



Centrifugation

Five reasons

to choose carbon fiber rotors for
optimization of your sample separation

“Thermo Scientific™ Sorvall™
LYNX 4000 high-speed
centrifuge is highly reliable,
and the use of light-weighted
carbon fiber rotors is an
exceptional experience in
our routine protocols on
handling bacteria culture
and protein purification.”—
Laboratory manager,
A leading immunology center

From benchtop instruments to advanced floor models, Thermo Scientific™ centrifuge systems are designed to deliver outstanding performance and reliability in the lab.

Perhaps the most important components in centrifuge systems are the rotors because they need to be able to withstand constant operation without failure. Thermo Scientific™ Fiberlite™ rotors, constructed of durable carbon fiber, offer a compelling alternative to metal rotors. Each Fiberlite rotor is backed by a 15-year warranty, which is up to two times longer than the warranty offered for metal rotors. In contrast to traditional metal rotors, Fiberlite carbon fiber rotors are repairable in the event of damage. And, carbon fiber material possesses naturally insulating properties, which helps to maintain sample temperature integrity. These features set Fiberlite rotors apart and should be strongly considered for your lab centrifugation needs.





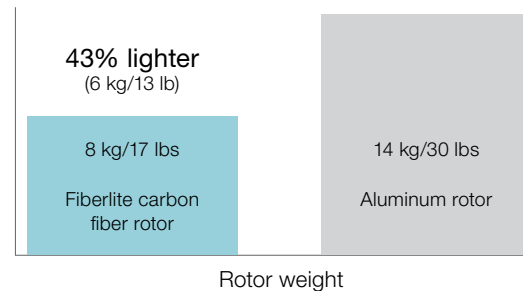
**Streamlined
workflow with
disposable
conical tubes**

1 Lightweight design

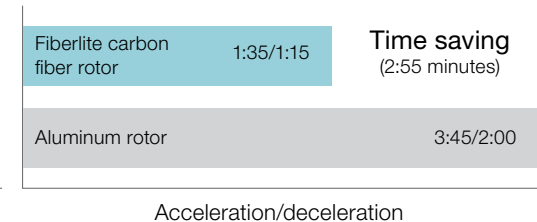


Large metal centrifuge rotors often present a unique lifting hazard in the laboratory due to their weight and awkward shape. Lightweight carbon fiber rotors—at a weight of up to 60% less than that of metallic rotors—facilitate a safer work environment and minimize risk of damage to centrifugation equipment. Additionally, these lightweight properties result in faster acceleration/ deceleration rates for shorter run times.

Weight comparison of fully loaded 6 x 250 mL capacity floor model rotors[1]



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



2

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 hazard, and they are safe to use with most mild laboratory detergents and solutions, for easy rotor care and maintenance.

Due to high rotational speeds and repeat cycles, substantial load or stress can also threaten metal rotor structure by causing it to stretch and change in size, limiting rotor life or leading to failure. Carbon fiber rotors are fatigue-resistant, mitigating this threat and the need for derating speed over the rotor lifespan; this feature is especially important for ultraspeed rotors.



3

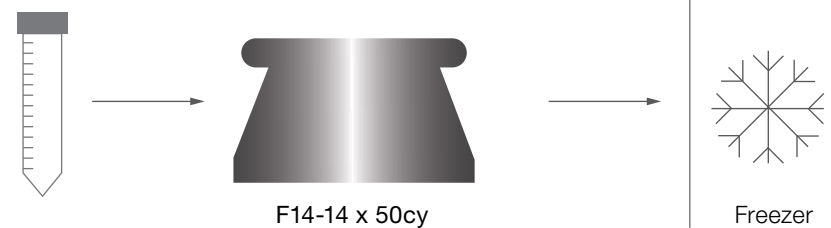
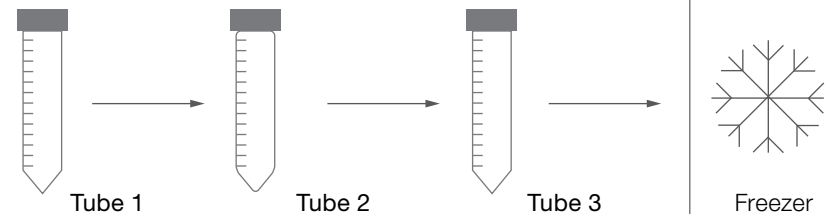
Streamlined workflow with disposable conical tubes



Through exclusive technology, cavities of the Fiberlite carbon fiber rotors are molded to the exact shape of many disposable conical tubes (e.g., 15 mL or 50 mL conical tubes) for maximum support. In addition, a cap support is designed to relieve the stress of high *g*-forces. All these features allow the inexpensive conical tubes to run up to 33,700 x *g* without risk of tube damage.

In preparative centrifugation, spinning samples with a single conical tube until it is ready to store is possible with Fiberlite carbon fiber rotors. Using a single tube can reduce the chance for cross-contamination and helps eliminate many nonproductive tasks such as sample transfers and autoclaving.

Tube 1, for sample prep
Tube 2, for hard spin
Tube 3, for post-spin steps



4

Sample biocontainment



To enhance containment of biohazardous samples, carbon fiber rotors can be certified by Public Health England, Porton Down, UK.

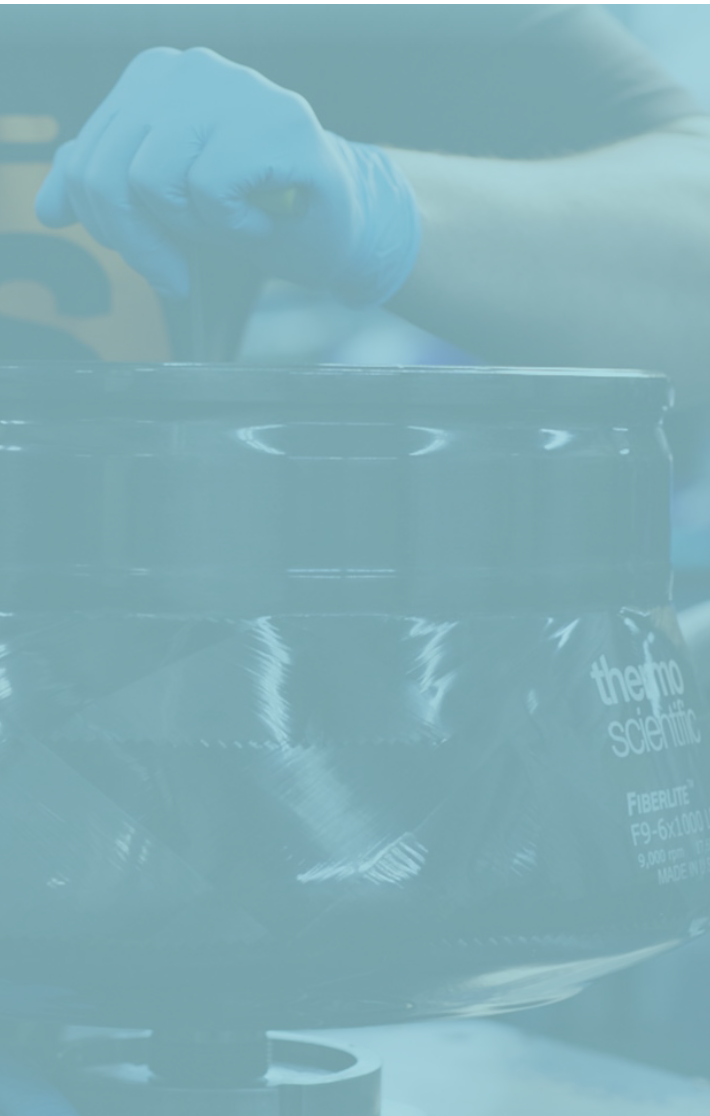
In addition, most large volume Fiberlite carbon fiber rotors feature enhanced liquid containment (ELC), enabling a volume of fluid to be contained in a special curved annulus at the top of the rotor in case of tube or bottle failure.

Rotor lids featuring Thermo Scientific™ Auto-Lock™ rotor exchange enable rotors to remain sealed while being carried to a biocontainment hood for sample retrieval. This feature is available on certain Fiberlite rotors.



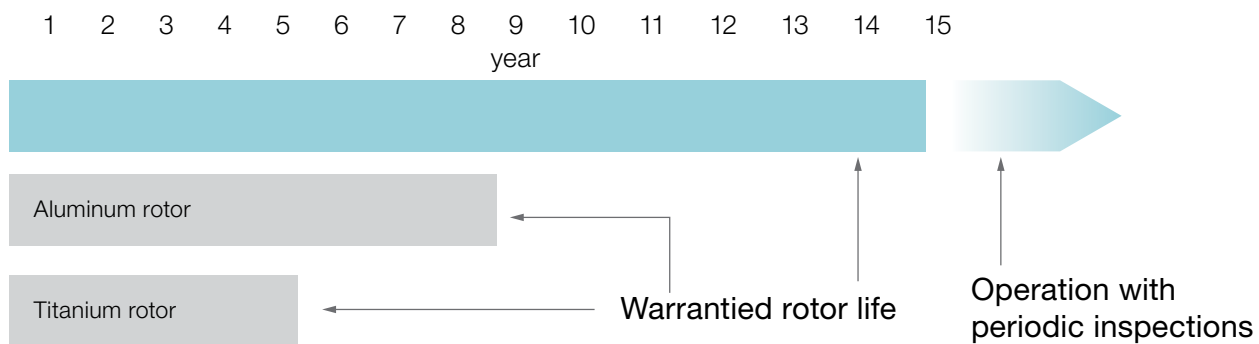
5

Exceptional warranty and repairability



Unlike the limited lifetime of metal rotors due to potential failure risks, Fiberlite carbon fiber rotors are backed by 15 years of warranty, which is up to two times longer than for metal rotors.

In contrast to traditional metal rotors, Fiberlite carbon fiber rotors are repairable if damaged. This will reduce the operation cost of the laboratory and, at the same time, make the world more sustainable with less waste produced.



Summary

5 reasons

The introduction of carbon fiber rotors has taken the development of centrifugation systems to the next level of technology advancement. With the lightweight design, corrosion and fatigue resistance, sample containment features, and unparalleled 15 years of warranty, Fiberlite carbon fiber rotors offer improved ergonomics, durability, safety, and sustainability.



Learn more at thermofisher.com/floorcentrifugefiberliterotors

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