

MDF-DU300H-PE

PRO ECO

-86°C Upright Freezer

333 L



Cost-saving and environmentally friendly sample storage

The MDF-DU300H **PRO ECO** -86°C Upright Freezer with natural refrigerants minimises energy consumption, reduces environmental impact and saves money. Innovative technology and Class IIa Medical Device Certification provide secure storage of valuable research, and clinical samples.

Efficient Refrigeration

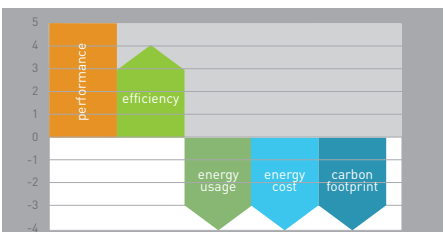
Naturally occurring hydrocarbon (HC) refrigerants provide more efficient cooling due to their high latent heat of evaporation. As well as improved performance this leads to reduced power consumption and energy costs.

Reliable Technologies

The compressors that are specifically designed for ultra-low temperature applications are employed in the proven PHCbi cascade refrigeration system ensuring the highest levels of performance and reliability.

Ease of Use & Intelligent Security

Comprehensive control, alarm and monitoring functions are combined in an easy to use micro-processor controller with digital display of all functions.



Environmentally Friendly

Ideal for laboratories looking to reduce their carbon footprint and environmental impact to comply with sustainability policies.



Uniform Sample Storage

Quality of design and manufacture ensures trusted and reliable storage that maintains the integrity of precious samples.



High Performance Refrigeration

A high performance refrigeration system leads to highly durable and efficient cooling for the reliable storage of valuable samples and research material.



PRO ECO

-86°C Upright Freezer

Natural refrigerants

Natural hydrocarbon refrigerants provide more efficient cooling due to their high latent heat of evaporation. As a result, smaller compressors, can be used leading to greater energy efficiency. With exceptionally low global warming potential natural refrigerants are also better for the environment.

Heat exchanger design

The patent-pending heat exchanger provides greater surface area contact at critical points in the refrigeration system. This improves overall efficiency and reduces compressor running time for lower energy consumption.

Refrigeration System

From high performance, reliable compressors to strategically designed evaporator coils that provide optimum temperature uniformity, the refrigerator system is specifically designed for ultra-low applications. This leads to highly durable and efficient cooling for the reliable storage of valuable samples and research material.

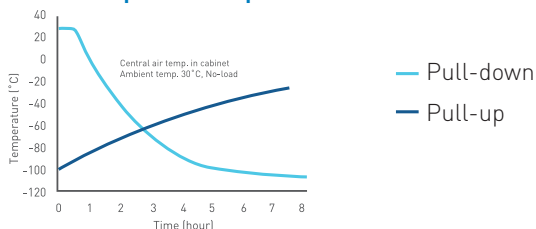
Automatic compressor cycling

Compressor ON - OFF cycles are regulated automatically in response to cooling demand to minimise compressor running time and to save energy.

Microprocessor cycling

Comprehensive control, alarm and monitoring functions are combined in an easy to use micro-processor controller with digital display of all functions.

Fast temperature pull-down



The MDF-DU300H-PE is certified as a Class IIa Medical Device (93/42/EEC and 2007/47/EC) for medical purposes of storing cells, organs, DNA and/or frozen plasma (For EU countries only).



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Model Number		MDF-DU300H-PE
External Dimensions (W x D x H) ¹⁾	mm	750 x 870 x 1830
Internal Dimensions (W x D x H)	mm	490 x 600 x 1140
Volume	litres	333
Net Weight	kg	241
Capacity	2" boxes	216
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		LED
Temperature sensor		Pt-1000
Refrigeration		
Refrigeration system		Cascade
High-stage compressor	W	450
High-stage refrigerant		HC
Low-stage compressor	W	450
Low-stage refrigerant		HC
Insulation material		PUF
Insulation thickness	mm	130
Construction		
Exterior Material		Painted Steel
Interior Material		Painted Steel
Outer Door	qty	1
Outer Door Lock		Y
Inner Doors	qty	2 (insulated)
Shelves	qty	3
Max. load - per shelf	kg	50
Max. load - total	kg	150
Access Port	qty	3
Access Port Position		back/bottom x 2
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-B
Door open		V-B
Electrical and Noise Level		
Power Supply	V	230V 50Hz single phase
Noise Level ³⁾	dB [A]	< 52
Options		
Liquid CO ₂ back-up		CVK-UB2-PW
Liquid N ₂ back-up		CVK-UBN2-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
RS485 interface module		MTR-480-PW
Drawers		MDF-30R-PW (max 2)

Appearance and specifications are subject to change without notice.

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

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

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