

MDF-DU303VXH-PA, 220V



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TwinGuard[®]eco

-86°C Upright Dual Cooling Freezer

12.7 cu.ft. | 360 L



Dual Cooling Protection Meets Sustainable Innovation

This next generation TwinGuard ECO ultra-low temperature freezer uses natural refrigerants to deliver the performance and sample protection of the TwinGuard platform in a space-efficient ULT format. Offering SMART access control with facial recognition (optional) and NFC protection (optional) to provide the scalable security features for your valuable samples.

Ultimate Sample Protection

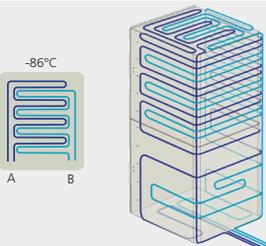
The dual cooling system offers the highest level of sample protection through the use of two independent refrigeration systems that maintain -86°C temperature. In the event of a malfunction in one circuit, the second circuit seamlessly takes over, sustaining the in-chamber temperature at -75°C.

Performance and Reliability

Naturally occurring hydrocarbon refrigerants are environmentally friendly with no ozone depletion. These refrigerants provide more efficiency without compromising cooling performance, ambient tolerance, and recovery speeds following door openings.

Security Control and Monitoring

An eye level, door mounted, 10.1-inch high resolution LCD touchscreen allows full user control. A USB port makes transferring logged data easy. Many attributes are displayed in an internal time-temperature log that can be expressed in graphic form over time. It seamlessly integrates with LabSVIFT[®] for temperature monitoring, predictive analytics, and lab management.



Valuable Sample Storage

TwinGuard series freezers are ideal for safe, long term storage of your most high valued products, such as stem cells, embryos, cell lines, rare specimens, and other biological materials.



Natural Refrigerants

Natural refrigerants with very low Global Warming Potential (GWP), advanced compressors, and integrated electronics help minimize operating costs by reducing energy consumption and heat output.



Electric Lock

Track freezer access with details on who entered, when, and how long the door remained open with four lock options:

- Electric lock with passcode
- Dedicated key per unit
- Facial recognition (optional)
- Proximity card (optional)

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EZlatch with Electronic Access Control
Standard electronic locking with unique key. Optional upgrades: NFC or facial recognition for advanced security.

Dual Cooling System

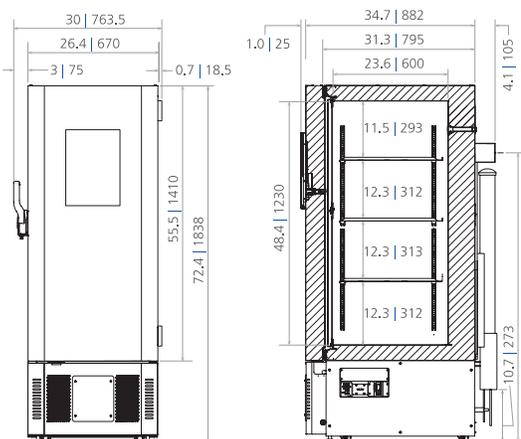
The dual cooling system offers ultimate sample protection. The two independent refrigeration systems provide a reliable and exceptionally stable -86°C ultra low temperature environment. If one system unexpectedly fails, the other can maintain the freezer in the -75°C range until service can be arranged.

Filterless Design

The freezer's filterless design minimizes routine maintenance by eliminating the need for regular filter cleaning.

Dimensions

Unit : inch | mm



Model Number		MDF-DU303VXH-PA
External Dimensions (W x D x H) ¹	inches mm	26.4 x 34.7 x 72.4 670 x 882 x 1838
Internal Dimensions (W x D x H)	inches mm	19.3 x 23.6 x 48.4 490 x 600 x 1230
Volume	cu.ft. liters	12.7 360
Net Weight	lbs. kg	496 225
Capacity (2" boxes) (3" boxes)	qty	240 144
Inventory Racks (2" boxes) (3" boxes)	qty	12 12
Storage Efficiency	bx/cu.ft. bx/liter	18.9 0.66
Performance		
Cooling Performance ²	°C	-86°C
Temperature Setting Range	°C	-40 to -90 in 1°C increments
Temperature Control Range ²	°C	-40 to -86 in 1°C increments
Uniformity ³	°C	±5.0 at -80 °C set value
Power Consumption ³	kWh/day	7.3
Heat Disipation (BTU)	per hour	1095
Noise Level ⁴	dB (A)	52
Control		
Controller		Microprocessor with non-volatile memory, USB connectivity, IoT ready
Display		10.1 LCD touch screen
Controller Security		Screen lock with password protection. Optional facial or NFC screen unlock.
Temperature Sensor		Pt-1000
Refrigeration		
Refrigeration System		Independent dual-cooling
Compressors	W	2 x 550 (variable speed)
Refrigerant		HC mixed refrigerant HC (R-600/R-170/R-50) [117.5g per circuit]
GWP of Refrigerant		GWP= 1.7
Insulation Material		Rigid polyurethane foam (PUF) + VIP Plus
Insulation Thickness	inches mm	3.14 80
Construction		
Exterior & Interior Material		Painted steel
Outer Door Outer Door Lock	qty type	1 Standard
Inner Doors	qty	2
Shelves	qty	3 (stainless steel)
Shelf Dimensions (W x D)	inches mm	18.7 x 20.9 475 x 531
Max. Load - per Shelf	lbs kg	110 50
Vacuum Release Port		Automatic
Access Ports	qty	3
Access Port Position		3 - 1 upper back wall center. 2 right and left back side chamber floor.
Access Port Diameter	inches mm	0.66 17
Casters	qty	4 (2 leveling feet on front base)
Alarms		
		(V= Visual Alarm, B= Buzzer Alarm, R= Remote Alarm, A= Adjustable, L= Logged)
Power Failure High or Low Temperature		V-B-R-L
System Performance Issues		V-B-R-L
Door Open		V-B-L
Electrical		
Power Supply		220V, NEMA 6-15P, 60 Hz 8ft cord length
Max Amps		4.5
Options		
Common Key Handle (with electric lock)	key #250	MDF-HUECO1-PW
Circular Chart Recorder Paper Pen	6", 7 day recorder	MTR-G85C-PE RP-G85-PW PG-R-PW
NFC System ⁵		NFC reader: MTR-NFC-PW IC Cards (set of 5): MTR-IC-PW
Facial Recognition		MTR-FRC-PW
Liquid CO ₂ Back-up System		MDF-UB9-PW
Communication and Monitoring		
LabSVIFT		MTR-IoTWE1-PA (check with your rep for plans)
Analogue Outputs		MTR-420MA-PW Equipment Powered MTR420MAC- Equipment powered* MTR420MAL- Loop Powered *
Certifications and Warranty		
Certification		QPS listed
Warranty ⁶		5 years parts and labor

¹ Exterior dimensions of main cabinet only, excluding handle and other external projections

² Air temperature measured at freezer center, ambient temperature +30°C, no load

³ Measured using internal validation standards in 23°C ambient temperature

⁴ Nominal value - Background noise 20dB(A)

⁵ The NFC system is only available in the USA and Canada

⁶ Current warranty offered at time of printing and may be subject to change. US and Canada only

*Manufactured by others



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