



MDF-DU703VH-PE

# Performance and Reliability

Naturally ocurring 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.

# VIP ECO SMART

Natural Refrigerants Ultra-Low Temperature Freezer

729 L



**Cost-saving and environmentally friendly sample storage now upgraded with additional features for improved usability.** The VIP ECO SMART -86°C to -40°C upright freezer, along with conventional Password Protection, now offers Face Recognition, and NFC Authentication, coupled with an Electric Lock for enhanced access control. Energy-saving is also further improved by using natural refrigerants combined with inverter compressors.

## 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.

# Industry's Lowest Energy consumption

This freezer delivers lower energy consumption without compromising performance. The VIP ECO SMART uses 30% less energy compared with existing models.\*

5.4 kWh/day, at -80°C
4.4 kWh/day, at -70°C



### **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.



#### **Controlled Freezer Acces**

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

- 4 Ways to Lock
- Facial recognition
- Keypad
- Proximity card (Optional)
- Unique individual key

	-80°C setpoint at 23°C ambient temperature, empty freezer			
5	-77.5	101.0004 10004 10004 100004 10004 100004 100000000		
_	-78			
illiternat remperature	-78.5			
ie ie	-79			
5	-79.5			
Ę	-80			
9	-81			
=	-81.5			

#### **Smart Performance**

Inverter driven compressors with SMART control allow for superior uniformity by running compressors at slower speeds under steady state conditions. Proprietary algorithms give the control that allows extremely tight temperature uniformity.

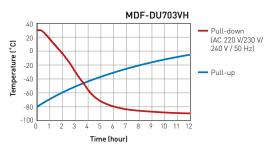


Natural Refrigerants Ultra-Low Temperature Freezer

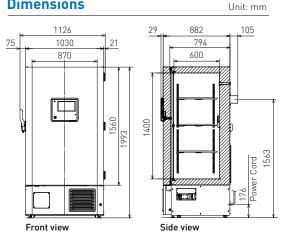


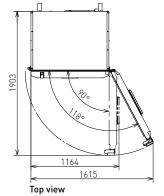
#### **Performance Data**

AT30°C Pull-down & Pull-up Temperature



#### **Dimensions**





Model Number		MDF-DU703VH-PE		
		1000 000 1000		
External dimensions (WxDxH) 1	mm	1030 x 882 x 1993		
Internal dimensions (WxDxH)	mm	870 x 600 x 1400 729		
Volume	litres	276		
Net weight Capacity <sup>2)</sup>	kg 2" boxes	576		
Performance	Z DOXES	578		
Cooling performance <sup>3)</sup>	°C	-86 to -40		
Temperature setting range	°C	-90 to -40		
Temperature control range <sup>3)</sup>	°C	-86 to -40		
Control	U.S.			
Controller		Microcomputer control system		
Display		LCD Digital display		
Temperature sensor		Platinum resistance (Pt 1,000 Ω)		
Refrigeration				
Cooling method		Cascade		
Compressors	W	High stage side; Hermetic type, Output: 750 V		
		Low stage side; Hermetic type, Output: 750 V		
Refrigerant		HC		
Insulation		Rigid polyurethane foamed-in place +		
		Vacuum Insulation Panel		
Construction				
Exterior material		Painted Steel		
Interior material		Painted Steel		
Outer door	qty	1		
Outer door lock		Y		
Inner doors	qty	2		
Shelves	qty	3		
Max. load - per shelf	kg	50		
Vacuum release port		1 (automatic)		
Access port	qty	3		
Access port position		3 (back x1, bottom x2)		
Access port diameter	Ømm	30		
Casters	qty	4 (2 leveling feet)		
	ual Alarm, B = B	uzzer Alarm, M = Message, R = Remote Alarm		
Power failure	_	V-B-M-R V-B-M-R		
High temperature	_			
Low temperature		V-B-M-R V-M		
Filter		V-IVI V-B-M		
Door open Electrical and Noise Level		A-D-141		
Power Supply	V	220/230/240, 220/230		
Frequency	Hz	50/60		
Noise Level 4]	dB(A)	52		
Options		02		
Small inner door kit	set of 5	MDF-7ID5-PW 5)		
	set of 4	MDF-7ID4-PW		
NFC System 7]		NFC reader: MTR-NFC-PW		
	set of 5	IC Cards: MTR-IC-PW		
Liquid CO <sub>2</sub> back-up		MDF-UB9-PW		
-Circular type		MTR-G85C-PE 6]		
		Chart paper: RP-G85-PW / Ink pen: PG-R-PV		
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		Chart paper: RP-85-PW / Ink pen: DF-38FP-PV		
		Recorder housing: MDF-S3085-PW		
Recorder sensor cover		MTR-DU700SF-PW		
Quality Management System				
Certification		IS09001		
otes: Exterior dimensions of main cabinet only, excludii Usable storage capacity of 2° boxes, in the origina Air temperature measured at freezer centre, amb Nominal value - Background noise 20 dB(A). Installation of small inner door kit may effect usa	al configuration of the vient temperature 30°	freezer.		

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.

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