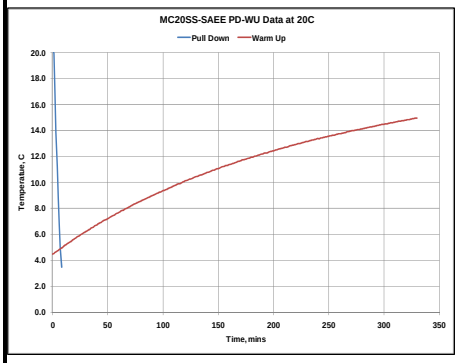
Technical Data Sheet

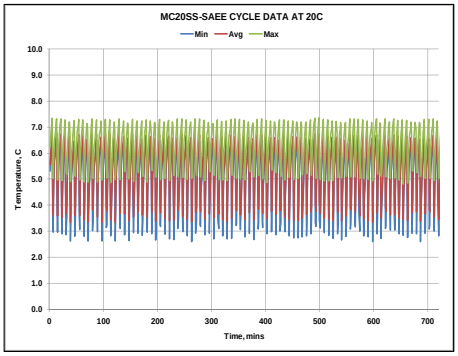
Thermo Scientific Laboratory Refrigerator / Freezer Combo

Revision-10

Thermo Fisher Scientific, Asheville, North Carolina

Specifications	Model Number MC20SS-SAEE-TS
	Application, Rating and Electrical Data
Application	Storage of Laboratory Materials
Storage Volume	566.34 Liters / 20Cubic Feet
Temperature Rating	1C to 10C @ 15°C to 32°C Ambient
Electrical Power	115 VAC, 60 hz, 1 Phase
Instrument Rated Current	6.9FLA
Building Supply Rating	Breaker 15 Amps/115v±10 Volt while operating
Power Plug/Power Cord Length	5-15P / 10 feet
Agency Listings	UL, cUL
Sound Pressure Level	67.8dBA
Indoor/Outdoor Usage	Indoor Use Only
Application Environment	Non-Corrosive, Non-Flammable, Non-Explosive, Good Air Ventilation, 15° C - 32° C (59° F - 90° F)
	Refrigeration Configuration
Refrigeration System	Vapor Compression System
Compressor / Number	1/5 hp, Reciprocating Compressor /1
Condenser Type/Number	Enhanced Finned-Tube and Forced-Air Cooled / 1
Expansion Device	Capillary Tube
Evaporator Type	Forced Air Evaporator Coil
Defrost Method	N.A
Refrigerant Charge/Flammability	Enviromentally Safe R134a
	Controller/Electrical System Configuration and Features
Controller Level / Controller Type	Eye Level / Digital
Power Switch	Yes
Setpoint Security / Programmable	Yes / Yes
Compressor Safe Guard	High Pressure Cutout Switch/High Temp Cutout Switch/Current protection
Control Sensor	Stainless Steel Shielded RTD in Air
Remote Alarm Terminals	Yes
Door Open, Probe Failure Alarms	Yes / No
Adjustable Warm/Cold Alarms	Yes
Power Failure Alarm	No
Standard Electronic chart Recorder	Optional
	Dimensions and Construction
Interior Dimensions (H x D x W)	71.12 X 713.03 x 50.8cm(28 x 28.75 x 20in)
Exterior Dimensions (H x D x W)	208.92 X 90.17 x 66.04cm(82.25 x 35.5 x 26 in)
Insulation	5.08cm(2in) FOAMED-IN-PLACE, CFC AND HCFC-FREE POLYURETHANE
Door Perimeter heater	Electric
Shelves / Capacity	(2) Adjustable Wire Shelves. Max. Cap. per Shelf: 45 kg (100 lbs.)
All-Direction Casters	Standard with Two Locking and Two Regular
Ship Weight	Approximately 190.51kg (420lbs.)
1" Dia access port	Yes
	Typical Performance Characteristics





Test Unit MSO Number:	19029-TS-T15-1
Cabinet Load	Empty
Average Cabinet Temp at 4 C Cycle (C):	5.4
Average Uniformity (C):	1.2
Average Stability (C):	4.6
Peak Variation (C):	6.1
Cycle (on/off) rate (minutes):	0.43
Duty Cycle (%):	69.8%
Avg. energy consumption (kW-hr/day):	8.4
Avg. heat rejection rate (Btu/hr):	1197
Pulldown Time (20 to 4.5 C) (minutes):	8
Warmup Time (4.5 to 15 C) (minutes):	330
Sound Power Level (dBA):	67.8
Door Opening Recovery (minutes)	3

1) Performance is nominal and individual units may vary.
2) Freezer performance will differ due to product amount, product size and operating conditions.
3) 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.

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Temperature Rating	-20C to 0C @ 15°C to 32°C Ambient
Electrical Power	115 VAC, 60 hz, 1 Phase
Instrument Rated Current	5.4FLA
Building Supply Rating	Breaker 15 Amps/115v±10 Volt while operating
Power Plug/Power Cord Length	5-15P / 10 feet
Agency Listings	UL, cUL
Sound Pressure Level	67.8dBA
Indoor/Outdoor Usage	Indoor Use Only
Application Environment	Non-Corrosive, Non-Flammable, Non-Explosive, Good Air Ventilation, 15° C - 32° C (59° F - 90° F)
	Refrigeration Configuration
Refrigeration System	Vapor Compression System
Compressor / Number	1/4 hp, Reciprocating Compressor /1
Condenser Type/Number	Enhanced Finned-Tube and Forced-Air Cooled / 1
Expansion Device	Capillary Tube
Evaporator Type	Forced Air Evaporator Coil
Defrost Method	Automatic
Refrigerant Charge/Flammability	Enviromentally Safe R404a
	Controller/Electrical System Configuration and Features
Controller Level / Controller Type	Eye Level / Digital
Power Switch	Yes
Setpoint Security / Programmable	Yes / Yes
Compressor Safe Guard	High Pressure Cutout Switch/High Temp Cutout Switch/Current protection
Control Sensor	Stainless Steel Shielded RTD in Air
Remote Alarm Terminals	Yes
Door Open, Probe Failure Alarms	Yes /No
Adjustable Warm/Cold Alarms	Yes
Power Failure Alarm	No
Standard Electronic chart Recorder	Optional
	Dimensions and Construction
Interior Dimensions (H x D x W)	71.12 X 713.03 x 50.8cm(28 x 28.75 x 20in)
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1" Dia access port	Yes
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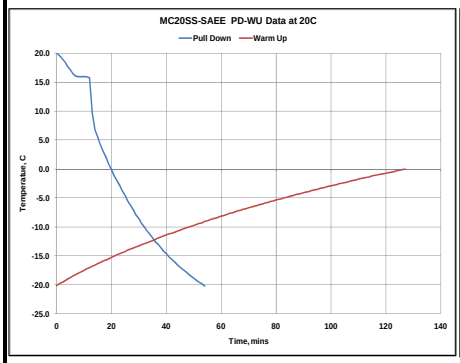

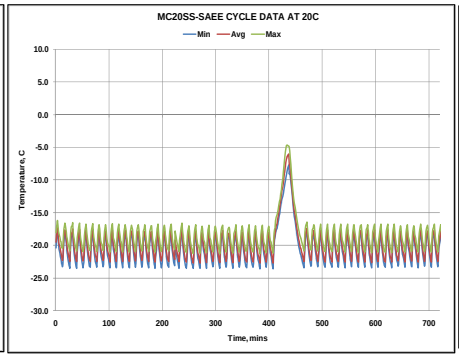

Test Unit MSO Number:	**19029-TS-T15-1**
Cabinet Load	**Empty**
Average Cabinet Temp at 4 C Cycle (C):	**-19.5**
Average Uniformity (C):	**2.0**
Average Stability (C):	**16.9**
Peak Variation (C):	**19.0**
Cycle (on/off) rate (minutes):	**0.45**
Duty Cycle (%):	**69.2%**
Avg. energy consumption (kW-hr/day):	**8.4**
Avg. heat rejection rate (Btu/hr):	**1195**
Pulldown Time (20 to -20 C) (minutes):	**54**
Warmup Time (-20 to 0 C) (minutes):	**127**
Sound Power Level (dBA):	**67.8**
Door Opening Recovery (minutes)	**3**

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