



TwinGuard

-86°C Ultra-Low Temperature Freezers



575 L / 715 L

PHCbi's *TwinGuard* -86°C chest freezers deliver the unsurpassed level of safety and sample security that is critical for valuable biological sample storage alongside exceptional ease of use and data monitoring.

Ultimate Sample Protection

The Dual Cooling System "TwinGuard" comprised of independent dual cooling circuits delivers -86°C, and one side of the cooling circuits maintains a chamber temperature at -65°C. The freezer minimises the risk of compromising valuable samples.

Improved Temperature Performance

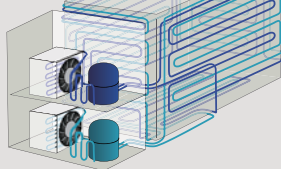
TwinGuard chest freezers maintain better temperature stability and uniformity during routine door openings than equivalent upright models as less cold air escapes the freezer while the door is open.

Enhanced Use & Intelligent Security

A colour LCD touch panel allows full user control, even with gloved hands, while the USB port makes transferring logged data to a PC convenient. The filterless design of the freezers reduces routine maintenance.

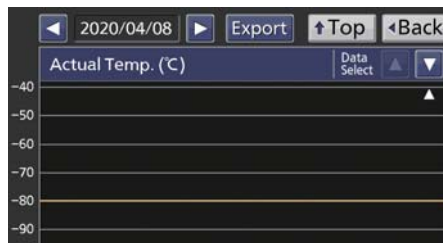
TwinGuard

Dual Cooling Compressors



Valuable Sample Storage

With two independent systems, each sustaining ultra-low temperatures, your samples remain safe. Optional CO₂ backup provides an extra layer of protection.



Predictive Maintenance

Performance monitoring ensures the freezer is operating within specifications. This protects the compressors and condenser fans. External stress on the compressors or fans, due to ambient temperature abnormality or excess load, is displayed for immediate notification.



Restricted Access Laboratories

Significantly extended critical time to react to any sudden mechanical failure. Ideal for high security applications.

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-86°C Ultra-Low Temperature Freezers



MDF-DC500VX

Filterless Design

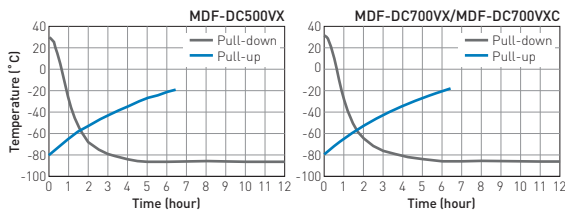
The filterless construction of the freezers reduces routine maintenance time by eliminating the need for regular cleaning of filters.

Improved Temperature Performance

The TwinGuard -86°C chest freezer design provides optimal temperature stability and uniformity during routine lid openings, minimizing the loss of cold air even when the freezer lid is open.

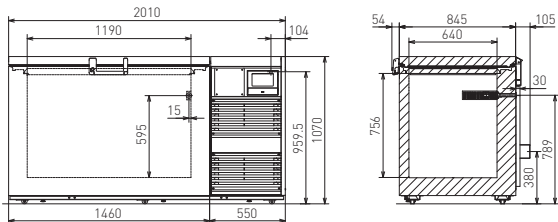
Performance Data

AT30°C Pull-down & Pull-up Temperature

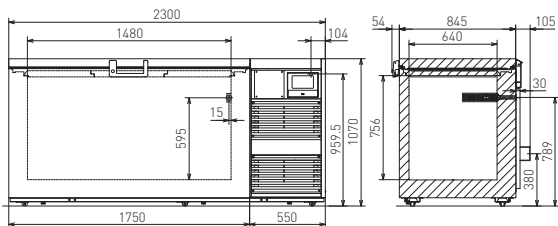


Dimensions

Unit : mm



MDF-DC500VX



MDF-DC700VX
MDF-DC700VXC

Model Number	MDF-DC500VX-PE	MDF-DC700VX-PE	MDF-DC700VXC-PA	
External dimensions (W x D x H) ¹⁾	mm	2010 x 845 x 1070	2300 x 845 x 1070	
Internal dimensions (W x D x H)	mm	1190 x 640 x 756	1480 x 640 x 756	
Volume	litres	575	715	
Net weight	kg	328	358	366
Capacity	2" boxes	416	520	
Performance				
Cooling performance ²⁾	°C	-86		
Temperature setting range	°C	-50 to -90		
Temperature control range ²⁾	°C	-50 to -86		
Control				
Controller		Microprocessor, non-volatile memory		
Display		LCD Touch Screen		
Temperature sensor		Pt-1000		
Refrigeration				
Refrigeration system		Independent Dual-Cooling		
Compressors	W	2 x 1100		
Refrigerant		HFC mixed		
Insulation material		PUF / VIP PLUS		
Construction				
Exterior material		Painted Steel		
Interior material		Stainless Steel		
Outer doors/lid	qty	1		
Outer door lock		Y		
Inner doors/lid		3 pieces (Styrofoam)		
Access port	qty	1		
Access port position		Back		
Access port diameter	∅ mm	17		
Alarms (V = Visual Alarm, B = Buzzer Alarm, R = Remote Alarm)				
Power failure		V-B-R		
High temperature		V-B-R		
Low temperature		V-B-R		
Filter		Filterless design		
Door open		V-B		
Electrical and Noise Level				
Power supply	V	230 / 240	220	
Frequency	Hz	50	60	
Noise level ³⁾	dB [A]	52		
Options				
Liquid CO ₂ back-up		MDF-UB5-PW		
Temperature recorders	- Circular type	MTR-G85C-PE — Chart paper: RP-G85-PW — Ink pen: PG-R-PW		
	- Continuous strip type	MTR-85H-PW — Chart paper: RP-85-PW — Ink pen: DF-38FP-PW — Recorder housing: MDF-S3085-PW		
Optional Communication Systems				
Ethernet interface [LAN] ⁴⁾		MTR-L03-PW		
Digital interface [RS232C/RS485] ⁴⁾		MTR-480-PW		
Quality Management System				
Certification		ISO9001		

¹⁾ External dimensions of main cabinet only, excluding handle and other external projections - See dimensions drawings on website for full details.

²⁾ Air temperature measured at freezer centre, ambient temperature +30°C, no load.

³⁾ Nominal value - Background noise 20dB[A]

⁴⁾ Only for MTR-5000 (data acquisition system) users.

Caution: PHC Corporation guarantees this product under certain warranty conditions. However, please note that PHC Corporation shall not be responsible for any loss or damage to the contents stored in the product.



Preservation Equipment, Experimental Environment Equipment, Dispensary Equipment, Culturing Equipment and Drying & Sterilising Equipment for General Laboratory use
The management of the design, development, production and servicing of the above.
PHC Corporation, Biomedical Division
1-1-1 Sakada, Oizumi-machi, Ora-gun, Gunma 370-0596, Japan



PHC Corporation Biomedical Division is certified for:
Environmental management system: ISO14001

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