



MPR PHARMACEUTICAL REFRIGERATORS

Uniform storage temperature for the most demanding applications. MPR Pharmaceutical Refrigerators offer a complete solution for the most demanding requirements for storage of pharmaceuticals, medicines, vaccines, and other temperature-sensitive applications.

Models:

MPR-215F-PE | MPR-414F-PE | MPR-715F-PE

MPR-721(R)-PE | MPR-1411(R)-PE

MPR-514(R)-PE | MPR-1014(R)-PE

MPR-S163-PE | MPR-S313-PE

PHARMACEUTICAL REFRIGERATORS



MPR Pharmaceutical Refrigerators with Freezer

MPR-215F-PE
MPR-414F-PE
MPR-715F-PE



MPR Pharmaceutical Refrigerators

MPR-721(R)-PE
MPR-1411(R)-PE



MPR Sliding door Pharmaceutical Refrigerators

MPR-S163-PE
MPR-S313-PE
MPR-514(R)-PE
MPR-1014(R)-PE

Stable and reliable control is a critical aspect of the high-performance cooling required in exacting research and production environments.

We strive to develop and manufacture high-quality and innovative medical and laboratory equipment that meets the specific needs of its customers in scientific fields. MPR Pharmaceutical Refrigerators incorporate significant design and performance features that are suited to demanding laboratory environments. The benefits of this application-specific design include improved temperature stability, added reliability and intelligent security for the highest levels of sample protection.



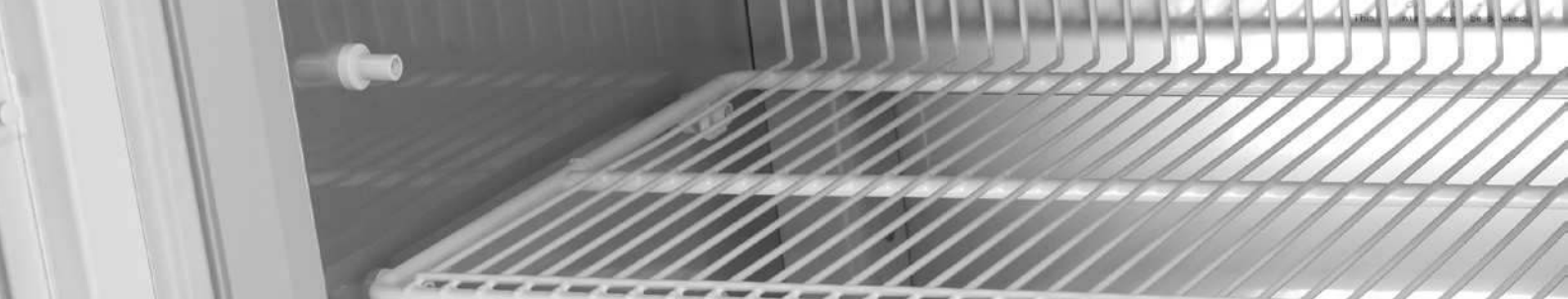
Uniform storage temperature for the most demanding applications

Scientific Applications

An increasing number of customers, including pharmaceutical and biotechnology companies, research institutes, hospitals and universities, are opting for the clear advantages offered by MPR Pharmaceutical Refrigerators from PHCbi.

MPR Pharmaceutical Refrigerators are designed specifically for laboratory storage applications, which make them ideally suited for:

- Temperature-sensitive samples
- Reagents and test kits
- Diagnostic samples
- Clinical trial samples
- Drugs, medicines and pharmaceutical products
- Chemicals
- Temperature-dependent experimental systems
- Quality Control testing



Specifically designed for demanding scientific and laboratory storage, offering accurate temperatures throughout the chamber.

Every component is carefully selected and matched for optimum operation under demanding laboratory conditions, whilst the internal layout of the refrigeration system is meticulously designed for maximum heat removal that reduces stress on the system and, therefore, provides the highest levels of reliability and durability. With the highest quality construction and superior performance, MPR Pharmaceutical Refrigerators are ideal for storage of valuable samples.

SUPERIOR COOLING

Cutting edge refrigeration technology ensures effective storage of a wide range of biological materials.

UNIFORM TEMPERATURES

Temperature uniformity throughout the refrigerator ensures that all samples can be stored in identical conditions. The Forced Air Circulation technology quickly restores temperature uniformity following routine door openings. Coupled with fast-response microprocessor temperature control this ensures a stable environment for biological samples.

CYCLE DEFROST FUNCTION FOR STABLE TEMPERATURES

The Cycle Defrost system design ensures that defrost occurs only when necessary and is not based on time. This system runs automatically by constantly monitoring refrigeration temperature increase during defrost, ensuring that this is minimal with no temperature spikes. The evaporation heater also adds additional protection against excessive decreases in cabinet temperature, which can be caused by low ambient temperature.

ADVANCED MONITORING AND SAFETY FEATURES

Minimise the risks to important biological samples and experiments with added sample security. Comprehensive set point, alarm monitoring, and diagnostic functions are supervised by the microprocessor controller with digital display of all input/output functions. Visual and audible signals alert users to any abnormal conditions enabling them to take prompt action, while a potential remote alarm contact ensures added peace of mind even during non-working hours.

QUIET OPERATION

The MPR Pharmaceutical Refrigerators offer quiet operation for installation in busy working environments without disruption.

COMPARISON WITH DOMESTIC REFRIGERATORS

PRODUCT CHARACTERISTICS	MPR SERIES	DOMESTIC REFRIGERATOR
RELIABLE CONTROL UNAFFECTED BY AMBIENT TEMPERATURE	✓	⊗
DIGITAL DISPLAY OF CHAMBER TEMPERATURE	✓	Some Models
PRECISE TEMPERATURE SETTING WITH MICROPROCESSOR CONTROL	✓	⊗
DIGITAL VARIABLE TEMPERATURE CONTROL OF REFRIGERATOR (2°C TO 14°C)	✓	⊗
DIGITAL TEMPERATURE CONTROL OF FREEZER (-20°C TO -30°C)*	✓	⊗
UNIFORM TEMPERATURE AT ALL SHELF LEVELS	✓	⊗
SEPARATE OPERATION OF REFRIGERATOR AND FREEZER*	✓	⊗
WINDOW FOR VIEWING	✓	⊗
ACCESS PORT FOR REMOTE MONITORING	✓	Some Models
DIGITAL OR CIRCULAR TEMPERATURE RECORDER (OPTIONAL)	✓	⊗
DOOR AJAR TRIGGERS INDICATOR LIGHT AND AUDIBLE ALARM	✓	Some Models
IRREGULAR TEMPERATURE TRIGGERS ALARM (OPTIONAL)	✓	⊗
REMOTE ALARM TERMINAL (OPTIONAL ON SOME MODELS)	✓	⊗
SELF DIAGNOSTIC FUNCTION	✓	⊗
UNIQUE CYCLE DEFROST / AUTOMATIC DEFROST SYSTEM	✓	⊗

* MPR pharmaceutical refrigerator with freezer only

MPR PHARMACEUTICAL REFRIGERATORS WITH FREEZER

Models: MPR-215F-PE | MPR-414F-PE | MPR-715F-PE

A COMPLETE STORAGE SOLUTION: REFRIGERATOR AND FREEZER IN ONE UNIT

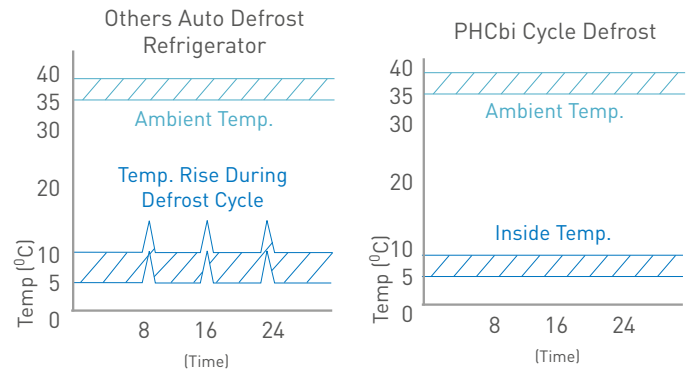
MPR Pharmaceutical Refrigerators with Freezer combine high performance refrigeration with a -30°C freezer environment in one unit.

These models feature dual temperature zones that are provided by separate refrigeration systems for the fridge and freezer section. The multi-door design reduces temperature fluctuation during door openings.

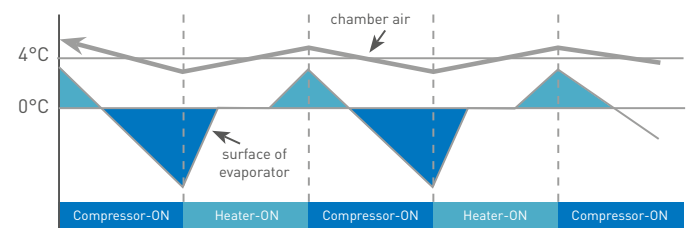
With spacious capacity, these models offer optimal versatility for storage of biological samples across a variety of precise temperatures within a minimal footprint.

TEMPERATURE UNIFORMITY

Refrigeration systems designed for precise and stable biological sample storage between 2°C to 8°C .



Cycle Defrost Function Data



Model: MPR-715F-PE

Microprocessor controls:

- Microprocessor controller.
- Calibration adjustment through the control panel available.
- Integrated alarm functions.

Cycle defrost:

- Unique Cycle Defrost (refrigerator only) initiates only as required and maintains internal temperature uniformity, without fluctuation.

Dual refrigeration systems:

- Separate refrigeration systems and compressors allow differential control of the individual refrigerator and freezer compartments, allowing the freezer section to maintain temperatures as low as -30°C .

Cabinet construction:

- Double-pane windows with special heat reflection film for added protection against heat and UV.
- Energy-saving LED lighting.
- Interior forced air circulation.

MPR PHARMACEUTICAL REFRIGERATORS

Models: MPR-721(R)-PE | MPR-1411(R)-PE

UNIFORM STORAGE TEMPERATURE FOR THE MOST DEMANDING APPLICATIONS

With growing demands in the storage of biological samples, we have advanced our pharmaceutical refrigerator range to meet the specialist needs of its customers - for today and tomorrow.



Model: MPR-721-PE



Model: MPR-1411R-PE

WIDE, ADJUSTABLE, TEMPERATURE RANGE

With a temperature range that can be set anywhere between 2°C to 23°C, MPR Pharmaceutical Refrigerators are ideally suited for sensitive biological storage.

LARGE FANS

The quiet, 120 mm diameter fan ensures an even temperature throughout the cabinet. (MPR-1411-PE models have a double-flow system with two fans), creating tight $\pm 3^{\circ}\text{C}$ uniformity, whilst maintaining excellent recovery characteristics.

ALARMS & SAFETY FEATURES

FEATURE	TRIGGER	TYPE OF ALARM/RESPONSE
HIGH TEMPERATURE ALARM	2°C to 14°C (selectable) above setpoint	Flashing LED & audible alarm
LOW TEMPERATURE ALARM	2°C to 14°C (selectable) below setpoint & 0°C or lower	Flashing LED & audible alarm
KEY LOCK	Lock ON	Set temperature and alarm points cannot be altered
MEMORY BACKUP	Power failure	Memory of settings
DOOR AJAR	Door not closed	Door ajar lamp ON, adjustable delay time of the audible alarm ranges from 1 to 15 minutes
SELF DIAGNOSTICS	Sensor failure and fan or compressor abnormality	Error code shown
REMOTE ALARM CONTACTS	N.O. and N.C. contact available for hook up to an auxiliary alarm system	Dry Contacts

MPR PHARMACEUTICAL REFRIGERATORS

Models: MPR-721(R)-PE | MPR-1411(R)-PE



Model: MPR-1411-PE



Adjustable shelves:

565 mm x 604 mm shelves are strong enough to withstand a load of up to 50 kg in the MPR-721 while shelves in the MPR-1411 can hold up to 40 kg with ease. The shelves can be arranged to accommodate tall apparatus, such as chromatography equipment. Heavier equipment can be accommodated with bespoke, made to order shelves.

Drawer type shelves:

The "R" models are fitted with pull-out drawers, with dimensions of 530 mm x 550 mm and a 100 mm front profile, ideal for holding large bottles and reagent kits. They also allow convenient, space efficient storage and management of samples.



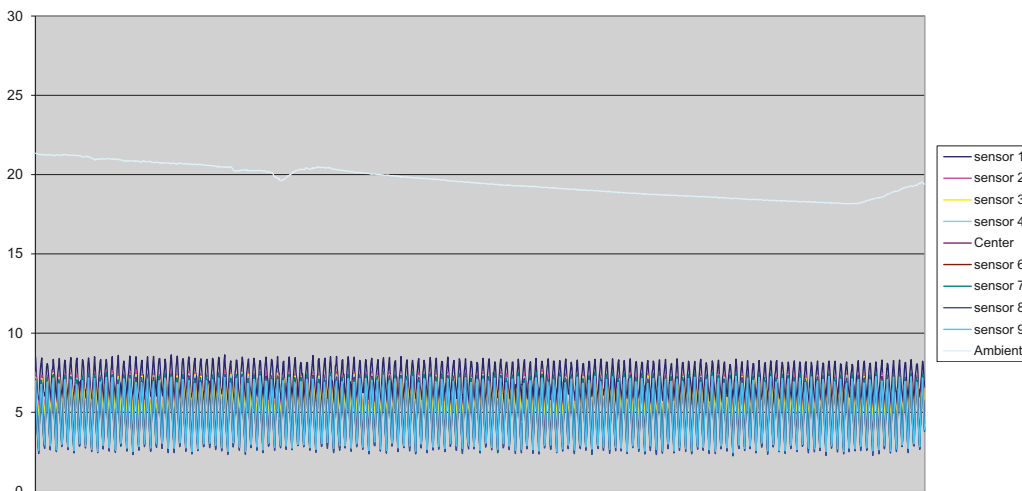
Model: MPR-721R-PE

Easy access front control panel:

A large LED display of actual temperature with intuitive touch pad setting makes operation simple.

User-friendly design and cabinet construction:

The broad, solid frames with effective gaskets ensure excellent temperature stability, whilst double-pane glass windows offer an excellent view of the interior. Optional panels are available to block out light.



Performance

Stable, uniform and controlled cabinet temperature, which is unaffected by outside temperature.

MPR SLIDING DOOR PHARMACEUTICAL REFRIGERATORS

Models: MPR-S163-PE | MPR-S313-PE | MPR-514(R)-PE | MPR-1014(R)-PE

MPR Pharmaceutical Refrigerators with sliding glass doors offer a complete and integrated solution for the increasingly strict storage temperature requirements for pharmaceuticals, medicines, and other temperature sensitive biologicals. The slim, front-to-back design allows for easy retrieval of products, as well as efficient use of space. In a busy and dynamic environment, this can be particularly important in achieving efficient workflows.

EFFECTIVE TEMPERATURE CONTROL

Microprocessor controls ensure that the set temperature is maintained. Even with frequent door openings, the circulation fan provides rapid temperature recovery for a highly reliable, stable, preservation environment that is unaffected by fluctuations in ambient temperature.

USER-FRIENDLY DESIGN

The ergonomic design of the MPR Pharmaceutical Refrigerators provides a clear view of stored items through the large framed windows. The slim profile allows for easy retrieval of products, without the concern for swinging door clearances. Users can choose from adjustable shelving or pull-out drawers to suit their needs.

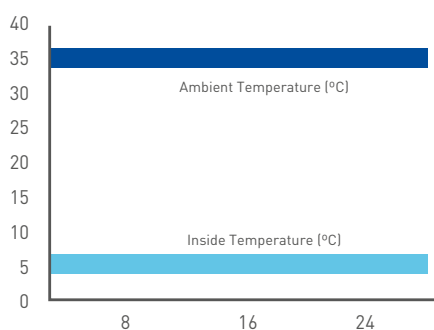
REGULATORY GUIDELINES

MPR Pharmaceutical Refrigerators are designed with regulatory compliance in mind. Exceptional uniformity is paired with easy calibration access to meet critical validated storage regulations.

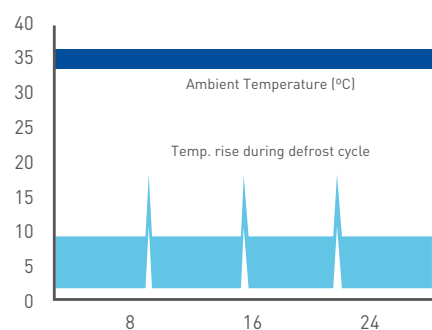


Model: MPR-S163-PE

MPR Pharmaceutical Refrigerators



Conventional Refrigerator



MPR SLIDING DOOR PHARMACEUTICAL REFRIGERATORS

Models: MPR-S163-PE | MPR-S313-PE | MPR-514(R)-PE | MPR-1014(R)-PE

Visual LED Alarm Alerts

Audible and flashing LED visual alarms alert users to the unlikely event of either a high or low temperature condition to protect stored products. An over-shooting prevention circuit automatically switches off the fan motor or heater, if the inside temperature rises abnormally.

Easy to read digital display

Temperature readings are displayed in gradients of 1°C for configurable temperatures ranging from 2° to 14°C.



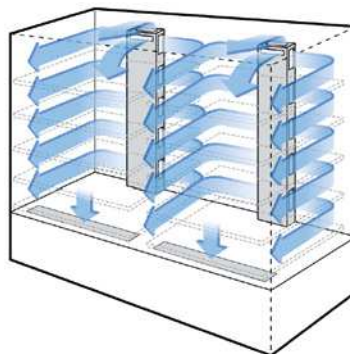
Model: MPR-514R-PE



Model: MPR-1014-PE

Cabinet Construction:

Window door design with protective film allows easy viewing while providing safety against shattering and protection from heat and UV. Key locked doors.



Plenums Direct Airflow:

The Plenum design features uniform cold air flow distribution throughout the chamber to ensure temperature uniformity – essential for validated storage requirements.

SPECIFICATIONS

		MPR Pharmaceutical Refrigerators with Freezer			MPR Pharmaceutical Refrigerators	
Model Number		MPR-215F-PE	MPR-414F-PE	MPR-715F-PE	MPR-721-PE	MPR-721R-PE
External Dimensions (W x D x H) ¹⁾	mm	540 x 557 x 1794	800 x 600 x 1805	900 x 715 x 1910	770 x 830 x 1955	
Internal Dimensions (W x D x H)	mm	455 x 466 x 917 (Ref) 420 x 342 x 267 (Frz)	720 x 495 x 1425 (Ref) 317 x 440 x 576 (Frz)	810 x 615 x 1894 (Ref) 770 x 552 x 422 (Frz)	650 x 710 x 1500	
Volume	litres	176/39 (Ref/Frz)	340/82 (Ref/Frz)	415/176 (Ref/Frz)	684	671
Net Weight (approx)	kg	86	126	168	174	193
Performance						
Temperature setting range (Ref/Frz)	°C	+2 to +14 (Ref) / -20 to -30 (Frz)			+2 to +23	
Temperature control range ²⁾ (Ref/Frz)	°C					
Control						
Controller		Microprocessor			Microprocessor	
Display		LED			LED	
Temperature sensor		Thermistor			Thermistor	
Refrigeration						
Cooling Method		Fan forced air circulation (Ref) / Direct cooling (Frz)			Forced cool air circulation	
Defrost method		Cyclical defrost (Ref) / Manual (Frz)			Forced type (cycle defrost), fully automatic	
Refrigerant		HFC			HFC	
Insulation material		PUF			PUF	
Construction						
Exterior Material		Painted steel			Painted steel	
Interior Material		Styrol resin (Ref) / Painted aluminium (Frz)			Painted steel	
Outer Doors	qty	2, glass window (1)	4, glass window (2)		1 door, double pane glass, self closing	
Outer Door Lock		Y				
Shelves	qty	3/1 (Ref/Frz)	2 + 2 / 1 (Ref/Frz)	3/2 (Ref/Frz)	4 wire shelves, polyethylene-coated	-
Drawers	qty	-	-	-	-	5 coated steel drawers
Max. load - per shelf/drawer	kg	20/10 (Ref/Frz)	25 & 15 /15 (Ref/Frz)	25 & 15 (Ref/Frz)	50	40
Max. load - total	kg	70	95	105	200	200
Access Port	qty	2		1	3	
- position		Left		Back	Left/right/top	
- diameter	∅ mm	30			30	
Casters	qty	4			4	
Interior light		Fluorescent (Ref)		LED	Fluorescent	
Alarms [R = Remote Alarm, V = Visual Alarm, B = Buzzer Alarm]						
Power Failure		R		V-B-R (Optional) ⁴⁾	V-B-R ⁴⁾	
High Temperature		V-B-R ⁴⁾			V-B-R ⁴⁾	
Low Temperature		V-B-R ⁴⁾			V-B-R ⁴⁾	
Door open		V-B			V-B	
Electrical and Noise Level						
Power Supply	V	230V 50Hz single phase			230V 50Hz single phase	
Noise Level ³⁾	dB [A]	35	39	43	41	
Options						
Temperature recorders						
Temperature chart recorder		MTR-0621LH-PE (Ref)			MTR-0621LH-PE	
- chart paper		RP-06-PW			RP-06-PW	
- recorder housing		MPR-S30-PW			MPR-S30-PW	
Circular type		MTR-G3504C-PE (Ref/Frz)			MTR-G04C-PE	
- chart paper		RP-G3504-PW			RP-G04-PW	
- Ink pen		PG-RB-PW			PG-R-PW	
- recorder housing		MPR-S7-PW			MPR-S7-PW	
Continuous strip type		MTR-4015LH-PE (Frz)				
- chart paper		RP-40-PW				
External mounting power failure alarm				MPR-48B-PW	MPR-48B-PW	

1) Exterior dimensions of main cabinet only, excluding handle and other external projections -
See dimensions drawings on website for full details

2) Air temperature measured at refrigerator / freezer centre, ambient temperature +30°C, no load

3) Nominal value. Background noise 20dB

MPR Sliding Door Rharmaceutical Refrigerators							
MPR-1411-PE	MPR-1411R-PE	MPR-S163-PE	MPR-S313-PE	MPR-514R-PE	MPR-514-PE	MPR-1014R-PE	MPR-1014-PE
1440 x 830 x 1950		800 x 465 x 1090	800 x 465 x 1800	900 x 600 x 1790	900 x 600 x 1790	1800 x 600 x 1790	1800 x 600 x 1790
1320 x 710 x 1500		720 x 300 x 725	720 x 350 x 1435	800 x 465 x 1300	800 x 465 x 1300	1700 x 465 x 1300	1700 x 465 x 1300
1364	1359	158	340	486	489	1029	1033
248	287	71	100	147	141	258	246
+2 to +23		+2 to +14					
Microprocessor		Microprocessor					
LED		LED					
Thermistor		Thermistor					
Forced air circulation		Forced air circulation		Forced cool air circulation			
Forced type (cycle defrost), fully automatic		Cyclical defrost (plus forced defrost)		Forced type, fully automatic			
HFC		HFC					
PUF		PUF					
Painted steel		Painted steel					
Painted steel		Stainless steel					
2 doors, double pane glass, self closing		2 sliding doors	4 sliding doors	2 sliding doors			
Y							
8 wire shelves, polyethylene-coated	-	2 wire shelves, clear coated	5 wire shelves, clear coated	5 wire shelves, polyester-coated		10 wire shelves, polyester-coated	
-	10 coated steel drawers	-	-	5 sliding racks	-	10 sliding racks	-
40		20		50/20 (shelf/drawer)	50	50 + 20	50
400	320	40	100	350	250	450	500
3		1					
Left/right/top		Back		Left			
30		30					
4		2		4			
Fluorescent		LED		Fluorescent			
V-B-R (Optional) ⁴⁾		V-B-R (Optional) ⁴⁾					
V-B-R		V-B-R					
V-B-R		V-B-R					
V-B		V-B					
230V 50Hz single phase		230V 50Hz single phase					
42		35	40	42			
MTR-0621LH-PE		MTR-0621LH-PE					
RP-06-PW		RP-06-PW					
MPR-S30-PW		MPR-S30-PW					
MTR-G04C-PE		MTR-G04C-PE					
RP-G04-PW		RP-G04-PW					
PG-R-PW		PG-R-PW					
MPR-S7-PW		MPR-S7-PW					
MPR-48B-PW		MPR-48B1-PW					

DIMENSIONS

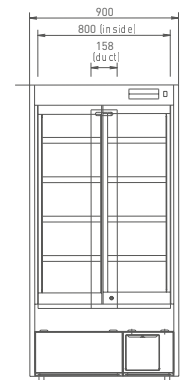
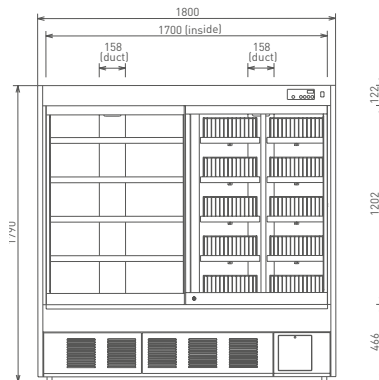
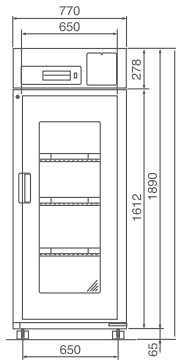
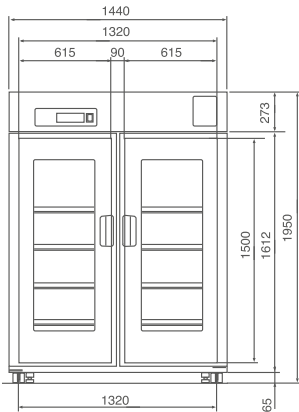
Models: MPR-215F-PE | MPR-414F-PE | MPR-715F-PE | MPR-721(R)-PE | MPR-1411(R)-PE | MPR-514R)-PE | MPR-1014(R)-PE | MPR-S163-PE | MPR-S313-PE

MPR-1411-PE - 1364 LITRES
MPR-1411R-PE - 1359 LITRES

MPR-721-PE - 684 LITRES
MPR-721R-PE - 671 LITRES

MPR-1014-PE - 1033 LITRES
MPR-1014R-PE - 1029 LITRES

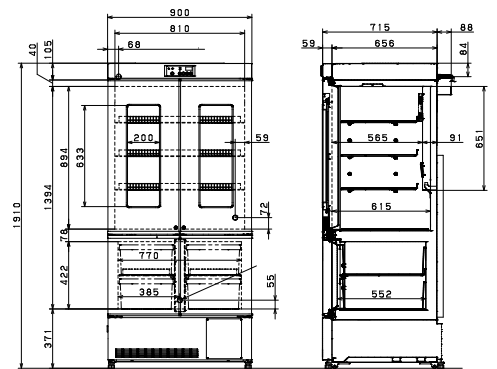
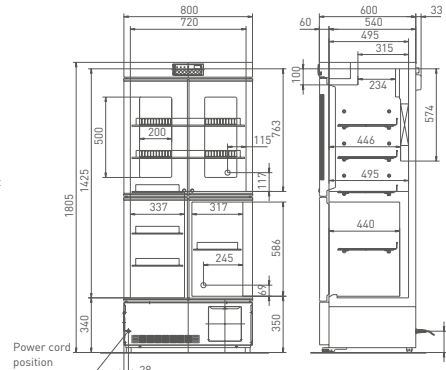
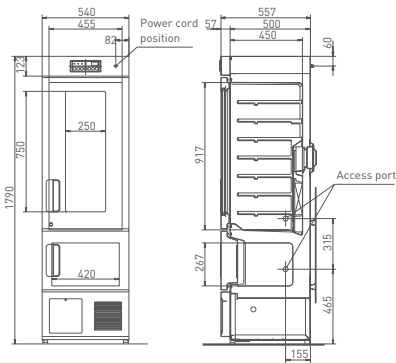
MPR-514-PE - 489 LITRES
MPR-514R-PE - 486 LITRES



MPR-215F-PE - 176 LITRES refrigerator
39 LITRES freezer

MPR-414F-PE - 340 LITRES refrigerator
82 LITRES freezer

MPR-715F-PE - 415 LITRES refrigerator
176 LITRES freezer



MPR-S163-PE - 158 LITRES

MPR-S313-PE - 340 LITRES

