






Specifications	Model No.		
220 V/230 V/240 V, 50 Hz (CE)	MDF-137-PE	MDF-237-PE	MDF-437-PE
External dimensions (W x D x H)*1	640 x 687 x 881 (mm) 25.2 x 27.0 x 34.7 (inch)	905 x 687 x 881 (mm) 35.6 x 27.0 x 34.7 (inch)	1265 x 807 x 902 (mm) 49.8 x 31.8 x 35.5 (inch)
Internal dimensions (W x D x H)	525 x 440 x 715 (mm) 20.7 x 17.3 x 28.1 (inch)	790 x 440 x 715 (mm) 31.1 x 17.3 x 28.1 (inch)	1140 x 550 x 733 (mm) 44.9 x 21.7 x 28.9 (inch)
Capacity	138 liters (4.9 cu. ft.)	221 liters (7.8 cu. ft.)	425 liters (15.0 cu. ft.)
Net Weight (Approx.)	52 kg (115 lbs.)	60 kg (132 lbs.)	81 kg (179 lbs.)
Cooling performance	-30°C (AT: 35°C, no load)		
Control range	-20°C to -30°C		
Baskets	2	3	4
Access ports	17mm diameter, right-hand side and bottom left		
Compressor	Hermetic, 150 W	Hermetic, 200 W	Hermetic, 250 W
Refrigerant	HFC		HFC and HFO combined
Alarm system	• High/low temperature alarm (SV ±5°C to ±15°C adjustable) • Power failure • Remote alarm contact		
Calibration	Zero adjustment via control panel		
Options	Temperature recorder (MTR-G85C-PE, MTR-4015LH-PE)		
Baskets	MDF-13B2-PW/13B3-PW		MDF-43B2-PW/43B3-PW





	Model No.		
110 V, 60 Hz	MDF-U5312-PT	MDF-U334-PT	—
220 V, 50 Hz	MDF-U5312-PB	—	MDF-U443-PB
220 V, 60 Hz	MDF-U5312-PK / MDF-U5312-PR	MDF-U334-PK / MDF-U334-PR	MDF-U443-PK / MDF-U443-PR
230 V/240 V, 50 Hz (CE)	MDF-U5312-PE	—	MDF-U443-PE
220 V/230 V/240 V, 50 Hz (CE)	—	MDF-U334-PE	—
External dimensions (W x D x H)*1	804 x 772 x 1802 (mm) 31.7 x 30.4 x 70.9 (inch)	614 x 709 x 1620 (mm) 24.2 x 27.9 x 63.8 (inch)	800 x 832 x 1810 (mm) 31.5 x 32.8 x 71.3 (inch)
Internal dimensions (W x D x H)	658 x 607 x 1272 (mm) 25.9 x 23.9 x 50.1 (inch)	490 x 486 x 1290 (mm) 19.3 x 19.1 x 50.8 (inch)	640 x 615 x 1090 (mm) 25.2 x 24.2 x 42.9 (inch)
Capacity	482 liters (17.0 cu. ft.)	274 liters (9.7 cu. ft.)	426 liters (15.0 cu. ft.)
Net Weight (Approx.)	134 kg (295 lbs.)	81 kg (179 lbs.)	213 kg (470 lbs.)
Cooling performance	-30°C (AT: 35°C, no load)		-40°C (AT: 35°C, no load)
Control range	-20°C to -30°C		-15°C to -40°C
Baskets	Top: 6 small, Bottom: 4 large	4 large, 1 small	—
Access ports	30mm diameter, rear	30mm diameter, left-hand side	40mm diameter, left-hand side
Compressor	Hermetic, 400 W (PT, PB)	Hermetic, 200 W	Hermetic, 450 W/750 W
Refrigerant	HFC		HFC and HFO combined
Alarm system	•High/low temperature alarm (SV ±5°C to ±15°C adjustable) •Power failure •Remote alarm contact •Part replacement notification	•High/low temperature alarm (SV ±5°C to ±15°C adjustable) •Power failure •Part replacement notification •Remote alarm contact •Self diagnostics •Remote alarm contact	•High/low temperature alarm (SV ±5°C to ±20°C adjustable) •Power failure •Filter clogging •Remote alarm contact •Battery/fan motor replacement notification
Calibration	Zero adjustment via control panel		—
Options	Temperature recorder (MTR-G85C-PE/MTR-G85A-PA, MTR-4015LH-PE/PA)		Temperature recorder (MTR-85H-PW, MTR-4015LH-PE/PA)

\*Cooling performance is indicated by the temperature reached at the center of the freezer (at ambient temperature of 30°C with no load). In order to use the freezer at a stable temperature for a long time, it is recommended that the temperature be set to at least 5°C higher than the indicated lowest temperature. In addition, depending on the usage conditions, it may not be possible to reach the indicated lowest temperature.

**Caution:** PHC Corporation guarantees this product under certain warranty conditions. However, please note that PHC Corporation shall not be responsible for any loss or damage to the contents of the product.

• Appearance and specifications are subject to change without notice. \*1 External dimensions of main cabinet only - see dimension drawings showing handles and other external projections.

Options		
<b>Storage Baskets</b>		
	For MDF-137/237 <b>MDF-13B2-PW</b> (set of two) <b>MDF-13B3-PW</b> (set of three) Outer dimensions: 255(W) x 420(D) x 205(H)mm Inner dimensions: 210(W) x 370(D) x 200(H)mm	
	For MDF-437 <b>MDF-43B2-PW</b> (set of two) <b>MDF-43B3-PW</b> (set of three) Outer dimensions: 275(W) x 530(D) x 205(H)mm Inner dimensions: 230(W) x 480(D) x 200(H)mm	
<b>Temperature Recorders</b>		
	<b>MTR-G85A-PA</b> (110V—120V) -100°C to +40°C <b>MTR-G85C-PE</b> (200V—240V) -100°C to +40°C <ul style="list-style-type: none"><li>• Recorder fixing for MDF-137/237/437: MDF-S740-PW</li><li>• Recorder fixing for MDF-U334 upper room: MDF-S740T-PW</li><li>• Recorder fixing for MDF-U5312 lower room: MPR-S7-PW</li><li>• Recording paper: RP-G85-W</li><li>• Ink pen: PG-R-PW</li></ul>	
	<b>MTR-4015LH-PE/PA</b> -40°C to +14°C <ul style="list-style-type: none"><li>• Recorder fixing for MDF-137/237/437: MDF-S3040-PW</li><li>• Recorder fixing for MDF-U5312 lower room [no kit required for MDF-U334/MDF-U443]: MPR-S30-PW</li><li>• Recording paper: RP-40-PW</li></ul>	
		
<b>MTR-85H-PW</b> (for MDF-U443 only) -100°C to +50°C <ul style="list-style-type: none"><li>• Recording paper: RP-85-PW</li><li>• Ink pen: DF-38FP-PW</li></ul>		
Interface board (For data acquisition system MTR-5000 users only) <b>MTR-L03-PW / MTR-480-PW</b>		

	Preservation (freezers, refrigerators) and Culturing (incubators) Equipment The management of the design, development, production, sales support, 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: <b>Environmental management system: ISO14001</b>
------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------

DISTRIBUTED BY:

**PHCbi**  
PHC Corporation

<https://www.phchd.com/global/biomedical/>  
Printed in Japan 1002-2018-04-CC

**PHCbi**

Biomedical Freezers



PHCbi Biomedical Freezers offer the outstanding reliability and performance required in a wide variety of storage and research applications.



Life Science  
Innovator  
Since 1966

PHC Corporation, Biomedical Division

# Biomedical Freezers

## Chest type

Power to cope with frequent door openings

### Small size suitable for personal use

- Digital temperature display as standard feature
- Compact, personal size



MDF-137  
Effective capacity:  
**138 liters**  
(4.9 cu.ft.)

### Versatile mid-size model

- Digital temperature display as standard feature
- Easy-to-use 200-liter mid-size model



MDF-237  
Effective capacity:  
**221 liters**  
(7.8 cu.ft.)

### Large size 400-liter class

- Digital temperature display as standard feature
- Large-capacity, economical size



MDF-437  
Effective capacity:  
**425 liters**  
(15.0 cu.ft.)

## Upright type

Maximum capacity in minimum installation space

### Large-capacity, economical, space-saving model

- Top/bottom twin door design prevents cold air escaping
- Convenient storage drawers



MDF-U5312  
Effective capacity:  
**482 liters**  
(17.0 cu.ft.)

### Easy-to-use, slim & compact design

- Microprocessor digital temperature display
- Convenient storage drawers



MDF-U334  
Effective capacity:  
**274 liters**  
(9.7 cu.ft.)

Powerful fan ensures temperature uniformity throughout the freezer cabinet.

### Forced air circulation & auto defrost

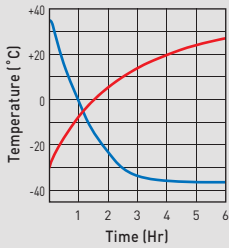
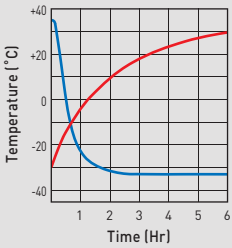
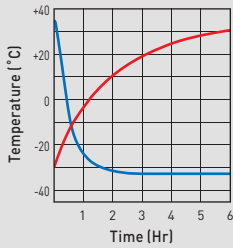
- High freezing power increases temperature uniformity
- Auto defrost for easy maintenance



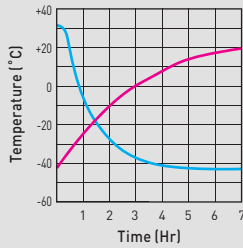
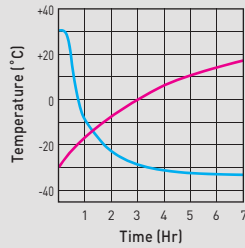
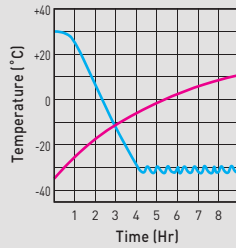
MDF-U443  
Effective capacity:  
**426 liters**  
(15.0 cu.ft.)

### Performance Data

- Pull-down characteristics under no-load condition
- Pull-up characteristics under no-load condition



- Pull-down characteristics
- Pull-up characteristics during power failure



Central air temp.  
in cabinet  
Ambient temp. 35°C,  
No-load

### Features

#### Enhanced Operation

- Front-mounted display/control panel (with microprocessor) located at convenient waist height



- Memory backup
- Temperature display
- Front access calibration for temperature recorder
- The control panel, alarm system and non-volatile memory are the same for all models in the series.

- Single electrical box makes servicing simpler.
- The chamber temperature is displayed for five seconds if BUZZER key is depressed during power failure alarm.
- After a power outage, operation resumes at pre-outage settings (non-volatile memory for temperature and alarm temperature settings)
- Control panel can be reset to zero for validation.
- Two access ports (right-hand side and bottom left) (chest type)
- Four casters and two adjustable feet

#### Recording Features (Optional)

Recorder can be fitted in convenient position that will not interfere with installation. Choice of optional recorders

- 7-day circular recorder (MTR-G85C-PE) and 32-day strip recorder (MTR-4015LH-PE) are available. (except MDF-U443)
- Front access calibration for temperature recorder

#### Environment-Friendly

- HFC refrigerants (non-CFC, non-HCFC, HFC and HFO combined) is environment-friendly but offers superb performance.
- Pre-coated metal body causes less environmental damage than conventional paint coating.

#### Safety Features

- Alarm & Recording System
- High / low temperature alarm
- Power failure alarm
- Remote alarm contact
- Self diagnostics function. Should an abnormality be picked up, an error code will be displayed in red figures.
- Breaker switch turns power off in event of over current abnormality.
- Balance hinges keep the lid open in any position to make this chest freezer easier to use. This means you have both hands free to work. (chest type)

- Secure lock safeguards the contents of the freezer and keeps hazardous items out of harm's way.



Newly designed lid lock (chest type).

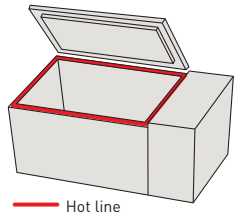


- Door latch can accommodate a pad lock for added protection of valuable samples. (upright type)

- Part replacement notification (MDF-U5312)

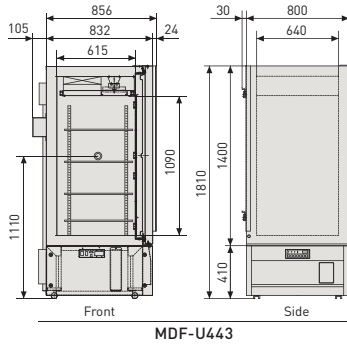
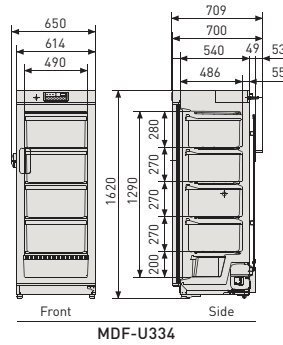
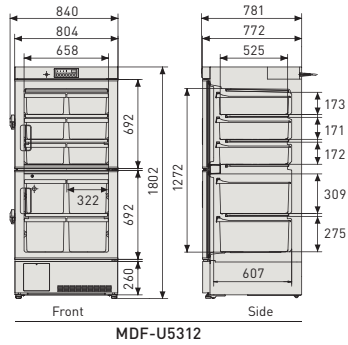
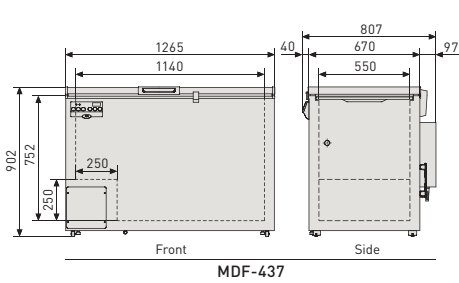
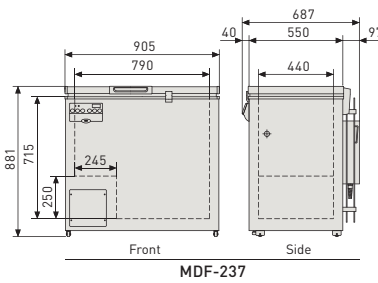
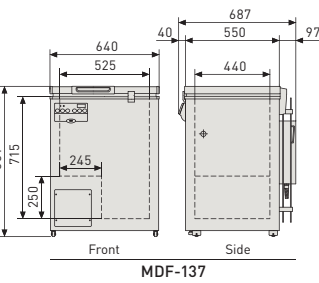
#### Hot line for secure sealing

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.



### Dimensions

Unit: mm





## -30°C Biomedical Freezers

369 L / 504 L

### Stable -30°C environment with extensive storage possibilities.

PHCbi medical freezers are equipped with various features that enable flexibility and maintain the quality of the samples during preservation such as height-adjustable shelf trays and separate top and bottom doors that suppress cold air leakage. Users can choose the model that meets their specific needs.

### Height-adjustable shelf trays

By installing the refrigerant piping in the frame of the unit instead of in shelf trays as in conventional models, the unit enabled completely height-adjustable shelf trays.



### Maintains the quality of the samples during preservation

Equipped with doors that suppress the leakage of cold air during opening and closing, and manual defrosting that helps avoid temperature impact on the samples.

### Superior energy conservation

Improvements in the fan motor (ON/OFF controls) has led to reduction in power consumption compared to our previous models.\*

\*The actual energy consumption may vary depending on the use.



### Adjusts the inside of the chambers according to the size of the samples

By changing the height of the shelf trays, the unit can accommodate chamber containers of various sizes including storage boxes of conventional models. The slim-type allows for the space between equipment to be used effectively.



MDF-MU539

### Security functions that help protect valuable samples

With a temperature control capability that inhibits the change in temperature inside the chamber, and an alarm/security function that prevents errors, the unit maintains the quality of the preserved samples.



### Reduces energy costs of the facility

Replacing a conventional model with this model can save on energy costs. Save even more by replacing multiple units.



## -30°C Biomedical Freezers

### Easy disposal of water used for defrosting

Even the cumbersome task of disposing water used for defrosting becomes easy with the drainage hose that is attached to the main unit. (Hose is usually stowed away when not in use)

### Easy to operate control panel

Button-type control panel is easy to operate. All inputs including temperature and alarm settings can be selected on the panel.



### Lockable door latch

To securely preserve/manage the valuable samples, In addition to a standard-feature door lock, a hole in the latch allows a padlock to be attached.

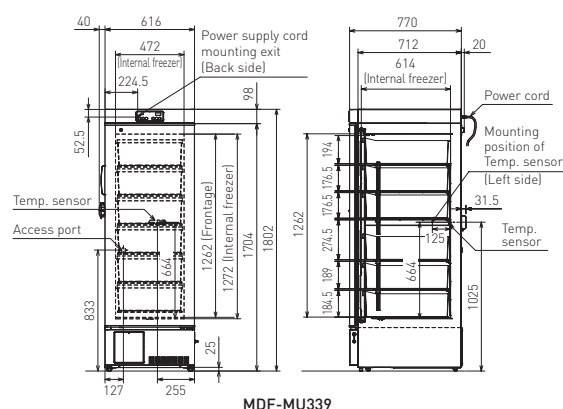
### Storage containers useful for organizing

The standard storage containers are useful for dividing small items and allow for efficient sample storage.

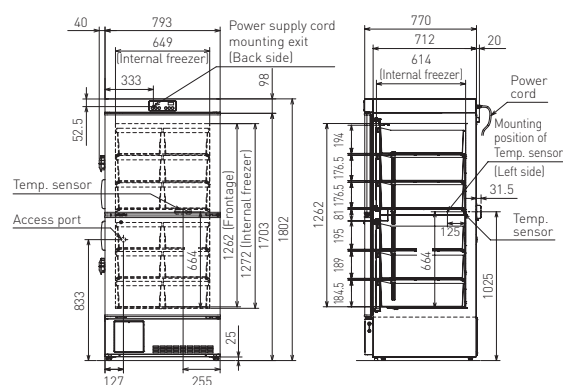


### Dimensions

Unit : mm



MDF-MU339



MDF-MU539

Model Number		MDF-MU339-PE	MDF-MU539-PE
External dimensions (W x D x H) <sup>1)</sup>	mm	616 x 770 x 1802	793 x 770 x 1802
Internal dimensions (W x D x H)	mm	472 x 614 x 1262	649 x 614 x 1262
Volume	litres	369	504
Net weight	kg	135	163
Performance			
Cooling performance <sup>2)</sup>	°C	-30	
Temperature setting range <sup>2)</sup>	°C	-35 to -18	
Temperature control range <sup>2)</sup>	°C	-30 to -20	
Control			
Controller		Microprocessor, non-volatile memory	
Display		LED	
Temperature sensor		Thermistor	
Refrigeration			
Cooling method		Direct	
Compressor	W	250	
Refrigerant		HFC	
Insulation material		PUF	
Insulation thickness	mm	70	
Construction			
Exterior material		Painted Steel	
Interior material		Painted Steel	
Outer door	qty	1	2
Outer door lock		Yes	
Shelves	qty	6	
Max. load - per shelf	kg	30	
Access port	qty	1	
Access port position		Back	
Access port diameter	Ø mm	30	
Casters	qty	4 [2 levelling feet]	
Accessories			
Storage containers	qty	6	12
Inner dimension	mm	W420 x D552 x H157	W280 x D552 x H157
Key	set	1	
Defrost spatula	pc	1	
Alarms (V = Visual Alarm, B = Buzzer Alarm, R = Remote Alarm)			
Power failure		V-B-R	
High temperature		V-B-R	
Low temperature		V-B-R	
Electrical and Noise Level			
Power supply	V	220/230/240	
Frequency	Hz	50	
Noise level <sup>3)</sup>	dB (A)	42	
Options			
Temperature recorders	- Circular type	MTR-G85C-PE — Chart paper: RP-G85-PW — Ink pen: PG-R-PW — Recorder housing: MPR-S7-PW	
	- Continuous strip type	MTR-4015LH-PE — Chart paper: RP-40-PW — Recorder housing: MPR-S30-PW	
Optional Communication Systems			
Digital interface [RS232C/RS485] <sup>4)</sup>		MTR-480-PW	
Ethernet interface [LAN] <sup>4)</sup>		MTR-L03-PW	
Quality Management System			
Certification		ISO 9001	

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

<sup>2)</sup> Air temperature measured at freezer centre, ambient temperature 35°C (MDF-MU339) / 30°C (MDF-MU539), no load.

<sup>3)</sup> Nominal value - Background noise 20 dB(A)

<sup>4)</sup> Only for MTR-5000 (data acquisition system) users.

• Appearance and specifications are subject to change without notice.

**Caution:** PHC Corporation guarantees this product under certain warranty conditions. However, please note that PHC Corporation shall not be responsible for any loss or damage to the contents of the product.



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

DISTRIBUTED BY:

**phcbi**  
PHC Corporation

<https://www.phchd.com/apac/biomedical/>

Printed in Japan 1303-2018-04-CC



MDF-MU539D

## -30°C Biomedical Freezer

479 L

**Can store samples at differing preservation temperatures with just this unit. A -30°C biomedical freezer with separate temperature controls for the 2 completely independent chambers.**

PHCbi medical freezers are equipped with various features that enable flexibility and maintain the quality of the samples during preservation such as height-adjustable shelf trays, separate top and bottom doors that suppress cold air leakage, and 2 completely independent chambers each with its own temperature control. Users can choose the model that meets their specific needs from the lineup.

### Height-adjustable shelf trays

By installing the refrigerant piping in the frame of the unit instead of in shelf trays as in conventional models, the unit enabled completely height-adjustable shelf trays.



### Maintains the quality of the samples during preservation

Equipped with separate doors that suppress the leakage of cold air during opening and closing of the doors, and manual defrosting that helps avoid temperature impact on the samples.

### 2 completely independent chambers with their own temperature controls

Top and bottom chambers are equipped with 2 independent refrigeration circuits. This enables separate temperature settings and defrosting for the two chambers.



### Adjusts the inside of the chambers according to the size of the samples

By changing the height of the shelf trays, the unit can accommodate chamber containers of various sizes including storage boxes of conventional models. The slim-type allows for the space between equipment to be used effectively.



Door latch

### Security functions that help protect valuable samples

With a temperature control capability that inhibits the change in temperature inside the chamber, and an alarm/security function that prevents errors, the unit maintains the quality of the preserved samples.



### Separate temperature controls for top and bottom chambers

Can store samples at differing preservation temperatures with just this unit. With the capability to defrost the top and bottom chambers separately, the unit makes it easy to transfer samples during defrosting.

## -30°C Biomedical Freezer

### Easy disposal of water used for defrosting

Even the cumbersome task of disposing water used for defrosting becomes easy with the drainage hose that is attached to the main unit. (Hose is usually stowed away when not in use)

### Easy to operate control panel

Button-type control panel is easy to operate. All inputs including temperature and alarm settings can be selected on the panel.



### Lockable door latch

To securely preserve/manage the valuable samples, In addition to a standard-feature door lock, a hole in the latch allows a padlock to be attached.

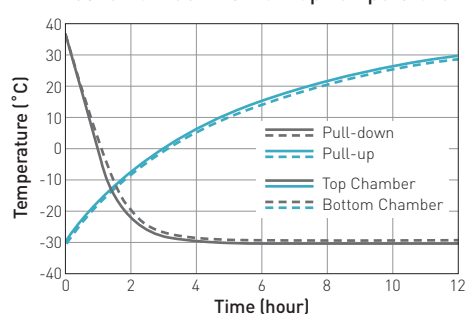
### Storage containers useful for organizing

The standard storage containers are useful for dividing small items and allow for efficient sample storage.



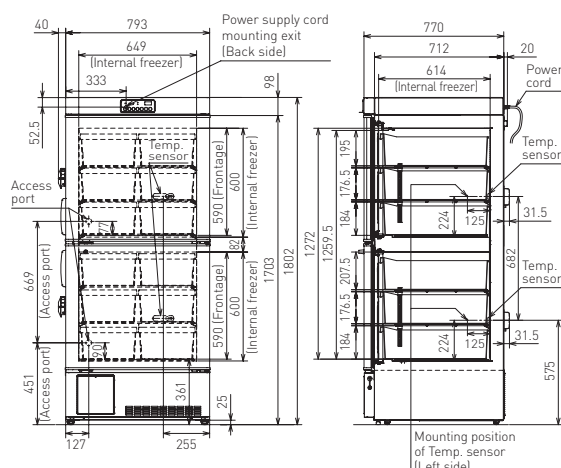
## Performance Data

AT35°C Pull-down & Pull-up Temperature<sup>2)</sup>



## Dimensions

Unit : mm



Model Number		MDF-MU539D-PE
External dimensions (W x D x H) <sup>1)</sup>	mm	793 x 770 x 1802
Internal dimensions (W x D x H)	mm	649 x 614 x 600 (2 chambers)
Volume	litres	479
Net weight	kg	185
Performance		
Cooling performance <sup>2)</sup>	°C	-30
Temperature setting range <sup>2)</sup>	°C	-35 to -18
Temperature control range <sup>2)</sup>	°C	-30 to -20
Control		
Controller		Microprocessor, non-volatile memory
Display		LED
Temperature sensor		Thermistor
Refrigeration		
Cooling method		Direct
Compressors	W	2 x 250 (Used in upper chamber and lower chamber respectively)
Refrigerant		HFC
Insulation material		PUF
Insulation thickness	mm	70
Construction		
Exterior material		Painted Steel
Interior material		Painted Steel
Outer door	qty	2
Outer door lock		Yes
Shelves	qty	6
Max. load - per shelf	kg	30
Access port	qty	2
Access port position		Back
Access port diameter	Ø mm	30
Casters	qty	4 [2 levelling feet]
Accessories		
Storage containers	qty	12
Inner dimension	mm	W280 x D552 x H157
Key	set	1
Defrost spatula	pc	1
Alarms [V = Visual Alarm, B = Buzzer Alarm, R = Remote Alarm]		
Power failure		V-B-R
High temperature		V-B-R
Low temperature		V-B-R
Electrical and Noise Level		
Power supply	V	220/230/240
Frequency	Hz	50
Noise level <sup>3)</sup>	dB (A)	42
Options		
Temperature recorders		MTR-G85C-PE — Chart paper: RP-G85-PW — Ink pen: PG-R-PW — Recorder housing: MPR-S7-PW (for lower front) MPR-S740T-PW (for top side)
		MTR-4015LH-PE — Chart paper: RP-40-PW — Recorder housing: MPR-S30-PW (for unit lower front) *Unit left top mounting hardware included in recorder kit
Optional Communication Systems		
Digital interface [RS232C/RS485] <sup>4)</sup>		MTR-480-PW
Ethernet interface [LAN] <sup>4)</sup>		MTR-L03-PW
Quality Management System		
Certification		ISO 9001

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

<sup>2)</sup> Air temperature measured at freezer centre, ambient temperature 35°C, no load.

<sup>3)</sup> Nominal value - Background noise 20 dB(A)

<sup>4)</sup> Only for MTR-5000 (data acquisition system) users.

•Appearance and specifications are subject to change without notice.

**Caution:** PHC Corporation guarantees this product under certain warranty conditions. However, please note that PHC Corporation shall not be responsible for any loss or damage to the contents of the product.



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

DISTRIBUTED BY:

**phcbi**  
PHC Corporation

<https://www.phchd.com/apac/biomedical>

Printed in Japan 1304-2018-04-CC

Preservation  
sub-zero



MDF-U731M

### Temperature

(Ambient temperature 30°C)

**-20°C to -30°C**

### Effective capacity

**623 liters**  
(MDF-U731)

**690 liters**  
(MDF-U731M)

**Auto defrost or**  
(MDF-U731)

**Manual defrost**  
(MDF-U731M)

### Large-capacity biomedical freezer

- High freezing power
- Large capacity
- Top-mount cooling unit design for usability
- Adjustable wire shelves
- Alarm and safety devices
- Self-diagnosis function

# MDF-U731/MDF-U731M

## Features

### Stable temperature control

The units provide precise and uniform storage temperatures regardless of ambient conditions through microprocessor temperature control.

### Energy-saving operation

The specially designed compressor results in an energy-saving medical freezer with superior cooling and quiet operation.

### Improved security

Standard door lock and independent padlock ensure extra security. [\*padlock not supplied]

### Sturdy cabinet construction with superior insulation

The integral foamed cabinet structure is extra strong and prevents cold air loss.

### Forced Air Circulation (MDF-U731 only)

Temperature uniformity throughout the freezer ensures that all samples can be stored in identical conditions. The Forced Air Circulation technology quickly restores temperature uniformity following routine door openings. Coupled with fast-response microprocessor temperature control this ensures a stable environment for precious samples.

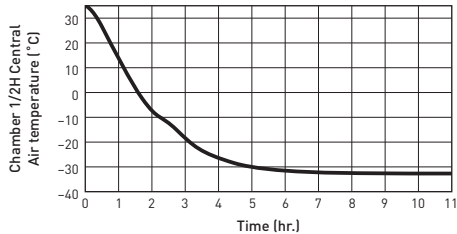
### Movable wire shelves allow free position adjustment

## Control panel

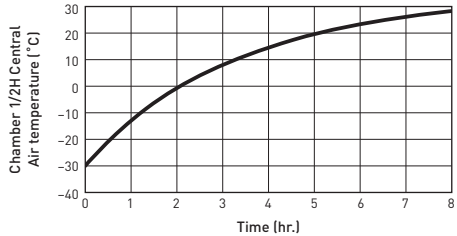


## Performance Data

### Pull-down characteristics



### Pull-up characteristics



Conditions: AT 35°C, no load, measured at center of chamber

## Specifications

Model No.	MDF-U731-PA	MDF-U731M-PA	MDF-U731M-PE
Temperature range	-20°C to -30°C (1°C increments)		
Maximum cooling performance	-30°C (Ambient temperature: 35°C)		
External dimensions (W x D x H)* <sup>1</sup>	770 x 830 x 1955 mm		
Internal dimensions (W x D x H)	650 x 700 x 1370 mm	650 x 700 x 1520 mm	
Effective capacity	623 liters	690 liters	
Net weight (approx.)	155 kg	152 kg	
Exterior	Painted steel		
Interior	Painted steel		
Insulation	Rigid polyurethane foamed in-place		
Temperature control	Electronics controller		
Compressor	Hermetic type (450 W)		
Cooling method	Forced air	Cold wall	
Defrosting system	Automatic	Manual	
Refrigerant	HFC and HFO combined		
Shelves (max. load)	4 adjustable wire shelves (50 kg/110 lbs.)		
Access port	ø 30 mm, 2 locations (left and top)		
Casters	4 casters with 2 adjustable feet		
Alarm and safety	High / Low temperature alarm, Power failure alarm, Door alarm, Compressor temperature alarm, Self-diagnosis function, Remote alarm contact (DC 30 V, 2 A), Memory backup		
Accessories	1 scraper, 1 set of key, 2 large & 2 small nylon clips (for temperature recorder)		
Power supply	115 V		230 V/240 V
Frequency	60 Hz		50 Hz

\*Cooling performance is indicated by the temperature reached at the center of the freezer (at ambient temperature of 30°C with no load). In order to use the freezer at a stable temperature for a long time, it is recommended that the temperature be set to at least 5°C higher than the indicated lowest temperature.

In addition, depending on the usage conditions, it may not be possible to reach the indicated lowest temperature.

**Caution:** PHC Corporation guarantees the product under certain warranty conditions. PHC Corporation is in no way shall be responsible for any loss of content or damage to content. The battery for power failure alarm is an article for consumption. It is recommended that the battery will be replaced about every 3 years.

•Appearance and specifications are subject to change without notice.

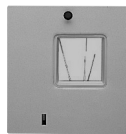
\*1 External dimensions of main cabinet only - see dimension drawings showing handles and other external projections.

## Options



7-day circular recorder  
**MTR-G85A-PA**  
**MTR-G85C-PE**

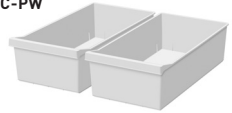
Recorder mounting bracket  
**MPR-S7-PW**



32-day strip chart recorder  
**MTR-4015LH-PA**  
**MTR-4015LH-PE**

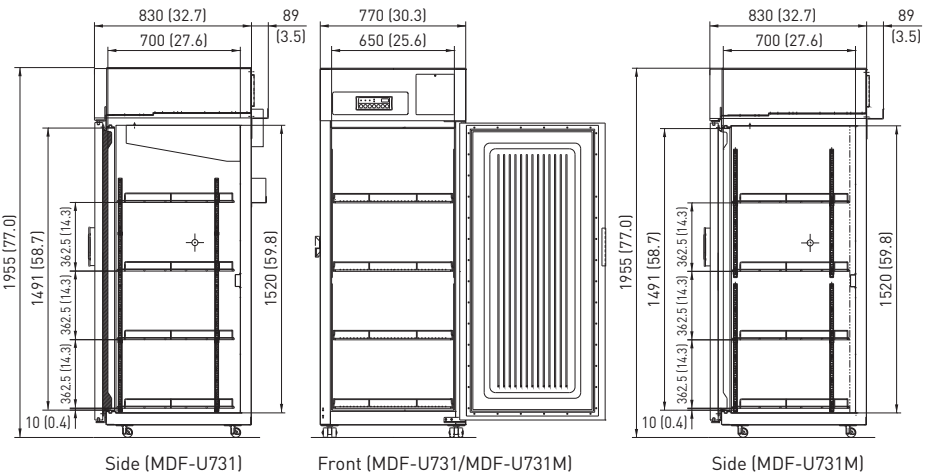
Recorder mounting bracket  
**MPR-S30-PW**

Wire shelf (3 sets)  
**MDF-T07ST-PW**  
Storage case (2 sets)  
**MDF-T07SC-PW**



## Dimensions

Unit : mm (inch)



DISTRIBUTED BY:

**phcbi**  
PHC Corporation

<https://www.phchd.com/apac/biomedical/>

Printed in Japan 1301-2018-04-EE