

Incubators



mrc

INCUBATORS

Natural Convection

DNI Series, 10 Liter, 20 Liter, 30 Liter, 50 Liter, 80 Liter, 150 Liter, 300 Liter Incubators



Lab incubators are specially designed for long-term and stable continuous operation. Ideal for gentle incubation of organisms, such as on agar plates, and also for conditioning of heat sensitive media. **Lab Incubators** are ideal for cultures, eggs, microbiology, and other biology samples in hospitals, industries, and laboratories. **PID Temp. Control** provides automatic compensation after load changes, setting changes or door opening for excellent accuracy. **Natural convection** heat distribution combines with the adjustable air vents to provide excellent uniformity.

Double wall construction, **fiberglass** insulation provided on 5 sides as well as between inner and outer walls, and **silicon rubber** door sealing reduce heat loss and power drain. **Stainless steel interior** chamber and shelves are corrosion resistant, durable and easy to clean. **Powder coating exterior** is beautiful, durable, and corrosion resistant. Internal transparent door to facilitate product inspection.

Features:

- Simple keypad input allows easy temperature setting.
- LED digital display enables users to monitor the chamber temperature at any given time.
- Visual alarm indicator alerts users of abnormal conditions if the chamber temperature exceeds the setting point by 10°C.
- The temperature can be controlled and maintained to 70°C.
- Double doors allow samples viewing from the inner door.
- Shelves can be adjustable.
- The temperature stability is $\pm 0.3^{\circ}\text{C}$ at 37°C; $\pm 0.4^{\circ}\text{C}$ at 70°C.
- DNI-10 incubator: a reliable efficient and compact chamber in a sturdy design at a very favorable price. Units are stackable.



DNI-300D

Specifications:

Model	DNI-10	DNI-20	DNI-30	DNI-50
Convection	Natural convection			
Temperature Range	Ambient +5°C ~ 70°C			
Volume (Liters)	10	20	30	50
Inside Dimensions (mm)	W282xD200xH190	W300xD310xH230	W325xD310xH315	W380xD365xH390
Heater: Incubator	150W	200W	300W	500W
Outside Dimensions (mm)	W500xD270xH300	W412xD420xH500	W425xD420xH610	W480xD475xH695
Shelves	1 Shelve	2 Shelves		
Power supply	AC220V 50/60Hz (110V 60Hz available)			

Model	DNI-80	DNI-150	DNI-300
Convection	Natural convection		
Temperature Range	Ambient +5°C ~ 70°C		
Volume (Liters)	80	150	300
Inside Dimensions (mm)	W420xD450xH463	W625xD510xH500	W625xD510xH1000
Heater: Incubator	700W	800W	1000W
Outside Dimensions (mm)	W522xD560xH770	W725xD620xH795	W725xD620xH1465
Shelves	2 Shelves		
Power supply	AC220V 50/60Hz (110V 60Hz available)		

DFI Series, 36 Liter, 80 Liter, 150 Liter, 240 Liter Incubators



Microbiological Incubator With Forced Convection

Premium equipment for all gentle incubation applications, including processing large numbers of samples at high throughput. Outstanding dynamics keep the required temperature virtually stable with homogenous distribution, irrespective of how many times the door is opened. The modern range of incubators is available in 4 sizes.

DFI Series offers excellent uniformity and stability & are used for many applications as incubation of culture test, drying slides, microbiological incubation, bacteriological test and more. The inner case is constructed from polished stainless steel. Internal glass door for incubator. All units are provided with wire plated shelves with multi position settings.

All models are with fans assisted air circulation.

The chamber ventilation and exhaust vent are easily adjustable.

Wide choice of control options is available.

PID controller is fitted as standard with dual display of measured value and setpoint, timer included.

Options:

- 38mm cable port
- Gas inlet
- 5 programs of 8 segments model: 3216CP
- 4 programs of 16 segments model: 2416P4
- RS-232/485 communication model: 3216E
- Datalogger



DFI-36

Model	DFI-36	DFI-80	DFI-150	DFI-240
Temp. range	Room temperature - 80°C			
Temp. constancy	±0.1°C			
Temp. uniformity	±0.5°C at 37°C			
Temp. control	PID			
Heater: Incubator	400W	400W	600W	800W
Inside Material	SUS 304			
Timer	1 minute to 99 hours & 59 minutes or continuous			
Safety devices	Short circuit breaker, over heat protector, sensor abnormality			
Inside dimensions (mm)	W400xD300xH300	W500xD400xH400	W600xD500xH500	W600xD500xH800
Outside dimensions (mm)	W525xD420xH595	W620xD520xH620	W720xD620xH720	W720xD620xH1020
Volume (Liters)	36	80	150	240
Shelves fitted	2	2	2	3
Max. Shelves	7	10	13	23
Weight	34kg	52kg	75kg	85kg

INCUBATORS

Cooled Incubators



- Automatic high and low temperature alarm to prevent the temperature from going too high and dropping too low
- Built-in circulating fan for temperature uniformity
- Illumination and Timer can be install if required
- The compressor will be delayed to start working if power cut & with timer for defrost.
Using environmental protection cold-media R134a
- Internal Power socket.

BOD-80/150

The MRC model BOD-80/150/175x2

Cooled incubator designed to obtain freezing, incubating, drying & test temperatures between 0°C and +70°C (or -10°C and +60°C). It has stainless steel chamber and two doors, when the outer metallic door is opened there is inner glass door. Very good uniformity is achieved by forced air circulation. A PID temperature controller provides constant and accurate temperature. Inside power socket enable the use of the shaker rotator or other instrument inside. Cable port with cup is available upon request.

The MRC model BOD-400/550/590

Is ideal for BIOCHEMICAL OXYGEN DEMAND of sewage and waste water. Other applications includes fermentation studies, drug stability tests. Excellent temperature uniformity is obtained by forced air circulation. A PID microprocessor temperature controller provide accurate and constant temperature. Dual display of setpoint and chamber temperature. Hermetically sealed compressor and automatic defrost.

Options: 38mm cable port • Gas inlet • Day/Night Light+Timer

Model	BOD-590	BOD-850	BOD-550	BOD-400	BOD-150	BOD-175 Dual	BOD-80
Temp. range	0°C~70°C (or -10°C to 60°C)						
Temp. Accuracy/Uniformity	±0.1°C / ±1°C at 37°C				±0.1°C / ±0.5°C at 37°C		
Temp. control	PID						
Temp. Display	LED digital display actual and setting temperature						
Temp. Sensor	PT-100Ω						
Heater	900W	1200W	1200W	1200W	900W	900W x 2	900W
Volume	590L	850L	550L	400L	150L	175L x 2	80L
Shelf (Adjustable)	4	4	4	4	2	2	2
Inside Material	Strengthen white porcelain	SUS 304					
Refrigerator	1/3HP				1/4HP		
Inside dimensions WxDxH(mm)	680x600x1450	850x850x1400	680x580x1400	600x500x1350	600x500x500	700x500x500	500x400x400
Outside dimensions WxDxH(mm)	815x800x1940	880x860x1860	760x820x1860	670x740x1820	680x700x825	780x690x1720	560x550x670
Weight	90Kg		200Kg	180Kg	78Kg	150Kg	50Kg



DHI37

Applications:

- Northern (RNA) blot hybridizations
- Southern (DNA) blot hybridizations
- Western (Protein) blot hybridizations.

DHI-22/37, Hybridization Incubator

The MRC hybridization incubators offers high performance with precise temperature control, safety and convenience. It is small and space saving incubator.

The bottle carousel is easily removable for easy cleaning of the chamber. The bottle carousel accept up to eight bottles (300mm). Very homogeneous temperature distribution in the chamber is obtained by air forced ventilation. This airflow system also ensures fast recovery of chamber temperature after door opening.

A PID temperature controller provide constant & no temperature overshoot. Dual display of actual chamber temperature & set point temp.

Tempered glass viewing window provides clear chamber visibility without opening the door. Simple operation of speed by means of rotary switch & the speed display is by analog tachometer.



DHI-22

Features:

- Inside material is SUS304 & outside body is powder painting
- Touch-screen panel
- Speed and temperature with digital display
- Built-in circulating fan for temperature stability
- Full accessories are available
- Orbital(bi-directional)/Rotation/Rocking motion.



DHI-AC-H

DHI-AC-1.5

DHI-AC-15

DHI-AC-50

AC-210-96

Model	DHI-37	DHI-22
Shaking	Rotation+orbital	Rocking
Temp. range	Ambient +5°C~70°C	
Temp. Accuracy	±0.1°C	
Temp. control	PID	
Temp. Display	LED	
Rotor Speed	6 ~ 50rpm	-
Rotor Capacity	8 pcs (Max)	-
Shaker Speed	10 ~ 100rpm	6 ~ 60rpm
Shaking Width	25mm	-
Shaker Capacity	Carry 6 kg	-
Timer	999 h / 999 min / 999 sec	
Shaking Plate (mm)	310 x 210	
Inside dimensions WxDxH(mm)	350x250x425	350x255x250
Outside dimensions WxDxH(mm)	440x375x660	440x375x410
Weight	33kg	23kg

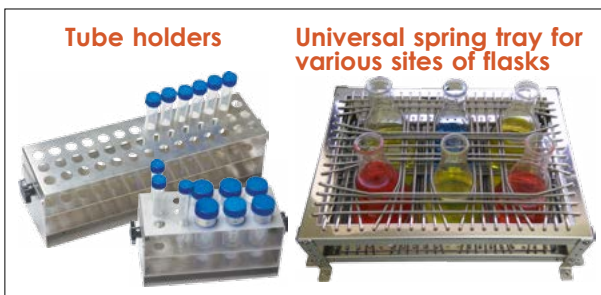
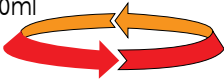


TOU-50

Flask Holders

- Min. noise & no vibration, maximum load 20kg
- Automatic stop of shaking, when the door is opened
- Accommodate flasks up to 2000ml
- Auto restart after power failure.

Optional: Universal spring tray



Tube holders

Universal spring tray for various sites of flasks

LOM-65/TOU-50/TOU-120, Orbital Shaking Incubator, BenchTop

Applications

- Areas of application: cultivation of cell & tissue cultures or micro organisms. molecular biology, cell and insect culture, and entomology studies.
- Production of secondary natural substances and biogenetic pharmaceuticals etc.

Features:

- Space saving with transparent window in the front which provide good visibility that minimize the need to open the chamber, automatic cutout of shaker when lid is open to protect operator.
- Platform 300 x 400 mm or 450 x 450mm accept flasks up to 2 Liter, test tubes racks and gel trays.
- Shakers feature a triple eccentric drive that handles heavy workloads, provides uniform agitation, smooth quiet enables continuous 24-hour operation even at high speeds.
- Precisely monitor and control chamber temperature over complete range with $\pm 0.1^{\circ}\text{C}$ accuracy at 37°C with PID temperature controller
- AC brushless motor & precise speed control from 25 to 250rpm or 40 to 400rpm, controlled by a digital controller
- Speed programmability: Continuous or multi-step RPM programmability in which a timed run consisting of a sequence of up to 9 timed steps, each at a set speed & direction of rotation. Each timed run can be repeated up to 999 times.



LOM-65 – Front opening with one standing shelf

Model	TOU-50N	TOU-50-2	TOU-120	TOU-120-2	LOM-65	LOM-65-2
Type	Flip-up door				Front door	
Temp. range	Ambient + 4°C~70°C					
Temp. Accuracy/Uniformity	$\pm 0.1^{\circ}\text{C}$ / $\pm 0.5^{\circ}\text{C}$ at 37°C					
Speed/Temp. control	PID					
Temp. Display	LED					
Speed programmer(9 steps of speed & direction of rotation)	20~250 rpm	40~400 rpm	20~250 rpm	40~400 rpm	20~250 rpm	40~400 rpm
Shaking Orbit	25 mm					
Timer	1 minute to 99 hours & 99 minutes or continuous operation					
Volume	66L		102L		65L	
Shelve	N/A		N/A		1	
Shaking Plate Size(mm)	400x300		450x450		400x300	
Inside dimensions(mm)	W455xD390xH380		W500xD540xH380		W450xD390xH370	
Outside dimensions(mm)	W460xD510xH540		W510xD650xH540		W520xD550xH610	
Weight (Approx.)	30Kg		40Kg		50Kg	

Capacity of flask holders

Model	111-1-110050	111-1-110125	111-1-110250	111-1-110500	111-1-111000	111-1-112000
Flask clamps	50ml	125ml	250ml	500ml	1000ml	2000ml
TOU-50N/50-2	35	20	12	6	4	2
TOU-120/120-2	64	36	25	16	9	5
LOM-65/65-2	35	20	12	6	4	2

Cooled Shaker Incubators **SHAKER-INCUBATORS**



LOM-150



Universal platform for LOM-150
111-1-111143

LOM-150-Series, 150Liter Shaking Incubator, Orbital Motion

This multipurpose model can shake, incubate & refrigerate. The 480x380mm platform accepts flasks up to 6 Liter. Large viewing window & internal light provide clear chamber visibility, with moveable window blind. One stationary shelf for incubating added samples with a front opening door, the LOM-150 can be used on the bench or on the floor, wide temp. range 0°C to 60°C.

Model LOM-150D: two stage shaker enable to shake two platform simultaneously.

Useful for biological culture under various temperature.

- Inside material is SUS304 & outside body is powder painting
- Screen-touch panel
- The compressor will be delayed to start working if power cut and with timer for defrost.
- With safety switch to stop shaking when opening door
- Three-point bearing transmission is adopted suitable for heavy loads and continuous duty.
- Minimum noise, no vibration.
- Refrigeration using non cfc gas R134A
- Transparent glass observation window & internal light.
- Provide clear visibility without opening the door.
- Uses brushless AC motor for long durability and stable performance of the shaking system.
- Overheat and over low protector, built-in circulating fan for temperature uniformity.

Optional:
Day/night light+timer.



LOM-150

Model	LOM-150	LOM-150-2	LOM-150D
System	Forced air circulation		
Shaking system	Orbital		
Shaking platform	Single		Double
Temp. range	0°C~70°C		
Temp. constancy	±0.1°C		
Temp. uniformity	±1°C (at 37)		
Temp. control/display	PID/LED		
Temp. sensor	PT-100Ω		
Inside material	SUS-304		
Speed Programer	20~300 rpm	20~400 rpm	20~150 rpm
Shaking width	25 mm		
Shaking plate	W480xD380		W480xD380 Double platform
Refrigerator	1/4 HP		
Heater: Incubator	900W		
Safety devices	Short circuit breaker, over heat protector, refrigerator over load protector, sensor abnormality, over low protector		
Inside dimensions (mm)	W600xD500xH500		
Outside dimensions (mm)	W680xD690xH860		
Volume (Liter)	150		
Shelves	1 (Adjustable)		N/A
Power supply	110/220V, (8.5A)		
Weight	98Kg		100Kg

Capacity for flasks holders:

Model	111-1-110125	111-1-110250	111-1-110500	111-1-111000	111-1-112000	111-1-113000	111-1-114000	111-1-115000
Flask clamps	125ml	250ml	500ml	1000ml	2000ml	3Liter	4Liter	5Liter
LOM-150	30	20	12	6	5	4	2	1
LOM-150D	30x2 set	20x2 set	12x2 set	-	-	-	-	-



LOM-175-Dual/LOM-175D-Dual, Orbital Dual Shaking Incubator

Features:

- Useful for biological culture under various temperatures
- Inside material is SUS304 & outside body is powder painting
- Screen-touch panel
- The compressor will be delayed to start working if power cut and with timer for defrost.
- With safety switch to stop shaking when opening door
- Three-point bearing transmission is adopted suitable for heavy loads and continuous duty.
- Minimum noise, no vibration.
- Refrigeration using non cfc gas R134A
- Optional day/night light with timer.
- Transparent glass observation window & internal light.
- Provide clear visibility without opening the door.
- Uses brushless AC motor for long durability and stable performance of the shaking system.
- Overheat and over low protector, built-in circulating fan for temperature stability.



Model	LOM-175-Dual	LOM-175D-Dual
Platform	Single	Double
Temp. range	0°C~70°C	
Temp. Accuracy	±0.1°C	
Temp. control	PID	
Temp. Display	LED 2-screen digital display actual and setting temperature	
Speed Programmer (9 steps)	20~250 rpm (option 400 rpm)	20~150 rpm
Shaking width	25 mm	
Timer	999h / 999min / 999sec	
Heater	900 W each chamber	
Refrigerator	1/4HP	
Volume	Each chamber 175L	
Shaking Plate Size (mm)	640x440	
Inside dimensions (mm)	W700xD500xH500	
Outside dimensions (mm)	W780xD690xH1720	
Shelves	1 Adjustable	N/A
Weight (Approx.)	170Kg	180Kg

Capacity of flask holders

Model	111-1-110125	111-1-110250	111-1-110500	111-1-111000	111-1-112000	111-1-113000	111-1-114000	111-1-115000
Flask clamps	125ml	250ml	500ml	1000ml	2000ml	3Liter	4Liter	5Liter
LOM-175-Dual	40	28	20	12	6	6	2	2
LOM-175D-Dual	40x4 set	28x4 set	20x4 set	-	-	-	-	-

Orbital Shaking, Large Horizontal SHAKER-INCUBATORS



LOM-300

LOM-300, Orbital Shaking Incubator, Double Door

Features:

- Useful for biological culture under various temp.
- Inside material is SUS304 & outside body is powder painting
- Screen-touch panel
- The compressor will be delayed to start working if power cut and with timer for defrost.
- With safety switch to stop shaking when opening door
- Three-point bearing transmission is adopted suitable for heavy loads and continuous duty.
- Minimum noise, no vibration.
- Refrigeration using non cfc gas R134A
- Optional day/night light with timer.
- Transparent glass observation window & internal light.
- Provide clear visibility without opening the door.
- Uses brush less AC motor for long durability and stable performance of the shaking system.
- Overheat and over low protector, built-in circulating fan for temperature stability.

Optional: Tube Holders



Optional: Universal spring tray for LOM-300



FLASK HOLDERS

Model	LOM-300
Temp. range	0°C~70°C
Temp. Accuracy	±0.1°C
Temp. control	PID
Temp. Display	LED
Shaker Speed	20~250 rpm (option 400 rpm)
Shaking width	50 mm
Timer	999h / 999min / 999sec
Illumination	Fluorescent lamp 20 W
Heater	1200 W
Refrigerator	1/3HP
Volume	300L
Shaking Plate Size (mm)	900x500
Inside dimensions (mm)	W1000xD600xH500
Outside dimensions (mm)	W1380xD690xH890
Shelf (Adjustable)	1
Weight (Approx.)	280Kg

Capacity of flask holders

Model	111-1-110125	111-1-110250	111-1-110500	111-1-111000	111-1-112000	111-1-113000	111-1-114000	111-1-115000
Flask clamps	125ml	250ml	500ml	1000ml	2000ml	3Liter	4Liter	5Liter
LOM-300	66	50	32	18	10	10	3	3

SHAKER-INCUBATORS Stackable

LOM1-8043, LOM2-8043, LOM3-8043, Premium Stackable Shaking Incubators



LOM2-8043

Features:

- 5.6" LCD 640x480 touch screen panel clearly indicates all parameters in one page display.
- Fold-down door with door handle, and dedicated sliding shaking platform provide convenient access to your experiment products. Moreover, the top of the casing can be further used as a work area for locating small items of lab equipment etc.
- The incubator casing is made of heavy-gauge cold-rolled steel; together with high graded #304 stainless steel inner chambers with cover corners make it easy to clean with mild detergent.
- The unit can be upgraded with CO₂ and humidity control, with heated window glass to prevent condensation, perfect for cell culture.
- Heavy-duty, eccentric drive mechanism allows extended speed ranges from 30 to 300 rpm, ± 1 rpm with minimized vibration, even when shakers are stacked of three high.
- Robust brushless AC motor enables and smooth quiet shaking motion, even when unit is operating at top speed with maximum workload.
- Non-volatile memory saves settings during power outage & automatically restarts the unit after power is restored.
- Audible and visual alarms alert user of setpoint deviations. Audible alarm may be muted.
- Heater shuts off when high-temperature limit is exceeded.
- Shaker stops when excess vibration is detected or when door is opened.
- Interior chamber light for clear observation.
- Pre drilled platform as standard configuration, flask clamps excluded.
- Please contact MRC for more information about humidity and CO₂ control options.

Descriptions:

MRC now can offer new space-saving incubator shakers. This LOM - Series shaker (touch screen) can be stacked up to three units high, providing laboratory professionals tripled culture capacity, while still only occupying the same "footprint" of a single shaker. All models feature an insulated, fold-down door with double-layer glass window for high visibility. On all refrigerating models, microprocessor controller provides unmatched versatility by enable users to create personalized program (with up to 9 segments, with cycling) to automate changes to function parameters.

Model	LOM1-8043	LOM2-8043	LOM3-8043
Control	P.I.D Microprocessor		
Control Mode	Fix Value or Program (up to 9 Segments)		
Control Panel	LCD Touch Screen		
Air Convection	Forced		
Shaking Mode	Orbit		
Volume/ Compartment (L)	190		150
Working Temperature (°C)	10-35		
Shaking speed (rpm)	30-300		
Stroke (mm)	1-50 Stepless Adjustable		
Temperature Range (°C)	4-60		
Temperature Accuracy (°C)	0.1		
Temperature Uniformity (°C)	$\pm 1^{\circ}\text{C}@37^{\circ}\text{C}$		
Timer	1 to 9999 mins		
Tray (mm) (WxD)	800x430		
No. Of Tray	1	2	3
Inner Dimensions	920Wx532Dx395H mm		920Wx532Dx305H mm
Exterior Dimensions	1300Wx950Dx900H mm	1300Wx950Dx1310H mm	1300Wx950Dx1890H mm
Packing Dimensions	1420Wx1070Dx1040H mm	1420Wx1070Dx1480H mm	1420Wx1070Dx2060H mm
Net/Gross Weight	200/240 kg	390/440 kg	580/650 kg
Power (W)	1200	2400	3600
Electricity	220/240Volt 50/60 HZ		
Approval	CE, ISO		
Security	Over-temperature Protection, Compressor Overload Protection, Electrical Leakage Protection, CO ₂ Concentration Deviation Alarm.		
Additional	Built-in Printer, RS-232 interface		

Glass dimensions may reduce max. capacity:

Model	50ml	100ml	250ml	500ml	750ml	1000ml	2000ml
LOM1-8043	50	50	32	26	20	14	8
LOM2-8043	100	100	64	52	40	28	16
LOM3-8043	150	150	96	78	60	42	-

Large Shaker Incubators SHAKER-INCUBATORS

LOM-560/LOM-834, Orbital Shaking Incubator, Large Vertical Type



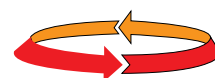
LOM-834D



LOM-560D

Features:

- Useful for biological culture under various temperature.
- Inside material is SUS304 & outside body is powder painting
- Screen-touch panel
- The compressor will be delayed to start working if power cut and with timer for defrost.
- With safety switch to stop shaking when opening door
- Three-point bearing transmission is adopted suitable for heavy loads and continuous duty.
- Minimum noise, no vibration.
- Refrigeration using non cfc gas R134A
- Optional day/night light with timer.
- Transparent glass observation window & internal light.
- Provide clear visibility without opening the door.
- Uses brushless AC motor for long durability and stable performance of the shaking system.
- Overheat and over low protector, built-in circulating fan for temperature stability.
- Speed programmer - 9 steps of speed & direction of rotation.



Flask Holders

Model	LOM-560	LOM-560D	LOM-834	LOM-834D
Shaking platform	Single	Double	Single	Double
Temp. range	0°C~70°C			
Temp. Accuracy	±0.1°C			
Temp. control	Micro-computer PID temperature controller			
Temp. Display	LED 2-screen digital display actual and setting temperature			
Speed Programmer	20~250 rpm	20~150 rpm	20~250 rpm	20~150 rpm
Shaking width	50 mm			
Timer	999h / 999min / 999sec			
Heater	1600 W			
Illumination	Fluorescent lamp 20 W			
Shelves (Adjustable)	2	1	2	1
Refrigerator	1/3HP		1/2HP	
Volume	560L		834L	
Shaking Plate Size (mm)	740x480		960x600	
Inside dimensions (mm)	W860xD600xH1100		W1100xD690xH1100	
Outside dimensions (mm)	W940xD800xH1840		W1190xD920xH1840	
Weight (Approx.)	280Kg		300Kg	

Capacity of flask holders

Model	111-1-110125	111-1-110250	111-1-110500	111-1-111000	111-1-112000	111-1-113000	111-1-114000	111-1-115000
Flask clamps	125ml	250ml	500ml	1000ml	2000ml	3Liter	4Liter	5Liter
LOM-560	48	40	24	12	9	6	6	4
LOM-560D	96	60	40	24	-	-	-	-
LOM-834	78	50	36	18	10	10	8	8
LOM-834D	156	100	72	36	-	-	-	-

SHAKER-INCUBATORS Large Shaker Incubators

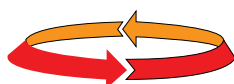
LOM-200/400, Precise Shaking Incubator, Top Door, Orbital Motion With Digital PID Control Up To 70°C



LOM-400

Features:

- Useful for biological culture under various temp.
- Inside material is SUS304 & outside body is powder painting
- Screen-touch panel
- The compressor will be delayed to start working if power cut and with timer for defrost.
- With safety switch to stop shaking when opening door
- Three-point bearing transmission is adopted suitable for heavy loads and continuous duty.
- Minimum noise, no vibration.
- Refrigeration using non cfc gas R134A
- Optional day/night light with timer.
- Transparent glass observation window & internal light.
- Provide clear visibility without opening the door.
- Uses brushless AC motor for long durability and stable performance of the shaking system.
- Overheat and over low protector, built-in circulating fan for temperature stability.
- Speed programmer: 9 steps of speed & direction of rotation.



LOM-200
With optional
day/night illumination+timer



Model	LOM-200-5	LOM-200-2	LOM-400-5	LOM-400-2
System	Forced air circulation			
Shaking system	Orbital			
Temp. range	0°C~70°C			
Temp. constancy	±0.1°C			
Temp. uniformity	±1°C (at 37)			
Temp. control / display	PID / LED			
Temp. sensor	PT-100			
Inside material	SUS-304			
Speed Programmer 9 steps of speed & direction of rotation	20~250rpm	20~400rpm	20~250rpm	20~400rpm
Shaking width	50 mm (25 mm)			
Shaking plate (mm)	W600xD480mm		W960xD600mm	
Refrigerator	1/4 HP		1/3 HP	
Heater: Incubator	1200W			
Safety devices	Short circuit breaker, over heat protector, refrigerator over load protector, sensor abnormality, over low protector			
Inside dimensions	W680xD560xH540mm		W1040xD680xH540mm	
Outside dimensions	W1010xD640xH870mm		W1370xD760xH870mm	
Volume (Liters)	205		381	
Power supply	110/220V, 50/60Hz, (8.5A)			
Weight	200Kg		300Kg	

Capacity of flask holders

Model	111-1-110125	111-1-110250	111-1-110500	111-1-111000	111-1-112000	111-1-113000	111-1-114000	111-1-115000
Flask clamps	125ml	250ml	500ml	1000ml	2000ml	3Liter	4Liter	5Liter
LOM-200	48	30	20	12	9	6	6	4
LOM-400	96	60	40	24	15	15	12	8



ROL-INC Series, Roll In Incubators – Cell Culture

The MRC CellRoller Roll-In Incubator is designed with convenient space saving features for cell cultures using a roller culture apparatus. It is an economical alternative to a warm room for small production. Its programmable PID temperature control feature and double wall insulation provide precise, uniform & stable temperature distribution. The product holds full size roller cultures apparatus unit. Its mirror graded stainless internal wall makes it easy to clean. Based on ROL-INC-16 and ROL-INC-30 Roll- In Incubators. ROL-INC-16-CO₂ & ROL-INC-30-CO₂ models are designed with feature of automatic CO₂ concentration control for more applications. The CO₂ concentration is microprocessor controlled with PID program. The unit comes with pressure regulator and filter.

Features:

- Programmable PID temperature control;
- LED digital display;
- Independent over temperature protection;
- Double walled window door;
- Alarm, automatic power off;
- Concise and practical design with delicate appearance.

Model	ROL-INC-16	ROL-INC-16-CO ₂	ROL-INC-30	ROL-INC-30-CO ₂
Temp. Display	Digital			
Temp. range	Environment Temperature +5°C ~ 60°C (Environment Temperature +5°C ~ 40°C)			
Temp. Sensitivity	0.1°C			
Temp. Uniformity	±0.5°C (Environment Temp.: 25°C; Set T: 37°C, No Load)			
Temp. Fluctuation	±0.2°C (Environment Temp.: 25°C; Set T: 37°C. No Load)			
Concentration Indicator	N/A		Digital Display	
CO ₂ Control Range	N/A		0-20%	
CO ₂ Control Sensitivity	N/A		0.1% (at 5%)	
CO ₂ Recovery Rate to 5%	N/A		<3min	
Return to 37°C after door opening	N/A		<3min	
CO ₂ Sensor	N/A		Infrared	
Power Supply	AC220V ±22V/50Hz ±1Hz			
Maximum Power	1250W			
Inside dimensions WxDxH(mm)	745x690x1115	870x690x1480	745x690x1115	870x690x1480
Outside dimensions WxDxH(mm)	845x885x1349	970x885x1716	845x885x1349	970x885x1716
Interior Wall	Mirror Grade Stainless Steel			
Door	Double Glass Window			
Alarm Function	Over-temperature, Temperature Sensor Malfunction, CO ₂ Concentration Alarm			
Weight	175Kg	195Kg	175Kg	195Kg



2406-2 require stacking rack for stacking. Optional caster platform also allow for mobility, safety, & convenience.

2406-2/3503-2, Economy Water Jacketed

Ideal for Clinical, Analytical, and General Laboratory Applications

2406-2 water jacketed CO2 incubators provide the uniform temperatures and highly stable CO2 environments necessary to prevent shocks to cell samples.

Features and Benefits

Copper gas plumbing, a high-heat auto decontamination cycle, and a glass viewing door enhance the 2406-2 water jacket CO2 incubators with extensive protection against microbiological contamination.



- + Infrared (IR) sensor for quick recovery of CO2 levels after door openings.
- + USB data logging capabilities.
- 1. Advanced PID temperature control system for sensitive response.
- 2. Independent over temperature set point and operational control override for additional safety.
- 3. Side-mounted access port, 1.75" diameter (4.45cm) for independent cables, sensors, and instrumentation.
- 4. Stainless steel interior construction for long life operation, easy cleaning.
- 5. Heated Copper CO2 inlet to promote temperature uniformity & reduce the risks of contamination and condensation.
- 6. Autoclavable shelving system.
- 7. Unique water jacketed design provides excellent temperature uniformity of $\pm 0.2^{\circ}\text{C}$ at 37°C .
- 8. Patented copper cage HEPA filter for reduced risk of contamination (Not included in the 2406-2).
- 9. Heated door to ensure superior temperature uniformity.
- 10. Sealed inner glass door allows for viewing without disturbing the critical growth atmosphere and allows for improved gas utilization and condensate reduction.
- + Safety certified CAN/CSA, UL, EN, IEC 61010, and compliant with CE.

Contamination Control

Extensive use of copper in the CO2 sample port, humidity reservoir, heated CO2 feed line, and housing of the patented HEPA filtration system adds reassurance that foreign microbes will not affect test results. Cleanup is a breeze with the all stainless steel chamber, coved corners, & autoclavable door gasket. Optional copper shelves are available for even more contamination control.

Applications:

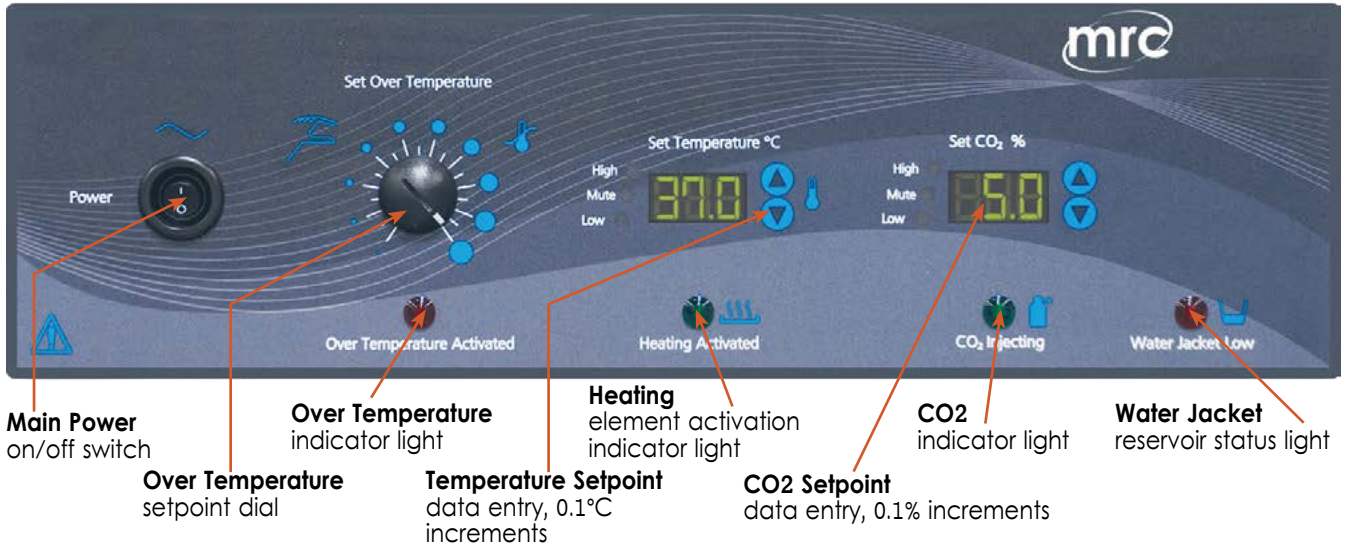
- Cell Culture • Microbiology • Plant Cell Culture • Stem Cells • Tissue Culture • Food Analysis.

Control, Feedback, & Monitoring

The advanced PID (proportional, integral, derivative) controller commands proportional power to the heating elements and CO2 injection frequency to provide the most accurate and responsive control. Each controller is matched to the incubator chamber volume to assure faster response to setpoint without overshoot, & quicker recovery following door openings. Indicator lights are included for visual status feedback on critical functions.

Integrated Control Panel

All controls are centrally located on the main panel including manual power, independent over temperature control, digital temperature/CO2 adjustments, and indicator lights for all functions.



CO2 Incubators Water Jacketed Specification Chart:

Model	3503-2	2406-2
Interior Volume, Nominal	42 liters	171 liters
Interior Dimensions (W x H x D)	400x260x400mm	513x500x600mm
Exterior Dimensions (W x H x D)	534x686x572mm	660x1022x667mm
Interior Construction	300 series stainless steel	
Exterior Construction	20 gauge steel, powder coated	
Shelves (See Accessories)*	3 standard, 8 total	3 standard, 16 total
Maximum Weight Per Shelf*	15.8kg	
Permitted Total Load	45.3kg	90.7kg

*Extra standard and copper shelves available. See Accessories.



CO2 Water Jacketed CO2 Incubators Selection Chart:

Model	3503-2	2406-2
Electrical, 60/50Hz, AC, 1Ø		
Voltage	220V-240V	
Full Load Amps	3.5	
Nominal Power (watts @37C)	300	400
Recommended Breaker, Amps	15	
Plug Supplied	EU1-16P	
CO2 Range	1-20%	
Recovery CO2 at 5%*	< 5 min.	
Sensor Type	Infrared	
Humidity Range Passive (Ambient 95%)	✓	✓
Temperature Uniformity		
At 37°C	± 0.2°C	
Temperature Range Recovery 37°C*		
Recovery to 37°C after 30 sec. Door Opening	8.0 min.	4.0 min.

* To %98 of set value.

Site Preparation and Installation Guides:

Model	3503-2	2406-2
Door Swing Clearance (Nominal)	483mm	610mm
Wall Clearance, Sides	100mm	
Wall Clearance, Roof	50mm	
Access Port (Inner Diameter)	44.5mm	
Unit Weight Empty	61.7kg	117.9kg
Shipping Weight	81.2kg	138.4kg



Patented Copper Coated HEPA Filter
This specialized filter included in the 3503-2 units features a "bacteriostatic" copper cage to trap particulate matter and reduce the potential for chamber contamination. This filter removes 99.97% of all airborne microbes



PGI-550H/1015H/550RH/550V/550VH, Plant Growth Incubator

- Customized design
- Apply to microorganism Lab / Cell culture / Biotechnology experiments / Analytical Lab / Food Science and Technology / Agricultural Lab / The Fisheries Laboratory / Gardening / Plant Research / Seeds.

Illuminated growth chamber controllers, allow setting of two temp. conditions day & night & an On/Off illumination cycle relative to the program selected. Timers can be set to adjust cycles from 10 minutes up to 24 hours.

Each system operates independently allowing for simulation of a diurnal cycle, such as an eight hour day cycle of 30°C with light followed by a sixteen hour night cycle of 18°C without light.

Forced air circulation ensures the most reproducible test conditions. The chamber air is gently & continuously circulated at a rate that ensures temp. uniformity of all test samples. The unit is equipped with a hermetically-sealed compressor & an independent over temp. safety controller. It also includes a circuit breaker to protect from electrical overload, 5 shelves, adjustable leveling feet, steel exterior with welded seams & corners, & double-coated, baked enamel finish.

MRC Diurnal growth chambers are designed for studies requiring day and night time simulation. Standard models come with flourescent illumination. Optional led illumination.



Internal

- PGI-500H:** Horizontal illumination
- PGI-500RH:** Horizontal illumination with humidity control
- PGI-500V:** Vertical illumination
- PGI-500VH:** Vertical illuminationn with humidity control.

Model	Horizontal illumination	PGI-550H	PGI-1015H	PGI-550RH with Humidity
	Vertical illumination	PGI-550V	-	PGI-550VH with Humidity
Temperature Range	0°C ~ 60°C			
Temperature Control	PID temperature controller, PV actual value and SV setting value displayed at the same time			
Temperature Precision	±0.1°C			
Touch Setting	Power, cooling temperature, humidity, illumination timer device			
Safety Device	overheat and over low cut off device. 2-stage protection with safety protection alarm and indicator, compressor delay-start, high and low pressure of cold media protection device			
Heater	1200 W SUS 304#			
Refrigerator	1/3 HP R134a			
Humidity Display	-			PID Humidity controller, PV actual value and SV setting value displayed at the same time
Humidity Control	-			30% RH ~ 95% RH
Control Precision	-			± 3%
Humidity Display	-			Digital
Humidity Device	-			Ultrasonic wave stainless steel (Back-mounted)
Illumination	4000-8000 LUX			
Timer	24H Temperature and light control			
Shelf / Inner Chamber	5 psc / SUS 304# stainless steel			
Inside Dimension (WxDxH)	680 x 580 x 1400 mm (Approx 550 L)			
Outside Dimension (WxDxH)	760 x 820 x 1870 mm			
Volume	550 L	1015 L		550 L
Power Voltage	110V/220V14A/7A			110V/220V16A/8A
Weight	200 kg			210 kg

LE-250B, Stability Testing Chamber, Temperature, Humidity, Light



LE-250B



Air duct structure

Applies circular airflow design concept & forced convection simulated air circulation principle. The high power air circulating blades specially designed to produce higher air flow rate & guarantee high even and stable inner bag temperature and humidity.

The humidity can be precisely controlled within the range of 20% to 98% to realize effective and stable test effect.



Touch screen

Super large touch screen, intelligent operating system and 32-digit processor are equipped to simplify the operation and to be more humanized.



High precision electronic temperature sensor

It is used for absolute precise humidity measurement. The humidifying and dehumidifying system is controlled electronically. ROTRONIC

electronic humid. sensor can guarantee the reliability of humidity inspection even if the samples are changed frequently. The sensor does not require maintenance.



Innovative refrigerating system

International famous brand refrigerant compressor and Germany EBM condenser applying 134a, refrigerant fluorine free, environmental protection, precision and high efficiency are applied.



Illumination effect

One-side illumination concept is applied to better conduct authentic and real-time light stability test on active substance.



Test hole

One test hole with the diameter of 45mm made with special mould is arranged on the left & right of the incubator respectively for observation. Internal silica gel soft plugs

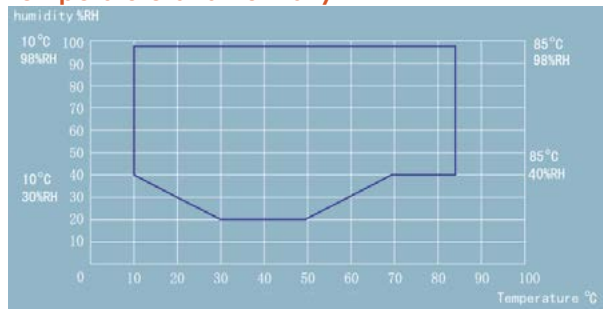
are provided to make sure the temperature and humidity inside the incubator are not effected during the test.



RS232 interface

It is a interface for PC (Optional).

Temperature and humidity



Features:

- The incubator is made with imported NC machine tool and laser processing technology. The outside incubator body applies high quality cold rolling plate, which is strongly resistant to rusting. The inner bag applies SUS304 stainless plate.
- The incubator bottom truckle is imported from Japan. Its direction is adjustable and it can be locked. The outside incubator body is sprayed with American Dupont powder.
- One test hole with the diameter of 45mm made with special mould is arranged on the left and right of the incubator respectively for observation. Two silica gel soft plugs are provided inside.
- The heat insulating material applies Germany Bayer CFC-free polyurethane one-time foaming technology to improve the insulating

property and reduce energy consumption. It can save over 30% in energy compared with similar products.

- Rational air duct structure; balance type control method; imported special electric motor and blade are applied to make temperature and humidity distribution evened and greatly improve test precision and evenness of temperature and humidity.
- International famous brand refrigerant compressor and Germany EBM condenser applying 134a refrigerant and featuring fluorine free, environmental protection are applied and conform to the world trends.
- Super large touch screen, intelligent operating system and 32-digit processor are equipped to simplify the operation and programming.
- Programmed temperature and humidity control; micro-computer fuzzy control PID control.
- Temperature sensor PT100 applies Honeywell product. The humidity sensor applies Swiss Rotronic capacitive sensor.
- Over-temperature protection, creepage protection, door open alarm, current failure alarm and sensor alarm functions are provided to improve the safety. Meanwhile, automatic start, stop, timed operation, clock display and self recover after energizing are provided.
- R-232 communication interface, USB storage (Optional).
- Automatic defrosting and manual defrosting functions are provided for long term test to solve the problem of temperature and humidity drifting.

Model	LE-250B
Convection method	Compulsory convection method
Control method	Balance type
Temperature range	No illumination -15°C ~ +85°C With illumination 10°C ~ +85°C
Humidity control scope	20 ~ 98%
Temperature resolution	0.1°C
Temperature fluctuation	±0.1°C
Temperature evenness	±1.0°C (65°C)
Humidity fluctuation	Within ± 1.5% (65°C)
Working room temperature	5°C ~ 35°C
Illumination intensity	0-6000LX adjustable
Illumination error	≤ ±300LX
Insulating material	Overall foaming of polyurethane
Programmed control	Fuzzy logistic PID control method common operating mode
Overall dimension(mm)	W765 x D733 x H1490
Inner dimension (mm)	W640 x D400 x H890
Weight	About 137KG
Effective volume	250L
Total power of heating and humidifying	2000W
Refrigerating power- refrigerant	270W,R134a
Water supply volume	Inside: 10L Outside: 25L
Power voltage	AC-220V 50/60Hz
Tray (standard configuration)	Three layers

LOM-7450, LOM-7450-CO2, LOM-7450-L, Stackable Incubator Shakers (with or without CO2 Controller)



LOM-7450
Stackable Incubator Shaker

LOM-7450-CO2
Stackable Incubator Shaker
with CO2 Controller

LOM-7450-L
Stackable Incubator Shaker
with Light Controller

Descriptions:

Stackable incubator shakers are the ideal choice for optimizing laboratory space without compromising the advantages of performing large capacity incubations. The products are designed with sliding platforms and light controller for easy of access to samples.

Model	LOM-7450	LOM-7450-CO2	LOM-7450-L
Product Name	Stackable Incubator Shaker	Stackable Incubator Shaker with CO2 Controller	Stackable Incubator Shaker with Light Controller
Speed	0rpm, 30-300rpm		
Speed Precision	±1rpm		
Orbit Diameter	Ø26mm		
Maximum Capacity	50ml x 90/100ml x 42/250ml x 30/500ml x 18/1000ml x 12/2000ml x 8/3000ml x 6/5000ml x 6		
Flask Clamps in Standard Package	500ml x 18		
Size of Platform	740mm x 500mm		
Number of Platforms	1 Piece/Accessories available		
Temperature Range	Ambient -15°C ~ 60°C (Low Limit: 4°C)		
Temperature Sensitivity	0.1°C		
Temperature Uniformity	±0.3°C		
CO2 Sensor		Infrared	
CO2 Control Range		0-20%	
CO2 Control Sensitivity		0.1% (at 5%)	
CO2 Concentration Indicator		Digital Display	
Light intensity			0-20000LX
Automatic Defrost	Yes		
Display	LCD		
Timer	0-999 (Hours)		
Outside Dimensions (WxDxH)	1240x777x670mm		
Capacity	840x590x483mm		
Power	<1100W		<1300W
Power Supply	AC220V ± 22V / 50Hz ± 1Hz		
Weight	220kg (Single Unit)		
Maximum Height	2m		