

Incubator Series

Cooled Incubators

MIR-154-PE, MIR-254-PE & MIR-554-PE



Pure Performance

Panasonic's MIR programmable cooled incubators are recognised as exceptional units ideal for a wide range of applications, from water testing to insect studies.

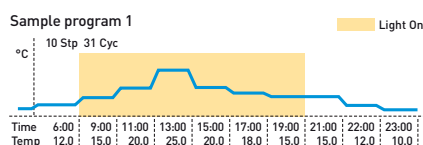
Pure Performance

Panasonic Cooled Incubators have been recognised as exceptional units suitable for a wide range of applications. These incubators offer precise, repeatable control of programmable temperatures and lighting patterns which are essential to biological research and environmental studies.

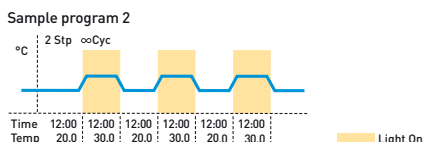
Improved experimentation of repetitive operation and operability

Programmable operation function with microprocessor control

Combining flexible temperature (H), light on/off (L) and time control (T), a maximum 12-step plus constant operation or max. 12-step repeating operation can be programmed according to the experimentation requirements. A program can be set to repeat for a minimum of one time to a maximum of 98 times or continuous repeat.



Sample program 1 • 24-hour Clock mode • 10 steps, cycle: 31 times
This is one cycle consisting of 10 steps, which is repeated 31 times in this program (max. is 98 cycles or continuous repeat). At program start, select "Clock mode" on the running mode screen.



Sample program 2 • Timer mode • 2 steps, cycle: Continuous repeat
This is one cycle consisting of 2 steps, which is repeated continuously in this program (max. is 98 cycles or continuous repeat). At program start, select "Timer mode" on the running mode screen.

Program input is simple and the incubator accommodates a range of diversified experimentation requirements, proving ideal for experimentation during night time and holidays, experimentation that requires settings to be changed, microorganism culture and preservation.

The Cooled Incubators also offer the choice of timer mode, 24-hour clock mode and timer mode to suit user experiments. Up to 10 programs can be stored for convenient retrieval and set-up of frequently run experiments. Individual programs can be combined using the join function.

Constant operation mode without step operation is also available.

High-precision Temperature Environment

Wide temperature control range from -10°C to +60°C

With a wide temperature range from -10°C to +60°C, Panasonic Cooled Incubators allow a full range of precise experiments including environmental tests to microorganism cultures and plant germination tests.

Precise microprocessor temperature control

Panasonic Cooled Incubators incorporate a high precision microprocessor temperature control combined with a heater PID and compressor on/off system.



MIR-154-PE
123 litres



MIR-254-PE
238 litres



MIR-554-PE
406 litres

MIR-154-PE, MIR-254-PE & MIR-554-PE

Intuitive operation with new LCD display

- Easy operability with LCD display and pop up menu.
- 24-hour Clock mode and Timer mode are selectable.
- Combination of multiple programs in Join function.
- Programmable operation start date and hour.
- Operation data can be auto-recorded and graphically displayed.
- Data can be sent to PC using optional communication interface board (MTR-480).
- Chamber light ON-OFF control.



Condensation prevention (MIR-554 only)

A humidity reduction mode helps reduce inner chamber condensation that may occur during high temperature operation.

Prevents medium from dessication (MIR-154, 254 only)

A DC fan is designed to be aimed obliquely upward to prevent direct air flow contacting samples. This reduces medium drying by approx. 50% in MIR-154, and by approx. 15% in MIR-254.

Meticulous design for comfortable operation

The Cooled Incubators are crafted with a comfortable rounded corner design and offer a reversible door for a choice of left- or right-hand door opening. Low vibration setting is also available depending on the sample to be cultured (reversible door is unavailable for MIR-554).

Energy savings

In addition to a microprocessor-controlled high efficient heater output and compressor on/off, an updated control program and low heat-emission inner chamber fan have been incorporated to allow high energy saving operation over a wider range of ambient environments.

Automatic defrosting

To combat annoying frost during low temperature operation, the Panasonic Cooled Incubators provide an automatic defrost function that operates automatically at a specified time every day. Manual defrosting is also selectable.

Light timer control

On/off programmed timer control for standard equipped fluorescent light (15W x 1pc) is available. Optional light

addition kit (MIR-L15) can add three more fluorescent lights into the chamber ceiling, giving approx. 3000 lux at 30cm below from the light sources.

Environmentally conscious

Microprocessor controlled optimum control results in high energy savings and a HCFCfree foamed-in-place rigid polyurethane insulator also helps save energy.

Alarm and security system to protect sample safety

Automatic setting temperature alarm

When the chamber temperature deviates more than $\pm 1^{\circ}\text{C}$ to $\pm 5^{\circ}\text{C}$, all digits of the digital indicator flash. 15 minutes (default) later a buzzer will sound. This system also automatically allows programmed operation or setting value changes.

Independent over-temperature protection device

This incubator incorporates an excessive temperature prevention circuit that protects experimentation materials in the rare event that a temperature abnormality does occur. This system turns off the heater and chamber fan motor when too high a temperature is detected, and turns off the compressor when too low a temperature is detected.

Programmed memory backup mechanism

Should the power source be interrupted due to power failure or other event, programmed data remains stored in memory. When the power source is restored, operation can be continued according to the predetermined program.

Automatic return buzzer switch

After an abnormality occurs, the alarm automatically switches to the ON mode, even if the operator forgets to return the alarm buzzer to the ON mode, thus ensuring safe and secure operation.

Tamper proof

A key lock function is provided so that settings may not be changed unintentionally.

Self diagnostic function

Should a malfunction occur, the location of the malfunction can be digitally indicated, allowing quick operator response.

Data acquisition system

Data acquisition software enables remote monitoring of cooled incubators.

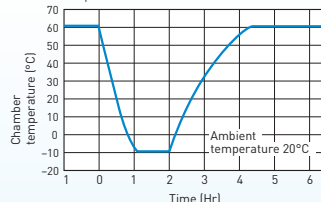
Specifications and options MIR-154, MIR-254 & MIR-554

Performance data

MIR-154-PE

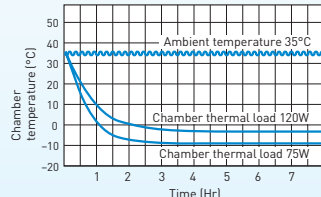
Chamber pull-down/pull-up characteristics

(Ambient temperature 20°C Power source: AC100V/50Hz)



Pull-down characteristics for thermal load in chamber

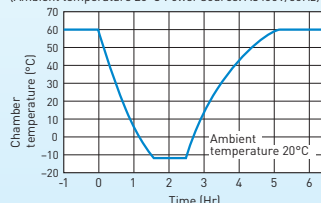
(Ambient temperature 35°C Power source: AC100V/50Hz)



MIR-254-PE

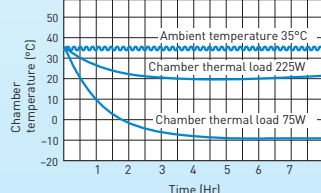
Chamber pull-down/pull-up characteristics

(Ambient temperature 20°C Power source: AC100V/50Hz)



Temperature pull-down characteristics for thermal load in chamber

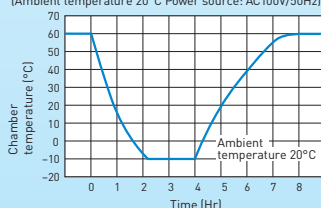
(Ambient temperature 35°C Power source: AC100V/50Hz)



MIR-554-PE

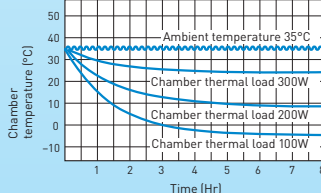
Chamber pull-down/pull-up characteristics

(Ambient temperature 20°C Power source: AC100V/50Hz)



Temperature pull-down characteristics for thermal load in chamber

(Ambient temperature 35°C Power source: AC100V/50Hz)



*The data shown above are taken with the fluorescent lamp off.

*Characteristics may vary depending on the product or operating conditions.

Incubator Series

Characteristics

PUF = Rigid polyurethane
foamed insulation
V = Visual alarm
B = Buzzer alarm
R = Remote alarm



MODEL	MIR-154-PE	MIR-254-PE	MIR-554-PE
Dimensions			
External dimensions (W x D x H)	mm 700 x 580 x 1018	700 x 580 x 1618	800 x 832 x 1810
Internal dimensions (W x D x H)	mm 620 x 368 x 555	620 x 368 x 1088	640 x 550 x 1160
Volume	ltr 123	238	406
Net weight	kg 78	108	195
Technical Data			
Power supply	V 230	230	230
Frequency	Hz 50	50	50
Noise level 1)	dB 41	44	45
Refrigeration			
Insulation material	PUF		
Insulation thickness	mm 40	40	80
Compressor	W 150	250	250
Refrigerant	R-134a	R-404a	R-404A
Cooling method	Forced air circulation		
Performance			
Temperature sensor	Thermistor		
Temp control range and fluctuation	°C -10 ~ +60 (AT; +5 ~ +35, no load), ±0.2 with Heater PID control (SV 50), ±1.5 with Compressor control (SV 5)		
Temperature uniformity	°C ±0.5 SV (35)		
Performance ambient temperature	°C 20, no load		
Alarms			
Power failure	-	-	R
High temperature	V-B-R		
Low temperature	V-B-R		
Filter	-		
Lid/door open	V-B		
General			
Exterior material	Painted steel		
Colour (exterior)	Bio-gray		
Cabinet material	SS SUS-304		
Outside lid/door	1		
Reversible door	Y	Y	N
Inside lid/door	N	N	2 small inner doors (MIR-554D option) MIR-LP option
Lid / outside door lock	MIR-LP option	MIR-LP option	Y
Shelves	qty 3	5	5
Max. load per shelf	kg 20	20	50
Max. total load	kg 61	100	250
Access port	qty 1	1	2
- position	left side	left side	left and right side
- diameter	Ø mm 40	40	40
Interior fluorescent lamp	qty, W 1, 15, with MIR-L15-PE2 option		
Options			
Communications interface	MTR-480-PW, MTR-L03-PW		
Stacking kit	MIR-S154SB-PW	-	-
Door padlock bracket	MIR-LP-PW	MIR-LP-PW	-
Additional illumination kit	MIR-L15-PE	MIR-L15-PE	MIR-L15-PE
Innerdoors	-	-	MIR-554D-PW
Door window blanking plate	MIR-154BP-PW	MIR-254BP-PW	-

notes: 1) Nominal Value

2) MIR-L15-PE operates between +2°C and +50°C

Appearance and specification are subject to change without notice.

Panasonic

for more online information:

www.biomedical.panasonic.eu