

Preservation

sub-zero

ULT Chest Freezers

SANYO Ultra-Low Temperature Chest Freezer lineups for ultra-low temperature storage needs to support the forefront of life science researches.



MDF-594

-86°C Ultra-Low Temperature Chest Freezers

Advanced Features

Specially designed compressor and cascade refrigeration system

Specially designed for rugged ultra-low temperature applications in a laboratory environment (HFC refrigerants only).



Integrated Cabinet Design

High-performance refrigeration system with foamed-in-place cabinet insulation maximizes interior temperature uniformity and protects against fluctuating ambient temperatures.

Hot line for secure sealing

Moisture condensation at the top edges of the cabinet due to differences in temperature inside and out causes frost and icing problems that may reduce heat insulation efficiency and obstruct door movements. These problems are prevented by the "hot line" by means of which hot gas from the higher temperature circuit is circulated through the problem areas.

Self-diagnostic function

The temperature sensor, filter sensor and cascade sensor monitor operation conditions continuously. Should abnormality be picked up, an error code and the current temperature will be displayed in turn.

Ring back function

The alarm buzzer can be silenced by pressing the BUZZER key on the control panel. (The remote alarm signal is not cancelled.) Should the alarm condition continue after a certain suspension, the alarm buzzer sound will resume.

Easy Maintenance

Standard casters and levelling feet

Standard-equipped heavy duty casters make it easy to move a freezer when necessary. The levelling feet keep a freezer level and firm on the floor.

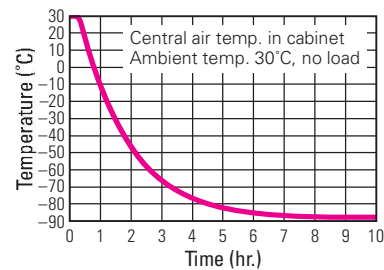
Safety Device

Built-In Temperature & Power Failure Alarms (Lamp/Buzzer)

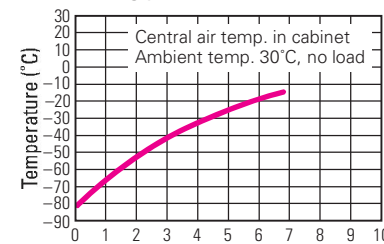
In case of power failure or an irregular rise in temperature, a rechargeable battery-operated indicator lamp and alarm will be activated. A compact recording unit which automatically records the inside temperature, and a backup system with liquefied CO₂ or N₂ which is self-activated when a power outage occurs are also available separately. This equipment helps insure that the contents will be protected in the event of any power failure or mechanical trouble.

Performance Data

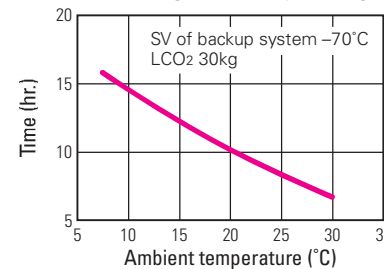
Pull-down characteristics under no-load condition



Pull-up characteristics during power failure



Effect of ambient temp. on holding time of liquefied gas



Specifications

Specifications		MDF-594
Temperature Range		-20°C to -86°C
Exterior Dimensions (W x D x H)		2010 x 770 x 1070 (mm) 79.1 x 30.3 x 42.1 (inch)
Interior Dimensions (W x D x H)		1,280 x 500 x 762 (mm) 50.4 x 19.7 x 30.0 (inch)
Effective Capacity		487 liters (17.1 cu.ft.)
Exterior Cabinet		Galvanised steel with baked on finish
Interior Cabinet		Stainless steel
Inner Lid		3
Insulation		Foamed-in-place rigid polyurethane
Compressor	High stage side	Hermetic type, 1,100 W
	Low stage side	Hermetic type, 1,100 W
Evaporator	High stage side	Cascade condenser
	Low stage side	Tube on sheet (shared with interior)
Condenser	High stage side	Fin and tube type
	Low stage side	Cascade condenser
Temperature Control		Microprocessor: Keypad input Set value memory: non-volatile memory
Temperature Display		Digital display
Sensor		Platinum resistance (Pt. 100 W)
Safety		Cylinder key on the lid handle
Alarm system		Selectable high temp. alarm (+10°C & +15°C from set point) Power failure alarm, Remote alarm contact
Net Weight (Approx.)		291kg (642 lbs.) — 594

Voltage specification by destination		Model No.
Representative destination	Europe 230V, 50Hz (CE)	MDF-594-PE/594AT-PE
	Korea 220V, 60Hz	MDF-594-PK
	Thailand 220V, 50Hz	MDF-594-PB/594AT-PB

ATN: LN₂ backup system, temperature recorder
AT: LCO₂ backup system, temperature recorder



Panasonic Healthcare Co., Ltd., Biomedical Business Unit is certified for:
Quality management system: ISO9001
Medical devices quality management system: ISO13485



Panasonic Healthcare Co., Ltd., Biomedical Business Unit is certified for:
Environmental management system: ISO14001

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