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# Technical Data Sheet High Performance General Purpose Refrigerator

Revision-2

Thermo Fisher Scientific, Asheville, North Carolina

	Catalog number				
	TSX4505GV				
Specifications	Model Number				
Specifications	TSX4505GV				
	Application, Rating and Electrical Data				
Application	Storage of General (non-flammable) Laboratory Materials				
Storage Volume	1297 Liters / 45.8 Cubic Feet				
Factory Set Point	5°C				
Set Point Range / Adjustable Increment	3 °C to 7 °C / 0.1 °C				
Electrical Power / Rated Current	208-230 V 50 Hz 1 Phase / 4.2 A				
Building Supply Rating	15A dedicated grounded non-GFCI circuit. Protected by circuit breaker rated for inductive loads				
Power Plug / Power Cord Length	16 Amp (CEE 7/7) / 3.048 Meters (10 feet)				
Agency Listings	CE, UL, cUL				
Indoor / Outdoor Usage	Indoor Use Only				
Application Environment	Non-Corrosive, Non-Flammable, Non-Explosive, Good Air Ventilation				
Ambient Operating Temperature	15°C - 32°C (60°F - 90°F)				
Ambient Operating Temperature	Refrigeration Configuration				
Potrigoration System	Vapor Compression System				
Refrigeration System	Hermetic Variable Capacity Compressor / 1 / 398W				
Compressor / Number / Capacity	Enhanced Finned-Tube and Forced-Air Cooled / 1				
Condenser Type / Number					
Expansion Device	Capillary Tube				
Evaporator Type / Defrost Method	Forced Air Evaporator Coil / Automatic Defrost R290,145 gms, GWP:3 ODP:0 / Flammable				
Refrigerant Charge / Flammability	· · · ·				
O a destinada e el	Controller/Electrical System Configuration and Features  Eve Level				
Controller Level	,				
Power Switch	Keyed Off-On - Alarm IntrLogic Control System: Digital Display, Graphic Thermometer, Automatic Defrost System				
Controller Type	Yes / Yes				
Setpoint Security / Programmable	Current protection				
Compressor Safe Guard	Single RTD (1000 ohm shielded Platinum RTD)				
Control Sensor	Remote Alarm Contacts, RS485 Output and 4-20 mA Output (optional)				
Connectivity / Remote Outputs					
Adjustable Warm / Cold Alarms	Fully Adjustable Standard				
Power Failure Alarm					
Electronic Chart Recorder	Optional				
	Dimensions and Construction				
Interior Dimensions (D x W x H)	66.0 cm x 133.4 cm x 147.3 cm (26.0" x 52.5" x 58.0")				
Exterior Dimensions (D x W x H)	93.1 cm x 143.5 cm x199.4 cm (36.6" x 56.5" x 78.5")				
Insulation	5.08 cm (2.0") High-Density Water-Blown Polyurethane Foam				
Door Perimeter heater	Yes				
Shelves / Load Limit	(8) Adjustable Wire Shelves / 45 kg (100 lbs) per Shelf				
All-Direction Casters	Standard With Locks				
Shipping Weight	277 kg / 611 lb				
	Typical Performance Characteristics				
45 cuft Upright Refrigerator, Pull Down and Warm U	p 45 cuft Upright Refrigerator at 5C Cycle  MAX — MIN — AVG  Test Unit Series Number or MSO Number: 19585-B30				
——Pull Down —— Warm Up	9				
19	Cabinet Load: Unloaded  8 Average Cabinet Temp at 5C Cycle (C): 5				
17	Peak Variation from Setnoint (C): +1 9 / 2 2				
2 15 trade 11 13 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Uniformity (C):				
i 13	Stability (C): 2.9 1-min Door Opening Recovery to 5C (min): 4				
<u>8</u> 11	Duty Cycle at 5C (%): 33				
9 9	Cycle (on/off) rate at 5C (min): 3 / 6 Energy Consumption (kw-hr/day): 4.5				
	Heat Rejection Rate (htulin):				
7	Pull Down Time (to 5C) (min): 16				
0 50 100 150	Warm Up Time (5C to 15C) (min): 176				
Time, minutes	200 0 120 240 360 480 600 720 Sound (dBA): 52  Time, minutes				
inne, minutes	mile, minutes				

- 1) Performance is nominal and individual units may vary.
- 2) Product 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. Thermo Scientific cannot accept responsibility for damage, injury, loss or expenses resulting from misapplication of the information herein.



Typical Cabinet Temperature Map Refrigerator 45cuft , 8 Inner-Shelves + Base, 2 Outer Doors Temperatures are averages during > 20 cycles after reaching a setpoint of 5C

#### **Top View of Shelves**

#### REAR

### FRONT

М3		M4	M53	M54			
	M5			M55			
M1		M2	M51	M52			
	M10			M60			
M13		M14	M63	M64			
	M15			M65			
M11		M12	M61	M62			
	M20			M70			
M23		M24	M73	M74			
	M25			M75			
M21		M22	M71	M72			

Front View



19585-B30

**Cabinet Average:** 5.0 C **Probe Average:** 5.6 C

Peak Variation: +1.8 C / -2.2 C

	M1	M2	M3	M4	M5	M10
Avg	5.5	5.1	5.1	4.9	4.9	4.9
Max	6.6	6.4	6.4	6.4	6.4	6.4
Min	4.4	3.7	3.8	3.3	3.3	3.4

	M11	M12	M13	M14	M15	M20
Avg	5	5	4.8	4.9	4.8	4.9
Max	6.3	6.4	6.4	6.3	6.4	6.4
Min	3.6	3.4	2.8	3.3	2.9	3.1

_		M21	M22	M23	M24	M25
	Avg	5	4.9	4.9	4.9	4.8
	Max	6.5	6.5	6.4	6.5	6.4
	Min	3.3	3.2	3.2	3.2	2.8

	M51	M52	M53	M54	M55	M60
Avg	5.7	5.8	5	5.2	5.3	5.2
Max	6.8	6.8	6.4	6.5	6.5	6.5
Min	4.5	4.8	3.5	3.8	4	3.9

	M61	M62	M63	M64	M65	M70
Avg	5.1	5.4	4.9	5	5.1	5.1
Max	6.4	6.6	6.4	6.4	6.4	6.4
Min	3.7	4.2	3	3.2	3.8	3.6

	M71	M72	M73	M74	M75
Avg	5	5.2	4.9	5.1	4.9
Max	6.4	6.5	6.4	6.5	6.4
Min	3.3	3.9	3.2	3.6	3.2

