



# TDE Series ultra-low temperature freezers

# TDE Series ultra-low temperature freezers

Thermo Scientific™ TDE Series –80°C ultra-low temperature (ULT) freezers, powered by the H-Drive system, are designed for efficiency. As a result, the series delivers a foundational ULT experience with the reliability and performance needed to protect your work—and the sustainability to meet global compliance.

## Designed to keep your samples safe

- Worry-free storage; with low peak variation, samples are protected throughout the entire cabinet<sup>1</sup>
- Fast door opening recovery; as little as 1 minute for chest freezers
- Secure freezer settings with sample security
- General-purpose models for nondiagnostic general laboratory use, and Class II Medical Device models for storage and preservation of blood and blood products at freezing temperatures<sup>2</sup>
- Backed by our Global Service and Support team

## Limit environmental impact and lower HVAC costs

- Energy use as low as 6.6 kWh/day, depending on size and temperature
- Less heat emission lowers HVAC costs
- SNAP and EU F-gas regulation compliant, natural hydrocarbon refrigerants
- Environmentally friendly, polyurethane foam with non-HFC blowing agent is compliant with SNAP and EU F-gas regulations

## User-friendly and quiet

- H-Drive Information Center (HIC) touchscreen user interface
- Quiet enough to reside directly in the laboratory; at just 50 dBA, the sound is comparable to a home refrigerator<sup>3</sup>
- Decrease storage footprint up to 25%
- 5-year parts and labor standard warranty\*



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

1. Typical freezer data based on internal testing with freezer setpoint at –80°C and ambient temperature at 20°C. Performance data vary across freezer size and electrical specification.

2. Verification of medical devices in the United States can be found on: <https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfrl/rl.cfm>.

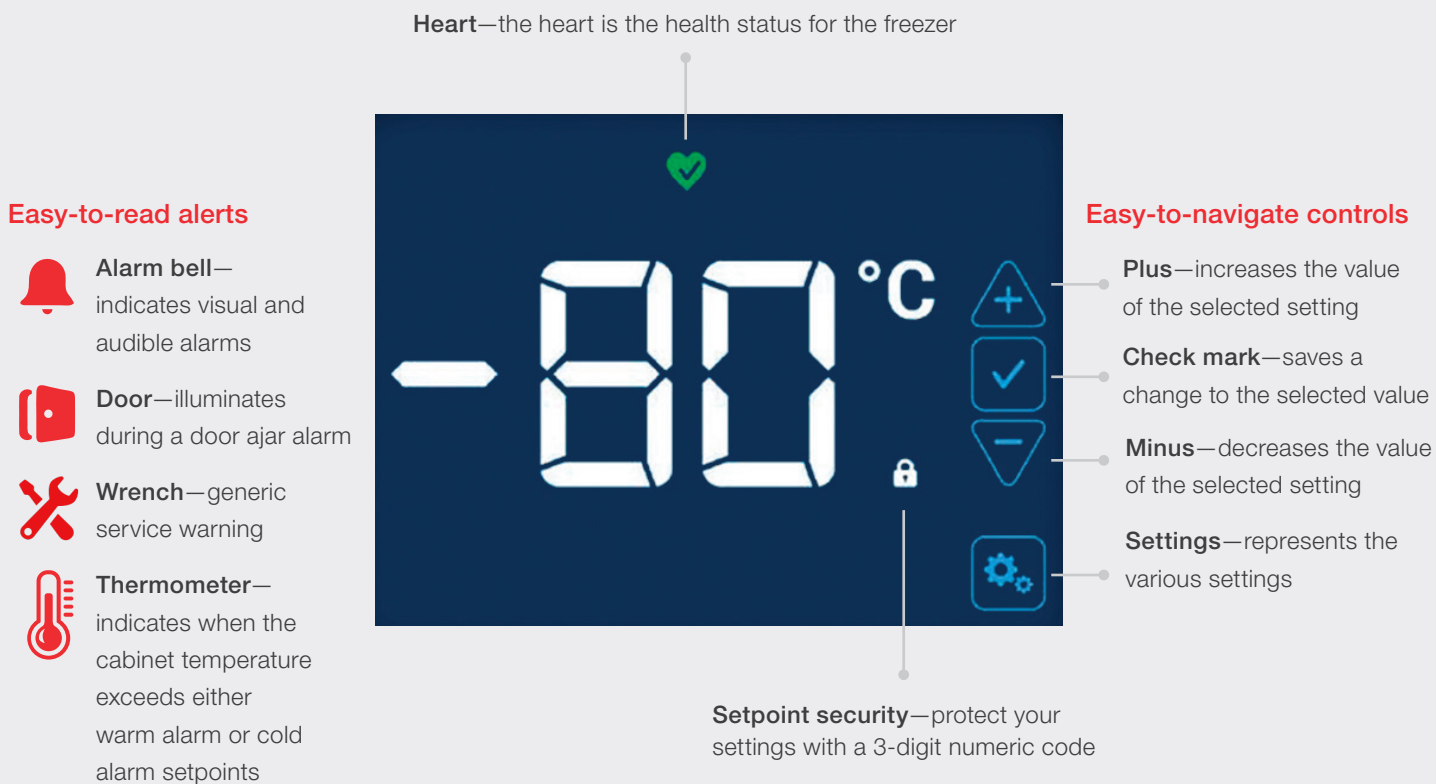
3. All data based on internal testing unless otherwise noted. Data on file.

# A rich heritage of innovation

From our first ULT freezer in 1940 to today, the combined experience of REVCO™, Forma Scientific™, Jewett™, Harris™, and other families of products continues to drive our ability to deliver industry-leading innovations that help accelerate science and health care.

## Easy-to-access controls with setpoint security

- Easy to use: plug in and go, no setup required
- HIC combines easy-to-read temperature with simple capacitive touch buttons
- Advanced security features: alarm settings, setpoint security passcode, and padlock-compatible doors



## User-friendly cabinet design

- Ergonomic design: single-hand operation with lockable door handle for easy and secure access to samples
- Flat top workspace for quick access to hands-free operation
- Casters for easy mobility; all are lockable to safely secure unit into place
- Easy-to-access USB for simplified service



## A sound environment

You know that the constant noise created by compressors can compromise communications and create a less-than-ideal working environment. TDE Series ULT freezers are up to 10x quieter than our previous generation of ULT freezers.\*



### Decibel scale of common sounds

| Noise source                                         | Decibel level |
|------------------------------------------------------|---------------|
| Freeway traffic, vacuum cleaner                      | 70            |
| Conversation in restaurant, office, background music | 60            |
| TDE Series ULT freezers                              | 50            |
| Library                                              | 40            |
| Quiet rural area                                     | 30            |
| Rustling leaves                                      | 22            |
| Breathing                                            | 10            |

\* Thermo Scientific™ TDE60086FA model compared to Thermo Scientific™ Revco™ UXF60086FA model.

# TDE Series –80°C ULT upright freezers

Thermo Scientific™ TDE Series –80°C ULT upright freezers, powered by the H-Drive system, are designed for efficiency. As a result, the series enables a foundational ULT experience with the reliability and performance needed to protect your work—and the sustainability to meet global compliance.

## Performance data

| Model series  | Energy consumption* (kWh/day) | Peak variation from –80°C setpoint (°C)** | 60 second door opening recovery time (minutes) | Warm-up time (–80°C to –50°C) (minutes)† | Noise level (dBA) |
|---------------|-------------------------------|-------------------------------------------|------------------------------------------------|------------------------------------------|-------------------|
| TDE30086-ULTS | 10.7                          | +6.9 / -3.4                               | 11                                             | 248                                      | 52                |
| TDE40086-ULTS | 12.5                          | +5.2 / -3.7                               | 16                                             | 257                                      | 51                |
| TDE50086-ULTS | 12.9                          | +4.0 / -2.9                               | 20                                             | 260                                      | 50                |
| TDE60086-ULTS | 13.8                          | +3.9 / -3.1                               | 24                                             | 297                                      | 51                |

\* Energy consumption: Typical data based on internal testing with freezer setpoint at –80°C and 20°C ambient temperature.

\*\* Peak variation from setpoint: Typical data based on internal testing with freezer setpoint at –80°C and 20°C ambient temperature.

† Warm-up time: Typical freezer data based on internal testing with empty freezer setpoint at –80°C and ambient temperature at 20°C.



## Upright freezers (–50°C to –86°C)

| General-purpose model | Capacity    |                   | Electrical    | Amps/breaker (plug type) | 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. (L) | Cryoboxes (2 in.) |               |                          |                            |                                          |                                             |                           |
| TDE30086FA-ULTS       | 14.9 (422)  | 300               | 115V/60Hz     | 12.6/20 (NEMA 5-20)      | 125 (57)                   | 51.2 x 17.8 x 28.3 (130.1 x 45.2 x 71.9) | 78.0 x 23.0 x 38.5 (198.1 x 58.4 x 97.7)    | 712 (323)                 |
| TDE30086FD-ULTS       |             |                   | 208-230V/60Hz | 5.6/15 (NEMA 6-15)       |                            |                                          |                                             |                           |
| TDE30086FV-ULTS       |             |                   | 230V/50Hz     | 5.6/15 (European)        |                            |                                          |                                             |                           |
| TDE40086FA-ULTS       | 19.4 (549)  | 400               | 115V/60Hz     | 13.0/20 (NEMA 5-20)      | 165 (75)                   | 51.2 x 23.1 x 28.3 (130.1 x 58.8 x 71.9) | 78.0 x 28.3 x 38.5 (198.1 x 71.9 x 97.7)    | 687 (312)                 |
| TDE40086FD-ULTS       |             |                   | 208-230V/60Hz | 5.9/15 (NEMA 6-15)       |                            |                                          |                                             |                           |
| TDE40086FV-ULTS       |             |                   | 230V/50Hz     | 5.3/10 (European)        |                            |                                          |                                             |                           |
| TDE50086FA-ULTS       | 24.1 (682)  | 500               | 115V/60Hz     | 12.5/20 (NEMA 5-20)      | 205 (93)                   | 51.2 x 28.8 x 28.3 (130.1 x 73.0 x 71.9) | 78.0 x 34.0 x 38.5** (198.1 x 86.4 x 97.7)  | 734 (333)                 |
| TDE50086FD-ULTS       |             |                   | 208-230V/60Hz | 5.0/15 (NEMA 6-15)       |                            |                                          |                                             |                           |
| TDE50086FV-ULTS       |             |                   | 230V/50Hz     | 5.9/15 (European)        |                            |                                          |                                             |                           |
| TDE60086FA-ULTS       | 28.8 (816)  | 600               | 115V/60Hz     | 12.7/20 (NEMA 5-20)      | 245 (111)                  | 51.2 x 34.4 x 28.3 (130.1 x 87.3 x 71.9) | 78.0 x 39.6 x 38.5** (198.1 x 100.6 x 97.7) | 820 (372)                 |
| TDE60086FD-ULTS       |             |                   | 208-230V/60Hz | 6.2/15 (NEMA 6-15)       |                            |                                          |                                             |                           |
| TDE60086FV-ULTS       |             |                   | 230V/50Hz     | 6.0/10 (European)        |                            |                                          |                                             |                           |

## Upright medical device freezers (–50°C to –86°C)

| Medical device model | Capacity    |                   | Electrical    | Amps/breaker (plug type) | 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. (L) | Cryoboxes (2 in.) |               |                          |                            |                                          |                                             |                           |
| TDE30086LA           | 14.9 (422)  | 300               | 115 V/60Hz    | 12.6/20 (NEMA 5-20)      | 125 (57)                   | 51.2 x 17.8 x 28.3 (130.1 x 45.2 x 71.9) | 78.0 x 23.0 x 38.5 (198.1 x 58.4 x 97.7)    | 712 (323)                 |
| TDE30086LD           |             |                   | 208-230V/60Hz | 5.6/15 (NEMA 6-15)       |                            |                                          |                                             |                           |
| TDE30086LV           |             |                   | 230V/50Hz     | 5.9/10 (European)        |                            |                                          |                                             |                           |
| TDE40086LA           | 19.4 (549)  | 400               | 115V/60Hz     | 13.0/20 (NEMA 5-20)      | 165 (75)                   | 51.2 x 23.1 x 28.3 (130.1 x 58.8 x 71.9) | 78.0 x 28.3 x 38.5 (198.1 x 71.9 x 97.7)    | 687 (312)                 |
| TDE40086LD           |             |                   | 208-230V/60Hz | 5.9/15 (NEMA 6-15)       |                            |                                          |                                             |                           |
| TDE40086LV           |             |                   | 230V/50Hz     | 5.3/10 (European)        |                            |                                          |                                             |                           |
| TDE50086LA           | 24.1 (682)  | 500               | 115V/60Hz     | 12.5/20 (NEMA 5-20)      | 205 (93)                   | 51.2 x 28.8 x 28.3 (130.1 x 73.0 x 71.9) | 78.0 x 34.0 x 38.5** (198.1 x 86.4 x 97.7)  | 734 (333)                 |
| TDE50086LD           |             |                   | 208-230V/60Hz | 5.0/15 (NEMA 6-15)       |                            |                                          |                                             |                           |
| TDE50086LV           |             |                   | 230V/50Hz     | 5.9/10 (European)        |                            |                                          |                                             |                           |
| TDE60086LA           | 28.8 (816)  | 600               | 115V/60Hz     | 12.7/20 (NEMA 5-20)      | 245 (111)                  | 51.2 x 34.4 x 28.3 (130.1 x 87.3 x 71.9) | 78.0 x 39.6 x 38.5** (198.1 x 100.6 x 97.7) | 820 (372)                 |
| TDE60086LD           |             |                   | 208-230V/60Hz | 6.2/15 (NEMA 6-15)       |                            |                                          |                                             |                           |
| TDE50086LV           |             |                   | 230V/50Hz     | 6.1/10 (European)        |                            |                                          |                                             |                           |

\* 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 TDE50086 and TDE60086 models.

# TDE Series –80°C ULT chest freezers

Thermo Scientific™ TDE Series –80°C ULT chest freezers, powered by the H-Drive system, enable the same excellent experience as our ULT upright freezers, with an additional benefit of enhanced performance. The combination of our ULT chest freezers' rapid door open recovery and tight peak variation make them perfect for frequent entry or long-term storage applications.



## Performance data

| Model series | Energy consumption* (kWh/day) | Peak variation from –80°C setpoint (°C)** | 60-second door opening recovery time (minutes) | Warm-up time (–80°C to –50°C) (minutes)† | Noise level (dBA) |
|--------------|-------------------------------|-------------------------------------------|------------------------------------------------|------------------------------------------|-------------------|
| TDEC06386    | 6.6                           | +5.1/–3.6                                 | 1                                              | 141                                      | 50.9              |
| TDEC25286    | 9.4                           | 5.2/–3.4                                  | 3                                              | 134                                      | 55.5              |
| TDEC39686    | 11                            | 5.2/–2.8                                  | 1                                              | 162                                      | 52.9              |

## Specifications for chest freezers (–50°C to –86°C)

| General-purpose model | Capacity    |                   | Electrical    | Amps/breaker (plug type) | Interior dimensions H x W x D in. (cm)   | Exterior dimensions H x W x D in. (cm)    | Shipping weight lbs. (kg) |
|-----------------------|-------------|-------------------|---------------|--------------------------|------------------------------------------|-------------------------------------------|---------------------------|
|                       | Cu. ft. (L) | Cryoboxes (2 in.) |               |                          |                                          |                                           |                           |
| TDEC06386FA           | 3 (85)      | 63                | 115V/60Hz     | 10.5/20 (NEMA 5–20)      | 16.5 x 18.5 x 18.5 (41.7 x 46.7 x 46.7)  | 43.7 x 28.8 x 32.7 (111.0 x 73.2 x 83.1)  | 380 (172)                 |
| TDEC06386FV           | 3 (160)     | 252               | 230V/50Hz     | 6.5/16 (European)        |                                          |                                           |                           |
| TDEC25286FA           | 13 (360)    | 252               | 115V/60Hz     | 16/20 (NEMA 5–20)        | 27.8 x 42.4 x 18.5 (70.6 x 107.7 x 47.0) | 40.5 x 72.3 x 33.1 (102.9 x 183.6 x 84.1) | 710 (322)                 |
| TDEC25286FD           |             |                   | 203–230V/60Hz | 12/15 (NEMA 6–15)        |                                          |                                           |                           |
| TDEC25286FV           |             |                   | 230V/50Hz     | 5.2/16 (European)        |                                          |                                           |                           |
| TDEC39686FA           | 20 (566)    | 396               | 115V/60Hz     | 16/20 (NEMA 5–20)        | 27.8 x 66.4 x 18.5 (70.6 x 168.7 x 47.0) | 40.5 x 96.3 x 33.1 (102.9 x 244.6 x 84.1) | 860 (390)                 |
| TDEC39686FD           |             |                   | 203–230V/60Hz | 12/15 (NEMA 6–15)        |                                          |                                           |                           |
| TDEC39686FV           |             |                   | 230V/50Hz     | 5.5/16 (European)        |                                          |                                           |                           |

## Specifications for medical device chest freezers (–50°C to –86°C)

| Medical device model | Capacity    |                   | Electrical    | Amps/breaker (plug type) | Interior dimensions H x W x D in. (cm)   | Exterior dimensions H x W x D in. (cm)    | Shipping weight lbs. (kg) |
|----------------------|-------------|-------------------|---------------|--------------------------|------------------------------------------|-------------------------------------------|---------------------------|
|                      | Cu. ft. (L) | Cryoboxes (2 in.) |               |                          |                                          |                                           |                           |
| TDEC06386LA          | 3 (85)      | 63                | 115V/60Hz     | 10.5/20 (NEMA 5–20)      | 16.4 x 18.4 x 18.4 (41.7 x 46.7 x 46.7)  | 43.7 x 28.8 x 32.7 (111.0 x 73.2 x 83.1)  | 380 (176)                 |
| TDEC06386LV          |             |                   | 230V/50Hz     | 5.6/16 (European)        |                                          |                                           |                           |
| TDEC25286LA          | 13 (360)    | 252               | 115V/60Hz     | 16/20 (NEMA 5–20)        | 28.0 x 42.5 x 18.5 (71.1 x 108.0 x 47.0) | 40.5 x 72.3 x 33.1 (102.9 x 183.6 x 84.1) | 710 (322)                 |
| TDEC25286LD          |             |                   | 203–230V/60Hz | 12/15 (NEMA 6–15)        |                                          |                                           |                           |
| TDEC25286LV          |             |                   | 230V/50Hz     | 5.2/16 (European)        |                                          |                                           |                           |
| TDEC39686LA          | 20 (566)    | 396               | 115V/60Hz     | 16/20 (NEMA 5–20)        | 28.0 x 66.5 x 18.5 (71.1 x 168.9 x 47.0) | 40.5 x 96.3 x 33.1 (102.9 x 244.6 x 84.1) | 860 (390)                 |
| TDEC39686LD          |             |                   | 203–230V/60Hz | 12/15 (NEMA 6–15)        |                                          |                                           |                           |
| TDEC39686LV          |             |                   | 230V/50Hz     | 5.5/16 (European)        |                                          |                                           |                           |

\* Energy consumption: Typical data based on internal testing with freezer setpoint at –80°C and 20°C ambient temperature.

\*\* Peak variation from setpoint: Typical data based on internal testing with freezer setpoint at –80°C and 20°C ambient temperature.

† Warm-up time: Typical freezer data based on internal testing with empty freezer setpoint at –80°C and ambient temperature at 20°C.

# TDE Series -40°C ULT upright freezers

Thermo Scientific™ TDE Series -40°C ULT freezers, powered by the H-Drive system, bring the excellent experience you'd expect from our -80°C freezers but tuned specifically for the performance required between -10°C and -40°C.

## Performance data

| General-purpose model | Energy consumption* (kWh/day) | Peak variation from -40°C setpoint (°C)** | 60-second door opening recovery time (min)† | Warm-up time (-40°C to -20°C) (min)‡ | Sound (dBA) |
|-----------------------|-------------------------------|-------------------------------------------|---------------------------------------------|--------------------------------------|-------------|
| TDE40040FA            | 5.2                           | +2.6/-2.2                                 | 20                                          | 300                                  | 49          |
| TDE40040FD            | 4.4                           | +3.4/-1.5                                 | 18                                          | 314                                  | 52          |
| TDE50040FA            | 5.3                           | +3.0/-2.4                                 | 24                                          | 350                                  | 51          |
| TDE50040FD            | 5.1                           | +2.2/-2.2                                 | 25                                          | 318                                  | 48          |
| TDE60040FA            | 6.0                           | +1.4/-2.4                                 | 23                                          | 384                                  | 49          |
| TDE60040FD            | 5.9                           | +1.5/-1.9                                 | 25                                          | 362                                  | 49          |

\* Energy consumption: Typical data based on internal testing with freezer setpoints at -40°C and 20°C ambient temperature.

\*\* Peak variation from setpoint: Typical data based on internal testing with freezer setpoint at -40°C and 20°C ambient temperature.

† Door opening recovery: Typical data—internal recovery testing is -38.5°C. During the door opening, all inner and outer doors are opened for 60 seconds.

‡ Warm-up time: Typical data based on internal testing with empty freezer setpoint at -40°C and ambient temperature at 20°C.

For specific model performance data, please refer to the individual technical specification sheet for the desired model.



## Specifications for upright freezers (-10°C to -40°C)

| General-purpose model | Capacity    |                   | Electrical    | Amps/breaker (plug type) | 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. (L) | Cryoboxes (2 in.) |               |                          |                            |                                          |                                             |                           |
| TDE40040FA            | 19.4 (549)  | 400               | 115V/60Hz     | 7.2/20 (NEMA 5-20)       | 165 (75)                   | 51.2 x 23.1 x 28.3 (130.1 x 58.8 x 71.9) | 78.0 x 28.3 x 38.5 (198.1 x 71.9 x 97.7)    | 642 (292)                 |
| TDE40040FD            |             |                   | 208-230V/60Hz | 3.4/15 (NEMA 6-15)       |                            |                                          |                                             |                           |
| TDE40040FV            |             |                   | 230V/50Hz     | 3.2/10 (European)        |                            |                                          |                                             |                           |
| TDE50040FA            | 24.1 (682)  | 500               | 115V/60Hz     | 7.5/20 (NEMA 5-20)       | 205 (93)                   | 51.2 x 28.8 x 28.3 (130.1 x 73.0 x 71.9) | 78.0 x 34.0 x 38.5** (198.1 x 86.4 x 97.7)  | 668 (304)                 |
| TDE50040FD            |             |                   | 208-230V/60Hz | 4.0/15 (NEMA 6-15)       |                            |                                          |                                             |                           |
| TDE50040FV            |             |                   | 230V/50Hz     | 3.4/10 (European)        |                            |                                          |                                             |                           |
| TDE60040FA            | 28.8 (816)  | 600               | 115V/60Hz     | 7.5/20 (NEMA 5-20)       | 254 (111)                  | 51.2 x 34.4 x 28.3 (130.1 x 87.3 x 71.9) | 78.0 x 39.6 x 38.5** (198.1 x 100.6 x 97.7) | 765 (348)                 |
| TDE60040FD            |             |                   | 208-230V/60Hz | 4.0/15 (NEMA 6-15)       |                            |                                          |                                             |                           |
| TDE60040FD            |             |                   | 230V/50Hz     | 3.4/10 (European)        |                            |                                          |                                             |                           |

## Specifications for upright medical freezers (-10°C to -40°C)

| General-purpose model | Capacity    |                   | Electrical    | Amps/breaker (plug type) | 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. (L) | Cryoboxes (2 in.) |               |                          |                            |                                          |                                             |                           |
| TDE40040LA            | 19.4 (549)  | 400               | 115V/60Hz     | 7.2/20 (NEMA 5-20)       | 165 (75)                   | 51.2 x 23.1 x 28.3 (130.1 x 58.8 x 71.9) | 78.0 x 28.3 x 38.5 (198.1 x 71.9 x 97.7)    | 642 (292)                 |
| TDE40040LD            |             |                   | 208-230V/60Hz | 3.4/15 (NEMA 6-15)       |                            |                                          |                                             |                           |
| TDE40040LV            |             |                   | 230V/50Hz     | 3.2/10 (European)        |                            |                                          |                                             |                           |
| TDE50040LA            | 24.1 (682)  | 500               | 115V/60Hz     | 7.5/20 (NEMA 5-20)       | 205 (93)                   | 51.2 x 28.8 x 28.3 (130.1 x 73.0 x 71.9) | 78.0 x 34.0 x 38.5** (198.1 x 86.4 x 97.7)  | 668 (304)                 |
| TDE50040LD            |             |                   | 208-230V/60Hz | 4.0/15 (NEMA 6-15)       |                            |                                          |                                             |                           |
| TDE50040LV            |             |                   | 230V/50Hz     | 3.4/10 (European)        |                            |                                          |                                             |                           |
| TDE60040LA            | 28.8 (816)  | 600               | 115V/60Hz     | 7.5/20 (NEMA 5-20)       | 254 (111)                  | 51.2 x 34.4 x 28.3 (130.1 x 87.3 x 71.9) | 78.0 x 39.6 x 38.5** (198.1 x 100.6 x 97.7) | 765 (348)                 |
| TDE60040LD            |             |                   | 208-230V/60Hz | 4.0/15 (NEMA 6-15)       |                            |                                          |                                             |                           |
| TDE60040LV            |             |                   | 230V/50Hz     | 3.4/10 (European)        |                            |                                          |                                             |                           |

\* 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 TDE50040 and TDE60040.

# TDE Series ULT upright freezers — options and accessories

Options (field installations must be performed by a qualified professional)

| Description                                                                                                                                                                     | Installation | Model series                        |                                           |                                           |                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
|                                                                                                                                                                                 |              | TDE30086                            | TDE40086                                  | TDE50086                                  | TDE60086                                  |
| <b>LN<sub>2</sub> Backup System</b><br>Maintains temperature down to –80°C with liquid nitrogen.<br>Models for TDE30086 are stand-alone.                                        | Factory      | N/A                                 | LN4567                                    | LN4567                                    | LN4567                                    |
|                                                                                                                                                                                 | Field        | FLN300A*<br>FLN300D**<br>FLN300V*** | FLN456LEA*<br>FLN456LED**<br>FLN456LEV*** | FLN456LEA*<br>FLN456LED**<br>FLN456LEV*** | FLN456LEA*<br>FLN456LED**<br>FLN456LEV*** |
| <b>CO<sub>2</sub> Backup System</b><br>Maintains temperature down to –67°C with CO <sub>2</sub> .<br>Models for TDE30086 are stand-alone.                                       | Factory      | N/A                                 | CO4567                                    | CO4567                                    | CO4567                                    |
|                                                                                                                                                                                 | Field        | FCO300A*<br>FCO300D**<br>FCO300V*** | FCO456LEA*<br>FCO456LED**<br>FCO456LEV*** | FCO456LEA*<br>FCO456LED**<br>FCO456LEV*** | FCO456LEA*<br>FCO456LED**<br>FCO456LEV*** |
| <b>TSX Pro Series User Interface Option</b><br><b>(only available for upright models)</b>                                                                                       | Factory      | UI34567H-ULTS                       | UI34567H-ULTS                             | UI34567H-ULTS                             | UI34567H-ULTS                             |
| <b>Chart Recorder (Inkless)</b><br>Seven-day inkless recorder<br>Range: –115°C to +50°C (+5°C resolution)<br>Dia.: 6 in. (15.2 cm)                                              | Factory      | N/A                                 | N/A                                       | CR4567                                    | CR4567                                    |
|                                                                                                                                                                                 | Field        | N/A                                 | N/A                                       | FCR500LE                                  | FCR600LE                                  |
| <b>Chart Recorder (Ink)</b><br>Seven-day ink recorder<br>Range: –100°C to +38°C (+2°C resolution)<br>Dia.: 6 in. (15.2 cm)<br>Models for TDE30086 and TDE40086 are stand-alone. | Factory      | N/A                                 | N/A                                       | CRP4567                                   | CRP4567                                   |
|                                                                                                                                                                                 | Field        | 6383-6A*<br>6383-6D**<br>6383-6V*** | 6383-6A*<br>6383-6D**<br>6383-6V***       | FCRP500LE                                 | FCRP600LE                                 |
| <b>Revco Five Inner Door Configuration</b>                                                                                                                                      | Factory      | 5INNERDOOR-ULTS                     | 5INNERDOOR-ULTS                           | 5INNERDOOR-ULTS                           | 5INNERDOOR-ULTS                           |
| <b>Stainless Steel Freezer Interior</b>                                                                                                                                         | Factory      | SS34567-ULTS                        | SS34567-ULTS                              | SS34567-ULTS                              | SS34567-ULTS                              |
| <b>Twist Lock Plug</b> NEMA L6–15P for 208–230V/60Hz                                                                                                                            | Factory      | US230V15ATL                         | US230V15ATL                               | US230V15ATL                               | US230V15ATL                               |
|                                                                                                                                                                                 | Field        | TL230V15A                           | TL230V15A                                 | TL230V15A                                 | TL230V15A                                 |
| <b>Twist Lock Plug</b> NEMA L6–20P for 208–230V/60Hz                                                                                                                            | Factory      | US230V20ATL                         | US230V20ATL                               | US230V20ATL                               | US230V20ATL                               |
|                                                                                                                                                                                 | Field        | TL230V20A                           | TL230V20A                                 | TL230V20A                                 | TL230V20A                                 |

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

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

\*\*\* V = 230V/50Hz (European)

## Accessories

| Description                                                                                                                                                                                       | Model series |           |           |           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------|-----------|-----------|
|                                                                                                                                                                                                   | TDE30086     | TDE40086  | TDE50086  | TDE60086  |
| <b>Air Filter (Replacement)</b>                                                                                                                                                                   | AF34567LE    | AF34567LE | AF34567LE | AF34567LE |
| <b>Alarm Delay Module</b><br>Eliminates nuisance alarms due to intermittent or transitory conditions. (The alarm conditions must exist for a user-defined period before the signal is broadcast.) | 6903         | 6903      | 6903      | 6903      |
|                                                                                                                                                                                                   |              |           |           |           |
| <b>Battery Backup (Replacement)</b>                                                                                                                                                               | 400159       | 400159    | 400159    | 400159    |
| <b>Chart Paper, for Inkless Recorder, 50/Pack</b>                                                                                                                                                 | N/A          | N/A       | 6185      | 6185      |
| <b>Chart Paper, for Ink Recorder, 50/Pack</b>                                                                                                                                                     | 17020        | 17020     | 17020     | 17020     |
| <b>Cryo Gloves, Medium</b>                                                                                                                                                                        | 4425         | 4425      | 4425      | 4425      |
| <b>Cryo Gloves, Large</b>                                                                                                                                                                         | 4426         | 4426      | 4426      | 4426      |
| <b>Seismic Restraint Kits</b>                                                                                                                                                                     | TF-ULT300    | TF-ULT400 | TF-ULT500 | TF-ULT600 |
| <b>Shelf Kits:<br/>Include One Shelf and Clips</b>                                                                                                                                                | SK300        | SK400     | SK500     | SK600     |

| Cord description        | Model     |
|-------------------------|-----------|
| NEMA 5–20 125V/20A      | US125V20A |
| NEMA 6–20 230V/15A      | US230V15A |
| Argentina 230V/16A      | AR230V16A |
| Australia 230V/16A      | AU230V16A |
| Brazil 230V/16A         | BR230V16A |
| China 230V/16A          | CH230V16A |
| Denmark 230V/16A        | DK230V16A |
| Continental EU 230V/16A | EU230V16A |
| India 230V/16A          | IN230V16A |
| Israel 230V/16A         | IS230V16A |
| Italy 230V/16A          | IT230V16A |
| Japan 125V/20A          | JP125V20A |
| Japan 250V/15A          | JP250V15A |
| Switzerland 230V/16A    | SW230V16A |
| UK 230V/13A             | UK230V13A |

# TDE –80°C and –40°C Medical Device ULT — options and accessories

Options (field installations must be performed by a qualified professional)

| Description                                                             | Installation | Model series |          |          |          |
|-------------------------------------------------------------------------|--------------|--------------|----------|----------|----------|
|                                                                         |              | TDE30086     | TDE40086 | TDE50086 | TDE60086 |
| TSX Pro Series User Interface option (Only available for upright model) | Factory      | UI34567H     | UI34567H | UI34567H | UI34567H |
| Revco Five Inner Door Configuration                                     | Factory      | 5D300        | 5D400    | 5D400    | 5D500    |
| Stainless Steel Freezer Interior                                        | Factory      | SS34567      | SS34567  | SS34567  | SS34567  |

## Racks for boxes and microplates

### Racks for 5 cm boxes

| Description                    | Dimensions<br>H x W x D cm | Storage capacities | Model series |          |          |          | Cat. No.                                                                                    |
|--------------------------------|----------------------------|--------------------|--------------|----------|----------|----------|---------------------------------------------------------------------------------------------|
|                                |                            |                    | TDE30086     | TDE40086 | TDE50086 | TDE60086 |                                                                                             |
| Sliding<br>drawer rack         | 30.2 x 14.0 x 68.3         | Boxes/rack         | 25           | 25       | 25       | 25       |  920090  |
|                                |                            | Racks/shelf        | 3            | 4        | 5        | 6        |                                                                                             |
|                                |                            | Racks/freezer      | 12           | 16       | 20       | 24       |                                                                                             |
|                                |                            | Boxes/freezer      | 300          | 400      | 500      | 600      |                                                                                             |
| Adjustable side<br>access rack | 29.5 x 13.7 x 67.9         | Boxes/rack         | 25           | 25       | 25       | 25       |  1950520 |
|                                |                            | Racks/shelf        | 3            | 4        | 5        | 6        |                                                                                             |
|                                |                            | Racks/freezer      | 12           | 16       | 20       | 24       |                                                                                             |
|                                |                            | Boxes/freezer      | 300          | 400      | 500      | 600      |                                                                                             |

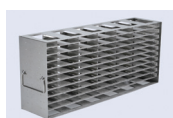
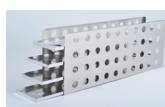
### Racks for 7.62 cm boxes

| Description                                       | Dimensions<br>H x W x D cm | Storage capacities | Model series |          |          |          | Cat. No.                                                                                      |
|---------------------------------------------------|----------------------------|--------------------|--------------|----------|----------|----------|-----------------------------------------------------------------------------------------------|
|                                                   |                            |                    | TDE30086     | TDE40086 | TDE50086 | TDE60086 |                                                                                               |
| Sliding<br>drawer rack                            | 30.2 x 14.0 x 68.3         | Boxes/rack         | 15           | 15       | 15       | 15       |  920091   |
|                                                   |                            | Racks/shelf        | 3            | 4        | 5        | 6        |                                                                                               |
|                                                   |                            | Racks/freezer      | 12           | 16       | 20       | 24       |                                                                                               |
|                                                   |                            | Boxes/freezer      | 180          | 240      | 300      | 360      |                                                                                               |
| Adjustable side<br>access rack for 3 in.<br>boxes | 29.5 x 13.7 x 67.9         | Boxes/rack         | 15           | 15       | 15       | 15       |  1950521 |
|                                                   |                            | Racks/shelf        | 3            | 4        | 5        | 6        |                                                                                               |
|                                                   |                            | Racks/freezer      | 12           | 16       | 20       | 24       |                                                                                               |
|                                                   |                            | Boxes/freezer      | 180          | 240      | 300      | 360      |                                                                                               |

### Racking shelf kits

| Description                                                                                                   | Storage capacities | Model series |           |           |           |
|---------------------------------------------------------------------------------------------------------------|--------------------|--------------|-----------|-----------|-----------|
|                                                                                                               |                    | TDE30086     | TDE40086  | TDE50086  | TDE60086  |
|                                                                                                               | Cat. No.           | RSK300SD4    | RSK400SD4 | RSK500SD4 | RSK600SD4 |
| Sliding drawer racks with boxes for one shelf<br>(12.7 x 12.7 x 5.0 cm boxes with 100-count<br>cell dividers) | Racks included     | 3            | 4         | 5         | 6         |
|                                                                                                               | Boxes included     | 75           | 100       | 125       | 150       |

## Racks for standard or deep-well microplates

| Description                          | Dimensions<br>H x W x D cm | Storage capacities | Model series |          |          |          | Cat. No.                                                                                    |
|--------------------------------------|----------------------------|--------------------|--------------|----------|----------|----------|---------------------------------------------------------------------------------------------|
|                                      |                            |                    | TDE30086     | TDE40086 | TDE50086 | TDE60086 |                                                                                             |
| Side access rack<br>with locking rod | 30.2 x 14.0 x 65.3         | Plates/rack        | 147          | 147      | 147      | 147      |  1950592 |
|                                      |                            | Racks/shelf        | 3            | 4        | 5        | 6        |                                                                                             |
|                                      |                            | Racks/freezer      | 12           | 16       | 20       | 24       |                                                                                             |
|                                      |                            | Plates/freezer     | 1,764        | 2,352    | 2,940    | 3,528    |                                                                                             |
| Side access<br>microplate rack       | 30.2 x 14.0 x 65.3         | Plates/rack        | 98           | 98       | 98       | 98       |  1950523 |
|                                      |                            | Racks/shelf        | 3            | 4        | 5        | 6        |                                                                                             |
|                                      |                            | Racks/freezer      | 12           | 16       | 20       | 24       |                                                                                             |
|                                      |                            | Plates/freezer     | 1,260        | 1,680    | 2,100    | 2,520    |                                                                                             |
| Sliding drawer<br>microplate rack    | 30.2 x 14.0 x 66.3         | Plates/rack        | 35           | 35       | 35       | 35       |  1950642 |
|                                      |                            | Racks/shelf        | 3            | 4        | 5        | 6        |                                                                                             |
|                                      |                            | Racks/freezer      | 12           | 16       | 20       | 24       |                                                                                             |
|                                      |                            | Plates/freezer     | 420          | 560      | 700      | 840      |                                                                                             |

## Boxes and dividers

| Description                                                                   | No. of dividers | Quantity | Color    | Cat. No.  |
|-------------------------------------------------------------------------------|-----------------|----------|----------|-----------|
| Thermo Scientific™ Nalgene™ polycarbonate 5.08 cm box for 1.2 to 2.0 mL vials | 81              | 24/case  | White    | 5026-0909 |
| 5.08 cm fiberboard box                                                        | 0               | 12/pack  | White    | 5954      |
| 5.08 cm fiberboard box                                                        | 81              | 1        | White    | 820002    |
| 5.08 cm fiberboard box                                                        | 100             | 1        | White    | 820109    |
| 7.62 cm fiberboard box                                                        | 0               | 12/pack  | White    | 5956      |
| 7.62 cm fiberboard box                                                        | 81              | 1        | White    | 820003    |
| 5.08 cm fiberboard box                                                        | 0               | 12/pack  | Multiple | 1950878   |
| 5.08 cm fiberboard box                                                        | 0               | 12/pack  | Pink     | 1950879   |
| 5.08 cm fiberboard box                                                        | 0               | 12/pack  | Red      | 1950880   |
| 5.08 cm fiberboard box                                                        | 0               | 12/pack  | Yellow   | 1950881   |
| 5.08 cm fiberboard box                                                        | 0               | 12/pack  | Green    | 1950882   |
| 5.08 cm fiberboard box                                                        | 0               | 12/pack  | Blue     | 1950883   |
| 5.08 cm fiberboard box                                                        | 0               | 12/pack  | Black    | 1950884   |

## Fiberboard dividers

| Description                                 | Quantity/pack | Cat. No. |
|---------------------------------------------|---------------|----------|
| Grid dividers, hold 100 x 12 mm tubes/vials | 12            | 5958     |
| Grid dividers, hold 81 x 13 mm tubes/vials  | 12            | 6212     |
| Grid dividers, hold 64 x 14 mm tubes/vials  | 12            | 5960     |
| Grid dividers, hold 49 x 16 mm tubes/vials  | 12            | 5959     |

# TDE Series ULT chest freezers— options and accessories

## Accessories

| Model series                                                                                                              |              |                        |                                  |                                  |
|---------------------------------------------------------------------------------------------------------------------------|--------------|------------------------|----------------------------------|----------------------------------|
| Description                                                                                                               | Installation | TDEC06386              | TDEC25286                        | TDEC39686                        |
| LN <sub>2</sub> Backup System, maintains temperature down to -80°C with liquid nitrogen                                   | Factory      | 332353G01              | 332353G05                        | 332353G05                        |
|                                                                                                                           | Field        | FLN743A*<br>FLN743V*** | FLN744A*/FLN744D**<br>FLN744V*** | FLN744A*/FLN744D**<br>FLN744V*** |
| CO <sub>2</sub> Backup System, maintains temperature down to -70°C with CO <sub>2</sub>                                   | Factory      | 332353G02              | 332353G06                        | 332353G06                        |
|                                                                                                                           | Field        | FCO743A*<br>FCO743V*** | FCO744A*/FCO744D**<br>FCO744V*** | FCO744A*/FCO744D**<br>FCO744V*** |
| Chart Recorder (Inkless), 7-day inkless recorder<br>Range: -115°C to +50°C (+5°C resolution)<br>Diameter: 6 in. (15.2 cm) | Factory      | 332791G01              | 332166G01                        | 332166G01                        |
|                                                                                                                           | Field        | FCR741                 | FCR742                           | FCR742                           |
| Chart Recorder (Ink), 7-day ink recorder<br>Range: -115°C to +50°C (+5°C resolution)<br>Diameter: 6 in. (15.2 cm)         | Factory      | 332791G02              | 332166G02                        | 332166G02                        |
|                                                                                                                           | Field        | FCR741INK              | FCR742INK                        | FCR742INK                        |

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

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

\*\*\*V = 230V/50Hz (European)

| Description                                           | Cat. No.  |
|-------------------------------------------------------|-----------|
| Replacement Air Filter Chest Freezers (quantity of 5) | 332297H02 |
| Replacement Backup Battery                            | 400159    |
| Chart Paper, for Inkless Recorder, 50/pack            | 90520H07  |
| Chart Paper, for Ink Recorder, 50/pack                | 17020     |
| Cryo Gloves, medium                                   | 4425      |
| Cryo Gloves, large                                    | 4426      |

|                                                                                     | Description/dimensions<br>H x W x D in. (cm)                                     | Freezer capacity<br>cu. ft. (liters) | Boxes/racks<br>(plates) | Racks/freezer<br>(plates) | Boxes/freezer<br>(plates) | Cat. No. |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|--------------------------------------|-------------------------|---------------------------|---------------------------|----------|
|  | 2 in. Box Rack - Side Access Rack (Tower), 15.2 x 5.5 x 5.5 (38.6 x 14.0 x 14.0) | 3 (85)                               | 7                       | 9                         | 63                        | 398184   |
|  | 3 in. Box Rack - Side Access Rack (Tower), 16.0 x 5.5 x 5.6 (40.6 x 14.0 x 14.2) | 3 (85)                               | 5                       | 9                         | 45                        | 398185   |
|  | 2 in. Box Rack - Side Access Rack (Tower), 26.5 x 5.5 x 5.5 (67.3 x 14.0 x 14.0) | 13 (360)                             | 12                      | 21                        | 252                       | 398186   |
|                                                                                     |                                                                                  | 20 (566)                             | 12                      | 33                        | 396                       |          |
|  | 3 in. Box Rack - Side Access Rack (Tower), 26.3 x 5.5 x 5.6 (66.8 x 14.0 x 14.2) | 13 (360)                             | 8                       | 21                        | 168                       | 398187   |
|                                                                                     |                                                                                  | 20 (566)                             | 8                       | 33                        | 264                       |          |
|  | Microplate Rack, 26.5 x 5.5 x 5.5 (67.3 x 14.0 x 14.0)                           | 13 (360)                             | 27                      | 21                        | 567                       | 398188   |
|                                                                                     |                                                                                  | 20 (566)                             | 27                      | 33                        | 891                       |          |
|  | Wire Basket with Rollers*<br>12.3 x 16.5 x 11.8 (31.2 x 41.9 x 29.9)             | 13 (360)                             | NA                      | 5                         | NA                        | 114048   |
|                                                                                     |                                                                                  | 20 (566)                             | NA                      | 9                         | NA                        |          |

\* Basket rail set is required: Cat. No. 189001 for 360 L chest and Cat. No. 189000 for 566 L chest.

# Services

## Certificate of calibration

Control, alarm, and temperature recording systems are systematically calibrated at the factory for accurate performance. An optional certificate of calibration to a NIST (National Institute of Standards and Technology, formerly National Bureau of Standards)-traceable instrument includes a model number and serial number certificate (single-point calibration). Multiple-point calibration is also available. Calibration certificates must be requested when ordering. For details, contact your sales representative.

## Validation testing program

Validation testing services ordered in advance of shipment may accelerate in-house installation qualification (IQ) and operation qualification (OQ) programs. Validation services include documentation and performance reports, compressor and subsystem component specifications, microprocessor flow diagrams, software specifications, and more. For more details, contact your sales representative.

| Services* description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Cat. No. |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Temperature mapping of 24 hours at setpoint to include: <ul style="list-style-type: none"> <li>• Mapping data graphed at each location</li> <li>• Thermocouple placement diagram</li> <li>• Test equipment list</li> <li>• Average uniformity and stability at specified cycle</li> <li>• Minimum, average, and maximum temperatures at each thermocouple location</li> <li>• Uniformity and stability at each location</li> </ul>                                                                                                                                                                                               | 74554TA  |
| Temperature mapping of 24 hours (traceable instruments and raw data) at setpoint to include: <ul style="list-style-type: none"> <li>• Mapping data graphed at each location</li> <li>• Thermocouple placement diagram</li> <li>• Test equipment list utilizing Kaye Validator™ thermal validation equipment</li> <li>• Calibration certificates of test equipment</li> <li>• Thermocouple calibration reports</li> <li>• Average uniformity and stability at specified cycle</li> <li>• Minimum, average, and maximum temperatures at each thermocouple location</li> <li>• Uniformity and stability at each location</li> </ul> | 7456TA   |
| Certificate of verification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 6916-2   |
| Factory quality control test log report                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 6916-4   |
| Factory quality control test temperature graphs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 6916-5   |
| Calibration certificate (chest)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 260029   |
| Certificate of conformance (chest)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 260043   |
| Unit-specific calibration certificate (chest)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 260049   |

Note: Selected models require calibration certificate for NSF 456 vaccine standard labeling.

\*Please note that these are subjected to units made from the United States factory. Please contact your local representative for more information.



## Also available: Thermo Scientific™ TSX™ Universal Series ULT freezers

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

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