

## MPR Natural Refrigerant Pharmaceutical Refrigerator with Freezer



MPR-N450FH



462 L (R: 326L / F: 136L)

Providing a complete storage solution; refrigerator and freezer in one unit. The MPR-N450FH combines high-performance refrigeration with a -30°C freezing environment within a small footprint for flexible, reliable and convenient sample storage. Natural refrigerants minimise environmental impact for a sustainable storage solution.

### Environmentally Friendly Storage Solution

Naturally occurring hydrocarbon (HC) refrigerants have minimal effect on the environment and are compliant with environmental legislation for climate control. Combined with inverter technology, these refrigerants also provide more efficient cooling and lower running costs.

### Stable, Uniform Temperatures

Inverter compressor (refrigerator compartment) can run at a range of speeds depending on the cooling requirement, ensuring a stable temperature. A duct system ensures uniform temperature distribution throughout the refrigerator and fast recovery of temperature after routine door openings to minimise fluctuation.

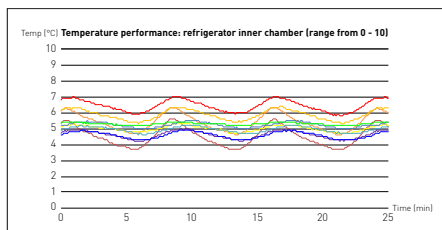
### Precise Control & Intelligent Monitoring

A microprocessor controller and accurate sensors maintain precise refrigerator and freezer temperatures that are displayed simultaneously on an OLED panel. A USB port provides simple and convenient transfer of logged data to a PC including temperature, door opening times and alarm history.



### Environmentally Friendly

Ideal for laboratories looking to reduce their carbon footprint and environmental impact to comply with sustainability policies.



### High Performance Sample Storage

MPR Refrigerators are designed specifically for laboratory applications, with precise performance even under demanding conditions.



### Two Temperatures, One Unit

Secure storage at both freezing and refrigerated temperatures, within a minimal footprint, is an ideal solution for installation in smaller spaced.



## Pharmaceutical Refrigerators with Freezer

### Optimized for Superior Usability

One unit with dual temperature control requires minimal installation space. Four-door design reduces air loss during door opening and makes efficient use of space in front of the unit. Two specially designed compressors offer quiet operation for installation in busy working environments without disruption.

### Temperature controllability

The OLED panel has good visibility and intuitive operation. It displays detailed temperatures with increment of 0.1°C, minimal and maximal temperature for every 24 hours and can show refrigerator and freezer temperature simultaneously.



The USB port and log functions simplifies temperature data management.

### Safe & Secure Storage

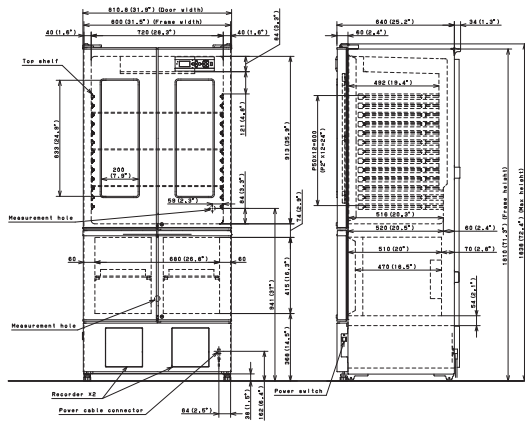
Multiple safety systems such as high/low temperature audible and visual alarms, remote alarm and door open alarm are standardly equipped. The refrigerator and freezer compartment can be locked separately. Optional temperature recorders for the refrigerator and freezer compartment can be installed.

### Ease Of Use



Removable glass shelves inside the refrigerator compartment enables easy cleaning. Clear visibility inside the refrigerator compartment is established by a LED light.

Optional containers for the freezer compartment are available for flexible storage solutions.



Model Number	MPR-N450FH-PE	
	Refrigerator	Freezer
<b>Dimensions</b>		
External Dimensions (W x D x H) <sup>1)</sup>	mm	800 x 640 x 1810 <sup>1)</sup>
Internal Dimensions (W x D x H)	mm	720 x 516 x 913 (refrigerator)   680 x 470 x 415 (Freezer)
Volume	litres	326   136
Net Weight	kg	129
<b>Performance</b>		
Temperature control range <sup>2)</sup>	°C	2- 14 <sup>2)</sup>   -20- -30 <sup>2)</sup>
<b>Control</b>		
Controller	Microprocessor with non-volatile memory	
Display	Digital (White graphic Organic LED), 1 °C (increment of 0.1)	
Temperature sensor	Thermistor	
<b>Refrigeration</b>		
Cooling Method	Fan forced air circulation	Direct cooling
Defrost method	Cyclical defrost	Manual
Refrigerant	R-600a	R-290 (HC refrigerant)
Insulation	PUF	
<b>Construction</b>		
Exterior Material	Painted Steel	
Interior Material	ABS Resin	Painted Steel
Outer Doors	qty	4, glass window [2]
Outer Door Lock		Y   Y
Shelves	qty	Tempered glass (3)   Coated steel wires (2)
Max. load - per shelf	kg	25   15
Max. load - total	kg	105
Access Port	qty	Two ports available R(1), F(1)
- Position		Back
- Diameter	Ø mm	30
Casters	qty	4
Interior light		LED
<b>Alarms (R = Remote Alarm, V = Visual Alarm, B = Buzzer Alarm)</b>		
Power Failure <sup>3)</sup>		R <sup>3)</sup>
High Temperature		V-B-M-R
Low Temperature		V-B-M-R
Door open		V-B-M
<b>Electrical and Noise Level</b>		
Power Supply	V	230V 50Hz single phase
Noise Level <sup>4)</sup>	dB [A]	41
<b>Options</b>		
Temperature recorders		-   -
Temperature chart recorders		MTR-0621LH-PE   -
Chart paper		RP-06-PW   -
Recorder housing		MPR-S30-PW   -
Circular type		MTR-G3504C-PE   MTR-G3504C-PE
Chart paper		RP-G3504-PW
Ink pen		PG-RB-PW
Recorder housing		MPR-S7-PW   -
Continuous strip type		-   MTR-4015LH-PE
Chart paper		-   RP-40-PW
Recorder housing		-   MPR-S30-PW
Battery kit for power failure alarm		MPR-48B2-PW <sup>5)</sup>
Containers inside freezer		-   MPR-45FCS-PW <sup>5)</sup>
Door window blanking plates		MPR-45BP-PW   -

Appearance and specifications are subject to change without notice.

PUF = Rigid polyurethane foamed insulation  
 V = Visual alarm  
 B = Buzzer alarm  
 M = Message  
 R = Remote alarm

<sup>1)</sup> Exterior dimensions of main cabinet only, excluding handle (no handle available) and other external projections - See dimensions drawings on website for full details

<sup>2)</sup> Air temperature measured at refrigeration compartment centre and freezer compartment centre, ambient temperature +30°C, no load

<sup>3)</sup> Requires optional battery kit for power failure alarm MPR-48B2-PW

<sup>4)</sup> Nominal value - Background noise 20dB(A)

<sup>5)</sup> MPR-45FCS-PW is a set of 2 containers. Two sets of MPR-45FCS-PW are required to fill the complete freezer compartment.



PHC Europe B.V.  
 Nijverheidsweg 120 | 4879 AZ Etten-Leur | Netherlands  
 T: +31 (0) 76 543 3839 | F: +31 (0) 76 541 3732  
[www.phchd.com/eu/biomedical](http://www.phchd.com/eu/biomedical)