



## Partnering Life Sciences Development

PHCbi Biomedical products are designed to meet the demands of the life science industries 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 April 2018.  
\* Appearance and specifications are subject to change without notice









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

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



<p><b>1966</b></p>  <p><b>SAR-130M</b> Pharmaceutical Refrigerator</p>	<p><b>1977</b></p>  <p><b>MDF-390AT</b> -80°C Ultra Low Temperature Freezer developed</p>	<p><b>1991</b></p>  <p><b>MDF-1155ATN</b> World's Lowest Temperature -152°C Freezer Developed</p>	<p><b>2008</b></p>  <p><b>MDF-U400VX</b> -85°C Dual Cooling System Freezer developed</p>	<p><b>2009</b></p>  <p><b>MCO-19AICUVH</b> World's First H<sub>2</sub>O<sub>2</sub> / Hydrogen Peroxide Chamber decontamination Function equipped</p>	<p><b>2012</b></p>  <p><b>MDF-DU700VH</b> Energy saving CFC-free -86°C Ultra Low Temperature Freezer</p>	<p><b>2014</b></p>  <p><b>MCO-170AICUVH</b> Enhanced efficient Cleaning and storage Integrated Tray Catches Structure CO<sub>2</sub> Incubator</p>	<p><b>2017</b></p>  <p><b>MDF-DU702VX</b> High Efficiency Insulation/Efficient Sample Storage and more Efficient Dual Cooling System</p>
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Our long history of manufacturing excellence has earned us the respect of our customers throughout the world. We apply strict quality management such as product examinations in mass production lines and checks before shipment in our global manufacturing system including our core manufacturing sites in Japan.



### Preservation

Our preservation equipment allows staff to select the optimal temperature for storage of samples, research materials, culture media, pharmaceutical drugs, blood, and long term storage of biological resources such as cells by freezing.







### Incubation

Our incubation equipment provides various environments suitable for bacterial and cell culture, plant growth, and food testing.




### Sterilization


Our sterilization equipment ensures sterilization of laboratory and testing equipment by autoclaving (high-pressure steaming).


-  Universities & Laboratories / Testing Institutes
-  Hospitals & Clinics
-  Pharmaceutical Companies
-  Food / Cosmetics Companies


### Function icons / Logos


#### Preservation

 **Dual Cooling System**  
Dual Cooling System offers ultimate sample protection.


 **VIP PLUS vacuum insulation**  
VIP PLUS vacuum insulation maximises storage capacity.


 **EZlatch Easy Acces Door Handle**  
The EZlatch makes access to stored samples even easier.


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


 **Inverter Compressors**  
Inverter Compressors maximise cooling performance and reduce energy consumption.


#### Incubation


 **inCu-saFe germicidal interior**  
inCu-saFe germicidal interior prevents contamination.


 **H<sub>2</sub>O<sub>2</sub> Decontamination**  
The unique H<sub>2</sub>O<sub>2</sub> decontamination system delivers fast and validatable decontamination.

 **Dual IR CO<sub>2</sub> Sensor**  
The single beam, dual detector IR CO<sub>2</sub> Sensor offers continuous calibration for excellent control, accuracy and stability.

 **SafeCell UV Lamp**  
The SafeCell UV lamp prevents contamination.

 **Dual Heat Sterilisation**  
Two independent heaters enable cell culturing to continue uninterrupted during sterilization.

 **IR CO<sub>2</sub> Sensor**  
The IR CO<sub>2</sub> Sensor offers accurate and reliable CO<sub>2</sub> measurement.

 **Zirconia O<sub>2</sub> Sensor**  
The unique, solid state Zirconia O<sub>2</sub> sensor delivers precise oxygen control.

TwinGuard

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

-86°C



Model No.	MDF-DU302VX	MDF-DU502VX	MDF-DU502VXC	MDF-DU702VX	MDF-DU702VXC
Temperature Control Range	-50°C to -86°C				
Effective Capacity	360 liters	528 liters		729 liters	
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.

ECO ULT Freezer

Cost-saving and environmentally friendly sample storage

VIP ECO

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

-86°C



Model No.	MDF-DU300H	MDF-DU701VH	MDF-DU502VH	MDF-DU702VH
Temperature Control Range	-50°C to -86°C			
Effective Capacity	333 liters	728 liters	528 liters	729 liters
External Dimensions (W x D x H)*	750 x 870 x 1830 mm	1010 x 870 x 1990 mm	790 x 882 x 1993 mm	1030 x 882 x 1993 mm
Internal Dimensions (W x D x H)	490 x 600 x 1140 mm	870 x 600 x 1400 mm	630 x 600 x 1400 mm	870 x 600 x 1400 mm
Net Weight (Approx.)	241 kg	334 kg	246 kg	278 kg

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



Model No.	MDF-DC500VX	MDF-DC700VX
Temperature Control Range	-50°C to -86°C	
Effective Capacity	575 liters	715 liters
External Dimensions (W x D x H)*	2010 x 845 x 1070 mm	2300 x 845 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

\* 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-U54V/MDF-U55V  
 MDF-7ID-PW: MDF-U74V/MDF-DU701VH  
 MDF-9ID-PW: MDF-DU900V  
 2 small inner doors make 1 set (2 sets are needed if all small inner door options are selected).

MDF-5ID4/5ID5-PW: MDF-DU502VX/MDF-DU502VH  
 MDF-7ID4/7ID5-PW: MDF-DU702VX/MDF-DU702VH  
 4 or 5 inner doors make 1 set. MDF-5ID5 and 7ID5 include an additional shelf.

\*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 CO<sub>2</sub> Backup Kits

CVK-UB2-PW: all -86°C ULT freezers except MDF-C8V1  
 CVK-UB4-PW: MDF-C8V1 (Mounting kit MDF-UBK-PW)  
 MDF-UB5-PW: MDF-DC500VX/MDF-DC700VX  
 MDF-UB6B-PW: MDF-DU900V  
 MDF-UB7-PW: MDF-DU302VX/MDF-DU502VX/MDF-DU502VH/  
 MDF-DU702VX/MDF-DU702VH

VIP

Excellent reliability and uniformity within an optimal footprint

-86°C



Model No.	MDF-U33V	MDF-U54V	MDF-U55V	MDF-U74V	MDF-DU900V	MDF-DU900VC
Temperature Control Range	-50°C to -86°C					
Effective Capacity	333 liters	519 liters		728 liters	845 liters	
External Dimensions (W x D x H)*	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	630 x 600 x 1380 mm		870 x 600 x 1400 mm	1010 x 600 x 1400 mm	
Net Weight (Approx.)	255 kg	296 kg	288 kg	346 kg	376 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.



VIP

MDF ULT Freezers

-80 / -86°C

Excellent reliability and uniformity within an optimal footprint



Model No.	MDF-C8V1	MDF-594	MDF-594AT	MDF-794	MDF-794AT
<b>Temperature Control Range</b>	-60°C to -80°C	-20°C to -86°C		-20°C to -86°C	
<b>Effective Capacity</b>	84 liters	487 liters		701 liters	
<b>External Dimensions (W x D x H)*</b>	550 x 685 x 945 mm	2010 x 770 x 1070 mm		2570 x 770 x 1070 mm	
<b>Internal Dimensions (W x D x H)</b>	405 x 490 x 425 mm	1280 x 500 x 762 mm		1840 x 500 x 762 mm	
<b>Net Weight (Approx.)</b>	70 kg	291 kg	301 kg	335 kg	345 kg

\* External dimensions of main cabinet only - see dimension drawings on flyers showing handles and other external projections. AT: LCO<sub>2</sub> back-up, Temperature recorder

MDF Biomedical Freezers

-30°C

Power to counteract frequent door openings



Model No.	MDF-MU339	MDF-MU539	MDF-MU539D	MDF-U731M
<b>Temperature Control Range</b>	-20°C to -30°C			
<b>Effective Capacity</b>	369 liters	504 liters	479 liters	690 liters
<b>External Dimensions (W x D x H)*</b>	616 x 770 x 1802 mm	793 x 770 x 1802 mm	793 x 770 x 1802 mm	770 x 830 x 1955 mm
<b>Internal Dimensions (W x D x H)</b>	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
<b>Net Weight (Approx.)</b>	122 kg	143 kg	166 kg	152 kg

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

Cryogenic Freezers

-150 / -152°C

The most uniform storage temperatures for cryopreservation solutions



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

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

ATN: LN<sub>2</sub> back-up, Temperature recorder

MDF Biomedical Freezers

Power to counteract frequent door openings



Model No.	MDF-U334	MDF-U5312	MDF-MU300H	MDF-MU500H
<b>Temperature Control Range</b>	-20°C to -30°C			
<b>Effective Capacity</b>	274 liters	482 liters	274 liters	482 liters
<b>External Dimensions (W x D x H)*</b>	614 x 709 x 1620 mm	804 x 772 x 1802 mm	610 x 598 x 1620 mm	800 x 772 x 1802 mm
<b>Internal Dimensions (W x D x H)</b>	490 x 486 x 1290 mm	658 x 607 x 1272 mm	490 x 486 x 1290 mm	658 x 607 x 1272 mm
<b>Net Weight (Approx.)</b>	81 kg	132 kg	76 kg	124 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 plasma storage



MDF-U5412H 482 L



### MDF Biomedical Freezers

-40°C

The ideal freezing environment for the preservation



MDF-U443 426 L



MDF-U5412 482 L

Model No.	MDF-U5412H	MDF-U443	MDF-U5412
Temperature Control Range	-20°C to -40°C	-15°C to -40°C	-20°C to -40°C
Effective Capacity	482 liters	426 liters	482 liters
External Dimensions (W x D x H)*	804 x 772 x 1802 mm	800 x 832 x 1810 mm	804 x 772 x 1802 mm
Internal Dimensions (W x D x H)	658 x 607 x 1272 mm	640 x 615 x 1090 mm	658 x 607 x 1272 mm
Net Weight (Approx.)	132 kg	213 kg	132 kg (PA, PR) 134 kg (PK)

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

### MDF Biomedical Freezers

-30°C

Power to counteract frequent door openings



MDF-137 138 L



MDF-237 221 L



MDF-437 425 L

Model No.	MDF-137	MDF-237	MDF-437
Temperature Control Range		-20°C to -30°C	
Effective Capacity	138 liters	221 liters	425 liters
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.

### MBR Blood Bank Refrigerators

4°C

Robust design for safest storage of whole blood



MBR-107DH 79 L



MBR-506DH 425 L



MBR-305GR 302 L

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

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

D: 32-day strip chart recorder  
G: 1-day/7-day/32-day circular chart recorder  
R: Drawer type



MBR-705GR 622 L



MBR-1405GR 1301 L

Model No.	MBR-705GR	MBR-1405GR	
Temperature		4°C	
Effective Capacity	622 liters	1301 liters	
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

## MPR Pharmaceutical Refrigerators

2°C to 14°C

Uniform storage temperature for the most demanding applications



Model No.	MPR-S163	MPR-S313	MPR-514	MPR-514R	MPR-1014	MPR-1014R
<b>Temperature Control Range</b>	2°C to 14°C					
<b>Effective Capacity</b>	158 liters	340 liters	489 liters	486 liters	1033 liters	1029 liters
<b>External Dimensions (W x D x H)*</b>	800 x 465 x 1090 mm	800 x 465 x 1800 mm	900 x 600 + [58] mm x 1790 mm	900 x 600 + [58] mm x 1790 mm	1800 x 600 + [58] mm x 1790 mm	1800 x 600 + [58] mm x 1790 mm
<b>Internal Dimensions (W x D x H)</b>	720 x 300 x 725 mm	720 x 350 x 1435 mm	800 x 465 x 1300 mm		1700 x 465 x 1300 mm	
<b>Net Weight (Approx.)</b>	71 kg	100 kg	141 kg	147 kg	246 kg	258 kg
	Wire shelves type	Wire shelves type	Wire shelves type	Drawer type	Wire shelves type	Drawer type

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

## MPR Pharmaceutical Refrigerators

2°C to 23°C

Uniform storage temperature for the most demanding applications



Model No.	MPR-721	MPR-721R	MPR-1411	MPR-1411R
<b>Temperature Control Range</b>	2°C to 23°C			
<b>Effective Capacity</b>	684 liters	671 liters	1364 liters	1359 liters
<b>External Dimensions (W x D x H)*</b>	770 x 830 x 1955 mm		1440 x 830 x 1950 mm	
<b>Internal Dimensions (W x D x H)</b>	650 x 710 x 1500 mm		1320 x 710 x 1500 mm	
<b>Net Weight (Approx.)</b>	174 kg	193 kg	248 kg	287 kg
	Wire shelves type	Drawer type	Wire shelves type	Drawer type

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

## MPR Pharmaceutical Refrigerators with Freezer

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

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



Model No.	MPR-715F	MPR-215F	MPR-414F	MPR-414FS
<b>Temperature Control Range</b>	Refrigerator: 2°C to 14°C		Freezer: -20°C to -30°C	
<b>Effective Capacity</b>	Refrigerator: 415 liters Freezer: 176 liters	Refrigerator: 176 liters Freezer: 39 liters	Refrigerator: 340 liters Freezer: 82 liters	
<b>External Dimensions (W x D x H)*</b>	900 x 715 x 1910 mm	540 x 557 x 1794 mm	800 x 600 x 1805 mm	
<b>Internal Dimensions (W x D x H)</b>	Refrigerator: 810 x 615 x 894 mm Freezer: 770 x 552 x 422 mm	455 x 466 x 917 mm 420 x 342 x 267 mm	720 x 495 x 1425 mm 317 x 440 x 576 mm	
<b>Net Weight (Approx.)</b>	170 kg	86 kg	126 kg	119 kg

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

FS: No glass window

### Optional Accessories (for MDF/MBR/MPR series) Temperature Recorder/Mounting Brackets

Recorder Type	32-day Strip Chart Recorder		2-month Strip Chart Recorder		1-day/7-day/32-day Circular Chart Recorder		
Model No.	MTR-4015LH-PE/PA	MTR-0621LH-PE/PA	MTR-85H-PW	MTR-155H-PW	MTR-G04A-PA/ MTR-G04C-PE	MTR-G85A-PA/ MTR-G85C-PE	MTR-G3504A-PA/ MTR-G3504C-PE
<b>Recording Range (°C)</b>	-40 to +14	-6 to +20	-100 to +50	-170 to +30	-10 to +40	-100 to +40	-10 to +40 / -60 to +40
<b>No Mounting Brackets Required</b>	MDF-MU300H MDF-U334 MDF-U443	MPR-414F/FS MPR-215F [ MBR-107DH MBR-506DH ]*	MDF-U443 MDF-594/794 MDF-594AT/794AT	MDF-1156	[ MBR-1405GR MBR-305GR MBR-705GR ]*	MDF-UJ302VX MDF-DU502VX/DU502VXC MDF-DU702VX/DU702VXC MDF-DC500VX/DC700VX MDF-U33V/U54V/U55V/U74V MDF-U900V/DU900VC MDF-DU300H/DU502VH MDF-DU701VH/DU702VH MDF-C8V1	
<b>Recorder Mounting Brackets</b>	MPR-S30-PW MDF-U5312/MDF-U5412 MDF-U731M/MDF-U5412H MDF-MU339/MU539/MU539D MDF-MU500H MPR-215F/MPR-414F/FS MPR-715F	MPR-S163/MPR-S313 MPR-514/514R MPR-1014/1014R MPR-721/721R MPR-1411/1411R MPR-715F	MDF-DU302VX MDF-DU502VX/DU502VXC MDF-DU702VX/DU702VXC MDF-DC500VX/DC700VX MDF-U33V/U54V/U55V/U74V MDF-DU900V/DU900VC MDF-DU300H/DU502VH MDF-DU701VH/DU702VH MDF-C8V1	MDF-C2156VAN			
<b>Sensor Cover</b>	MDF-S30150-PW MPR-S7-PW				MPR-S163/S313 MPR-514/514R MPR-1014/1014R MPR-721/721R MPR-1411/1411R	MDF-U5312/MDF-U5412 MDF-U5412H MDF-MU339/MU539/MU539D MDF-U731M MDF-MU500H	MPR-215F MPR-414F/FS MPR-715F
<b>Recording Paper</b>	RP-40-PW	RP-06-PW	DF-38FP-PW	DF-38FP-PW	RP-04-PW	RP-08-PW	RP-04-PW
<b>Ink Pen</b>	-	-	DF-38FP-PW	DF-38FP-PW	PG-R-PW	PG-R-PW	PG-RB-PW

\* MBR has recorder as a standard accessory.



MCO CO<sub>2</sub> Incubators

Optimising cell culture outcomes and reproductivity



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



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



Ambient temp. +5°C to 50°C



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



MCO Multi-Gas Incubators

Ambient temp. +5°C to 50°C



MCO-170M 161 L  
MCO-170ML



MCO-5M 49 L



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

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

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



MCO-80IC 851 L



MCO-5AC 49 L



MCO-18AC 170 L



Model No.	MCO-5AC	MCO-18AC	MCO-80IC
Temperature Control Range	Ambient temperature + 5°C to 50°C (AT 5°C to 35°C)		
CO <sub>2</sub> Range	0 to 20%		
Humidity	95 ±5% R.H.		Normal mode; Over 80% R.H. High humidity mode; Over 90% R.H.
Interior Volume	49 litres	170 litres	851 litres
External Dimensions [W x D x H]*	480 x 548 x 575 mm	620 x 710 x 900 mm	986 x 853 x 2040 mm
Internal Dimensions [W x D x H]	350 x 378 x 375 mm	490 x 523 x 665 mm	806 x 693 x 1524 mm
Net Weight [Approx.]	49 kg	92 kg	275 kg

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

Model No.	MCO-170M/170ML	MCO-5M
Temperature Control Range	Ambient temperature + 5°C to 50°C (AT 5°C to 35°C)	
CO <sub>2</sub> Range	0 to 20%	
O <sub>2</sub> Range	1 to 18%, 22 to 80%	
Humidity	95 ±5% R.H.	
Interior Volume	161 litres	49 litres
External Dimensions [W x D x H]*	620 x 730 x 905 mm	480 x 548 x 575 mm
Internal Dimensions [W x D x H]	490 x 523 x 665 mm	350 x 378 x 375 mm
Net Weight [Approx.]	77 kg	50 kg

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

Stacking Kits (optional)

Lower unit	Upper unit	MCO-170AIC/170AICL MCO-170AICUV/170AICUVL MCO-170AICUVH/170AICUVHL MCO-170M/170ML	MCO-170AICD MCO-170AICDL MCO-170AICUVD MCO-170AICUVDL	MCO-230AIC MCO-230AICL MCO-230AICUV MCO-230AICUVL	MCO-5AC MCO-5M	MCO-18AC
MCO-170AIC/170AICL MCO-170AICUV/170AICUVL MCO-170AICUVH/170AICUVHL MCO-170M/170ML	MCO-170PS-PW	MCO-170PS-PW	—	—	—	—
MCO-170AICD/170AICDL MCO-170AICUVD/170AICUVDL	MCO-170PS-PW	MCO-170PS-PW	—	—	—	—
MCO-230AIC/230AICL MCO-230AICUV/230AICUVL	MCO-230SB-PW	MCO-230SB-PW	MCO-170PS-PW	—	—	MCO-230SB-PW
MCO-5AC/MCO-5M	—	—	—	—	(Standard)	—
MCO-18AC	MCO-170SB-PW	MCO-170SB-PW	—	—	—	(Standard)*

\*0.5 kit is included and fixed under rear cover of MCO-18AC.

Other Options (for MCO series)

	MCO-170AIC/170AICL MCO-170AICUV MCO-170AICUVL MCO-170AICUVH MCO-170AICUVHL MCO-170M/170ML	MCO-170AICD MCO-170AICDL MCO-170AICUVD MCO-170AICUVDL	MCO-230AIC MCO-230AICL MCO-230AICUV MCO-230AICUVL	MCO-5AC MCO-5M	MCO-80IC	MCO-18AC
UV system set <sup>5</sup>	MCO-170UVS-PE <sup>3</sup> /PA <sup>4</sup>	MCO-170UVSD-PE <sup>3</sup>	MCO-170UVS-PE <sup>3</sup> /PA <sup>4</sup>	MCO-19UVS-PE <sup>3</sup> /PA <sup>4</sup> /PK	MCO-80UVS-PE <sup>3</sup> /PA <sup>4</sup> /PK	MCO-18UVS3-PE <sup>3</sup> /PA <sup>4</sup> /PK
H <sub>2</sub> O <sub>2</sub> decon board	MCO-170HB-PE <sup>3</sup> /PA <sup>4</sup>	—	MCO-170HB-PE <sup>3</sup> /PA <sup>4</sup>	—	—	—
Electric Lock	MCO-170EL-PW	Standard	MCO-170EL-PW	—	—	—
H <sub>2</sub> O <sub>2</sub> generator	MCO-HP-PW	—	MCO-HP-PW	—	—	—
H <sub>2</sub> O <sub>2</sub> reagent	MCO-H202-PV	—	MCO-H202-PV	—	—	—
Gas regulator	MCO-010R-PW	MCO-010R-PW	MCO-010R-PW	MCO-010R-PW	—	MCO-010R-PW
Gas auto changer	MCO-21GC-PW	MCO-21GC-PW	MCO-21GC-PW	MCO-5GC-PW	MCO-80GC-PW	MCO-21GC-PW
STD gas auto calibration kit	MCO-SG-PW	MCO-SG-PW	MCO-SG-PW	—	—	—
Tray (same as standard accessory)	MCO-170ST-PW	MCO-170ST-PW	MCO-230ST-PW	MCO-30ST-PW	MCO-80ST-PW	MCO-47ST-PW
Half tray	MCO-25ST-PW	MCO-25ST-PW	MCO-30ST-PW	—	—	MCO-25ST-PW
Roller base	MCO-170RB-PW	MCO-170RB-PW	MCO-230RB-PW	MCO-5RB-PW	—	MCO-170RB-PW
Small door	MCO-170ID-PW	—	—	—	MCO-80ID-PW	—
Interface board <sup>6</sup>	MTR-L03-PW or MTR-480-PW	MTR-L03-PW or MTR-480-PW	MTR-L03-PW or MTR-480-PW	MTR-L03-PW or MTR-480-PW	MTR-L03-PW or MTR-480-PW	MTR-L03-PW or MTR-480-PW
Interface board [4-20 mA Transmitter]	MCO-420MA-PW	MCO-420MA-PW	MCO-420MA-PW	—	—	—
Roller bottle rack mount	—	—	—	—	MCO-80RBS-PW	—
Auto water supply system	—	—	—	—	MCO-80AS-PW	—

<sup>3</sup> For 220 V—240 V 50 Hz—60 Hz <sup>4</sup> For 110 V—120 V 60 Hz <sup>5</sup> MCO-170UVSD is equipped with MCO-170AICUVD/170AICUVDL as standard. MCO-170UVS is equipped with MCO-170AICUV/170AICUVL/170AICUVH/170AICUVHL and MCO-230AICUV/230AICUVL as standard. <sup>6</sup> Only for MTR-5000 [data acquisition system] users.

MIR Cooled Incubators

-10°C to 60°C

All-round performance



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

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

Intuitive and easy operable Heated Incubators



Model No.	MIR-H163	MIR-H263
<b>Temperature Control Range</b>	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)	
<b>Interior Volume</b>	93 litres	153 litres
<b>External Dimensions (W x D x H)*</b>	580 x 595 x 820 mm	730 x 645 x 870 mm
<b>Internal Dimensions (W x D x H)</b>	450 x 460 x 450 mm	600 x 510 x 500 mm
<b>Net Weight (Approx.)</b>	50 kg	67 kg

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

MLR Climate Chambers

0°C to 50°C (Lamp OFF)  
 10°C to 50°C (Lamp ON)

Versatile Climate Chambers



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

\* External dimensions of main cabinet only - see dimension drawings on flyers showing handles and other external projections. H: Humidifier type  
 • The surface of the cooling device may rust by the excrement of the insects when putting many insects in the chamber. We recommend frequent maintenances.

MLS Portable Laboratory Autoclaves

105°C to 126°C | 45°C to 135°C

Convenient sterilisation on demand offers great flexibility

(MLS-3020U)

(MLS-3751L, MLS-3781L)



Model No.	MLS-3020U	MLS-3751L	MLS-3781L
<b>Temperature Control Range</b>	105°C to 126°C	45°C to 135°C	
<b>Effective Internal Capacity</b>	47 litres	50 litres	75 litres
<b>External Dimensions (W x D x H)*</b>	440 x 550 x 1050 mm	478 x 632 x 748 mm	478 x 632 x 965 mm
<b>Chamber Dimensions (dia. x depth)</b>	300 x 670 mm	370 x 415 mm	370 x 630 mm
<b>Net Weight (Approx.)</b>	67 kg	61 kg	71 kg

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

U: CE marked  
 Models MLS-3751L/3781L are for laboratory use.

