MDF-DU901VHL | MDF-DU901VHA
(limited countries and regions)

MDF-DU901VHL

VIP ECO

Large Volume
-86°C Ultra-Low Temperature Freezers with Natural Refrigerants

ECO natural refrigerants | IC+ inverter compressor | VIP PLUS vacuum insulation | EZlatch door handle

845 L

Cost-saving and environmentally friendly sample storage with an optimal footprint.

Both **VIP ECO** models are large volume high performance -86°C upright freezers ideal for use in biorepositories or facilities where bulk storage of sensitive biological is managed. Natural refrigerants minimise its energy consumption to reduce environmental impact. **VIP ECOs** allow a footprint of just 1m² for maximum storage.

Natural Refrigerants and Inverter Technology

Naturally occuring hydrocarbon [HC] refrigerants have minimal effect on the environment and are compliant with environmental legislation for climate control. Combined with inverter technology, these refrigerants also provide more efficient cooling without compromising cooling performance, ambient tolerance and recovery speeds following door openings.

Maximum Sample Storage

The use of space-saving patented VIP PLUS insulated panels within the freezer cabinet allows a capacity of up to 616 2" boxes inside a footprint of just 1 m² for maximum storage. The freezer's conventional depth allows for easy installation.

Ergonomic Design

The computer designed EZlatch is central to an overall freezer access system. This is comprised of the outer and inner doors, door gaskets, positive inner and outer door latches and a vacuum relief port. These individual components together assure comfortable operation, sample security, temperature integrity and control of frost build-up.

Energy efficient performance

Natural refrigerants, compressors and integrated electronics combine to lower operating costs by up to 45%*. Freezer operation is managed by effectively balancing temperature performance and energy management.

* Compared to conventional models.
Power source: 220V/230V/240V 50Hz, Ambient temperature 30°C

High capacity sample storage

As sample volumes in biorepositories and biobanks increase exponentially, the high capacity storage chamber offers space for expansion and overflow from crowded smaller freezers.

Reliable controllability and data log function

The large colour LCD touchpanel is accurately controlled even with a gloved hand, while the USB port makes transferring logged data of product's operational status to a PC convenient.

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Inverter Compressors

While conventional freezers use a single-speed compressor's on/off cycle, our **VIP ECO** ultra-low temperature freezers use inverter compressors that can run at different speeds to maximise cooling performance under different conditions. Combined with hydrocarbon refrigerants, these compressors ensure the most efficient energy use and reduced heat output.

VIP Plus Insulated Panels

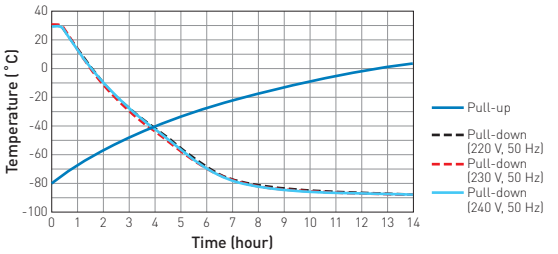
Inside-out engineering starts with a VIP Plus insulation composite which results in an efficient, thin-wall cabinet. Insulated inner doors improve temperature uniformity and cold air loss during door openings and extended warm-up times during power outages.

Temperature Uniformity

As interior air temperature stabilises at the desired set point, large mass storage volume sustains tight temperature uniformity of the load inside the insulated cabinet.

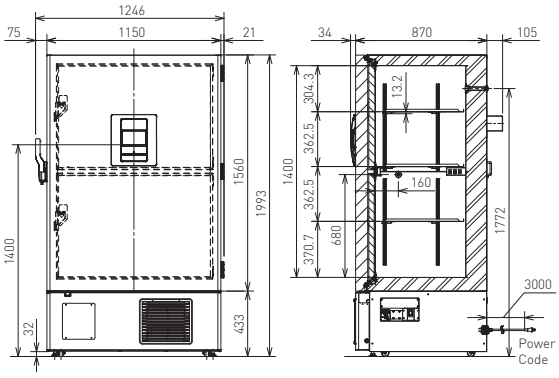
Performance Data

AT30°C Pull-down & Pull-up Temperature[2]



Dimensions

Unit : mm



CE (220/230/240 V, 50 Hz)

Model Number		MDF-DU901VHL-PE	MDF-DU901VHA-PA
External dimensions (W x D x H) [1]	mm	1150 x 870 x 1993	
Internal dimensions (W x D x H)	mm	1010 x 600 x 1400	
Volume	litres	845	
Net weight	kg	328	
Capacity	2" boxes	616	
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 Touchpanel	
Temperature sensor		Pt-1000	
Refrigeration			
Refrigeration system		Cascade	
Compressors	W	2 x 1000	
Refrigerant		HC	
Insulation material		Rigid polyurethane foam (PUF) / VIP PLUS	
Insulation thickness	mm	70	
Construction			
Exterior material		Painted Steel	
Interior material		Painted Steel	
Outer door	qty	1	
Outer door lock		Y	
Inner doors	qty	2 pieces (insulated)	
Shelves	qty	3 (stainless steel)	
Max. load - per shelf	kg	50	
Vacuum release port		Y	
Access port	qty	2	
Access port position		Back, Bottom	
Access port diameter	Ø mm	17	
Casters	qty	4 (2 leveling feet)	
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		V	
Door open		V-B	
Electrical and Noise Level		MDF-DU901VHL-PE	MDF-DU901VHA-PA
Power supply	V	220/230/240	115
Frequency	Hz	50	60
Noise level [3]	dB (A)	52	
Options			
Small inner door kit	set of 2	MDF-9ID-PW (max 2) [4]	
Liquid CO_2 back-up		MDF-UB7-PW	
Inventory rack		IR-224U-PW, IR-220U-PW	
Temperature recorders - Circular type		MTR-G85C-PE [5]	MTR-G85A-PA [5]
		- Chart paper: RP-G85-PW - Ink pen: PG-R-PW	
Temperature recorders - Continuous strip type		MTR-85H-PW [5] - Chart paper: RP-85-PW - Ink pen: DF-38FP-PW - Recorder housing: MDF-S3085-PW	
Optional Communication Systems			
Digital interface (RS232C/RS485) [6]		MTR-480-PW	
Ethernet interface (LAN) [6]		MTR-L03-PW	
Quality Management System			
Certification		ISO 9001	

1] Exterior dimensions of main cabinet only, excluding handle and other external projections.
2] Air temperature measured at freezer centre, ambient temperature 30°C, no load.
3] Nominal value - Background noise 20 dB[A].
4] Installation of small inner door kit may effect usable storage capacity.
5] Requires sensor cover MTR-DU700SF-PW.
6] Only for MTR-5000 (data acquisition system) users.

- 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.

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

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