### Compact Orbital Shaker for CO<sub>2</sub> incubator





## Orbital shaker for CO<sub>2</sub> incubator

## Designed for high humidity use

**Revolution speed** 

40 to 200 rpm

# Compact orbital shaker for culture incubation in high humidity conditions

- Usable in a CO2 incubator.
- Controller and shaker sections are separated to prevent humidity from affecting electrical components.
- Copper alloy stainless steel is used for the shaker section.
- Revolution speed is from 40 to 200 rpm.
- Best suited to operation in a SANYO CO2 incubator.



Incubator, culture vessels, clamps and platform are optional.

### Compact orbital shaker for culture incubation in high humidity. Easy installation in SANYO CO2 incubator.

#### **Features**

#### Specially designed for incubation even in high-humidity conditions

Controller section and shaker section are independently constructed so electrical components are not affected by humidity. Cable connection socket is waterproof.

#### • Installs easily in following SANYO CO2 incubators:\*

MCO-20AIC/19AIC/19AIC(UV)/19M/19M(UV)/ 18AIC/18AIC(UV)/18AC (shaking section: W409 x D275mm)

#### **Functions**

#### Structural design

Antibacterial copper alloy stainless steel is used for the shaker section. Also, the shaker section is equipped with a small window that can be used for spraying disinfectant inside.

Gradually accelerates until reaching the preset number of revolutions so that samples inside flasks and test tubes are not spilled or foamed. Three levels of acceleration speed can be selected.

#### Timer

Indicates time of operation from 0 to 99.9 hours in increments of 0.1 hour (6 minutes).

#### Auto recovery after power interruption

Automatically recovers after power interruption and indicates that power interruption has occurred

#### Speed error alarm

Indicates an error when the number of revolutions does not reach or exceeds the preset value.

#### Motor overload protection circuit

Detects over-current and automatically stops operation. Indicates an error when overload is applied to the motor.

#### Maintenance-required indicator

Automatically alerts you when maintenance is required or when bearings and belts need replacing after operational hours exceed 10,000.

#### Incubation examples (growth curves of CHO cells) Incubation examples (growth curves of 293 cells) 10.0 9.0 8.0 7.0 6.0 5.0 4.0 200rpm ->-- 200rpm 9.0 8.0 7.0 6.0 5.0 4.0 10^5cells/ml ——— 175rpm ———— 150rpm -- 150rpm ......125rpm •••••125rpm ---- 75rpm 3.0 ...... 10 ..... Days Days Cells being tested (CHO-S invitrogen)(n=3) Medium: CD CHO (Invitrogen) Cells being tested (HEK-293)(n=3) Medium: Free style 293 Expression medium (Invitrogen) Incubation temperature: 37°C, CO2: 8% CO2 incubator: MCO-18AIC (SANYO) Incubation temperature: 37°C, CO2: 8% CO2 incubator: MCO-18AIC (SANYO) Incubation vessel: 100mL Erlenmeyer flask and silicon stopper Incubation vessel: 300ml Erlenmeyer flask and silicon stopper Medium volume: 27ml Medium volume: 100ml

Control panel



#### **Specifications**

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Model		MIR-S100C
External dimensions (W x D x H)	Shaker	409 x 275 x 118 (mm) / 16.1 x 10.8 x 4.6 (inch)
	Controller	365 x 275 x 93 (mm) / 14.4 x 10.8 x 3.7 (inch)
Exterior	Shaker	Body: Copper alloy stainless steel
	Controller	Body: Galvanized steel with baked-on finish, acrylic coating
Optional platform dimensions (W x D)		380 x 250 (mm) / 15.0 x 9.8 (inch)
Optional platform		Copper alloy stainless steel
Net weight		16kg (35.3 lbs.)
Shaking motion		Circling
Amplitude (Circling diameter)		20mm
Revolution		40 to 200 rpm
Allowable load weight		5kg (11 lbs.)
Flask intake capacity		100ml Erlenmeyer flask x 15, 500ml Erlenmeyer flask x 5 (MIR-38PFT) 100ml Erlenmeyer flask x 11, 500ml Erlenmeyer flask x 6 (MIR-38PFN)
Display		LED digital 3-digit display (Speed/Time switching)
Motor		DC brushless motor
Applied environmental condition	Shaker	In incubator, 0 to 50°C
	Controller	0 to 40°C without dew condensing
Accessories		Rubber plug with a cable hole $\times$ 2, Connection cable (3m) $\times$ 2, Shaker stand $\times$ 1, Rubber foot $\times$ 4, Screw $\times$ 4, Double-deck platform

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

\* SANYO is not responsible for damage to other than SANYO-branded incubators when used with this Shaker.

• Appearance and specifications are subject to change without notice.

#### **Options**



(uses metric screws) Threaded hole diameter: 10 - 32UNF Threaded hole pitch (longitudinal): 27.5 mm (1.08") Threaded hole pitch (lateral): 27.5 mm (1.08")

### MIR-38PFN

(uses US standard screws) Threaded hole diameter: 10 - 32UNF Threaded hole pitch (longitudinal): 34.85 mm (1.37") Threaded hole pitch (lateral): 20.65 mm (0.81")

\*The platform also accomodates clamps and accessories manufactured by other companies.

#### MIR-51FC for 50ml flask MIR-101FC for 100ml flask MIR-201FC for 200ml flask MIR-501FC for 500ml flask MIR-1001FC for 1000ml flask MIR-301FC MIR-2001FC for 2000ml flask for 300ml flask Spring rack MIR-38SP for various tubes Test tube rack

Clamps for flasks

MIR-204SC for various tubes

**Dimensions** 

Unit:mm (inch) Rear view Rear view OO OO Side view Side view 48 (1.9) Top view Top view 0 Front view Front view 365 (14.4) 373 (14.7) Shaker Controller

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