



TwinGuard ECO Pharmaceutical Refrigerator

2°C to 14°C

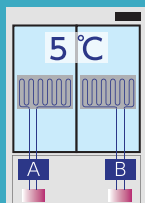


1165 L / 1155 L

The two MPR Series PHCbi Pharmaceutical Refrigeration Showcase models with large storage capacity perfectly preserve samples, reagents, and pharmaceuticals through high-reliability temperature control. Along with employing natural hydrocarbon (HC) refrigerants and inverter-controlled compressors, power consumption has also been reduced by more than 78% compared to conventional models. The “TwinGuard ECO” models featuring two refrigerating circuits are a perfect solution to an ideal model that can effectively respond, should any problem occur.

Twin Guard (dual cooling) ensures stable in-chamber temperature*

A single unit incorporates two independent refrigerating circuits. Should one circuit experience a problem, the other circuit will continue to maintain in-chamber temperature at SV 5°C±3°C. The double-safe circuits ensure preserving the crucial stored items with greater safety.



*At AT 23°C
Temperature transition with one-compressor operation

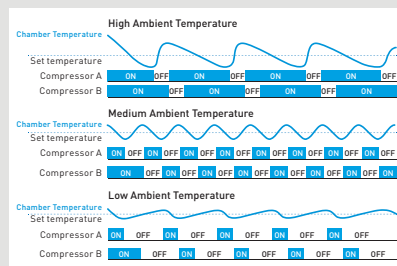
Natural Refrigerants and Inverter Technology

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 without compromising cooling performance, ambient tolerance and recovery time following door openings.

OLED Control Panel

The microprocessor controller and OLED display have good visibility and intuitive operation. Control buttons allow convenient but secure user control. Refrigerator temperature can be displayed in 0.1°C increments. Minimum/maximum temperatures are automatically displayed every 12/24 hours. All alarm conditions are displayed and recorded.

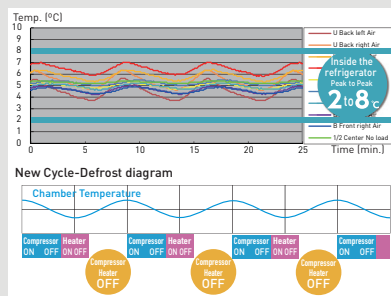
In-chamber temperature control adapts to ambient temperature



*Varies with installation environment and operating conditions

Compressor A and B operate under independent control. Power consumption is automatically minimized through monitoring installation location ambient temperature and freezer load status. Operation is automatically controlled by selecting the optimum of the three patterns shown above.

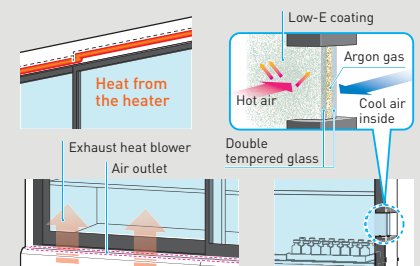
Temperature Stability and Uniformity



* May differ from actual operation graph.

Natural CFC-free refrigerants, inverter-controlled compressors, and a new Cycle Defrost system combine to improve in-chamber temperature control. Peak-to-peak measurements at 9 positions inside the chamber indicate temperature distribution within 2°C to 8°C.

Enhanced sliding glass door

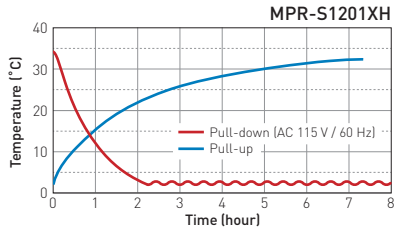


The sliding glass door is meticulously designed to increase energy efficiency and safeguards stored items against heat transfer through the window. The thermal glass door has a Low-E coating and features a double glass pane separated by argon gas. Together with heat coming from the heated top and warm air emitted from the air vents near the sliding glass door rail, it prevents the formation of moisture on the glass surface.

**TwinGuard ECO
Pharmaceutical Refrigerator**

Performance Data

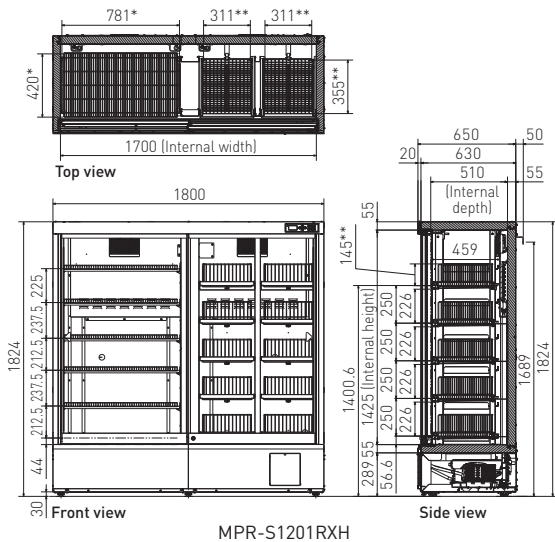
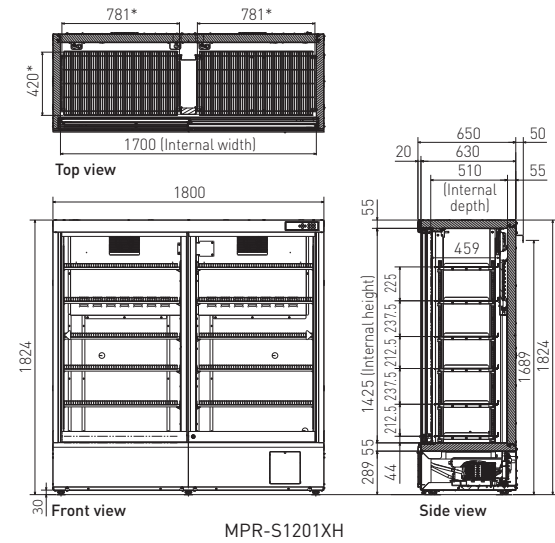
AT35°C Pull-down & Pull-up Temperature



Dimensions

Unit : mm

*Shelf dimensions
**Drawer dimensions



| Model Number | MPR-S1201XH-PA | MPR-S1201RXH-PA |
|---|--|---|
| External dimensions (W x D x H) ¹⁾ | 1800 x 650 x 1824 | |
| Internal dimensions (W x D x H) | 1700 x 510 x 1425 | |
| Volume | 1165 | 1155 |
| Net weight | 265 | 277 |
| Performance | | |
| Temperature control range ²⁾ | °C | 2 to 14 |
| Control | | |
| Controller | Microcomputer control system | |
| Display | Organic EL display | |
| Temperature sensor | Thermistor sensor | |
| Refrigeration | | |
| Refrigerant | HC refrigerant | |
| Insulation | Rigid polyurethane foamed-in place | |
| Construction | | |
| Exterior material | Painted Steel | |
| Interior material | Painted Steel | |
| Outer door | qty | 2 |
| Outer door lock | Y | |
| Shelves | qty | 12 [Hard steel wire with polyethylene coating] / 6 [Hard steel wire with polyethylene coating] |
| Dimensions | mm | |
| Max. load - per shelf | 50 kg/shelf | |
| Drawers | qty | 10 [Hard steel wire powder baking finish] |
| Dimensions | mm | |
| Max. load - per drawer | 20 kg/drawer | |
| Compressor | Inverter type, Output: 130 W x 2 | |
| Evaporator | Fin and tube type | |
| Condenser | Wire and tube | |
| Access port | qty | 3 |
| Access port position | Back | |
| Access port diameter | ∅ mm | 30 |
| Casters | qty | 6 |
| Interior lights | qty | 24 (LED) |
| Alarms [V = Visual Alarm, B = Buzzer Alarm, M = Message, R = Remote Alarm] | | |
| Power failure | R ³⁾ | |
| High temperature | V-B-M-R | |
| Low temperature | V-B-M-R | |
| Door open | V-B-M | |
| Remote alarm contact | Allowable contact capacity: DC 30 V, 2 A ⁴⁾ | |
| Electrical and Noise Level | | |
| Power supply | V | 115 |
| Frequency | Hz | 60 |
| Noise level ⁵⁾ | dB [A] | 42 |
| Options | | |
| Name card holder | MPR-50CH-PW | |
| Battery kit for power failure alarm | MPR-48B2-PW | |
| Temperature recorders | - Circular type | MTR-G04A-PA - Chart paper: RP-G04-PW - Ink pen: PG-R-PW - Recorder mounting bracket MPR-S7-PW |
| | - Continuous strip type | MTR-0621LH-PA - Chart paper: RP-06-PW - Recorder mounting bracket MPR-S30-PW |
| Optional Communication Systems | | |
| Digital interface (RS232C/RS485) | MTR-480-PW ⁴⁾ | |
| Ethernet interface (LAN) | MTR-L03-PW ⁴⁾ | |

1) Exterior dimensions of main cabinet only, excluding handle and other external projections.
 2) Ambient temperature; -5°C to 35°C, no load.
 3) Remote alarm includes optional power failure alarm MPR-48B2-PW (V-B-M-R alarm).
 4) Standard signal and interface cables with a maximum length of 30 meters are recommended.
 5) Nominal value - Background noise 20 dB[A].

• Appearance and specifications are subject to change without notice.
Caution: PHC Corporation guarantees this product under certain warranty conditions. However, please note that PHC Corporation shall not be responsible for any loss or damage to the contents of the product.