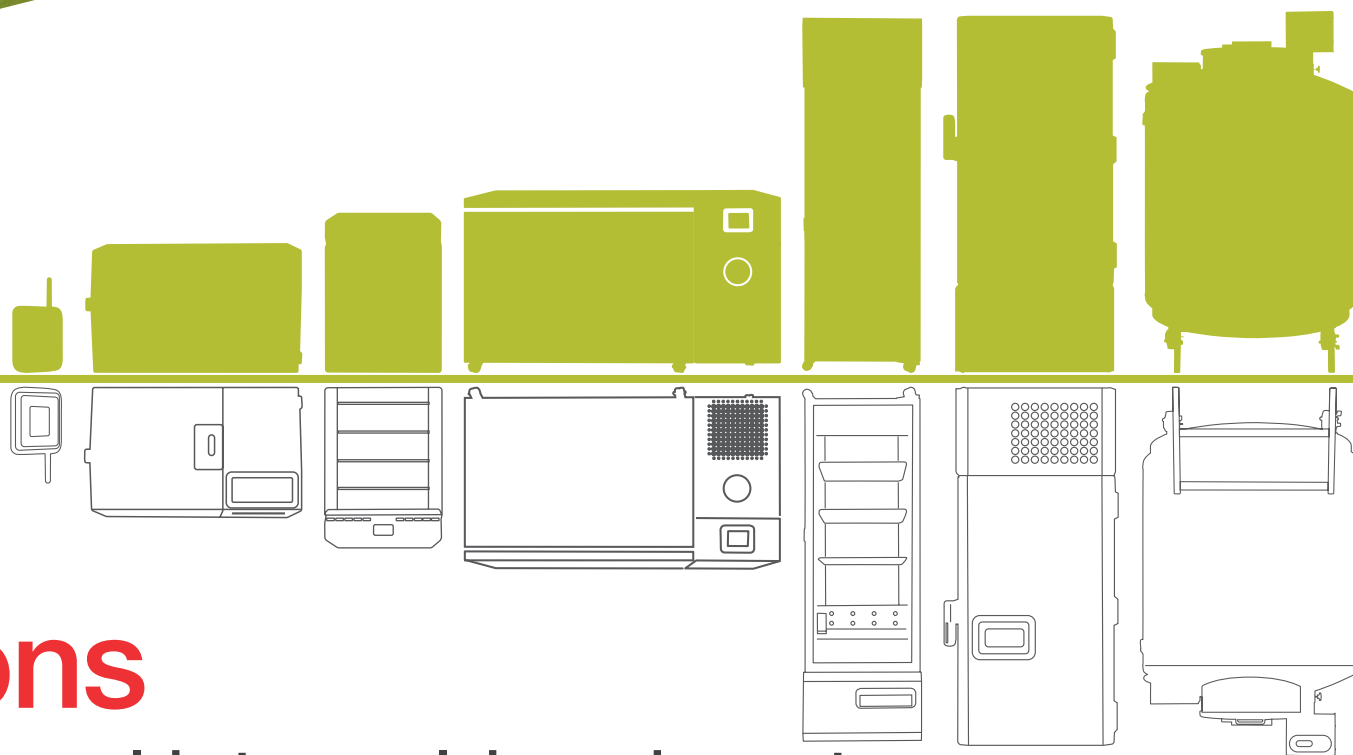


Cold storage



Five reasons

for choosing greener cold storage lab equipment

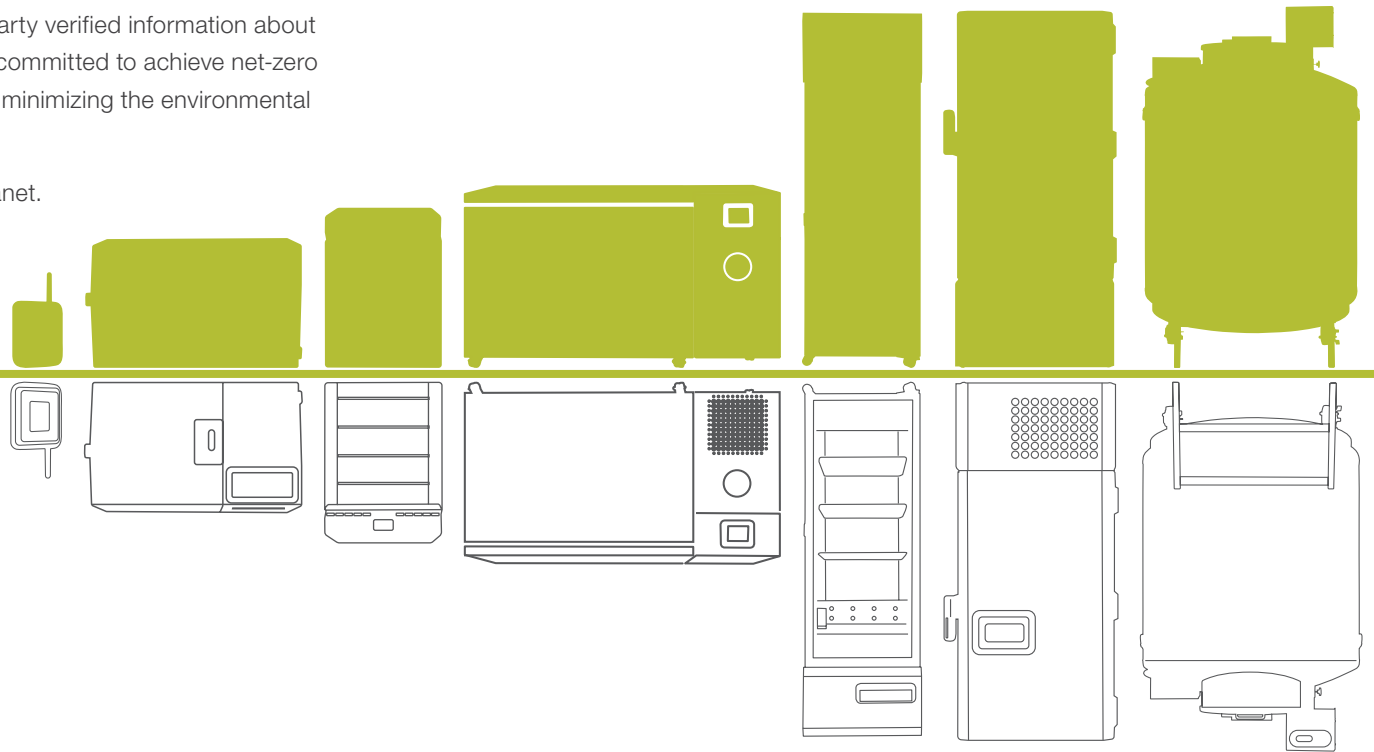
Designed from the bottom up
To help protect the planet



Consider choosing greener cold storage lab equipment

By using green refrigerants, designing for energy efficiency and building our products with recyclable materials whenever possible, we seek to protect the environment and help others do the same. Many of our products are ENERGY STAR® certified and carry the My Green Lab ACT label to provide clear, third-party verified information about the environmental impact of our equipment. We are committed to achieve net-zero emissions by 2050 and are continuously investing in minimizing the environmental impact of our products and packaging.

Designing from the bottom up to help protect the planet.





1 Less hazardous



99%

of our cold storage lab equipment manufactured in US and EU has been converted to low Global Warming Potential (GWP) Hydrocarbon Refrigerants and insulation.

Zero

We also implemented water-blown and greener insulation with 0 GWP and Ozone Depleting Potential (ODP).

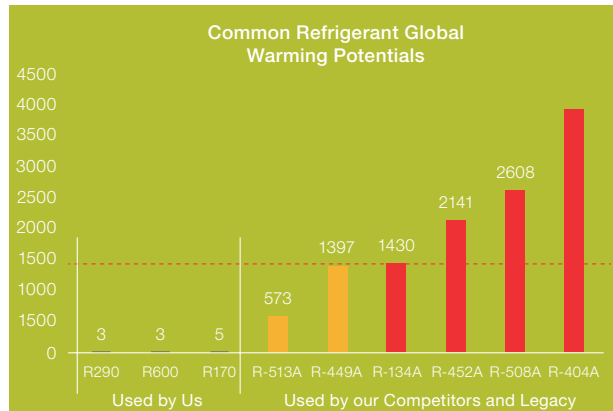
Cold storage lab equipment may not be immediately regarded as hazardous. However, there are cold storage devices across the industry with high Global Warming Potential (GWP) and Ozone Depleting Potential (ODP) potential.

In 2015, we committed to a more sustainable future by supporting U.S. White House efforts to transition to greener refrigerants to help reduce the use and emissions of greenhouse gases, known as hydrofluorocarbons (HFCs).

Our refrigerants have a low Global Warming Potential (GWP <10)

Hydrocarbon refrigerant

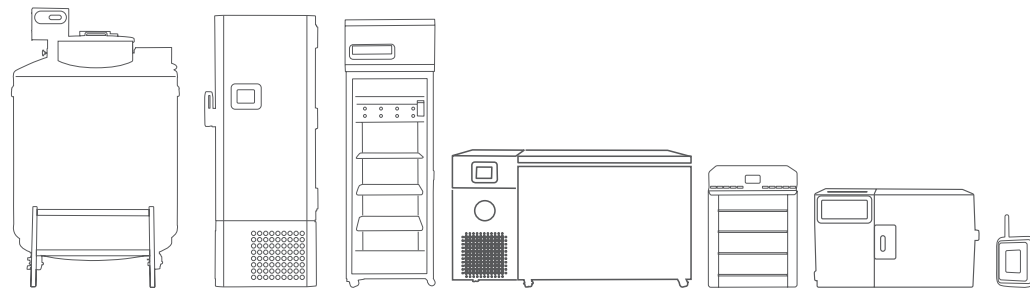
Our refrigerators and freezers



Other common refrigerants (GWP >500)

CFCs HCFCs HFCs Hydrocarbon alternatives

Other suppliers' refrigerators and freezers



2

Less waste



22

Thermo Fisher Scientific manufacturing sites, globally, are either certified or on a path to zero waste.

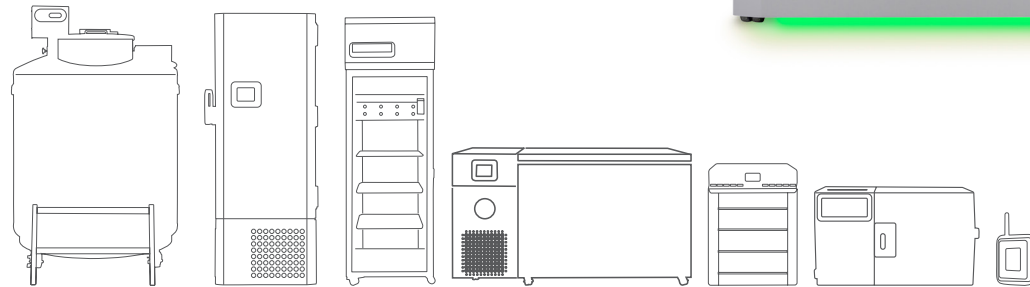
>90%

of the waste generated by these 22 manufacturing sites has been diverted from landfills and waste to energy into recycling or other reprocessing streams.

Thermo Fisher is committed to reducing our resource consumption, using fewer materials and disposing of waste in the most responsible way possible.

The **Asheville, North Carolina** facility, where many of our cold storage lab equipment are manufactured, is a zero-waste manufacturing facility that has implemented improvements to reduce energy usage and waste generation.

1. Using up to 70% recycle and locally sourced steel and other raw materials
2. Stainless steel and copper scrap are recycled
3. Non-recyclable waste is converted to energy
4. Water and energy reduction efforts



3

More energy efficient



>70%

of energy consumption can be reduced by replacing Ultra-Low Temperature Freezers that are more than 10 years old.

>200

ENERGY STAR® certified products – the largest catalog of certified refrigerator and freezer lab equipment solutions on the market.

Consider upgrading your old cold storage lab equipment

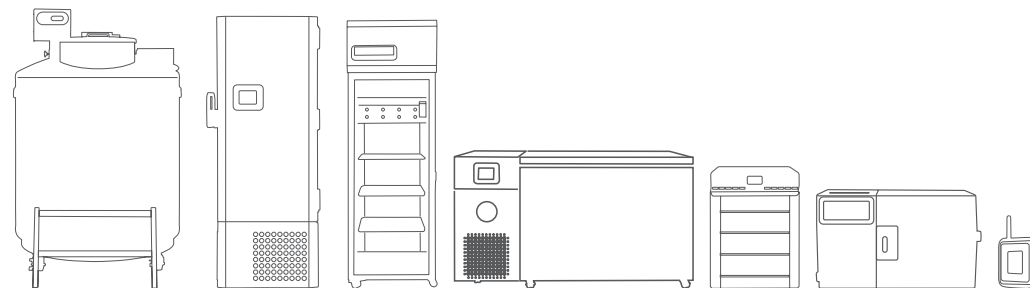
Our TSX Series lab refrigerators, freezers and ultra-low temperature freezers are powered by our unique V-drive technology – designed to provide temperature stability and uniformity by continually adapting to your environment.

This technology alone can reduce energy consumption by up to 50% for lab refrigerators and 25% for lab freezers, compared to previous generations.

[Get in contact with a sales representative](#)

Below is a comparison of energy usage and cost between our newer, natural refrigerant Ultra-Low Temperature (ULT) freezers and our older models. Upgrading your ULT could reduce energy costs.

	10+ year-old ULT with hazardous refrigerants	Thermo Scientific™ TDE ULT with natural refrigerants	Thermo Scientific™ TSX ULT with natural refrigerants
Energy Usage (kW-hr/day)	30	12.5	8.8
Estimated annual energy costs (including HVAC)	\$1,488	\$620	\$435



Designed from the bottom up to help protect the environment, our cold storage lab equipment offers the largest selection of ENERGY STAR®-certified products on the market!

Products that earn the ENERGY STAR® label meet strict energy-efficiency specifications set by the U.S. EPA, helping reduce the environmental footprint while protecting our climate.

3

More energy efficient



5 quick energy-saving tips for the Thermo Scientific TSX Series Ultra-Low Temperature Freezer

1. **Temperature setting:** is linked to the duration of storage – typically, samples needing longer term storage are better stored at -86°C , and shorter term storage needs at -70°C . Adjusting your freezers temperature set to suit your samples can not only safeguard them but can also help reduce energy consumption.

Read this [Smart Note](#) to learn about the benefits of switching your temperature setting to -70°C and key considerations.

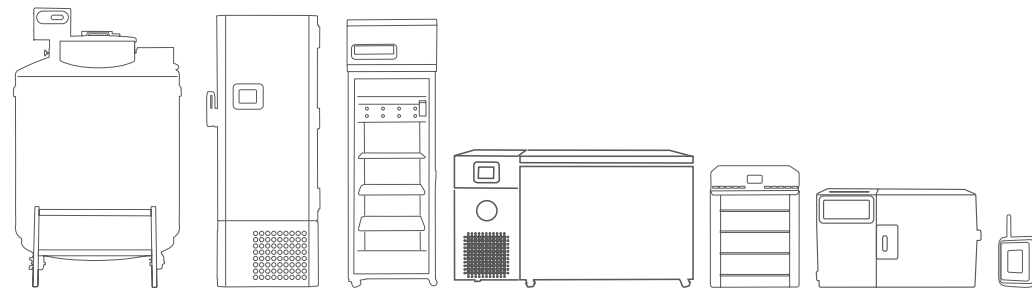
2. **Door opening:** the longer a freezer door is open, the harder it works to get back to setpoint. Organizing what's being stored is key; label samples, maintain an inventory list and track samples' usage are just some ways to keep on top of what's stored. (Top tip: large empty spaces inside a ULT can also increase energy consumption – fill empty spaces with ice boxes or dummy samples).

3. **Location:** The warmer a lab, the harder the freezer works to keep its temperature down. Choose a well ventilated area, keep the freezer away from direct sources of heat, keep a clearance of 20cm on top and sides, and 15cm at the back and avoid placing items on top of the freezer.

4. **Maintenance:** Build up of ice, frost and dust can contribute to more energy consumption. Being mindful of door opening, keeping filters clean, ensuring seals and gaskets are intact and regular preventative maintenance can contribute to a reduction in energy consumption.

5. **Replace old freezers:** As mentioned on page 6 just by updating a ULT that is over 10 years old can reduce energy consumption by 70%

[Get in contact with a sales representative to discuss options for upgrading your freezer.](#)



4

Responsible packaging



>2.12

Metric tons of CO₂ per unit saved* when sourcing ULT's locally and regionalizing production.

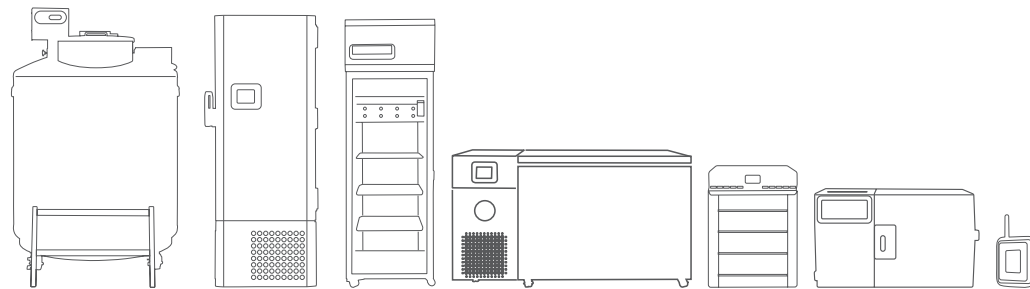
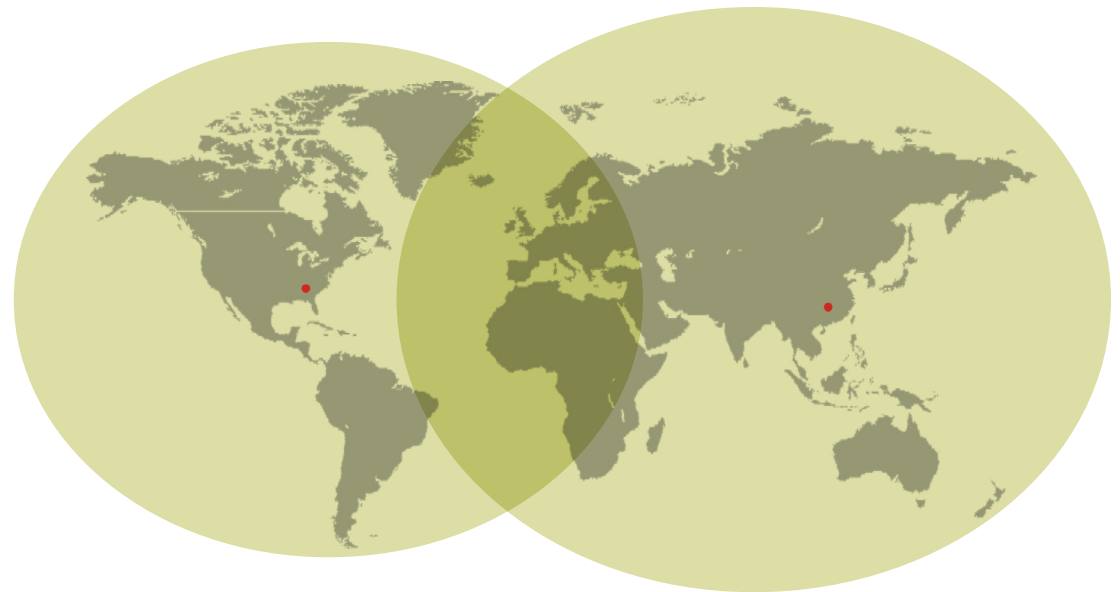
That equates to 5,500 miles driven by a standard internal combustion engine vehicle.

That's why we aim to source local and regionalize production.

*Data based on TSX Series ULT 600-box capacity and shipment examples include:
- Shipping from China to Germany: 4.85 metric tons of CO₂ emissions released
- Shipping from Eastern US to Germany: 2.73 metric tons of CO₂ emissions released

We use locally sourced, and 100%-by-weight recycled corrugate packaging, but packaging is only 1 part of the shipping equation.

Regionalized production of our Ultra-Low Freezers enables us to reduce our total CO₂ emissions from shipping.



5

Extended life



Less production

17%

Fewer units produced yearly when moving from a 10-year life to a 12-year life



Less transport

17%

Fewer units shipped yearly when moving from a 10-year life to a 12-year life



Less waste

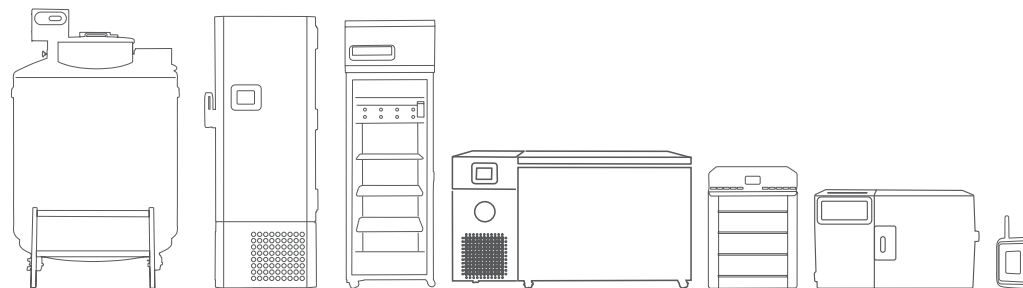
17%

Fewer units disposed of yearly when moving from a 10-year life to a 12-year life

We back our TSX Ultra Low Freezers with a **12-Year Warranty**—2 years longer than the typical Ultra-Low Freezer life span, which equals: Fewer units produced, fewer shipped, and fewer disposed every year.

When disposal is needed, we have recycling programs to help ensure proper disposal of older units.

Product warranties may differ by region.
Contact your local sales rep to find out more.



Transparency in Sustainability: The ACT label A guide for making greener product choices

When you're looking for sustainable products, we believe it should be easy to make informed purchasing decisions. We're working to provide more information about our products' environmental impact by stepping up to participate in the ACT Label program with selected cold storage lab equipment.

Created by non-profit organization My Green Lab to help consumers make smart, sustainable product choices, the virtual ACT Label provides environmental Accountability, Consistency, and Transparency for each labeled product through an environmental impact score. The score is based on the product's environmental impact with regard to manufacturing practices, energy and water use, and end-of-life disposal. It's like an eco-nutrition label for lab products.

Participating in this program is one more way we're partnering to deliver sustainable solutions to help laboratories impact the world in all the right ways, and helping enable more informed sustainable purchasing decisions.

[Watch video](#)



Learn more at thermofisher.com/cold

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Thermo Fisher Scientific Corporate Social Responsibility

As the world leader in serving science, we understand that we have a unique opportunity and responsibility to use our position to make a positive impact on society—not only by enabling our customers' success, but also through our actions as a Company to make the world a better place.

Our CSR approach is focused on four key pillars—Operations, Colleagues, Communities and Environment. This strategic framework allows us to effectively manage the environmental, social and governance (ESG) priorities that are fundamental to our business, driving competitive differentiation, and creating sustainable value for all our stakeholders.

[Read the 2022 Thermo Fisher CSR report to learn more](#)

