thermo scientific

Technical Data Sheet

Revco™ Ultra-Low Temperature Freezer Upright Model Release - 81

Thermo Fisher Scientific, Asheville, North Carolina

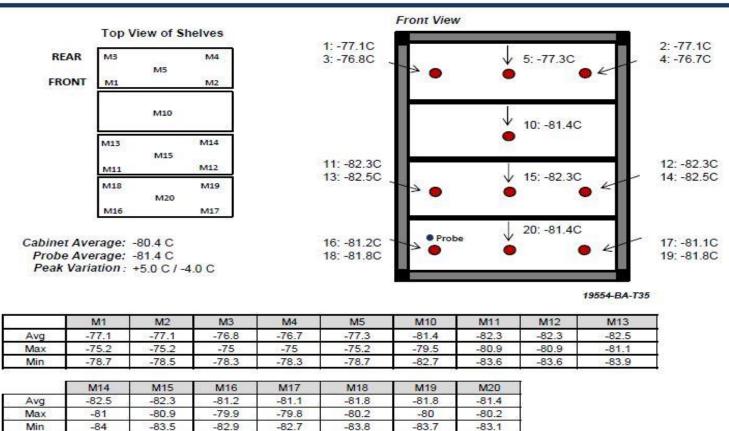
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Turnpiane Reing 00*0* HPC Entral Power 230% PHL (1 Mask Hard Stand Standy Team Code 59.44M Audrid Standy Team Code Control Mask (1 Mask	Application		
Electrical Proces 220V. OP.E. 1 Phase Procent Res / Ecuring 50.04 (min) Puer Plug / Dear Mark 50.04 (min) Power Plug / Dear Mark Sound (Bbs) Ageitzation Environment Non-Transies, Num-Transies, Num-Transie, Num-Tran	Storage Volume		
Instrumer Related Current 53 AVP Dawling Supply Ray TO 00 AVP) docaded grounde provide approximation part (EC Overs, 016.05 m) Agency Linger, Application Environment Pose Play / Doce (Vod Agency Linger, Mon-Corroles, Non-Filtmanibe, Non-Filtmanibe, Non-Expressive Interest and Construction Sound (EBs) 52.3 Application Environment Non-Corroles, Non-Filtmanibe, Non-Filtmanib, Non-Filtmanibe, Non-Filtmanibe, Non-Filtmanibe, N	Temperature Rating	-50°C to -86°C	Energy Consumption (kW-hr/day) 11.6
Building Singley Barring 100.A mm/ dedicated geounded includion Describition Prevent No. 101. CE Apprior Utility Un. 011. CE Apprior Utility No. 000. Control, No. For Barringhous Describition Prevent No. 000. Control, No. For Barringhous Describition Prevent No. 000. Control, No. For Barringhous Describition Prevent No. 000. Control Prevent Describition Prevent 100.2 Control, No. For Barringhous Describition Prevent 100.2 Control Prevent Barry Describition Prevent 100.2 Control Prevent Describition Prevent 100.2 Control Prevent Barry	Electrical Power	230V, 50 Hz, 1 Phase	Heat Rejection Rate (Btu/hr) 1647
Power Right Preser Can Agenya Lington County Openanting Public CE Conts, IN (13.05 m) U. (20.05 m) NO (13.05 m) Static County Openanting Public CE Conts, IN (13.05 m) Static County Openanting Public CE Conts, IN (13.05 m) Static County Openanting Public CE Conts, IN (13.05 m) Static County Openanting Public CE Conts, IN (13.05 m) Static County Openanting Public CE Conts, IN (13.05 m) Static County Openanting Public CE Conts, IN (13.05 m) Static County Openanting Public CE Conts, IN (13.05 m) Static County Openanting Public CE Conts, IN (13.05 m) Static County Openanting Public CE Conts, IN (13.05 m) Static County Openanting Public CE Conts, IN (13.05 m) Static CE County Openanting Public CE County Public CE Co	Instrument Rated Current	5.9 AMP	Peak Variation from Setpoint (°C) +5.0 / -4.0
Agency Luning: UL, OLC CE Sound (bbs)	Building Supply Rating	10.0A (min) dedicated grounded circuit	
Appliciation Environment New-Currence: Non-Flammable: Non-Flammab	Power Plug / Power Cord	Country Dependant plug / IEC Cords, 10 ft (3.05 m)	
Application Environment Instance User Cody, Winitized 197 C 327 C (507 F - 697 F) 6.6 Morensitions and Construction Second Status and Construction 6.6 Bised or Demonsions (M 20 X) 51 2 X 25 3 K 175 in (1300 X 718 X 480 mn) 5.6 Status of the O XIII T X 100 XIII T X 105 X 175 K 16 (20 X 718 K 28 mn) 5.6 Status of the O XIII T X 100 X 17 X 25 X 53 K 175 K 1020 X 718 K 28 mn) 5.6 Status of the O XIII T X 100 X 17 X 25 X 53 K 101 K 101 X 20 K 28 K 20 K 100 K	Agency Listings	UL, cUL, CE	Sound (dBa) 52.3
Replaced in Environment Index Use Only, Verifized 19°C - 32°C (59°F - 90°F) Average Uniform 4:3°C (C) 5.8 Demonstores and Construction Single Journal Line (1, 10, 10) 51.2 × 83.3 17.8 in (150.2 × 73.4 4.5 zmn) 5.8 Single Journal Line (1, 10, 10) 51.2 × 83.3 17.8 in (150.2 × 73.4 4.5 zmn) 5.8 Single Journal Line (1, 10, 10) 51.2 × 83.3 17.8 in (150.2 × 73.4 4.5 zmn) 5.8 Single Journal Line (1, 10, 10) 51.2 × 83.3 17.8 in (150.2 × 73.4 4.5 zmn) 5.8 Single Journal Line (1, 10, 10) 5.8 Single Journal Line (1, 10, 10) 51.2 × 83.3 17.8 in (150.2 × 73.4 k.5 zmn) 5.8 Single Journal Line (1, 10, 10) 5.8 Single Journal Line (1, 10, 10) 63.1 ± 2× 63.5 2.3 in (1, 12) 5.8 Single Journal Line (1, 10) 5.8 Single Journal Line (1, 10, 10) F72.8 to (1, 10, 10) F72.8 to (1, 10, 10) 5.8 Single Journal Line (1, 10, 10)		Non-Corrosive, Non-Flammable, Non-Explosive	1-min Door Opening Recovery to -75°C (min) 16
Dimensions and Construction 6.6 Warm Up Time (4.67 Cb m2) 0.11 Cb m2 (100 cb m2) Shipping Wheth No x V() 51.2 x 2.43 r. (120 r. (1200 x 719 x 452 mn)) Shipping Wheth No x V() 51.2 x 2.43 r. (211 r. 100 k 64 mn) Shipping Wheth No x V() 71.2 b 8.23 x 2.43 r. (211 r. 100 k 64 mn) Shipping Wheth Noght Vacuum Insulation Vacuum Insulation Vacuum Insulation Buildown Steal Stature Steel (Samate Steel (Sa	Application Environment	Indoor Use Only, Ventilated 15° C - 32° C (59° F - 90° F)	
Unmensioner Dimensioner Dime			
tare Conservation (H 20 × W) Stripping Vinegrin (I 20 × T 2 × 34 × 17 § m (1 20 × 17 2 × 42 mm) Stripping Vinegrin (I × 2 × V) Stripping Vinegrin (I × 2 × V) I value to calculate Parents with High-Density Water-Stroom Poynometry Formation Door Stral Stroome Based Gastert Stands Much Extinction Door Perimeter Heater Stelvers Augustable Stelvers (I × 100 × 10	[Dimensions and Construction	
Starting Demanding (14 D X-19) TYP 35 285 X 23 In. (1981 X 97 X 36 H mm) Shipping Demanding (14 D X-19) TYP 2 Lab (228 H m) Shipping Demanding (14 D X-19) TYP 2 Lab (228 H m) Instation Vacuum Installion (Privice) (121 II X 1088 K 8H m) Door Seal Silcone-Based Gasket Seal vin Electrical Door Perimeer Heater Shipping Demanding (14 D X-19) Max. Capacity per Shift (125 B K) Shipping Demanding (14 D X-19) Max. Capacity per Shift (125 B K) Shipping Demanding (14 D X-19) Max. Capacity per Shift (125 B K) Shipping Demanding (14 D X-19) Max. Capacity per Shift (125 B K) Shipping Demanding (14 D X-19) Max. Capacity per Shift (125 B K) Shipping Demanding (14 D X-19) Max. Capacity per Shift (126 B K) Shipping Demanding (14 D X-19) Max. Capacity per Shift (126 D X) Demonder Level Top Controloft Level Top Shipping Shipping Demanding (120 B Shift) Shift (100 O M) Controloft Level Top Shift (100 O M) Shift (100 O M) Shift (100 O M) Shift (100 O M) Controloft Level Top Shift (100 O M) Shift (100 O M) Controloft Level Top Shift (100 O M) Shift (100 O M) Controloft Level No Shift (100 O M) Cont			
Single Dimension 83.12 # 247 % 34 in. (2111 1 108 % seld nm) Syngle Weight / Weight 172 lbs. (252 kg) / 222 kg. (252 kg) Insulation Vacuum flexibition: Parket State (State) Door Seal Silcone-Based Gastet Seal with Electrical Door Perimeter Heart Shervers Adamines Shell Oher Opsions LU2 or CO2 Back Up System: Ontar Recorder Electrical System Configuration Function: Chause Controller Lavel Tom Controller Lavel Tom Stage Chaund Adjusted Refrigeration System Fully Adjustable	,		
Shepping Weight / Net Weight Net Matalén Vineurum Installation Panelskie Hinglin-Generik Weiter-Boarn Door Seal Silicone-Based Gaske Seal with Electrical Door Permeter Hearr Shelf Capacity Max: Capacity or Shell: 125 like, (SB Ag) Inter/C Environ Material Pairned Sevel (Saliem) Incomments Shelf Capacity Max: Capacity or Shell: 125 like, (SB Ag) Inter/C Environ Material Pairned Sevel (Saliem) Incomments Shelf Capacity Max: Capacity or Shell: 125 like, (SB Ag) Defer Options LN2 or CO2 Back Up System: Chart Recorder <u>Electrical System Configuration</u> Controller Level Top Deverse Stath (Reart Min Ciccus Breaker Controller Level Network) There of Sevel Gasked System Configuration Controller Level Network (Lurrent, Logie protection Control Seal State State State State State State System There of Shell Seal State State System Network (Reart Min Ciccus Breaker Compressor Capacity) Top Stage Casacade System There of States State (Reart Min Ciccus Breaker States Council Ving State Casacade System Network (Reart Min Ciccus Breaker States Council Ving States Casacade System There of States States (States System Compressor Capacity) For States Casacade System Network (Reart Min Ciccus Breaker States Council Ving States Casacade System Network (Reart Min Ciccus Breaker States Council Ving States Casacade System Network (Reart Min Cause States Capacity) States (Reart Min Ciccus Streen Executed Type Enhanced Coli Ving Design Del Totos Method Minimal Defrest (Reart Min Ciccus Streen Executed States Capacity) States (Reart Min Ciccus Streen Executed States States (Reart Min Circus Streen States Performed Wing Calacity States (Reart Min Circus Streen States Performed Wing Calacity Caracity (Streen Min Circus Streen States Performed Wing Calacity (Streen Min Circus Str	· · · · · · · · · · · · · · · · · · ·		
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Shelves 4 Statistes Steal Shelves Adjustable Shelves n.11 (25mm) increments Shelf Capacity Max. Capacity per Shelf. 125 hs. (58.8 kg) Ah-Direction. Casterins Standard with Locks Other Options LN2 or OO2 Back Up System. Chait Recorder Electrical System Configuration Interior / Electrical System Configuration Controller Lovel Top Power Switch (Record Mini Circuit Breaker) Benjoni Security HIC Interface: 7-segment Display with Capacitive Touch Screen Buttons Serioni Security High Tomp Circuite Statch. 20mA auguD/D Contacts Thermore Filter Could Intervent Cloud Statch. 20mA auguD/D Contacts Thermore Filter Could Fully Adjustable Compressor Subject Statge Craced System Compressor Subject Statge Craced System Compressor Subject Tos Stage Craced System Compressor Subject Tos Stage Craced System Compressor Subject Statpe Craced System Compres		· · · · · ·	
Sheles Adjustable Sheles Brives In 17 (25mm) Increments Interar / Exercic Material Shel Capacity Max. Capacity per Shell: 128 bs. (68.6 kg) United X- Exercic Material All Drection Casters Standard with Locks Other Options LN2 or CO2 Back Up System, Chart Recorder Image: Second Standard With Locks Image: Second Standard With Locks Other Options LN2 or CO2 Back Up System, Chart Recorder Image: Second Standard With Locks Image: Second Standard With Locks Other Options LN2 or CO2 Back Up System, Chart Recorder Controller Lovel Top Power Switch (Rea) Main Circuit Breaker Controller Type HIC Interface; 7-segment Display with Capacitive Touch Screen Battors Selpoint Socurity Yes Thermor Fisher Could Instrumenticing compatible) Staptiont Socurity Yes Compressor Could Instrumenticing compatible) Staptiont System Too Stage Cascade System Compressor Could Instrumenticing Scaled /2 Compressor Could Stapping (Fritri) Compressor Could Reingeration Configuration Compressor Could Complay Tube Expansion Device Copality 7 (Erono Could Wall Design Defeat Method Manual Defeat Expansion Device Copality 7 (Erono Could			•
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Outdood Cubic (Rear) Main Circuit Breaker Controller Type HIC Interface: 7-segment Display with Capacitive Touch Screen Buttons Setpoint Security Yes Compressor Sale Guard High Temp Cutout Switch, Current, Logic protection Control Sensor Connectivity / Remote Outputs R5485/4-20mA output/Dry Contexts Thermo Fisher Cloud InstrumentConnect TM Remote Monitoring (compatible) Adjustable Warm/Cold Atarms Fully Adjustable Refrigeration System Too Stage Cascade System Compressor Capacity 659 W Condenser Type Enhanced Micro-Channel and Forced-Air Cooled Expansion Device Capillary Tube Evaporation Trype Enhanced Cold Wall Design Defrost Method Mauno Defrost Refrigerant (1st/Znd Stage) R290 / R170+R290 Mix Environmental Effects ODP: 0 (R720) : 0 (R170) Flammable Yes Performance is nominal and individual units may vary. Preseer performance will differ due to product amount, product size and operating conditions.			
Controller Type HIC Interface: 7-segment Display with Capacitive Touch Screen Buttons Setpoint Security Yes Compressor Safe Guard High Temp Cutout Switch, Current, Logic protection Control Sensor Single RTD (1000 ohm Ptathum RTD) Donnectivity / Remote Outputs RS454/-20mA output/Dy Contacts Thermo Fisher Cloud InstrumenConnect TM Remote Monitoring (compatible) Adjustable Warm/Cold Alarms Fully Adjustable Compressor/Number Industrial Rated, Hermetically Sealed / 2 Compressor/Ramber Sogo (Rifron) Condenser Type Enhanced Mitro-Charm Cooled Expansion Device Capillary Tube Evaporation Type Enhanced Cold Wall Design Defroits Method Manual Defroit Refrigerant (1st/2nd Stage) R290 / R170+R290 Mix Erwironmental Effects OPF 0 (R290) (c (R170) Flammable Yes Performance will differ due to product amount, product size and operating conditions.		· ·	
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Compressor Safe Guard High Temp Cutout Switch, Current, Logic protection Control Sensor Single RTD (1000 ohm Platinum RTD) Somectivity / Remote Outputs RS485/4-20m A output/Dry Contacts Thermo Fisher Cloud InstrumenConnect ^{3N} Remote Monitoring (compatible) Adjustable Warm/Cold Alarms Fully Adjustable Refrigeration System Two Stage Cascade System Compressor/Number Industrial Rated, Hermetically Sealed / 2 Compressor/Number Industrial Rated, Hermetically Sealed / 2 Compressor/Stripe Enhanced Micro-Channel and Forced-Air Cooled Evaparation Device Capillary Tube Evaparation Type Enhanced Cold Wall Design Defrost Method Manual Defrost Refrigerant (1st/2nd Stage) R230 / R170-R2300 Mix Environmental Effects ODP: 0 (R290): 0 (R170) Flammable Yes			
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Adjustable Warm/Cold Alarms Fully Adjustable Refrigeration Configuration	Connectivity / Remote Outputs		
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Refrigeration System Two Stage Cascade System Compressor/Number Industrial Rated, Hermetically Sealed / 2 Compressor Capacity* 559 W Condenser Type Enhanced Micro-Channel and Forced-Air Cooled Expansion Device Capillary Tube Evaporator Type Enhanced Cold Wall Design Defrost Method Manual Defrost Refrigerant (1st/Znd Stage) R290 / R170+R290 Mix Environmental Effects ODP: 0 (R290); 0 (R170) Flammable Yes Performance is nominal and individual units may vary. Freezer performance will differ due to product amount, product size and operating conditions.			-74
Refrigeration System Two Stage Cascade System Compressor/Number Industrial Rated, Hermetically Sealed / 2 Compressor Capacity* 559 W Condenser Type Enhanced Micro-Channel and Forced-Air Cooled Expansion Device Capillary Tube Evaporator Type Enhanced Cold Wall Design Defrost Method Manual Defrost Refrigerant (1st/2nd Stage) R290 / R170+R290 Mix Environmental Effects GWP: 3 (R290) / 6 (R170) Flammable Yes			
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Evaporator Type Enhanced Cold Wall Design Defrost Method Manual Defrost Refrigerant (1st/2nd Stage) R290 / R170+R290 Mix Environmental Effects GWP: 3 (R290) / 6 (R170) Flammable Yes	•	· · · · · · · · · · · · · · · · · · ·	쿺 -70
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Evaporator Type Enhanced Cold Wall Design Defrost Method Manual Defrost Refrigerant (1st/2nd Stage) R290 / R170+R290 Mix Environmental Effects GWP: 3 (R290) / 6 (R170) Flammable Yes	Condenser Type		
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Defrost Method Manual Defrost Refrigerant (1st/2nd Stage) R290 / R170+R290 Mix Environmental Effects GWP: 3 (R290) / 6 (R170) ODP: 0 (R290); 0 (R170) Time, minutes	Evaporator Type	Enhanced Cold Wall Design	-84
Reference is nominal and individual units may vary. Performance is nominal and individual units may vary. Freezer performance will differ due to product amount, product size and operating conditions.	Defrost Method	Manual Defrost	
GWP: 3 (R290) / 6 (R170) ODP: 0 (R290); 0 (R170) 0 120 240 360 480 600 720 Flammable Yes Time, minutes 100 120 100 <td< td=""><td>Refrigerant (1st/2nd Stage)</td><td>R290 / R170+R290 Mix</td><td>-86</td></td<>	Refrigerant (1st/2nd Stage)	R290 / R170+R290 Mix	-86
Environmental Effects ODP: 0 (R290); 0 (R170) Time, minutes Flammable Yes Yes Performance is nominal and individual units may vary. Freezer performance will differ due to product amount, product size and operating conditions.		GWP: 3 (R290) / 6 (R170)	0 120 240 360 480 600 720
Performance is nominal and individual units may vary. Freezer performance will differ due to product amount, product size and operating conditions.		ODP: 0 (R290); 0 (R170)	Time, minutes
Freezer performance will differ due to product amount, product size and operating conditions.	riammabic		
Freezer performance will differ due to product amount, product size and operating conditions.			
Freezer performance will differ due to product amount, product size and operating conditions.			
	Performance is nominal and ind	ividual units may vary.	

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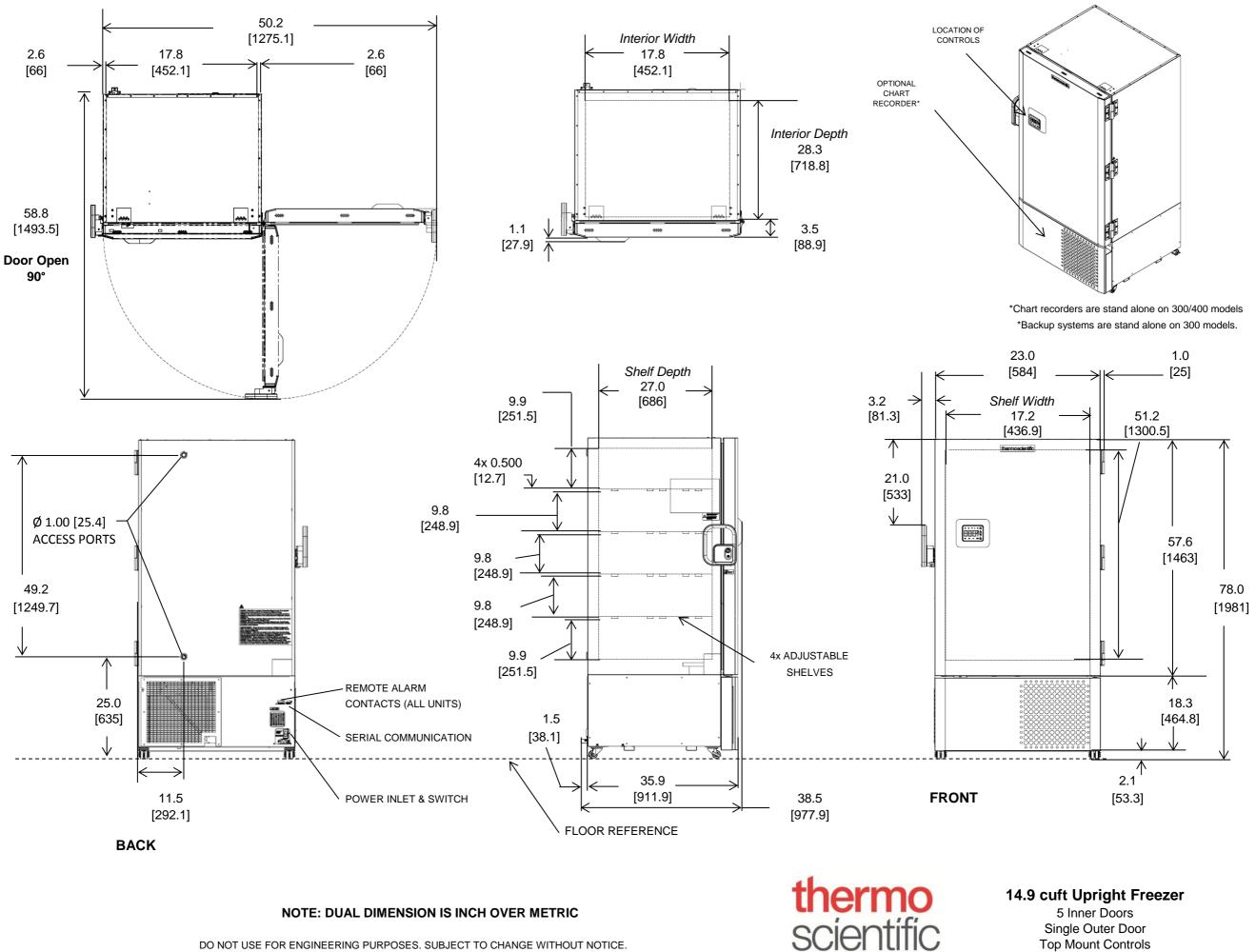
ULT 300, 3 Inner-Shelves + Base, Single Outer Door

Temperatures are averages during > 12 cycles after reaching a setpoint of -80C



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DOOR OPEN @ 180°



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

5 Inner Doors Single Outer Door Top Mount Controls