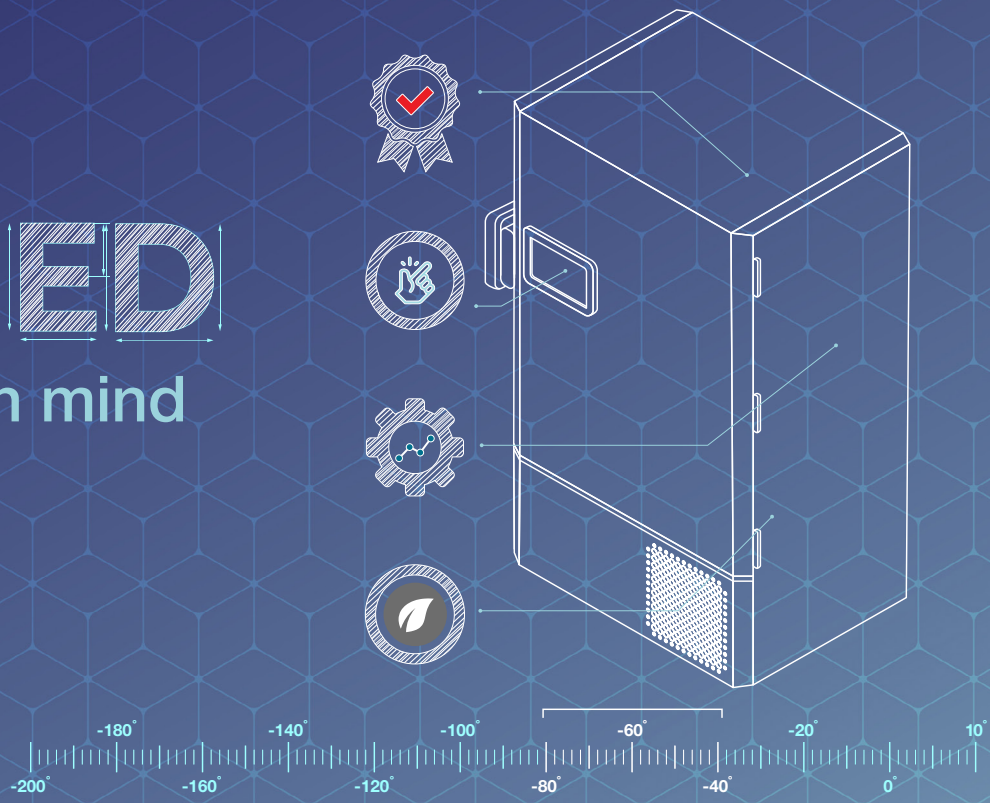
thermo scientific

DESIGNED

with your science in mind



Ultra-low temperature freezers

Thermo Scientific TSX Universal Series ULT freezers

The next generation of our most trusted ULT platform

Find it at **eu.fishersci.com**

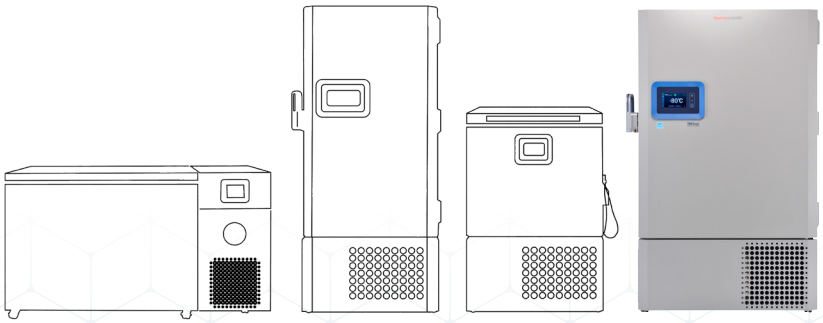
fisher scientific
part of **Thermo Fisher Scientific**

Designed with your science in mind

For over 80 years, Thermo Fisher Scientific has been designing ultra-low temperature (ULT) freezers with your science in mind. Prioritizing sample security and reliability, we recognize the importance of your work, which goes beyond the realm of science and touches the lives of those who benefit from your breakthroughs.

We continue to invest in advancing our products' technological capabilities with laboratories of the future in mind. Our in-house expertise is combined to help improve user experiences and enable high performance for excellent sample protection, future-proof technology with connectivity enablement, more sustainable production, and more energy-efficient operation, supported by global services to help keep your work running.

We focus on designing from the bottom up to help advance your research.



80+ years of innovation

1940

Thermo Fisher Scientific began innovating cold storage lab equipment with the introduction of the Revco™ ULT freezer.

2015

The Thermo Scientific™ TSX™ Series ULT freezers with V-Drive cooling technology with natural refrigerants and insulation was launched.

2019

Updates to the TSX Series ULT platform included implementation of our immersive user touchscreen interface, connectivity platform, and performance enhancements.

2021

TSX Series ULT freezers were upgraded to include new sample safety features and participation in the My Green Lab, ACT label to help provide transparency around the environmental impact of our ULTs.

2024

Thermo Scientific™ TSX™ Universal Series ULT Freezers

The next generation of the TSX Series ULT platform has launched.

TSX Universal Series ULT freezers

The next generation of our most trusted ULT platform

The new TSX Universal Series ULT freezers herald a new era in performance with Universal V-Drive technology, delivering tighter control and faster recovery times. Coupled with an expanded setpoint range, universal voltage, whisper-quiet operation, simplified software updates and much more, TSX Universal seamlessly adapts to your workflow. Advancing sustainability, they are ENERGY STAR™ certified with a 33% energy efficiency improvement, ACT labeled, and produced in our Zero-Waste to Landfill certified facility in Asheville, North Carolina.

TSX Universal ULT: the pinnacle of reliability, sustainability, and innovation.

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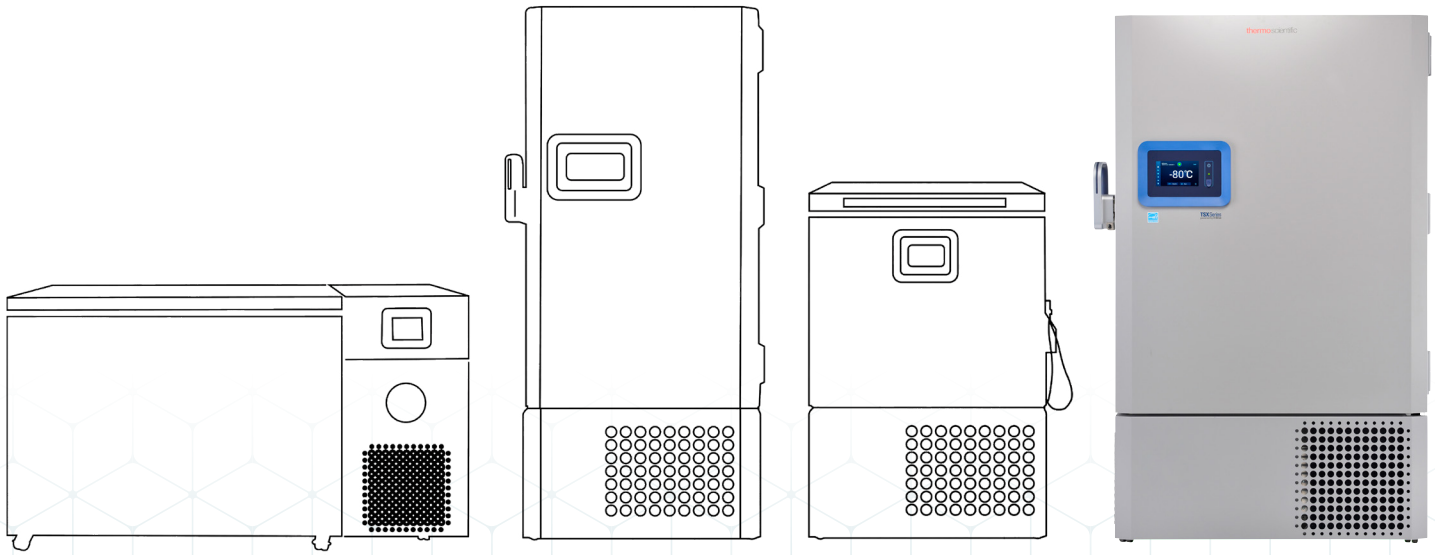


Confidence in quality and reliability

We understand the pivotal role reliable and high-quality lab equipment plays in your research endeavors, that's why our ULT freezers are carefully engineered to meet the exacting demands of modern research environments.

TSX Universal Series ULTs represent our most robust design to date, incorporating insights from over 80 years of experience to enhance every aspect of the system. From sealed system and cabinet construction to software architecture and electrical components, each element of the TSX Universal ULT platform has undergone significant testing and improvements.

Long-term reliability testing: We have implemented a new long-term reliability testing protocol for our TSX Universal ULT freezers platform. This protocol involves rigorous and continuous testing of our ULTs in field and laboratory environments to simulate real world usage across application types.

Every unit tested and documented: 100% of TSX Universal ULT units undergo a comprehensive end-of-line testing process to ensure they meet our rigorous quality standards. We document the results in a factory acceptance test report and a certificate of calibration, which are provided with every unit produced.

Industry-leading warranty: We confidently stand behind our products, and we take pride in offering an industry-leading warranty, which sets us apart from any other ULT supplier in the market.

Designed for reliability-
Compressor, electronics, cabinet, and sealed system

- High usage test
- 20 parameter test procedure
- Vibration testing

Tested for reliability-
Multi-ambient testing

- Tested at 15°C, 20°C and 32°C
- Minimum 16 open air probes
- Peak variation, stability, uniformity
- Door open recovery

Tested to help ensure quality-
100% end of line test

- Temperature pull down
- Monitoring compressor cycling
- Defrost temperatures
- Warmup time
- Bottom out temperature

20-point

Reliability test, 16+ probe location performance test, and 100% end of life test.

+5400

Combined days of continuous reliability testing in the field and laboratory environments.

12 years

Compressor parts and 5-year parts and labour warranty*.

*Restrictions and exclusions apply. Warranty is void if the unit is not maintained as set forth in the operation.

Universally better performance

Our ULT freezers are more than just a product - they are a testament to our commitment to meeting and exceeding our customers' expectations. Through extensive research and development, we have created the next-generation TSX Universal ULTs that set a new standard for performance, across all metrics.

Enhancements to our V-Drive cooling technology: By updating our variable speed compressors, enhancing our intelligent algorithms, and optimizing hardware with our new Universal V-Drive cooling technology, users can now benefit from universally better performance than the previous generation TSX Series ULT platform - demonstrated in Table A.

Adaptable across workflows: Thanks to our new and innovative Universal V-Drive technology, users will experience tighter performance with faster pull-down and recovery times. From high-use academic labs to longer-term storage facilities, you can now enjoy the convenience of using the same unit throughout your diverse workflows, streamlining processes and enhancing overall manageability.

Benefit from up to...

38%
Improvement to peak variation

33%
Decrease in energy consumption

41%
Improvement in pull-down time

52%
Improvement in door-open recovery time

Data based on TSX600 capacity units.

Table A: TSX Universal ULTs have universally better performance when compared to the previous generation TSX Series ULT platform.

	TSX70086FA	TSX70086A	TSX60086FA	TSX60086A	TSX50086FA	TSX50086A	TSX40086FA	TSX40086A
Model	Universal	Standard	Universal	Standard	Universal	Standard	Universal	Standard
Peak variation (-80°C setpoint)	3.5	5.8	3.4	5.5	3.3	6.9	4	6.8
Uniformity	3.3	3.9	3.2	3.4	3.1	4	3.7	4.5
Stability	0.2	1.5	0.2	1.9	0.2	2.6	0.2	2.1
1-minute open door (20° C ambient running @ -75°C minutes)	19	29	15	31	15	24	11	21
Pull down (20° C to -80° C) minutes (hours)	307 (5)	576 (10)	287 (5)	486 (8)	250 (4)	438 (7)	229 (4)	390 (7)
ENERGY STAR power consumption kW-hr/day/ft^3 (m^3)	0.24 (8.13)	0.36 (12.1)	0.27 (7.75)	0.4 (11.5)	0.31 (7.54)	0.45 (10.8)	0.36 (7.03)	0.49 (9.5)
dBA	43.6	48.6	43.6	49.4	43.6	50	43.6	49.8

1) Data is representative of performance and not published product specifications. Technical data sheet test results should not be referenced in developing any regulatory parameters for specific customer usage.

2) Freezer performance will vary based on customer product volume, storage format, operating conditions, test methodology and performing recommended maintenance.

Greener by design™

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: In 2022, we elevated our Design for Sustainability (DfS) approach, positioning our R&D organization to expand, accelerate, and standardize how environmental considerations are embedded into product development. Our strategy focuses on five key impact areas: less hazardous, less waste, more energy efficient, responsibly packaged, and extended life. (Demonstrated in Figure 1)

ENERGY STAR–certified: Built with an unwavering commitment to sustainability, the next-generation TSX Universal ULTs are ENERGY STAR certified, with our largest size using 43% less energy than the allowed amount.

33%
Improvement in energy efficiency over previous generation TSX Series ULT.

100%
All TSX Universal ULTs beat today's ENERGY STAR criteria by wide margins and positioned to meet tightening requirements in the future.

100%
All TSX Universal Series ULTs are My Green Lab ACT labeled.

Transparency in sustainability: We believe it should be easy to make informed purchasing decisions when looking for more sustainable products. By participating in the ACT label program, run by the non-profit organization My Green Lab, we can provide easy-to-use information about our ULTs' environmental impact.

Figure 1: TSX Universal Series ULT freezers – Greener by design approach

Less hazardous

We use natural refrigerants and insulation with extremely low GWP & ODP levels, far lower than current regulatory requirements.

Less waste

Asheville, NC, is a Zero-Waste to Landfill site and our lab freezers are manufactured with 60-70% recycled steel.

More energy efficient

All ULTs are ENERGY STAR certified, providing substantial energy savings.

Responsibly packaged

We use locally sourced and 100% by-weight recycled corrugate packaging and manufacture regionally to reduce transport emissions.

Extended life

Our ULTs offer a 12-year industry-leading warranty, helping minimize the production, shipping, and disposal of units each year.

Pioneering user-centric design

Expanding on the already versatile TSX series' feature suite, the TSX Universal ULT platform is designed for laboratories looking to enhance their capabilities and redefine user experience. With its improved user interface, reduced rapid re-entry times, expanded set points, improved noise output, connectivity integration solutions, and introduction of universal voltages, this platform is designed to help take your laboratory to the next level.

Universal voltage: Operates on 100-230V, 50/60Hz, streamlining procurement and qualification strategies from early R&D to global clinical trials.

Setpoint expansion: Users can now enjoy an expanded setpoint range of up to -40°C, a first for the TSX Series ULT platform.

Simplified updates: Our onboard software streamlines startup and integration, making it easier to access and install the latest updates for continuous access to new features.

Faster re-entry: Improved pressure relief port (PEP) enables re-entry in just 30 seconds, 57% faster than previous TSX ULTs, helping ensure uninterrupted freezer access.

Whisper-quiet: Operating at under 44 decibels, the TSX Universal ULT can be placed anywhere, singly or in multiples, without causing sound pollution.

Certificate and documents: TSX Universal ULTs come shipped with documentation* for GMP or qualification environments, helping facilitate import, incoming inspection, and qualification needs.

TSX Universal ULTs offer a variety of options that can be customized to your application needs;

Versatile and durable storage

- 4 sizes
- 2 inner doors / (5 door option)
- Adjustable shelves
- High density footprint
- Stainless steel shelves
- Extra large capacity
- 7 zone gasket design
- Vacuum insulation panels
- Cold rolled steel cabinet
- Onboard diagnostics

Optional:

- 100s of rack options
- Stainless steel interiors

Compliance and security

- UL 61010, CE, ISO 13485
- ISO 5.5 Cleanroom†
- Factory acceptance reports
- Calibration certificates
- Event and temperature logs
- Settings security
- Back-up battery

Optional:

- IQ/OQ documents
- Electronic locks
- LN_2 and CO_2 back-up systems
- Status lights

Ergonomics and convenience

- Customizable display
- Eye level, high contrast large text display
- Automatic pressure relief
- Frost management system
- Multiple access ports
- Easy roll casters
- Easy to clean surfaces
- Full 7" capacitive touchscreen

* Shipped documents include: Certificate of conformance, EC declaration of conformance, certification of calibration, QC test log sheets, and QC temperature graphs.

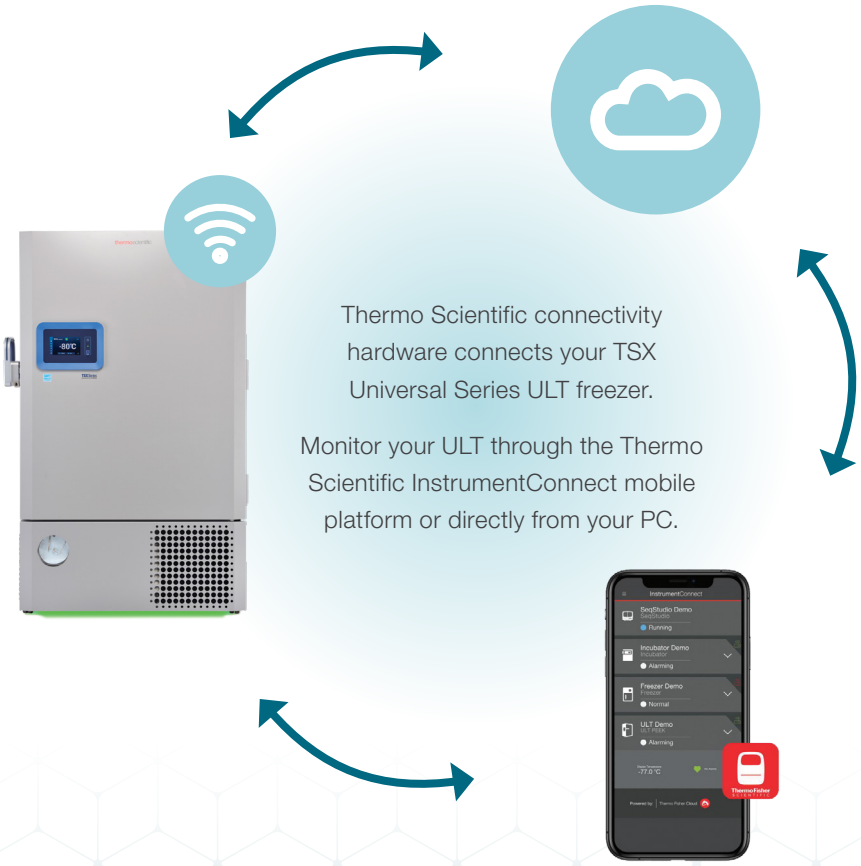
† Test according to ISO 14644-14 and designated as ISO Class 5.5; operational; 0.1 µm, 0.2 µm, 0.3 µm, 0.5 µm, 1.0 µm.

Pioneering user-centric design

Designed with labs of the future in mind, the TSX Universal ULT freezers come with 5V and Power over Ethernet supplies, enabling users to introduce connectivity solutions to help monitor, share, and analyze data, all of which help streamline processes and improve research outcomes.

Enhance sample security and streamline asset management with Thermo Fisher Connect Platform

Thermo Fisher™ Connect Platform provides a secure, centralized platform for cutting-edge asset management and 24/7 remote monitoring to help ensure the integrity of products and samples vital to the work you do.



InstrumentConnect features:

- Real-time instrument health status
- Customizable report downloads
- Mobile and web applications
- Notifications: in-app alerts, email and push messaging
- Measurement data: temperature, system data, settings
- Bulk download and expert capability across multiple units
- Alarms: system, environmental, connectivity
- Event notifications: warnings, user-based events, door open
- Detailed event descriptions
- Up to 6-month notification card of active alarms/events
- Full (lifetime) historical data storage and report retrieval
- Summary health report generation (on-demand and planned)

To learn more about the Connect Platform and available connectivity hardware, visit: thermofisher.com/connectedsolutions

Ordering information

Thermo Scientific TSX Universal Series ULT freezers (-86°C to -40°C) - ordering information

Model number	Capacity cu. ft. (liters)	Rack capacity (2 inch boxes)	Electrical	Plug	Shelves	Door style	Interior dimensions H x W x D in (cm)	Exterior dimensions H x W x D in (cm)
18070030	19.4 (549)	16 (400)	100-230V 50/60 Hz	Country-specific (see table for options)	4 shelves (3 Adjustable)	Outer (1) Inner (2)	28.3 x 23.1 x 51.2 in. (71.9 x 58.8 x 130.1)	37.6 x 28.3 x 78 in. (95.5 x 71.9 x 198.1)
18090030	24.1 (682)	20 (500)					28.3 x 28.8 x 51.2 in. (71.9 x 73.0 x 130.1)	37.6 x 34.0 x 78 in. (95.5 x 86.4 x 198.1)
18010040	28.8 (816)	24 (600)					28.3 x 34.4 x 51.2 in. (71.9 x 87.3 x 130.1)	37.6 x 39.6 x 78 in. (95.5 x 100.6 x 198.1)
18080030	33.5 (949)	28 (700)					28.3 x 40.1 x 51.2 in. (71.9 x 101.9 x 130.1)	37.6 x 45.2 x 78 in. (95.5 x 114.8 x 198.1)

Options and accessories (field installation must be completed by a qualified professional)

Options	Factory installation	Field installation			
LN_2 backup dystem Maintains temperature down to -80°C with liquid nitrogen.	18018544				
CO_2 backup system Maintains temperature down to -67°C with CO_2.	18028544				
Access key option card Access control. Includes five key cards. Supports ISO15693 and ISO14443 protocols.	18038544				
Stainless steel freezer interior	15145114				
Free standing chart 230v 50hz		16318158			
Size dependent options	**Installation**	**18070030**	**18090030**	**18010040**	**18080030**
Revco five inner door configuration	Factory	11376361	11386361	11396361	11306371
Shelf kit: Includes one shelf and shelf support clips	Field	15550572	15728547	15320887	15738547
Power cords	**Cat. No.**				
Continental EU 230V/16A	18035826				
Denmark 230V/16A	18075826				
Italy 230V/16A	18045826				
Switzerland 230V/16A	15588441				
United Kingdom 230V/13A	18055826				

Accessories (optional)				
Access key pack (U.S.): Includes five key cards. Supports ISO15693 protocol	11336381			
Replacement back-up battery	On request			
Size dependent options	**18070030**	**18090030**	**18010040**	**18080030**
Accessory for light bars	17354650	17354650	17344650	17344650
Seismic restraint kit	18095826	18085826	18025826	18065826
Replacement air filter	15708557	15708557	15708557	15708557

unity lab services

Service and support

Unity™ Lab Services provides comprehensive service solutions to support your ULTs— everything from start-up to maintenance and repair to stay compliant. Keep focused on what matters. We've got your back.

Learn more: thermofisher.com/unitylabservices

Start-up services

Service	Region	Cat. No.
Start-up	Europe	17889592

Service plans

Service plans	Factory warranty period	Post-warranty period	
Region	Total Care warranty	Tech Direct service plan	Total Care service plan
Europe	17210414	17200434	17280444

Compliance services

Service	Region	Specification	Model coverage	Cat. No.
IQ/OQ + TM	Europe	TSX ULTs	TSX-series (post 2018), Advanced 89000-series, HLE, RLE, TLE	16444984
IQ/OQ	Europe	TSX ULTs	TSX-series (post 2018), Advanced 89000-series, HLE, RLE, TLE	15671599

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TSX Universal Series ULT freezers

DESIGNED

with your science in mind

Reliability assured

User-centric design

Enhanced performance

Greener by design

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For Laboratory Use. The Ultra Low Temperature (ULT) Freezers TSX Series (Model/s with 'F', for example TSX40086FA) are intended for long term storage and preservation of samples or inventory at temperatures between -40°C to -86°C. The ULT Freezers are intended to be used by trained personnel in a professional environment. It is the customer's responsibility to ensure that the performance of the product is suitable for customers' specific uses or applications.

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