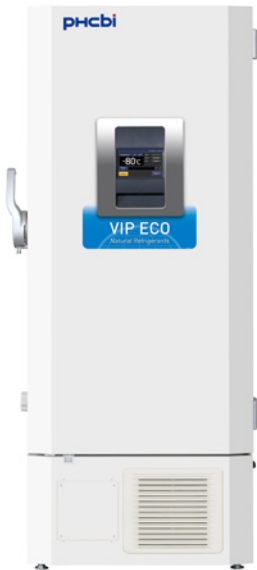


VIP ECO

Natural Refrigerants -86°C Upright Freezer

528 L



MDF-DU502VH-PE



Cost-saving and environmentally friendly sample storage within an optimal footprint

The MDF-DU502VH **VIP ECO** -86°C Upright Freezer provides maximum sample storage capacity within an optimum footprint combined with natural refrigerants to minimise energy consumption, reduce environmental impact and save money.

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.

Inverter Technology

The MDF-DU502VH **VIP ECO** ULT Freezer contains Inverter Compressors that maximise cooling performance under different conditions, and contribute to reducing the energy consumption of the freezer.

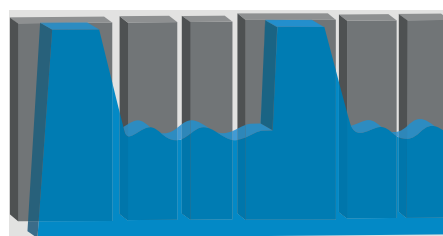
Intelligent Interface

The EZlatch makes access to stored samples even easier. A colour LCD touch panel allows full user control, even with gloved hands, while the USB port makes transferring logged data to a PC simple and convenient.



Environmentally Friendly

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



Uniform Sample Storage

Inverter compressors provide optimum stability, while quality of design ensures reliability. Ideal for samples that are sensitive to temperature fluctuations.



Easy Data Monitoring

Important information such as freezer temperature, door opening times and alarm history is logged for monitoring in GLP applications.

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Natural Refrigerants -86°C Upright Freezer



Inverter Compressors

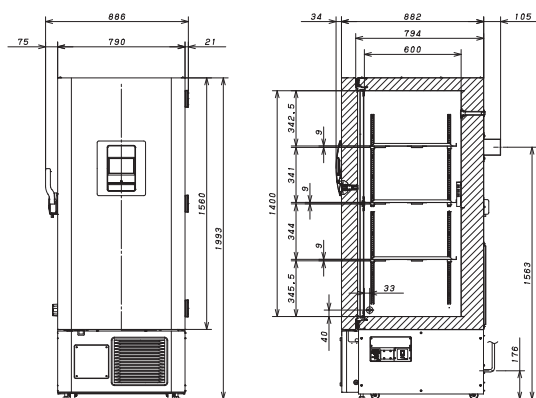
While conventional freezers use single speed compressors which cycle on and off, the MDF-DU502VH VIP ECO ULT Freezer contains inverter compressors that can run at different speeds to maximise cooling performance under different conditions. Combined with hydrocarbon refrigerants, these compressors ensure the most efficient energy use and reduced heat output.

Efficient & Flexible Sample Storage

The combination of VIP PLUS vacuum insulation and an enhanced cabinet design with insulated outer door, ensures optimum temperature uniformity, while the reduced wall thickness maximizes storage capacity. Multiple shelf configurations allow a variety of storage options. Organize your samples by transferring your current inventory racks.

Innovative Cabinet Design

The enhanced cabinet design with chamfered edges reduces footprint for use in multi freezer laboratories.



MDF-DU502VH-PE



The MDF-DU502VH-PE is certified as a Class IIa Medical Device (93/42/EEC and 2007/47/EC) for medical purposes of storing human cells, organs, plasma and DNA.



PHC Europe B.V.

Model Number		MDF-DU502VH-PE
External Dimensions (W x D x H) ¹⁾	mm	790 x 882 x 1993
Internal Dimensions (W x D x H)	mm	630 x 600 x 1400
Volume	litres	528
Net Weight	kg	246
Capacity	2" boxes	384
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 Touch Screen
Temperature sensor		Pt-1000
Refrigeration		
Refrigeration system		Cascade
Compressors	W	2 x 750
Refrigerant		HC
Insulation material		PUF / VIP Plus
Insulation thickness	mm	80
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
Max. load - total ³⁾	kg	415
Vacuum release port		2 (1 automatic, 1 manual)
Access Port	qty	3
Access Port Position		back x 1, 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	230
Power Consumption ⁴⁾	kWh/24h	6.7
Frequency	Hz	50
Noise Level ⁵⁾	dB [A]	< 52
Options		
Small Inner Door Kit	set of 5	MDF-5ID5-PW ⁶⁾
Small Inner Door Kit	set of 4	MDF-5ID4-PW
Liquid CO ₂ back-up		MDF-UB7-PW
Temperature recorders		
- Circular type		MTR-G85C-PE ⁷⁾
- Chart paper		RP-G85-PW
- Ink pen		PG-R-PW
- Continuous strip type		MTR-85H-PW ⁷⁾
- Chart paper		RP-85-PW
- Ink pen		DF-38FP-PW
- Recorder housing		MDF-S3085-PW

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⁾ Max. load is the total of the load distributed over all shelves (3) and chamber bottom surface. The weight is the maximum load for chamber inside and does not account for maximum load on casters equipped with product.

⁴⁾ Typical data - individual units may vary and power consumption will depend on loading and operating conditions. Freezer set-point

-80°C, ambient temperature 23°C, unloaded, 230V 50Hz power supply.

⁵⁾ Nominal value - Background noise 20dB[A].

⁶⁾ Usable storage capacity will be 384 x 2" boxes with installation of MDF-5ID5-PW and additional shelf.

⁷⁾ Requires sensor cover MTR-DU7005F-PW.