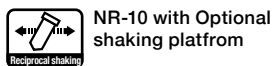


Reciprocal shaker NR-10, Rotary shaker NR-20, Double shaker NR-30, & Triple shaker NR-80

The versatile shaker with simple operation. Reciprocal, Orbital, Switchable Reciproca/Orbitall shaking, and Swing in figure 8. Options are compatible with those of Bioshaker® (Middle size).

- "Bioshaker BR-40/41/42/43 with temp. control" series --> P.029
- "In vitro Shake-LR/XR" equipped with Swing in figure 8 --> P.068



NR-10 with Optional shaking platform



NR-20 with Optional shaking platform



NR-30 with Optional shaking platform



NR-80 with Optional shaking platform



Features

- Reciprocal shaking of Test tubes and Shake flasks [NR-10]
- Orbital shaking of mainly Erlenmeyer flasks [NR-20]
- Reciprocal/Orbital shaking [NR-30], Reciprocal/Orbital and Figure 8 [NR-80]

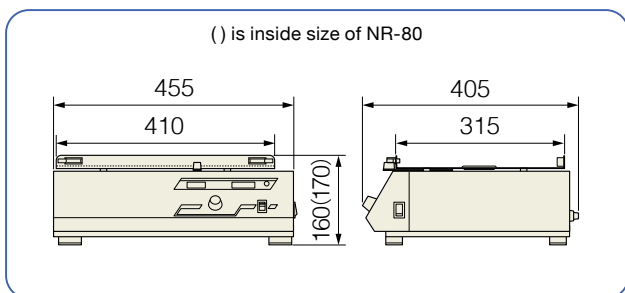
Applications

- Shaking culture of Microbes inside Incubators, etc.
- Shaking culture of Algae, etc. inside Incubators with LED irradiation
- Staining/Decolorization of Gels, Membranes and Dispersion [NR-80]

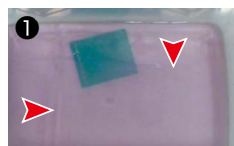
Model	NR-10	NR-20	NR-30	NR-80
Shaking motion	Reciprocal	Orbital	Switchable Reciprocal/Orbital	Reciprocal/Orbital/Figure 8
Shaking speed	20 to 200 r/min (*)			
Shaking width	10 to 40 mm, Stepless (Default: 25 mm)			
Platform dimensions and Capacity	400 x 300 mm Erlenmeyer flask 500 mL x 6, 3 L x 2			
Maximum load	Approx. 8 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)	455 x 405 x 160 mm (NR-80: 170 mm)			
Weight	Approx. 17 kg			Approx. 18 kg
Power supply	AC100V/AC220V-240V/0.5A (built-in down transformer)			

(*)One motion per 2 r/min in the figure 8. One motion per 1 r/min in the figure 8 for "Shake-XR/XR2" (Page 68), dedicated for figure 8.

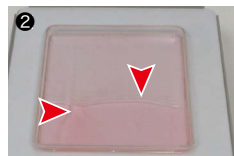
Dimensions (Each model is the same)



The features of Swing in figure 8 and the shaker that can swing in figure 8



Vertical and Horizontal waves occur alternately in the figure 8. In shaking the gel, the efficiency of dye decolorization is heightened as the solution moves firmly while the gel stays at any position (1).



The wider vertical and horizontal waves alternately are, the easier the vessels can be checked (2).



In Erlenmeyer flasks, high aeration and dispersion efficiency like motion of liquid in the shaking flasks can be obtained (3), 50/100/150 mL in 500 mL from the left).

USER'S VOICE

The figure-8 shaker has also been tested for dispersion in stem cell culture. There is also a smaller figure-8 shaker, the Shake-XR.




◀ Shake-XR/XR2
*Dedicated for Figure 8 (Page 68)
3 pcs of 500 mL Erlenmeyer flask,
Various options

Optional accessories and Capacity of Vessels


•OD-Monitor Turbidimeter while shaking --> P.042 to 043
 •Middle size incubator "in vitro box iB-230" --> P.154

Spring net shaking platform and Capacity of Vessels

Model	MR-4030			
	Vessels can be easily mounted on regardless of its shapes. It can be used by removing some springs and changing the height of the 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)	2 tier (Height is changeable.)			
Dimension	400 × 300 × 108H mm			
Weight	Approx. 3.3 kg			
Capacity of Vessels	φ16 mm test tubes (*1)	96 (*2)	Erlenmeyer flasks 250 mL	9
	Disposable Centrifuge tube for 50 mL	48 (*2)	Erlenmeyer flasks 300 mL	9
	Erlenmeyer flasks 50 mL	24	Erlenmeyer flasks 500 mL	6
	Erlenmeyer flasks 100 mL	20	Erlenmeyer flasks 1 L	3
	Erlenmeyer flasks 200 mL	12	Erlenmeyer flasks 2 L	2

(*1)When below φ16mm test tubes, fix the test tube stand (incl. φ16mm) whole with the spring net.
 (*2)The number is when Angle rack is tilted 45°.
 •Due to the instability of Shake flasks (Sakaguchi flasks), use of MR-4030 with NR-10/20/30/80 is not recommended. Instead, use the MT-4030.

Universal shaking platform and Capacity of Flasks


Model	MT-4030			
	It is used together Clamps, Angle racks and "OD-Monitor" series (Clamps of Erlenmeyer flasks and Shake flask are available). It can hold flasks tightly than Spring shaking platform.			
Dimension	400 × 300 × 23H mm			
Weight	Approx. 1.4 kg			
Capacity of Vessel	Erlenmeyer flasks 50 mL	35	Erlenmeyer flasks 500 mL	6
	Erlenmeyer flasks 100 mL	18	Erlenmeyer flasks 1 L	4
	Erlenmeyer flasks 200 mL	12	Erlenmeyer flasks 2 L	2
	Erlenmeyer flasks 250 mL	9	Erlenmeyer flasks 3 L	2
	Erlenmeyer flasks 300 mL	9	Sakaguchi flasks 500 mL	6

Angle rack for Test tube (Mounted on MT-4030 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-4030	2 (*)	3 (*)	2 (*)	3 (*)
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 number is when Angle rack with 160 mm test tube tilted 45°.

Tube holder (Mounted on MT-4030 for use)

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

(*Up to 3 sets can be mounted on MT-4030 in NR-10/20/30/80 series. The vessel tips will protrude from MT-4030 when 4 pcs are attached. Thus, be sure not to make them hit the surroundings during shaking.

Sticky sheet shaking platform

Model	SR-4030	SR-4030W	SR-4030S
	Flat bottoms such as Erlenmeyer flasks and Petri dishes can be held simply by placing them on the platform. The decrease of an adhesive force by dirt can be recovered by washing with water and drying it.		
	This is a 2-stage sticky sheet shaking platform. The height can be adjusted to 4 levels. (Please note the shaking speed and container weight as the center of gravity is higher.)		A set of sticky sheet and shaking platform more powerful than SR-4030. If the container has a flat bottom, such as a Erlenmeyer flasks or culture bottle, it can be simply fixed/held in place by simply placing it. (*2)
Max. shaking speed (*1)	100 r/min	100 r/min	200 r/min
Dimension	400 × 300 × 30H mm	400 × 300 × 220H mm	390 × 300 mm
Standard accessories	Sticky sheet × 1 pc	Sticky sheet × 2 pcs	Strong sticky sheet × 1 pc

*Sheet color may vary from photo.

(*1)Depending on the sample volume and the condition of the shaker, the container may topple over even within the above values. The above speeds should be considered as a guide only.



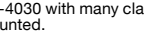
(*2)Because of the strong adhesive strength of this product, petri dishes and well plates are not suitable because the lid will open when peeling off.

Sticky sheet, Clamp belts

Sticky sheet (ST-4030) above is also available and sold separately.

Model	ST-4030	ST-4030S
Dimension	400 × 300 mm	390 × 300 mm

Clamps (Mounted on MT-4030 and AF-2070/2570 for use.)

Shape	Vessels/Capacity	Model
	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
	500 mL	SF-0500

Above, 300 mL Clamps comes with Spring and 500 mL comes with Octagonal rubber sheet

MT-4030 with many clamps mounted.

Angle rack for Erlenmeyer flask (Mounted on MT-4030 *Clamps required)

Model	AF-2070	AF-2570
Capacity	50 mL: 4 pcs, 100 mL: 3pcs, 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-4030	2 (*)	2 (*)
Dimension	250 × 110 × 50H mm	300 × 110 × 50H mm
Weight	Approx. 0.8 kg	Approx. 0.9 kg

(*When Angle rack is tilted 30°

Angle rack for Disposable Centrifuge tube (Mounted on MT-4030 for use)

Model	AT-3518
Capacity	50 mL × 18
Qty. of mounting on MT-4030	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.

