



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 provides secure storage of valuable research and clinical samples.

Efficient Refrigeration

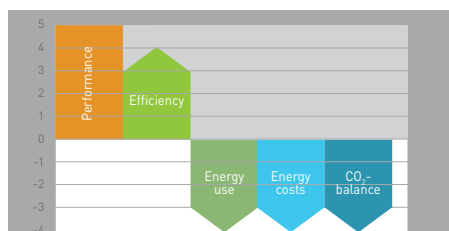
Naturally occurring hydrocarbon (HC) refrigerants provide more efficient cooling due to their high latent heat of evaporation. As well as improved performance this leads to reduced power consumption and energy costs.

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

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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.

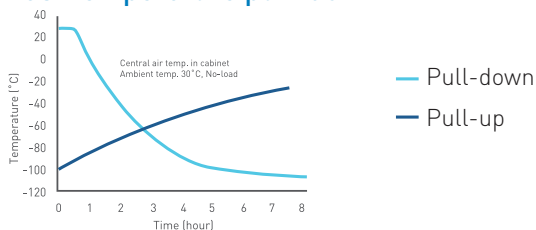
Automatic compressor cycling

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



EEA, Switzerland and Turkey only



For medical use

The MDF-DU300H-PE is certified as a Class IIa Medical Device (93/42/EEC and 2007/47/EC). Applicable countries: Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Ireland, Italy, Liechtenstein, Luxembourg, Malta, the Netherlands, Spain, Switzerland and the United Kingdom only



For laboratory use

Applicable countries: EEA countries, Switzerland and Turkey

| 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 ³⁾ | kg | 150 |
| Access Port | qty | 3 |
| - position | | back/bottom x 2 |
| - diameter | Ø mm | 17 |
| Castors | 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 |
| 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].