of lab hours over the years, protect the centrifuge from unnecessary wear and tear, and free you for other responsibilities.

ARIES 4x750 mL Rotor (SX4750A)

With Exclusive ARIES Smart Balance System

- Automatically corrects rotor imbalance up to 50 grams opposing loads
- Accepts tubes from 1.5 mL to 750 mL and a variety of labware
- 3,270 x *g* (3,750 rpm)

This multifunctional rotor combines the features and specifications of the regular 4x750 mL rotor (SX4750) with the ARIES Smart Balance Technology. It automatically corrects for imbalance conditions of ±50 grams opposing loads. This rotor was designed for a wide range of labware from 1.5 mL tubes to 750 mL bottles, and T-25 cm^2 and T-75 cm^2 canted neck cell culture flasks.

Ordering Information: Rotor supplied with four buckets. The rotor bucket covers, sold separately, are supplied with gaskets and cover clips. Aerosolve canisters are available for both SX4750 and SX4750A

Cat. No.	Description
BK369704	ARIES 4x750 mL Smart Balance Swinging-bucket Rotor (SX4750A)
BK392805	Bio-certified Bucket Covers (Set of 2)

Enhance Ease-Of-Use With Features Not Typically Found In Bench Centrifuges

- Numerical key pad for easy & quick value entry
- Control temperature for up to 10 minutes after the rotor has stopped, for walk-away flexibility
- Automatic initial "soft start" to ensure sample integrity
- 10 user-defined programs
- 10 independent acceleration/11 independent deceleration profiles
- Automatic rotor identification

4x750 mL Rotor (SX4750)

- For use with the Allegra X-12 Series Centrifuges
- Accepts T-25 cm^2 and T-25 cm^2 cell culture flasks (adapters required)
- Accepts tubes from 1.5 mL to 750 mL
- 3,270 x g (3,750 rpm)
- Spins microplates

Sturdy stainless steel yoke construction with free-swinging aluminum buckets. Individual biocertified bucket covers minimize contamination from broken or leaking tubes.

Ordering Information: Rotor supplied with 4 buckets. The rotor bucket covers, sold separately, are supplied with gaskets and cover clips (BK392805).

Cat. No.	Description
BK369702	4x750 mL Swinging Bucket Rotor (SX4750)
BK392805	Bio-Certified Bucket Covers (Set of 2)

Modular Disk Adapters and Bottle Sleeves for 4x750 mL and ARIES™ 4x750 mL Rotors (SX4750/A)

Cat. No.	Tube Size, mm	Tube Volume, mL	Adapter Capacity	Adapter Color	Pack of
For Round-bottom Tubes					
BK359148	12	3-5	37 Tubes	Blue	4
BK359469					2
BK359157	13	3 & 5	30 Tubes	Tan	4
BK359478					2
BK359149	14	7 & 10	24 Tubes	Orange	4
BK359470					2
BK359150	16	12	19 Tubes	Purple	4
BK359471					2
BK359152	18	15 & 20	14 Tubes	Green	4
BK359473					2
BK359153	29	50	7 Tubes	Yellow	4
BK359474					2
BK359155	35	50	4 Tubes	Dk. Blue	4
BK359476					2
BK359156	44	100	2 Tubes	Brown	4
BK359477					2
For Conical-bottom Tubes					
BK359151	18	15	14 Tubes	Green	4
BK359472					2
BK359154	30	30 & 50	4 Tubes	Lt. Green	4
BK359475					2
Accessories					
BK354511*	Adapter Plate	1.5	26 Microtubes	Blue	1
BK343108*	Tube Decanter for 12 mm Modular Adapter				
Blood Bag Cups					
BK356856	90	2 Single Bags or 1 Double Pack	2	Yellow	1
BK356857	97	1 Triple Pack or 1 Quad Pack	1	Orange	1

Bottle Cat. No.	Bottle Size, mm	Adapter Volume, mL	Capacity	Color
BK349946	62	250	1 Bottle	Yellow
BK356983*	62	230 (Conical)	1 Bottle	Orange Cushion
BK349849	62	250 (Conical)	1 Bottle	Red
BK349945	70	500	1 Bottle	Tan
BK349846	96	750	1 Bottle	Blue

*****use with BK349946*

**fits over 12 mm blue adapters BK359148 and BK359469*

Independently certified by CAMR, Porton Down, UK for biocontainment.

Aerosolve™ Canisters for 4x750 mL and 4x750 mL ARIES Rotors (SX4750 and SX4750A)

To help minimize contamination from broken or leaking tubes. Clear plastic allows for viewing from top to bottom. Each canister seals with an O-ring and is autoclavable up to 121°C. For use with the 4x750 mL (SX4750) and ARIES 4x750 mL (SX4750A), which are compatible with the Allegra X-12 Series Centrifuges.

Ordering Information: Each Aerosolve canister is supplied with base, cap, O-ring and pad (also available separately). Tube racks sold separately.

Cat. No.	Description	Pack of
BK359232	Aerosolve Canister	4
BK359481	Aerosolve Canister	2
Replacement Parts		
BK349948	Canister Pad for 4x750 mL Rotor (SX4750 and SX4750A)	1
BK345366	Replacement O-Ring for Aerosolve Canisters	1

Aerosolve Canister Tube Racks for 4x750 mL and 4x750 mL ARIES Rotors (SX4750 and SX4750A)

For use with the 4x750 mL (SX4750) and ARIES 4x750 mL (SX4750A) rotors. Molded plastic racks support tubes in Aerosolve canisters (BK359232). Open-rack design permits quick inspection for possible broken or leaking tubes.

Cat. No.	Tube Size, mm	Tube Volume, mL	Adapter Capacity	Adapter Color	Pack of
For Round-bottom Tubes					
BK359160	12	3 & 5	24 Tubes	Blue	4
BK359482					2
BK358993	13	5	24 Tubes	Tan	4
BK359489					2
BK359161	14	10	18 Tubes	Orange	4
BK359483					2
BK359162	16	12	12 Tubes	Purple	4
BK359484					2
BK359163	17	15 & 20	12 Tubes	Green	4
BK359485					2
BK359164	29	50	4 Tubes	Yellow	4
BK359486					2
For Conical-bottom Tubes					
BK354495	11	1.5	24 Tubes	White	1
BK358991	17	15	6 Tubes	Lt. Green	4
BK359487					2
BK358992	30	50	4 Tubes	Lime Green	4
BK359488					2
BK356985	62	230 (Conical)	1 Bottle	Orange	2

Independently certified by CAMR, Porton Down, UK for biocontainment.

6x100 mL Rotor (FX6100)

To help further isolate biomolecules; clarify media, cell debris, lysate, tissue homogenate; variety of adapters available for 1.5 mL to 100 mL tubes. For the Allegra X-12 Series Centrifuges, this 6x100 mL fixed angle rotor (FX6100) has a 25° angle.

Ordering Information:

Cat. No.	Description
BK369735	Bio-Certified 6X100 mL Fixed Angle Rotor (FX6100)

Adapters for 6x100 mL Rotor (FX6100)

Cat. No.	Tube Volume	Tube Size, mm	Rotor Capacity	Pack of
BK344497*	1.5/2.0 mL	11	36	Each
BK392824	10 mL (Round)	16	6	6
BK392823	15 mL (Round)	18	6	6
BK392270	15 mL (Conical)	17	6	6
BK392822	30 mL (Round)	25.7/25	6	6
BK392821	35 mL (Round)	29	6	6
BK392830	50 mL (Round)	28.5	6	6
BK392268	50 mL (Conical)	28.5/29	6	6

**Must be inserted into BK392830*

Microplate Carriers for 4x750 mL Rotor (SX4750)

Each carrier accommodates up to three standard microplates, one Beckman Coulter deep-well plate, square-well plate, and 96-tube rack. Provides g forces up to 2,890 x g (3,750 rpm) for cellular assays and quick microplate spins. For use with the 4X750 mL rotor (SX4750 only) for the Allegra X-12 Series Centrifuges.

Ordering Information: Each Microplate Carrier Assembly includes carriages and rubber pads (Set of 2).

Cat. No.	Description
BK392806	Microplate Carrier Assembly (Set of 2)
BK392807	Covers (Set of 2)
Replacement Parts	
BK392193	Carriages (Set of 4 Includes Rubber Pads)
BK392872	Rubber Pads (Set of 4)

Tube Decanter for 12 mm Modular Adapter, 4x750 mL and 4x750 mL ARIES™ Rotors (SX4750 and SX4750A)

Fits BK359148 and BK359469 blue modular disk adapters for the 4X750 mL (SX4750) and 4X750 mL ARIES (SX4750A) rotors. Decant a full rack (37 tubes) of 12 mm tubes at once. A special silicone gasket attaches to the bottom of the tube rack. Held by interlocking plates, the gasket fits tightly around the tubes and holds them in place when the adapter is tipped for decanting.

Ordering Information:

Cat. No.	Description
BK343108	Tube Decanter for 12 mm Modular Adapter (One Each)

Exclusive New Allegra® X-12 Series Cell Culture Flask Adapters*

Introduction

During various stages of the cell culturing process, centrifugation is frequently used to isolate extracellular products or to separate cells from their aqueous environment. Traditionally, cells and media are first transferred from a cell culture flask to a 15 mL or 50 mL conical tube before centrifugation. With the innovative cell culture flask adapters*, the culture can be centrifuged directly in the flask. Data illustrates that cell yield, cell viability, and endpoint analysis results are comparable when cell cultures are processed traditionally or centrifuged directly in the flask**. This streamlined process is applicable for various types of cell cultures (adherent, suspension, hybridoma, and primary cell cultures).

What Are the Allegra X-12 Cell Culture Flask Adapters?

The cell culture flask adapters are single-piece elastomeric (EPDM) adapters designed to allow centrifugation of T-75 (75 cm^2 area) or T-25 (25 cm^2 area) cell culture flasks** in the Allegra X-12 Series 4X750 and ARIES™ 4X750A rotors. The adapters stand up to the rigors of use (centrifugal force, cleaning, and sterilization).

NEW

Major Benefits of Cell Culture Flask Adapters

- Streamlined cell culturing process
- Time, labor, and labware savings
- Reduced potential for contamination

Additional Benefits from Cell Culture Flask Centrifugation

- Time and material savings multiply with cell passaging in high throughput environments
- Some small and less dense cells seed better when centrifuged in the cell culture flask
- Faster detachment of adherent cells during cell recovery
- Softer cell pellets are readily resuspended

How to Use the Allegra X-12 Series Cell Culture Flask Adapters

Cell culture flask adapters support cell culture flasks during centrifugation. Centrifugation is used in the cell culturing process (seeding, passaging, or harvesting) and in studies of cellular activities (organelles, proteins, antibody production, etc.) and cellular products. During various phases (cell cycle, adhesion, motility, signal transduction, etc.) of the cellular study, centrifugation is used to separate or concentrate cells from culture media and/or to collect extracellular products.

The flask adapters are very easy to use as shown in the illustrations above. Hold the side of the adapter as shown, lift the flask straight up, and continue lifting the flask straight up until it clears the adapter.

** Patent Pending*

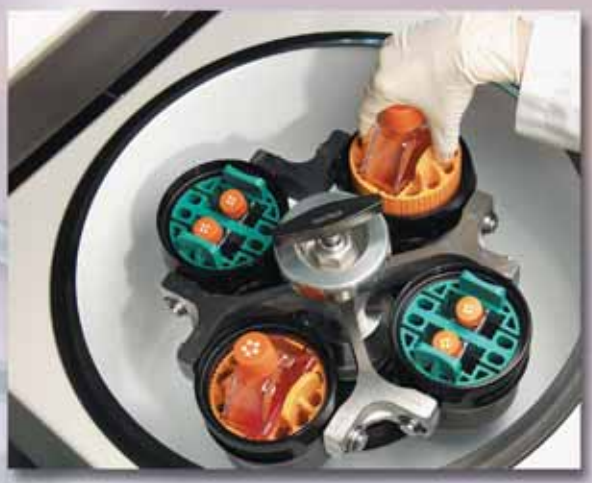
Adapters currently available for Corning T-25cm^2 and T-75cm^2 canted neck cell culture flasks.*

****Corning is a registered trademark of Corning, Inc.*

Expect to Spin Faster

Higher centrifugal force (up to 3000 rpm/2000 x *g*) may be used when centrifuging flasks in the cell culture flask adapters to optimize cell yield. Various types of cell cultures (adherent, suspension, hybridoma and primary cell cultures) have been shown to maintain good viability (> 90%) and cellular function when spun at higher forces versus traditional processing. Maximum allowable speed varies according to working volume.

The cell culture flask adapter for T-75 flasks can be centrifuged up to 3024 rpm (2000 x *g*) with 50 mL culturing volume (a very commonly used culture volume). Speed reduction is required for higher or lower working volumes. The adapters for T-25 cell culture flasks offer superior performance at 3200 rpm (2000 x *g*) up to 25 mL working volume.



Easily load the adapter into the bucket by grasping the adapter finger grips. Align the narrow sides of the flask to the bucket engraving and the wide sides parallel to the bucket pin pockets.

Cell Type	Centrifugation Speed[1] (rpm) 10 Minutes	Cell Viability Tube	Cell Viability Cell Culture Flask[2]
ATCC K562 Suspension	1200 2750	97% 95%	97% 92%
Prostate Cell Line Adherent	1200 2500	93% 92%	92% 92%
Vero Cell Adherent, 25 mL	1100 2500	Comparable[3] Comparable	

1) All centrifugation runs conducted at room temperature (18 to 25ºC), during a cell passaging stage.

2) Corning* T-75 cm² canted neck cell culture flasks were used for the experiments.**

3) Cell viability data from tube or CCF centrifugation, observed by Levy hemacytometer (no trypan blue stain).

Your Pellet Will Look Different

The difference in geometry between the flat bottom of the flask and the conical tip of the tube leads to a different appearance of the cell pellet. When centrifuging the flask directly, the cell pellet is softer and spread more loosely over the bottom of the flask. Even though the appearance of the cell pellet is different, the results from centrifuging in the flask have been comparable to those of the traditional method.

Expect to Leave a Thin Layer of Media Above the Pellet

When centrifuging in a flask, the separation line between the cell pellet and supernatant is less clearly defined. After centrifugation, expect to retain a thin layer of residual media when removing the supernatant. More spent media or washing buffer will be carried over to the next culture. This can be readily corrected with a smaller culture volume and increased centrifugal speed.

For more information on T-25 cm² and T-75 cm² cell culture flask adapters, request AIB# A-1974A, from 1-800 VWR-BECK.

** Patent Pending*

Adapters currently available for Corning T-25cm² and T-75cm² canted neck cell culture flasks.*

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