

Large Capacity  
ENVIRO-CENTERS

**SANYO**

MPR-1411/1411R  
MPR-721/721R

Preserve  
above-zero

## Pharmaceutical Refrigerators

Stable and reliable refrigerated environment for  
exacting laboratory requirements



MPR-1411



MPR-1411R



MPR-721



MPR-721R

# Stable temperature environment for clinical, research, pharmaceutical and industrial use.

## Large Capacity ENVIRO-CENTERS

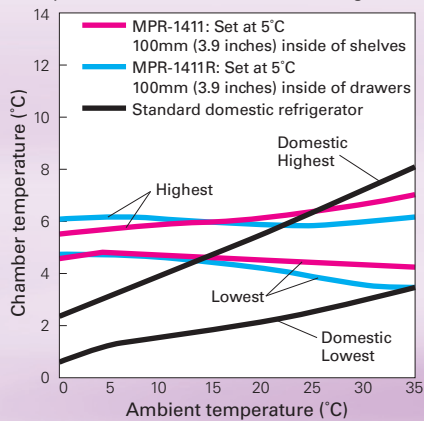
Environmental Laboratory **2°C to 23°C** (ambient temp. 0°C to 35°C)  
Wide temperature range

### Temperature stability

SANYO's temperature control system with thermistor monitor and microprocessor control reliably maintains cabinet temperature at the set level and is unaffected by ambient temperature. Forced air circulation ensures that the cabinet temperature returns to the set point immediately after door openings and remains uniform throughout the cabinet.

### Relationship between chamber temperature and ambient temperature

(Comparison with standard domestic refrigerators)



Adjustable shelves and wide range setpoint for varying laboratory applications including chromatography and pharmaceutical storage.

### MPR-1411



Effective capacity **1,364 liters (48.2 cu.ft.)**

### Speedy & powerful refrigeration

To cope with frequent door openings, Enviro-Centers are equipped with powerful, hermetically sealed compressors. These purpose-built compressors ensure superior pull-down characteristics and precise temperature control.

### Easy-to-manage layout

The interior layout flexibility of Enviro-Centers makes them ideal for running experiments that require stable, cool conditions, as well as storage.

### Standard alarm & safety features

Enviro-Centers are fitted with buzzers and flashing lights to warn of high and low temperature problems. In the event of an irregular rise in cabinet temperature, the heater automatically shuts off and forced air circulation brings the temperature down. Door locks are fitted to safeguard valuable contents.

### Wide temperature range

With a temperature range of 2°C to 23°C, Enviro-Centers are ideally suited for tests that require a stable, cool temperature.

### Large capacity

With a modular width of 770mm (30.3 inches) the MPR-721 offers capacity of 684 liters (24.2 cu.ft.) [MPR-721R: 671 liters (23.7 cu.ft.)], while the 1440mm (56.7 inches)-wide MPR-1411 offers capacity of 1364 liters (48.2 cu.ft.) [MPR-1411R: 1359 liters (48.0 cu.ft.)]. The interior is spacious enough to accommodate column chromatography apparatus or large volumes of reagents, test samples and biologicals.

### Large fans

The 120mm-diameter fan ensures an even temperature throughout the cabinet (MPR-1411/R models have a double flow system with two fans). Heat spots from powered test apparatus are minimized and pull-up characteristics after door openings are outstanding.



Drawers for convenient storage

### MPR-1411R



Effective capacity **1,359 liters (48.0 cu.ft.)**



## HFC refrigerant & HCFC-free insulation

SANYO biomedical equipment is designed for low environmental impact. The MPR-721 and 1411 series use HFC refrigerant and the foamed-in-place insulation is HCFC free.

## Cycle defrost

In the 5°C range, frost buildup on the evaporator is inevitable. This can affect the performance of the heat exchanger. SANYO has solved this problem with a cycle defrost and evaporator temperature sensor system. This system runs automatically, so there is no need to turn off the power for defrosting. Temperature rise during defrost is minimal. The evaporation heater also doubles as protection against drops in cabinet temperature caused by a low ambient temperature.

## Filterless design (MPR-721/721R)

The filterless condenser cuts down on cleaning maintenance.

## Protective glass doors

All glass doors include a protective film to prevent shattering in the event of accidental collisions.

## User-friendly design and double function door

Easy to read and operate control panel featuring a full array of alarm and safety functions. Thru wall access ports are standard to allow access for power cords. Aesthetically attractive exterior color blends well in most lab color schemes. The "catch-free" rounded corners are safe attractive. Doors open smoothly and close automatically. Some laboratory refrigerators have solid doors for temperature stability, while others have glass doors for easy viewing. SANYO Enviro-Centers give you the best of both versions. The broad, solid frames with effective gaskets ensure excellent temperature stability, and the double-pane glass windows offer an excellent view of the interior without compromising temperature stability.

## Adjustable shelves (MPR-721/1411)

The shelves can be arranged to accommodate tall apparatus such as fraction collectors. These shelves are deep enough [620mm (24.4 inches) front to back] and strong enough (50kg load for the MPR-721, 40kg for the MPR-1411) to hold most apparatus.

## Drawer type (MPR-721R/1411R)

The "R" models are fitted with pull-out drawers. With a profile of 100mm (3.9 inches) and 530mm (20.8 inches) front to back, these drawers are deep enough to hold large bottles or reagent kits. They also allow convenient, space-efficient storage and management of patient medications and other items.

The MPR-721R is shipped with five drawers, while the MPR-1411R is shipped with ten drawers, five in each half of the cabinet.

## Alarm and safety features

Features	Trigger	Type of alarm/response
High temperature alarm	2°C to 14°C (selectable) above setpoint	Flashing LED & buzzer
Low temperature alarm	2°C to 14°C (selectable) below setpoint; 0°C or lower	Flashing LED & buzzer
Over heating protection	Interior temperature rises to 40°C	Fan motor & heater OFF
Over cooling protection	Interior temperature lowers to 1°C	Compressor OFF
Tamper proof	Tamper proof key lock ON	Set temperature cannot be altered
Memory backup	Power failure	Memory of settings
Door ajar	Door not closed	Door ajar lamp ON & buzzer
Self diagnostics	Sensor open or short	Error code shown (E01, E02)
Remote terminal	Operation can be checked from office or control room away from the lab	
Temperature recorder	Optional	

## Movable wire shelves for test apparatus and storage flexibility MPR-721



Effective capacity **684 liters (24.2 cu.ft.)**

## Pull-out drawers for convenient filing of storage items MPR-721R



Effective capacity **671 liters (23.7 cu.ft.)**



Easy access front control panel

# Specifications

Model No.	MPR-1411	MPR-1411R	MPR-721	MPR-721R
<b>Exterior dimensions (W x D x H)</b>	1440 x 830 x 1950mm (56.7" x 32.7" x 76.8")		770 x 830 x 1955mm (30.3" x 32.7" x 77.0")	
<b>Interior dimensions (W x D x H)</b>	1320 x 710 x 1500mm (52.0" x 28.0" x 59.1")		650 x 710 x 1500mm (25.6" x 28.0" x 59.1")	
<b>Effective capacity</b>	1364 liters (48.2 cu.ft.)	1359 liters (48.0 cu.ft.)	684 liters (24.2 cu.ft.)	671 liters (23.7 cu.ft.)
<b>Exterior</b>	Galvanised steel with baked-on finish			
<b>Interior</b>	Galvanised steel with baked-on finish			
<b>Doors</b>	2 x double pane glass doors, self closing		1 x double pane glass doors, self closing	
<b>Insulation</b>	HCFC-free rigid foamed-in-place polyurethane			
<b>Shelves/Drawers</b>	8 x polyethylene-coated wire shelves. Max. load: 50kg/shelf	10 x coated steel drawers. Handles with card holder. Max. load: 40kg/drawer	4 x polyethylene-coated wire shelves. Max. load: 50kg/shelf	5 x coated steel drawers. Handles with card holder. Max. load: 40kg/drawer
<b>Access ports</b>	3 locations, 30mm diameter (both sides, cabinet top)			
<b>Lock</b>	2 x cylinder lock		1 x cylinder lock	
<b>Casters</b>	4 pcs			
<b>Cooling method</b>	Forced air circulation with double fan		Forced air circulation with single fan	
<b>Compressor</b>	250W, hermetic reciprocating type		200W, hermetic reciprocating type	
<b>Evaporator</b>	Fin tube type			
<b>Condenser</b>	Fin tube type		Wire tube type	
<b>Refrigerant</b>	R-404A (HFC)		R-134a (HFC)	
<b>Defrost method</b>	Forced type (cycle defrost system), fully automatic hot pipe for automatical evaporation for drain water			
<b>Defrost heater</b>	257W		153W	
<b>Temperature control</b>	Microprocessor controlled on/off type. Thermistor sensor Temp. control range: 2°C to 14°C (ambient temp. -5°C to 0°C no-load) 2°C to 23°C (ambient temp. 0°C to 35°C no-load) (1°C step)			
<b>Safety features</b>	High/low temp. protection circuit, remote alarm contact, temperature lock, part replacement notification, self diagnostics, memory backup (nonvolatile memory).			
<b>High temp. alarm</b>	Flashing LED & buzzer after 15 minutes (MPR-721/721R) or 0 to 15 minutes (MPR-1411/1411R) delay			
<b>Low temp. alarm</b>	Flashing LED & buzzer after 15 minutes (MPR-721/721R) or 0 to 15 minutes (MPR-1411/1411R) delay			
<b>Door ajar alarm</b>	Flashing lamp, buzzer after 0 to 15 minutes delay			
<b>Interior lamp</b>	40W x 1, fluorescent lamp		20W x 1, fluorescent lamp	
<b>Net weight</b>	248kg (546.7 lbs)	287kg (632.7 lbs)	174kg (383.6 lbs)	193kg (425.5 lbs)

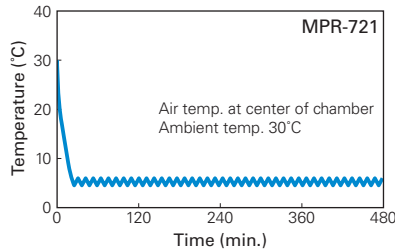
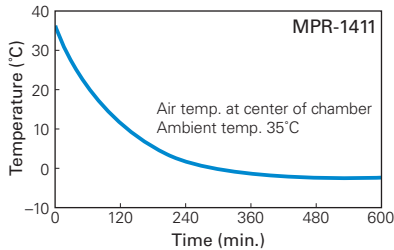
• Appearance and specifications are subject to change without notice.

Caution: SANYO guarantees the product under certain warranty conditions. SANYO in no way shall be responsible for any loss of content or damage to content.

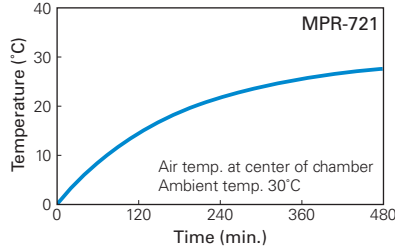
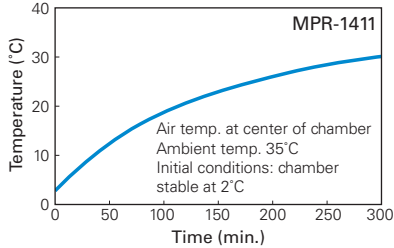
Options	Automatic Temperature Recorder MTR-G04	Automatic Temperature Recorder MTR-0621LH	Battery Installation Box for Power Failure Alarm MPR-48B	SANYO DAQ (data acquisition) System MTR-5000
	Recording range: -10°C to +40°C Recording paper: RP-G04 Recording pen: PG-R Recorder mounting kit: MPR-S7	Recording range: -6°C to +20°C Recording paper: RP-06 Recorder mounting kit: MPR-S30		Ethernet (LAN) Interface: MTR-L03 RS232C/RS485 Interface: MTR-480 Mounting bracket: MPR-48B

## Performance data (Reference Data)

### Pull-down characteristics (no-load)

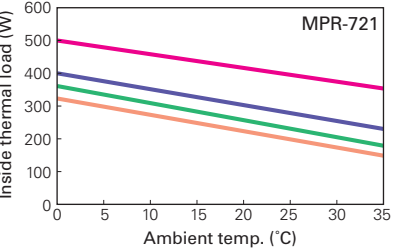
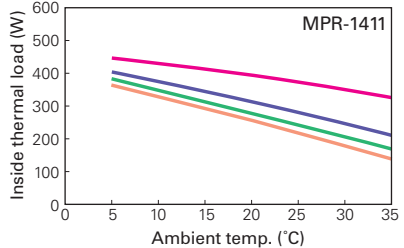


### Pull-up characteristics (no-load)

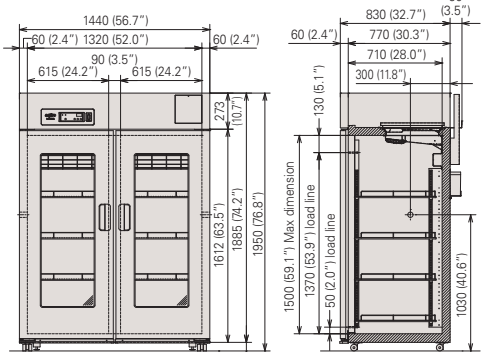


### Test of permissible inside thermal load

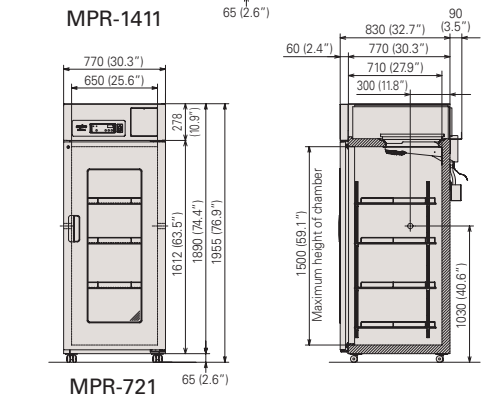
— 23°C  
— 10°C  
— 5°C  
— 2°C



## Dimensions Unit : mm (inch)



MPR-1411



MPR-721

SANYO Electric Co., Ltd., Biomedical Division, Gunma is certified for:

**Quality management system: ISO9001 / Medical devices quality management system: ISO13485 / Environmental management system: ISO14001**

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