



Technical Data Sheet

VWR® Ultra-Low Temperature Freezer

Upright Model Release - 84

VWR International, LLC, 100 Matsonford Rd, Radnor, PA 19087

VWR International, bvba, Researchpark Hassrode 2020, Geldenaaksebaan 464, B-3001 Leuven

Catalogue Number / Model Number

VWR40086FV

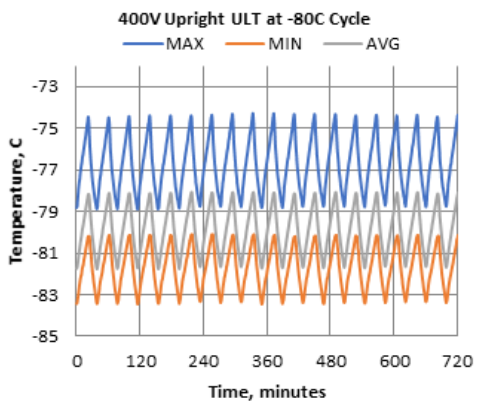
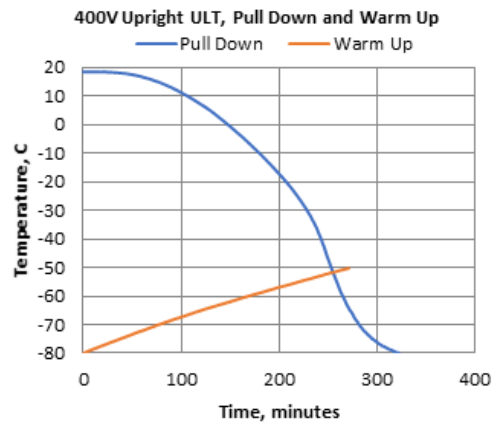
Application, Rating and Electrical Data	
Application	Storage of General (non-flammable) Laboratory Materials
Storage Volume	19.4 cu. ft. (549 liters), 400 Standard 2" Boxes
Temperature Rating	-50°C to -86°C
Electrical Power	230V, 50 Hz, 1 Phase
Instrument Rated Current	6.5 AMP
Building Supply Rating	16A dedicated grounded circuit, Type C circuit protection or similar required, Ensure compliance with local electric code
Power Plug / Power Cord	Country Dependant plug / IEC Cords, 10 ft (3.05 m)
Agency Listings	UL, cUL, CE
Application Environment	Non-Corrosive, Non-Flammable, Non-Explosive Indoor Use Only, Ventilated 15° C - 32° C (59° F - 90° F)

Dimensions and Construction	
Interior Dimensions (H x D x W)	51.2 x 28.3 x 23.1 in. (1300 x 719 x 587 mm)
Exterior Dimensions (H x D x W)	78 x 38.5 x 32.5 in. (1981 x 978 x 826 mm)
Shipping Dimensions (H x D x W)	83.12 x 42.75 x 36.23 in. (2111 x 1086 x 920 mm)
Shipping Weight / Net Weight	687 lbs. (312 kg) / 595 lbs. (270 kg)
Insulation	Vacuum Insulation Panels with High-Density Water-Blown Polyurethane Foam
Door Seal	Silicone-Based Gasket Seal with Electrical Cabinet Perimeter Heater
Shelves	3 Stainless Steel Adjustable Shelves in 1" (25mm) Increments
Shelf Capacity	Maximum Capacity per Shelf: 165 lbs. (73.4 kg) Cabinet Load not to Exceed 1140 lbs (517.1 kg)
Interior / Exterior Material	Painted Steel (Stainless Steel Option) / Painted Steel
All-Direction Casters	Standard with Locks
Other Options	LN2 or CO2 Backup System, Chart Recorder, VIC Capacitive Touch Screen Input and Display with USB Data Retrieval

Electrical System Configuration	
Controller Level	Top
Power Switch	(Rear) Main Circuit Breaker
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 Platinum RTD)
Connectivity / Remote Outputs	RS485/4-20mA output/Dry Contacts
Thermo Fisher Cloud	InstrumentConnect™ Remote Monitoring (compatible)
Adjustable Warm/Cold Alarms	Fully Adjustable

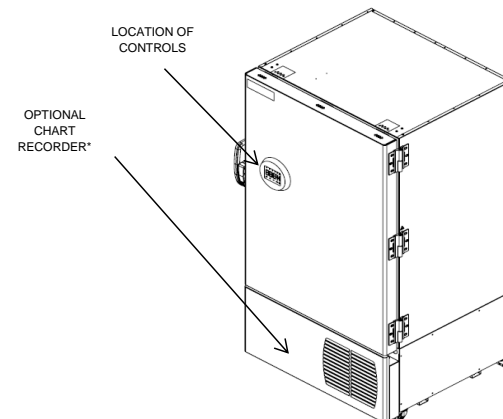
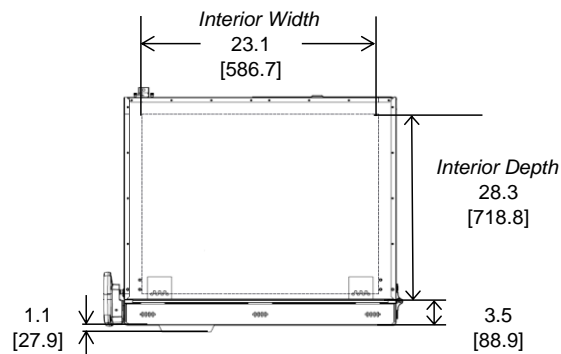
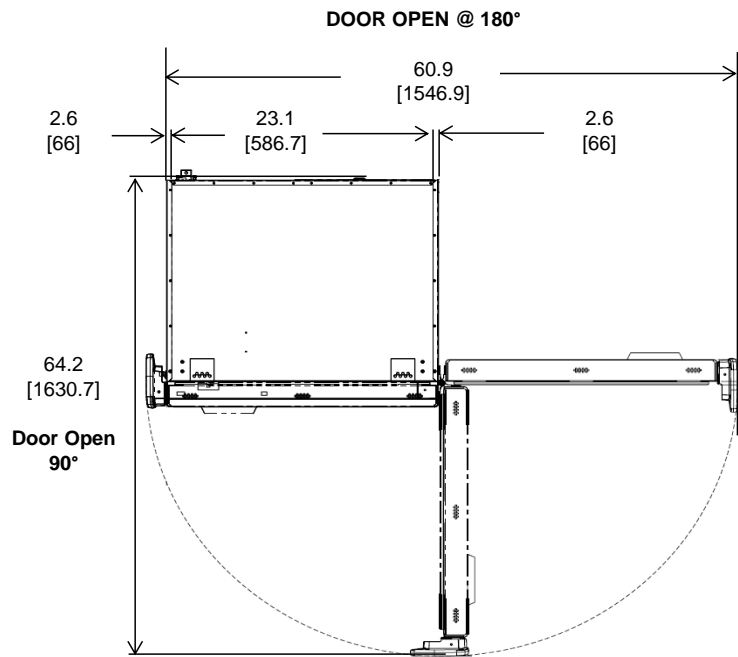
Refrigeration Configuration	
Refrigeration System	Two Stage Cascade System
Compressor/Number	Industrial Rated, Hermetically Sealed / 2
Compressor Capacity*	559 W
Condenser Type	Enhanced Tube and Fin with Forced-Air Cooling
Expansion Device	Capillary Tube
Evaporator Type	Enhanced Cold Wall Design
Defrost Method	Manual Defrost
Refrigerant (1st/2nd Stage)	R290 / R170+R290 Mix
Environmental Effects	GWP: 3 (R290) , 6 (R170) ODP: 0 (R290); 0 (R170)
Flammable	Yes

Typical Performance Characteristics in 20 °C Ambient	
Energy Consumption (kW-hr/day)	11.68
Heat Rejection Rate (Btu/hr)	1475
Peak Variation from Setpoint (°C)	+5.7 / -3.5
Sound (dBA)	50.8
1-min Door Opening Recovery to -75°C (min)	15
Average Uniformity at -80°C (°C)	5.1
Average Stability at -80°C (°C)	3.9
Pull Down Time (to -80°C) (hrs)	5.4
Warm Up Time (-80°C to -50°C) (min)	271

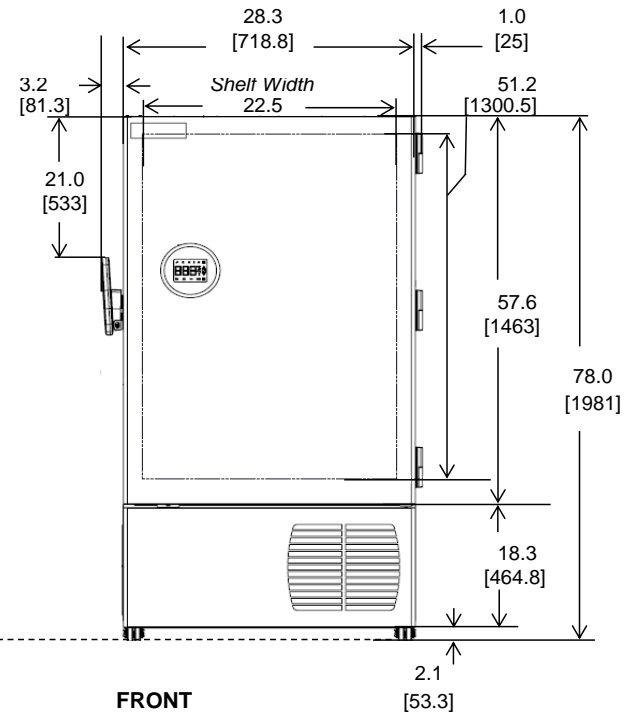
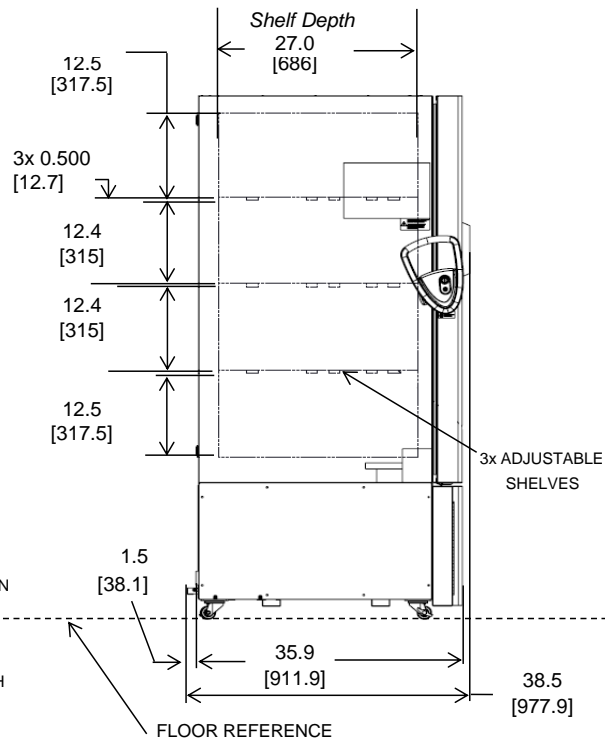
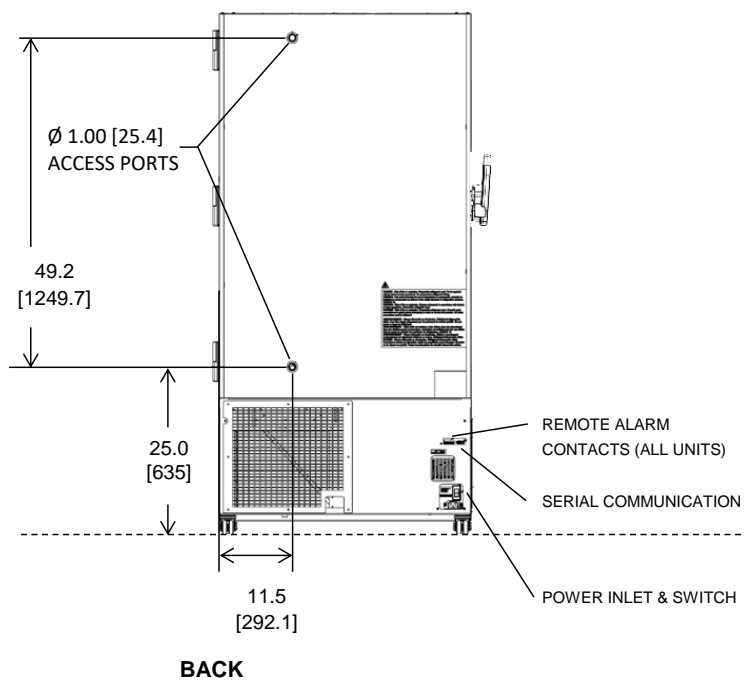


1) Performance is nominal and individual units may vary.
 2) Freezer performance will differ due to product amount, product size and operating conditions.
 3) Continuous product enhancements may, without notice, result in amendments or omissions to this specification. VWR International, LLC cannot accept responsibility for damage, injury, loss or expenses resulting from misapplication of the information herein.

* Manufacturer measured compressor capacity taken at standard -35°C/45°C (Evap/Cond) condition.
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 Not all products are available in all countries. Please consult your local sales representative for details.



*Chart recorders are stand alone on 300/400 models
*Backup systems are stand alone on 300 models.



NOTE: DUAL DIMENSION IS INCH OVER METRIC

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



19.4 cuft Upright Freezer
4 Inner Doors
Single Outer Door
Top Mount Controls