

thermo scientific



Accelerate productivity
with unequaled durability

Thermo Scientific Fiberlite
Carbon Fiber Rotors



ThermoFisher
SCIENTIFIC

Thermo Scientific Fiberlite rotors

maximize centrifuge performance with versatility, speed and a robust, corrosion-free design

Improved ergonomics and productivity

Lightweight design

Large metal centrifuge rotors often present a unique lifting hazard in the laboratory due to their weight and awkward shape. Lightweight Fiberlite rotors—up to 60% less weight than metallic rotors⁽¹⁾—facilitate a safer work environment and minimize risk of damage to centrifugation equipment as a result of these ergonomic improvements.

Additionally, these lightweight properties result in faster acceleration/deceleration rates for shorter run times.

Unequaled durability and cleaning convenience

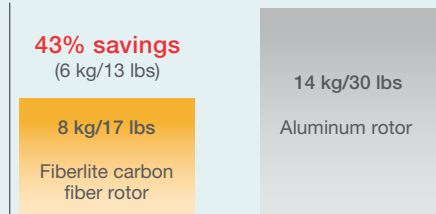
Corrosion and fatigue resistance

Traditionally, the primary cause of rotor failure is from damage to metal surfaces due to moisture, chemicals or alkaline solutions that weaken the metal rotor's structural integrity. Carbon fiber composite rotors are corrosion-resistant, eliminating this ever-present hazard, and are safe to use with most mild laboratory detergents and solutions, providing easy rotor care and maintenance.

Substantial load or stress, as a result of high rotational speeds and repeat cycles, can also threaten metal rotor structure by causing it to stretch and change in size, limiting rotor life or leading to failure. Thermo Scientific™ Fiberlite™ rotors are fatigue-resistant, mitigating this threat.

Weight

Weight comparison of fully loaded 6 x 250 mL capacity floor model rotors⁽¹⁾

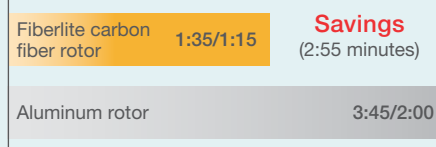


Rotor weight

Figure 1. Weight savings with carbon fiber rotors.

Speed

Acceleration and deceleration rate comparison of 6 x 250 mL capacity floor model rotors⁽¹⁾



Accel/decel rates

Figure 2. Time savings with carbon fiber rotors.

¹ Based on a comparison with manufacturers' published specifications.



Exceptional value within your reach

15-year warranty^[2] in all centrifuges

Unlike the limited lifetime of metal rotors due to potential failure risks, Fiberlite carbon fiber rotors are backed by a warranty^[2] up to two times longer than other rotors^[3].

Unique repairability

In contrast to traditional metal rotors, Fiberlite carbon fiber rotors are repairable if damaged.

Superior insulation

Carbon fiber material possesses naturally insulating properties, which helps to maintain sample temperature integrity.

Warranty

Average warranty periods for metal rotors compared with Fiberlite carbon fiber rotors^[4]

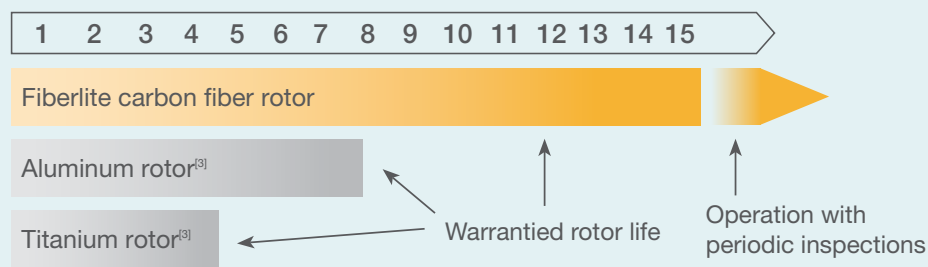


Figure 3. Warranty with carbon fiber rotors.

2 Subject to Thermo Fisher Scientific's standard limited warranty. See thermofisher.com or your sales representative for details.

3 Warranty coverage may vary by rotor. Please refer to manufacturer for specific warranty coverage for each rotor.

4 Average warranty periods were calculated based on industry average of years an aluminum or titanium rotor may be covered under warranty per manufacturers' published specifications.




Best-in-class Thermo Scientific Fiberlite rotor portfolio

Seamless integration

From benchtop instruments to advanced floor models, Thermo Scientific centrifuge systems are designed to deliver outstanding performance and reliability in the lab. We provide an integrated solution of rotors, equipment, and accessories, offering exceptional value and best-in-class features including:

- innovation and technical design
- high capacity and speed
- operator, sample and system safety
- operational longevity of your system

Sample containment

- In the event of a tube or bottle failure, a volume of fluid can be contained inside the rotor in a liquid containment annulus, preventing biohazardous samples from escaping; available on select rotors.
- To enhance containment of biohazardous samples, rotors certified by Public Health England, Porton Down, UK are noted by .
- Lids for rotors featuring Thermo Scientific™ Auto-Lock™ rotor exchange enable rotors to remain sealed while being carried to a biocontainment hood for sample retrieval; available on select rotors.



Fiberlite LEX rotor series

The next generation of high capacity Fiberlite rotors, the Fiberlite LEX rotor series, further advances the current carbon fiber design, combining even lower mass with low kinetic energy to deliver superior ergonomics with outstanding performance and safety.

Fiberlite | F9-6x1000 LEX
F10-4x1000 LEX
F12-6x500 LEX
F20-12x50 LEX

Ergonomic design

Fiberlite LEX rotors take the lightweight design of carbon fiber to a whole new level; these rotors are the lightest of their kind¹, further improving ergonomics and ease of handling.

Exceptional performance

The Fiberlite LEX rotor series provides outstanding RCF performance for enhanced productivity—up to 24,471 xg with the 6 x 500 mL (3-Liter volume) Fiberlite LEX rotor and up to 17,568 xg with the 6 x 1000 mL (6-Liter volume) Fiberlite LEX rotor.




Figure 4. Lower weight advantage of Fiberlite LEX rotors.

¹ Based on a comparison with manufacturers' published specifications.

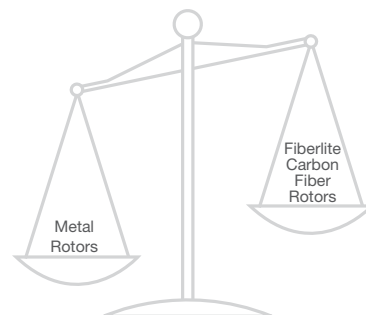
Enhanced safety

From sample protection with advanced sealing properties, to leveraging the rotor's lifting handle, Fiberlite LEX rotors are the top choice for a safe work environment.

In today's biomedical and microbiological laboratories, containment of biological agents and infectious substances are an essential element in maintaining a safe environment. Fiberlite LEX rotors provide multiple levels of protection to enhance biosafety without compromising functionality or convenience.

- Biocontainment tested:** Rotors certified by Public Health England, Porton Down, UK are noted by .
- Liquid containment annulus:** In the event of a bottle failure, a volume of fluid is contained inside the rotor, preventing biohazardous samples from escaping.
- Auto-Lock rotor exchange with Thermo Scientific™ Auto-ID™ rotor identification:** Simplifies run set-up and mitigates the worry of overspeeding or rotor accidents.

Lower kinetic energy resulting from the lightweight design, enhances equipment performance and safety of work environment.



Superspeed rotors

With volumes ranging from 1.5 mL to 6 Liters, a full range of Fiberlite carbon fiber rotors is available for superspeed floor model centrifuges, facilitating applications spanning pharmaceutical, biotechnology and academic research.



Figure 5. Rotor cross section displaying the position of the built-in lifting handle and liquid containment annulus (available on select rotors).

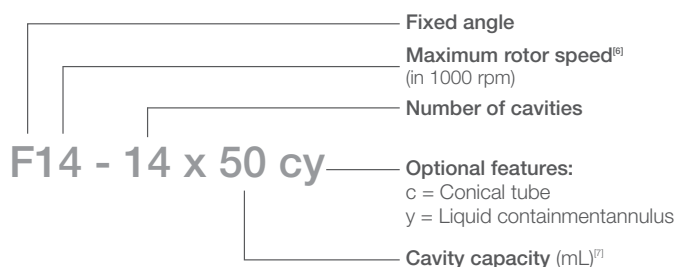


Figure 6. Fiberlite rotor model nomenclature.

High capacity and seamless compatibility

Fiberlite | F9-6x1000 LEX
F10-4x1000 LEX
F12-6x500 LEX
F14-6x250y

- Simplify preparation by loading tubes directly into Fiberlite rotors, eliminating multi-piece canister assemblies, which can be misplaced or damaged.
- Work seamlessly with Thermo Scientific™ bottles, including the 1000 mL Fiberlite high performance wide-mouth polypropylene and polycarbonate centrifuge bottles that process one full liter at maximum speeds (20,584 xg) with leakproof assembly.

Enhanced ergonomics

- Lightweight design allows easy rotor transport in and out of the centrifuge.
- Installation or exchange of rotors requires less force—especially with lifting handle on select models—reducing risk of injury.

Conical tube efficiency

Fiberlite | F14-14x50cy
F15-8x50cy

- Spin 14 x 50 mL conical tubes at maximum rotor speed (33,700 xg) without tube damage.
- Process 15 mL conicals with available adapters for flexibility.

Small-volume protocol support

Fiberlite | F20-12x50 LEX
F21-8x50y
F23-48x1.5

- Small-volume pelleting and microtubes ranging from 1.5 to 50 mL at RCFs up to 57,300 xg.

⁶ Actual maximum rotor speed may vary depending on centrifuge.

⁷ Actual fill volumes may vary from nominal volume.

Fiberlite rotors for the Thermo Scientific™ Sorvall™ LYNX Superspeed Centrifuge series

Rotor innovations shorten run set-up time while providing peace-of-mind that the rotor is secure.



Figure 7. Auto-Lock rotor exchange. Secure, trouble-free rotor installation and removal in as little as 3 seconds.



Figure 8. Auto-ID instant rotor identification. Improves safety, saves times, and protects the integrity of your samples.



Figure 9. Speed handle on rotor lids. Makes tightening the lid safer while also simplifying lid removal.

Auto-Lock rotor exchange

Secure, push-button rotor exchange in as little as 3 seconds delivers:

- Improved safety and confidence that the rotor is automatically and securely locked and will not loosen during a run.
- Trouble-free rotor installation and removal.
 - No tools are required.
 - The rotor locks itself to the centrifuge, eliminating the need for hand-tightening.
- Flexibility to quickly change rotors and applications, matching the needs of your laboratory—today and in the future.

Auto-ID instant rotor identification

Immediate identification of a rotor when secured in the centrifuge chamber, with rotor specifications automatically loaded into the centrifuge parameters.

- Shortens run set-up time by eliminating the need to find and set rotor codes.
- Eliminates over-speed risk, reduces error messages, and improves centrifuge, sample and operator safety.

Speed handle on rotor lids

- Accelerates and simplifies rotor lid tightening, ensuring lid is properly attached.
- Easier and safer lifting and carrying of rotors, further enhanced with the lightweight design.

innovative rotor convenience

Conical tubes

Complete workflow in disposable conical tubes

Fiberlite | F13-14x50cy
F14-14x50cy
F15-8x50cy

- Run samples in inexpensive, disposable conical tubes, reducing the chance for cross-contamination and eliminating many non-productive tasks such as sample transfers and autoclaving.
- Reduce processing times by spinning at maximum speeds up to 33,700 xg^[8] without risk of tube damage.
- Clarify crude lysates for plasmid DNA preps from Qiagen™ Maxi and Midi Prep protocols.

8 Maximum g-force specification may vary depending on centrifuge and tube manufacturer.

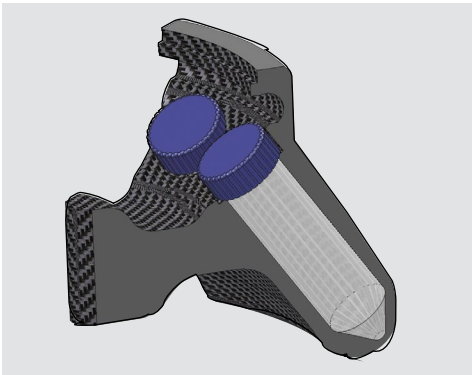


Figure 10. Through exclusive technology, Fiberlite rotor cavities are molded to the exact shape of many disposable conical tubes for maximum support; 50 mL conical tube shown here. In addition, a cap support is designed to relieve high g-forces.

Spin sample in one tube until it's ready to store.

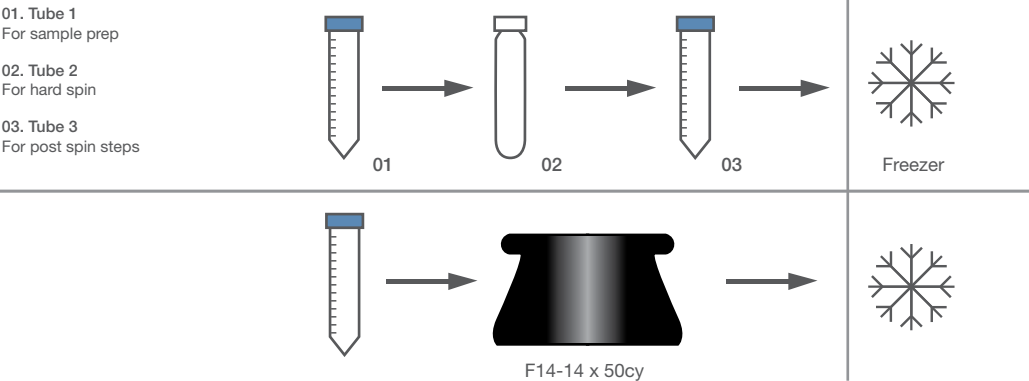


Figure 11. Support preparative centrifugation in a single conical tube for time and cost efficiencies and waste reduction.

Ultraspeed rotors

From proteomics and cell clarification to nucleic acid preparation, the advanced design and manufacturing of Fiberlite ultraspeed rotors deliver high performance, eliminating corrosion and the need for derating or reducing speed over the rotor lifespan.

Large volume processing

Fiberlite | F37L-8x100

- Realize 33% more capacity⁽¹⁾ with two additional tube cavities for high volume separations.
- Achieve forces of up to 182,460 xg for time savings on separations of subcellular organelles or concentration of viruses.
- Collect or purify small macro molecular species including enzymes, antibodies and proteins from standard culture flasks up to 500 mL in a single run.

Remarkable sample throughput of microtubes

Fiberlite | F50L-24x1.5

- Provide full tube support at RCF of 280,000 xg for sharp and efficient pelleting of microparticles in high performance microtubes.
- Run partial filled tubes, as low as 0.2 mL, at maximum speed for extended times without excessive tube crazing or sample loss.
- Experience multifunctional use for preparative analysis with ultracentrifuge systems.

¹ Based on a comparison with manufacturers' published specifications.



Figure 12. Fiberlite ultraspeed rotors (counterclockwise from top right): F37L-8x100 (37,000 rpm; 182,460 xg); F50L-8x39 (50,000 rpm; 266,280 xg); F50L-24x1.5 (50,000 rpm; 280,000 xg); F65L-6x13.5 (65,000 rpm; 324,140 xg).

Benchtop rotors

Choose a Fiberlite benchtop rotor solution for high speed applications including PCR post-reaction cleanup, cell culture, DNA sample preparation, subcellular fractionation and protein identification.

Accelerated applications

Fiberlite | F14-6x250LE
F15-6x100y

- Achieve outstanding g-force without compromising capacity—250 mL up to 18,533 xg; 100 mL up to 24,652 xg—allowing more applications to be done on the benchtop.

Conical tube efficiency

Fiberlite | F13-14x50cy
F15-8x50cy

- Provide generous 14- or 8-place 50 mL conical tube capacity, and g-forces up to 24,446 xg for sample preparation without the need to change tubes.
- Process 15 mL conical tubes with optional adapters for flexibility.

Micro-volume protocol support

Fiberlite | F21-48x2

- Run up to 48 tubes at over 25,000 xg, doubling the capacity of conventional rotors and reducing processing by half.
- Provide user convenience with non-corroding, dual-row configuration.

Outstanding microplate processing










Fiberlite | H3-LV

- Experience exceptional capacity of 28 standard plates or 8 deep-well plates per run with g-forces up to 2,738 xg.
- Ideal for pelleting cells and cellular debris, protein precipitation and collecting physiological fluids for diagnostic testing.



















Figure 13. Easy and secure push-button Auto-Lock rotor exchange in as little as 3 seconds for application versatility and cleaning convenience.











Specifications/Ordering information

Rotors	C	SC	Cat. no.	Related centrifuge	Max speed (rpm)	Max RCF (xg)
				Thermo Scientific		
Sorvall LYNX Superspeed rotors with Auto-Lock						
 Fiberlite F9-6x1000 LEX			096-061075	Sorvall LYNX 6000	9,000	17,568
 Fiberlite F10-4x1000 LEX			096-041075	Sorvall LYNX 6000, 4000	10,500	20,584
 Fiberlite F12-6x500 LEX			096-062375	Sorvall LYNX 6000, 4000	12,000	24,471
 Fiberlite F14-6x250y			096-062075	Sorvall LYNX 6000, 4000	14,000	30,240
 Fiberlite F14-14x50cy	■		096-145075	Sorvall LYNX 6000	14,000	33,746
				Sorvall LYNX 4000	13,000	29,097
 Fiberlite F20-12x50 LEX			096-124375	Sorvall LYNX 6000	20,000	51,428
				Sorvall LYNX 4000	18,000	41,657
 Fiberlite F21-8x50y			096-084275	Sorvall LYNX 6000	20,000	47,850
				Sorvall LYNX 4000	18,000	38,759
 Fiberlite F23-48x1.5			096-484075	Sorvall LYNX 6000	23,000	57,368
				Sorvall LYNX 4000	18,500	37,116

C = Conical tubes SC = Sample containment  Biocontainment certification by Public Health England, Porton Down, UK.

Rotors	C	SC	Cat. no.	Related centrifuge		Max speed (rpm)	Max RCF (xg)
				Thermo Scientific	Beckman™		
Legacy Superspeed RC series rotors							
			096-041053	Sorvall™ RC 6™ Plus		9,500	16,880
				Sorvall™ Evolution™ RC series		9,000	15,150
				Sorvall RC-5, RC-2 series		7,000	9,160
			096-062185	Sorvall RC 6 Plus, Evolution RC series		12,000	24,500
				Sorvall RC-5, RC-2 series		10,000	17,000
			78500	Sorvall RC 6 Plus, Evolution RC, RC-6, RC-5, RC-2 series		14,000	30,100
	■		46922	Sorvall RC 6 Plus, RC-5, RC-2 series		13,000	29,000
			096-064025	Sorvall RC 6 Plus, RC-5, RC-2 series		20,000	43,900
			46923	Sorvall RC 6 Plus, RC-5, RC-2 series		20,000	47,500
			096-484020	Sorvall RC 6 Plus, RC-5, RC-2 series		20,000	43,500
Ultraspeed rotors							
			096-08056	Sorvall WX series	L8 series	37,000	182,460
			096-087051	Sorvall WX series	L8 series	50,000	266,280
			096-067135	Sorvall WX series	L8 series	65,000	324,140
			096-247028	Sorvall WX series	L8 series	50,000	280,000





C = Conical tubes SC = Sample containment  Biocontainment certification by Public Health England, Porton Down, UK.

Rotors	C	SC	Cat. no.	Related centrifuge	Max speed (rpm)	Max RCF (xg)
				Thermo Scientific		
Benchtop rotors						
 Fiberlite F14-6x250 LE			75003662	Sorvall™ Legend™ XT, Multifuge™ X3, SL 40F series	10,000 11,000 ^[9]	15,317 18,533 ^[9]
 Fiberlite F15-6x100y			75003698	Sorvall Legend X1/XT, Multifuge X1/X3, SL 40F series	15,000	24,652
				Sorvall ST 16/40, Megafuge™ 16/40, SL 16/40 series	13,000	18,516
 Fiberlite F13-14x50cy	■		75003661	Sorvall Legend X1, Multifuge X1 series	8,500	12,359
			75006526	Sorvall Legend XT, Multifuge X3, SL 40F series	9,250 10,000 ^[9]	14,636 17,105 ^[9]
				Sorvall Legend T, Multifuge 3 series	9,250 10,000 ^[9]	14,636 17,105 ^[9]
 Fiberlite F15-8x50cy	■		75003663	Sorvall Legend XT, Multifuge X3, SL 40F series	14,500	24,446
				75006516	Sorvall Legend X1, Multifuge X1	14,000 14,500 ^[9]
 Fiberlite F21-48x2			75003664	Sorvall Legend X1/XT, Sorvall ST 16/40, Multifuge X1/X3, Megafuge 16/40, SL 16/40, SL 40F series	15,200	25,055
			75006527	Sorvall Legend T, Multifuge 3 series	15,000	24,400
 Fiberlite H3-LV			75003665	Sorvall Legend X1/XT, Sorvall ST 16/40, Multifuge X1/X3, Megafuge 16/40, SL 16/40, SL 40F series	3,600	2,738

9 With 230 V centrifuge. C = Conical tubes SC = Sample containment  Biocontainment certification by Public Health England, Porton Down, UK.

Perfect fit

Select Fiberlite rotors come complete with an initial set of bottles and tubes

Thermo Scientific bottles and tubes	Nominal capacity ^[7] per cavity	Description	Cat. no.	Fiberlite rotor
	1000 mL (1 L)	Fiberlite High Performance Bottle, PPCO, with Nylon cap and PP GF plug	010-1491	F9-6x1000 LEX (17,568 xg) F10-4x1000 LEX (20,584 xg)
	500 mL	Fiberlite High Performance Bottle, PPCO, with PP GF cap and plug	010-1493	F12-6x500 LEX (24,471 xg)
	250 mL	Fiberlite High Performance Bottle, PPCO, with PP GF cap and plug	010-1495	F14-6x250y (30,240 xg)
	50 mL	Nalgene Oak Ridge Tube, PPCO, with Polypropylene sealing cap	3139-0050	F21-8x50y (47,850 xg) F20-12x50 LEX (51,428 xg)

PPCO = Polypropylene copolymer PP GF = Polypropylene glass filled

⁷ Actual fill volumes may vary from nominal volume.

Optimize the performance of your centrifuge

It's simple. From 1 L bottles, to 15 and 50 mL conical tubes, to microplates and tissue culture flasks, the versatile selection of Thermo Scientific centrifugation labware works seamlessly with your complete centrifuge and rotor system, bringing together quality and performance.



Thermo Scientific Fiberlite rotor adapters and accessories

Sorvall LYNX Superspeed rotors with Auto-Lock	Legacy Superspeed RC series rotors	Benchtop rotors	Ultraspeed rotors
Fiberlite rotor (Cat. No.)	Adapter description ⁽⁷⁾	No. of vessels per adapter	Cat. No.
	39 mL Ultraspeed		
F50L-8x39 (096-087051)	13.5 mL Tube	1	010-1142
	50 mL		
	30 mL Oak Ridge Tube	1	010-0167
	16 mL Oak Ridge Tube	1	010-0382
F20-12x50 LEX (096-124375)	15 mL Conical Tube	1	010-1123
F21-8x50y (096-084275)	10 mL Oak Ridge Tube	1	010-1306
F21-8x50y (46923)	10 mL BD Vacutainer™ Tube	1	010-1068
	3 mL BD Vacutainer Tube	1	010-1128
	1 mL BD Microtainer™ Tube	3	010-1127
	50 mL Conical		
	50 mL Oak Ridge Tube	1	010-0377
F14-14x50cy (096-145075)	30 mL Oak Ridge Tube	1	010-1147
F13-14x50cy (46922)	16 mL Oak Ridge Tube	1	010-0376
F13-14x50cy (75003661)	15 mL Conical Tube	1	75100378
F13-14x50cy (75006526)	15 mL Millipore™ Filtration Device	1	010-1340
	10 mL Oak Ridge Tube	1	010-1311
	10 mL BD Vacutainer Tube	1	010-1124
	100 mL		
	50 mL Oak Ridge Tube	1	75003102 ⁽¹⁰⁾
	50 mL Conical Tube	1	75003103 ⁽¹⁰⁾
	30 mL Oak Ridge Tube	1	75003094 ⁽¹⁰⁾
	16 mL Oak Ridge Tube	1	76002906 ⁽¹⁰⁾
F20-6x100 (096-064025)	15 mL Conical Tube	1	75003095 ⁽¹⁰⁾
F15-6x100y (75003698)	10 mL Oak Ridge Tube	1	75003093 ⁽¹⁰⁾
	10 mL BD Vacutainer Tube	1	010-1274
	6.5 mL Round Bottom Tube	2	750030921 ⁽¹⁰⁾
	3 mL BD Vacutainer Tube	3	010-1126
	1.5/2 mL Microtube	4	75003091 ⁽¹⁰⁾
	1 mL BD Microtainer Tube	6	010-1125
	100 mL Ultraspeed		
F37L-8x100 (096-08056)	39 mL Tube	1	010-0189
	13.5 mL Tube	1	010-0191
	250 mL		
	100 mL Oak Ridge Tube	1	010-1119
	50 mL Conical Tube	1	75100136
	50 mL Oak Ridge Tube	1	010-0138
F14-6x250y (096-062075)	30 mL Oak Ridge Tube	2	010-1072
F14-6x250y (78500)	16 mL Oak Ridge Tube	5	010-1074
F14-6x250 LE (75003662)	15 mL Corning™ Conical	5	75101073
	15 mL Conical Tube	5	010-1410
	10 mL Oak Ridge Tube	7	010-1309
	10 mL BD Vacutainer Tube	7	010-1117
	3 mL BD Vacutainer Tube	10	010-1138
	500 mL		
	250 mL Conical Tube	1	010-1135
	250 mL Oak Ridge Tube	1	010-0151
	175 mL Nalgene Conical Bottle	1	010-0152
	100 mL Oak Ridge Tube	1	010-1114
	50 mL Conical Tube	1	010-1102
F12-6x500 LEX (096-062375)	50 mL Oak Ridge Tube	2	010-1112
F12-6x500 LEX (096-062185)	30 mL Oak Ridge Tube	3	010-1115
	16 mL Oak Ridge Tube	7	010-1105
	15 mL Conical Tube	6	010-1099
	10 mL Oak Ridge Tube	7	010-1308
	10 mL BD Vacutainer Tube	7	010-1103
	3 mL BD Vacutainer Tube	14	010-1137
	1000 mL		
	500 mL Oak Ridge Tube	1	010-0145
	250 mL Conical Tube	1	010-1096
	250 mL Oak Ridge Tube	1	010-0150
	175 mL Nalgene Conical Bottle	1	010-1132
	100 mL Oak Ridge Tube	3	010-1093
	50 mL Conical Tube	5	010-0180
F9-6x1000 LEX (096-061075)	50 mL Oak Ridge Tube	7	010-0191
F10-4x1000 LEX (096-041075)	30 mL Oak Ridge Tube	7	010-1095
F10-4x1000 LEX (096-041053)	16 mL Oak Ridge Tube	15	010-1087
	15 mL Conical Tube	12	010-1079
	10 mL Oak Ridge Tube	18	010-1307
	10 mL BD Vacutainer Tube	18	010-1415
	6 mL BD Vacutainer Tube	22	010-1416
	4 mL BD Vacutainer Tube	19	010-1418
	2 mL Filtration Tube and 1.5 mL Conical Tube	12	010-1417
	1.8-2.7 mL BD Vacutainer Tube	30	010-1419
	H3-LV Rotor		
	Promega™ Sliprep™ 96 Device (4 per run)	2	018-029032
H3-LV (75003665)	Standard Microplates (28 per run)	14	018-029031
	2 mL Deep-well Microplates (8 per run)	4	018-029031



Adapters sold in sets of 2, unless otherwise indicated.
 7 Actual fill volumes may vary from nominal volume
 10 Sold in pack of one.

Centrifuge rotor maintenance

Centrifuge rotor maintenance is critical to the protection of your samples. With more than 100 years of experience and leadership in centrifugation, our Thermo Scientific Rotor Safety Program, featuring on-site rotor inspection and safety clinics, protects the longevity of your investment and the safety of your workplace by preventing premature rotor failure.

Thermo Scientific product representatives will evaluate the safety of your rotors and provide a comprehensive report for each rotor examined. As part of the inspection, our representatives will present information on proper rotor care and offer recommendations based upon the current rotor condition to maximize the performance of your centrifuge.

Please contact your sales representative to schedule a clinic or visit

thermofisher.com/rotorsafety



Find out more at **thermofisher.com/fiberlite**

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