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You can read the recommendations in the user guide, the technical guide or the installation guide for SANYO MLR-351H. You'll find the answers to all your questions on the SANYO MLR-351H in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

User manual SANYO MLR-351H
User guide SANYO MLR-351H
Operating instructions SANYO MLR-351H
Instructions for use SANYO MLR-351H
Instruction manual SANYO MLR-351H

SANYO

**Refrigerated Incubators /
Environmental Testing Chambers**

MIR-154
MIR-254
MIR-554
MLR-351H



SANYO's MIR and MLR series incubators have been recognized as exceptional units suitable for a wide range of applications. The wide variety of temperatures, humidity and lighting patterns that are essential in research, environmental studies and testing can now be accurately reproduced and controlled.



Models: MLR-351H & MIR-254



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Manual abstract:

The wide variety of temperatures, humidity and lighting patterns that are essential in research, environmental studies and testing can now be accurately reproduced and controlled. Models: MLR-351H & MIR-254 New MIR-154, MIR-254 and MIR-554 Incubators Wide Range of Applications The MIR 154, 254 and 554 refrigerated incubators are ideal in testing applications such as · Industrial testing in the electrical, machinery, textiles industries · Chemical testing e.g., storage, stability, acid/alkali, durability · Food industry for packaging, quality control and stability · Testing for waste water, BOD, soil testing · Microorganism culturing · Germination experiments Flexibility The SAYNO MIR series offers accurate temperature control and uniformity in a wide range of temperatures, making them suitable for various applications. · The MIR-154, 254 and 554 are programmable with 12 step, 10 program capability. @@@@After a limited repeating operation has been completed, constant operating temperature T0 is retained. Application: Optimum for repeated experiments in which 3 different elemental temperatures and times are combined. The MIR Series accommodates a wide range of temperatures High-precision Temperature Environment SANYO Refrigerated Incubators incorporate a high precision microprocessor temperature control combined with a heater P .I.D. and compressor ON-OFF system. This system has a feed forward function that inputs the operating conditions of the compressor beforehand, ensuring accurate temperature control for the chamber. In a wide temperature range from -10°C to 60°C, the heater P .I.D. exhibits temperature fluctuation up to 0.2°C, and the Compressor ON-OFF controls precisely ±1.5°C. In addition, the fluctuation of temperature uniformity in the chamber is within ±0.5°C, allowing a full range of precise experimentation from microorganism cultures to various types of incubation and testing. allows programmed operation or setting value changes. Independent Over-temperature Protection Device Energy Savings This incubator incorporates an excessive temperature prevention circuit that protects experimentation materials in the rare event that a temperature abnormality does occur. Isolated from the main circuit, this exclusive circuit and sensor operate even if the temperature sensor or microprocessor malfunction, activating an exclusive lamp and buzzer notification. This system turns off the heater and chamber fan motor when over temperature is detected (setting temperature range: 15°C-65°C), and turns off the compressor when under temperature is detected (setting temperature range -15°C to 20°C). Remote alarm contacts are provided for monitoring alarm from a remote location. In addition to a microprocessor-controlled high efficient heater output and compressor ON/OFF a renewal control program and , low heat-emission inner chamber fan are newly adopted that allow high-energy saving operation over a wider range of ambient environments. Programmed Memory Back-up Mechanism Should the power source be interrupted due to power failure or other event, programmed data remains stored in memory semipermanently. When the power source is restored, operation can be continued according to the predetermined program. Foamed-in-place Rigid Polyurethane Insulation Triple-pane Glass Observation Window plus Programmable 15W Fluorescent Lamp HCFC-free foamed-in-place polyurethane is used for the chamber because of its high thermal retention and energy saving properties. Automatic Return Buzzer Switch After an power failure occurs, the alarm buzzer 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.

An easy-to-observe triple-pane glass observation window and 15W fluorescent lamp are provided for sample observation during experimentation. When observation is not required, an optional light shielding plate (MIR-154/254) can be easily attached. @@Fifteen minutes later a buzzer will sound. @@90 seconds at each setting mode. @@Then, constant operation temperature T0 is retained. @@@@Then, constant operating temperature T0 is retained. @@@@Max. 10 programs memorised. 12-step repeat from - - 98 times or unlimited. Max.

10 programs memorised. @@Appearance and specifications are subject change without notice. @@SANYO in no way shall bntrol panel. @@@@The data can be viewed on the control panel. @@Applications: · Plant Growth · Culture of plant cells, tissue and organs · Incubation and growing insects (drosphila) · Electronic testing · Food testing · Packaging testing Specifications Model No. Effective capacity Exterior Dimensions (W x D x H) Interior Dimensions (W x D x H) Exterior Finish Interior Finish Door Shelves Insulation Circulation System Compressor Evaporator Condensor Defrosting System Heater Temp. Setting Indication Temperature Control Temperature Sensor Autom. Setting temp. alarm Over temp. protection device Programmed Operation Temperature Range Temperature Controllability Temperature Uniformity Power Source: Voltage Power Consumption Interior Lamp Net weight Accessories MIR-254 MIR-554 8. 4 cu.ft (238 liters) 14.3 cu.ft (406 liters) 27.6" x 22.8" x 63.7" 31.5" x 32.75" x 71.3".

(700 x 580 x 1618mm) (800 x 832 x 1810mm) 24.4" x 15.2" x 42.8" 25.17" x 21.65" x 45.68" (620 x 386 x 1088mm) (640 x 550 x 1160mm) Galvanized Steel with baked on finish Stainless Steel Painted Steel & Triple pane glass Reversible Painted Steel & Triple pane with observation door and key glass with observation window PE coated Steel wire, adjustable 3 5 5 Foam-in-place rigid polyurethane Forced air circulation Hermetic type 150W 250W 250W Fin and tube type, forced circulation Wire and tube type natural air cooling system Selectable manual start or timer defrost, natural vaporisation of drainwater Cord Heater 141 W 218 W 332 W Digital setting with digital display Microprocessor PID system, (when compressor operates, ON/OFF control) Thermistor When temp. deviates approx. ±2.5°C, visual and audible alarm Visual audible alarm 12-step repeat from 1-98 times or Continuous repeat -10°C to +60°C ±0.2°C at heater PID control (Temp. setting 50°C, ambient temp. 20°C, no load) ±1-5°C at compressor ON/OFF control (Temp. setting 5°C, ambient temp. 20°C, no load) ±0.5°C (Temp. setting 37°C, ambient temp. 20°C, no load) MIR-262 115V / 60Hz/ 1 phase 115V / 60Hz/ 1 phase 115V / 60Hz/ 1 phase 160 W 240 W 290 W 15 W x 1, fluorescent lamp (setting temp. +5°C to 50°C) 172 lbs (78 kg) 238 lbs (108 kg) 453 lbs (205 kg) Key Iset, Light Key1 set, Light Key Iset shielding plate1 shielding plate1 MIR-154 4.3 cu. ft. (123 liters) 27.6" x 22.8" x 40.



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1" (700 x 580 x 1018mm) 24.4" x 15.2" x 21.9" (620 x 386 x 555mm) MIR-162 MIR-262 Manual start, automatic finish, natural vaporisation of drain water
Model No. Effective Capacity Exterior Dimensions (WxDxH) Interior Dimensions (WxDxH) Exterior Interior Door Inner Door Shelves Access Hole Casters
Air Circulation Compressor Evaporator Refrigerant Heater Defrosting System Temperature Temperature Range Temperature Distribution Temperature
Accuracy Temperature Control Temp. Programmable Operations Lighting Lighting Range Lighting Programmable Operations Humidity Control System
Control Range Alarm & Security Alarms MLR-351H 10.

4 cu.ft. @@@@1x (chamber top position) 4pcs. @@6 increments adjustable fluorescent lamp 40W x 15pcs. Lighting levels: 6 (0,1,2,3,4,5) max. @@alarm,
High & low temp. unit, Humidity alarm Product conforms to RoHS (European Restriction of Hazardous Substance directives) SANYO Electric Co.,Ltd.,
Biomedical Division, Gumma is certified for Quality management system:ISO9001/ Medical devices Quality management system:ISO13485/Environmental
management system:ISO14001 SANYO North America Corporation Biomedical and Environmental Division 1300 Michael Drive, Wood Dale, IL 60191 USA
Toll Free USA 800-858-8442 · Fax 630-238-0074 www.sanyobiomedical.
com SANYO Canada, Inc. 201 Creditview Road, Woodbridge, Ontario L4L 9T1 905-265-4100 · Fax 905-265-4101 LR-MIRSeries_REV.2-1.10 © 2010
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