

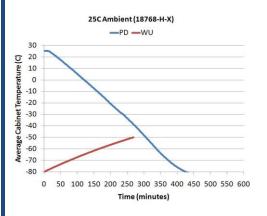
## **Technical Data Sheet**

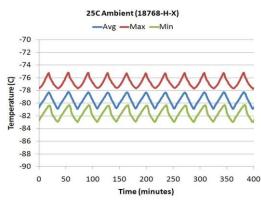
## **Revco Ultra-Low Temperature Upright Freezer**

**MODEL RELEASE - 65** 

Thermo Fisher Scientific, Asheville, North Carolina

Application   Application, Rating and Electrical Data							
Application Atting and Electrical Data Application Storage Volume 1815 liters / 28.8 cu. tt., 600 Standard 2" Boxes Temperature Rating Electrical Power 120V, 60 Hz. 1 Phase Instrument Rated Current Building Supply Rating Power Plug/Power Cord Length Agency Listings Indoor/Outdoor Usage Application Environment Non-Corrosive, Non-Flammable, Non-Explosive, Good Air Ventilation, 15° C - 32° C (59° F - 90° F)  Refrigeration System Compressor / Number Compressor / Number Expansion Device Expansion Device Expansion Device Expansion Device Controller Level Defrost Method Refrigeramability Refrigeration System On-Off with Circuit Breaker Controller Level Defrost Method Refrigeration System Controller Level Defrost Method Refrigeration Environment Refrigeration Defrost Refrigeration Environment Defrost Method Refrigeration System Condenser Type Number Expansion Device Condenser Type Number Defrost Method Refrigeration System On-Off with Circuit Breaker Controller Level Controller Level Defrost Method Refrigeration System Defrost Method Re		Application, Rating and Electrical Data					
Application Storage of General (non-flammable) Laboratory Materials Storage Volume 815 liters / 28.8 ct. ft., 600 Standard 2" Boxes Temperature Rating -50°C to -86°C Electrical Power 120V, 60 Hz, 1 Phase Instrument Rated Current 16.0 AMP Building Supply Rating 20.0A dedicated grounded circuit. Protected by circuit breaker rated for inductive loads Power Plug/Power Cord Length NEMA 5-20P / IEC Cords, 3, 048 Meters (10 Feet) Agency Listings UL, cUL Indoor/Outdoor Usage Unit of Usage Indoor Use Only Application Environment Non-Corrosive, Non-Flammable, Non-Explosive, Good Air Ventilation, 15° C - 32° C (59° F - 90° F)  Refrigeration System Industrial-Rated Two Stage Cascade System Compressor / Number Hermetic Compressor for Low Temperature Application / 2 Compressor / Number Hermetic Compressor for Low Temperature Application / 2 Compressor TypeNumber Enhanced Finned-Tube and Forced-Air Cooled / 1 Expansion Device Cold Wall With Enhanced Heat Transfer Treatment Expansion Device Cold Wall With Enhanced Heat Transfer Treatment Expansion Device Cold Wall With Enhanced Heat Transfer Treatment Refrigerant Charge/Flammability R404A in 1st Stage / R508B+R290 Mix in 2nd Stage / Non-Flammable  Controller Level Top Power Switch On-Off with Circuit Breaker Controller Input and Display. Includes USB System Data Retrieval Setpoint Security High Pressure Cutout Switch/High Temp Cutout Switch/Current protection/Logic protection Control Sensor Single RTD (1000 ohm Platnum RTD) Remote Alarm Terminals R5485/4-20mA output Figh Pressure Cutout Switch/High Temp Cutout Switch/Current protection/Logic protection Interior Dimensions (H x D x W) 1300 H x 868 D x 874 W mm (51.2 H x 27 D x 34.4 W in.)  Exterior Dimensions (H x D x W) 1300 H x 868 D x 874 W mm (51.2 H x 27 D x 34.4 W in.)  Exterior Dimensions (H x D x W) 1300 H x 868 D x 874 W mm (51.2 H x 27 D x 34.4 W in.)  Exterior Dimensions (H x D x W) 1300 H x 868 D x 874 W mm (51.2 H x 27 D x 34.4 W in.)  Exterior Dimensions (H x D x W) 1300 H x 868 D x 874 W mm (51.2 H x 27 D x 34.4	Specifications						
Storage Volume Temperature Rating Electrical Power 120V, 60 Hz, 1 Phase Instrument Rated Current Building Supply Rating Power Plug/Power Cord Length Agency Listings Indoor/Outdoor Usage Application Environment Reference Supply Rating Refrigeration System Compressor Capacity Compressor Capacity Expansion Device Evaporator Type Condenser TypeNumber Expansion Device Evaporator Type Controller Lavel Controller Lavel Compressor Sea Guard Controller Type Refrigeration System Controller Lavel Defrost Method Refrigeration System Controller Type Refrigeration System Controller Type Refrigeration Configuration Refrigeration System Condenser TypeNumber Expansion Device Evaporator Type Cold Wall With Enhanced Heat Transfer Treatment Defrost Method Refrigeration System Controller Lavel Refrigeration System Controller Lavel Refrigeration System Refrigeration Configuration							
Temperature Rating							
Electrical Power   120V, 60 Hz, 1 Phase	<u>v</u>	,					
Instrument Rated Current Building Supply Rating Power Plug/Power Cord Length Agency Listings Indoor/Outdoor Usage Application Environment Refrigeration System Compressor / Number Condersor Type/Mumber Expansion Device Evaporator Type Defrost Method Refrigeratior Charge/Flammability Refrigeratior Charge/Flammability Refrigeratior On-Off with Circuit Breaker Controller Level Power Switch Controller Spe Refrigeratior With Type Refrigeratior With Type Refrigeratior With Type Refrigeratior System Controller Seasor Refrigeratior System Compressor / Number Condenses Type/Number Expansion Device Evaporator Type Cold Wall With Enhanced Finned-Tube and Forced-Air Cooled / 1 Expansion Device Evaporator Type Cold Wall With Enhanced Heat Transfer Treatment Defrost Method Refrigerant Charge/Flammability Refrigerant Charge/Flammabili	· · · · · · · · · · · · · · · · · · ·						
Building Supply Rating Power Plug/Power Cord Length Agency Listings Indoor/Outdoor Usage Application Environment Non-Corrosive, Non-Flammable, Non-Explosive, Good Air Ventilation, 15° C - 32° C (59° F - 90° F)  Refrigeration System Refrigeration System Compressor / Number Compressor / Number Expansion Device Evaporator Type Defrost Method Refrigerant Charge/Flammability Refrigerant Charge/Flammability Refrigerant Charge/Flammability Refrigerant Charge/Flammability Refrigeration System Industrial-Rated Two Stage Cascade System Compressor Capacity Condenser Type/Number Expansion Device Evaporator Type Cold Wall With Enhanced Heat Transfer Treatment Defrost Method Refrigerant Charge/Flammability R404A in 1st Stage / R508B+R290 Mix 2 2 2 3 2 4 3 2 3 2 4 3 3 3 3 3 3 3 3 3							
Power Plug/Power Cord Length Agency Listings   UL, cUL	Instrument Rated Current						
Agency Listings Indoor/Outdoor Usage Application Environment Non-Corrosive, Non-Flammable, Non-Explosive, Good Air Ventilation, 15° C - 32° C (59° F - 90° F)  Refrigeration Environment Refrigeration System Refrigeration System Industrial-Rated Two Stage Cascade System Compressor / Number Hermetic Compressor for Low Temperature Application / 2 Compressor Capacity* 1200 W Condenser Type/Number Enhanced Finned-Tube and Forced-Air Cooled / 1 Expansion Device Capillary Tube Evaporator Type Cold Wall With Enhanced Heat Transfer Treatment Defrost Method Refrigerant Charge/Flammability R404A in 1st Stage / R508B+R290 Mix in 2nd Stage / Non-Flammable  Controller/Electrical System Configuration and Features  Controller Level Top Power Switch Controller Level On-Off with Circuit Breaker Controller Security Wes Compressor Safe Guard High Pressure Cutout Switch/High Temp Cutout Switch/Current protection/Logic protection Control Sensor Single RTD (1000 ohm Platinum RTD) Remote Alarm Terminals Adjustable Warm/Cold Alarms Fully Adjustable Auto-Voltage Safeguard Buck/Boost System Dimensions (H x D x W) 1300 H x 686 D x 874 W mm (51.2 H x 27 D x 34.4 W in.) Exterior Dimensions Platinum Plat		· · · · · · · · · · · · · · · · · · ·					
Indoor/Outdoor Usage Application Environment Application Environment Non-Corrosive, Non-Flammable, Non-Explosive, Good Air Ventilation, 15° C - 32° C (59° F - 90° F)  Refrigeration Configuration Refrigeration System Compressor / Number Compressor / Number Compressor / Number Compressor (Do Wall Wall With Enhanced Finned-Tube and Forced-Air Cooled / 1 Expansion Device Expansion Device Evaporator Type Cold Wall With Enhanced Heat Transfer Treatment Defrost Method Refrigerant Charge/Flammability R404A in 1st Stage / R508B+R290 Mix in 2nd Stage / Non-Flammable  Controller/Electrical System Configuration and Features Controller Level Power Switch Controller Type Microprocessor Control with Touch Screen Input and Display. Includes USB System Data Retrieval Setpoint Security Yes Compressor Safe Guard High Pressure Cutout Switch/High Temp Cutout Switch/Current protection/Logic protection Control Sensor Single RTD (1000 ohm Platinum RTD) Remote Alarm Terminals Adjustable Warm/Cold Alarms Auto-Voltage Safeguard Interior Dimensions (H x D x W) Insulation Interior Dimensions Platinum R404	Power Plug/Power Cord Length	· · · · · · · · · · · · · · · · · · ·					
Application Environment  Non-Corrosive, Non-Flammable, Non-Explosive, Good Air Ventilation, 15° C - 32° C (59° F - 90° F)  Refrigeration Configuration  Refrigeration System  Compressor / Number  Compressor Capacity'  Condenser Type/Number  Expansion Device  Evaporator Type  Defrost Method  Refrigerant Charge/Flammability  Refrigerant Charge/Flammability  Refrigerant Charge/Flammability  Refrigerant Charge/Flammability  Ron-On-Off with Circuit Breaker  Controller Type  Microprocessor Control with Touch Screen Input and Display. Includes USB System Data Retrieval  Setpoint Security  Remote Alarm Terminals  Auto-Voltage Safeguard  Interior Dimensions (H x D x W)  Shipping Dimensions  Door Seal  Shelves / Capacity  4 Stainless Steel Shelves Adjustable In 25mm (1in) Increments. Max. Cap. per Shelf: 110 kg (245 lbs.)  All-Direction Casters  Refrigeration Configuration (15° C - 32° C (59° F - 90° F)  Refrigeration Configuration  Refrigeration Configuration  Refrigerated Two Stage Casacd System  Remote Alarm Terminals  Refrigeration Configuration And Features  Control Sensor  Single RTD (1000 ohm Platinum RTD)  Remote Alarm Terminals  Refrigeration Configuration And Features  Refrigeration Configuration And Features  Single RTD (1000 ohm Platinum RTD)  Remote Alarm Terminals  Refrigeration Configuration And Features  Refrigeration Configuration And Features  Single RTD (1000 ohm Platinum RTD)  Remote Alarm Terminals  Refrigeration Configuration And Features  Refrigeration Casters  Refrigeration Place Alar Transfer Treatment  Replication Casters  Refrigeration Place Alar Transfer Treatment  Replication Capacity  Replication Casters  Refrigeration Casters  Refrigeration Place Alar Transfer Treatment  Replication Capacity  Refrigeration Place Alar Transfer Treatment  Refrige	Agency Listings	, , , , , , , , , , , , , , , , , , ,					
Refrigeration System Industrial-Rated Two Stage Cascade System Compressor / Number Hermetic Compressor for Low Temperature Application / 2 Compressor Capacity* 1200 W Condenser Type/Number Enhanced Finned-Tube and Forced-Air Cooled / 1 Expansion Device Capillary Tube Evaporator Type Cold Wall With Enhanced Heat Transfer Treatment Defrost Method Manual Defrost Refrigerant Charge/Flammability R404A in 1st Stage / R508B+R290 Mix in 2nd Stage / Non-Flammable  Controller Level Top Power Switch On-Off with Circuit Breaker Controller Type Microprocessor Control with Touch Screen Input and Display. Includes USB System Data Retrieval Setpoint Security Yes Compressor Safe Guard High Pressure Cutout Switch/High Temp Cutout Switch/Current protection/Logic protection Control Sensor Single RTD (1000 ohm Platinum RTD) Remote Alarm Terminals R5485/4-20mA output Adjustable Warm/Cold Alarms Auto-Voltage Safeguard Buck/Boost System  Dimensions and Construction Interior Dimensions (H x D x W) 1981 H x 955 D x 110 Y W mm (78 H x 37.6 D x 43.6 W in.) Shipping Dimensions (H x D x W) 1981 H x 955 D x 110 Y W mm (78 H x 37.6 D x 47.48 W in) Insulation High R-value Vacuum Insulation Panels and High Density Water-Blown Polyurethane Foam Door Seal Silicone-Based High Performance Seal Gasket with Electrical Door Perimeter Heater Shelves / Capacity 4 Stainless Steel Shelves Adjustable In 25mm (tin) Increments. Max. Cap. per Shelf: 110 kg (245 lbs.) All-Direction Casters Standard with Looks							
Refrigeration System Compressor / Number Compressor Capacity* Condenser Type/Number Enhanced Finned-Tube and Forced-Air Cooled / 1 Expansion Device Evaporator Type Controller Level Power Switch Controller Type Microprocessor Control with Touch Screen Input and Display. Includes USB System Data Retrieval Setpoint Security Compressor Safe Guard High Pressure Cutout Switch/High Temp Cutout Switch/Current protection/Logic protection Control Searge Auto-Voltage Safeguard Display Indivators Display In X 20 X 4.4 W in.) Exterior Dimensions (H x D x W) Shelping Dimensions Davis Capacity All-Direction Casters Setpolar Stape Is Adjustable In 25mm (1) in Increments. Max. Cap. per Shelf: 110 kg (245 lbs.) All-Direction Casters Standard With Looks	Application Environment						
Compressor / Number		Refrigeration Configuration					
Compressor Capacity* Condenser Type/Number Expansion Device Evaporator Type Cold Wall With Enhanced Heat Transfer Treatment Defrost Method Refrigerant Charge/Flammability Refrigerant Charge Flammability Refrigerant Charge	Refrigeration System	Industrial-Rated Two Stage Cascade System					
Condenser Type/Number Expansion Device Capillary Tube Evaporator Type Cold Wall With Enhanced Heat Transfer Treatment Manual Defrost Refrigerant Charge/Flammability R404A in 1st Stage / R508B+R290 Mix in 2nd Stage / Non-Flammable Controller Level Power Switch Controller Type Microprocessor Control with Touch Screen Input and Display. Includes USB System Data Retrieval Setpoint Security Compressor Safe Guard High Pressure Cutout Switch/High Temp Cutout Switch/Current protection/Logic protection Control Sensor Single RTD (1000 ohm Platinum RTD) Remote Alarm Terminals Adjustable Warm/Cold Alarms Auto-Voltage Safeguard Interior Dimensions (H x D x W) Exterior Dimensions Dimensions High R-value Vacuum Insulation Panels and High Density Water-Blown Polyureth Haeter Shelves / Capacity 4 Stainless Steel Shelves Adjustable In 25mm (110 Increments. Max. Cap. per Shelf: 110 kg (245 lbs.) All-Direction Casters  Enhanced Finned-Tube and Forced-Air Cooled / 1 Capillary Tube Capillary Tube Capillary Tube Cold Wall With Enhanced Heat Transfer Treatment Manual Defrost Manual Defros Manual Defrost Manual Defrost Manual Defrost Manual Defrost Manu	Compressor / Number	Hermetic Compressor for Low Temperature Application / 2					
Expansion Device  Evaporator Type Cold Wall With Enhanced Heat Transfer Treatment Defrost Method Refrigerant Charge/Flammability R404A in 1st Stage / R508B+R290 Mix in 2nd Stage / Non-Flammable  Controller/Electrical System Configuration and Features  Controller Level Top Power Switch Controller Type Microprocessor Control with Touch Screen Input and Display. Includes USB System Data Retrieval Setpoint Security Yes  Compressor Safe Guard High Pressure Cutout Switch/High Temp Cutout Switch/Current protection/Logic protection Control Sensor Single RTD (1000 ohm Platinum RTD) Remote Alarm Terminals Adjustable Warm/Cold Alarms Auto-Voltage Safeguard Fully Adjustable Buck/Boost System  Dimensions and Construction  Interior Dimensions (H x D x W) 1300 H x 686 D x 874 W mm (51.2 H x 27 D x 34.4 W in.) Exterior Dimensions (H x D x W) 1981 H x 955 D x 1107 W mm (78 H x 37.6 D x 43.6 W in.) Shipping Dimensions 2111 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in) Insulation High R-value Vacuum Insulation Panels and High Density Water-Blown Polyurethane Foam Door Seal Silicone-Based High Performance Seal Gasket with Electrical Door Perimeter Heater Shelves / Capacity 4 Stainless Steel Shelves Adjustable In 25mm (1in) Increments. Max. Cap. per Shelf: 110 kg (245 lbs.)	Compressor Capacity*	1200 W					
Evaporator Type Cold Wall With Enhanced Heat Transfer Treatment Defrost Method Manual Defrost Refrigerant Charge/Flammability R404A in 1st Stage / R508B+R290 Mix in 2nd Stage / Non-Flammable Controller Level Top Power Switch On-Off with Circuit Breaker Controller Type Microprocessor Control with Touch Screen Input and Display. Includes USB System Data Retrieval Setpoint Security Yes Compressor Safe Guard High Pressure Cutout Switch/High Temp Cutout Switch/Current protection/Logic protection Control Sensor Single RTD (1000 ohm Platinum RTD) Remote Alarm Terminals RS485/4-20mA output Adjustable Warm/Cold Alarms Auto-Voltage Safeguard Buck/Boost System Dimensions and Construction Interior Dimensions (H x D x W) 1300 H x 686 D x 874 W mm (51.2 H x 27 D x 34.4 W in.) Exterior Dimensions (H x D x W) 1981 H x 955 D x 1107 W mm (78 H x 37.6 D x 43.6 W in.) Shipping Dimensions 2111 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in) Insulation High R-value Vacuum Insulation Panels and High Density Water-Blown Polyurethane Foam Silicone-Based High Performance Seal Gasket with Electrical Door Perimeter Heater Shelves / Capacity 4 Stainless Steel Shelves Adjustable In 25mm (1in) Increments, Max. Cap. per Shelf: 110 kg (245 lbs.) Standard with Locks	Condenser Type/Number	Enhanced Finned-Tube and Forced-Air Cooled / 1					
Defrost Method Refrigerant Charge/Flammability R404A in 1st Stage / R508B+R290 Mix in 2nd Stage / Non-Flammable Controller/Electrical System Configuration and Features Top Power Switch Controller Type Microprocessor Control with Touch Screen Input and Display. Includes USB System Data Retrieval Setpoint Security Yes Compressor Safe Guard High Pressure Cutout Switch/High Temp Cutout Switch/Current protection/Logic protection Control Sensor Single RTD (1000 ohm Platinum RTD) Remote Alarm Terminals Adjustable Warm/Cold Alarms Auto-Voltage Safeguard Buck/Boost System  Dimensions and Construction  Interior Dimensions (H x D x W) Shipping Dimensions High R-value Vacuum Insulation Pigh R-value Vacuum Insulation Door Seal Silicone-Based High Performance Seal Gasket with Electrical Door Perimeter Heater Shelves / Capacity All-Direction Casters Standard with Locks	Expansion Device	Capillary Tube					
Refrigerant Charge/Flammability  R404A in 1st Stage / R508B+R290 Mix in 2nd Stage / Non-Flammable  Controller Level Top Power Switch On-Off with Circuit Breaker Controller Type Microprocessor Control with Touch Screen Input and Display. Includes USB System Data Retrieval Setpoint Security Yes Compressor Safe Guard High Pressure Cutout Switch/High Temp Cutout Switch/Current protection/Logic protection Control Sensor Single RTD (1000 ohm Platinum RTD) Remote Alarm Terminals RS485/4-20mA output Adjustable Warm/Cold Alarms Auto-Voltage Safeguard Buck/Boost System  Dimensions and Construction  Interior Dimensions (H x D x W) 1300 H x 686 D x 874 W mm (51.2 H x 27 D x 34.4 W in.) Exterior Dimensions High R-value Vacuum Insulation Panels and High Density Water-Blown Polyurethane Foam Door Seal Silicone-Based High Performance Seal Gasket with Electrical Door Perimeter Heater Shelves / Capacity 4 Stainless Steel Shelves Adjustable In 25mm (1in) Increments. Max. Cap. per Shelf: 110 kg (245 lbs.) All-Direction Casters  Top On-Off with Circuit Breaker Singuation and Features Top On-Off with Circuit Breaker Top On	Evaporator Type	Cold Wall With Enhanced Heat Transfer Treatment					
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Controller LevelTopPower SwitchOn-Off with Circuit BreakerController TypeMicroprocessor Control with Touch Screen Input and Display. Includes USB System Data RetrievalSetpoint SecurityYesCompressor Safe GuardHigh Pressure Cutout Switch/High Temp Cutout Switch/Current protection/Logic protectionControl SensorSingle RTD (1000 ohm Platinum RTD)Remote Alarm TerminalsRS485/4-20mA outputAdjustable Warm/Cold AlarmsFully AdjustableAuto-Voltage SafeguardBuck/Boost SystemDimensions and ConstructionInterior Dimensions (H x D x W)1300 H x 686 D x 874 W mm (51.2 H x 27 D x 34.4 W in.)Exterior Dimensions (H x D x W)1981 H x 955 D x 1107 W mm (78 H x 37.6 D x 43.6 W in.)Shipping Dimensions2111 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in)InsulationHigh R-value Vacuum Insulation Panels and High Density Water-Blown Polyurethane FoamDoor SealSilicone-Based High Performance Seal Gasket with Electrical Door Perimeter HeaterShelves / Capacity4 Stainless Steel Shelves Adjustable In 25mm (1in) Increments. Max. Cap. per Shelf: 110 kg (245 lbs.)All-Direction CastersStandard with Locks	Refrigerant Charge/Flammability						
Power Switch Controller Type Microprocessor Control with Touch Screen Input and Display. Includes USB System Data Retrieval Setpoint Security Yes  Compressor Safe Guard High Pressure Cutout Switch/High Temp Cutout Switch/Current protection/Logic protection Control Sensor Single RTD (1000 ohm Platinum RTD) Remote Alarm Terminals RS485/4-20mA output Adjustable Warm/Cold Alarms Fully Adjustable Auto-Voltage Safeguard Buck/Boost System  Dimensions and Construction  Interior Dimensions (H x D x W) Shipping Dimensions H x D x W) 1300 H x 686 D x 874 W mm (51.2 H x 27 D x 34.4 W in.) Exterior Dimensions (H x D x W) 1981 H x 955 D x 1107 W mm (78 H x 37.6 D x 43.6 W in.) Shipping Dimensions 2111 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in) Insulation High R-value Vacuum Insulation Panels and High Density Water-Blown Polyurethane Foam Door Seal Silicone-Based High Performance Seal Gasket with Electrical Door Perimeter Heater Shelves / Capacity 4 Stainless Steel Shelves Adjustable In 25mm (1in) Increments. Max. Cap. per Shelf: 110 kg (245 lbs.) All-Direction Casters		Controller/Electrical System Configuration and Features					
Controller TypeMicroprocessor Control with Touch Screen Input and Display. Includes USB System Data RetrievalSetpoint SecurityYesCompressor Safe GuardHigh Pressure Cutout Switch/High Temp Cutout Switch/Current protection/Logic protectionControl SensorSingle RTD (1000 ohm Platinum RTD)Remote Alarm TerminalsRS485/4-20mA outputAdjustable Warm/Cold AlarmsFully AdjustableAuto-Voltage SafeguardBuck/Boost SystemDimensions and ConstructionInterior Dimensions (H x D x W)1300 H x 686 D x 874 W mm (51.2 H x 27 D x 34.4 W in.)Exterior Dimensions (H x D x W)1981 H x 955 D x 1107 W mm (78 H x 37.6 D x 43.6 W in.)Shipping Dimensions2111 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in)InsulationHigh R-value Vacuum Insulation Panels and High Density Water-Blown Polyurethane FoamDoor SealSilicone-Based High Performance Seal Gasket with Electrical Door Perimeter HeaterShelves / Capacity4 Stainless Steel Shelves Adjustable In 25mm (1in) Increments. Max. Cap. per Shelf: 110 kg (245 lbs.)All-Direction CastersStandard with Locks	Controller Level						
Setpoint SecurityYesCompressor Safe GuardHigh Pressure Cutout Switch/High Temp Cutout Switch/Current protection/Logic protectionControl SensorSingle RTD (1000 ohm Platinum RTD)Remote Alarm TerminalsRS485/4-20mA outputAdjustable Warm/Cold AlarmsFully AdjustableAuto-Voltage SafeguardBuck/Boost SystemDimensions and ConstructionInterior Dimensions (H x D x W)1300 H x 686 D x 874 W mm (51.2 H x 27 D x 34.4 W in.)Exterior Dimensions (H x D x W)1981 H x 955 D x 1107 W mm (78 H x 37.6 D x 43.6 W in.)Shipping Dimensions2111 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in)InsulationHigh R-value Vacuum Insulation Panels and High Density Water-Blown Polyurethane FoamDoor SealSilicone-Based High Performance Seal Gasket with Electrical Door Perimeter HeaterShelves / Capacity4 Stainless Steel Shelves Adjustable In 25mm (1in) Increments. Max. Cap. per Shelf: 110 kg (245 lbs.)All-Direction CastersStandard with Locks	Power Switch	On-Off with Circuit Breaker					
Compressor Safe Guard Control Sensor Remote Alarm Terminals Adjustable Warm/Cold Alarms Auto-Voltage Safeguard Interior Dimensions (H x D x W) Exterior Dimensions Shipping Dimensions Insulation Insulation Door Seal Shelves / Capacity Aligh Pressure Cutout Switch/High Temp Cutout Switch/Current protection/Logic protection Single RTD (1000 ohm Platinum RTD) RS485/4-20mA output RS485/4-20mA output RS485/4-20mA output Aligh Residue Aligh System Buck/Boost System  Dimensions and Construction  1300 H x 686 D x 874 W mm (51.2 H x 27 D x 34.4 W in.) 1481 H x 955 D x 1107 W mm (78 H x 37.6 D x 43.6 W in.) Shipping Dimensions Silicone-Based High Performance Seal Gasket with Electrical Door Perimeter Heater Shelves / Capacity 4 Stainless Steel Shelves Adjustable In 25mm (1in) Increments. Max. Cap. per Shelf: 110 kg (245 lbs.) All-Direction Casters Standard with Locks	Controller Type	Microprocessor Control with Touch Screen Input and Display. Includes USB System Data Retrieval					
Control SensorSingle RTD (1000 ohm Platinum RTD)Remote Alarm TerminalsRS485/4-20mA outputAdjustable Warm/Cold AlarmsFully AdjustableAuto-Voltage SafeguardBuck/Boost SystemDimensions and ConstructionInterior Dimensions (H x D x W)1300 H x 686 D x 874 W mm (51.2 H x 27 D x 34.4 W in.)Exterior Dimensions (H x D x W)1981 H x 955 D x 1107 W mm (78 H x 37.6 D x 43.6 W in.)Shipping Dimensions2111 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in)InsulationHigh R-value Vacuum Insulation Panels and High Density Water-Blown Polyurethane FoamDoor SealSilicone-Based High Performance Seal Gasket with Electrical Door Perimeter HeaterShelves / Capacity4 Stainless Steel Shelves Adjustable In 25mm (1in) Increments. Max. Cap. per Shelf: 110 kg (245 lbs.)All-Direction CastersStandard with Locks	Setpoint Security	Yes					
Remote Alarm Terminals Adjustable Warm/Cold Alarms Fully Adjustable Buck/Boost System  Dimensions and Construction  Interior Dimensions (H x D x W) Exterior Dimensions (H x D x W) Shipping Dimensions Insulation Insulation Insulation Buck/Boost System  Dimensions and Construction  1300 H x 686 D x 874 W mm (51.2 H x 27 D x 34.4 W in.)  1301 H x 955 D x 1107 W mm (78 H x 37.6 D x 43.6 W in.)  1302 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in.)  1303 H x 955 D x 1107 W mm (78 H x 37.6 D x 43.6 W in.)  1304 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in.)  1305 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in.)  1306 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in.)  1307 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in.)  1308 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in.)  1309 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in.)  1309 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in.)  1300 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in.)  1300 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in.)  1300 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in.)  1300 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in.)  1300 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in.)  1300 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in.)  1300 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in.)  1300 H x 1086 D x 1206 W mm (180 H x 1086 D x 1086 W in.)  1300 H x 1086 D x 1206 W mm (180 H x 1086 D x 1086 W in.)  1300 H x 1086 D x 1206 W mm (180 H x 1086 D x 1086 W in.)  1300 H x 1086 D x 1206 D x 1206 W in.  1300 H x 1086 D x 1206 D x 1206 W in.  1300 H x 1086 D x 1206 D x 1206 W in.  1300 H x 1086 D x 1206 D x 1206 W in.  1300 H x 1086 D x 1206 D x 1206 W in.  1300 H x 1086 D x 1206 D x 1206 D x 1206 W in.  1300 H x 1086 D x 1206	Compressor Safe Guard	High Pressure Cutout Switch/High Temp Cutout Switch/Current protection/Logic protection					
Adjustable Warm/Cold Alarms Auto-Voltage Safeguard Buck/Boost System  Dimensions and Construction  Interior Dimensions (H x D x W) Exterior Dimensions (H x D x W) 1300 H x 686 D x 874 W mm (51.2 H x 27 D x 34.4 W in.)  Exterior Dimensions (H x D x W) 1981 H x 955 D x 1107 W mm (78 H x 37.6 D x 43.6 W in.)  Shipping Dimensions 2111 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in)  Insulation High R-value Vacuum Insulation Panels and High Density Water-Blown Polyurethane Foam Door Seal Silicone-Based High Performance Seal Gasket with Electrical Door Perimeter Heater Shelves / Capacity 4 Stainless Steel Shelves Adjustable In 25mm (1in) Increments. Max. Cap. per Shelf: 110 kg (245 lbs.)  All-Direction Casters Standard with Locks	Control Sensor	Single RTD (1000 ohm Platinum RTD)					
Auto-Voltage Safeguard  Buck/Boost System  Dimensions and Construction  Interior Dimensions (H x D x W)  Exterior Dimensions (H x D x W)  Shipping Dimensions  1300 H x 686 D x 874 W mm (51.2 H x 27 D x 34.4 W in.)  Exterior Dimensions (H x D x W)  1981 H x 955 D x 1107 W mm (78 H x 37.6 D x 43.6 W in.)  2111 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in)  Insulation  High R-value Vacuum Insulation Panels and High Density Water-Blown Polyurethane Foam  Door Seal  Silicone-Based High Performance Seal Gasket with Electrical Door Perimeter Heater  Shelves / Capacity  4 Stainless Steel Shelves Adjustable In 25mm (1in) Increments. Max. Cap. per Shelf: 110 kg (245 lbs.)  All-Direction Casters  Standard with Locks	Remote Alarm Terminals	RS485/4-20mA output					
Interior Dimensions (H x D x W)  Exterior Dimensions (H x D x W)  Shipping Dimensions  Insulation  High R-value Vacuum Insulation Panels and High Density Water-Blown Polyurethane Foam  Door Seal  Shelves / Capacity  All-Direction Casters  Dimensions and Construction  1300 H x 686 D x 874 W mm (51.2 H x 27 D x 34.4 W in.)  1981 H x 955 D x 1107 W mm (78 H x 37.6 D x 43.6 W in.)  1981 H x 955 D x 1107 W mm (78 H x 37.6 D x 43.6 W in.)  1981 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in)  1981 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in)  1981 H x 955 D x 1107 W mm (78 H x 27 D x 34.4 W in.)  1981 H x 955 D x 1107 W mm (78 H x 27 D x 34.4 W in.)  1981 H x 955 D x 1107 W mm (78 H x 27 D x 34.4 W in.)  2111 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in.)  1981 H x 955 D x 1107 W mm (78 H x 27 D x 34.4 W in.)  2111 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in.)  1981 H x 955 D x 1107 W mm (78 H x 27 D x 34.4 W in.)  2111 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in.)  High R-value Vacuum Insulation Panels and High Density Water-Blown Polyurethane Foam  Door Seal  Silicone-Based High Performance Seal Gasket with Electrical Door Perimeter Heater  Shelves / Capacity  4 Stainless Steel Shelves Adjustable In 25mm (1in) Increments. Max. Cap. per Shelf: 110 kg (245 lbs.)  Standard with Locks	Adjustable Warm/Cold Alarms	Fully Adjustable					
Interior Dimensions (H x D x W)  Exterior Dimensions (H x D x W)  1300 H x 686 D x 874 W mm (51.2 H x 27 D x 34.4 W in.)  1981 H x 955 D x 1107 W mm (78 H x 37.6 D x 43.6 W in.)  Shipping Dimensions  2111 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in)  Insulation  High R-value Vacuum Insulation Panels and High Density Water-Blown Polyurethane Foam  Door Seal  Silicone-Based High Performance Seal Gasket with Electrical Door Perimeter Heater  Shelves / Capacity  4 Stainless Steel Shelves Adjustable In 25mm (1in) Increments. Max. Cap. per Shelf: 110 kg (245 lbs.)  All-Direction Casters	Auto-Voltage Safeguard	Buck/Boost System					
Exterior Dimensions (H x D x W)  Shipping Dimensions  2111 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in)  Insulation  High R-value Vacuum Insulation Panels and High Density Water-Blown Polyurethane Foam  Door Seal  Silicone-Based High Performance Seal Gasket with Electrical Door Perimeter Heater  Shelves / Capacity  4 Stainless Steel Shelves Adjustable In 25mm (1in) Increments. Max. Cap. per Shelf: 110 kg (245 lbs.)  All-Direction Casters  Standard with Locks		Dimensions and Construction					
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Insulation High R-value Vacuum Insulation Panels and High Density Water-Blown Polyurethane Foam  Door Seal Silicone-Based High Performance Seal Gasket with Electrical Door Perimeter Heater  Shelves / Capacity 4 Stainless Steel Shelves Adjustable In 25mm (1in) Increments. Max. Cap. per Shelf: 110 kg (245 lbs.)  All-Direction Casters Standard with Locks	Shipping Dimensions	2111 H x 1086 D x 1206 W mm (83.12 H x 42.75 D x 47.48 W in)					
Door Seal Silicone-Based High Performance Seal Gasket with Electrical Door Perimeter Heater Shelves / Capacity 4 Stainless Steel Shelves Adjustable In 25mm (1in) Increments. Max. Cap. per Shelf: 110 kg (245 lbs.) All-Direction Casters Standard with Locks							
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All-Direction Casters Standard with Locks							
	· · · · · · · · · · · · · · · · · · ·						
Shipping Weight   Approximately 388 kg / 854 lbs.	Shipping Weight	Approximately 388 kg / 854 lbs.					
Other Options LN2 or CO2 Back Up System, HID Controlled Access, SMS Text, Chart Recorder, 4 or 5 Inner Doors	., .						
Typical Performance Characteristics in 25 ° C Ambient							





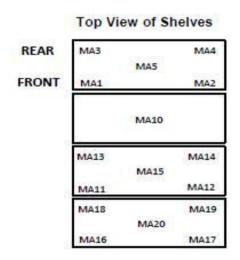
## Performance Data Summary (Typical Average Values)

Avg. Cabinet Temp. at -80C Setpoint, High Performance (C):	-79.5
Peak Variation From -80C Setpoint, High Performance (C):	+4.9 / -2.9
Peak Variation From -80C Setpoint, Energy Saving (C):	+9.6 / -0.8
Stability, -80C Setpoint, High Performance (C):	2.5
Uniformity, -80C Setpoint, High Performance (C):	5.2
1 Min. Door Open Recovery to -75C Avg. Cabinet Temp. (min):	33
Cycle Rate, -80C Setpoint, High Performance (on/off, min/min):	19/12
Duty Cycle, -80C Setpoint, High Performance (%):	62
Energy Consumption, -80C Setpoint, High Performance (kWh/day):	21.3
Heat Rejection, -80C Setpoint, High Performance (BTU/hr):	3028
Energy Consumption, -80C Setpoint, Energy Saving (kWh/day):	17.7
Heat Rejection, -80C Setpoint, Energy Saving (BTU/hr):	2516
Pulldown Time to -80C Average Cabinet Temp. (hours)	7.9
Warmup Time, From Average Cabinet Temp. of -80C to -50C (min):	257

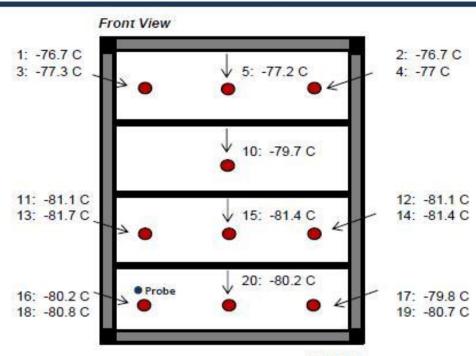
- 1) Performance is nominal and individual units may vary.
- 2) Freezer performance will differ due to product amount, product size and operating conditions.
- 3) Continuous product enhancements may, without notice, result in amendments or ommisions to this specification. Thermo Scientific cannot accept responsibility for damage, injury, loss or expenses resulting from misapplication of the information herein.
- \* Manufacturer measured compressor capacity taken at standard -23°C/49°C (Evap/Cond) condition.
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Typical Cabinet Temperature Map 600D ULT, 3 Inner-Shelves + Base, Single Outer Door Temperatures are averages during > 12 hours of cycle after reaching setpoint of -80 C



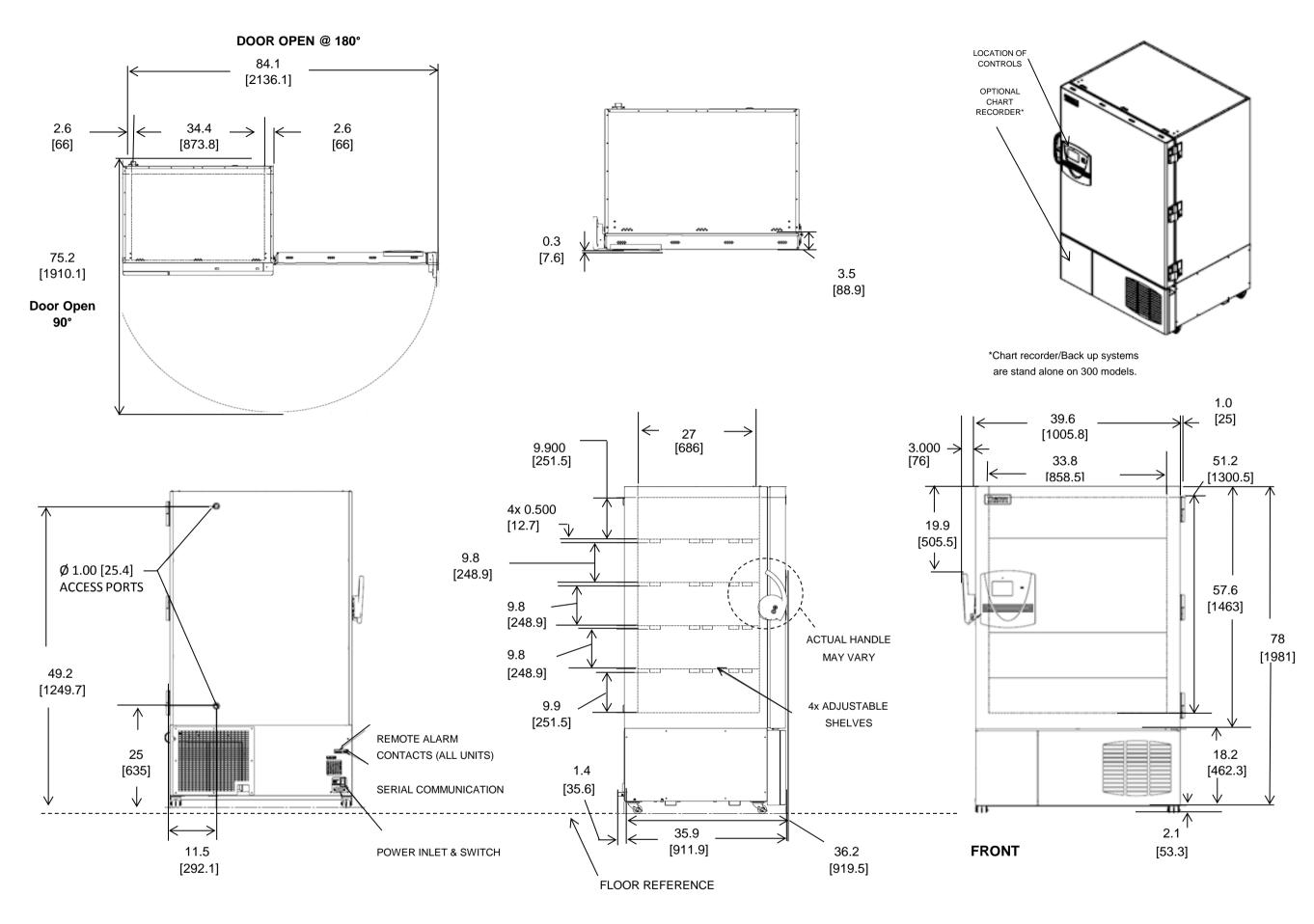
Cabinet Average: -79.6 C Probe Average: -81.3 C Peak Variation: +4.9 C/3 C



18768-H-X

°C	MA1	MA2	MA3	MA4	MA5	MA10	MA11	MA12	MA13
Avg	-76.7	-76.7	-77.3	-77.0	-77.2	-79.7	-81.1	-81.1	-81.7
Max	-75.2	-75.1	-75.6	-75.5	-75.7	-78.1	-79.8	-79.8	-80.3
Min	-77.8	-77.8	-78.6	-78.2	-78.3	-80.9	-82.3	-82.4	-83.0

-8	MA14	MA15	MA16	MA17	MA18	MA19	MA20
Avg	-81.4	-81.4	-80.2	-79.8	-80.8	-80.7	-80.2
Max	-79.9	-80.1	-79.1	-78.5	-79.5	-79.3	-78.9
Min	-82.9	-82.8	-82.0	-81.7	-82.8	-82.6	-82.0



**BACK** 



DO NOT USE FOR ENGINEERING PURPOSES. SUBJECT TO CHANGE WITHOUT NOTICE.



## 29 cuft Upright Freezer 5 Inner Doors

Single Outer Door
Top Mount Controls