

Thermo Scientific™ TSX Series Ultra-Low Freezers

Now with a lifetime V-Drive variable speed compressor warranty*



Designed to meet the highest protection and sustainability standards for ultra-low storage

- Lifetime V-Drive variable speed compressor warranty***
- Best peak variation of energy-efficient ultra-low freezers:** less than 5°C
- Fastest door opening recovery on the market:** 17 minutes
- 0.85°C steady-state temperature** variation over time
- Best overall temperature uniformity:** < 5.2°C with door openings, < 4.0°C with no door openings
- Long warm-up time** from -80°C to -50°C at 5.05 hours
- NEW! Four capacities:** 400, 500, 600 and 700 2-inch box

*Lifetime of the compressor is 12 years. Lifetime compressor warranty is void if the unit is not maintained as set forth in the operation and service manuals.



Designed to keep samples safe

- Low peak variation protects samples throughout the entire freezer cabinet¹
- V-Drive technology with adaptive control is designed to detect high and low usage patterns, adjust compressor speeds, and reduce energy without compromising protection
- Records temperature and events for the lifetime of the freezer
- No expensive, free-piston engines to repair
- Backed by our Global Service and Support Team

Designed to limit environmental impact and protect your budget

- Reduce energy usage up to 70% by replacing an older ultra-low freezer with a new TSX²
- Uses less than 8 kWh/day, depending on size
- Produces less environmental heat emissions and lowers HVAC costs
- SNAP compliant, natural hydrocarbon refrigerants
- SNAP compliant, environmentally-friendly, water-blown foam insulation
- Manufactured in an award-winning,³ zero-waste to landfill facility

User-friendly design and lab footprint

- All new freezer and user interface design
- Available in four sizes
- Quiet enough to reside directly in the laboratory. At just 45.5 dBA, the sound is comparable to a home refrigerator
- Advanced security features

All data based on internal data unless otherwise noted. Data on file.

1. Typical freezer data based on internal testing with freezer setpoint at -80°C and ambient temperature at 20°C. Performance data varies across freezer size and electrical specifications.
 2. For energy savings up to 70% at -80°C set point, reference info was: 8.7 kWh/day TSX600 compared >5 year large ULT 31.9 kWh/day energy calculator. At -70°C set point, reference info was: 7.9 kWh/day TSX600 compared >5 year large ULT 31.9 kWh/day energy calculator.
 3. Industry Week Best Plant Award, 2013.

User friendly touch-screen interface and cabinet

- NEW! Easy-to-use** set-up wizard, event log, temperature mapping and data downloads
- NEW! Capacitive touch** – even when using latex gloves
- Eliminate the need for a separate chart recorder** with datalogging and temperature mapping features, all exportable via a built-in USB port
- Advanced security features:** alarm settings, padlock-compatible doors and optional access card entry
- Ergonomic design:** comfortable door handle, eye-level touch-screen and shelf-level placement that doesn't require floor-level loading of racks
- Four capacities** (400, 500, 600 and 700 2-inch box) to accommodate a variety of storage needs and lab footprint specifications



Specifications & Ordering Information

Thermo Scientific TSX Series Upright Freezers (-50°C to -86°C)

| VWR Cat. No. | Capacity | | Electrical | Amps / Breaker (Plug) | Max. Shelf Weight lbs (kg) | Interior Dimensions H x W x D in (cm) | Exterior Dimensions H x W* x D in (cm) | Shipping Weight lbs (kg) |
|------------------|------------------|------------|-----------------|-----------------------|----------------------------|---------------------------------------|--|--------------------------|
| | cu. ft. (liters) | 2" cryobox | | | | | | |
| 76019-750 | 19.4 | 400 | 115V / 60Hz | 9.0/15 (NEMA 5-15) | 165 | 51.2 x 23.1 x 28.3 | 78.0 x 28.3 x 37.6 | 665 (302) |
| 76019-452 | (549) | | 208-230V / 60Hz | 4.0/10 (NEMA 6-15) | (75) | (130.1 x 58.8 x 71.9) | (198.1 x 71.9 x 95.5) | 640 (290) |
| 76019-454 | 24.1 | 500 | 115V / 60Hz | 9.5/15 (NEMA 5-15) | 205 | 51.2 x 28.8 x 28.3 | 78.0 x 34.0 x 37.6** | 721 (327) |
| 76019-456 | (682) | | 208-230V / 60Hz | 5.1/10 (NEMA 6-15) | (93) | (130.1 x 73.0 x 71.9) | (198.1 x 86.4 x 95.5) | 696 (316) |
| 76019-458 | 28.8 | 600 | 115V / 60Hz | 8.5/15 (NEMA 5-15) | 245 | 51.2 x 34.4 x 28.3 | 78.0 x 39.6 x 37.6** | 790 (358) |
| 76019-460 | (816) | | 208-230V / 60Hz | 4.0/10 (NEMA 6-15) | (111) | (130.1 x 87.3 x 71.9) | (198.1 x 100.6 x 95.5) | 765 (347) |
| 76019-462 | 33.5 | 700 | 115V / 60Hz | 10.6/15 (NEMA 5-15) | 285 | 51.2 x 40.0 x 28.3 | 78.0 x 45.2 x 37.6** | 894 (406) |
| 76019-464 | (949) | | 208-230V / 60Hz | 5.8/10 (NEMA 6-15) | (129) | (130.1 x 101.6 x 71.9) | (198.1 x 114.8 x 95.5) | 869 (394) |

* Allowance for handle and hinge, add 4.2 in (10.7 cm) to cabinet width

** Doorway width clearance is 34.5 in (87.6 cm) for TSX50086, TSX60086, and TSX70086

Performance Data

| VWR Cat. No. | Energy Consumption (kW-hr/day)* Standard Mode | Peak Variation from -80°C setpoint (°C)** | Door Opening Recovery (minutes) | Warm Up Time (-80°C to -50°C) (minutes)*** | Noise Level (dBA) |
|------------------|---|---|---------------------------------|--|-------------------|
| 76019-750 | 8.3 | +6.0 / +1.1 | 17 | 267 | 47.5 |
| 76019-452 | 7.9 | | | | |
| 76019-454 | 8.7 | +7.1 / +0.4 | 24 | 282 | 49.0 |
| 76019-456 | 8.3 | | | | |
| 76019-458 | 9.4 | +6.9 / +1.8 | 24 | 303 | 45.5 |
| 76019-460 | 8.7 | | | | |
| 76019-462 | 10.4 | +7.0 / +1.6 | 27 | 282 | 48.0 |
| 76019-464 | 9.6 | | | | |

* Energy Calculation: Typical freezer data based on internal testing with freezer setpoint at -80°C and ambient temperature at 20°C

** Peak Variation From Setpoint: Typical freezer data based on internal testing with freezer setpoint at -80°C and ambient temperature at 20°C

*** Warm Up Time: Typical freezer data based on internal testing with freezer setpoint at -80°C and ambient temperature at 20°C



Thermo Scientific™ TSX Series Ultra-Low Freezers

Options and Accessories (Field Installed must be installed by a qualified professional)

| Options | Installation | 400 Box Freezer | 500 Box Freezer | 600 Box Freezer | 700 Box Freezer |
|--|-------------------|-----------------|-----------------|-----------------|-----------------|
| LN2 Backup System Maintains temperature down to -80°C with liquid nitrogen. | Factory Installed | 89200-252 | 89200-252 | 89200-252 | 89200-252 |
| | Field Installed | 76019-742 | 76019-742 | 76019-742 | 76019-742 |
| CO2 Backup System Maintains temperature down to -67°C with CO2. | Factory Installed | 89200-254 | 89200-254 | 89200-254 | 89200-254 |
| | Field Installed | 76019-740 | 76019-740 | 76019-740 | 76019-740 |
| Chart Recorder (Inkless) 6" (15.2 cm), seven day inkless recorder, -115° to +50°C, +5°C resolution | Factory Installed | 89200-256 | 89200-256 | 89200-256 | 89200-256 |
| | Field Installed | 76019-572 | 76019-574 | 76019-576 | 76019-578 |
| Chart Recorder (Ink) 6" (15.2 cm), seven day inkless recorder, -115° to +50°C, +5°C resolution | Factory Installed | 89210-952 | 89210-952 | 89210-952 | 89210-952 |
| | Field Installed | 76019-586 | 76019-588 | 76019-590 | 76019-592 |
| Access Key Option Card Access control. Includes five key cards. Supports ISO15693 and ISO14443 protocols. | Factory Installed | 89200-270 | 89200-270 | 89200-270 | 89200-270 |
| | Field Installed | 76019-738 | 76019-738 | 76019-738 | 76019-738 |
| Twist Lock Plug NEMA L5-20P for 115V / 60Hz | Field Installed | 75812-864 | 75812-864 | 75812-864 | 75812-864 |
| Twist Lock Plug NEMA L6-15P for 208-230V / 60Hz | Field Installed | 75812-866 | 75812-866 | 75812-866 | 75812-866 |
| Twist Lock Plug NEMA L6-20P for 208-230V / 60Hz | Field Installed | 75812-860 | 75812-860 | 75812-860 | 75812-860 |
| Shelf Kit: Includes one shelf and shelf support clips | Factory Installed | 76019-598 | 76019-598 | 76019-598 | 76019-598 |
| Accessories | | 400 Box Freezer | 500 Box Freezer | 600 Box Freezer | 700 Box Freezer |
| Access Key Pack (U.S.): Includes five key cards. Supports ISO15693 protocol | | 89200-246 | 89200-246 | 89200-246 | 89200-246 |
| Chart Paper Ink (Pack of 50) | | 89200-322 | 89200-322 | 89200-322 | 89200-322 |
| Chart Paper Inkless (Pack of 50) | | 89200-272 | 89200-272 | 89200-272 | 89200-272 |
| Replacement Air Filter | | 76019-736 | 76019-736 | 76019-736 | 76019-736 |
| Replacement Back-Up Battery | | 89202-604 | 89202-604 | 89202-604 | 89202-604 |
| Alarm Delay Module: Eliminates nuisance alarms due to intermittent or transitory conditions. Adjustable delay requires alarm condition to exist for user defined period before signal is released to monitoring system. | | 14228-512 | 14228-512 | 14228-512 | 14228-512 |
| Cryo Gloves Medium | | 89176-742 | 89176-742 | 89176-742 | 89176-742 |
| Cryo Gloves Large | | 89176-744 | 89176-744 | 89176-744 | 89176-744 |

* A = 115V/60Hz (NEMA 5-20 plug)

** D = 208-230V/60Hz (NEMA 6-15 plug)

Thermo Scientific™ TSX Series Ultra-Low Freezers

Packages

| TSX with two shelves of sliding drawer racks, including boxes | | | | | |
|---|------------------|------------|------------------|------------|-------------|
| VWR Cat. No. | Capacity Freezer | Cubic Feet | Electrical, 60Hz | # of Racks | # of Boxes* |
| 76019-692 | 400 box | 19.4 | 115V | 8 | 200 |
| 76019-542 | 400 box | 19.4 | 208-230V | 8 | 200 |
| 76019-694 | 500 box | 24.1 | 115V | 10 | 250 |
| 76019-544 | 500 box | 24.1 | 208-230V | 10 | 250 |
| 76019-696 | 600 box | 28.8 | 115V | 12 | 300 |
| 76019-546 | 600 box | 28.8 | 208-230V | 12 | 300 |
| 76019-698 | 700 box | 33.5 | 115V | 14 | 350 |
| 76019-548 | 700 box | 33.5 | 208-230V | 14 | 350 |

| TSX with factory-installed LN2 back-up, two shelves of sliding drawer racks, including boxes | | | | | |
|--|------------------|------------|------------------|------------|-------------|
| VWR Cat. No. | Capacity Freezer | Cubic Feet | Electrical, 60Hz | # of Racks | # of Boxes* |
| 76019-700 | 400 box | 19.4 | 115V | 8 | 200 |
| 76019-550 | 400 box | 19.4 | 208-230V | 8 | 200 |
| 76019-702 | 500 box | 24.1 | 115V | 10 | 250 |
| 76019-552 | 500 box | 24.1 | 208-230V | 10 | 250 |
| 76019-532 | 600 box | 28.8 | 115V | 12 | 300 |
| 76019-554 | 600 box | 28.8 | 208-230V | 12 | 300 |
| 76019-534 | 700 box | 33.5 | 115V | 14 | 350 |
| 76019-556 | 700 box | 33.5 | 208-230V | 14 | 350 |

| TSX with factory-installed CO2 back-up, two shelves of sliding drawer racks, including boxes | | | | | |
|--|------------------|------------|------------------|------------|-------------|
| VWR Cat. No. | Capacity Freezer | Cubic Feet | Electrical, 60Hz | # of Racks | # of Boxes* |
| 76019-536 | 400 box | 19.4 | 115V | 8 | 200 |
| 76019-558 | 400 box | 19.4 | 208-230V | 8 | 200 |
| 76019-704 | 500 box | 24.1 | 115V | 10 | 250 |
| 76019-560 | 500 box | 24.1 | 208-230V | 10 | 250 |
| 76019-706 | 600 box | 28.8 | 115V | 12 | 300 |
| 76019-562 | 600 box | 28.8 | 208-230V | 12 | 300 |
| 76019-708 | 700 box | 33.5 | 115V | 14 | 350 |
| 76019-564 | 700 box | 33.5 | 208-230V | 14 | 350 |

| TSX with factory-installed chart recorder, two shelves of sliding drawer racks, including boxes | | | | | |
|---|------------------|------------|------------------|------------|-------------|
| VWR Cat. No. | Capacity Freezer | Cubic Feet | Electrical, 60Hz | # of Racks | # of Boxes* |
| 76019-710 | 400 box | 19.4 | 115V | 8 | 200 |
| 76019-566 | 400 box | 19.4 | 208-230V | 8 | 200 |
| 76019-712 | 500 box | 24.1 | 115V | 10 | 250 |
| 76019-722 | 500 box | 24.1 | 208-230V | 10 | 250 |
| 76019-714 | 600 box | 28.8 | 115V | 12 | 300 |
| 76019-724 | 600 box | 28.8 | 208-230V | 12 | 300 |
| 76019-716 | 700 box | 33.5 | 115V | 14 | 350 |
| 76019-726 | 700 box | 33.5 | 208-230V | 14 | 350 |

| TSX with factory-installed access card, two shelves of sliding drawer racks, including boxes | | | | | |
|--|------------------|------------|------------------|------------|-------------|
| VWR Cat. No. | Capacity Freezer | Cubic Feet | Electrical, 60Hz | # of Racks | # of Boxes* |
| 76019-718 | 400 box | 19.4 | 115V | 8 | 200 |
| 76019-728 | 400 box | 19.4 | 208-230V | 8 | 200 |
| 76019-720 | 500 box | 24.1 | 115V | 10 | 250 |
| 76019-730 | 500 box | 24.1 | 208-230V | 10 | 250 |
| 76019-538 | 600 box | 28.8 | 115V | 12 | 300 |
| 76019-732 | 600 box | 28.8 | 208-230V | 12 | 300 |
| 76019-540 | 700 box | 33.5 | 115V | 14 | 350 |
| 76019-734 | 700 box | 33.5 | 208-230V | 14 | 350 |

*2-inch fiberboard boxes with 100-count cell dividers

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Racks for Boxes and Microplates

| Racks for 2" (5.08 cm) Boxes | | | | | | | |
|------------------------------|--------------------------------|--|-------------------|--------------------|--------------------|--------------------|--------------------|
| VWR Cat. No. | Description | Dimensions H x W x D in. (cm) | Storage | 400 Box Freezer | 500 Box Freezer | 600 Box Freezer | 700 Box Freezer |
| 97018-458 | Sliding Drawer Rack | 11.9 x 5.5 x 26.9 (30.2 x 14 x 68.3) | Boxes Per Rack | 25 | 25 | 25 | 25 |
| | | | Racks Per Shelf | 4 | 5 | 6 | 7 |
| | | | Racks Per Freezer | 16 | 20 | 24 | 28 |
| | | | Boxes Per Freezer | 400 | 500 | 600 | 700 |
| 89200-200 | Adjustable Side Access Rack | 11.6 x 5.4 x 26.75 (29.5 x 13.7 x 67.9) | Boxes Per Rack | 25 | 25 | 25 | 25 |
| | | | Racks Per Shelf | 4 | 5 | 6 | 7 |
| | | | Racks Per Freezer | 16 | 20 | 24 | 28 |
| | | | Boxes Per Freezer | 400 | 500 | 600 | 700 |

| Racks for 3" (7.62 cm) Boxes | | | | | | | |
|------------------------------|---------------------|---|-------------------|--------------------|--------------------|--------------------|--------------------|
| VWR Cat. No. | Description | Dimensions H x W x D in. (cm) | Storage | 400 Box Freezer | 500 Box Freezer | 600 Box Freezer | 700 Box Freezer |
| 97018-462 | Sliding Drawer Rack | 11.9 x 5.5 x 26.9 (30.2 x 14 x 68.3) | Boxes Per Rack | 15 | 15 | 15 | 15 |
| | | | Racks Per Shelf | 4 | 5 | 6 | 7 |
| | | | Racks Per Freezer | 16 | 20 | 24 | 28 |
| | | | Boxes Per Freezer | 240 | 300 | 360 | 420 |

| Racking Shelf Kits | | | | | | |
|--|---------------------|------------------|------------------|------------------|------------------|--|
| Description | Storage | 400 Box Freezer | 500 Box Freezer | 600 Box Freezer | 700 Box Freezer | |
| Sliding Drawer Racks and 2" Boxes with 100 Count Cell Dividers (fits one shelf) | VWR Cat. No. | 10081-004 | 10081-006 | 89200-128 | 10081-008 | |
| | Racks Included | 4 | 5 | 6 | 7 | |
| | Boxes Included | 100 | 125 | 150 | 175 | |

| Racks for Microplates | | | | | | | |
|-----------------------|--|---|--------------------|--------------------|--------------------|--------------------|--------------------|
| VWR Cat. No. | Description | Dimensions H x W x D in. (cm) | Storage | 400 Box Freezer | 500 Box Freezer | 600 Box Freezer | 700 Box Freezer |
| 89200-162 | Side Access Rack with Locking Rod for Standard or Deepwell | 11.9 x 5.5 x 25.7 (30.2 x 14 x 65.3) | Plates Per Rack | 147 | 147 | 147 | 147 |
| | | | Racks Per Shelf | 4 | 5 | 6 | 7 |
| | | | Racks Per Freezer | 16 | 20 | 24 | 28 |
| | | | Plates Per Freezer | 2352 | 2940 | 3528 | 4116 |

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Boxes

| VWR Cat. No. | Description | # of Divisions | Quantity | Color |
|--------------|---|----------------|----------|----------|
| 55709-968 | Thermo Scientific™ Nalgene™ polycarbonate 2" (5.08 cm) box for 1.2-2.0 mL vials | 81 | 24 | white |
| 55705-424 | 2" (5.08 cm) fiberboard box | 0 | 12 | white |
| 25000-134 | 2" (5.08 cm) fiberboard box | 81 | 1 | white |
| 89205-688 | 2" (5.08 cm) fiberboard box | 100 | 1 | white |
| 55705-480 | 3" (7.62 cm) fiberboard box | 0 | 12 | white |
| 25000-136 | 3" (7.62 cm) fiberboard box | 81 | 1 | white |
| 10141-560 | 2" (5.08 cm) fiberboard box | 0 | 12 | multiple |
| 10141-562 | 2" (5.08 cm) fiberboard box | 0 | 12 | pink |
| 10141-564 | 2" (5.08 cm) fiberboard box | 0 | 12 | red |
| 10141-566 | 2" (5.08 cm) fiberboard box | 0 | 12 | yellow |
| 10141-568 | 2" (5.08 cm) fiberboard box | 0 | 12 | green |
| 10141-570 | 2" (5.08 cm) fiberboard box | 0 | 12 | blue |
| 10141-572 | 2" (5.08 cm) fiberboard box | 0 | 12 | black |

Fiberboard Dividers

| VWR Cat. No. | Description | Quantity/Case |
|--------------|----------------------------------|---------------|
| 55705-640 | Grid dividers for 100 12mm vials | 12 |
| 55701-762 | Grid dividers for 81 13mm vials | 12 |
| 55705-720 | Grid dividers for 64 14mm vials | 12 |
| 55705-683 | Grid dividers for 49 16mm vials | 12 |

Vials and Tubes

| VWR Cat. No. | Description | Quantity/Case |
|--------------|---|---------------|
| 66021-986 | Thermo Scientific™ Nunc™ 1.8mL screw-top round-bottom vials with internal threading | 1,800 |



1.800.932.5000
vwr.com

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