Crayogenic Freezers
Ultra-Low Temperature Freezers

MDF-594

PHCbi Cryogenic Freezers and Ultra-Low Temperature Freezers support the forefront of life science research.

MDF-594

PHC Corporation, Biomedical Division
Formerly Known as Panasonic Healthcare , Biomedical

Life Science
Innovator
Since 1966

–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 CO_2 or N_2 which is selfactivated 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.

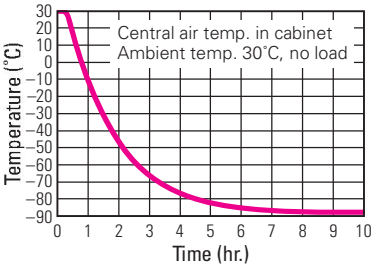
Specifications

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

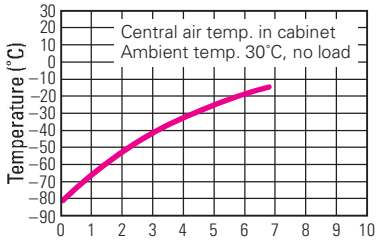
Voltage specification by destination			Model No.
Representative destination	Europe	230V, 50Hz (CE)	MDF-594-PE/594AT-PE
	Korea	220V, 60Hz	MDF-594-PK
	Thailand	220V, 50Hz	MDF-594-PB/594AT-PB

Performance Data

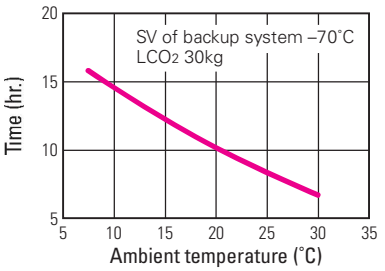
Pull-down characteristics under no-load condition



Pull-up characteristics during power failure



Effect of ambient temp. on holding time of liquefied gas



Preservation Equipment, Experimental Environment Equipment, Dispensary Equipment, Culturing Equipment and Drying & Sterilising Equipment for General Laboratory use

The management of the design, development, production and servicing of the above.

PHC Corporation, Biomedical Division
1-1-1 Sakada, Oizumi-machi, Ora-gun, Gunma 370-0596, Japan

PHC Corporation, Biomedical Division is certified for:
Environmental management system: ISO14001

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PT. SIGMA BIMED

Indonesia Sole Distributor

Jl. Agung Utara Raya Blok A 36D/42 Sunter Agung Jakarta Utara 14350 Indonesia

Telp. (62-21) 64716568, 87960123, 87960456

Fax. (62-21) 64716566, 87961123, 87961456

Email : sigmabimed@indo.net.id, sales@sigmabimed.com

Website : www.sigmabimed.com

Kemenkes RI AKL 20209914894

PHC Corporation

1-1-1 Sakata Oizumi-Machi, Ora-Gun, Gunma 370-0596, Japan