



Partnering Life Sciences Development

PHCbi Biomedical products are designed to meet the demands of the life science industries by providing reliability, accuracy, and usability to facilitate cutting-edge research and preservation of precious samples.

* Not all products are available in all countries. Please inquire at the closest dealer for more information
* The information contained in this brochure is as of October 2023.
* Appearance and specifications are subject to change without notice

DISTRIBUTED BY:

PHCbi
PHC Corporation

<https://www.phchd.com/global/biomedical/>
Printed in Japan 0001-2019-10-DD



PHC Corporation, Biomedical Division

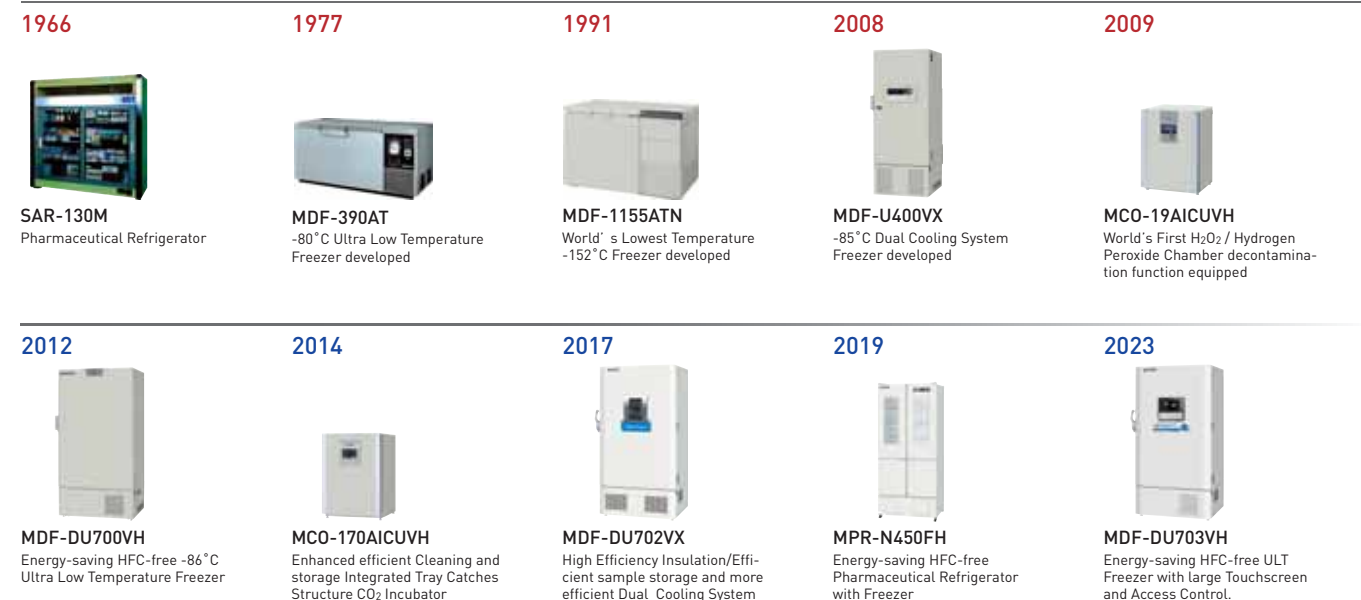
Life Science
Innovator
Since 1966



"PHCbi" is a new brand for our Biomedical business that has globally supported cutting-edge research and healthcare for over 50 years.

Since 1966, when we first launched pharmaceutical refrigerators, we aimed to support cutting-edge research in life sciences. We have provided equipment and services required for sample preservation, bacterial and cell culture as well as maintenance of cleanroom environments.

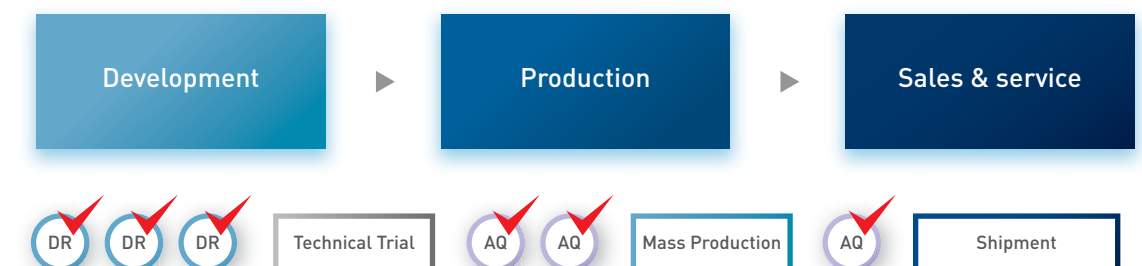
Life Science Innovator Since 1966



Commitment to Quality PHCbi MONOZUKURI* Way

The most important points that customers demand of our products are quality and reliability. At our factories, we have established the "MONOZUKURI Way" as a theme of action. We carry out various initiatives to improve quality while working to pass on the legacy of traditional Japanese manufacturing technology in a multi-faceted fashion. * [MONOZUKURI] is the Japanese word for [Craftsmanship]

Our Quality Management System



In our quality management and development process (Quality Management System), we establish a number of checkpoints in the value chain. Staff with various occupational abilities carry out stringent evaluation and improvement of products from the customer's perspective. This is the system that creates our high level of quality.

Japan Factory (Gunma)

Established in 1959 as the Tokyo Manufacturing Site of Sanyo Electric Co., Ltd., this is our core factory which has the Product Technology Development/Design Department, Quality Assurance Department, and Production Department.




As of April 2023, Over 500 PHC employees engaged in the development, quality assurance, and production of products of PHCbi. Within the facility, we have many environmental testing laboratories, and these are used for stringent product screening with the aim of studying technology development and maintaining quality.

In addition, at the "MONOZUKURI-Dojo (Training)," the purpose is to pass down our legacy for traditional technology. We carry out various kinds of training to improve skills such as brazing capillary tubes of Ultra-low Temperature Freezers, etc., which require a high level of skill.



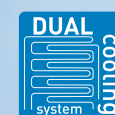
Application

Preservation

Client	Universities, private companies, laboratories/research institutions		Hospitals, universities, private companies, blood centres
Typical needs	Preservation of cells, microbes, specimens	Preservation of reagents	Drugs, blood*, reagents
Storage temperature	-152°C/-150°C, -86°C to -40°C/-50°C	-40°C/-30°C to -20°C/-15°C	4°C, 2°C to 14°C/23°C, 2°C to 14°C/-30°C to -20°C
Pages	 5 — 10	 11 — 12	 13 — 16

*Blood must be preserved in Blood Bank Refrigerator.

Function icons / Logos



Dual Cooling System

Dual Cooling System offers ultimate sample protection.



EZlatch Easy Access Door Handle

The EZlatch makes access to stored samples even easier.



Inverter Compressors

Inverter Compressors maximise cooling performance and reduce energy consumption.



OLED Control Panel

The OLED control panel displays various operational functions such as temperature transition, maximum and minimum control temperature, and error messages.



VIP PLUS vacuum insulation

VIP PLUS vacuum insulation maximises storage capacity.



Natural Refrigerants

Naturally occurring hydrocarbon (HC) refrigerants improve performance and reduce running costs.



A full-colour LCD Touch Panel




Various functions such as logging the temperature history, and setting up passwords and alarms can all be managed on the screen.



Electronic Door Lock

Know who entered the freezer and when. Track how long the door was open.

Incubation

Client	Universities, private companies, hospitals	Universities, private companies, hospitals, waterworks (water quality inspection)	Universities, private companies, agricultural experiment stations
Typical needs	Animal cell incubation (temperature, humidity, gas density)	Incubation of microbes (temperature)	Incubation of plants (temperature, illuminance, humidity)
Pages	 17 — 20	 21	 22



Integrated Tray Catches

Significantly minimise cleaning time and improves productivity.



A full-colour LCD Touch Panel

Various functions such as logging the temperature history, and setting up passwords and alarms can all be managed on the screen.



inCu-saFe® germicidal interior

inCu-saFe® germicidal interior prevents contamination.



Dual IR CO₂ Sensor

The single beam, dual detector IR CO₂ Sensor offers continuous calibration for excellent control, accuracy and stability.



Dual Heat Sterilisation

Two independent heaters enable cell culturing to continue uninterrupted during sterilization.



Zirconia O₂ Sensor

The unique, solid state Zirconia O₂ sensor delivers precise oxygen control.



H₂O₂ Decontamination

The unique H₂O₂ decontamination system delivers fast and validatable decontamination.



SafeCell UV Lamp

The SafeCell UV lamp prevents contamination.



IR CO₂ Sensor

The IR CO₂ Sensor offers accurate and reliable CO₂ measurement.



OLED Control Panel

The OLED control panel displays various operational functions such as temperature transition, maximum and minimum control temperature, and error messages.

TwinGuard

The most secure ultra-low temperature freezers for the storage of high value samples

-86°C



MDF-DU302VX 360 L



MDF-DU502VX 528 L



MDF-DU702VX 729 L



Model No.	MDF-DU302VX	MDF-DU502VX	MDF-DU502VXC	MDF-DU702VX	MDF-DU702VXC
Temperature Control Range	-86°C to -50°C				
Effective Capacity	360 litres	528 litres		729 litres	
External Dimensions (W x D x H)*	670 x 882 x 1840 mm	790 x 882 x 1993 mm		1030 x 882 x 1993 mm	
Internal Dimensions (W x D x H)	490 x 600 x 1230 mm	630 x 600 x 1400 mm		870 x 600 x 1400 mm	
Net Weight (Approx.)	225 kg	285 kg	294 kg	328 kg	338 kg

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



MDF-DC500VX 575 L



MDF-DC700VX 715 L



Model No.	MDF-DC500VX	MDF-DC700VX	MDF-DC700VXC
Temperature Control Range	-86°C to -50°C		
Effective Capacity	575 litres	715 litres	
External Dimensions (W x D x H)*	2010 x 845 x 1070 mm	2300 x 845 x 1070 mm	2300 x 955 x 1070 mm
Internal Dimensions (W x D x H)	1190 x 640 x 756 mm	1480 x 640 x 756 mm	
Net Weight (Approx.)	328 kg	358 kg	366 kg

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



TwinGuard

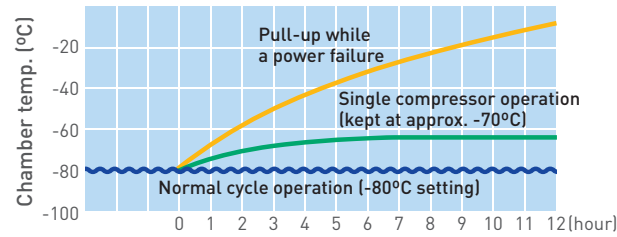
Ultimate Sample Protection

Unlike conventional ultra low freezers, TwinGuard ULT freezers have two independent refrigeration systems to provide the highest levels of sample security. Should one system unexpectedly fail, the other will maintain a temperature in the -70°C range ensuring that the integrity of irreplaceable and potentially life-saving samples are not put at risk.

Safe and Secure Extra-Large Capacity Ultra-Low Freezer with Dual Cooling System

Secure storage with new dual cooling system

The Dual Cooling system is newly designated to securely store valuable biological samples. It consists of two individual compressors to provide a reliable -86°C ultra-low temperature environment. Should unexpected failure occur in one cooling circuit, the other will maintain at least -70°C.



*Any unexpected failure on either of the single compressor will be alerted
*The data is a measured [AT23°C, 230V/50Hz, no load] Actual power consumption will vary depending on ambient conditions, settings and local voltage.

When sample security and peace of mind are of paramount importance, put your trust in TwinGuard ultra low freezers.

- An optimal Dual Cooling System provides an unparalleled level of safety and added peace of mind through the use of two independent refrigeration systems.
- ECO mode overlaps refrigeration cycles to reduce energy consumption.
- Advanced space-saving VIP PLUS technology (compared to our conventional models).
- Graphical LCD display with data monitoring and data log exported by USB.
- Available in Upright and Chest models.



EZlatch

EZlatch door handle newly developed based on human engineering

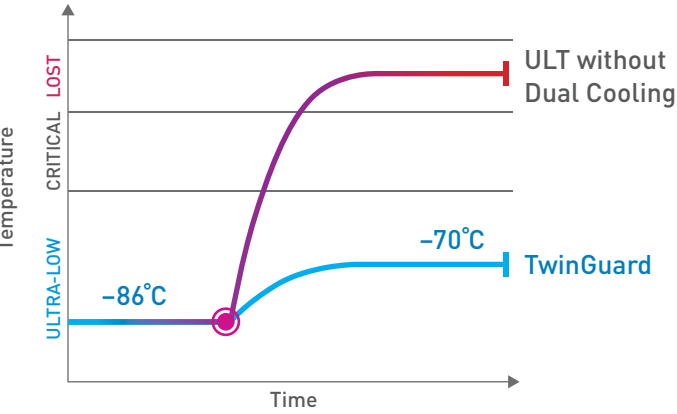
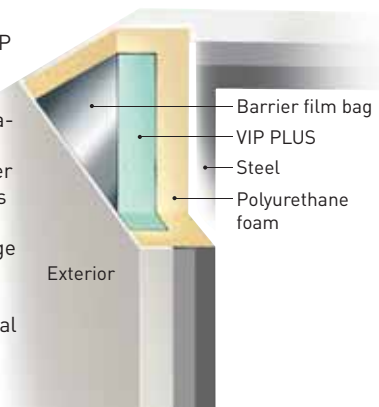
EZlatch is designed for secure door opening/closing with minimum strength as the name suggests and makes access to stored samples easier.



VIP Plus

Innovative V.I.P.* Technology *Vacuum Insulation Panel

VIP is the innovative insulation technology developed by PHC. VIP series contain densely packed, open cell foam insulation under the vacuum panel. This configuration dramatically enhanced the insulation capability of the freezer while reducing the wall thickness from 140mm to 70mm, and achieved nearly 30% more storage capacity than conventional insulated freezers. The VIP Plus achieved 6 times stronger thermal resistance with more rigid foam polyurethane while keeping the same thickness of 70mm.



VIP ECO SMART

Cost-saving and environmentally friendly sample storage now upgraded with additional features for improved usability.



MDF-DU503VH 528 L
MDF-DU503VHA

ECO

VIP PLUS

EZlatch

IC+

electronic door lock

Touch



MDF-DU703VH 729 L
MDF-DU703VHA

ECO

VIP PLUS

EZlatch

IC+

electronic door lock

Touch

VIP ECO

Cost-saving and environmentally friendly sample storage within an optimal footprint



MDF-DU702VH 729 L

ECO

VIP PLUS

EZlatch

IC+

electronic door lock

Touch



MDF-DU901VHL 845 L
MDF-DU901VHA

ECO

VIP PLUS

EZlatch

IC+

electronic door lock

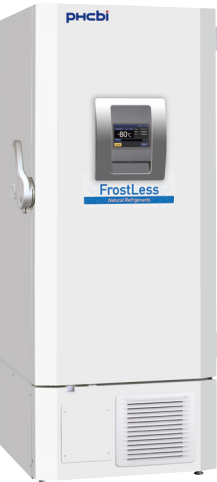
Touch

Model No.	MDF-DU503VH MDF-DU503VHA	MDF-DU703VH MDF-DU703VHA	MDF-DU502VH	MDF-DU702VH	MDF-DU901VHL MDF-DU901VHA
Temperature Control Range	-86°C to -40°C				-86°C to -50°C
Effective Capacity	528 litres	729 litres	528 litres	729 litres	845 litres
External Dimensions (W x D x H)*	790 x 882 x 1993 mm	1030 x 882 x 1993 mm	790 x 882 x 1993 mm	1030 x 882 x 1993 mm	1150 x 870 x 1993 mm
Internal Dimensions (W x D x H)	630 x 600 x 1400 mm	870 x 600 x 1400 mm	630 x 600 x 1400 mm	870 x 600 x 1400 mm	1010 x 600 x 1400 mm
Net Weight (Approx.)	241 kg	276 kg	246 kg	278 kg	328 kg

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

FrostLess

Ultra-low temperature storage solution for valuable samples.



MDF-DU500ZH 525 L
MDF-DU500ZHA

ECO

VIP PLUS

EZlatch

IC+

electronic door lock

Touch



MDF-DU700ZH 725 L
MDF-DU700ZHA

ECO

VIP PLUS

EZlatch

IC+

electronic door lock

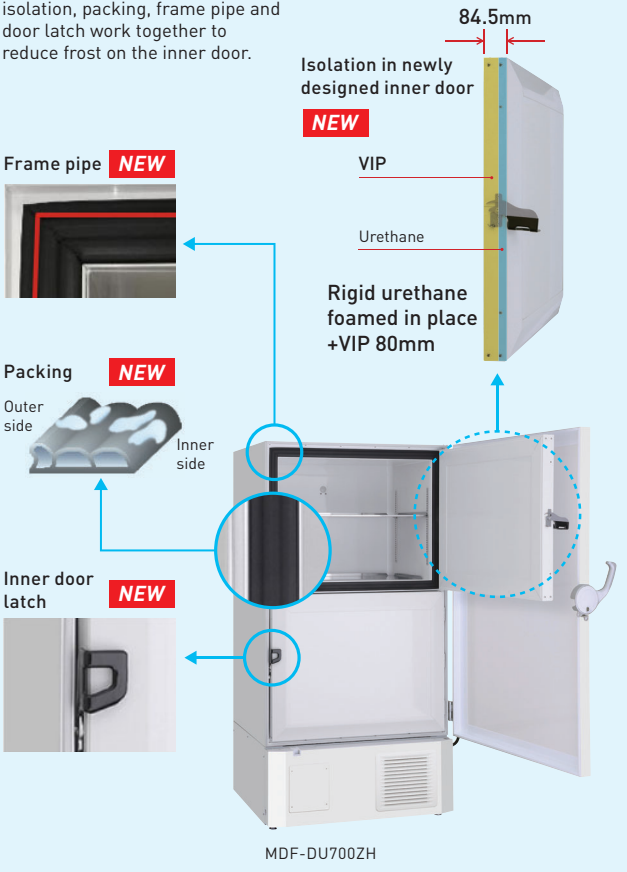
Touch

Model No.	MDF-DU500ZH MDF-DU500ZHA	MDF-DU700ZH MDF-DU700ZHA
Temperature Control Range	-86°C to -40°C	
Effective Capacity	525 litres	725 litres
External Dimensions (W x D x H)*	790 x 882 x 1993 mm	1030 x 882 x 1993 mm
Internal Dimensions (W x D x H)	630 x 607 x 1400 mm	870 x 607 x 1400 mm
Net Weight (Approx.)	248 kg	282 kg

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

FrostLess

The newly designed inner door isolation, packing, frame pipe and door latch work together to reduce frost on the inner door.



-86°C



VIP ECO

Ultimate Sample Protection

Unlike conventional ultra low freezers, ECO ULT freezers use natural hydrocarbon (HC) refrigerants to provide minimal energy consumption, reduced environmental impact and substantially lower running costs. HC refrigerants have a high latent heat of evaporation making them much more efficient at removing heat from the freezer chamber than conventional refrigerants, resulting in up to a 71% reduction in energy consumption and costs. These refrigerants also have an extremely low Global Warming Potential, helping organizations to meet environmental objectives.

MDF-DU503VH, MDF-DU503VHA
MDF-DU703VH, MDF-DU703VHA

VIP ECO SMART

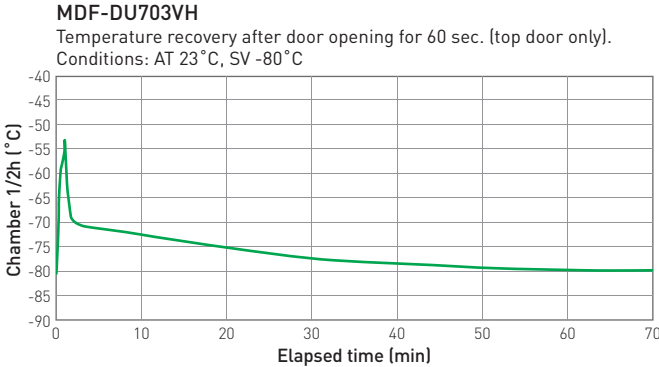
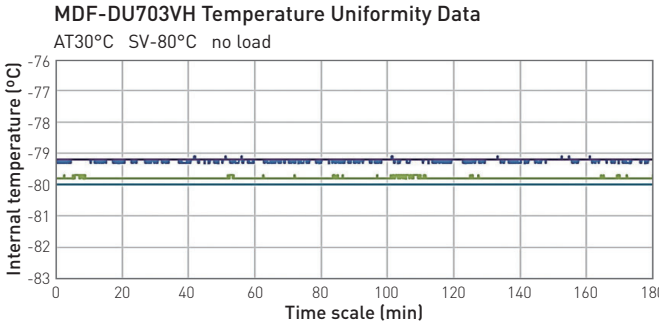
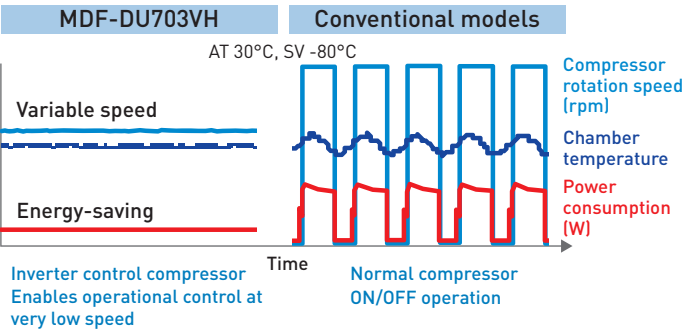


The ergonomic "EZlatch" now coupled with "Electric Lock"

The ergonomically designed "EZlatch" door handle, as the name suggests, allows for secure door opening / closing with minimal force. Newly added "Electric Lock" automatically unlocks/locks the door keys, making access to stored samples much easier.

Various login methods to suit every scenario

1. Password Protection
UP to 100 accounts registrable, each with individual password.
2. Face Recognition
Take a picture of your face and register it. Once the camera recognizes you, you will automatically be logged in.



Intelligent interface

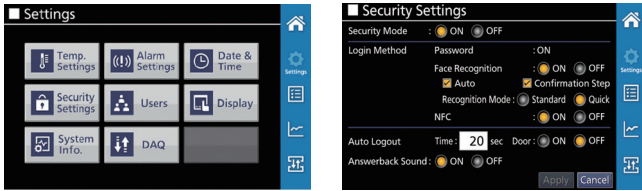
The newly designed control panel with rearranged layout and icons greatly enhances usability. The touchscreen method has also changed from the resistive method to the capacitive method, enabling comfortable use even with lab gloves on.

Security Mode
Unlock with NFC*
Authentication

NFC authentication with an "NFC reader" (sold separately) Register the IC card or NFC-equipped device of your choice. Simply hold the card over the NFC reader in the lower left corner of the control panel to automatically login and open the door.



* Available in limited countries only.



When low electrical running costs and environmental considerations are of paramount importance, put your trust in VIP ECO and PRO ECO ULT freezers.

- New heat exchanger design for greater surface area contact and overall efficiency.
- Advanced space-saving VIP PLUS Insulation (compared to our conventional models).
- Graphical LCD display with data monitoring and data log exported by USB (for MDF-DU502VH/MDF-DU702VH/MDF-DU901VHL/MDF-DU901VHA/ MDF-DU503VH/MDF-DU503VHA/ MDF-DU703VH/ MDF-DU703VHA).

Energy Efficient, Balanced Power Smart compressors, natural refrigerants and integrated electronics combine to lower your facility's operating costs. Freezer operation is managed by the practical balance of temperature performance and energy management.

PRO ECO^{ULT} Freezer

Cost-saving and environmentally friendly sample storage

VIP

Excellent reliability and uniformity within an optimal footprint

-86°C



MDF-DU300H 333 L



MDF-U33V 333 L



MDF-U54V 519 L
MDF-U55V



MDF-U74V 728 L



MDF-DU900V 845 L
MDF-DU900VC



Model No.	MDF-DU300H	MDF-U33V	MDF-U54V	MDF-U55V	MDF-U74V	MDF-DU900V	MDF-DU900VC
Temperature Control Range				-86°C to -50°C			
Effective Capacity	333 litres	333 litres	519 litres		728 litres	845 litres	
External Dimensions (W x D x H)*	750 x 870 x 1830 mm	670 x 870 x 1860 mm	770 x 870 x 1990 mm		1010 x 870 x 2010 mm	1150 x 870 x 1990 mm	
Internal Dimensions (W x D x H)	490 x 600 x 1140 mm	490 x 600 x 1140 mm	630 x 600 x 1380 mm		870 x 600 x 1400 mm	1010 x 600 x 1400 mm	
Net Weight (Approx.)	241 kg	255 kg	296 kg	288 kg	346 kg	372 kg (PB, PE) 382 kg (PK)	382 kg

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

Cryogenic Freezers

The most uniform storage temperatures for cryopreservation solutions

-152°C / -150°C



MDF-1156 128 L
MDF-1156ATN

MDF-C2156VAN 231 L



Model No.	MDF-1156	MDF-1156ATN	MDF-C2156VAN
Temperature Control Range	-152°C to -130°C		-150°C to -125°C
Effective Capacity	128 litres		231 litres
External Dimensions (W x D x H)*	1400 x 800 x 945 mm		1730 x 765 x 1010 mm
Internal Dimensions (W x D x H)	500 x 450 x 572 mm		760 x 495 x 615 mm
Net Weight (Approx.)	265 kg	272 kg	318 kg

* External dimensions of main cabinet only - see dimension drawings on flyers showing handles and other external projections. ATN: LN₂ back-up, Temperature recorder

VIP ECO

Excellent reliability and uniformity within an optimal footprint

-86°C



MDF-DC102VH 84 L



MDF-DC202VH 180 L



Model No.	MDF-DC102VH	MDF-DC202VH
Temperature Control Range	-86°C to -40°C	
Effective Capacity	84 litres	180 litres
External Dimensions (W x D x H)*	558 x 688 x 993 mm	1018 x 688 x 993 mm
Internal Dimensions (W x D x H)	405 x 490 x 426 mm	865 x 490 x 426 mm
Net Weight (Approx.)	85 kg	115 kg

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

Optional Accessories (for MDF series)

Small Inner Door Kits*



MDF-5ID-PW
MDF-5ID-PW
[for MDF-U54V, MDF-U55V]



MDF-9ID-PW
[for MDF-DU901VHL, MDF-DU901VHA
MDF-DU900V, MDF-DU900VC]
2 small inner doors make 1 set
(2 sets are needed if all small inner door
options are selected).



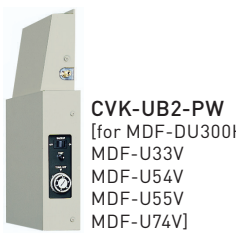
MDF-7ID4-PW/MDF-7ID5-PW
[for MDF-DU702VX, MDF-DU702VXC
MDF-DU703VH, MDF-DU703VHA
MDF-DU702VH]
4 or 5 inner doors make 1 set. MDF-5ID5
and 7ID5 include an additional shelf.



MDF-5ID4-PW/MDF-5ID5-PW
[forMDF-DU502VX, MDF-DU502VXC
MDF-DU503VH, MDF-DU503VHA
MDF-DU502VH]

*Please be aware cooling capacity will be less than specified if small inner doors are installed. Installation of the kit may effect usable storage capacity.

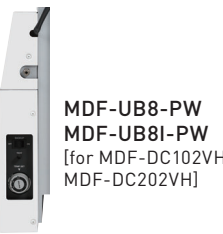
Liquid CO₂ Backup Kits



CVK-UB2-PW
[for MDF-DU300H
MDF-U33V
MDF-U54V
MDF-U55V
MDF-U74V]



MDF-UB6B-PW
[for MDF-DU900V
MDF-DU900VC]



MDF-UB8-PW
MDF-UB8I-PW
[for MDF-DC102VH
MDF-DC202VH]



MDF-UB5-PW
[for MDF-DC500VX
MDF-DC700VX
MDF-DC700VXC]



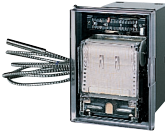
MDF-UB7-PW
[for MDF-DU302VX
MDF-DU502VX]

MDF-DU502VXC, MDF-DU702VX
MDF-DU702VXC, MDF-DU502VH
MDF-DU702VH, MDF-DU901VHL
MDF-DU901VHA, MDF-DU500ZH
MDF-DU500ZHA, MDF-DU700ZH
MDF-DU700ZHA]



CVK-UBN2-PW
[for MDF-U33V, MDF-U54V
MDF-U55V, MDF-U74V]

Temperature Recorders



MTR-85H-PW

No Mounting
Brackets
Required



MTR-155H-PW

MDF-1156



MTR-G85A-PA/MTR-G85C-PE

MDF-DU302VX, MDF-DU502VX, MDF-DU502VXC, MDF-DU702VX
MDF-DU702VXC, MDF-DC500VX, MDF-DC700VX, MDF-DC700VXC
MDF-DU503VH, MDF-DU503VHA, MDF-DU703VH, MDF-DU703VHA
MDF-DU502VH, MDF-DU702VH, MDF-DU901VHL, MDF-DU901VHA
MDF-DU500ZH, MDF-DU500ZHA, MDF-DU700ZH, MDF-DU700ZHA
MDF-DU300H, MDF-U33V, MDF-U54V, MDF-U55V, MDF-U74V
MDF-DU900V, MDF-DU900VC, MDF-DC102VH, MDF-DC202VH

Recorder
Mounting
Brackets
[All listed models
require it with
above recorders]

MDF-S3085-PW
MDF-DU302VX, MDF-DU502VX, MDF-DU502VXC
MDF-DU702VX, MDF-DU702VXC, MDF-DC500VX
MDF-DC700VX, MDF-DC700VXC, MDF-DU503VH
MDF-DU503VHA, MDF-DU703VH, MDF-DU703VHA
MDF-DU502VH, MDF-DU702VH, MDF-DU901VHL
MDF-DU901VHA, MDF-DU500ZH, MDF-DU500ZHA
MDF-DU700ZH, MDF-DU700ZHA, MDF-DU300H
MDF-U33V, MDF-U54V, MDF-U55V, MDF-U74V
MDF-DU900V, MDF-DU900VC, MDF-DC102VH
MDF-DC202VH

MDF-S30150-PW
MDF-C2156VAN

Sensor
Cover
[All listed models
require it with
above recorders]

MTR-DU700SF-PW
MDF-DU302VX, MDF-DU502VX, MDF-DU502VXC
MDF-DU702VX, MDF-DU702VXC, MDF-DU503VH
MDF-DU503VHA, MDF-DU703VH, MDF-DU703VHA
MDF-DU502VH, MDF-DU702VH, MDF-DU901VHL
MDF-DU901VHA, MDF-DU500ZH, MDF-DU500ZHA
MDF-DU700ZH, MDF-DU700ZHA, MDF-DU900V
MDF-DU900VC
MTR-C8-PW
MDF-DU300H, MDF-DC102VH, MDF-DC202VH

MTR-DU700SF-PW
MDF-DU302VX, MDF-DU502VX, MDF-DU502VXC, MDF-DU702VX
MDF-DU702VXC, MDF-DU503VH, MDF-DU503VHA, MDF-DU703VH
MDF-DU703VHA, MDF-DU502VH, MDF-DU702VH, MDF-DU901VHL
MDF-DU901VHA, MDF-DU500ZH, MDF-DU500ZHA, MDF-DU700ZH
MDF-DU700ZHA, MDF-DU900V, MDF-DU900VC

MTR-C8-PW
MDF-DU300H, MDF-DC102VH, MDF-DC202VH

Drawer Rack

MDF-50R-PW
[for MDF-DU502VX, MDF-DU502VXC
MDF-DU503VH, MDF-DU503VHA
MDF-DU502VH]

IC Card

MTR-IC-PW
[available in limited countries only]
[for MDF-DU503VH, MDF-DU503VHA, MDF-DU703VH
MDF-DU703VHA]

NFC Reader

MTR-NFC-PW
[available in limited countries only]
[for MDF-DU503VH, MDF-DU503VHA, MDF-DU703VH
MDF-DU703VHA]

MDF Biomedical Freezers

Stable -30°C environment with extensive storage possibilities

-30°C



Model No.	MDF-MU339	MDF-MU539	MDF-MU539D	MDF-U731M	MDF-U731	MDF-U334
Temperature Control Range	-30°C to -20°C					
Effective Capacity	369 litres	504 litres	479 litres	690 litres	623 litres	274 litres
External Dimensions (W x D x H)*	616 x 770 x 1802 mm	793 x 770 x 1802 mm	793 x 770 x 1802 mm	770 x 830 x 1955 mm		614 x 709 x 1620 mm
Internal Dimensions (W x D x H)	472 x 614 x 1262 mm	649 x 614 x 1262 mm	649 x 614 x 600 mm (2 chambers)	650 x 700 x 1520 mm	650 x 700 x 1370 mm	490 x 486 x 1290 mm
Baskets (W x D x H)	Large	(420 x 552 x 157 mm): 6		(280 x 552 x 157 mm): 12		(446 x 369 x 220 mm): 4
	Small	(290 x 536 x 136 mm): 6		(290 x 536 x 136 mm): 6		(487 x 221 x 155 mm): 1
Net Weight (Approx.)	135 kg	163 kg	185 kg	152 kg	155 kg	81 kg

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

MDF Biomedical Freezer

Able to provide a stable -30°C environment

MDF Biomedical ECO Freezers

Cost-saving and environmentally friendly

-30°C



Model No.	MDF-U5312	MDF-MU339HL	MDF-MU539HL
Temperature Control Range	-30°C to -20°C		
Effective Capacity	482 litres	369 litres	504 litres
External Dimensions (W x D x H)*	804 x 772 x 1802 mm	616 x 770 x 1802 mm	793 x 770 x 1802 mm
Internal Dimensions (W x D x H)	658 x 607 x 1272 mm	472 x 614 x 1262 mm	649 x 614 x 1262 mm
Baskets (W x D x H)	Large	(290 x 536 x 238 mm): 4	
	Small	(290 x 536 x 136 mm): 6	
Net Weight (Approx.)	132 kg	122 kg	144 kg

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

MDF Biomedical ECO Freezer

Cost-saving and environmentally friendly fresh frozen storage

MDF Biomedical Freezers

The ideal freezing environment for preservation

-40°C



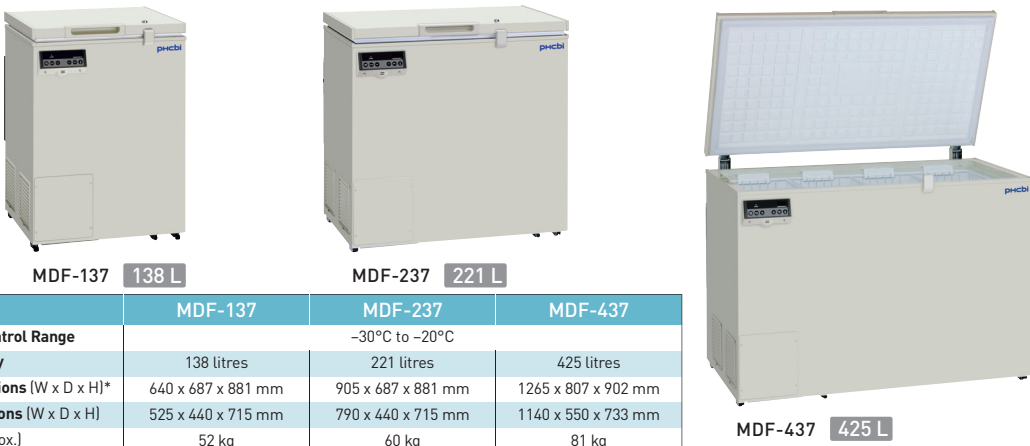
Model No.	MDF-MU549DH	MDF-U443	MDF-U5412
Temperature Control Range	-40°C to -20°C	-40°C to -15°C	-40°C to -20°C
Effective Capacity	479 litres	426 litres	482 litres
External Dimensions (W x D x H)*	793 x 770 x 1802 mm	800 x 832 x 1810 mm	804 x 772 x 1802 mm
Internal Dimensions (W x D x H)	649 x 614 x 600 mm (2 chambers)	640 x 615 x 1090 mm	658 x 607 x 1272 mm
Baskets (W x D x H)	Large	—	
	Small	(290 x 536 x 238 mm): 4	
Net Weight (Approx.)	165 kg	213 kg	132 kg

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

MDF Biomedical Freezers

Power to counteract frequent door openings

-30°C



Model No.	MDF-137	MDF-237	MDF-437
Temperature Control Range	-30°C to -20°C		
Effective Capacity	138 litres	221 litres	425 litres
External Dimensions (W x D x H)*	640 x 687 x 881 mm	905 x 687 x 881 mm	1265 x 807 x 902 mm
Internal Dimensions (W x D x H)	525 x 440 x 715 mm	790 x 440 x 715 mm	1140 x 550 x 733 mm
Net Weight (Approx.)	52 kg	60 kg	81 kg

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

Optional Accessories (for MDF series)

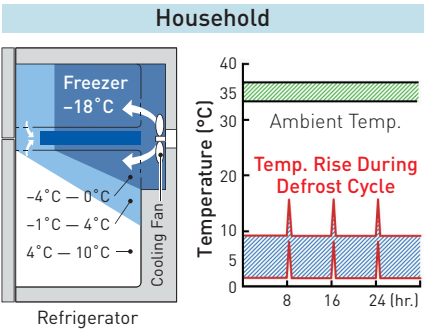
Temperature Recorders			Baskets
32-Day Strip Chart Recorder	32-Day Strip Chart Recorder	7-Day Circular Chart Recorder	 MDF-T07SC-PW (for MDF-U731M, MDF-U731) 2 cases are included. 14 cases are needed to fill the entire cabinet.
 Recording range: -40°C to +14°C MTR-4015LH-PE/MTR-4015LH-PA	 Recording range: -100°C to +50°C MTR-85H-PW	 Recording range: -100°C to +40°C MTR-G85A-PA/MTR-G85C-PE	
No Mounting Brackets Required	MDF-U334, MDF-U443	MDF-U443	MDF-03SC-PW (for MDF-MU339, MDF-MU339HL) 2 pieces per set W420 x D552 x H157 mm
Recorder Mounting Brackets (All listed models require it with above recorders)	MPR-S30-PW MDF-MU339, MDF-MU539 MDF-MU539D, MDF-U731M MDF-U731, MDF-U5312 MDF-MU339HL, MDF-MU539HL MDF-MU549DH, MDF-U5412 MDF-S3040-PW MDF-137, MDF-237, MDF-437	MPR-S7-PW MDF-MU339, MDF-MU539, MDF-MU539D MDF-U731M, MDF-U731, MDF-U5312 MDF-MU339HL, MDF-MU539HL MDF-MU549DH, MDF-U5412 MDF-S740-PW MDF-137, MDF-237, MDF-437 MDF-S740T-PW (for external mounting) MDF-U334, MDF-MU539D, MDF-MU549DH	MDF-05SC-PW (for MDF-MU539, MDF-MU539HL, MDF-MU549DH) 2 pieces per set W280 x D552 x H157 mm

MPR/LPR/MBR

A stable temperature environment is important for the storage of your precious drugs and samples. However, household refrigerators do not offer a stable temperature environment due to relatively simple construction. PHCbi pharmaceutical, laboratory & blood bank refrigerators employ forced air circulation and sophisticated plenum systems to realise a uniformed temperature throughout the chamber even under a changing ambient temperature environment.

Inside Temperature of Household Refrigerator

- Typical Cooling System of Household Refrigerator

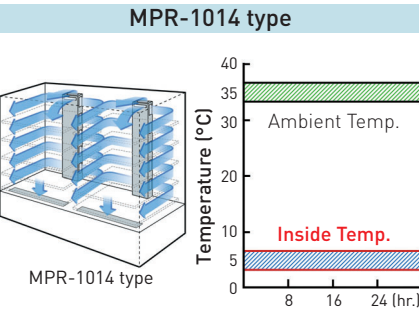


- Only one FAN to cool down refrigerator and freezer
- The difference in the temperature between the upper and lower areas of the refrigerator section can be 10°C.

In regular refrigerators it is possible for the chamber temperature to fall below 0°C depending on the ambient temperature which may cause the freezing of medicines and media. The auto defrost system turns on every 7 – 8 hours. During this time, the chamber air temperature rises.

Temperature Stability – temperature Uniformity

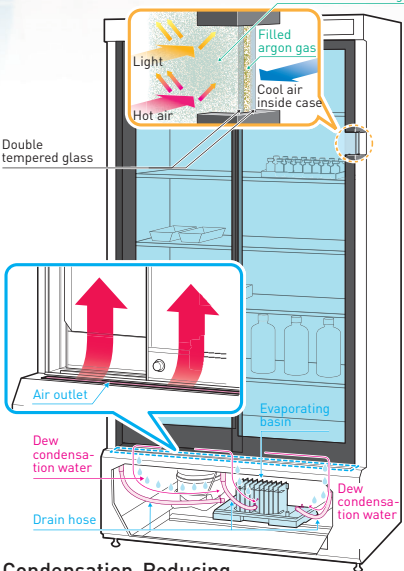
- Multi air-flow plenum cooling system



- Uniform cold air flow distribution throughout the chamber
- Ensure temperature uniformity of big capacity chamber

The cycle defrost system turns on the defrost heater during each off period of the compressor only when needed. This control method prevents large temperature rises.

New mechanism to reduce dew condensation



Condensation-Reducing Mechanisms for Glass Surfaces Three Measures to Significantly Reduce Condensation:

1. The Low-E Coating Reduces the Conduction of Heat
 2. Argon Gas-Filled Insulation
 3. Suppression of Temperature Difference by Blowing Away Dissipating Heat
- For MPR-S500H, MPR-S500RH only: A drainage mechanism prevents any build-up of water. Condensation that drips outside of the glass door is collected by the rails at the bottom and drained to the evaporating basin at the bottom.

LPR Laboratory Refrigerator

Swing Door Type



Model No.	LPR-400
Temperature Control Range	4°C to 14°C
Effective Capacity	400 litres
External Dimensions (W x D x H)*	610 x 716 x 1886 mm
Internal Dimensions (W x D x H)	516 x 550 x 1467 mm
Net Weight (Approx.)	81 kg
	Wire shelf type

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

MPR Pharmaceutical Refrigerators

Sliding Door Type



Model No.	MPR-S150H	MPR-S300H
Temperature Control Range	2°C to 14°C	
Effective Capacity	165 litres	345 litres
External Dimensions (W x D x H)*	800 x 500 x 1120 mm	800 x 500 x 1820 mm
Internal Dimensions (W x D x H)	720 x 360 x 725 mm	720 x 360 x 1425 mm
Net Weight (Approx.)	73 kg	105 kg
	Wire shelf type	Wire shelf type

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



MPR Pharmaceutical Refrigerators

Sliding Door Type



Model No.	MPR-722	MPR-722R	MPR-1412	MPR-1412R
Temperature Control Range	2°C to 14°C			
Effective Capacity	684 litres	671 litres	1364 litres	1359 litres
External Dimensions (W x D x H)*	770 x 830 x 1955 mm		1440 x 830 x 1950 mm	
Internal Dimensions (W x D x H)	650 x 710 x 1500 mm		1320 x 710 x 1500 mm	
Net Weight (Approx.)	174 kg	193 kg	248 kg	287 kg
	Wire shelf type	Drawer type	Wire shelf type	Drawer type

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



Model No.	MPR-S500H	MPR-S500RH	MPR-1014	MPR-1014R
Temperature Control Range	2°C to 14°C			
Effective Capacity	554 litres	550 litres	1033 litres	1029 litres
External Dimensions (W x D x H)*	900 x 650 x 1824 mm		1800 x 600 + (58) mm x 1790 mm	
Internal Dimensions (W x D x H)	800 x 510 x 1425 mm		1700 x 465 x 1300 mm	
Net Weight (Approx.)	140 kg	146 kg	246 kg	258 kg
	Wire shelf type	Left side: Wire shelf type Right side: Drawer type	Wire shelf type	Left side: Wire shelf type Right side: Drawer type

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

2°C to 23°C

MPR Pharmaceutical Refrigerators with Freezer

Providing a complete storage solution; Refrigerator and freezer in one unit

Refrigerator: 2°C to 14°C | Freezer: -30°C to -20°C



Model No.	MPR-N250FH	MPR-N250FSH	MPR-N450FH	MPR-N450FSH	MPR-715F
Temperature Control Range	Refrigerator: 2°C to 14°C Freezer: -30°C to -20°C				
Effective Capacity	Refrigerator: 179 litres Freezer: 80 litres		326 litres 136 litres		415 litres 176 litres
External Dimensions (W x D x H)**	510 x 640 x 1810 mm		800 x 640 x 1810 mm		900 x 715 x 1910 mm
Internal Dimensions (W x D x H)	Refrigerator: 430 x 516 x 903 mm Freezer: 390 x 501 x 413 mm		720 x 516 x 913 mm 680 x 470 x 415 mm		810 x 615 x 894 mm 770 x 552 x 422 mm
Net Weight (Approx.)	95 kg	91 kg	129 kg	121 kg	170 kg

* Limited countries and regions
** External dimensions of main cabinet only - see dimension drawings on flyers showing handles and other external projections.
FSH: No glass window

Optional Accessories (for MPR/MBR series)

32-Day Strip Chart Recorder

Recording range: -40°C to +14°C

MTR-4015LH-PE
MTR-4015LH-PA

32-Day Strip Chart Recorder

Recording range: -6°C to +20°C

MTR-0621LH-PE
MTR-0621LH-PA

7-Day Circular Chart Recorder

Recording range: -10°C to +40°C

MTR-G04A-PA
MTR-G04C-PE

7-Day Circular Chart Recorder

Recording range: -60°C to +40°C
-10°C to +40°C

MTR-G3504A-PA
MTR-G3504C-PE

* 2-pen type circular recorder for refrigeration and freezing

No Mounting Brackets Required

[MBR-305GR, MBR-705GR] *
MBR-1405GR

* MBR has a recorder as a standard accessory.

Recorder Mounting Brackets (All listed models require it with above recorders)	MPR-S30-PW MPR-N250FH* MPR-N250FSH* MPR-N450FH* MPR-N450FSH* MPR-715F	MPR-S30-PW MPR-S150H, MPR-S300H, MPR-S500H MPR-S500RH, MPR-1014, MPR-1014R MPR-722, MPR-722R, MPR-1412 MPR-1412R, MPR-N250FH, MPR-N250FSH MPR-N450FH, MPR-N450FSH, MPR-715F	MPR-S7-PW MPR-S150H, MPR-S300H MPR-S500H, MPR-S500RH MPR-1014, MPR-1014R MPR-722, MPR-722R MPR-1412, MPR-1412R	MPR-S7-PW MPR-N250FH, MPR-N250FSH MPR-N450FH, MPR-N450FSH MPR-715F
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External Mounting Power Failure Alarm

MPR-48B1-PW
[for MPR-722, MPR-722R
MPR-1412, MPR-1412R
MPR-715F]

MPR-48B2-PW
[for MPR-S150H, MPR-S300H
MPR-S500H, MPR-S500RH
MPR-N250FH, MPR-N250FSH
MPR-N450FH, MPR-N450FSH]

Name Card Holder

MPR-15CH-PW
MPR-S150H, MPR-S300H
MPR-50CH-PW
MPR-S500H
MPR-50RCH-PW
MPR-S500RH

Additional Shelf for Freezer

MPR-250ST-PW
MPR-250FH, MPR-250FSH
MPR-450ST-PW
MPR-N450FH, MPR-N450FSH

Light Shielding Plate

MPR-25BP-PW
MPR-N250FH
MPR-45BP-PW
MPR-N450FH
MPR-72BP-PW
MPR-722, MPR-722R
MPR-1412, MPR-1412R

Shading Glass Door

MPR-150GH-PW
MPR-S150H
MPR-300GH-PW
MPR-S300H
MPR-500GH-PW
MPR-S500H, MPR-S500RH

Inventory Drawer

MPR-31LR-PW
(x 3 for Left Compartment)
MPR-S300H
MPR-31RR-PW
(x 3 for Right Compartment)
MPR-S300H

Container for Freezer

MPR-45FSC-PW (x2 pcs.)
MPR-N450FH, MPR-N450FSH
MPR-715SC-PW (x2 pcs.)
MPR-715F

MBR Blood Bank Refrigerators

Robust design for safest storage of whole blood

4°C



Model No.	MBR-107DH**	MBR-305GR**	MBR-506DH**
Temperature	4°C		
Effective Capacity	79 litres	302 litres	425 litres
External Dimensions (W x D x H)*	400 x 495 x 1515 mm	600 x 680 x 1835 mm	800 x 832 x 1810 mm
Internal Dimensions (W x D x H)	320 x 350 x 710 mm	520 x 490 x 1150 mm	640 x 550 x 1240 mm
Net Weight (Approx.)	70 kg	147 kg	185 kg

* External dimensions of main cabinet only - see dimension drawings on flyers showing handles and other external projections.
** Uses LED lamps.
D: 32-day strip chart recorder
G: 1-day/7-day/32-day circular chart recorder
R: Drawer type



Model No.	MBR-705GR	MBR-1405GR
Temperature	4°C	
Effective Capacity	622 litres	1301 litres
External Dimensions (W x D x H)*	770 x 830 x 1955 mm	1440 x 830 x 1950 mm
Internal Dimensions (W x D x H)	650 x 697 x 1500 mm	1320 x 710 x 1500 mm
Net Weight (Approx.)	213 kg	315 kg

* External dimensions of main cabinet only - see dimension drawings on flyers showing handles and other external projections.
G: 1-day/7-day/32-day circular chart recorder
R: Drawer type

MCO CO₂ Incubators

Optimising cell culture outcomes and reproducibility

Ambient temp. +5°C to 50°C



MCO-170AIC/MCO-170AICL 165 L
MCO-170AICUV/MCO-170AICUVL
MCO-170AICUVH/MCO-170AICUVHL



MCO-170AICD/MCO-170AICDL 165 L
MCO-170AICUVD/MCO-170AICUVDL



MCO-230AIC/MCO-230AICL 230 L
MCO-230AICUV/MCO-230AICUVL



*1 Standard for Model No. Including UV *2 Standard for Model No. Including UVH

Model No.	MCO-170AIC MCO-170AICL MCO-170AICUV MCO-170AICUVL MCO-170AICUVH MCO-170AICUVHL	MCO-170AICD MCO-170AICDL MCO-170AICUVD MCO-170AICUVDL	MCO-230AIC MCO-230AICL MCO-230AICUV MCO-230AICUVL
Temperature Control Range	Ambient temperature + 5°C to 50°C (AT 5°C to 35°C)		
CO ₂ Setting Range	0 to 20%		
Chamber Humidity	95 ±5% R.H.		
Interior Volume	165 litres	165 litres	230 litres
External Dimensions (W x D x H)*	620 x 730 x 905 mm	620 x 755 x 905 mm	770 x 730 x 905 mm
Internal Dimensions (W x D x H)	490 x 523 x 665 mm	490 x 523 x 665 mm	643 x 523 x 700 mm
Net Weight (Approx.)	80 kg	79 kg (AICD), 80 kg (AICUVD)	90 kg

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



MCO-50AIC 50 L
MCO-50AICL



MCO-170AC 165 L
MCO-170ACL



MCO-80IC 851 L



Model No.	MCO-50AIC/MCO-50AICL	MCO-170AC/MCO-170ACL	MCO-80IC
Temperature Control Range	Ambient temperature + 5°C to 50°C (AT 5°C to 35°C)		
CO ₂ Setting Range	0 to 20%		
Chamber Humidity	95 ±5% R.H.		Normal mode; Over 80% R.H. High humidity mode; Over 90% R.H.
Interior Volume	50 litres	165 litres	851 litres
External Dimensions (W x D x H)*	480 x 550 x 585 mm	620 x 730 x 905 mm	986 x 853 x 2040 mm
Internal Dimensions (W x D x H)	370 x 363 x 385 mm	490 x 523 x 665 mm	806 x 693 x 1524 mm
Net Weight (Approx.)	45 kg	74 kg	275 kg

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



Increase in cleaning and storage efficiency with Integrated Tray Catches

The unit employs an integrated tray structure without shelf supports thereby reducing the number of interior components by approximately 80%* and significantly saving cleaning time needed when changing cells for incubation.

Compared to current products, the required cleaning time and task are

Approx.

1/5*

Interior components of MCO-170AIC



Approx.
80%
fewer Interior components

Interior components: 5

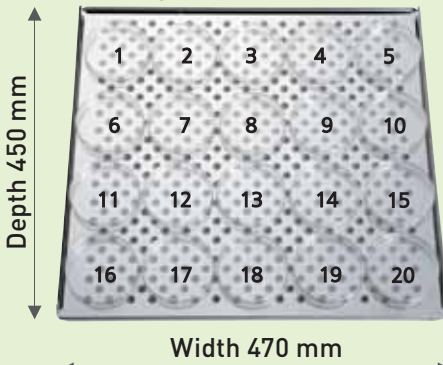
Interior components of MCO-19AIC



Interior components: 26

Tray space has increased by approximately 25%* while using virtually the same installation space used in conventional models. Four more 100ø dishes can be set up than when using conventional models.

Tray from MCO-170AIC

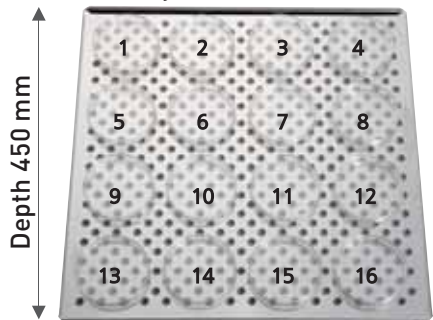


100ø 20 dishes

Approx.
25%
more storage

4 additional
100ø dishes
can be set up

Tray from MCO-19AIC



Width 450 mm

100ø 16 dishes



In 2 hours and half (approx.)
H₂O₂ Decontamination



Approx.
2.5 hrs**

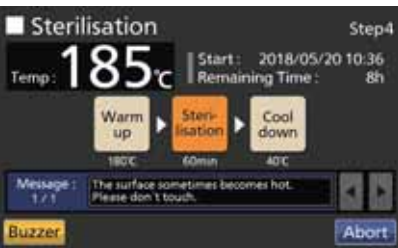
The high-speed decontamination system using H₂O₂ that is also used for in regenerative medicine equipment can complete the entire decontamination process in approximately 135 minutes (about 2 hours including preparation time), enhancing work efficiency for researchers and enabling complete decontamination within the unit.

*Compared to MCO-19AIC

**PHCbi measurement. Decontamination time differs depending on time required for cabinet cleaning and interior parts installation.



Solving issues in dry heat sterilisation
Dual Heat Sterilisation



Approx.
11 hrs
180°C

No more problems during dry heat sterilisation: such as interior components removal during sterilisation; temperature/CO₂ density composition before restart; impacts to temperature when stacking two boxes; and current consumption.



Model No.	MCO-170M/MCO-170ML	MCO-50M
Temperature Control Range	Ambient temperature + 5°C to 50°C (AT 5°C to 35°C)	
CO ₂ Setting Range	0 to 20%	
O ₂ Setting Range	1 to 18%, 22 to 80%	
Chamber Humidity	95 ±5% R.H.	
Interior Volume	161 litres	50 litres
External Dimensions (W x D x H)*	620 x 730 x 905 mm	480 x 550 x 585 mm
Internal Dimensions (W x D x H)	490 x 523 x 665 mm	370 x 363 x 385 mm
Net Weight [Approx.]	77 kg	46 kg

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

Optional Accessories (for MCO series)

Double-stacking Bracket

MCO-170PS-PW
Upper unit: MCO-170AC series, MCO-170AIC series, MCO-170AICD series, MCO-170M series
Lower unit: MCO-170AC series, MCO-170AIC series, MCO-170AICD series, MCO-170M series
Upper unit: MCO-230AIC series
Lower unit: MCO-230AIC series
Upper unit: MCO-50M, MCO-50AIC series
Lower unit: MCO-50M, MCO-50AIC series

Stacking Plate

MCO-170SB-PW
Upper unit: MCO-170AC series, MCO-170AIC series, MCO-170AICD series, MCO-170M series
Lower unit: MCO-20AIC series, MCO-19AIC series, MCO-19M series, MCO-18AC series
MCO-50SB-PW
Upper unit: MCO-50M, MCO-50AIC series
Lower unit: MCO-5M, MCO-5AC series

Roller Base

MCO-230RB-PW [for MCO-230AIC series]
MCO-170RB-PW [for MCO-170AIC series, MCO-170AICD series, MCO-170AC series, MCO-170M series]
MCO-50RB-PW [for MCO-50AIC series, MCO-50M series]

Roller Bottle Rack

MCO-80RB5-PW [for MCO-80IC]

Other Options (for MCO series)

Gas Auto Changer

MCO-50GC-PW [for MCO-50AIC series, MCO-50M series]
MCO-80GC-PW [for MCO-80IC]
MCO-216C-PW [for MCO-170AIC series, MCO-170AICD series, MCO-230AIC series, MCO-170AC series, MCO-170M series]
MCO-216CP-PW [for MCO-170AIC series, MCO-170AICD series, MCO-230AIC series, MCO-50AIC series, MCO-170AC series, MCO-170M series]

Gas Regulator

MCO-010R-PW [except for MCO-80IC]
MCO-SGP-PW [for MCO-170AIC series, MCO-170AICD series, MCO-230AIC series, MCO-170M series]

STD Gas Auto Calibration Kit

Tray (same as that of standard accessory)

MCO-170ST-PW [for MCO-170AIC series, MCO-170AICD series, MCO-170AC series, MCO-170M series]
MCO-230ST-PW [for MCO-230AIC series]
MCO-80ST-PW [for MCO-80IC]
MCO-50ST-PW [for MCO-50AIC series, MCO-50M series]

Reinforced Additional Tray (inCu-saFe®)

MCO-170RT-PW [for MCO-170AIC series, MCO-170AICD series, MCO-170AC series, MCO-170M series]
MCO-230RT-PW [for MCO-230AIC series]

Half Tray

MCO-25ST-PW [for MCO-170AIC series, MCO-170AICD series, MCO-170AC series, MCO-170M series]
MCO-35ST-PW [for MCO-230AIC series]

UV System Set*1

MCO-170UVS-PE*2/PA*3 [for MCO-170AIC, MCO-170AICL, MCO-230AIC, MCO-230AICL, MCO-50AIC, MCO-50AICL, MCO-170AC series, MCO-170M series, MCO-50M]
MCO-170UVSD-PE [for MCO-170AICD series]
MCO-80UVS-PE*2/PK [for MCO-80IC]

H₂O₂ Decontamination Control Board

MCO-170HB-PE*2/PA*3 [for MCO-170AIC, MCO-170AICL, MCO-170AICUV, MCO-170AICUVL, MCO-230AIC series, MCO-170M series]
MCO-50HB-PW [for MCO-50AIC, MCO-50AICL, MCO-50M]

H₂O₂ Generator

MCO-HP-PW*4 [for MCO-170AIC series, MCO-230AIC series, MCO-170M series]
MCO-50HP-PW [for MCO-50AIC series, MCO-50M series]

Electric Lock

MCO-170EL-PW [for MCO-170AIC, MCO-170AICL, MCO-170AICUV, MCO-170AICUVL, MCO-230AIC series, MCO-50AIC series, MCO-170M series, MCO-50M]

Auto Water Supply System

MCO-80AS-PW [for MCO-80IC]

H₂O₂ Reagent

MCO-H202-PV [for MCO-HP-PW]
MCO-5H202-PV [for MCO-50AIC series, MCO-50M]
*Photo: MCO-H202-PV

Small Door

MCO-170ID-PW [for MCO-170AIC series, MCO-170AC series]
MCO-80ID-PW [for MCO-80IC]

Interface Board (4-20 mA)

MCO-420MA-PW [for MCO-170AIC series, MCO-170AICD series, MCO-230AIC series, MCO-50AIC series, MCO-170AC series, MCO-170M series, MCO-50M series]

*1 MCO-170UVSD is equipped with MCO-170AICUVL/MCO-170AICUVL as standard.
MCO-170UVS is equipped with MCO-170AICUV/MCO-170AICUVL/MCO-170AICUVH/MCO-170AICUVHL and MCO-230AICUV/MCO-230AICUVL as standard.
*2 For 220 V—240 V 50 Hz—60 Hz
*3 For 110 V—120 V 60 Hz
*4 The optional components UV System Set, MCO-170UVS, and H₂O₂ Decontamination Control Board, MCO-170HB must be attached to the unit in order to add the H₂O₂ decontamination function, except MCO-170AICUVH/MCO-170AICUVHL

MIR Cooled Incubators

All-round performance



Model No.	MIR-154	MIR-254	MIR-554
Temperature Control Range	-10°C to 60°C (AT 5°C to 35°C)		
Interior Volume	123 litres	238 litres	406 litres
External Dimensions (W x D x H)*	700 x 580 x 1018 mm	700 x 580 x 1618 mm	800 x 832 x 1810 mm
Internal Dimensions (W x D x H)	620 x 368 x 555 mm	620 x 368 x 1088 mm	640 x 550 x 1160 mm
Net Weight (Approx.)	78 kg	108 kg	195 kg

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

MIR Heated Incubators

Intuitive and easy operable Heated Incubators

Ambient temp. +5°C to 60°C (AT 0 to 20°C)
Ambient temp. +5°C to 80°C (AT 20 to 35°C)



Model No.	MIR-H163	MIR-H263
Temperature Control Range	Ambient temp. +5°C to 60°C (AT 0°C to 20°C), Ambient temp. +5°C to 80°C (AT 20°C to 35°C)	
Interior Volume	93 litres	153 litres
External Dimensions (W x D x H)*	580 x 595 x 820 mm	730 x 645 x 870 mm
Internal Dimensions (W x D x H)	450 x 460 x 450 mm	600 x 510 x 500 mm
Net Weight (Approx.)	50 kg	67 kg

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

MLR Climate Chambers

Versatile Climate Chambers

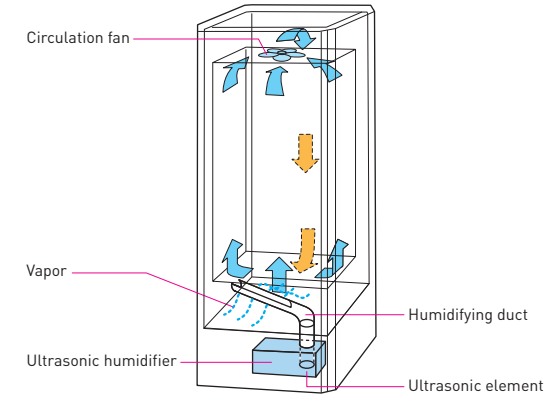


Model No.	MLR-352	MLR-352H
Temperature Control Range	0°C to 50°C (Light OFF) 10°C to 50°C (Light ON)	5°C to 50°C (Light OFF) 10°C to 50°C (Light ON)
Humidity Control Range	—	60 to 90 % RH (Light OFF) 55 to 85 % (Light ON)
Interior Volume	294 litres	
External Dimensions (W x D x H)*	760 x 700 x 1835 mm	
Internal Dimensions (W x D x H)	520 x 490 x 1135 mm	
Net Weight (Approx.)	226 kg	235 kg

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

H: Humidifier type

Humidity control function (only for H type)
suited for raising plants



This holds an ultrasound humidifier controlled by a PID controller, making it able to control the humidity of an area of 60 — 90% RH (fluorescent light off). Furthermore, it is able to humidify the chamber with the L-shaped humidifying pipe installed at the bottom of the chamber.

Optional Accessories (for MIR and MLR series)

Additional Illumination Kit	Stacking Kit	Inner Door	Blackout Panels	Hasp Lock Kit
MIR-L15-PK *1 (15W x 3 pcs. Fluorescent) MIR-L15-PE *2 MIR-L15-PA *3 (for MIR-154, MIR-254, MIR-554)	MIR-S154SB-PW (for MIR-154, MIR-254)	MIR-551D-PW (for MIR-554)	MIR-154BP-PW (for MIR-154) MIR-254BP-PW (for MIR-254)	MIR-LP-PW (for MIR-154, MIR-254)
*1 For 220 V 60 Hz *2 For 220 V—240 V 50 Hz *3 For 110 V—120 V 60 Hz				