

A Member of PHC Group

超省電

雙獨立壓縮機

人臉辨識 (選配)

NEW



MDF-DU303VXH-PE  
MDF-DU303VXH-PA

## TwinGuard eco

### Natural refrigerants

-86°C to -40°C

360 L



### Ultra-low Temperature Freezer with Dual Compressors and Natural Refrigerants

The next generation **Twin Guard ECO** Ultra Low Temperature freezers enhance access control via an electronic lock with facial recognition (optional), NFC protection (optional) and PIN code, offering a significantly high protection for valuable samples. The use of natural refrigerants minimizes energy consumption which in turn reduces environmental impact.

#### 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. 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 upmost confidence that they won't be lost in the case of compressor failure.



(image)

#### 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
- Facial recognition (optional)
- IC card (optional)



## 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.

Model Number		MDF-DU303VXH-PE MDF-DU303VXH-PA
External dimensions (W x D x H) <sup>1)</sup>	mm	670 x 882 x 1838
Internal dimensions (W x D x H)	mm	490 x 600 x 1230
Volume	liters	360
Net weight	kg	225
Performance		
Cooling performance <sup>2)</sup>	°C	-86
Temperature setting range	°C	-90 to -40
Temperature control range <sup>2)</sup>	°C	-86 to -40
Control		
Controller		Microprocessor with non-volatile memory
Display		LCD Touch Screen
Temperature sensor		Pt-1000
Refrigeration		
Refrigeration system		Independent Dual-Cooling
Compressors	W	2 x 550
Refrigerant		HC
Insulation material		PUF / VIP Plus
Insulation thickness		80 mm
Construction		
Exterior material		Painted Steel
Interior material		Painted Steel
Outer door	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	1 (automatic)
Access port	qty	3
Access port position		back x1, bottom x2
Access port diameter	Ø mm	17
Casters	qty	4 (2 leveling feet)
Alarms (V = Visual Alarm, B = Buzzer Alarm, M = Message, R = Remote Alarm)		
Power failure		V-B-M-R
High temperature		V-B-M-R
Low temperature		V-B-M-R
Filter		Filterless design
Door open		V-B-M-R
Electrical and Noise Level		
Power supply	V	PE: (220/230/240) / PA: (220)
Frequency	Hz	PE: 50 / PA: 60
Noise level <sup>3)</sup>	dB (A)	52
Options		
Drawer		MDF-30R-PW
Face recognition kit		MTR-FRC-PW
NFC System <sup>4)</sup>	set of 5	NFC reader: MTR-NFC-PW IC Cards: MTR-IC-PW
Liquid CO <sub>2</sub> back-up		MDF-UB9-PW
Temperature recorders	- Circular type	MTR-G85C-PE <sup>4)</sup> - Chart paper: RP-G85-PW - Ink pen: PG-R-PW
	- Continuous strip type	MTR-85H-PW <sup>4)</sup> - Chart paper: RP-85-PW - Ink pen: DF-38FP-PW - Recorder housing: MDF-S3085-PW
Recorder sensor cover		MTR-DU700SF-PW
Optional Communication Systems		
Digital interface (RS232C/RS485)		MTR-480-PW <sup>5)</sup>
Ethernet interface (LAN)		MTR-L03-PW <sup>5)</sup>
Analog converter		MTR-420MA-PW

- 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) Nominal value - Background noise 20 dB(A).
- 4) Requires sensor cover MTR-DU700SF-PW.
- 5) Only for MDF-DU303VXH-PA.
- 6) The NFC System is only available in limited countries

• Appearance and specifications are subject to change without notice.  
**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 of 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 is certified for:  
**Environmental management system: ISO14001**



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