

NEW

Double shaker NR-150N/Two-tier platform NR-150N

Being placed on the floor for use. Switchable Reciprocal/Orbital shaking. The capacity doubles in Two-tier platform. The adjustable shaking width can effectively stir large Erlenmeyer flasks and Shake flasks.

- "Bioshaker BR-300LF with temp. control" series/"Bioshaker Double platform BR-300LF" series --> P.033
- OD-Monitor Turbidimeter while shaking --> P.042 to 043



Double shaker NR-150N with Clamps (optional)



Two-tier platform shaker NR-150N with Clamps (optional)



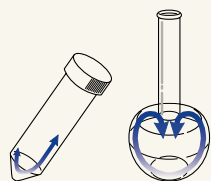
Shaking motion switching lever



Shaking platform drawer lever

Compatibility of Reciprocal shaking and Vessels

Reciprocal shaking is suitable for Test tubes and Shake flasks. In shaking culture with Shake flasks, adjust the flow rate to 1/2 of the capacity so that the liquid can be moved properly.

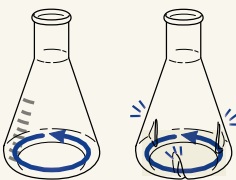


Movement of liquid in Reciprocating shaking (left: Centrifuge tube, right: Shake flask)

Shaking width is more important rather than shaking speed so that the liquid moves like the figure in shaking flasks. The shaking width can be adjusted in NR-150N.

Compatibility of Orbital shaking and Vessels

Orbital shaking is suitable for Erlenmeyer flasks. In shaking culture with Erlenmeyer flasks, adjust the flow rate between 1/5 to 1/3 of the capacity so that the liquid can be moved properly.



Movement of liquid inside Erlenmeyer flasks in Orbital shaking

The baffled Erlenmeyer flask (right) has good aeration but is prone to bubbles so the applications are limited.

LED mounting bracket is used on the shaking platform.



× Number of pcs that are required



- + Up to 4 LED units
- + Controllable controller
- + Mounting bracket, shaking platform

Light irradiation can be supported by adding an LED irradiation unit & controller, mounting brackets, and a spring net shaking platform to the above shaking platform.

*Choose LC-LED-CON4 as the controller for the LED light irradiation unit, which can control up to 4 LEDs at the same output (%).

Features

- Switchable Reciprocal/Orbital, Shaking platform drawer lever
- Shaking width can be 10 mm to 50 mm by stepless
- Digital settings and display for IQ/OQ

Applications

- Shaking culture of Microbes inside Incubators, etc.
- Shaking culture of Algae, etc. inside Incubators with LED irradiation
- Various Dissolution/Elution testing

Newly equipped timer enables accurate control of shaking time.



Timer setting area Shaking setting area

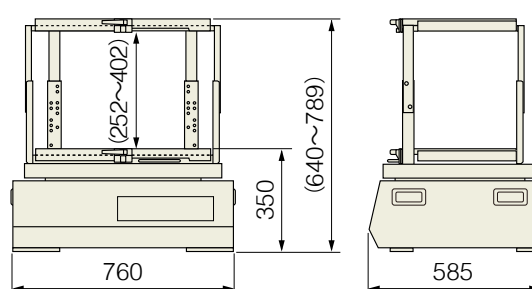
Equipped with the same timer as the environmental shaker series Digital settings and display for IQ, OQ, and calibration. Memory for speed setting allows switching between different speeds with a single button.

Model	NR-150N	Two-tier platform NR-150N
Shaking motion	Reciprocal/Orbital	
Shaking speed	25 to 250 r/min	25 to 160 r/min
Shaking width	10 to 50 mm, Stepless (Default: 25 mm)	
Platform dimensions and Capacity	600 × 400 mm, Erlenmeyer flask 500 mL × 15 (Two-tier platform 30 pcs), 5 L × 3	
Maximum load	Approx. 26 kg (Shaking platform and vessel holders are included) (*1)	
Shaking duration integrator	Shaking duration integrator Timer function (setting/display: 1 min to 99 h 59 min) *When the timer function is not being used, it can count the time. •ON-END •OFF-ON •OFF-ON-END	
Safety devices/functions	Motor protection circuit at overload, Fuse	
Dimensions (W×D×H)	760 × 585 × 350 mm	760 × 585 × 789 mm (*2)
Weight	Approx. 70 kg	Approx. 83 kg
Power supply	AC100V-240V/0.5A (universal power supply)	
Standard accessories	Universal shaking platform MT-6040C × 1 set (Two-tier platform: 2 sets), Spacer × 4 pcs (1 mm thick × 2 pcs and 2 mm thick × 2 pcs), Slip prevention sheet × 4 pcs	

(*1)When the clamps are attached to the platform of NR-150N, the max. load of NR-150N is approx. 19 kg and that of Two-tier platform is approx 10 kg. (*2)The height is maximum value (Upper platform height can be adjusted.)


Dimensions

() is the maximum size of Two-tier platform shaker NR-150N




Optional accessories and Capacity of Vessels

Universal shaking platform and Capacity of Flasks

Model	MT-6040C			
	It is used together with Optional Clamps, Angle Racks, and "OD-Monitor" series. 2 sets are used with Double shaking platform type (Standard accessories).			
Dimension/Weight	600 × 400 × 42H mm, Approx. 7 kg			
Capacity of Vessels	Erlenmeyer flasks 50 mL	70	Erlenmeyer flasks 2 L	6
	Erlenmeyer flasks 100 mL	35	Erlenmeyer flasks 3 L	4
	Erlenmeyer flasks 200 mL	28	Erlenmeyer flasks 5 L/Disposable 3&5 L	3
	Erlenmeyer flasks 250 mL	21	Sakaguchi flasks 500 mL	15
	Erlenmeyer flasks 300 mL	21	Sakaguchi flasks 1 L	9
	Erlenmeyer flasks 500 mL	15	Sakaguchi flasks 2 L	6
	Erlenmeyer flasks 1 L	9	Sakaguchi flasks 3 L	4
	Erlenmeyer flasks 1 L	9	Sakaguchi flasks 3 L	4
Capacity in Two-tier shaking platform type				
Capacity of Vessels (two tiers in total)	Erlenmeyer flasks 50 mL	140	Erlenmeyer flasks 2 L (*)	6
	Erlenmeyer flasks 100 mL	70	Erlenmeyer flasks 3 L (*)	4
	Erlenmeyer flasks 200 mL	56	Erlenmeyer flasks 5 L/Disposable 3&5 L (*)	3
	Erlenmeyer flasks 250 mL	42	Sakaguchi flasks 500 mL	30
	Erlenmeyer flasks 300 mL	42	Sakaguchi flasks 1 L (*)	9
	Erlenmeyer flasks 500 mL	30	Sakaguchi flasks 2 L (*)	6
	Erlenmeyer flasks 1 L	18	Sakaguchi flasks 3 L (*)	4
	Erlenmeyer flasks 1 L	18	Sakaguchi flasks 3 L (*)	4

(*) It cannot be used in the upper platform. Sakaguchi flask 3 L with height 370H mm assumed for use.
 • Place the vessels (samples) so that the upper load is lighter than the lower load.



Spring net shaking platform and Capacity of Vessels (Mounted on MT-6040C for use)

Model	MR-4030L			
	The usable Shaking platform that Vessels can be easily mounted on regardless its shapes. Fixed with the screws on Platform MT-6040C for using. Up to 2 sets can be mounted. (See Left figure.) 4 sets in total can be mounted on Two-tier platforms.			
Spring net Pitch	20 mm			
Spring net tier(s)	2 tiers (Height is changeable.)			
Dimension/Weight	400 × 300 × 108H mm, Approx. 2 kg			
Capacity of Vessels (*)	φ16 mm test tubes (*)	96 pcs (When 2 sets mounted: 2 × 96 = 196 pcs) × 2 tiers		
	Disposable Centrifuge tube for 50 mL (*)	48 pcs (When 2 sets mounted: 2 × 48 = 96 pcs) × 2 tiers		
	50 mL	24 pcs (When 2 sets mounted: 2 × 24 = 48 pcs) × 2 tiers		
	100 mL	20 pcs (When 2 sets mounted: 2 × 20 = 40 pcs) × 2 tiers		
	200 mL	12 pcs (When 2 sets mounted: 2 × 12 = 24 pcs) × 2 tiers		
	250 mL	9 pcs (When 2 sets mounted: 2 × 9 = 18 pcs) × 2 tiers		
	300 mL	9 pcs (When 2 sets mounted: 2 × 9 = 18 pcs) × 2 tiers		
	500 mL	6 pcs (When 2 sets mounted: 2 × 6 = 12 pcs) × 2 tiers		
Erlenmeyer flasks	1 L (*)	3 pcs (When 2 sets mounted: 3 × 2 = 6 pcs) × 2 tiers		
	2 L (*)	2 pcs (When 2 sets mounted: 2 × 2 = 4 pcs)		
	3 L (*)	1 pc (When 2 sets mounted: 2 × 1 = 2 pcs)		
	Sakaguchi flask 500 mL	6 pcs (When 2 sets mounted: 2 × 6 = 12 pcs) × 2 tiers		

(*) The number is when Angle rack is tilted 45°. When below φ16 mm test tubes, fix the test tube stand (incl. φ16 mm) whole with the spring net. (2) Note: The kinds (size) of fixable vessels will be less than those of Universal shaking platforms. (3) It cannot be used in the upper platform.

• Place the vessels (samples) so that the upper load is lighter than the lower load.

Clamps (Mounted on MT-6040C and AF-2070/2570 for use)

	Vessels/Volume	Model
 Above, 300 mL Clamps comes with Spring and 500 mL comes with Octagonal rubber sheet.	50 mL	CF-0050
	100 mL	CF-0100
	200 mL	CF-0200
	250 mL	CF-0250
	300 mL	CF-0300
	500 mL	CF-0500
	1 L	CF-1000
	2 L (*)	CF-2000
	3 L (*)	CF-3000
	5 L (*)	CF-5000
 MT-6040C with multiple clamps mounted.	3&5 L (*)	CF-3000DSP
	500 mL	SF-0500
	1 L (*)	SF-1000
	2 L (*)	SF-2000
	3 L (*)	SF-3000

(*) It cannot be used in the upper platform and can be used on the lower platform when the upper is removed. (2) For Disposable Erlenmeyer flasks (Corning 3 L and Thomson 5 L).

Angle rack for Test tubes (Mounted on MT-6040C for use)

Model	AT-1250	AT-1620	AT-1650	AT-1820
Capacity	φ12 mm × 50	φ16.5 mm × 20	φ16.5 mm × 50	φ18 mm × 20
Qty. of mounting on MT-6040C	4 (*) × 2 tiers	5 (*) × 2 tiers	4 (*) × 2 tiers	5 (*) × 2 tiers
Dimension (mm)	250 × 100 × 95H	285 × 70 × 80H	286 × 110 × 100H	320 × 70 × 80H
Weight	Approx. 0.8 kg	Approx. 0.6 kg	Approx. 0.9 kg	Approx. 0.7 kg

(*) The qty. is when Angle rack with 160 mm test tube is tilted 45°.

Angle rack for Disposable Centrifuge tube (Mounted on MT-6040C for use)

Model	AT-3518
Capacity	50 mL × 18
Qty. of mounting on MT-6040C	44 (When Angle rack is tilted 45°) × 2 tiers
Dimension/Weight	285 × 110 × 102H mm, Approx. 0.8 kg
Remarks	Be sure to use below 50°C.

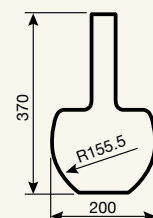
Angle rack for Erlenmeyer flasks (Mounted on MT-6040C *Clamps required)

Model	AF-2070	AF-2570
Capacity	50 mL: 4 pcs, 100 mL: 3 pcs, 200 to 300 mL: 2 pcs, 500 mL: 1 pc	50 mL: 5 pcs, 100 mL: 4 pcs, 200 mL: 3 pcs, 250 to 500 mL: 2 pcs
Qty. of mounting on MT-6040C	4 (*) × 2 tiers	4 (*) × 2 tiers
Dimension	250 × 110 × 50H mm	300 × 110 × 50H mm
Weight	Approx. 0.8 kg	Approx. 0.9 kg

(*) When Angle rack is tilted 30°

3 L Shake flasks (for reference)

The 3 L Shake flask (Sakaguchi flask) does not seem to be distributed as a standard product at present. For reference, here are the dimensions we measured before. We use these dimensions as the basis for determining whether or not the flask will fit into our two-tier shakers or constant temperature incubator shakers. The height is only slightly higher than that of the 2 L (353H mm).



NEW

Constant temperature incubator shaker
OD Monitor

For cell culture related products

Shaker

Mixer Rotator
Stirrer

Bead beater
homogenizer
Ultrasonic

Aluminum block Bath
Mini-size Bath

Water bath
Shaking Water bath
Immersion cooler

Hybridization
Incubator
Constant temperature
Chambers

Centrifugal
Concentrators
Cold Trap

Freeze dryers

Substrate
Electrophoresis apparatus
Blotting device for
hybridization

Constant-temperature
water circulating
system [Chilled]

Appendix