Think GAIA
For Life and the Earth

SANYO

Large Capacity Laboratory Refrigerators

MPR-1410
MPR-1410R
MPR-721
MPR-721R

Model: MPR-1410

Stable and reliable refrigerated environment for exacting laboratory requirements. Stable temperature environment for clinical research, pharmaceutical and industrial use. Adjustable shelves and wide range setpoint for varying laboratory applications including chromatography and pharmaceutical storage.

SANYO is committed to developing green technologies that provide energy efficiency resulting in lower operational costs with less impact on the environment.

GREEN product

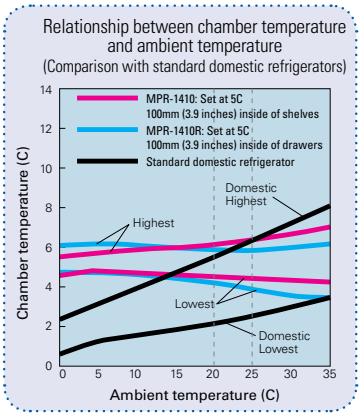
Large Capacity Laboratory Refrigerators: MPR Series

Temperature Stability

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

Wide Temperature Range

With a temperature range of 2°C to 23°C, SANYO's MPR Series refrigerators are ideally suited for many tests that require a stable, cool temperature or general cold storage.



Easy Access Front Control Panel

Speedy and Powerful Refrigeration

For frequent door openings, SANYO's MPR Series refrigerators are equipped with powerful, hemetically sealed compressors. These purpose-built compressors ensure superior pull-down characteristics and precise temperature control.

Easy-to-Manage Layout

The interior layout flexibility of the MPR Series refrigerators makes them ideal for running experiments that require stable, cool conditions, as well as general cold storage.

Standard Alarm and Safetly Features

SANYO's MPR Series refrigerators are fitted with alarms and flashing indicator LED to warn of high and low temperature conditions. 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 standard to safegaurd valuable contents.

HFC Refrigerant & CFC-Free Insulation

SANYO biomedical equipment is designed for low environmental impact. The MPR-721 and 1410 series use HFC refrigerant R-134A, and foamed-in-place insulation is CFC free.

Large Capacity

With a modular width of 30.3 inches (770mm) the MPR-721 offers capacity of 24.1 cu.ft (684 liters) [MPR-721R: 23.7 cu.ft. (671 liters)], while the 56.7 inches (1440 mm)-wide MPR-1410 offers capacity of 48.4 cu.ft. (1370 liters) [MPR-1410R: 48.2 cu.ft. (1365 liters)]. The interior is spacious enough to accomodate column chromatography apparatus or large volumes of reagents, test samples and biologicals.

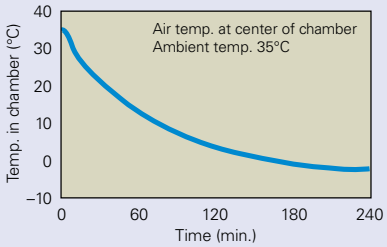
Large Fans

The 4.7"-diameter fan ensures an even temperature throughout the cabinet (MPR-1410R 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.

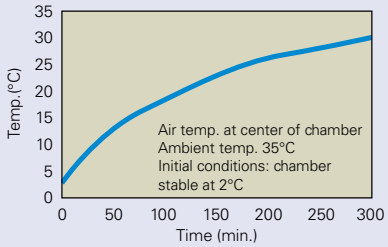
Stable & Reliable Refrigerator Environment

MPR-1410 Performance Data

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



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



Adjustable Shelves (MPR-721 & MPR-1410)

The shelves can be arranged to accommodate tall apparatus such as fraction collectors. These shelves are deep enough [24.4 inches (620mm) front to back] and strong enough (110lbs load for the MPR-721, 88lbs for the MPR-1410) to hold most apparatus.

Drawer Type (MPR-721R & MPR-1410R)

The "R" models are fitted with pull-out drawers. With a profile of 3.9 inches (100mm) and 20.8 inches (530mm) 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-1410R is shipped with ten drawers, five in each half of the cabinet.*

Features

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 each time the door is opened.
2. Temperature rises during defrost cycle.
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 incorporated solutions for all these problems into its biomedical refrigerators, which have been well received in hospitals and research facilities around the world.

MAIN FEATURES

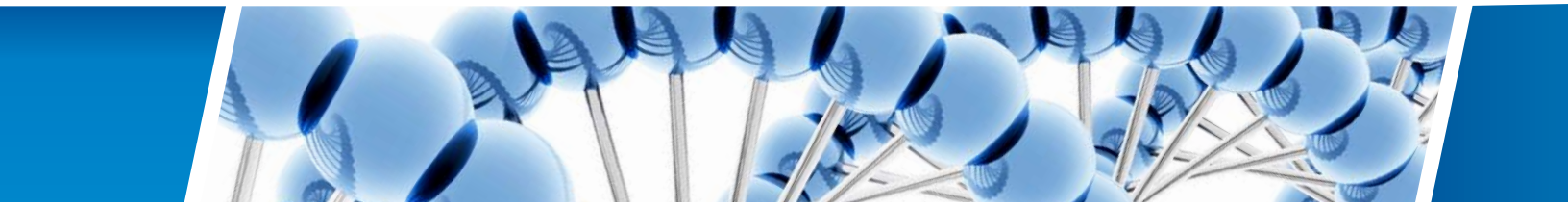
1. Stable, uniform and controlled cabinet temperature is unaffected by outside temperature.
2. Cycle defrost allows defrosting without rises in cabinet temperature.
3. Standard alarm & safety features prevent irregular temperature flucuations in cabinet.

User Friendly Design & Double Door Function

Easy to read and operate control panel features 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 in most lab color schemes. The "catch-free" rounded corners are safe and 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 MPR Series refrigerators 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. Optional panels are available to block out light.

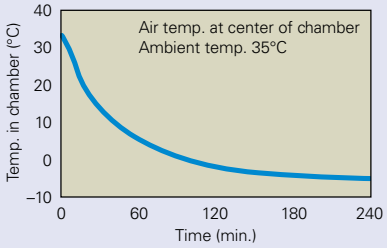
Cycle Defrost

In the 4°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 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.

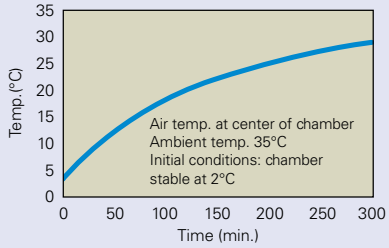


MPR-721 Performance Data

MPR-721 Pull-down characteristics (no-load)



MPR-721 Pull-up characteristics (no-load)



MPR Series

Model	Shelves Drawers
MPR-1410	8 Wire Shelves
MPR-1410R	10 Drawers
MPR-721	4 Wire Shelves
MPR-721R	5 Drawers

New concept features have been added to the MPR-721 and MPR-721R. A filterless condenser cuts down on cleaning maintenance. Also, all glass doors now include a protective film to prevent shattering in the event of accidental collisions.

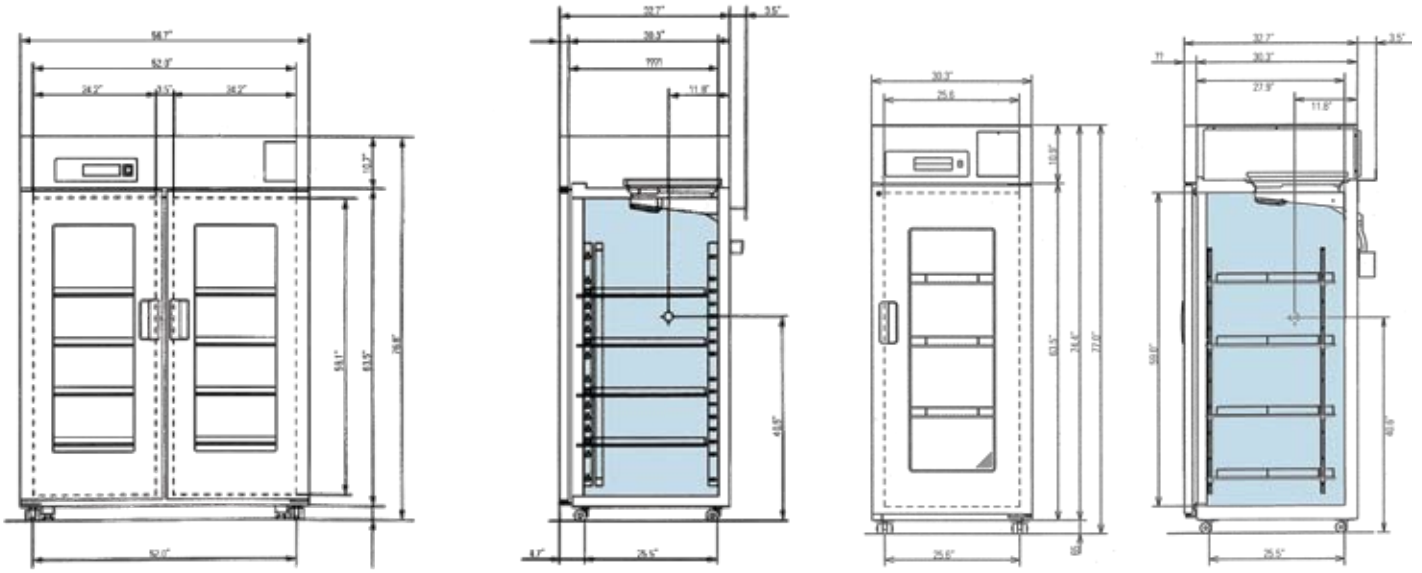
MPR-1410
Effective capacity
48.4 cu.ft.

MPR-1410R
Effective capacity
48.2 cu.ft.

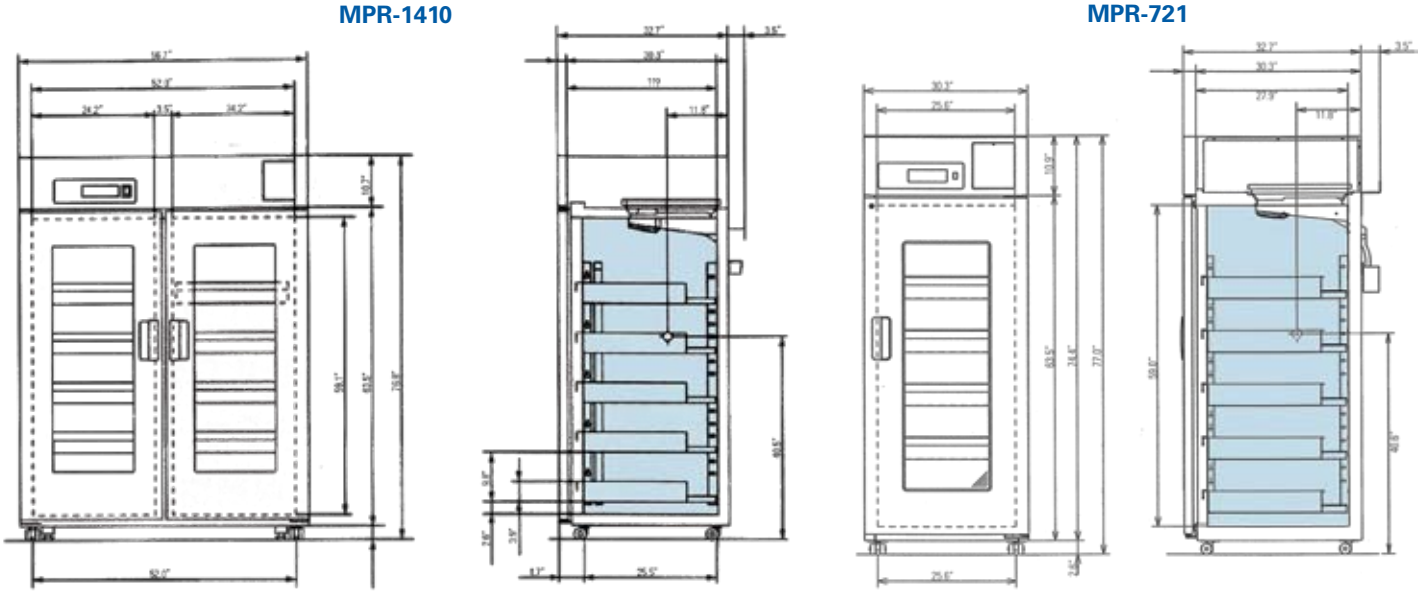
MPR-721
Effective capacity
24.2 cu.ft.

MPR-721R
Effective capacity
23.7 cu.ft.

Dimensional Data



MPR-1410



MPR-721

MPR-1410R

MPR-721R

Alarm & Safety Features

Features	Trigger	Type of alarm/response
High temperature alarm	1410R: 5°C or more above setpoint 721R: 2°C to 14°C (selectable) above setpoint	Flashing LED & audible alarm after 15 minutes
Low temperature alarm	1410R: 5°C more below setpoint; 0°C or lower 721R: 2°C to 14C (selectable) below setpoint; 0°C or lower	Flashing LED & audible alarm
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, Model # MTR-C954	

Specifications

MPR-1410, 1410R, 721 and 721R

Model No.	MPR-1410	MPR-1410R	MPR-721	MPR-721R
Exterior dimensions (W x D x H)	56.7" x 36.2" x 76.8" 1440 x 830 x 1950mm		30.3" x 36.2" x 77.0" 770 x 830 x 1955mm	
Interior dimensions (W x D x H)	52.0" x 28.0" x 59.1" 1320 x 710 x 1500mm		25.6" x 28.0" x 59.1" 650 x 710 x 1500mm	
Effective capacity	48.4 cu.ft. (1370 liters)	48.2 cu.ft. (1365 liters)	24.2 cu.ft. (684 liters)	23.7 cu.ft. (671 liters)
Exterior	Acrylic finish baked on zinc galvanized steel			
Interior	Acrylic finish baked on zinc galvanized steel			
Doors	2 x double pane glass doors, self closing		1 x double pane glass doors, self closing	
Insulation	CFC-free rigid foamed-in-place polyurethane			
Shelves/Drawers	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
Access ports	3 x 30mmø (2 in sides, 1 in cabinet top)			
Locks	2 x cylinder type		1 x cylinder type	
Casters	4			
Cooling method	Forced air circulation with double fan		Forced air circulation with single fan	
Compressor	300W hermetic rotary		220W hermetic rotary	
Evaporator	Fin tube type			
Condenser	Fin tube type		Wire tube type, Filterless design	
Refrigerant	R-134a (HFC)			
Defrost method	Forced type (cycle defrost system), fully automatic hot pipe for automatical evaporation for drain water			
Defrost heater	257W		153W	
Power source — **Voltage**	115		115	
Power source — **Hz**	60		60	
Power source — **Phase**	1ø		1ø	
Power source — **Amps**	3.7		2.4	
Max. heat release	1565btu		1440btu	
Temperature control	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)			
Temperature display	Digital type (1C step)			
Safety features	High temp. protection circuit, low temp. protection circuit, temperature lock, self diagnostics, memory backup (nonvolatile memory).			
High temp. alarm	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	
Low temp. alarm	When interior temp. drops to 0C or lower, flashing LED & buzzer			
Door ajar alarm	Flashing lamp, buzzer after 2-minute delay			
Interior lamp	40W x 1, fluorescent lamp		20W x 1, fluorescent lamp	
Net weight	509.3 lbs (231kg)	588.63 lbs (267kg)	368.2 lbs (167kg)	410 lbs (186kg)

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

SANYO offers a wide range of high quality validation services for all of our equipment. These services include on site validation, custom validation, custom validation support packages, factory acceptance testing, critical utility qualifications, NIST traceable calibration. Choosing SANYO as an equipment supplier and validation consultant can greatly reduce the time and cost involved with setting up and operating new equipment.

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