

## Large Capacity ENVIRO-CENTERS

Stable and reliable refrigerated environment for exacting laboratory requirements



MPR-1410

MPR-1410R

MPR-720

MPR-720R

**2°C to 23°C** (ambient temp. 0°C to 35°C)

## MPR-1410/1410R/720/720R

### Specifications

Model No.	Large Capacity ENVIRO-CENTER Environmental Laboratory Refrigerator				Environmental Laboratory Refrigerator				
	MPR-1410		MPR-1410R		MPR-720		MPR-720R		
<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>	1370 liters (48.36 cu.ft.)		1365 liters (48.2 cu.ft.)		684 liters (24.2 cu.ft.)		671 liters (23.7 cu.ft.)		
<b>Exterior</b>	Acrylic finish baked on zinc galvanized steel								
<b>Interior</b>	Acrylic finish baked on zinc galvanized steel								
<b>Doors</b>	2 x double pane glass doors, self closing				1 x double pane glass doors, self closing				
<b>Insulation</b>	CFC-free rigid foamed-in-place polyurethane								
<b>Shelves/Drawers</b>	8 x polyethylene-coated wire shelves. Max. load: 40kg/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 x 30mmø (2 in sides, 1 in cabinet top)								
<b>Locks</b>	2 x cylinder type				1 x cylinder type				
<b>Castors</b>	4								
<b>Cooling method</b>	Forced air circulation with double fan				Forced air circulation with single fan				
<b>Compressor</b>	300W hermetic rotary				220W hermetic rotary				
<b>Evaporator</b>	Fin tube type								
<b>Condenser</b>	Fin tube type				Wire tube type				
<b>Refrigerant</b>	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>Power source</b>	<b>Voltage</b>	110/115	220	220	230/240	110/115	220	220	230/240
	<b>Hz</b>	60	60	50	50	60	60	50	50
	<b>Phase</b>	1ø	1ø	1ø	1ø	1ø	1ø	1ø	1ø
	<b>Amps</b>	3.7	2.0	2.4	2.8	2.4	1.3	1.5	1.6
<b>Max. heat release</b>	1565kJ/h				1440kJ/h				
<b>Temperature control</b>	Microprocessor controlled on/off type. Thermistor sensor Temp. control range: 2°C to 14°C (ambient temp. -5°C~0°C no-load) 2°C to 23°C (ambient temp. 0°C~35°C no-load) (1°C step)								
<b>Temperature display</b>	Digital type (1°C step)								
<b>Safety features</b>	High temp. protection circuit, low temp. protection circuit, temperature lock, self diagnostics, memory backup (nonvolatile memory).								
<b>High temp. alarm</b>	When temp. 5°C or more above set level, flashing LED & buzzer after 15-minute delay				Flashing lamp when temp. 5°C or more above set point, buzzer after 15-minute delay				
<b>Low temp. alarm</b>	When interior temp. drops to 0°C or lower, flashing LED & buzzer								
<b>Door ajar alarm</b>	Flashing lamp, buzzer after 2-minute delay								
<b>Interior lamp</b>	40W x 1, fluorescent lamp				20W x 1, fluorescent lamp				
<b>Net weight</b>	231kg (509.3 lbs)		267kg (588.63 lbs)		167kg (368.2 lbs)		186kg (410 lbs)		

\*Appearance and specifications are subject to change without notice.

### Options

#### Automatic Temperature Recorder MTR-G04

**Specifications:**  
Recording range: -10°C to +40°C, accuracy ±1 degree  
Recording paper: RP-G04  
Recording pen: PG-R  
Recorder mounting kit: MPR-S7

#### Automatic Temperature Recorder MTR-0620LH

**Specifications:**  
Recording paper: RP-06  
Recorder mounting kit: MPR-S30

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It is common knowledge that product should be stored in stable conditions below ambient temperature. Domestic refrigerators are capable of storage at 4°C, but they suffer from the following drawbacks:

1. Temperature varies every time the door is opened.
2. Temperature rises during defrosting.
3. Cabinet temperature is easily affected by ambient temperature, with the risk of contents freezing if ambient drops below 0°C.
4. Temperature setting by dial is inaccurate (no digital temperature indication).

SANYO has built solutions for all these problems into its medical refrigerators, which have been well received in hospitals, laboratories and research facilities around the world.

### Main Features

1. Stable, uniform, and controlled cabinet temperature is unaffected by ambient temperature.
2. Cycle defrost with heater allows defrosting without rises in cabinet temperature.
3. Standard alarm and safety features prevent irregular temperature fluctuations in cabinet.

Movable wire shelves for test apparatus and storage flexibility

### MPR-720

Pull-out drawers for convenient filing of storage items

### MPR-720R

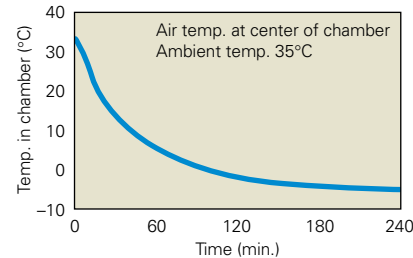


**Effective capacity**  
**684 liters (24.15 cu.ft.)**

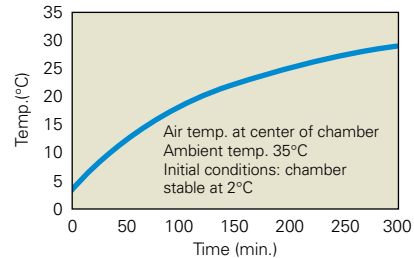
**Effective capacity**  
**671 liters (23.7 cu.ft.)**

### Performance data (Reference Data)

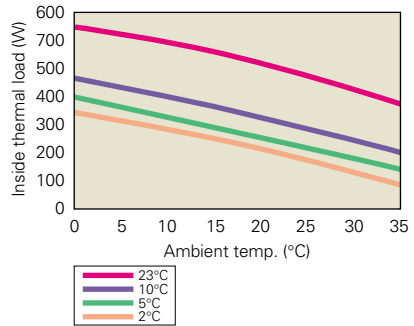
#### MPR-720 Pull-down characteristics (no-load)



#### MPR-720 Pull-up characteristics (no-load)



#### MPR-720 Test of permissible inside thermal load



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

## Large Capacity ENVIRO-CENTERS

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



Easy access front control panel

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

### MPR-1410



Effective capacity  
**1,370 liters (48.36 cu.ft.)**

Drawers for convenient storage

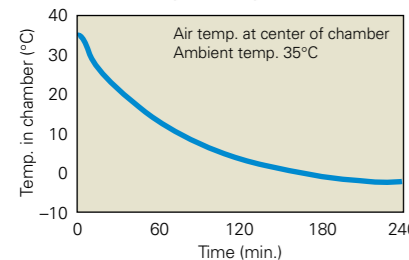
### MPR-1410R



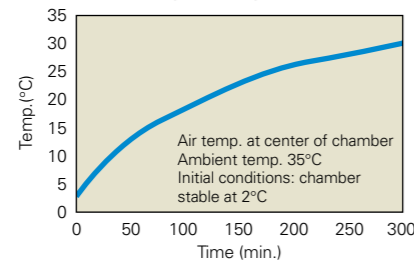
Effective capacity  
**1,365 liters (48.2 cu.ft.)**

## Performance data (Reference Data)

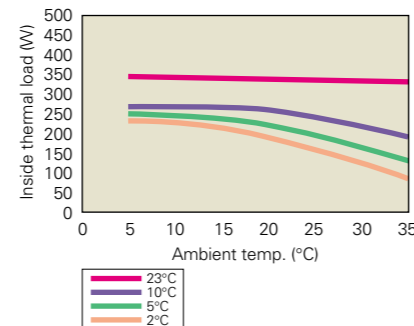
MPR-1410 Pull-down characteristics (no-load)



MPR-1410 Pull-up characteristics (no-load)

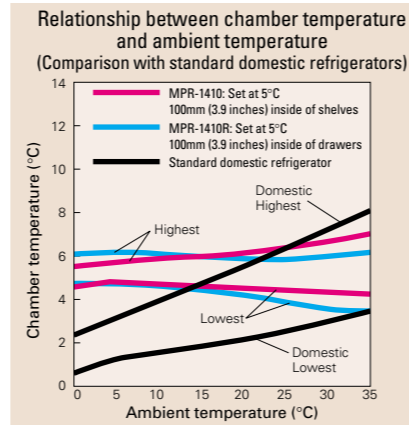


MPR-1410 Test of permissible inside thermal load



## 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.



## 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.

## Large capacity (1365 liters/48.2 cu.ft.)

With a modular width of 770mm (30.3 inches) the MPR-720 offers capacity of 684 liters (24.1 cu.ft.) [MPR-720R: 671 liters (23.7 cu.ft.)], while the 1440mm (56.7 inches)-wide MPR-1410 offers capacity of 1370 liters (48.4 cu.ft.) [MPR-1410R: 1365 liters (48.2 cu.ft.)]. The interior is spacious enough to accommodate column chromatography apparatus or large volumes of reagents, test samples and biologicals.

## 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 fans

The 120mm-diameter fan ensures an even temperature throughout the cabinet (MPR-1410/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.



## HFC refrigerant & CFC-free insulation

SANYO biomedical equipment is designed for low environmental impact. The MPR-720 and 1410 series use HFC refrigerant R-134a and the foamed-in-place insulation is also CFC 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.

## New features (MPR-720/720R)

New concept features have been added to the MPR-720 and 720R. The filterless condenser cuts down on cleaning maintenance. All glass doors now 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. Through 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-720/1410)

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-720, 40kg for the MPR-1410) to hold most apparatus.



## Drawer type (MPR-720R/1410R)

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-720R is shipped with five drawers, while the MPR-1410R 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	1410R: 5°C or more above setpoint 720R: 2°C to 14°C (selectable) above setpoint	Flashing LED & buzzer after 15 minutes
Low temperature alarm	1410R: 5°C more below setpoint; 0°C or lower 720R: 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
Temperature lock	Lock ON	Set temperature cannot be altered
Memory backup	Power failure	Memory of settings
Door ajar	Door not closed	Door ajar lamp ON
Self diagnostics	Sensor open or short	Error code shown (E1, E2)
Remote terminal	Operation can be checked from office or control room away from the lab	
Temperature recorder	Optional	

## Dimensions (Unit : mm)

