

# TwinGuard

-86°C Upright Freezer

528 L



MDF-DU502VX-PE

## The most secure ultra-low temperature freezers for the storage of high value samples

*TwinGuard* Ultra Low Temperature Freezers with Dual Cooling Technology offer the highest level of security for high-value samples. Alongside exceptional ease-of-use and data monitoring, the Dual Cooling System provides the highest level of protection.

### Ultimate Sample Protection

The Dual Cooling System offers high levels of protection through the use of two independent refrigeration systems. If one system unexpectedly fails the other can maintain the freezer in the -70°C range.

### Efficient 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 up to 384 2" boxes.

### 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 convenient.



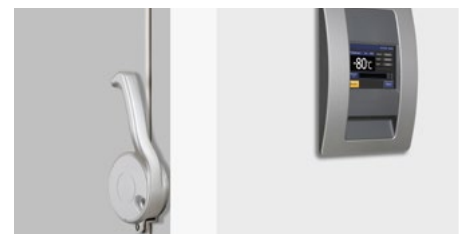
### Valuable Sample Storage

Securely store valuable and irreplaceable samples with the upmost confidence that they won't be lost in the case of compressor failure.



### Flexible Shelf Layout

Multiple shelf configurations allow a variety of storage options. Organize your samples by transferring your current inventory racks.



### Restricted Access Laboratories

Significantly extended time to react to any sudden mechanical failures and data logging are ideal for high security applications such as pathogenic research.

# TwinGuard -86°C Upright Freezer



## Dual Cooling System

The Dual Cooling System offers ultimate sample protection. The two independent refrigeration systems provide a reliable and exceptionally stable -86°C ultra low temperature environment. If one system unexpectedly fails, the other can maintain the freezer in the -70°C range until service can be arranged.

## Intelligent Eco Mode Operation

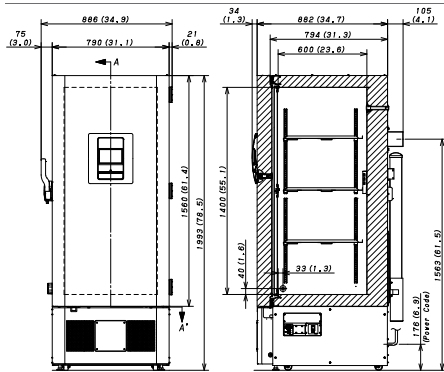
When set to ECO mode, the microprocessor controller will establish an overlapping cycle of the two refrigeration systems based on the load status of the freezer, significantly reducing energy consumption.

## Filterless Design

The filterless construction of the freezers reduces routine maintenance time by eliminating the need for regular cleaning of filters.

## Innovative Cabinet Design

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



MDF-DU502VX-PE



The MDF-DU502VX-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.



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Model Number		MDF-DU502VX-PE
External Dimensions (W x D x H) <sup>1)</sup>	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	285
Capacity	2" boxes	384
Performance		
Cooling performance <sup>2)</sup>	°C	-86
Temperature setting range	°C	-50 to -90
Temperature control range <sup>2)</sup>	°C	-50 to -86
Control		
Controller		Microprocessor, non-volatile memory
Display		LCD Touch Screen
Temperature sensor		Pt-1000
Refrigeration		
Refrigeration system		Independent Dual-Cooling
Compressors	W	2 x 1100
Refrigerant		HFC mixed
Insulation material		PUF / VIP Plus
Insulation thickness	mm	80
Construction		
Exterior Material		Painted Steel
Interior Material		Painted steel
Outer Doors	qty	1
Outer Door Lock		Y
Inner Doors		2
Shelves	qty	3
Max. load - per shelf	kg	50
Max. load - total <sup>3)</sup>	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 (R = Remote Alarm, V = Visual Alarm, B = Buzzer Alarm)		
Power Failure		V-B-R
High Temperature		V-B-R
Low Temperature		V-B-R
Filter		Filterless design
Door open		V-B
Electrical and Noise Level		
Power Supply	V	230
Frequency	Hz	50
Noise Level <sup>4)</sup>	dB [A]	52
Options		
Small inner door kit	set of 5	MDF-5ID5-PW <sup>5)</sup>
Small inner door kit	set of 4	MDF-5ID4-PW <sup>5)</sup>
Liquid CO <sub>2</sub> back-up		MDF-UB7-PW
Temperature recorders		
- Circular type		MTR-G85C-PE <sup>6)</sup>
- Chart paper		RP-G85-PW
- Ink pen		PG-R-PW
- Continuous strip type		MTR-85H-PW <sup>6)</sup>
- Chart paper		RP-85-PW
- Ink pen		RP-85-PW
- Recorder housing		MDF-S3085-PW

<sup>1)</sup> Exterior dimensions of main cabinet only, excluding handle and other external projections.

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

<sup>3)</sup> 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.

<sup>4)</sup> Nominal value - Background noise 20dB[A]

<sup>5)</sup> Usable storage capacity will be 320 x 2" boxes with installation of MDF-5ID5-PW and additional shelf.

<sup>6)</sup> Requires sensor cover MTR-DU700SF-PW