

Thermo Scientific
Flammable Material and Explosion-Proof
Refrigerators and Freezers



Safe cold storage for **Hazardous material**

Thermo
SCIENTIFIC



Flammable Material Storage

Thermo Scientific™ flammable material lab refrigerators, freezers and combination refrigerator/freezers are designed to protect potentially flammable materials including solvents and intermediates. All cabinets are manual defrost and feature spark-free interiors to reduce the risk of an internal explosion.

Safety begins with the right cold storage



Explosion-Proof Storage

Thermo Scientific™ explosion-proof lab refrigerators, freezers and combination refrigerator/freezers are designed for use in Class 1, Division 1, Group C and D environments. All cabinets are explosion-proof and feature spark-free exteriors and interiors. For added safety, all units are plug-free, requiring hard-wire installation.

Thermo Scientific TSHP Series FMS High-Performance Refrigerators and Freezers

Designed to meet stringent US Pharmacopeia standards and NFPA safety provisions



Thermo Scientific TSHP Series FMS high-performance lab refrigerators and freezers are designed to meet stringent US Pharmacopeia standards for drug storage as well as the NFPA safety provisions for the storage of flammable liquids.* These refrigerators and freezers are designed to maintain a safe environment while keeping valuable samples within a tight temperature range. Each model is listed by UL as a special purpose refrigerator or freezer intended for flammable material storage in accordance with NFPA 45, 70 and 99.*45, 70 and 99.*

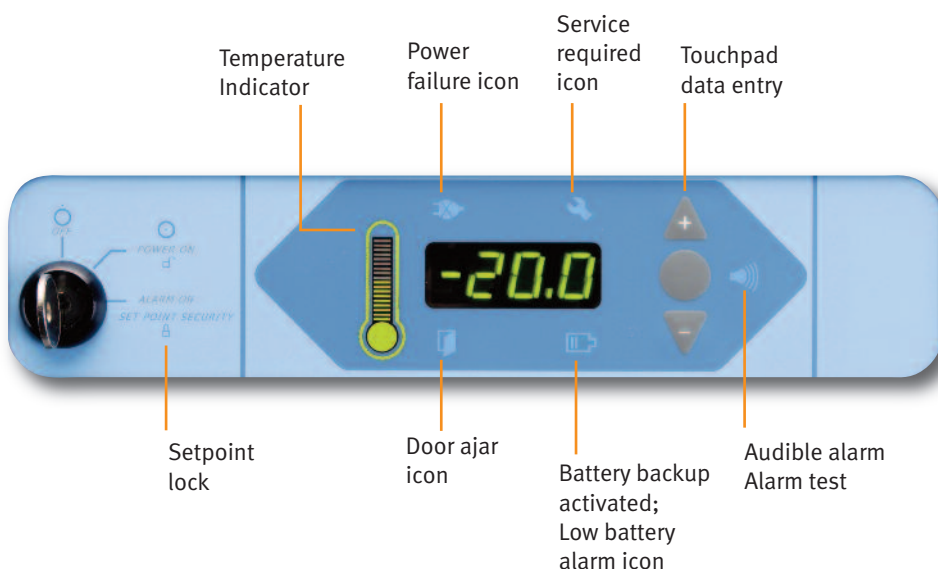
Features and Benefits:

- Easy to use intuitive digital display featuring microprocessor control
- Lockable doors, audio and visual alarms including door ajar alarms for security and peace of mind
- Convenient access port and casters
- Outstanding construction featuring painted, high-quality steel exteriors with durable finish
- Ignition-free interior cabinet design for the safe storage of flammable materials
- Meets safety standards in accordance with UL, NFPA* and OSHA* for regulatory compliance
- Optional, built-in, inkless, seven-day graphic chart recorder
- Optional, barrier-protected 4-20 milliamp output for external monitoring
- Manual defrost

Available in North America and select Latin American countries, consult your sales representative for availability

Designed to Store:

Acetone	Isopropanol (2-propanol)
Alcohol	Lacquer
Benzene	Methanol
Cyclopropane	Methyl ethyl ketone
Ethanol	(2-butanone)
Ethyl ether	Naphtha
Gasoline	Tetrahydrofuran (THF)
Hexane/ethyl acetate	Toluene



* Products complying with the applicable requirements of NFPA 70, "National Electric Code", NFPA 45, "Fire Protection for Laboratories Using Chemicals," and NFPA 99 "Health Care Facilities" are considered to meet the OSHA guidelines for these types of facilities. These units have no internal electrical components that could trigger an explosion or fire of flammable materials inside the unit. Flammable material storage units are not for use in classified hazardous locations which require the use of explosion-proof units.

Thermo Scientific TSHP Series FMS High-Performance Refrigerators and Freezers

Specifications and Ordering Information

Thermo Scientific TSHP Series FMS High-Performance Refrigerators

Model No.	Capacity cu. ft. (L)	Voltage (Hz)	Amps/ Breaker (Plug)	Temperature Range	Defrost	Shelves	Interior Dimensions H x W x D in. (cm)*	Exterior Dimensions H x W x D in. (cm)	Shipping Weight lbs. (kg)
TSFMS2305A	23 (651)	115 (60)	13.5/20 (5-20)	+1 to +8°C (preset +5°C)	manual	4 adjustable	58 x 24 x 29 (147 x 61 x 74)	78.6 x 28 x 37 (200 x 72 x 94)	425 (193)

Thermo Scientific TSHP Series FMS High-Performance Freezers

Model No.	Capacity cu. ft. (L)	Voltage (Hz)	Amps/ Breaker (Plug)	Temperature Range	Defrost	Shelves	Interior Dimensions H x W x D in. (cm)	Exterior Dimensions H x W x D in. (cm)	Shipping Weight lbs. (kg)
TSFMS2320A	23 (651)	115 (60)	13.5/20 (5-20)	-20°C	manual	4 adjustable	58 x 24 x 29 (147 x 61 x 74)	78.6 x 28 x 37 (200 x 72 x 94)	425 (193)

Optional Accessories

Model No.	Description
61837FMS	Temperature chart recorder (factory-installed)
6184	Replacement chart paper (box of 50)
4706FMS	4-20 milliamp output
7203FMS	4-20 milliamp output for use with Thermo Scientific™ Smart-View™ wireless monitoring solution**
6696	Additional shelf, full size
6698	Additional shelf, half size
TFR210	Seismic restraint kits (basic)
TF-LRF23	Seismic restraint kits (for OSHPD)

* Condensation management device on the refrigerator reduces interior storage height to 52" (132 cm)

**Smart-View wireless monitoring must be used in conjunction with the 7203FMS powered 4-20 milliamp option (factory- or customer-installed) in order for this product to remain certified to applicable NFPA standards.

Thermo Scientific Flammable Material Storage Refrigerators, Freezers and Combinations

For the storage of volatiles when a spark-free internal cabinet is required



Model No: 3556-DB – 5.6 cu. ft.
flammable storage refrigerator

Thermo Scientific flammable material storage refrigerators, freezers and combination refrigerator/freezers are available in a variety of sizes from upright to full-height freestanding.

Features and Benefits:

- Spark-free interior to reduce the risk of an internal explosion
- Manual defrost
- Tough white exteriors; corrosion-resistant models available in select sizes
- CFC- and HCFC-free refrigeration system and installation
- Designed to meet NFPA 45 and 99 along with OSHA article 1910.307
- 13 months parts and labor warranty

Available in North America and select Latin America countries, consult your sales representative for availability



Model No: 3551-10 – 10 cu. ft.
flammable storage combination
refrigerator and freezer



Model No: 20FREETSA – 20 cu. ft.
flammable storage refrigerator



Model No: 20FFEETSA – 20 cu. ft.
flammable storage freezer

Thermo Scientific Explosion-Proof Refrigerators, Freezers and Combinations

Designed to be used in areas where ignitable materials are normally present



Model No: 3557-DB – 5.6 cu. ft.
explosion-proof refrigerator

Thermo Scientific flammable material storage refrigerators, freezers and combination refrigerator/freezers are available in a variety of sizes from upright to full-height freestanding.

Features and Benefits:

- Spark-free interior and exteriors reduce the risk of an explosion
- Manual defrost
- Tough white exteriors; corrosion-resistant models available in select sizes
- CFC- and HCFC-free refrigeration system and installation
- Plug-free – cabinets must be hardwired directly into the wall
- 13 months parts and labor warranty

Available in North America and select Latin America countries, consult your sales representative



Model No: 3551-DB – 10 cu. ft.
explosion-proof combination refrigerator
and freezer



Model No: 20EFEETSA – 20 cu. ft.
explosion-proof freezer



Model No: 20EREETSA – 20 cu. ft.
explosion-proof refrigerator

Thermo Scientific Flammable Material Storage Refrigerators, Freezers and Combinations

Specifications and Ordering Information

Thermo Scientific Flammable Storage Refrigerators (Temperature Range 1° to 12°C)

Model No.	Capacity cu. ft.	Defrost	Voltage	Shelves	Key Lock	Interior Dimensions D x W x H (inches)	Exterior Dimensions D x W x H (inches)	Certification	Shipping Weight (lbs.)
3556-DB	5.6	manual	120V / 60Hz	4 adjustable	yes	16 x 20 x 27.5	29.5 x 23.5 x 33.5	UL, meets NFPA 45 & 70	110
20FREETSA	20	manual	115V / 60Hz	4 fixed, 6 door, 1 wire basket	no	21 x 27 x 57.5	31.25 x 33 x 67.25	UL, meets NFPA 45 & 70	230

Thermo Scientific Flammable Storage Freezers (Temperature Range -12° to -20°C)

Model No.	Capacity cu. ft.	Defrost	Voltage	Shelves	Key Lock	Interior Dimensions D x W x H (inches)	Exterior Dimensions D x W x H (inches)	Certification	Shipping Weight (lbs.)
3556-4	5	manual	120V / 60Hz	2 fixed, 3 door	no	15 x 18 x 28.5	29.5 x 21 x 33.5	UL, meets NFPA 45 & 70	84
20FFEETSA	20	manual	115V / 60Hz	4 fixed interior shelves, 6 door, 1 wire basket	no	21 x 27 x 57.5	31.25 x 33 x 67.25	UL, meets NFPA 45 & 70	230

Thermo Scientific Flammable Storage Refrigerator/Freezers (Temperature Range: 1° to 12°C [ref], -12° to -20°C [frz])

Model No.	Capacity cu. ft.	Defrost	Voltage	Shelves Interior/Door	Drawers	Interior Dimensions D x W x H (inches)	Exterior Dimensions D x W x H (inches)	Certification	Shipping Weight (lbs.)
3551-10	10	manual	120V / 60Hz	3 adjustable, 1 fixed, 4 door	1	18 x 19.5 x 39 (ref.) 16.25 x 18 x 12 (frz.)	30.5 x 23.5 x 60	UL, meets NFPA 45 & 70	150
3551-11	10	manual	240V / 50Hz	3 adjustable, 1 fixed, 4 door	1	18 x 19.5 x 39 (ref.) 16.25 x 18 x 12 (frz.)	25.5 x 23.5 x 60	cCSAus	150

Thermo Scientific Explosion-Proof Refrigerators, Freezers and Combinations

Specifications and Ordering Information

Thermo Scientific Explosion-Proof Refrigerators (Temperature Range 1° to 12°C)

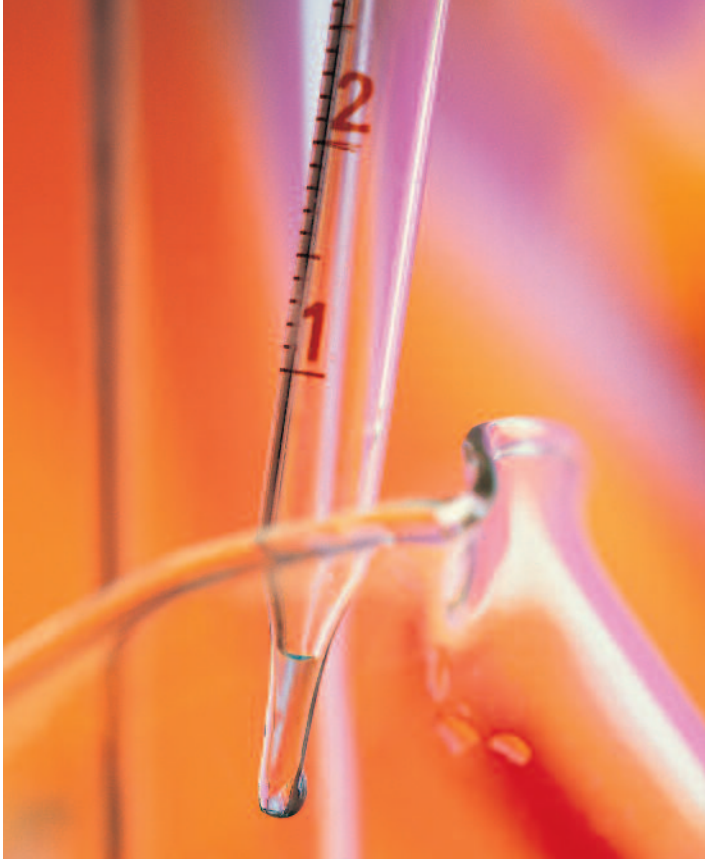
Model No.	Capacity cu. ft.	Defrost	Voltage	Shelves	Key Lock	Interior Dimensions D x W x H (inches)	Exterior Dimensions D x W x H (inches)	Certification	Shipping Weight (lbs.)
3557-DB	5.6	manual	120V / 60Hz	4 adjustable	yes	16 x 20 x 27.5	29.5 x 23.5 x 33.5	UL, meets NFPA 45 & 70	110
3557-1	5.6	manual	240V / 50Hz	4 adjustable	yes	16 x 20 x 27.5	29.5 x 23.5 x 33.5	cCSAus	110
20EREETSA	20	manual	115V / 60Hz	4 fixed, 6 door, 1 wire basket	no	21 x 27 x 57.5	31.25 x 33 x 67.25	UL, meets NFPA 45 & 70	230

Thermo Scientific Explosion-Proof Freezers (Temperature Range -12° to -20°C)

Model No.	Capacity cu. ft.	Defrost	Voltage	Shelves	Key Lock	Interior Dimensions D x W x H (inches)	Exterior Dimensions D x W x H (inches)	Certification	Shipping Weight (lbs.)
3557-2	5	manual	120V / 60Hz	2 fixed, 3 door	no	15 x 18 x 28.5	29.5 x 21 x 33.5	UL, meets NFPA 45 & 70	84
20EFEETSA	20	manual	115V / 60Hz	4 fixed interior shelves, 6 door, 1 wire basket	no	21 x 27 x 57.5	31.25 x 33 x 67.25	UL, meets NFPA 45 & 70	230

Thermo Scientific Explosion-Proof Refrigerator/Freezers (Temperature Range: 1° to 12°C [ref], -12° to -20°C [frz])

Model No.	Capacity cu. ft.	Defrost	Voltage	Shelves Interior/Door	Key Lock	Interior Dimensions D x W x H (inches)	Exterior Dimensions D x W x H (inches)	Certification	Shipping Weight (lbs.)
3551-DB	10	manual	120V / 60Hz	Ref: 3 adjustable, 4 door. Frz: 1 fixed	no	13.5 x 19.5 x 38.5 (ref.) 15 x 17.5 x 11.5 (frz.)	31.5 x 23.5 x 60	UL, meets NFPA 45 & 70	150
3551-1	10	manual	240V / 50Hz	Ref: 3 adjustable, 4 door. Frz: 1 fixed	no	13.5 x 19.5 x 38.5 (ref.) 15 x 17.5 x 11.5 (frz.)	31.5 x 23.5 x 60	cCSAus	150



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USA and Canada: +1 866 984 3766 (866-9-THERMO)
Latin America: +02 28 03 20 00

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