



Centrifugation

## X and S Series Centrifuges

### Revolving around performance



...řešení pro vaši laboratoř

TRIGON PLUS s.r.o.

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Obchodní a servisní partner předních výrobců laboratorních zařízení

Zastoupení pro Českou a Slovenskou republiku

Akreditovaná kalibrační a zkušební laboratoř

thermo scientific

# X4 and S4 Series Centrifuges

## Performance, power and versatility



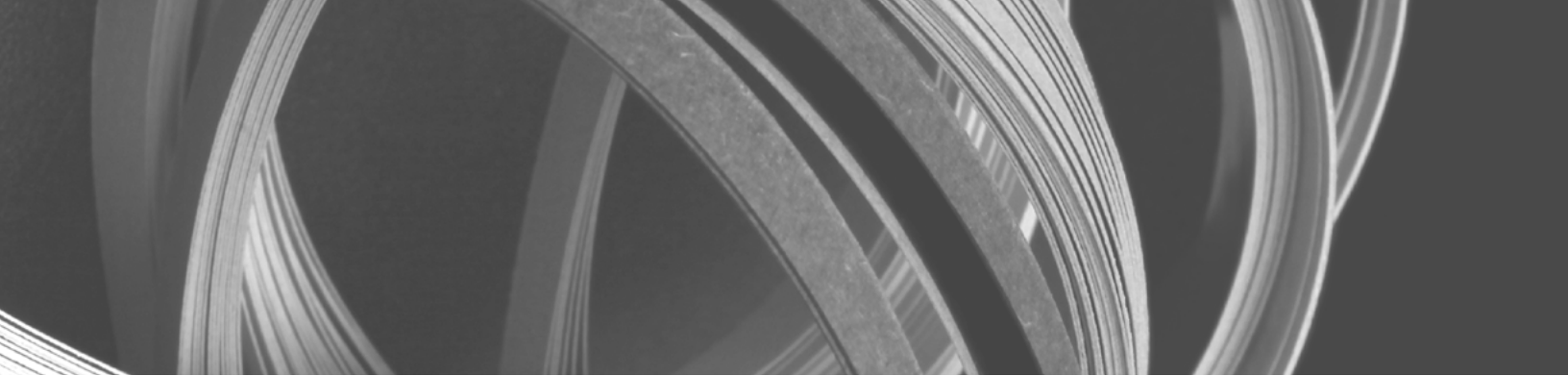
Thermo Scientific™ X and S Series General Purpose Centrifuges are designed to help provide exceptional performance, power and versatility through innovations to support efficiency across applications.

The refrigerated models feature Thermo Scientific™ GreenCool™ Technology, a next-generation natural refrigerant cooling system for enhanced sustainability.

With fixed-angle rotor RCF (Relative Centrifugal Force) of over 25,000 x g, and swinging bucket rotor RCF of over 7,000 x g, even the toughest separations can be completed.

Scientists working across biopharmaceutical, academic research and clinical diagnostic applications can choose between 4 L (4 x 1,000 ml) ventilated benchtop or refrigerated floor and bench models.





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# Greener by design™

## Sustainability aspects



We leverage the power of innovation to positively contribute to a healthier world, which includes reducing the environmental impact of our products and packaging—from design to end of life. By incorporating environmental sustainability principles into each design step, we can better understand and reduce the environmental impact of our products early in the design process, helping to ultimately deliver on our commitment to achieve net-zero emissions by 2050 while helping customers advance their sustainability goals.

**Greener by design:** We integrate Design for Sustainability into our product development to reduce environmental footprint without compromising quality. Our strategy targets five areas: less hazardous, less waste, more energy efficient, responsibly packaged, and extended life.

**X and S Series Centrifuges with GreenCool technology** deliver powerful performance combined with more sustainable innovation. Featuring a next-generation natural refrigerant (R290) cooling system, it reduces environmental impact with a Global Warming Potential (GWP) of 3, while not contributing to depletion of the ozone layer and is compliant with EU and US EPA F-gas regulations. In addition to being **less hazardous**, the centrifuges are more energy efficient. In the United States, we offer a **recycling program**, where materials can then reenter the manufacturing stream. Furthermore, they are **manufactured in a certified zero-waste facility\*\*\* using 100% renewable electricity** in Osterode am Harz, Germany.

**Global Warming Potential = 3\***

**Up to 6% lower energy consumption\*\***

**Made in a certified zero-waste facility\*\*\***

**Recycling program\*\*\*\***



**Less hazardous**



**Extended life**

\* Due to natural refrigerant (R290)

\*\* Comparing maximum power consumption to previous model. Previous model: 230V Thermo Scientific™ Sorvall™ / Multifuge™ X4R Pro Centrifuge.

\*\*\* Zero waste defined as less than 10% of non-hazardous waste sent to landfill, incineration or waste-to-energy

\*\*\*\* End of life recycling program in the United States. Visit [thermofisher.com/centrifuge-recycling](https://thermofisher.com/centrifuge-recycling)

# Enhanced sustainability

## GreenCool Technology and more

### Better for the environment

The refrigeration system uses a hydrocarbon refrigerant (R290), a natural gas with a Global Warming Potential (GWP) of 3. It does not deplete the ozone layer and breaks down naturally in the environment, ensuring a more sustainable choice.

### Improved cooling performance

X4 and S4 centrifuges with GreenCool technology maintain stable cooling at lower temperatures than the previous models, helping ensure the integrity of temperature-sensitive samples with a cooler -20°C temperature setpoint.

### Features for enhanced energy efficiency

#### Green Mode

Green compressor on/off feature with shut-down programming can extend compressor life and reduce energy costs.

#### Scheduling features

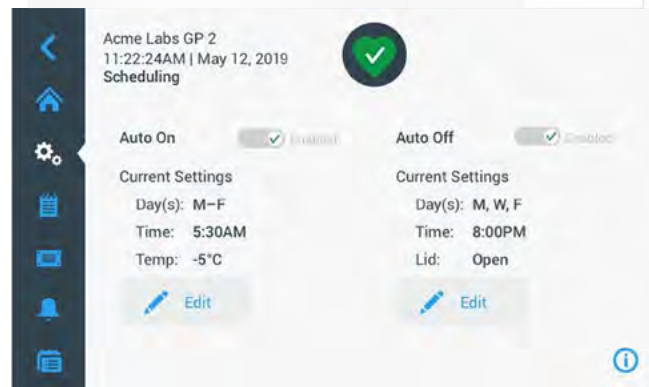
Scheduling capability promotes energy savings and enables pre-programmed start-up of compressor for temperature-ready centrifuge as soon as you arrive in the lab.

#### Fiberlite rotor options

Thermo Scientific™ Fiberlite™ Carbon Fiber Rotors weigh up to 60% less than metal equivalent rotors and therefore help accelerate/decelerate faster, helping reduce energy consumption per run<sup>2</sup>. Fiberlite rotors weigh up to 43% less than aluminium rotors (Graph 1).

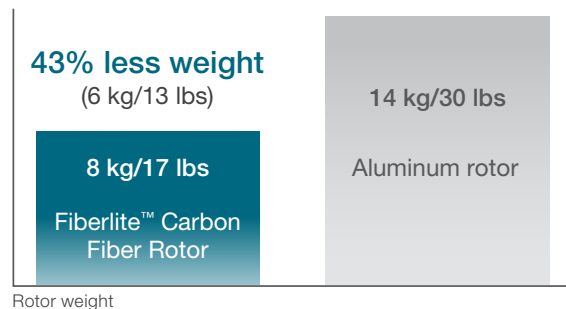
#### Windshielded rotor options

Thermo Scientific™ H-Flex™ HS4, BIOShield™ 1000A and HIGHPlate™ 6000 Rotors are windshielded rotors and enable users to spin tubes, bottles and plates at higher speeds with less energy than non-windshielded designs of the same rotor body.



Graph 1: Less weight of carbon fiber rotors:

Weight comparison of fully loaded 6 x 250 mL capacity floor model rotors



Rotor weight



<sup>1</sup> Compared to metal rotors.

<sup>2</sup> For additional detail, view Green Fact Sheet for X and S Series Centrifuges from 2025 <https://documents.thermofisher.com/TFS-Assets/LPD/Reference-Materials/x-and-s-series-centrifuges-green-fact-sheet.pdf>

# Models

## Designed for powerful and reliable performance

### Key differences between X and S Series

	X Series Centrifuges	S Series Centrifuges
Description	Elevate your research with the X Series high-performance centrifuge, delivering unmatched power and versatility through its advanced touchscreen interface, seamless connectivity, and comprehensive compliance capabilities.	The S Series centrifuge delivers reliable performance, combining intuitive controls with streamlined functionality to maximize productivity for everyday applications.
		
Screen	Full-color touchscreen	LCD display
Number of programs	100 programs with step programming	6 programs
Speed	Increments of 1 rpm	Increments of 50 rpm
G-force	Increments of 1 x g	Increments of 50 x g
Time setting	In HH x MM x SS format, continuous and ACE modes	In HH x MM format as well as continuous mode
Time control	At start of the centrifugation run and at set speed	At start of the centrifugation run
Pulse button	Pulse duration is customizable	Pulse duration is fixed
Rotors	18 rotor options	13 rotor options
Sustainability features	GreenCool technology (refrigerated models), Green Mode, scheduling features, greener rotor options	GreenCool technology (refrigerated models), LCD powersave mode, greener rotor options
Error messages	Error code with user directions	Error code
Data logging	Data logged and logs accessed through the Health Status Button and exportable in PDF and CSV formats	Manual storage in laboratory notebooks
Data extraction	USB port, RS-232 port, Ethernet	RS-232 port
Connectivity	Optional SECURE-Spin Mode and CentriLog Plus Data Management Software compatibility	Available through RS-232
Operating mode options	2 modes of centrifuge access: open and secure	Open mode of access

# Features



## User interface



X Series touchscreen interface

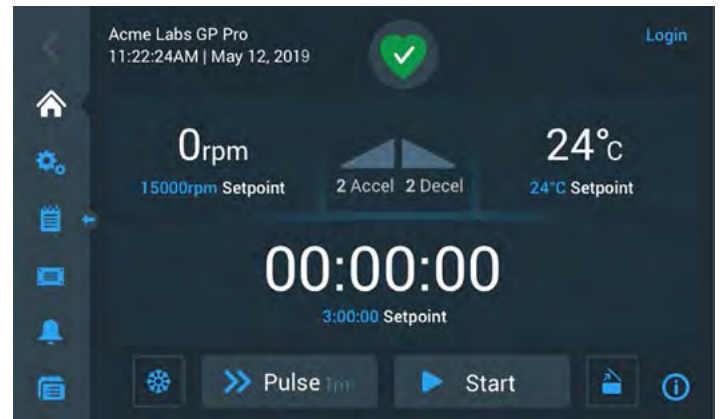


S Series standard user interface

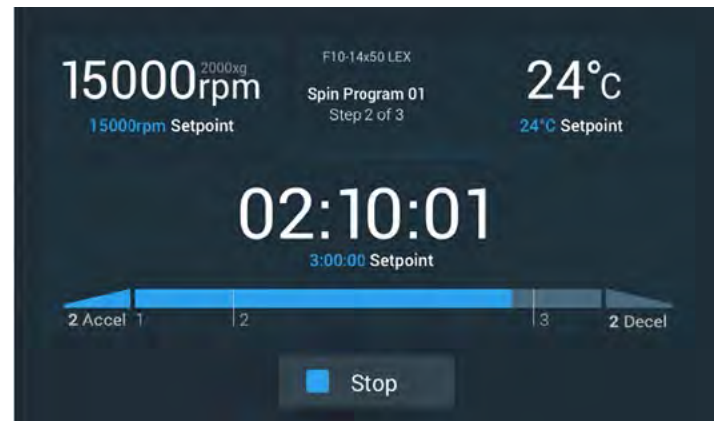
### Simple touchscreen programming

Discover the X Series touchscreen features including:

- Easily accessible menu bar
- Centrifuge health icon for at-a-glance monitoring
- Time-saving pre-temp button
- Customizable quick spins
- Useful information icon for additional support
- Thermo Scientific™ Accumulated Centrifugal Effect (ACE™) integrator function for increased reproducibility
- Lighthouse mode to easily monitor your run progress and program end-of-run alerts



Simple touchscreen programming



Lighthouse mode



## Rotor exchange

### Thermo Scientific™ Auto-Lock™ Rotor Exchange

Helps save time for fast results:

- Secure, ergonomic push-button rotor exchange in as little as three seconds
- Trouble-free installation and removal with no tools required
- Full chamber access for cleaning convenience and helps minimize the risk of contamination
- Flexibility to quickly switch between applications and evolve with changing laboratory needs





## Safety and ergonomics



## Biocontainment lids

### Thermo Scientific™ ClickSeal™ Biocontainment Lids

#### One-handed sample protection

- Biocontainment sealing options for glove-friendly, one-handed open/close capability are ergonomically designed for both right and left-handed operations
- Easy operation for all laboratory users, eliminating multi-turn screw caps and complicated high pressure clips
- Biocontainment certification by National Institute for Health Protection, Porton Down, UK or TÜV NORD CERT GmbH, Germany
- Audible and visual closure cues enhance safety and security





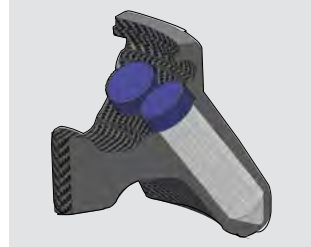
# Rotor versatility and carbon fiber technology

## Thermo Scientific™ Fiberlite™ Carbon Fiber Rotors

### Excellent ergonomics and enhanced performance

- Fiberlite rotor and lid combinations offer protection to the user, the centrifuge and the samples during centrifugation
- Outstanding durability provided by carbon fiber construction is supported by a 15 year Fiberlite rotor warranty and no limitation in cycles of use
- Carbon fiber offers a unique ability to mold each cavity to form fit disposable conical tubes, bottles and other consumables, enabling high g-force spins for tougher separations compared to metal rotors and hybrid superspeed capabilities in a general purpose centrifuge
- Excellent ergonomics driven by lightweight construction, integrated handle design and Auto-Lock rotor exchange

Centrifuge models	Unique rotor options	Fiberlite options
X Series: X4T, X4TR, X4FR	18	7
S Series: S4T, S4TR, S4FR	13	3



Fiberlite rotor cavities are molded to the exact shape of many disposable conical tubes for maximum support; 50 mL conical tube shown here. In addition, a cap support is designed to relieve high g-forces.



## Thermo Scientific™ TX-1000 Rotor

### High versatility and capacity



1L Bio-bottles



15 mL conical tubes



Blood bags

- Excellent application versatility with a variety of sample containers (bottles, conical bottles, conical tubes, round bottom tubes, blood tubes, microtubes, microplates, blood bags and cell culture bags)
- ClickSeal lids available for biocontainment
- Expand options with use of the BIOLink adapter (75007304), which opens up 17 additional adapter configurations



50 mL conical tubes



Microplates



Cell culture bags



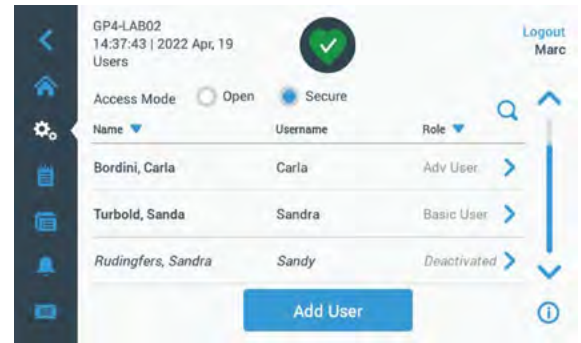


# Connectivity and data management

## Thermo Scientific™ SECURE-Spin™ Mode

Match the centrifuges to your compliance and sample tracking needs

- Enables advanced and secure control features in the **X Series centrifuges** by supporting 21 CFR Part 11 data management compliance and traceability
- Assign user rights and create up to 120 users profiles
- Traceable documentation provides audit trail for setting and program changes
- Compatible with Thermo Scientific™ Centri-Log™ Plus Data Management Software



# Models for cell therapy manufacturing needs

## Thermo Scientific™ General Purpose X Centrifuge CTS™ Series

Product and documentation package for cell therapy research and manufacturing needs

The General Purpose X4 Centrifuges Cell Therapy Systems Series consists of our popular X Series centrifuge models (4 L), extensive documentation, and certifications. Our compliance services support your Good Manufacturing Practice (GMP) needs.

The CTS Series helps you get up and running fast, stay compliant, navigate regulatory audits, and stay on schedule as you take your cell therapy from discovery to clinical research and commercial manufacturing.

- Cleanroom compatibility:
  - Benchtop model Class ISO 6
  - Floorstanding model Class ISO 8
- Includes SECURE-Spin 21 CFR Part 11 data management compliance and traceability features
- Compatible with Vaporized Hydrogen Peroxide decontamination



Product



Documentation package



Compliance services

Learn more at [thermofisher.com/ctscentrifuges](https://thermofisher.com/ctscentrifuges)

# Application packages

Centrifuge packages are available to support cell culture, and blood/clinical applications, helping to save you time by combining our general purpose centrifuges with the necessary components to run specific protocols in one convenient bundle.



40x  
50 mL

96x  
15 mL

## Cell culture package with Thermo Scientific™ TX-1000 Rotor<sup>1</sup>

- General Purpose 4L Centrifuge (ventilated or refrigerated)
- TX-1000 rotor cross
- TX-1000 buckets (set of 4)
- TX-1000 ClickSeal lids (set of 4)
- Adapters for 10 x 50 mL conical (set of 4)
- Adapters for 24 x 15 mL conical (set of 4)



Example centrifuge



196x  
5/7 mL

148x  
10 mL

## Blood processing package with TX-1000 rotor

- General Purpose 4L Centrifuge (ventilated or refrigerated)
- TX-1000 rotor cross
- TX-1000 buckets (set of 4)
- TX-1000 ClickSeal lids (set of 4)
- Adapters for 49 x 5/7 mL blood tubes (set of 4)
- Adapters for 37 x 10 mL blood tubes (set of 4)























Example centrifuge

Learn more at [thermofisher.com/xcentrifuge#packages](https://thermofisher.com/xcentrifuge#packages)  
and [thermofisher.com/scentrifuge#packages](https://thermofisher.com/scentrifuge#packages)

1. Additional region specific packages available. Please contact your local sales representative to learn more.

# Swinging bucket rotors



Thermo Scientific rotor name		Thermo Scientific™ TX-1000 Rotor	Thermo Scientific™ TX-750 Rotor	Thermo Scientific™ BIOShield™ 1000A Rotor
Maximum capacity (mL)		4 x 1,000 mL	4 x 750 mL	4 x 250 mL
Maximum speed (rpm) <sup>1</sup>		4,200 rpm	4,700 rpm	6,000 rpm
Maximum RCF (x g <sup>1</sup> )		4,122 x g	4,816 x g	7,164 x g
Biocontainment 		√ (Optional)	√ (Optional)	√ (Integrated)
X4T, X4TR, X4FR		√	√	√
S4T, S4TR, S4FR		√	√	√
Maximum capacity	 1,000 mL bio bottle	4	–	–
	 750 mL bio bottle	4	4	–
	 500 mL centrifuge bottle	4	–	–
	 500 mL conical bottle	4	4	–
	 250 mL centrifuge bottle	8	4	4
	 250 mL conical bottle	4	*	–
	 225 mL - 175 mL conical bottle	8	4	–
	 50 mL conical tube	40	28	16
	 50 mL skirted conical tube	20	20	16
	 50 mL round bottom centrifuge tube	48	28	–
	 30 mL universal tube	28	28	16
	 15 mL conical tube	96	56	36
	 10 mL blood collection tube (16 x 100 mm)	148	84	64
	 5/7 mL blood collection tube (13 x 75-100 mm)	196	108	80
	 4.5/6 mL blood collection tube	164	108	–
	 1.5/2 mL microtube	192	192	224
	 Microplate	24	16	–
	 Cell culture bag	6	–	–
	 Blood bag	4	4	–

<sup>1</sup>Maximum speed based on top performance models.



















 Biocontainment certification by Public Health England, Porton Down, UK or TÜV NORD CERT GmbH, Germany.

\*Fits with 4 x 250 mL Corning™ Conical Bottles and 4 x 200 mL Thermo Scientific™ Nunc™ Conical Bottles.

Note: Labware not shown to scale.

# Swinging bucket rotors (continued)



Thermo Scientific rotor name	Thermo Scientific™ HIGHPlate™ 6000 Rotor	Thermo Scientific™ Fiberlite™ H3-LV Rotor	Thermo Scientific™ M-20 Rotor	Thermo Scientific™ H-Flex™ HS4 Rotor
Maximum capacity (mL)	10 Microplates	28 Microplates	6 Microplates	16x50 mL
Maximum speed (rpm <sup>1</sup> )	6,300 rpm	3,600 rpm	4,000 rpm	6,100 rpm
Maximum RCF (x g <sup>1</sup> )	6,168 x g	2,593 x g	2,272 x g	7,196 x g
Biocontainment 	√ (Integrated)		√ (Optional)	√ (Integrated)
X4T, X4TR, X4FR	√	√	√	√
S4T, S4TR, S4FR			√	√
Maximum capacity  1,000 mL bio bottle	-	-	-	-
 750 mL bio bottle	-	-	-	-
 500 mL centrifuge bottle	-	-	-	-
 500 mL conical bottle	-	-	-	-
 250 mL centrifuge bottle	-	-	-	-
 250 mL conical bottle	-	-	-	-
 225 mL - 175 mL conical bottle	-	-	-	-
 50 mL conical tube	-	-	-	16
 50 mL skirted conical tube	-	-	-	-
 50 mL round bottom tube	-	-	-	-
 30 mL universal tube	-	-	-	-
 15 mL conical tube	-	-	-	36
 10 mL blood collection tube (16 x 100 mm)	-	-	-	66
 5/7 mL blood collection tube (13 x 75-100 mm)	-	-	-	84
 4.5/6 mL blood collection tube	-	-	-	-
 1.5/2 mL microtube	-	-	-	-
 Microplate	10	28	6	10

<sup>1</sup>Maximum speed based on top performance models.

 Biocontainment certification by Public Health England, Porton Down, UK or TÜV NORD CERT GmbH, Germany.


Note: Labware not shown to scale.

# Rotors and adapters for swinging bucket rotors



## TX-1000 Swinging Bucket Rotor<sup>1</sup> 90°, R<sub>max</sub> 209 mm

Centrifuge	Maximum speed (rpm)	Maximum RCF (x g)
X4TR, X4FR	4,200	4,122
X4T	3,800	3,374
S4TR, S4FR	4,200	4,122
S4T	3,800	3,374

Adapter image	Description	Rotor capacity (places x volume, mL)	Maximum tube dimensions (Ø x L, mm)	Cat. No.
<b>Rotor and accessories</b>				
	TX-1000 rotor cross with SlideCoat	4 x 1,000 mL or 24 microplate		75003017
	TX-1000 buckets (set of 4)			75003001
	TX-1000 ClickSeal biocontainment lids (set of 4) 			75007309
	Replacement O-rings			75007001
	1,000 mL Bio-bottle - polypropylene (set of 4)			75007300
<b>Adapters for TX-1000 rotor (sets of 4, unless otherwise noted)</b>				
1	1,000 mL Bio-bottle	4 x 1,000 mL	126 x 140	75007301
2	750 mL Polypropylene bio-bottle <sup>2</sup> and any TX-750 round BIOLink adapter	4 x 750 mL	98 x 133	75007304
3	500 mL Thermo Scientific™ Nalgene™ Bottle	4 x 500 mL	70 x 160	75004253
4	500 mL Corning™ Bottle	4 x 500 mL	98 x 133	75007302
5	250 mL Thermo Scientific™ Nunc™ Conical Bottle or 250 mL Corning conical bottle or 200 mL Nunc bottle or 175 mL Nalgene conical bottle	4 x 250 mL	62 x 145	75005392
6	250 mL Nalgene bottle	8 x 250 mL	62 x 145	75007305
6	225 mL BD Falcon™ (requires BD #352090)	8 x 225 mL	62 x 130	75007305
6	200 mL Nunc conical bottle (requires Nunc #377585)	8 x 200 mL	62.5 x 139	75007305
7	50 mL Conical tube	40 x 50 mL	30 x 120	75003674
8	50 mL Double biocontainment vessel for 50 mL conical tube (can be combined with ClickSeal lids), pack of 2 adapters	20 x 50 mL	30 x 120	75004255
9	50 mL Thermo Scientific™ Nalgene™ Oak Ridge Tube	48 x 50 mL	29.5 x 120	75004252
10	15 mL Conical tube	96 x 15 mL	17.5 x 121	75007306
11	10 mL Blood collection tube (16 x 100 mm) or Thermo Scientific™ Savant™ Corex™ / Kimble™ Tubes	148 x 10 mL	17 x 110	75003672
12	9/10 mL Blood collection tube (Sarstedt™)	100 x 9/10 mL	17 x 110	75003697
13	5/7 mL Blood collection tube (13 x 75-100 mm)	196 x 5/7 mL	14 x 110	75003671
14	4.5/6 mL Blood collection tube (Greiner™)	164 x 4.5/6 mL	14 x 110	75003709
15	Microplate carriers	4 x 6 Standard or 4 x 2 Deep well	Height < 88 mm	75007303
16	Small bag/cell culture bags 4 x 2 bags (< 350 mL) <sup>2</sup>	4 x 2 Bags		75003829



<sup>1</sup> Rotor, buckets and lids sold separately.

<sup>2</sup> Max speed 3,600 rpm

 Biocontainment certification by Public Health England, Porton Down, UK or TÜV NORD CERT GmbH, Germany.

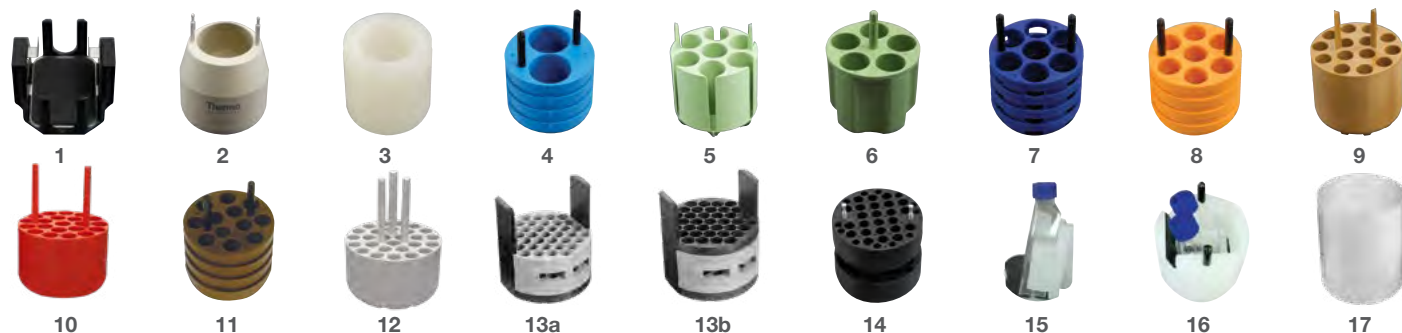


# TX-750 Swinging Bucket Rotor<sup>1</sup>

90°, R<sub>max</sub> 195 mm

Centrifuge	Maximum speed (rpm)	Maximum RCF (x g)
X4T, X4TR, X4FR	4,700	4,816
S4T, S4TR, S4FR	4,700	4,816

Adapter image	Description	Rotor capacity (places x volume, mL)	Maximum tube dimensions (Ø x L, mm)	Cat. No.
<b>Rotor and accessories</b>				
	TX-750 rotor cross with SlideCoat			75003180
	TX-750 round buckets (set of 4)	4 x 750 mL		75003608
	TX-750 round ClickSeal biocontainment lids (set of 4)			75003609
	Replacement TX-750 round O-rings for lids (set of 4)			75003610
	750 mL Bio-bottle - polypropylene (each)			75006443
1	Microplate carriers and T-75 flask* (includes tray and pads) (set of 2)	4 Standard microplate or	Maximum height 60 mm	75003795
1	Microplate carriers and T-75 flask* (includes tray and pads) (set of 4)	1 Deep well plate per carrier		75003617
	Bucket for Applied Biosystems™ TaqMan® Array Cards (set of 4) (ABI p/n 4442571)	12 x TaqMan Array Cards		75003618
<b>Adapters for TX-750 rotor (sets of 4, unless stated otherwise)</b>				
	750 mL Bio-bottle	4 x 750 mL	98 x 133	Direct
	500 mL Corning conical bottle (requires Corning #431124)	4 x 500 mL	98 x 133	Direct
2	250 mL Corning conical bottle** and 250 mL Nalgene conical bottle with biocontainment	4 x 250 mL	62.5 x 139	75003792
3	250 mL Nalgene bottle and 250 mL Nunc Conical Tube (conical tube requires cushion adapter #377585)	4 x 250 mL	62.5 x 139	75003710
3	225 mL/175 mL BD Falcon conical bottle (requires BD #352090)**	4 x 225 mL	62.5 x 139	75003710
3	200 mL Nunc conical bottle (requires #377585)**	4 x 200 mL	62.5 x 139	75003710
3	175 mL Nalgene conical bottle (requires #DS3126-0175)**	4 x 175 mL	62.5 x 139	75003710
4	100 mL Round bottom open-top tube	8 x 100 mL	45 x 123	75003713
5	50 mL Conical tube	28 x 50 mL	30 x 120	75003638
6	50 mL Conical or skirted tube	20 x 50 mL	30 x 120	75003824
7	50 mL Nalgene Oak Ridge tube	28 x 50 mL	29.5 x 120	75003715
8	30 mL Thermo Scientific™ Sterilin™ Universal Tube	28 x 30 mL	25.5 x 120	75003716
9	15 mL Conical tube	56 x 15 mL	17 x 122	75003639
10	15 mL Blood collection tube (17 x 125 mm in inner circle)	32 x 15 mL	17 x 134	75003719
10	10 mL Blood collection (16 x 100 mm) or 15 mL Savant Corex/Kimble Tube	84 x 10/15 mL	17 x 117	75003719
11	14 mL Round or conical urine tube	48 x 14 mL	18 x 124	75003718
12	5/7 mL or 4.5/6 mL blood collection tube (13 x 75-100 mm)	108 x 5/7 mL	13 x 116	75003723
13a	5 mL RIA or round bottom tube	148 x 5 mL	13 x 111	75003724
13b	5/7 mL Round bottom tube with decanting aid	148 x 5/7 mL	13 x 111	75003732
14	1.5/2 mL Microtube	192 x 2 mL	11 x 50	75003733
15	T-75 Thermo Scientific™ Nunc™ EasYFlask™ Cell Culture Flasks (set of 2)	4 x T-75	–	75008383
16	T-25 Nunc EasYFlask cell culture flask (set of 2)	8 x T-25	–	75008384
17	Blood Bag/ Cell Culture Bag (<600 mL)	4 x 1 bags	–	75003427



<sup>1</sup> Rotor, buckets and lids sold separately.

\* Compatible with Nunc #178905

\*\* Compatible in open bucket configuration without biocontainment


Biocontainment certification by Public Health England, Porton Down, UK or TÜV NORD CERT GmbH, Germany.

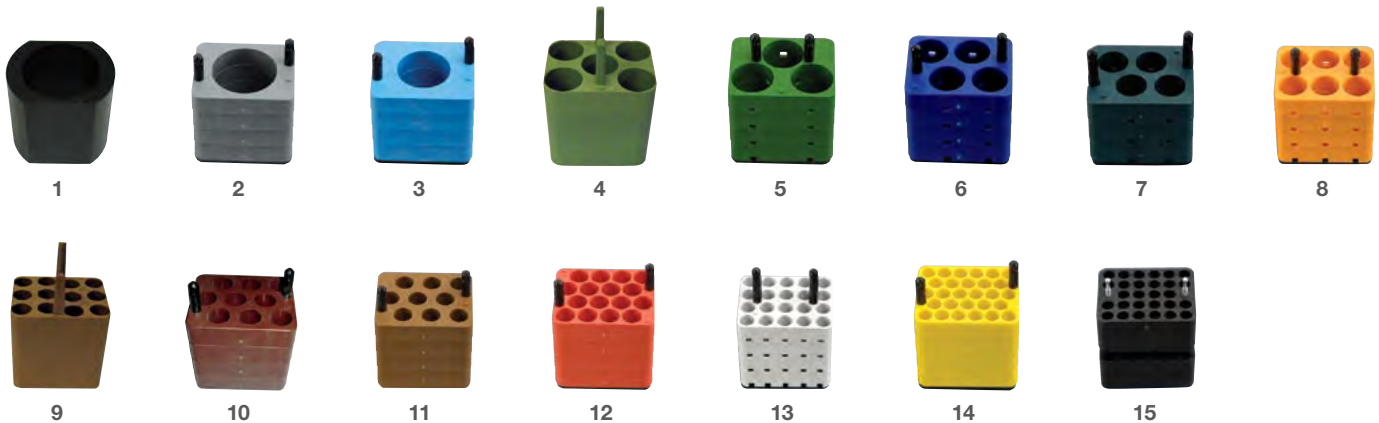


# TX-750 Swinging Bucket Rotor<sup>1</sup>

90°, R<sub>max</sub> 195 mm

Centrifuge	Maximum speed (rpm)	Maximum RCF (x g)
X4TR, X4FR, S4TR, S4FR 208-240V	4,700	4,816
X4T, S4T, 208-240V	4,500	4,415
X4T, X4TR, X4FR, S4T, S4TR, S4FR 120V	4,300	4,031
X4T, X4TR, X4FR 100V	4,100	3,665

Adapter image	Description	Rotor capacity (places x volume, mL)	Maximum tube dimensions (Ø x L, mm)	Cat. No.
<b>Rotor and accessories</b>				
	TX-750 rotor cross with SlideCoat			75003180
	TX-750 rectangular buckets (set of 4)	4 x 250 mL		75003614
	TX-750 rectangular ClickSeal biocontainment lids (set of 4) 			75003615
<b>Adapters for TX-750 rotor (sets of 4)</b>				
1	250 mL Flat bottom bottle	4 x 250 mL	63 x 130	75003737
2	150 mL Round bottom open-top tube	4 x 150 mL	56 x 124	75003738
3	100 mL Round bottom open-top tube	4 x 100 mL	46 x 124	75003742
4	50 mL Conical tube	20 x 50 mL	30 x 121	75003685
5	50 mL Round bottom tube	12 x 50 mL	35 x 121	75003749
6	45 mL Flat/round tube	16 x 45 mL	30 x 121	75003750
7	30 mL Sterilin universal tube	16 x 30 mL	26 x 121	75003755
8	25 mL DIN Round bottom tube	24 x 25 mL	26 x 121	75003756
9	15 mL Conical tube	48 x 15 mL	17 x 120	75003684
10	14 mL Flanged round bottom tube	36 x 14 mL	18 x 121	75003758
11	14 mL Round or conical urine tube	36 x 15 mL	17 x 124	75003759
12	10 mL Blood collection (16 x 100 mm) or 15 mL DIN tube	64 x 10/15 mL	17 x 118	75003767
13	5/7 mL or 4.5/6 mL blood collection tube	80 x 5/7 mL	14 x 118	75003768
14	5/7 mL Round bottom tube (13 x 75-100 mm)	112 x 5/7 mL	13 x 119	75003769
15	1.5/2 mL Microtube	224 x 2 mL	11 x 50	75003770



<sup>1</sup>Rotor, buckets and lids sold separately.


 Biocontainment certification by Public Health England, Porton Down, UK or TÜV NORD CERT GmbH, Germany.



## BIOShield 1000A Swinging Bucket Rotor

90°, R<sub>max</sub> 178 mm

Centrifuge	Maximum speed (rpm)	Maximum RCF (x g)
X4T, X4TR, X4FR	6,000	7,164
S4T, S4TR, S4FR	5,300	5,590

Adapter image	Description	Rotor capacity (places x volume, mL)	Maximum tube dimensions (Ø x L, mm)	Cat. No.
<b>Rotor and accessories</b>				
	BIOShield 1000A windshielded rotor with SlideCoat 	4 x 250 mL		75003182
<b>Adapters for BIOShield 1000A rotor (sets of 4)</b>				
1	250 mL Flat bottom bottle	4 x 250 mL	63 x 130	75003737
2	150 mL Round bottom open-top tube	4 x 150 mL	56 x 124	75003738
3	100 mL Round bottom open-top tube	4 x 100 mL	46 x 124	75003742
4	50 mL Round bottom tube	12 x 50 mL	35 x 121	75003749
5	45 mL Flat/round tube	16 x 45 mL	30 x 121	75003750
6	30 mL Sterilin universal tube	16 x 30 mL	30 x 121	75003755
7	25 mL DIN Round bottom tube	24 x 25 mL	26 x 121	75003756
8	14 mL Flanged round bottom tube	36 x 14 mL	18 x 121	75003758
9	14 mL Round or conical urine tube	36 x 15 mL	17 x 124	75003759
10	10 mL Blood collection (16 x 100 mm) or 15 mL DIN Tube	64 x 10/15 mL	17 x 118	75003767
11	5/7 mL or 4.5/6 mL Blood collection tube	80 x 5/7 mL	14 x 118	75003768
12	5/7 mL Round bottom tube (13 x 75-100 mm)	112 x 5/7 mL	13 x 119	75003769
13	1.5/2 mL Microtube	224 x 2 mL	11 x 50	75003770
14	50 mL Conical tube	16 x 50 mL	30 x 121	75003643
15	15 mL Conical tube	36 x 15 mL	17 x 120	75003642






## HIGHPlate 6000 Swinging Bucket Rotor

90°, R<sub>max</sub> 139 mm

Centrifuge	Maximum speed (rpm)	Maximum RCF (x g)
X4T, X4TR, X4FR	6,300	6,168
S4T, S4TR, S4FR	n/a	n/a

Description	Rotor capacity (places x volume, mL)	Maximum height	Cat. No.
<b>Rotor</b>			
HIGHPlate 6000 windshielded rotor 	2 x 5 Standard microplate or 2 x 1 filter plates	< 80 mm	75003606

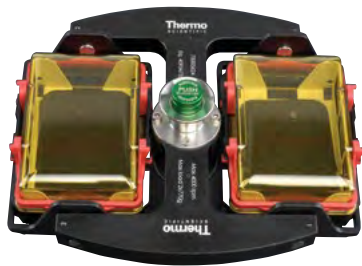


## Fiberlite H3-LV Swinging Bucket Rotor

90°, R<sub>max</sub> 179 mm

Centrifuge	Maximum speed (rpm)	Maximum RCF (x g)
X4T, X4TR, X4FR	3,600	2,593
S4T, S4TR, S4FR	n/a	n/a


Description	Rotor capacity (places x volume, mL)	Maximum height	Cat. No.
<b>Rotor</b>			
Fiberlite H3-LV rotor	4 x 7 Standard microplate or 2 x 4 Deep well	< 100 mm	75003665



## M-20 Swinging Bucket Rotor<sup>1</sup>

90°, R<sub>max</sub> 127 mm

Centrifuge	Maximum speed (rpm)	Maximum RCF (x g)
X4T, X4TR, X4FR	4,000	2,272
S4T, S4TR, S4FR	4,000	2,272

Description	Rotor capacity (places x volume, mL)	Maximum height	Cat. No.
<b>Rotor and accessories</b>			
M-20 microplate rotor including standard open carriers	2 x 3 Standard Microplate	< 65 mm	75003624
ClickSeal carriers including carrier and lids 	2 x 1 Deep well	< 45 mm	75003625
ClickSeal replacement lids (set of 2)			75002011

<sup>1</sup>Biocontainment system sold separately.


 Biocontainment certification by Public Health England, Porton Down, UK or TÜV NORD CERT GmbH, Germany.



## H-Flex HS4 Swinging Bucket Rotor<sup>1</sup>

90°, R<sub>max</sub> 170 mm

Centrifuge	Maximum speed (rpm)	Maximum RCF (x g)
X4T, X4TR, X4FR	6,100	7,196
S4T, S4TR, S4FR	6,100	7,196

Adapter image	Description	Rotor capacity (places x volume, mL)	Maximum tube dimensions (Ø x L, mm)	Cat. No.
<b>Rotor and accessories</b>				
	H-Flex HS4 windshielded rotor with SlideCoat 			75003330
	H-Flex HS4 replacement bucket (set of 2)			75003338
	H-Flex HS4 replacement windshield lid			75003339
<b>Adapters for H-Flex HS4 rotor (sets of 2)</b>				
1	50 mL Conical tube	16 x 50 mL	30 x 126	75003303
2	15 mL Conical tube	36 x 15 mL	17 x 121	75003304
3	10/12 mL Blood collection tube (16 x 100 mm)	66 x 10/15 mL	16 x 110	75003305
4	5/7 mL Blood collection tube (13 x 75-100 mm)	84 x 5/7 mL	13 x 108	75003306
5	Microplate carriers	2 x 5 Standard Microplate 2 x 1 Deep well	<77 mm	75003307
6	H-Flex 1 rotor 400 mL bottle and Centri-lab BIOLink Adapter*	n/a	n/a	75003308



1



2



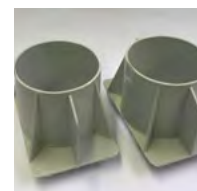
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4



5



6














<sup>1</sup>Rotor, buckets and lids sold separately.

\* 400 mL Bottle/CentriLab Adapter maximum speed is 3800 rpm and 2800 x g.


 Biocontainment certification by Public Health England, Porton Down, UK or TÜV NORD CERT GmbH, Germany.

# Fixed angle rotors



Thermo Scientific rotor name		Thermo Scientific™ Fiberlite™ F14-6x250 LE Rotor	Thermo Scientific™ Fiberlite™ F15-6x100y Rotor	Thermo Scientific™ Fiberlite™ F10-6x100 LEX Rotor	Thermo Scientific™ Fiberlite™ F13-14x50cy Rotor	Thermo Scientific™ Fiberlite™ F15-8x50cy Rotor
Maximum capacity (mL)		6 x 250 mL	6 x 100 mL	6 x 100 mL	14 x 50 mL	8 x 50 mL
Maximum speed (rpm <sup>1</sup> )		11,000 rpm	15,000 rpm	10,500 rpm	10,000 rpm	14,500 rpm
Maximum RCF (x g <sup>1</sup> )		18,533 x g	24,652 x g	15,038 x g	17,105 x g	24,446 x g
Biocontainment 		✓	✓	✓	✓	✓
X4T, X4TR, X4FR		✓	✓	✓	✓	✓
S4T, S4TR, S4FR			✓	✓		
Maximum capacity 	250 mL centrifuge bottle	6	–	–	–	–
	85 mL round bottom centrifuge tube 	6	6	6	–	–
	50 mL round bottom centrifuge tube 	6	6	6	14	8
	50 mL conical tube 	6	6	6	14	8
	30 mL round bottom centrifuge tube 	12	6	6	14	8
	16 mL round bottom centrifuge tube 	30	6	6	14	8
	15 mL conical tube 	30	6	6	14	8
	10 mL round bottom centrifuge tube 	42	12	12	14	8
	10 mL blood collection tube (16 x 100 mm) 	–	–	–	–	–
	5/7 mL blood collection tube (13 x 75-100 mm) 	–	–	–	–	–
	6.5 mL round tube 	–	12	12	–	–
	1.5/2 mL microtube 	–	24	24	–	–
















<sup>1</sup>Maximum speed based on top performance models.

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Note: Labware not shown to scale.

## Fixed angle rotors (continued)



Thermo Scientific rotor name	Thermo Scientific™ HIGHConic™ II Rotor	Thermo Scientific™ MicroClick 18 x 5 Rotor	Thermo Scientific™ Fiberlite™ F21-48x2 Rotor	Thermo Scientific™ Microliter 48 x 2 Rotor	Thermo Scientific™ MicroClick 30 x 2 Rotor	Thermo Scientific™ Microliter 30 x 2 Rotor
Maximum capacity (mL)	6 x 100 mL	18 x 5 mL	48 x 2 mL	48 x 2 mL	30 x 2 mL	30 x 2 mL
Maximum speed (rpm <sup>1</sup> )	10,350 rpm	15,000 rpm	15,200 rpm	15,200 rpm	14,000 rpm	15,200 rpm
Maximum RCF (x g <sup>1</sup> )	15,090 x g	24,652 x g	25,055 x g	25,314 x g	21,694 x g	25,830 x g
Biocontainment 	✓	✓	✓	✓	✓	✓
X4T, X4TR, X4FR	✓	✓	✓	✓	✓	✓
S4T, S4TR, S4FR	✓	✓	✓	✓	✓	✓
Maximum capacity 	250 mL centrifuge bottle	-	-	-	-	-
	85 mL round bottom centrifuge tube	6	-	-	-	-
	50 mL round bottom centrifuge tube	6	-	-	-	-
	50 mL conical tube	6	-	-	-	-
	30 mL round bottom centrifuge tube	6	-	-	-	-
	16 mL round bottom centrifuge tube	6	-	-	-	-
	15 mL conical tube	6	-	-	-	-
	10 mL round bottom centrifuge tube	12	-	-	-	-
	10 mL blood collection tube (16 x 100 mm)	-	-	-	-	-
	5/7 mL blood collection tube (13 x 75-100 mm)	-	-	-	-	-
	6.5 mL round tube	12	-	-	-	-
	1.5/2 mL microtube	24	18	48	48	30 (Including spin columns)
	5 mL microtube	-	18	-	-	-
	PCR tube	-	-	48	48	30

<sup>1</sup>Maximum speed based on top performance models.

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Note: Labware not shown to scale.


# Rotors and adapters for fixed angle rotors



## Fiberlite F14-6x250 LE Fixed Angle Rotor 23°, R<sub>max</sub> 137 mm

Centrifuge	Maximum speed (rpm)	Maximum RCF (x g)
X4T, X4TR, X4FR 208-240V	11,000	18,533
X4T, X4TR, X4FR 120V	10,000	15,317
S4T, S4TR, S4FR	n/a	n/a

Description	Rotor capacity (places x volume, mL)	Maximum tube dimensions (Ø x L, mm)	Cat. No.
<b>Rotor and accessories</b>			
Fiberlite F14-6 x 250LE rotor for 250 mL centrifuge bottles 	6 x 250 mL	62 x 125	75003662
Replacement O-Ring kit			021-062153
250 mL Thermo Scientific™ Nalgene™ Polypropylene Bottle (case of 36)			3141-0250
250 mL Thermo Scientific™ Nalgene™ Polycarbonate Bottle (case of 36)			3140-0250
<b>Adapters for F14-6 x 250LE rotor (sets of 2, unless stated otherwise)</b>			
85 mL Nalgene Oak Ridge tube	6 x 85 mL	38 x 109	010-1119
50 mL Nalgene Oak Ridge tube	6 x 50 mL	29.5 x 121	010-0138
50 mL Conical tube	6 x 50 mL	30 x 121	75100136
30 mL Nalgene Oak Ridge tube / 38 mL round tube	12 x 30 mL	26 x 105	010-1072
16 mL Nalgene Oak Ridge tube	30 x 16 mL	18 x 107	010-1074
15 mL Conical tube	30 x 15 mL	17 x 121	010-1410
10 mL Nalgene Oak Ridge tube / 12 mL round tube (each)	42 x 10 mL	17 x 110	00389

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## Fiberlite F15-6x100y Fixed Angle Rotor

25°, R<sub>max</sub> 98 mm



Centrifuge	Maximum speed (rpm)	Maximum RCF (x g)
X4T, X4TR, X4FR	15,000	24,652
S4T, S4TR, S4FR	14,000	21,474



## Fiberlite F10-6x100 LEX Fixed Angle Rotor

45°, R<sub>max</sub> 122 mm

Centrifuge	Maximum speed (rpm)	Maximum RCF (x g)
X4T, X4TR, X4FR	10,500	15,038
S4T, S4TR, S4FR	10,500	15,038

Description	Rotor capacity (places x volume, mL)	Maximum tube dimensions (Ø x L, mm)	Cat. No.
<b>Rotor and accessories</b>			
Fiberlite F15-6 x 100y rotor for 100 mL/85 mL Nalgene 	6 x 100 mL	38 x 106	75003698
Replacement O-Ring kit			021-069031
Fiberlite F10-6 x 100 LEX rotor for 100 mL/85 mL Nalgene 	6 x 100 mL	38 x 106	75003340
Replacement O-Ring kit			021-069035
85 mL Nalgene Oak Ridge tube (set of 50)	6 x 85 mL	38 x 106	3118-0085
<b>Adapters for F15-6 x 100y and F10-6x100 LEX rotor (each, unless stated otherwise)</b>			
50 mL Nalgene Oak Ridge tube (set of 2)	6 x 50 mL	29.5 x 117	010-1194
50 mL Conical tube (set of 2)	6 x 50 mL	30 x 121	010-1270
30 mL Nalgene Oak Ridge tube / 38 mL round tube (set of 2)	6 x 30 mL	26 x 110	010-1273
16 mL Nalgene Oak Ridge tube (set of 2)	6 x 16 mL	18 x 123	010-1272
15 mL Conical tube (set of 2)	6 x 15 mL	17 x 123	010-1271
10 mL Nalgene Oak Ridge tube / 12 mL round tube	12 x 12 mL	17 x 95	75003093
6.5 mL Round bottom tube	12 x 6.5 mL	13 x 114	75003092
3 mL Vacutainer / round bottom tube (set of 2)	18 x 3 mL	10 x 64	010-1126
1.5/ 2 mL Microtube	24 x 2 mL	11 x 40	75003091


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## Fiberlite F13-14x50cy Fixed Angle Rotor

34°, R<sub>max</sub> 153 mm

Centrifuge	Maximum speed (rpm)	Maximum RCF (x g)
X4T, X4TR, X4FR 208-240V	10,000	17,105
X4T, X4TR, X4FR 120V	9,250	14,636
S4T, S4TR, S4FR	n/a	n/a


Description	Rotor capacity (places x volume, mL)	Maximum tube dimensions (Ø x L, mm)	Cat. No.
<b>Rotor and accessories</b>			
Fiberlite F13-14x50cy for 50 mL conical tubes 	14 x 50 mL	30 x 121	75003661
Replacement O-Ring kit			021-149027
<b>Adapters for F13-14x50cy rotor (set of 2, unless otherwise stated)</b>			
50 mL Nalgene Oak Ridge tube	14 x 50 mL	29.5 x 108	010-0377
30 mL Nalgene Oak Ridge tube	14 x 30 mL	26 x 102	010-1147
16 mL Nalgene Oak Ridge tube	14 x 16 mL	18 x 123	010-0376
15 mL Corning conical tube	14 x 15 mL	17 x 121	75100378
15 mL Nunc conical tube and filtration devices	14 x 15 mL	17 x 121	010-1340
10 mL Nalgene Oak Ridge tube / 12 mL round tube	28 x 12 mL	17 x 95	010-1311



## Fiberlite F15-8x50cy Fixed Angle Rotor

25°, R<sub>max</sub> 104 mm

Centrifuge	Maximum speed (rpm)	Maximum RCF (x g)
X4T, X4TR, X4FR	14,500	24,446
S4T, S4TR, S4FR	n/a	n/a

Description	Rotor capacity (places x volume, mL)	Maximum tube dimensions (Ø x L, mm)	Cat. No.
<b>Rotor and accessories</b>			
Fiberlite F15-8x50cy for 50 mL conical tubes 	8 x 50 mL	30 x 121	75003663
Replacement O-Ring kit			021-085077
<b>Adapters for F15-8x50cy rotor (set of 2, unless otherwise stated)</b>			
50 mL Nalgene Oak Ridge tube	8 x 50 mL	29 x 108	010-0377
30 mL Nalgene Oak Ridge tube	8 x 30 mL	26 x 102	010-1147
16 mL Nalgene Oak Ridge tube	8 x 16 mL	18 x 123	010-0376
15 mL Corning conical tube	8 x 15 mL	17 x 121	75100378
15 mL Nunc conical tube and filtration devices	8 x 15 mL	17 x 121	010-1340
10 mL Nalgene Oak Ridge tube / 12 mL round tube	8 x 12 mL	17 x 95	010-1311

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## HIGHConic II Aluminium Fixed Angle Rotor

45°, R<sub>max</sub> 126 mm

Centrifuge	Maximum speed (rpm)	Maximum RCF (x g)
X4T, X4TR, X4FR	10,350	15,090
S4T, S4TR, S4FR	10,350	15,090

Description	Rotor capacity (places x volume, mL)	Maximum tube dimensions (Ø x L, mm)	Cat. No.
<b>Rotor and accessories</b>			
HIGHConic fixed angle rotor for 100 mL/85 mL Nalgene Oak Ridge tube	6 x 100 mL	38 x 123	75003620
Replacement O-Ring kit			75003058
85 mL Nalgene Oak Ridge tube (case of 100)	6 x 85 mL	38 x 106	3118-0085
<b>Adapters for HIGHConic rotor (each, unless stated)</b>			
50 mL Nalgene Oak Ridge tube	6 x 50 mL	30 x 117	75003102
50 mL Conical tube	6 x 50 mL	30 x 121	75003103
30 mL Nalgene Oak Ridge tube / 38 mL round tube	6 x 30 mL	26 x 110	75003094
16 mL Nalgene Oak Ridge tube	6 x 16 mL	18 x 123	76002906
15 mL Conical tube	6 x 15 mL	17 x 123	75003095
10 mL Nalgene Oak Ridge tube / 12 mL round tube	12 x 12 mL	17 x 95	75003093
6.5 mL Round bottom tube	12 x 6.5 mL	13 x 114	75003092
1.5/2 mL Microtube	24 x 2 mL	11 x 40	75003091



## MicroClick 18x5 Aluminum Fixed Angle Rotor

45°, R<sub>max</sub> 102 mm

Centrifuge	Maximum speed (rpm)	Maximum RCF (x g)
X4T, X4TR, X4FR	15,000	24,652
S4T, S4TR, S4FR	15,000	24,652


Description	Rotor capacity (places x volume, mL)	Maximum tube dimensions (Ø x L, mm)	Cat. No.
<b>Rotor and accessories</b>			
18 x 5 MicroClick rotor for 5 mL conical and flip top tubes	18 x 5 mL	17 x 62	75005765
Replacement O-Ring kit			75005726
<b>Adapter for MicroClick rotor (set of 2)</b>			
1.5/2 mL Microtube	18 x 5	11 x 45	75005756



## Fiberlite F21-48x2 Fixed Angle Rotor

45°,  $R_{max}$  97 mm

Centrifuge	Maximum speed (rpm)	Maximum RCF (x g)
X4T, X4TR, X4FR	15,200	25,055
S4T, S4TR, S4FR	15,200	25,055


Description	Rotor capacity (places x volume, mL)	Maximum tube dimensions (Ø x L, mm)	Cat. No.
<b>Rotor and accessories</b>			
Fiberlite F21-48 x 2 for 1.5/2 mL microtubes 	48 x 2 mL	11 x 50	75003664
Replacement O-Ring kit			021-489021
<b>Adapter for F21-48x2 rotor (set of 24)</b>			
1.2 mL PCR tube		5 x 20	76003750



## Microliter 48 x 2 Aluminium Fixed Angle Rotor

45°,  $R_{max}$  98 mm

Centrifuge	Maximum speed (rpm)	Maximum RCF (x g)
X4T, X4TR, X4FR	15,200	25,314
S4T, S4TR, S4FR	15,200	25,314


Description	Rotor capacity (places x volume, mL)	Maximum tube dimensions (Ø x L, mm)	Cat. No.
<b>Rotor and accessories</b>			
48 x 2 Aluminum for 1.5/2 mL microtubes 	48 x 2 mL	11 x 50	75003602
Replacement O-Ring kit			75003349



## MicroClick 30 x 2 Aluminum Fixed Angle Rotor

45°,  $R_{max}$  99 mm

Centrifuge	Maximum speed (rpm)	Maximum RCF (x g)
X4T, X4TR, X4FR	14,000	21,694
S4T, S4TR, S4FR	14,000	21,694

Description	Rotor capacity (places x volume, mL)	Maximum tube dimensions (Ø x L, mm)	Cat. No.
<b>Rotor and accessories</b>			
30 x 2 MicroClick for 1.5/2 mL microtubes and spin columns 	30 x 2 mL	11 x 50	75005719
Replacement O-Ring kit			75005726


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## Microliter 30 x 2 Aluminum Fixed Angle Rotor

45°, R<sub>max</sub> 100 mm

Centrifuge	Maximum speed (rpm)	Maximum RCF (x g)
X4T, X4TR, X4FR	15,200	25,830
S4T, S4TR, S4FR	15,200	25,830

Description	Rotor capacity (places x volume, mL)	Maximum tube dimensions (Ø x L, mm)	Cat. No.
<b>Rotor and accessories</b>			
30 x 2 Aluminum for 1.5/2 mL microtubes 	30 x 2 mL	11 x 50	75003652
Replacement O-Ring kit			75003349
<b>Adapters for MicroClick 30 x 2, Microliter 30 x 2 and Microliter 48 x 2 rotors (set of 30)</b>			
0.5 mL Microtube		8 x 44	75005753
0.25 mL Microtube		6 x 46	75005754
0.2 mL PCR tube		5 x 20	75005752

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## Connectivity

### SECURE-Spin mode



Description	Cat. No.
<b>Software and accessories</b>	
SECURE-Spin mode	75009990
Centri-Log Plus Software* (requires SECURE-Spin mode)	75007742
Sample tracking kit* (requires Centri-Log Plus software)	<ul style="list-style-type: none"> <li>For floor-standing centrifuges (barcode scanner, holder, and cable) 75007740</li> <li>For benchtop centrifuges (barcode scanner and cable) 75007743</li> </ul>
Network access kit* (cable)	75007741

\* Product sold separately.

† Centri-Log Plus software version must be at least 2.12.0.

# X4T and X4TR Centrifuges



## 4 L Benchtop centrifuges (X series): specifications and ordering information

Specifications	X4T		X4TR	
	IVD-MD	General Use Only	IVD-MD	General Use Only
<b>Swinging buckets rotors</b>				
Maximum capacity	4 x 1,000 mL with TX-1000 rotor			
Maximum speed	6,100 rpm with H-Flex HS4 rotor			
Maximum RCF	7,196 x g with H-Flex HS4 rotor			
<b>Fixed angle rotors</b>				
Maximum capacity	6 x 250 mL with F14-6x250LE rotor			
Maximum speed	15,200 rpm with F21-48x2, Microliter 48x2 or Microliter 30x2			
Maximum RCF	25,830 x g with Microliter 30x2			
<b>Centrifuge details</b>				
Control system	Microprocessor			
Drive system	Direct, brushless induction low profile motor			
Accel/decel profiles	Choices of 9 accel / 10 decel rates			
Material	Front, top, sides: PC-ABS plastic painted with 2K PUR-based lacquer; metal housing: cold rolled steel with powder paint; centrifuge bowl: stainless steel; centrifuge feet: rubber			
Safety features	SMARTSpin Imbalance detection, finger-pinch prevention, crash-proof construction			
Sustainability features	Green Mode, scheduling features, greener rotor options		GreenCool technology, Green Mode, scheduling features, greener rotor options	
Noise level <sup>1</sup>	<50 dB(A)		<51 dB(A)	
Warranty	5 years limited (2 years standard warranty + 3 additional years on motor and refrigeration)			
Includes	Corrosion resistance oil (70009824), power cord, declaration of conformity (where applicable)			
Temperature range	N/A		-20°C to +40°C	
Number of compatible rotors	18			
<b>Display details</b>				
Display	Full color touch screen interface			
Run time	Max 99h, 59min, 59sec; also with continuous and customizable pulse			
Speed	Increments of 1 rpm / 1 x g			
Timer	Count up or down in increments of 1 second			
Temperature	N/A		Sample temperature in increments of 1 degree	
Program storage	Up to 100 run programs with step programming			
Programmability	Via easy access touchscreen menu			
<b>Dimensions, weight</b>				
Dimensions HxWxD lid closed (cm)	36.2 x 56.6 x 69.0		36.1 x 74.6 x 69.5	
Height lid open (cm)	86.1		86.0	
Dimensions HxWxD lid closed (inches)	14.3 x 22.3 x 27.2		14.2 x 29.4 x 27.2	
Height lid open (inches)	33.9		33.9	
Net weight (kg)	89.0		125.0 (129.0 for 100V)	
Net weight (lbs)	196.2		275.6	
Gross weight (kg)	110.0		147.0 (151.0 for 100V)	
Gross weight (lbs)	242.6		324.1	
<b>Certifications and standards</b>				
IVD/MD	√		√	
Certifications	All models: IEC/UL/EN 61010-1, IEC/UL/EN 61010-2-020, IEC/UL/EN 61326-1, FCC part 15 Additional certification for refrigerated models: IEC/UL/EN 61010-2-011 Additional certifications for IVD-MD models: IEC/UL/EN 61010-2-101, IEC/UL/EN 61326-2-6			
Standards/ directives	ISO 14971, ISO 13485, ISO 9001 Additional directives for IVD-MD models: FDA listed, Device Class 1, EU IVDR class A			
Cleanroom compatibility	Class ISO 6 according to DIN EN ISO 14644-1			
<b>Ordering information</b>				
Ordering information	X4T		X4TR	
	IVD-MD	General Use Only	IVD-MD	General Use Only
220-240V 50/60Hz (Global)	75007341*	75007343	75007365*	75007366
208-240V 60Hz (North America only)	75007341*	N/A	75007364*§	N/A
120V 60Hz (Global)	75007340*	N/A	75007364*	N/A
100V 50/60Hz (Japan only)	N/A	75007339	N/A	75007363

1. Noise level measured with TX-1000 rotor at 1,000 x g/ 2,070 rpm.

\*Indicates a centrifuge, rotor and/or adapter product approved for use in diagnostic applications; see user manual for details.

§ Refrigerated models are rated to be used with 120V-240V, 60Hz power sources and will include both the NEMA 5-15P (120V) and NEMA 6-15P (208V) plug heads.

# S4T and S4TR Centrifuges



## 4 L Benchtop centrifuges (S series): specifications and ordering information

Specifications	S4T		S4TR	
	IVD-MD	General Use Only	IVD-MD	General Use Only
<b>Swinging buckets rotors</b>				
Maximum capacity	4 x 1,000 mL with TX-1000 rotor			
Maximum speed	6,100 rpm with H-Flex HS4 rotor			
Maximum RCF	7,196 x g with H-Flex HS4 rotor			
<b>Fixed angle rotors</b>				
Maximum capacity	6 x 100 mL with F15-6x100y or F10-6x100 LEX rotor			
Maximum speed	15,200 rpm with F21-48x2, Microliter 48x2 or Microliter 30x2			
Maximum RCF	25,830 x g with Microliter 30x2			
<b>Centrifuge details</b>				
Control system	Microprocessor			
Drive system	Direct, brushless induction low profile motor			
Accel/decel profiles	Choices of 9 accel / 10 decel rates			
Material	Front, top, sides: PC-ABS plastic painted with 2K PUR-based lacquer; metal housing: cold rolled steel with powder paint; centrifuge bowl: stainless steel; centrifuge feet: rubber			
Safety features	SMARTSpin imbalance detection, finger-pinch prevention, crash-proof construction			
Sustainability features	LCD powersave mode, greener rotor options	GreenCool technology, LCD powersave mode, greener rotor options		
Noise level <sup>1</sup>	<50 dB(A)		<51 dB(A)	
Warranty	5 years limited (2 years standard warranty + 3 additional years on motor and refrigeration)			
Includes	Corrosion resistance oil (70009824), power cord, declaration of conformity (where applicable)			
Temperature range	N/A		-20°C to +40°C	
Number of compatible rotors	13			
<b>Display details</b>				
Display	Push button and high contrast LCD interface			
Run time	Max 9h, 59min; also with continuous and pulse modes			
Speed	Increments of 50 rpm / 50 x g			
Timer	Count down only in increments of 1 second (from 9 min 59 seconds) and in increments of 1 minute (>10 min)			
Temperature	N/A		Sample temperature in increments of 1 degree	
Program storage	Up to 6 run programs			
Programmability	Via 6 direct access buttons			
<b>Dimensions, weight</b>				
Dimensions HxWxD lid closed (cm)	36.2 x 56.6 x 69.0		36.1 x 74.6 x 69.5	
Height lid open (cm)	86.1		86.0	
Dimensions HxWxD lid closed (inches)	14.3 x 22.3 x 27.2		14.2 x 29.4 x 27.2	
Height lid open (inches)	33.9		33.9	
Net weight (kg)	89.0		125.0 (129.0 for 100V)	
Net weight (lbs)	196.2		275.6	
Gross weight (kg)	110.0		147.0 (151.0 for 100V)	
Gross weight (lbs)	242.6		324.1	
<b>Certifications and standards</b>				
IVD/MD	√		√	
Certifications	All models: IEC/UL/EN 61010-1, IEC/UL/EN 61010-2-020, IEC/UL/EN 61326-1, FCC part 15 Additional certification for refrigerated models: IEC/UL/EN 61010-2-011 Additional certifications for IVD-MD models: IEC/UL/EN 61010-2-101, IEC/UL/EN 61326-2-6			
Standards/ directives	ISO 14971, ISO 13485, ISO 9001 Additional directives for IVD-MD models: FDA listed, Device Class 1, EU IVDR class A			
Cleanroom compatibility	Class ISO 6 according to DIN EN ISO 14644-1			
<b>Ordering information</b>				
Ordering information	S4T		S4TR	
	IVD-MD	General Use Only	IVD-MD	General Use Only
220-240V 50/60Hz (Global)	75007332*	75007333	75007357*	75007358
208-240V 60Hz (North America only)	75007332*	N/A	75007356*§	N/A
120V 60Hz (Global)	75007331*	N/A	75007356*	N/A
100V 50/60Hz (Japan only)	N/A	N/A	N/A	N/A

1. Noise level measured with TX-1000 rotor at 1,000 x g/ 2,070 rpm.

\*Indicates a centrifuge, rotor and/or adapter product approved for use in diagnostic applications; see user manual for details.

§ Refrigerated models are rated to be used with 120V-240V, 60Hz power sources and will include both the NEMA 5-15P (120V) and NEMA 6-15P (208V) plug heads.

# X4FR Centrifuge



## 4 L Floor model centrifuges (X series): specifications and ordering information

Specifications	X4FR	
	IVD-MD	General Use Only
<b>Swinging buckets rotors</b>		
Maximum capacity	4 x 1,000 mL with TX-1000 rotor	
Maximum speed	6,100 rpm with H-Flex HS4 rotor	
Maximum RCF	7,196 x g with H-Flex HS4 rotor	
<b>Fixed angle rotors</b>		
Maximum capacity	6 x 250 mL with F14-6x250LE rotor	
Maximum speed	15,200 rpm with F21-48x2, Microliter 48x2 or Microliter 30x2	
Maximum RCF	25,830 x g with Microliter 30x2	
<b>Centrifuge details</b>		
Control system	Microprocessor	
Drive system	Direct, brushless induction low profile motor	
Accel/decel profiles	Choices of 9 accel / 10 decel rates	
Material	Front, top, sides: PC-ABS plastic painted with 2K PUR-based lacquer; metal housing: cold rolled steel with powder paint; centrifuge bowl: stainless steel; centrifuge feet: lockable casters	
Safety features	SMARTSpin imbalance detection, finger-pinch prevention, crash-proof construction	
Sustainability features	GreenCool technology, Green Mode, scheduling features, greener rotor options	
Noise level <sup>1</sup>	<54 dB(A)	
Warranty	5 years limited (2 years standard warranty + 3 additional years on motor and refrigeration)	
Includes	Corrosion resistance oil (70009824), power cord, declaration of conformity (where applicable)	
Temperature range	-20°C to +40°C	
Number of compatible rotors	18	
<b>Display details</b>		
Display	Full color touch screen interface	
Run time	Max 99h, 59min, 59sec; also with continuous and customizable pulse	
Speed	Increments of 1 rpm / 1 x g	
Timer	Count up or down in increments of 1 second	
Temperature	Sample temperature in increments of 1 degree	
Program storage	Up to 100 run programs with step programming	
Programmability	Via easy access touch screen menu	
<b>Dimensions, weight</b>		
Dimensions HxWxD lid closed (cm)	83.5 x 56.4 x 69.6 cm	
Height lid open (cm)	135.0	
Dimensions HxWxD lid closed (inches)	32.9 x 22.2 x 27.2	
Height lid open (inches)	53.1	
Net weight (kg)	155 (159 for 100V)	
Net weight (lbs)	341.8	
Gross weight (kg)	188 (192 for 100V)	
Gross weight (lbs)	414.5	
<b>Certifications and standards</b>		
IVD/MD	√	
Certifications	IEC/UL/EN 61010-1, IEC/UL/EN 61010-2-020, IEC/UL/EN 61326-1, FCC part 15, IEC/UL/EN 61010-2-011, IEC/UL/EN 61010-2-101, IEC/UL/EN 61326-2-6	IEC/UL/EN 61010-1, IEC/UL/EN 61010-2-020, IEC/UL/EN 61326-1, FCC part 15, IEC/UL/EN 61010-2-011
Standards/ directives	ISO 14971, ISO 13485, ISO 9001, FDA listed, Device Class 1, EU IVDR class A	ISO 14971, ISO 13485, ISO 9001
Cleanroom compatibility	Class ISO 8 according to DIN EN ISO 14644-1	
<b>Ordering information</b>		
	X4FR	
	IVD-MD	General Use Only
220-240V 50/60Hz (Global)	75007361*	75007362
208-240V 60Hz (North America only)	75007360*§	N/A
120V 60Hz (Global)	75007360*	N/A
100V 50/60Hz (Japan only)	N/A	75007359

1. Noise level measured with TX-1000 rotor at 1,000 x g / 2,070 rpm.

\*Indicates a centrifuge, rotor and/or adapter product approved for use in diagnostic applications; see user manual for details.

§ Refrigerated models are rated to be used with 120V-240V, 60Hz power sources and will include both the NEMA 5-15P (120V) and NEMA 6-15P (208V) plug heads.

# S4FR Centrifuge



## 4 L Floor model centrifuges (S series): specifications and ordering information

Specifications	S4FR	
	IVD-MD	General Use Only
<b>Swinging buckets rotors</b>		
Maximum capacity	4 x 1,000 mL with TX-1000 rotor	
Maximum speed	6,100 rpm with H-Flex HS4 rotor	
Maximum RCF	7,196 x g with H-Flex HS4 rotor	
<b>Fixed angle rotors</b>		
Maximum capacity	6 x 100 mL with F15-6x100y or F10-6x100 LEX rotor	
Maximum speed	15,200 rpm with F21-48x2, Microliter 48x2 or Microliter 30x2	
Maximum RCF	25,830 x g with Microliter 30x2	
<b>Centrifuge details</b>		
Control system	Microprocessor	
Drive system	Direct, brushless induction low profile motor	
Accel/decel profiles	Choices of 9 accel / 10 decel rates	
Material	Front, top, sides: PC-ABS plastic painted with 2K PUR-based lacquer; metal housing: cold rolled steel with powder paint; centrifuge bowl: stainless steel; centrifuge feet: lockable casters	
Safety features	SMARTSpin imbalance detection, finger-pinch prevention, crash-proof construction	
Sustainability features	GreenCool technology, LCD powersave mode, greener rotor options	
Noise level <sup>1</sup>	<54 dB(A)	
Warranty	5 years limited (2 years standard warranty + 3 additional years on motor and refrigeration)	
Includes	Corrosion resistance oil (70009824), power cord, declaration of conformity (where applicable)	
Temperature range	-20°C to +40°C	
Number of compatible rotors	13	
<b>Display details</b>		
Display	Push button and high contrast LCD interface	
Run time	Max 9h, 59min; also with continuous and pulse modes	
Speed	Increments of 50 rpm / 50 x g	
Timer	Count down only in increments of 1 second (from 9 min 59 seconds) and in increments of 1 minute (>10 min)	
Temperature	Sample temperature in increments of 1 degree	
Program storage	Up to 6 run programs	
Programmability	Via 6 direct access buttons	
<b>Dimensions, weight</b>		
Dimensions HxWxD lid closed (cm)	83.5 x 56.4 x 69.6 cm	
Height lid open (cm)	135.0	
Dimensions HxWxD lid closed (inches)	32.9 x 22.2 x 27.2	
Height lid open (inches)	53.1	
Net weight (kg)	155 (159 for 100V)	
Net weight (lbs)	341.8	
Gross weight (kg)	188 (192 for 100V)	
Gross weight (lbs)	414.5	
<b>Certifications and standards</b>		
IVD/MD	√	
Certifications	IEC/UL/EN 61010-1, IEC/UL/EN 61010-2-020, IEC/UL/EN 61326-1, FCC part 15, IEC/UL/EN 61010-2-011, IEC/UL/EN 61010-2-101, IEC/UL/EN 61326-2-6	IEC/UL/EN 61010-1, IEC/UL/EN 61010-2-020, IEC/UL/EN 61326-1, FCC part 15, IEC/UL/EN 61010-2-011
Standards/ directives	ISO 14971, ISO 13485, ISO 9001, FDA listed, Device Class 1, EU IVDR class A	ISO 14971, ISO 13485, ISO 9001
Cleanroom compatibility	Class ISO 8 according to DIN EN ISO 14644-1	
<b>Ordering information</b>		
	S4FR	
	IVD-MD	General Use Only
220-240V 50/60Hz (Global)	75007353*	75007354
208-240V 60Hz (North America only)	75007352*§	N/A
120V 60Hz (Global)	75007352*	N/A
100V 50/60Hz (Japan only)	N/A	N/A

1. Noise level measured with TX-1000 rotor at 1,000 x g/ 2,070 rpm.

\*Indicates a centrifuge, rotor and/or adapter product approved for use in diagnostic applications; see user manual for details.

§ Refrigerated models are rated to be used with 120V-240V, 60Hz power sources and will include both the NEMA 5-15P (120V) and NEMA 6-15P (208V) plug heads.



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