



-30°C Biomedical ECO Freezers with Natural Refrigerants



369 L / 504 L

Stable -30°C uniform environment with extensive storage possibilities

Both units provide environmental savings and flexibility while maintaining the quality of the samples during preservation. Such flexibility includes height-adjustable shelf trays and separate top and bottom doors that prevent cold air leakage.

Natural Refrigerants and Inverter Technology

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.

Safe & Secure Sample Storage

To securely preserve the valuable samples, multiple safety features include 2 separate doors to reduce cold air leakage when handling samples and abnormal temperature alarms (high/low) to prevent samples being exposed to temperature variations.

Height-adjustable Shelf Trays

Both units feature fully height-adjustable shelf trays, accommodating chamber containers of various sizes. Model MDF-MU339HL features a shelf width of just 447 mm, and Model MDF-MU539HL's shelf width is 624 mm.



Energy-efficient Performance

Natural refrigerants, compressors and integrated electronics combine to lower operating costs by up to 28%*. 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



Versatile Alarm Function

An alarm for high/low temperatures and an error code display with a self-diagnostic function inform users of any abnormalities such as power failures for prompt actions that avoid damaging valuable samples. In addition to a standard door lock, a latch with a padlock is also available.

* Storage containers are available as an option.
Max. capacity is 6 containers per chamber, 12 in total.



Easy Disposal of Defrosting Water

Manual defrosting becomes an easy task with the drain hose that is attached to the main unit (hose usually stowed away when not in use).

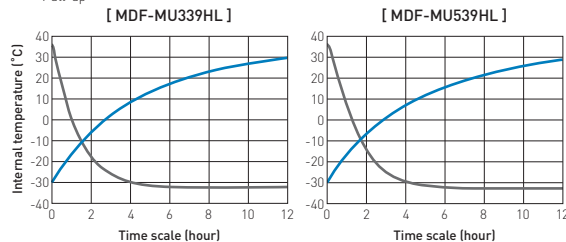
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Performance Data

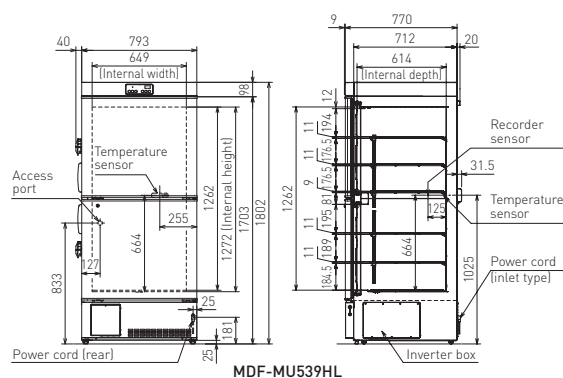
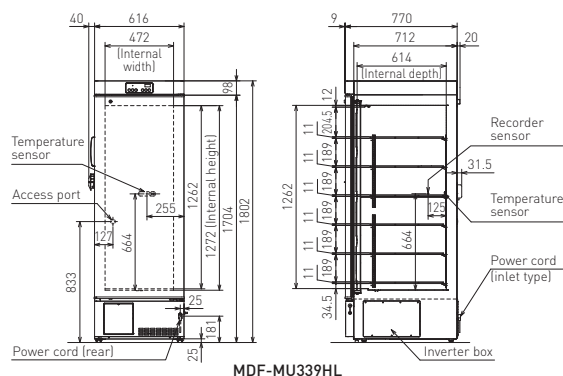
AT35°C Pull-down & Pull-up Temperature (No load)²⁾

— Pull-down [220/230/240 V, 50 Hz]
— Pull-up



Dimensions

Unit: mm



Model Number		MDF-MU339HL-PE	MDF-MU339HL-PA	MDF-MU539HL-PE	MDF-MU539HL-PA
External dimensions (W x D x H) ¹⁾	mm	616 x 770 x 1802		793 x 770 x 1802	
Internal dimensions (W x D x H)	mm	472 x 614 x 1262		649 x 614 x 1262	
Volume	litres	369		504	
Net weight	kg	122		144	
Performance					
Cooling performance ²⁾	°C	-30			
Temperature setting range	°C	-35 to -18			
Temperature control range	°C	-30 to -20			
Control					
Controller		Microprocessor, non-volatile memory			
Display		LED			
Temperature sensor		Thermistor			
Refrigeration					
Compressor	W	400			
Refrigerant		HC			
Insulation material		PUF			
Insulation thickness	mm	70			
Construction					
Exterior material		Painted Steel			
Interior material		Painted Steel			
Outer door	qty	1		2	
Outer door lock		Yes			
Shelves	Dimensions	qty	6		
		mm	W447 x D510		W624 x D510
Max. load - per shelf	kg	30			
Access port	qty	1			
Access port position		Back			
Access port diameter	Ø mm	30			
Casters	qty	4 [2 levelling feet]			
Accessories					
Accessories	qty	1 Key set / 1 Defrost spatula			
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			
Electrical and Noise Level		MDF-MU339HL-PE	MDF-MU339HL-PA	MDF-MU539HL-PE	MDF-MU539HL-PA
Power supply	V	220/230/240	115	220/230/240	115
Frequency	Hz	50	60	50	60
Noise level ³⁾	dB [A]	42			
Options					
Temperature recorders	- Circular type	MTR-G85C-PE/MTR-G85A-PA — Chart paper: RP-G85-PW — Ink pen: PG-R-PW — Recorder housing: MPR-S7-PW			
	- Continuous strip type	MTR-4015LH-PE/MRT-4015LH-PA — Chart paper: RP-40-PW — Recorder housing: MPR-S30-PW			
Storage Container	Inner dimensions		MDF-03SC-PW (2 pcs/set) W420 x D552 x H157	MDF-05SC-PW (2 pcs/set) W280 x D552 x H157	
Optional Communication Systems					
Digital interface [RS232C/RS485] ⁴⁾		MTR-480-PW			
Ethernet interface [LAN] ⁴⁾		MTR-L03-PW			
Quality Management System					
Certification		ISO 9001			

¹⁾ External dimensions of main cabinet only, excluding handles and other external projections.

²⁾ Air temperature measured at freezer centre, ambient temperature 35°C, no load.

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

⁴⁾ 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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