

## **Technical Data Sheet** ThermoScientific 3.5 Cuft General Purpose Freezer

Revision-1

Specifications  O4LFEETSA  Application Rating And Electrical Data  3.5 Culf General Purpose Freezer  Temperature Rating 1.2°C to 2°C°C  Instrument Rated Current 1.3.A  Building Supply Rating 1.15VAC ±10% Of Normal Rated Line Power Pulg Power Cord Length Three prong NEMA 515P, 1.28 Units Building Supply Rating 1.15VAC ±10% Of Normal Rated Line Power Pulg Power Cord Length Three prong NEMA 515P, 1.28 Units Building Supply Rating Indoor/Outdoor Usage Indoor Use Only Agency Listings Indoor/Outdoor Usage Indoor Use Only Application Environment Non-Corrosive, Non-Flammable, Non-Explosive, Good Air Ventilation  Ambient Operating Temperature Non-Corrosive, Non-Flammable, Non-Explosive, Good Air Ventilation  Ambient Operating Temperature Non-Corrosive, Non-Flammable, Non-Explosive, Good Air Ventilation  Ambient Operating Temperature Non-Corrosive, Non-Flammable, Non-Explosive, Good Air Ventilation  Ambient Operating Temperature  Refrigeration Configuration  Refrigeration Configuration  Configuration Configuration  Configuration And Flamma Non-Corrosive, Non-Flammable, Non-Explosive, Good Air Ventilation  Refrigeration Configuration  Configuration Configuration  Refrigeration Configuration  Configuration And Flamma Non-Corrosive, Non-Flammable, Non-Explosive, Good Air Ventilation  Refrigeration Configuration  Refrigeration Configuration  Refrigeration Configuration  Refrigeration Configuration  Refrigeration Configuration  Refrigeration Configuration And Features  Controller Type  Refrigeration Configuration And Features  Controller Type  Refrigeration Configuration And Features  Refrigeration Configuration And Fea		Catalog Number		
Application Application Application As Internal Electrical Data Application Sit South General Purpose Freezer Storage Volume 3.5 Cutf. 99 Liters Temperature Rating 1.12°C to -25°C Instrument Rated Current 1.3A 1.3A 1.3C Unit General Purpose Freezer Storage Volume 3.5 Cutf. 99 Liters 1.12°C to -25°C Instrument Rated Current 1.3A 1.3A 1.3C Unit General Rated Current 1.3C Unit General		04LFEETSA		
Application 3.5 Cutf. (98.1 Liters Storage Volume 3.5 Cutf. (98.1 Liters Temperature Rating 1.2°C to - 26°C Instrument Rated Current Building Supply Rating 115VAC 470% Of Normal Rated Line Power Plug/Power Cord Length Agency Listings 115VAC 470% Of Normal Rated Line Power Plug/Power Cord Length Agency Listings 115VAC 470% Of Normal Rated Line Power Plug/Power Cord Length Agency Listings 115VAC 470% Of Normal Rated Line Power Plug/Power Cord Length Agency Listings 115VAC 470% Of Normal Rated Line Power Plug/Power Cord Length Agency Listings 115VAC 470% Of Normal Rated Line Power Plug/Power Cord Length Agency Listings 115VAC 470% Of Normal Rated Line Power Plug/Power Cord Length Agency Listings 115VAC 470% Of Normal Rated Line Power Plug/Power Cord Length Agency Listings 115VAC 470% Of Normal Rated Line Power Ratings 115VAC 470% Of Normal Rated Line Power Switch 115VAC 470% Of Normal Rated Line Power Ratings 115VAC 470% Of Normal Rated Line Power	Specifications			
Application Storage Volume 3,5,5 Culf (9ental Purpose Freezer 3,5 Culf (9ental Purpose Freezer Temperature Rating Instrument Rated Current Building Supply Rating Power Plug/Power Cord Length Agency Listings Indoor/Outdoor Usage Indoor/Outdoor/Outgoor/Out				
Storage Volume Temperature Rating Instrument Rated Current Building Supply Rating Power Plug/Power Cord Length Agency Usilings Indoor/Outdoor Usage Application Environment Application Environment Ambient Operating Temperature Refrigeration System Compressor / Number Condenser Type-Rumber Expansion Device Expans				
Instrument Rated Current Building Supply Rating Power Plug/Power Cord Length Agency Listings Indoor/Outdoor Usage Indoor/Outdoor/Usage Indoor/Outdoor/Usage Indoor/Outdoor/Usage Indoor/Outdoor/Usage Indoor/Outdoor/Usage Indoor/Outdoor/Usage Indoor/Usage Indoor/				
Instrument Rated Current Building Supply Rating 115VAC ±10% Of Normal Rated Line Power Plug/Power Cord Length Agency Listings Cutus Cutus Indoor/Outdoor Usage Application Environment Ambient Operating Temperature Refrigeration System Compressor / Number Compressor / Number Compressor / Number Condenser Type/Number Expansion Device Expansion Device Expansion Device Expansion Device Expansion Device Expansion Device Expansion Period Expansion Period Expansion Period Expansion Period Refrigeration Configuration Refrigeration Configuration Refrigeration Configuration Refrigeration Configuration Refrigeration Configuration Refrigeration System Compressor / Number Condenser Type/Number Air Cooled Condenser With Natural Convection Expansion Device Expansion Device Expansion Device Expansion Device Expansion Device Expansion Exponsion Expansion Device Expansion Refrigerant Charge/Flammability Refrigerant Charge/Flammabil				
Building Supply Rating Power Plug/Power Cord Length Agency Listings Indoor/Outdoor Usage Indoor/Outdoor	Temperature Rating	-12°C to -25°C		
Power Plug/Power Cord Length Agency Listings Indoor/Outdoor Usage Application Environment Ambient Operating Temperature  Non-Corrosive, Non-Falmable, Non-Explosive, Good Air Ventilation Ambient Operating Temperature  Refrigeration System Refrigeration System Compressor / Number Condenser Type/Number Expansion Device Expansion D				
Agency Listings Indoor/Outdoor Usage Application Environment Ambient Operating Temperature Refrigeration System Refrigeration Research Refrigeration Research Responsion Device Responsion Device Responsion Device Responsion Refrigeration Research Refrigerant Charge/Fiammability Refrigeration And Features Refrigeration Refrigeration And Features Refrigeration And Features Refrigeration Refrigeration And Features Refrigeration Refrig				
Indoor/Outdoor Usage Application Environment Ambient Operating Temperature  Refrigeration System Refrigeration System Compressor / Number Compressor / Number Compressor / Number Expansion Device Expansion Device Expansion Device Expansion Device Expansion Device Expansion Device Refrigerant Charge/Flammability Refrigeration				
Application Environment Ambient Operating Temperature  15°C - 32°C (60°F - 90°F)  Refrigeration System Compressor / Number Refrigeration System Compressor / Number Compressor / Number Compressor / Number Air Cooled Condenser With Natural Convection Expansion Device Expansion Device Expansion Device Expansion Device Expansion Device Expansion Device  Expansion Device  Expansion Device  Expansion Device  Collary Tube Refrigeration Configuration Refrigeration System  Air Cooled Condenser With Natural Convection  Expansion Device  Expansion System  Value Compressor  And Features  Expansion Device  Expansion Device				
Test		,		
Refrigeration System Compressor / Number Compressor / Number Condenser Type/Number Expansion Device Evaporator Type Evaporator Type Defrost Method Refrigerant Charge/Flammability Refrigerant				
Refrigeration System Compressor / Number Compressor / Number Condenser Type/Number Expansion Device Expansion Device Expansion Device Expansion Device Feaporator Type Defrost Method Refrigerant Charge/Flammability Ranal Defrost Refrigerant Charge/Flammability Ranal Defrost Refrigerant Charge/Flammability Controller/Electrical System Configuration And Features Below Eye Level Power Switch Not Present Controller Type Mechanical Thermostat Sepoint Security / Programmable Compressor Sale Guard Control Sensor Remote Alarm Terminals Power Failure Alarm Data Logger / Chart Recorder Data Logger / Chart Recorder Dimensions (H x W x D) Sterior Dimensions (H x W x D) Insulation Door Perimeter heater Shelves / Capacity All-Direction Casters Ship Weight Access Port / Dia  Sterior Dimensions Sterior Dimensions Sterior Dimensions Sterior Dimensions Ship Weight Access Port / Dia  Sterior Dimensions Sterior Dimensions Ship Weight Sterior Dimensions Ship Weight Access Port / Dia  Sterior Dimensions Sterior Dimensions Ship Weight Access Port / Dia  Sterior Dimensions Sterior Dimensions Sterior Dimensions Sterior Dimensions Ship Weight Access Port / Dia  Sterior Dimensions Sterior Dimensions Sterior Dimensions Sterior Dimensions Sterior Dimension	Ambient Operating Temperature			
Compressor / Number				
Condenser TypeNumber Expansion Device Expansion Device Expansion Device Expansion Device Expansion Device Foamed Expansion Defrost Method Refrigerant Charge/Flammability R134A  Controller/Electrical System Configuration And Features Below Eye Level Power Switch Controller Type Mechanical Thermostat Controller Type Mechanical Thermostat Controller Type Mechanical Thermostat Controller Type Mechanical Thermostat Controller Alam Controller Service Compressor Safe Guard Control Sensor Control Sensor Remote Alam Terminals Power Failure Alam Data Logger / Charl Recorder  Dimensions (H x W x D) Data Logger / Charl Recorder  Dimensions And Construction Interior Dimensions (H x W x D) John Sensor Schelber Sensor Schelber S				
Expansion Device   Capillary Tube   Foamed Evaporator				
Evaporator Type Defrost Method Refrigerant Charqe/Flammability Controller/Electrical System Configuration And Features Econtroller Level Power Switch Controller Type Mechanical Thermostat Controller Type Mechanical Thermostat Setpoint Security / Programmable Compressor Safe Guard Control Sensor Control Sensor Remote Alarm Terminals Power Failure Alarm Not Present Data Logger / Chart Recorder Dimensions (H x W x D) Setpoint Security (Programmable (St. Sensor) Remote Alarm Terminals Power Failure Alarm Not Present Shelves / Capacity All-Direction Casters Shelves / Capacity All-Direction Casters Ship Weight Access Port / Dia Not Present Stephona Alarm Terminals Not Present Not Present Shelves / Capacity All-Direction Casters (2) Adjustable Feet In Front, (2) Fixed Pads In Rear Ship Weight Access Port / Dia Not Present Typical Performance Characteristics  1935-PC-12  1945-PC-12  1945-P	7.			
Defrost Method   Refrigerant Charge/Flammability   R134A	Expansion Device			
Refrigerant Charge/Flammability		· · · · · · · · · · · · · · · · · · ·		
Controller Level   Below Eye Level				
Description	Refrigerant Charge/Flammability			
Power Switch				
Setpoint Security / Programmable Compressor Safe Guard Control Sensor Control Sensor Remote Alarm Terminals Not Present Data Logger / Chart Recorder Dimensions (H x W x D) Sterior Dimensions And Construction Sterior				
Not Yes				
Compressor Safe Guard   High Temp Cutout Switch / Overload Protector				
Capillary Tube				
Remote Alarm Terminals		ů i		
Data Logger / Chart Recorder				
Data Logger / Chart Recorder   Dimensions And Construction				
Interior Dimensions (H x W x D)   24.25" X 17.75" X 16.5" (61.6 X 45.09 X 41.9 cm)				
Interior Dimensions (H x W x D)   24.25" X 17.75" X 16.5" (61.6 X 45.09 X 41.9 cm)	Data Logger / Chart Recorder			
State   Stat				
Insulation Polyurethene Foam  Door Perimeter heater Not Present  Shelves / Capacity (3) Drawers  All-Direction Casters (2) Adjustable Feet In Front, (2) Fixed Pads In Rear  Ship Weight 120lbs / 54.5kg  Access Port / Dia Not Present  Typical Performance Characteristics  Typical Performance Characteristics  3.5 cuft Upright Freezer, Pull Down and Warm Up  Pull Down Warm Up  Peak Variation from Setpoint (C): +11.6 / 4.1  Uniformity (C): 1.4  Average Cabinet Temp at -20C Cycle (C): -21  Peak Variation from Setpoint (C): +1.6 / 4.1  Uniformity (C): 1.4  Stability (C): 4.4  1-min Door Opening Recovery to -20C (min): 4  Duty Cycle at -20C (%): 29  Cycle (on/off) rate at -20C (min): 4 / 9  Energy Consumption (kw-In/day): 0.66  Heat Rejection Rate (bluthr): 86  Pull Down Time (to -20C) (min): 39				
Door Perimeter heater Shelves / Capacity All-Direction Casters All-Direction Casters (2) Adjustable Feet In Front, (2) Fixed Pads In Rear  Ship Weight 120lbs / 54.5kg Access Port / Dia Not Present  Typical Performance Characteristics  3.5 cuft Upright Freezer, Pull Down and Warm Up Pull Down Warm Up  Pull Down Warm Up  Average Cabinet Temp at -20C Cycle (C): -21 Peak Variation from Sepoint (C): -15 -26 -27 -28 -29 -29 -20 -20 -20 -20 -20 -20 -20 -20 -20 -20	,			
Shelves / Capacity  All-Direction Casters  (2) Adjustable Feet In Front, (2) Fixed Pads In Rear  Ship Weight  120lbs / 54.5kg  Access Port / Dia  Not Present  Typical Performance Characteristics  3.5 cuft Upright Freezer, Pull Down and Warm Up Pull Down Time (to -20C) (min):  A 44 Pull Down Time (to -20C) (min):  B 54-9-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4-4	Insulation			
All-Direction Casters  Ship Weight  Access Port / Dia  Typical Performance Characteristics  Typical Performance Characteristics  3.5 cuft Upright Freezer, Pull Down and Warm Up  Pull Down Warm Up  Pull Down Warm Up  Average Cabinet Load:  Average Cabinet Temp at -20C Cycle (C): -21  Peak Variation from Setpoint (C): +1.6/-4.1  Uniformity (C): Stability (C): 1.4  Average Cabinet Temp at -20C Cycle (C): -21  Peak Variation from Setpoint (C): +1.6/-4.1  Uniformity (C): Stability (C): 1.4  Average Cabinet Temp at -20C Cycle (C): -21  Uniformity (C): 5tability (C): 1.4  T-min Door Opening Recovery to -20C (min): 4/9  Energy Consumption (kw-hr/day): 0.6  Heat Rejection Rate (btw/hr): 86  Pull Down Time, minutes  Pull Down Time (to -20C) (min): 39				
Ship Weight   120lbs / 54.5kg   Not Present	Shelves / Capacity			
Access Port / Dia    Typical Performance Characteristics   Typical Performance Characteristics		(2) Adjustable Feet In Front, (2) Fixed Pads In Rear		
Typical Performance Characteristics  3.5 cuft Upright Freezer, Pull Down and Warm Up  Pull Down  Warm Up  AVG  Cabinet Load: Average Cabinet Temp at -20C Cycle (C): -21  Peak Variation from Setpoint (C): 11  Peak Variation from Setpoint (C): 14.4  Stability (C): 15  10  10  10  10  10  10  10  10  10				
3.5 cuft Upright Freezer, Pull Down and Warm Up  Pull Down  Warm Up  10  10  10  10  10  10  10  10  10  1	Access Port / Dia	Not Present		
Pull Down Warm Up		Typical Performance Characteristics		
Cabinet Load: Average Cabinet Temp at -20C Cycle (C): -21 Peak Variation from Setpoint (C): +1.6 / -4.1 Uniformity (C): 1.4 Stability (C): 4.4 1-min Door Opening Recovery to -20C (min): 4 Duty Cycle at -20C (%): 29 Cycle (on/off) rate at -20C (min): 4/9 Energy Consumption (kw-hr/day): 0.6 Heat Rejection Rate (btu/hr): 86 Pull Down Time, minutes	3.5 cuft Upright Freezer, Pull Down and War	m Up 3.5 cuft Upright Freezer at -20C Cycle Test Unit Series Number or MSO Number: 1	19454-PC-T2	
Average Cabinet Temp at -20C Cycle (C):  -21  -21  -21  -21  -21  -21  -21  -2		ANNOUNCE SHOWING CONTROL OF THE PROPERTY OF TH		
Peak Variation from Setpoint (C): +1.6/-4.1 Uniformity (C): 1.4  1.4  1.4  1.5  1.5  1.5  1.5  1.5		Cabillet Load.		
Uniformity (C): \$1.4 Stability (C): \$4.4 \$1.5 \$1.5 \$1.5 \$1.5 \$1.5 \$1.5 \$1.5 \$1.5		-18		
Cycle (on/off) rate at -20C (min): 4/9  -15 -20 -24 -25 -26 -20 -20 -24 -25 -26 -20 -20 -20 -20 -20 -20 -20 -20 -20 -20	ě 5	9 -19 Uniformity (C):		
Cycle (on/off) rate at -20C (min): 4/9  -15 -20 -24 -25 -26 -20 -20 -24 -25 -26 -20 -20 -20 -20 -20 -20 -20 -20 -20 -20	tr o	Stability (C):		
Cycle (on/off) rate at -20C (min): 4/9  -15 -20 -24 -25 -26 -20 -20 -24 -25 -26 -20 -20 -20 -20 -20 -20 -20 -20 -20 -20	e -5	1-min Door Opening Recovery to -20C (min):		
-15 -26   Energy Consumption (kw-hr/day): 0.6   Heat Rejection Rate (btu/hr): 86   O 50 100 150 200   Time, minutes   Pull Down Time (to -20C) (min): 39	-10	Cycle (on/off) rate at -20C (min):		
20 0 120 240 360 480 600 720 Heat Rejection Rate (btu/hr): 86 Pull Down Time, minutes 9 Pull Down Time (to -20C) (min): 39	-15	-25 Energy Consumption (low-hr/day):		
0 50 100 150 200 Time, minutes Pull Down Time (to -20C) (min): 39		0 120 240 350 480 500 720 Heat Rejection Rate (btu/hr):	86	
		200 Pull Down Time (to -20C) (min):		
Time, minutes Warm Up Time (-20C to 0C) (min): 162	Time, minutes	warm up time (-zuc to uc) (min):	102	

1) Performance is nominal and individual units may vary.

Freezer performance will differ due to product amount, product size and operating conditions.
 Continuous product enhancements may, without notice, result in amendments or ommisions to this specification. ThermoScientific cannot accept responsibility for damage, injury, loss or expenses resulting from misapplication of the information herein.

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