


TwinGuard®

MDF-DU302VX-PA Upright Ultra-Low Temperature Freezer



General Specifications		
Volume	cu.ft. liters	12.7 360
Temperature Control Range	°C	-50 to -86
External Dimensions (W x D x H)	inches mm	26.4 x 34.7 x 72.4 670 x 882 x 1840
Internal Dimensions (W x D x H)	inches mm	19.3 x 23.6 x 48.4 490 x 600 x 1230
Footprint	ft² m²	6.36 .59
Stainless Steel Shelf (adjustable)	qty	3
Power Supply		208V-230V, 1Ø, NEMA 6-15P, requires NEMA 6-15R receptacle
Factory Certification		ISO9001, ISO13485, ISO14001
NRTL Testing Lab Mark		QPS
Net Weight	lbs kg	496 225
Noise Level*	dB(A)	52

Storage Specifications		
Racks per Freezer	qty	12
Racks per Shelf	qty	3
2" Boxes per Freezer	qty	240
3" Boxes per Freezer	qty	144

*Actual value, background noise 20 dB(A).

Multiple options are available for racking including side opening and front loading trays. The information provided is for the most common racks. We also offer double height racks and other configurations, as well as racking for cryoboxes and other containers. Please speak to your local representative for more information.

Refrigeration	
Freezing Circuit	(2) Auto-cascade
Compressors	(2) 450 watt compressors (completely enclosed reciprocating type)
Condenser	Fin and tube style
Evaporator	Tube on sheet type (cold wall)
Refrigerant	Mixed HC/HFC blended in each auto-cascade system

Cabinet Construction	
Insulation	Rigid polyurethane foamed-in-place + VIP Plus® vacuum insulated panels: 3.1" (80 mm) thick
Exterior Material	Painted steel
Interior Material	Painted steel
Outer Door	1: key lock with provision for optional padlock
Vacuum Relief	2: one auto in door, one manual in side wall
Inner Doors	2 insulated with positive frame seal ABS, with stainless steel frames, positive latches



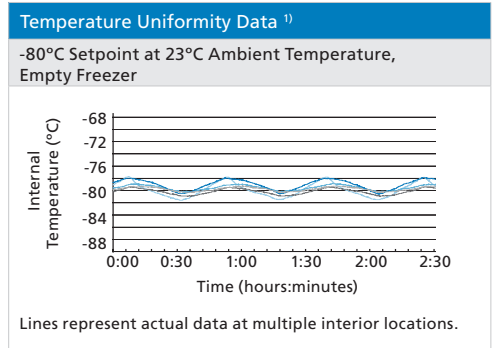
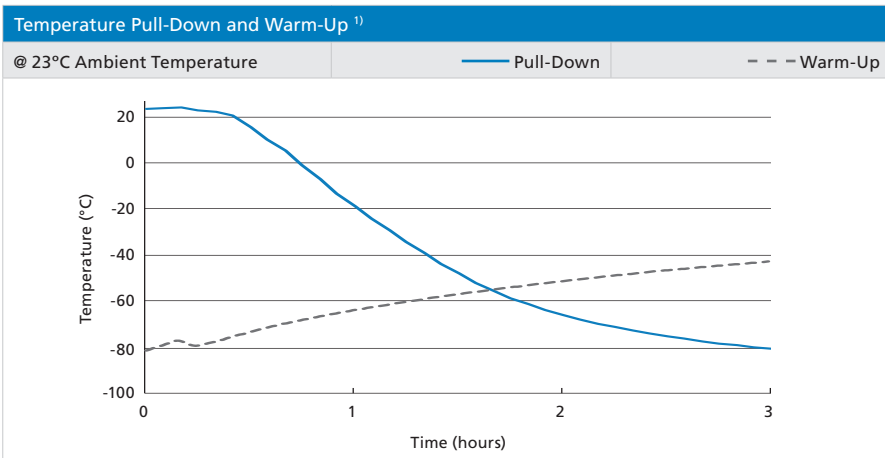
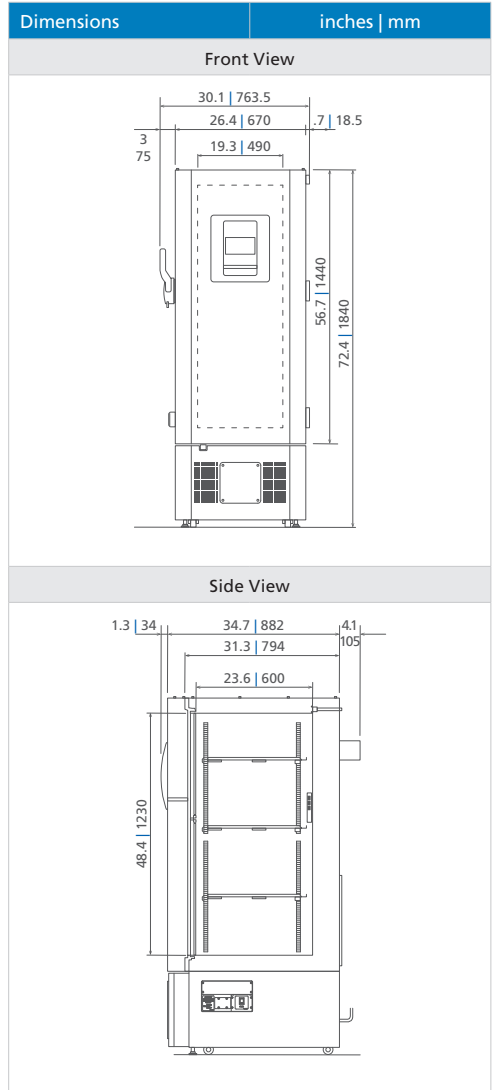
Model MDF-DU302VX-PA

TwinGuard

-86°C Ultra-Low Temperature Upright Freezer

MDF-DU302VX-PA

Performance Characteristics				
	23°C Ambient, empty chamber, measured at center of chamber			
Temperature Performance	-86°C			
Cooling Performance	-86°C			
Temperature Distribution Setpoint -80°C, center upper, center, lower of chamber	Within set value $\pm 5.0^\circ\text{C}$			
Pull-Down Time Empty cabinet	To -20°C 1 hr (60 mins)	To -50°C 1 hrs 35 mins (95 mins)	To -70°C 2 hrs 15 mins (135 mins)	To -80°C 3 hrs (180 mins)
Temperature Recovery to -80°C after 15 Second Opening Upper and lower inner doors	Time to reach -80°C $\pm 1.0^\circ\text{C}$ 5 minutes			
Temperature Recovery to -80°C after 60 Second Opening Upper and lower inner doors	Time to reach -80°C $\pm 1.0^\circ\text{C}$ 8 minutes			
Power Consumption Setpoint -80°C	Standard Mode 9.31 kWh/d		Eco Mode 8.20 kWh/d	
Power Consumption Setpoint -70°C	Standard Mode 8.12 kWh/d		Eco Mode 6.66 kWh/d	
Temperature Uniformity Setpoint -80°C	$\pm 2.0^\circ\text{C}$			



¹⁾ Data points available upon request.

Specifications are subject to change without notice. For latest specification information contact PHC Corporation of North America at info@us.phchd.com.



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