

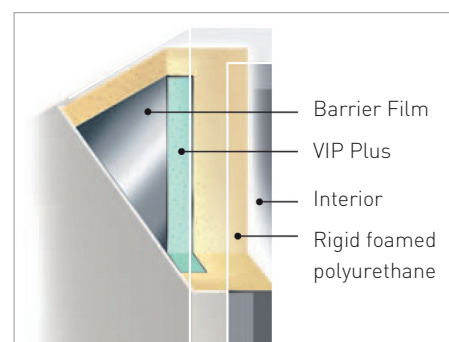
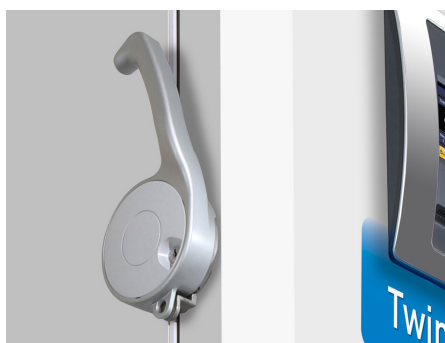


TwinGuard

Model Number	MDF-DU502VX-PE	MDF-DU702VX-PE
Capacity	528 litres	729 litres
Racks per shelf ¹⁾	4	6
Racks per freezer ¹⁾	16	24
2" (50 mm) Boxes per freezer ¹⁾	384	576
Factory certifications	ISO9001, ISO13485, ISO14001	
Product certifications	CE 0123, Class IIa Medical Device 93/42/EEC and 2007/47/EC USP	
Disposal information	WEEE directive	

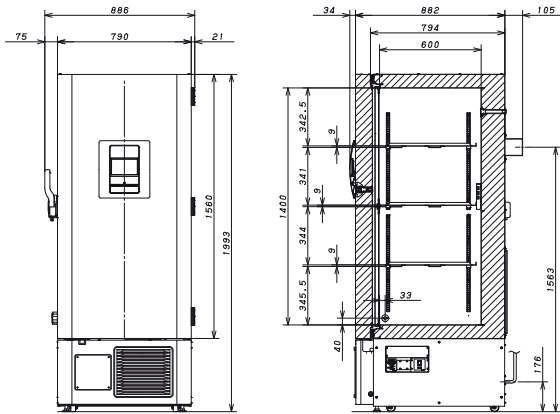
1) Multiple options are available for racking including side opening and front loading trays. The information provided is for the most common racks. We also offer double height racks and other configurations, as well as bespoke racking for cryoboxes and other containers. Please speak to your local representative for more information.

Temperature Setting Range	-50°C to -90°C
Compressors	2 x application specific hermetic compressors 1100W
Condenser	Air-cooled
Evaporator	Cold wall with strategically designed evaporator coil with double loop in the upper part USP
Refrigeration System	Dual Cooling system. Two Independent compressors that in case of unexpected failure of one of the cooling systems, the other will maintain the freezer continuously in the range of -70°C USP
Defrost Method	Manual
Insulation	80mm VIP Plus. Vacuum Insulation panels of 15 mm. wide and 0.003 W/m ² K USP
Refrigerants	MDF-DU502VX-PE: 510 g MU-N502 (GWP 5313) MDF-DU702VX-PE: 555 g MU-N702 (GWP 5695)
Recyclable Content	90%
Outer door	Five gaskets with heated circuit. Removable gaskets without tools USP
Door Opening System	Easy and ergonomic door opening system with unique key lock USP
Vacuum Release System	2 vacuum release ports. One Automatic in the front outer door, one Manual in left side USP
Inner doors	2 (4-5 doors optional), insulated, with eagle latch system
Display	Large LCD Colour Touchscreen, controlled with gloves, with USB port
Access ports	3 locations (back x 1, bottom x 2), inner diameter: 17 mm.
Alarms	High Temperature alarm, Low Temperature alarm, Power failure alarm, Door alarm, Filter alarm
Remote Alarm Contact	Allowable contact capacity: DC 30 V, 2 A
Power	230V, 50Hz, single phase

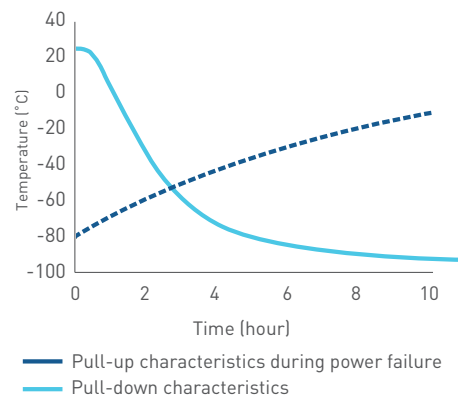


Installation Requirements	Indoor use, altitude up to 2000m, ambient temperature 5 to 40°C, maximum relative humidity of 80% up to 31°C, mains supply voltage fluctuations up to +/-10% of nominal voltage	
	MDF-DU502VX-PE	MDF-DU702VX-PE
External Dimensions (WxDxH)	790 x 882 x 1993 mm	1030 x 882 x 1993 mm
Footprint	0.69 m ²	0.91 m ²
Internal Dimensions (WxDxH)	630 x 600 x 1400 mm	870 x 600 x 1400 mm
Net Weight	276 kg	320 kg

Dimensions of MDF-DU502VX-PE



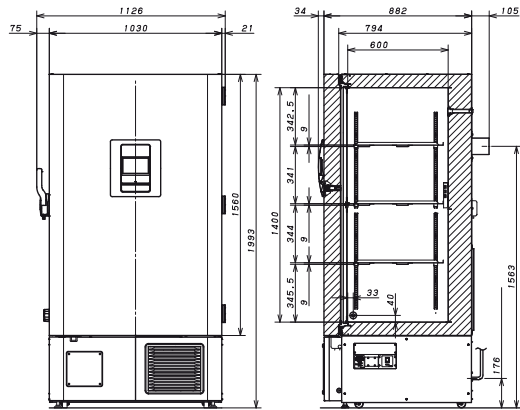
Cool Down and Warm Up Times MDF-DU502VX-PE



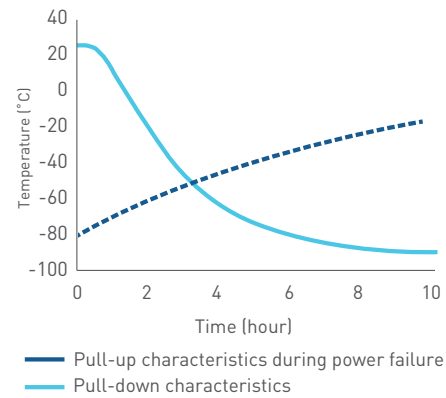
Typical Performance Characteristics MDF-DU502VX-PE (230V, 50Hz)

Cool Down Time From AT30°C / Unloaded freezer	to -80°C 300 mins			
Warm Up Time @ AT30°C / Unloaded freezer	to -70°C 58 mins	to -50°C 198 mins	to -30°C 392 mins	to -20°C 519 mins
Power Consumption Set value -80°C / Unloaded freezer	Normal Mode @ AT23°C 16.5 kWh/day	Normal Mode @ AT30°C 18.4 kWh/day	ECO Mode @ AT23°C 15.3 kWh/day	ECO Mode @ AT30°C 18.4 kWh/day
Power Consumption Set value -70°C / Unloaded freezer	Normal Mode @ AT23°C 11.2 kWh/day	Normal Mode @ AT30°C 13.0 kWh/day	ECO Mode @ AT23°C 11.2 kWh/day	ECO Mode @ AT30°C 12.4 kWh/day
Heat Dissipation Set value -80°C / Unloaded freezer Pull down peak	@ AT30°C 5255 Btu/h 1325 kcal/h			
Heat Dissipation Set value -80°C / Unloaded freezer Stable running after cool down	@ AT30°C 4026 Btu/h 1015 kcal/h			
Average Cabinet Temperature	Normal Mode @ SV-80°C, AT23°C -80.2	Normal Mode @ SV-80°C, AT30°C -80.1	ECO Mode @ SV-80°C, AT23°C -78.8	ECO Mode @ SV-80°C, AT30°C -80.1
Average Cabinet Temperature	Normal Mode @ SV-70°C, AT23°C -70.4	Normal Mode @ SV-70°C, AT30°C -70.5	ECO Mode @ SV-70°C, AT23°C -69.4	ECO Mode @ SV-70°C, AT30°C -69.2
Average Uniformity [Reference Value]	@ SV-80°C, AT20°C +/- 0.50			
Peak Variation [Reference Value]	Normal Mode @ SV-80°C +/- 3.09			
Noise Level	52 dB[A]			

Dimensions of MDF-DU702VX-PE



Cool Down and Warm Up Times MDF-DU702VX-PE



Typical Performance Characteristics MDF-DU702VX-PE (230V, 50Hz)

Cool Down Time From AT30°C / Unloaded freezer	to -80°C 360mins			
Warm Up Time @ AT30°C / Unloaded freezer	to -70°C 61 mins	to -50°C 210 mins	to -30°C 415 mins	to -20°C 547 mins
Power Consumption Set value -80°C / Unloaded freezer	Normal Mode @ AT23°C 16.8 kWh/day	Normal Mode @ AT30°C 18.6 kWh/day	ECO Mode @ AT23°C 15.6 kWh/day	ECO Mode @ AT30°C 18.4 kWh/day
Power Consumption Set value -70°C / Unloaded freezer	Normal Mode @ AT23°C 12.9 kWh/day	Normal Mode @ AT30°C 13.9 kWh/day	ECO Mode @ AT23°C 11.4 kWh/day	ECO Mode @ AT30°C 13.4 kWh/day
Heat Dissipation Set value -80°C / Unloaded freezer Pull down peak	@ AT30°C 5323 Btu/h 1341 kcal/h			
Heat Dissipation Set value -80°C / Unloaded freezer Stable running after cool down	@ AT30°C 4129 Btu/h 1040 kcal/h			
Average Cabinet Temperature	Normal Mode @ SV-80°C, AT23°C -79.4	Normal Mode @ SV-80°C, AT30°C -79.3	ECO Mode @ SV-80°C, AT23°C -79.3	ECO Mode @ SV-80°C, AT30°C -79.9
Average Cabinet Temperature	Normal Mode @ SV-70°C, AT23°C -69.5	Normal Mode @ SV-70°C, AT30°C -69.8	ECO Mode @ SV-70°C, AT23°C -69.1	ECO Mode @ SV-70°C, AT30°C -68.9
Average Uniformity (Reference Value)	@ SV-80°C, AT20°C +/- 1.67			
Peak Variation (Reference Value)	Normal Mode @ SV-80°C +/- 3.34	ECO Mode @ SV-80°C +/- 3.02		
Noise Level	52 dB[A]			

EEA, Switzerland and Turkey only


Medical device

The MDF-DU502VX-PE and the MDF-DU702VX-PE are 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


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