

## TwinGuard eco

-86°C Upright Freezer

528 L / 729 L



MDF-DU503VXH-PE

MDF-DU703VXH-PE



Next generation “Twin Guard” Dual Cooling system with reduced power consumption.

The next generation Twin Guard Eco Ultra Low Temperature freezers use natural refrigerants and inverter controlled compressors, reducing energy usage, with enhanced access control via an electronic lock with facial recognition (optional) to provide the highest level of protecting for your valuable samples.

### Ultimate Sample Protection

The Dual Cooling System offers high levels of protection through the use of two independent refrigeration systems. If one system unexpectedly fails the other can maintain the freezer in the -75°C range.

### Performance and Reliability

Naturally occurring hydrocarbon (HC) refrigerants have minimal effect on the environment. Combined with inverter technology, these refrigerants also 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 inches high resolution LCD touchscreen allows full user control. A USB port makes transferring logged data to a PC convenient. All performance attributes are displayed and an internal temperature log can be expressed in graphic form over time.



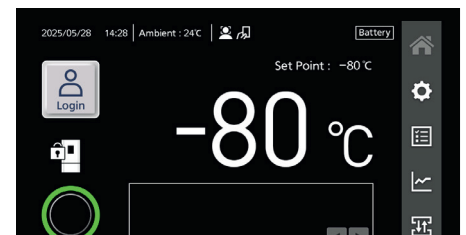
### Valuable Sample Storage

Securely store valuable and irreplaceable samples with the utmost confidence that they won't be lost in the case of compressor failure.



### Natural Refrigerants

Natural refrigerants, compressors and integrated electronics combined to lower operating costs resulting in less energy consumption and less heat output. Freezer operation is managed by effectively balancing temperature performance and energy management.



### Electronic Door Lock

Know who entered the freezer and when. Track how long the door was open.

3 Ways to Lock

- Pin code
- Unique individual key
- Facial recognition (optional)

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## -86°C Upright Freezer



### 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.

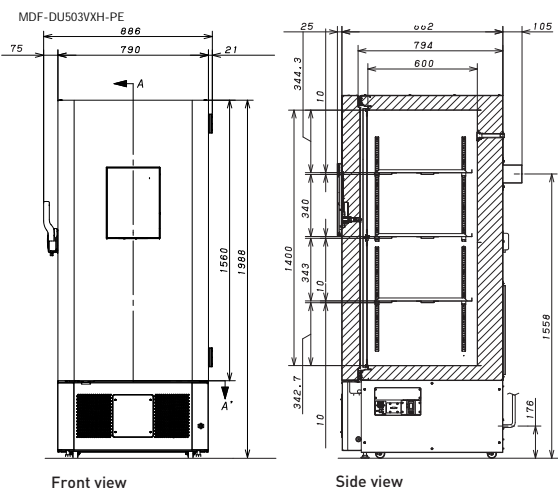
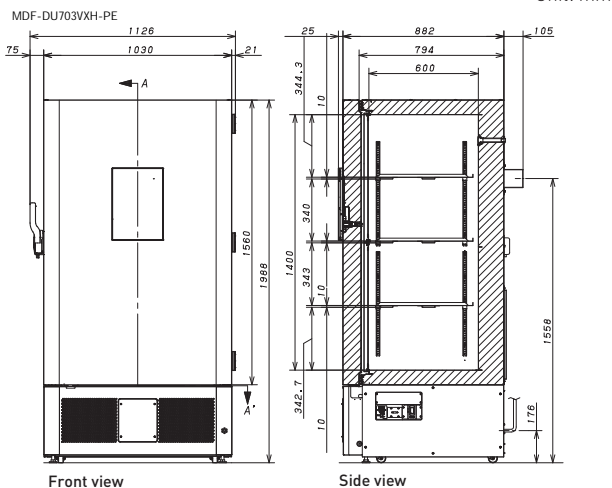
### Filterless Design

The filterless construction of the freezers reduces routine maintenance time by eliminating the need for regular cleaning of filters.

### Innovative Cabinet Design

The enhanced cabinet design with chamfered edges reduces footprint for use in multi freezer laboratories.

### Dimensions



Model Number		MDF-DU703VXH-PE	MDF-DU503VXH-PE
External dimensions (W x D x H) <sup>1)</sup>	mm	1030 x 882 x 1988	790 x 882 x 1988
Internal dimensions (W x D x H)	mm	870 x 600 x 1400	630 x 600 x 1400
Volume	litres	729	528
Net weight	kg	296	262
Capacity	2" boxes	576	384
<b>Performance</b>			
Cooling performance <sup>2)</sup>	°C	-86	
Temperature setting range	°C	-40 to -90	
Temperature control range <sup>2)</sup>	°C	-40 to -86	
<b>Control</b>			
Controller	Microcomputer, non-volatile memory		
Display	LCD Touch Screen		
Temperature sensor	Pt-1000		
<b>Refrigeration</b>			
Refrigeration system	Independent Dual-Cooling		
Compressors	W	2 x 920	
Refrigerant	HC mixed refrigerant (R-600/R-170/R-50)		
Insulation material	PUF / VIP Plus		
Insulation thickness	mm	80 mm	
<b>Construction</b>			
Exterior material	Painted Steel		
Interior material	Painted steel		
Outer doors	qty	1	
Outer door lock	Y		
Inner doors	qty	2	
Shelves	qty	3 (stainless steel)	
Max. load - per shelf	kg	50	
Vacuum release port	qty	2 (1 automatic, 1 manual)	
Access port	qty	3	
- position	back x 1, bottom x 2		
- diameter	∅ mm	17	
Casters	qty	4 (2 leveling feet)	
<b>Alarms</b>		(R = Remote Alarm, V = Visual Alarm, B = Buzzer)	
Power failure	V-B-R		
High temperature	V-B-R		
Low temperature	V-B-R		
Filter	Filterless design		
Door open	V-B		
<b>Electrical and noise level</b>			
Power supply	V	220 / 230 / 240 V, 50Hz	
Frequency	H	220 / 230 V, 60 Hz	
Noise level <sup>4)</sup>	dB [A]	52	
<b>Options</b>			
Small inner door kit	set of 5	MDF-7ID5-PW <sup>5)</sup>	MDF-5ID5-PW <sup>5)</sup>
Small inner door kit	set of 4	MDF-7ID4-PW	MDF-5ID4-PW
Liquid CO <sub>2</sub> back-up	MDF-UB9-PW		
Temperature recorders	- Circular type	MTR-G85C-PE <sup>6)</sup>	
	- Continuous strip type	Chart paper: RP-G85-PW / Ink pen: PG-R-PW MTR-85H-PW <sup>6)</sup> Chart paper: RP-G85-PW / Ink pen: DF-38FP-PW Recorder housing: MDF-S3085-PW	
Recorder sensor cover	MTR-DU700SF-PW		
Facial recognition	MTR-FRC-PW		

Appearance and specifications are subject to change without notice.

<sup>1)</sup> Exterior dimensions of main cabinet only, excluding handle and other external projections

<sup>2)</sup> Air temperature measured at freezer centre, ambient temperature +30°C, no load

<sup>3)</sup> Max. load is the total of the load distributed over all shelves (3) and chamber bottom surface. The weight is the maximum load for chamber inside and does not account for maximum load on casters equipped with product.

<sup>4)</sup> Nominal value - Background noise 20dB[A]

<sup>5)</sup> Installation of small inner door kit may affect usable storage capacity.

<sup>6)</sup> Requires sensor cover MTR-DU700SF-PW