

# Cryogenic

-150°C Chest Freezer

128 L



MDF-1156-PE

## The most uniform storage temperatures for cryopreservation solutions

The MDF-1156 **Cryogenic** Freezer offers unparalleled safety, reliability and uniform temperatures well below -135°C for ideal long-term cryopreservation solutions.

### Long-term Storage

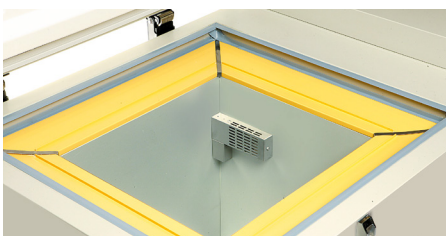
The electronically controlled freezer maintains inner cabinet temperature at an ultra-low -152°C (ambient temperature of 30°C), far lower than the re-crystallization point for pure water (-130°C). This low temperature provides the ideal preservation environment for long-term storage.

### Reliable Technologies

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

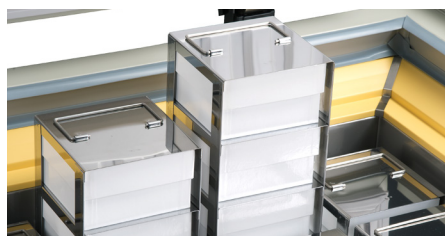
### Alarm and Safety Devices

Alarm and safety devices ensure high levels of protection in case of high temperature deviations, power failure or filter blockage.



### Uniform Sample Storage

The uniform and stable temperatures provided are ideal for storage of cells, tissues and other important biological samples.



### Dry Storage

The highest levels of protection for valuable samples, without the risks of cross contamination and vertical temperature gradients.



### Easy Monitoring

The control panel provides a clear view of the temperature and gives a notification in the case of abnormalities.

# Cryogenic -150°C Chest Freezer



## Application Specific Design

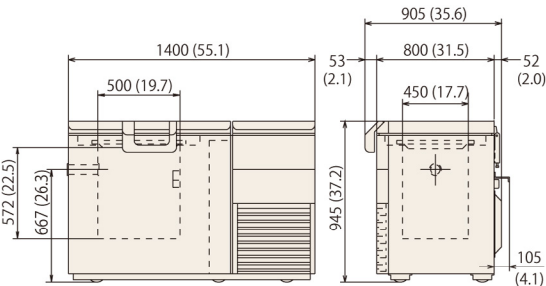
Due to the extended operation of compressors within ultra-low temperature freezers, lubricant oil is essential to reduce wear, prevent abrasions and seizure and therefore maintain the highest levels of freezer performance. However, when lubricant oil circulates within the refrigeration circuit, it can cause piping to become clogged, resulting in compressor damage. Incorporating a high-efficiency oil separator, **Cryogenic -150°C** freezers effectively separate lubricant oil from refrigerant, increasing the durability of the compressors and offering a reliable ultra-low temperature environment.

## CoolSafe Compressor

A refrigeration circuit with the CoolSafe compressor cascade refrigeration system enhances reliability of long-term preservation. With a powerful low noise design, afforded by traditional ultra-low temperature technology, this freezer delivers durable, stable cooling.

## Microprocessor Control

Managed and monitored by an integrated microprocessor controller with a comprehensive alarm system and diagnostic functions.



Model Number		MDF-1156-PE	
Dimensions			
External Dimensions (W x D x H) <sup>1)</sup>	mm	1400 x 800 x 945	
Internal Dimensions (W x D x H)	mm	500 x 450 x 572	
Volume	liters	128	
Capacity	2" boxes	81	
Net weight (approx)	kg	265	
Performance			
Cooling performance <sup>2)</sup>	°C	-152	
Temperature setting range	°C	-125 ~ -155	
Temperature control range <sup>2)</sup>	°C	-130 ~ -152	
Control			
Controller		Microprocessor, non-volatile memory	
Display		LED	
Temperature sensor		Pt-100	
Refrigeration			
Refrigeration system*		Cascade	
Compressors	W	1100	
Cooling circuit		High Stage	Low Stage
Refrigerant		R-407D	MU-N711A
Refrigerant weight	g	470	632.5
GWP of refrigerant for each cooling circuit**		1627	6346
Total Refrigerant weight (CO <sub>2</sub> equivalent)	t	4.779	
Insulation material		PUF	
Insulation thickness	mm	175	
Construction			
Exterior Material		Painted Steel	
Interior Material		Aluminium	
Outer door lock		Y	
Inner door/lid	qty	1	
Max. load - total	kg	300	
Access port	qty	1	
- position		Left	
- diameter	Ø mm	40	
Casters	qty	6 [2 levelling feet]	
Alarms [R = Remote Alarm, V = Visual Alarm, B = Buzzer Alarm]			
Power Failure		V-B-R	
High Temperature		V-B-R	
Filter		V-B	
Electrical and Noise Level			
Power Supply	V	230V 50Hz single phase	
Noise Level <sup>3)</sup>	dB [A]	52	
Options			
Liquid N <sub>2</sub> back-up		-	
LN <sub>2</sub> Lid Switch		-	
Temperature recorders			
- Continuous strip type		MTR-155H-PW	
- Chart paper		RP-155-PW	
- Ink pen		DF-38FP-PW	

Appearance and specifications are subject to change without notice.

1) Exterior dimensions of main cabinet only, excluding handle and other external projections  
2) Air temperature measured at freezer centre, ambient temperature +30°C, no load

3) Nominal value. Background noise 20dB  
\* Contains fluorinated greenhouse gases.  
\*\* Implementing Regulation (EU) 2024/3120. This model is exempted from the prohibition of placing on the market until 31 December 2028.

# PHC Europe

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