

Preservation

sub-zero

Biomedical Freezers

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



Biomedical Freezers

Panasonic's MDF Series Biomedical Freezers offer the outstanding reliability and performance required in a wide variety of storage and research applications. In the medical field, they provide effective storage of life-saving fresh and frozen blood supplies and vaccines, as well as samples for diagnosis. In the biotechnology field, they provide effective storage of enzymes for genetic research, as well as culture media, reagents and samples for testing. In the industrial field, they are ideal for aging and temperature tests on electronic components, precision devices, and compound resins. As a storage environment, with excellent safety features, easy operability, and a host of other features, these freezers offer unsurpassed reliability and functionality. If you are looking for precision temperature controlled storage equipment, look to Panasonic.

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

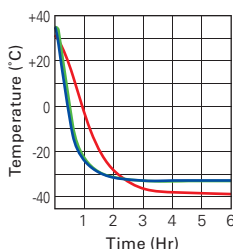


MDF-436
Effective capacity:
426 liters
(15.0 cu.ft.)

Performance Data

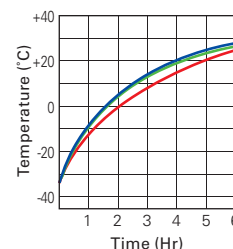
Pull-down characteristics under no-load condition

- MDF-137
- MDF-237
- MDF-436



Pull-up characteristics under no-load condition

- MDF-137
- MDF-237
- MDF-436



Features

Enhanced Operation

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



Photo is
MDF-U537D

- 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

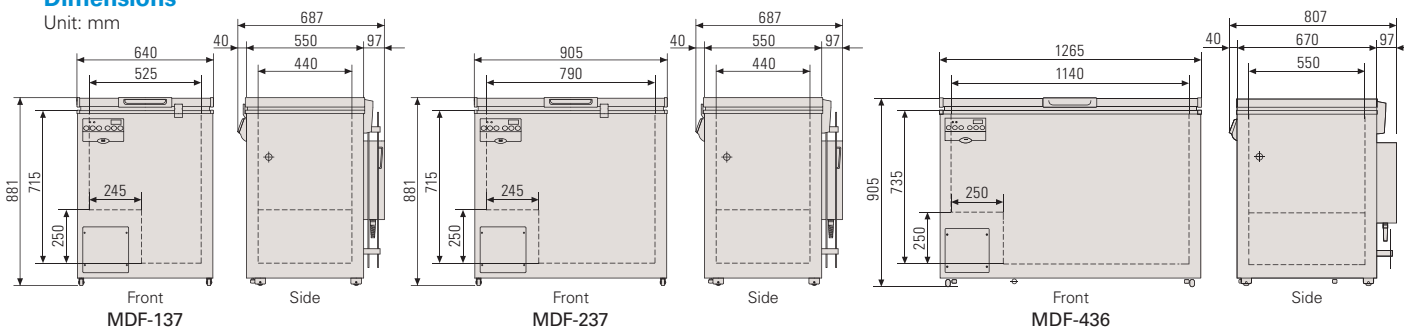
- 7-day circular recorder (MTR-G85C-PE) and 32-day strip recorder (MTR-4015LH-PE) are available. (except MDF-U443)
- Temperature recorder with auto recharging battery
- Front access calibration for temperature recorder

Environment-Friendly

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

Dimensions

Unit: mm



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



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

Independent top/bottom control meets differing freezer needs simultaneously

- Two independent freezer cabinets in one body, with separate defrost and operation
- Individual freezer circuits for each compartment



Effective capacity:
MDF-U537D 452 liters
(16.0 cu.ft.)

Easy-to-use, slim & compact design

- Microprocessor digital temperature display
- Convenient storage drawers



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

Powerful fan ensures temperature uniformity throughout the freezer cabinet.

Forced air circulation & auto defrost

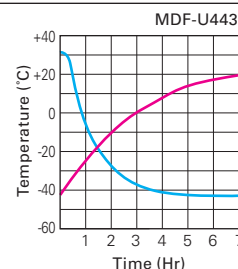
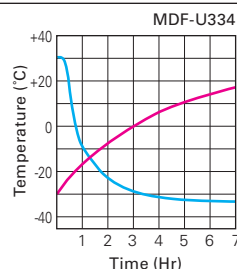
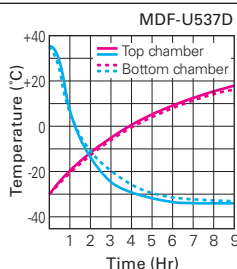
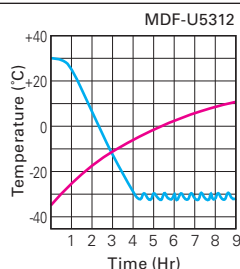
- High freezing power increases temperature uniformity
- Auto defrost for easy maintenance



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

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

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



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, except MDF-436).

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

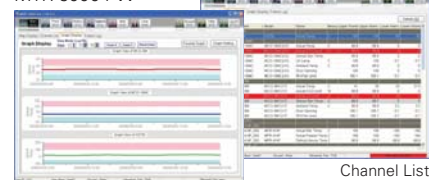


- Part replacement notification (MDF-U5312)

Temperature Monitoring Features (optional)

Panasonic Data Acquisition (DAQ) System enables remote monitoring of Panasonic biomedical freezers.

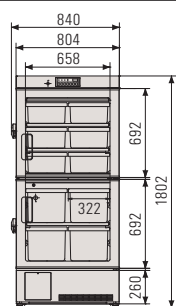
Panasonic Data Acquisition Software
MTR-5000-PW



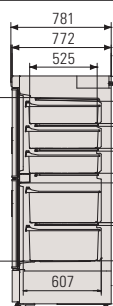
Graph Display

Channel List

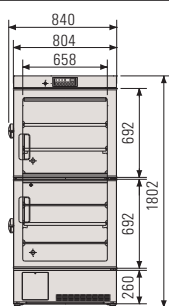
Ethernet (LAN) Interface
MTR-L03-PW



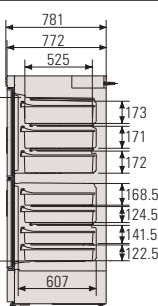
Front



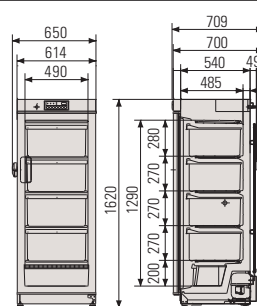
Side



Front



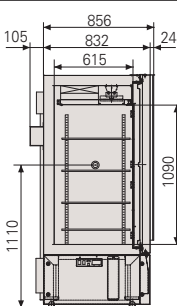
Side



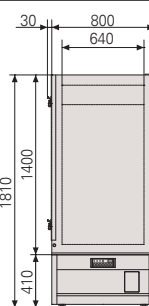
Front



Side



Front



Side

Specifications

Model No.	MDF-137	MDF-237	MDF-436	MDF-U5312	MDF-U537D
Exterior dimensions (W x D x H)	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 905 (mm) 49.8 x 31.8 x 35.6 (inch)	804 x 772 x 1802 (mm) 31.7 x 30.4 x 70.9 (inch)	804 x 772 x 1802 (mm) 31.7 x 30.4 x 70.9 (inch)
Interior 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 735 (mm) 44.9 x 21.7 x 28.9 (inch)	658 x 607 x 1272 (mm) 25.9 x 23.9 x 50.1 (inch)	658 x 607 x 589/Top (mm) 658 x 607 x 603/Bottom (mm) 25.9 x 23.9 x 23.2 (inch) 25.9 x 23.9 x 23.7 (inch)
Capacity	138L (4.9 cu. ft.)	221L (7.8 cu. ft.)	426L (15.0 cu. ft.)	482L (17.0 cu. ft.)	452L (16.0 cu. ft.)
Cooling performance	-30°C (AT: 35°C, no load)		-35°C (AT: 35°C, no load)		-30°C (AT: 35°C, no load)
Control range	-20°C to -30°C		-20°C to -35°C		-20°C to -30°C
Baskets	2	3	4	Top: 6 medium. Bottom: 4 large	Top: 6 medium. Bottom: 8 small
Access ports	17mm diameter, right-hand side and bottom left			30mm diameter, rear	Two 30mm diameter, rear
Compressor	Hermetic, 150W	Hermetic, 200W	Hermetic, 350W	Hermetic, 400W	Hermetic, 350W
Refrigerant	HFC				
Alarm system	• High/low temperature alarm (SV ±5°C to ±15°C adjustable) • Power failure • Remote alarm contact • Part replacement notification (MDF-U5312 only)				
Calibration	Zero adjustment via control panel				
Options	Temperature recorder (MTR-G85-PE, MTR-4015LH-PE), Panasonic DAQ system			Temperature recorder (MTR-G85-PE, MTR-4015LH-PE), Panasonic DAQ system	
Baskets	MDF-13B2-PW/13B3-PW		MDF-43B2-PW/43B3-PW		

Model No.	MDF-U334	MDF-U443
Exterior dimensions (W x D x H)	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)
Interior dimensions (W x D x H)	490 x 485 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	274L (9.7 cu. ft.)	426L (15.0 cu. ft.)
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	4 large, 1 small	—
Access ports	30mm diameter, left-hand side	40mm diameter, left-hand side
Compressor	Hermetic, 225W	Hermetic, 400W/750W
Refrigerant	HFC	
Alarm system	• 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/fanmotor replacement notification
Calibration	Zero adjustment via control panel	—
Options	Temperature recorder (MTR-G85-PE, MTR-4015LH-PE), Panasonic DAQ system	Temperature recorder (MTR-85H-PW, MTR-4015LH-PE), Panasonic DAQ system

Voltage specification by destination

Model No.	Representative destination	Power supply
MDF-137	Europe	230V, 50Hz (CE)
MDF-237		
MDF-436		
MDF-U5312	MDF-436-PK	Korea
	MDF-U5312-PE	Europe
	MDF-U5312-PK	Korea
	MDF-U5312-PB	Thailand
MDF-U537D	MDF-U5312-PT	Taiwan
	MDF-U537D-PE	Europe
	MDF-U537D-PK	Korea
	MDF-U537D-PT	Taiwan
MDF-U334	MDF-U334-PE	Europe
	MDF-U334-PK	Korea
	MDF-U334-PT	Taiwan
MDF-U443	MDF-U443-PE	Europe
	MDF-U443-PK	Korea
	MDF-U443-PB	Thailand

*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: Panasonic guarantees the product under certain warranty conditions. Panasonic in no way shall be responsible for any loss of content or damage to content.

• Appearance and specifications are subject to change without notice.

Options

Storage Baskets



For MDF-137/237
MDF-13B2-PW (set of two)
MDF-13B3-PW (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-436
MDF-43B2-PW (set of two)
MDF-43B3-PW (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

Temperature Recorders



MTR-G85



MTR-4015LH-PE

MTR-G85C-PE (except MDF-U443) -100°C to +40°C

- Mounting kit for chest: MDF-S740-PW
- Mounting kit for MDF-U5312 and MDF-U537D (lower room): MPR-S7-PW
- External mounting kit for MDF-U334 and MDF-U537D (upper room): MDF-S740T-PW
- Recording paper: RP-G85-PW
- Recording pen: PG-R-PW

MTR-4015LH-PE -40°C to +14°C

- Mounting kit for chest: MDF-S3040-PW
- Mounting kit for upright: MPR-S30-PW (No kit required for MDF-U443)
- Recording paper: RP-40-PW



MTR-85H-PW

MTR-85H-PW
 (for MDF-U443 only)
 -100°C to +50°C

- Recording paper: RP-85-PW
- Recording pen: DF-38FP-PW

Panasonic DAQ system

Data acquisition software
MTR-5000-PW/Ethernet (LAN)
 Interface **MTR-L03-PW** or
 RS232C/RS485 Interface
MTR-480-PW



Panasonic Healthcare Co., Ltd., Gunma Factory is certified for:
Quality management system: ISO9001
Medical devices quality management system: ISO13485



Panasonic Healthcare Co., Ltd., Gunma Factory is certified for:
Environmental management system: ISO14001

DISTRIBUTED BY:

Panasonic

<http://biomedical.sanyo.com/>

166-2012-04