

NEW

# Reciprocal shaker NR-1, Rotary shaker NR-2, Double shaker NR-3

**Compact sized easy to use for bench tops and inside Incubators.**  
**3 models: Reciprocal, Orbital, Switchable Reciprocal shaking.**  
**Options are compatible with those of Bioshaker (Small sized).**

- "Bioshaker BR-21/22/23 with temp. control" series --> P.027
- OD-Monitors measuring turbidity while shaking --> P.042 to 043

Other platforms can be used with each model in combinations other than the combination shown below.



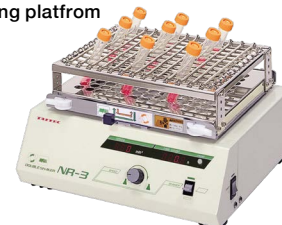
NR-1 with Optional shaking platform



NR-2 with Optional shaking platform



NR-3 with Optional shaking platform

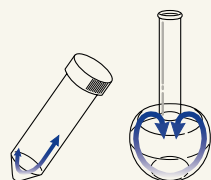


## Features

- Reciprocal shaking of Test tubes and Shake flasks [NR-1]
- Orbital shaking of mainly Erlenmeyer flasks [NR-2]
- Switchable Reciprocal/Orbital shaking [NR-3]

### 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-1/2/3.

## Applications

- Shaking culture of Microbes inside Incubators, etc.
- Shaking culture of Algae, etc. inside Incubator with LED irradiation
- Staining/Decolorization of Gels and Membranes

### 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.

Model	NR-1	NR-2	NR-3
Shaking motion	Reciprocal shaking	Orbital shaking	Switchable Reciprocal/Orbital shaking
Shaking speed	20 to 200 r/min		
Shaking width	10 to 40 mm, Stepless (Default: 25 mm)		
Platform dimensions and Capacity	290 x 250 mm Erlenmeyer flask 500 mL x 4, 3 L x 1		
Maximum load	Approx. 5 kg (Shaking platform and vessel holders are included)		
Shaking duration integrator	0.1 h to 999.9 h (Automatic resetting function)		
Safety devices/functions	Motor protection circuit at overload, Fuse		
Dimensions (WxDxH)/Weight	355 x 355 x 160 mm, Approx. 13 kg		
Power supply	AC100V/AC220V-240V/0.5A (built-in down transformer)		

### Related products: OD-Monitor series and Small-sized incubator

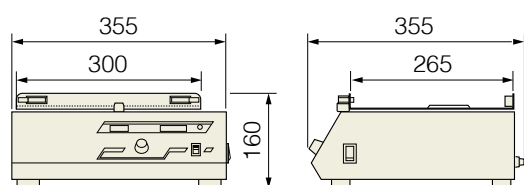


Can be combined with the "ODMonitor series (P.042 to 043)" that can automatically measure the turbidity of culture liquid (OD<sub>600</sub>) without stopping shaking culture. Prepare the universal shaking platform and clamps when combining.



Can be put on the lowest shelf of "In vitro Box iB-130" (P.154) for use. \*No adverse effects from vibration verified. This is an energy-saving small-size incubator that can control the temp. below RT. Very useful if no incubation room is available where culturing or incubation that requires low temp.


### Dimensions (Each model is the same)



# Optional accessories and Capacity of Vessels

•Small size incubator "in vitro box iB-130" --> P.154

## Spring net shaking platform and Capacity of Vessels


Model	MR-2925			
	Vessels can be easily mounted on regardless of its shapes. It can be used by removing some springs and changing the height of spring net as necessary. Universal shaking platform (w/o Clamp *It is optional) recommended if vessel should be tightly held.			
Spring net Pitch	20 mm			
Spring net tier(s)	1 tier (Height is changeable.)			
Dimension	290 × 250 × 108H mm			
Weight	Approx. 1.1 kg			
Capacity of Vessel	φ16 mm test tubes (*1)	50 (*2)	Erlenmeyer flasks 250mL	5
	Disposable Centrifuge tubes for 50 mL	20 (*2)	Erlenmeyer flasks 300 mL	5
	Erlenmeyer flasks 50 mL	20	Erlenmeyer flasks 500 mL	4
	Erlenmeyer flasks 100 mL	10	Erlenmeyer flasks 1 L	2
	Erlenmeyer flasks 200 mL	9	Erlenmeyer flasks 2 L	1

(\*1) When below φ16 mm test tubes, fix the test tube stand (incl. φ16 mm) whole with the spring net.


(\*2) The number when the Angle rack is tilted 45°.

•Be careful when using Shake flask (Sakaguchi flask) as it is fragile. Usage with MR-2925 in NR-1/2/3 is not recommended. Please use with the following MT-2925.

## Universal shaking platform and Capacity of Flasks


Model	MT-2925			
	It is used together Clamps, Angle racks and "OD-Monitor" series (Clamps of Erlenmeyer flask and Shake flask are available). It can hold flasks tightly than Spring shaking platform.			
Dimension	290 × 250 × 23H mm			
Weight	Approx. 0.9 kg			
Capacity of Vessels	Erlenmeyer flasks 50 mL	20	Erlenmeyer flasks 500 mL	4
	Erlenmeyer flasks 100 mL	10	Erlenmeyer flasks 1 L	2
	Erlenmeyer flasks 200 mL	9	Erlenmeyer flasks 2 L	1
	Erlenmeyer flasks 250 mL	5	Erlenmeyer flasks 3 L	1
	Erlenmeyer flasks 300 mL	5	Sakaguchi flasks 500 mL	4

## Angle rack for Test tube (Mounted on MT-2925 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-2925	2 (*1)	2 (*1)	2 (*1)	2 (*1)
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

(\*1) The qty. when Angle rack with 160 mm test tube is tilted 45°.

## Angle rack for Disposable Centrifuge tubes (Mounted on MT-2925 for use.)

Model	AT-3518			
				
Capacity	50 mL × 18			
Qty. of mounting on MT-2925	2 (When Angle rack is tilted 45°)			
Dimension/Weight	285 × 110 × 102H mm, Approx. 0.8 kg			
Remarks	Be sure to use below 50°C.			

## Sticky sheet shaking platform

Model	SR-2925			
	Flat bottoms such as Erlenmeyer flasks and Petri dishes can be held simply by placing them on the platform. The decrease of adhesive force by dirt can be recovered by washing with water and drying it.			
Max. shaking speed	100 r/min			
Dimension/Weight	290 × 250 × 30H mm, Approx. 1.1 kg			
Standard accessories	Sticky sheet × 1 pc			



## Sticky sheet

Sticky sheet (ST-2925) above is also available and sold separately.

Model	ST-2925
Dimension	290 × 250 mm

(\*1) Up to 2 L of Erlenmeyer flask can be used with the NR-1/2/3 series.


## Clamps (Mounted on MT-2925 and AF-2070 for use.)

Shape	Vessels/Capacity	Model
	50 mL	<b>CF-0050</b>
	100 mL	<b>CF-0100</b>
	200 mL	<b>CF-0200</b>
	250 mL	<b>CF-0250</b>
	300 mL	<b>CF-0300</b>
	500 mL	<b>CF-0500</b>
	1 L	<b>CF-1000</b>
	2 L	<b>CF-2000</b>
	3 L	<b>CF-3000</b>
	500 mL	<b>SF-0500</b>

MT-2925 with multiple clamps mounted.


## Angle rack for Erlenmeyer flasks

(Mounted on MT-2925 \*Clamps required for use)

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-2925	2 pcs (*1)	2 pcs (*1)
Dimension	250 × 110 × 50H mm	300 × 110 × 50H mm
Weight	Approx. 0.8 kg	Approx. 0.9 kg

(\*1) When Angle rack tilted 30°

## Tube holders (Mounted on MT-2925 for use.)

Model	M-0150		Tube holder M-0015
			
M-0150		M-0500	For 1.5/2.0 mL Microtubes and Micro Vials, 3 sets × 8 racks
Tube holder M-0150		Tube holder M-0500	
Disposable Centrifuge tube for 15 mL 3 sets × 6 racks (*1)		Disposable Centrifuge tube for 50 mL 3 sets × 4 racks (*1)	

(\*1) Up to 3 sets can be mounted on MT-2925 in NR-1/2/3 series. The vessel tips will protrude from MT-2925 when 3 pcs are attached. Thus, be sure not to make them hit the surroundings during shaking.