

Bioshaker BR-180LF/BR-180LF-70RT

Split doors enable large vessels to be taken in and out easily. Can be modified to Forced ventilation system of carbon dioxide. Shaking width 70 mm is effective on the cultivation of Actinomycete (BR-180LF-70RT).

•Dimensions --> P.046 •OD-Monitor Turbidimeter while shaking --> P.042-043 •Forced ventilation system of carbon dioxide --> P.054



BR-180LF



BR-180LF-70RT

(The shaking platform cannot be pulled out to prevent high loads.)

Features

- Max. speed 400 r/min, Split doors enable easy to take large vessels
- Capacity: Erlenmeyer flask 500 mL × 24 pcs, 5 L × 4 pcs

Details of optional parts and capacity --> P.036-039

Applications

- Cultivation of E. coli and yeasts
- Cultivation of Actinomycete (70RT)



Easy to take large vessels in and out

"Clamshell split doors" enable large vessels to be taken in and out easily. Equipped casters enable easy to move (BR-180LF). The Max. speed 400 r/min.

70RT (orbital shaking/shaking width 70 mm) can be shaken up to 250 r/min with optimum for especially Cultivation of microbe with Erlenmeyer flask.

Sliding retractable control pane

This is a common for small/medium size. Setting for Temperature, Shaking speed and Operation program is easy (see P.040).



Drawer type control panel

Model	BR-180LF	BR-180LF-70RT
Shaking motion	Switchable Reciprocal/Orbital shaking	Orbital shaking
Temperature range	+4°C to +70°C	+4°C to +70°C
Temp. control accuracy (*1)	±0.3°C to ±1.0°C	
Speed range (*2)	25 to 250 r/min, 25 to 400 r/min at 25 mm/orbital	25 to 250 r/min
Shaking width	Switchable 25/50 mm (Default: 25 mm)	70 mm
Platform size/Capacity	700 × 500 mm (70RT: 680 × 480 mm) (Max. inside height: 420mm), Erlenmeyer flask 500 mL × 24, 5 L × 4	
Door type	Clamshell split door (Divided into Upper and Lower, Upward opening and Front opening)	
Maximum load	approx. 10 kg (Platform not included)	
Ambient temp. range (*1)	+5°C to +30°C	
Heating/Cooling method	Heater 700 W/Compressor 125 W	
Program functions	1 program, 9 segments (4 combinations can be saved): Temp., Shaking speed, and Time/per segment (Setting range: 00 h 00 min to 99 h 59 min), Temp. gradient function (*3)	
Safety devices/functions	Leakage/Overcurrent breaker, Compressor overheating cut-off circuit, Alarm of abnormal sample temp. (Set as desired), Overload/Overvoltage protection, Fuse, Current limiter, Detecting the door opening and closing, Self-diagnosis function for temperature sensor error, Nonvolatile memory error, Breaking device when motor runaway	
Dimensions (W × D × H)/Weight	1110 × 716 × 990 mm, Approx. 180 kg	1110 (*4) × 716 × 930 mm, Approx. 190 kg
Power supply	AC100V/AC220V-240V/12A (built-in down transformer)	
Standard accessories	Universal shaking platform MT-7050 ×1 pc (LF)/ MT-6848 ×1 pc (LF-70RT) (*5), Drip tray ×1pc (LF)/Drain-reception plastic bottle with hose (LF-70RT), Vibration absorbing pad × 4 pcs, Spacer × 4 pcs (LF-70RT)	

(*1)The temp. of the defrost function is not included. Also, the specifications may not be met outside of the ambient temperature range. (*2)There is the limitation depending on the volume of vessels and the shaking diameter. See page 040. (*3)The transfer time of temperature can be set up (within their capabilities). (*4)Approx. 1550 mm when a delivery cart (not included) is installed. (*5)Clamps are not included. •Temp. range and Temp. stability may not be able to meet the specs when it is frozen by continuous operation. Required to defrost it regularly. •Due to the large size and weight of this product, transportation and installation costs will be charged separately.

Common Options for BR series

Clamps

(Mounted on Shaking platforms and Angle rack for Erlenmeyer flasks for use)



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



MT-4030 with Multiple clamps mounted



Clamps for Sakaguchi flask and Sakaguchi flask

Vessels	Model
50 mL	CF-0050
100 mL [Disposable flasks] Corning Disposable 125 mL Thermo Fisher Disposable 125 mL (*)	CF-0100
200 mL [Disposable flasks] Thomson Disposable 250 mL (*)	CF-0200
250 mL [Disposable flasks] Corning Disposable 250 mL Thermo Fisher Disposable 250 mL (*) Thomson Disposable 250 mL (*)	CF-0250
300 mL	CF-0300
500 mL [Disposable flasks] Corning Disposable 500 mL Thermo Fisher Disposable 500 mL (*) Thomson Disposable 500 mL (*, 3)	CF-0500
1 L [Disposable flasks] Corning Disposable 1 L Thermo Fisher Disposable 1 L (*) Thomson Disposable 1.5 L (*, 2), 1.6 L (*, 3)	CF-1000
2 L [Disposable flasks] Corning Disposable 2 L Thermo Fisher Disposable 2 L (*) Thomson Disposable 2.5 L (*, 2), 2.8 L (*, 3)	CF-2000
3 L	CF-3000
5 L	CF-5000
[Disposable flasks] Corning Disposable 3 L Thermo Fisher Disposable 5 L (*)	CF-3000DSP
500 mL	SF-0500
1 L	SF-1000
2 L	SF-2000
3 L	SF-3000

•Up to 2 L sets of Erlenmeyer flask can be used in BR-21/22/23 series and BR-40LF.
(*)Thermo Fisher PETG Erlenmeyer flask 411X-0125/0250/0500/1000/2000 type (*)Thomson Ultra Yield flask (*)Thomson Optimum Growth flask

Tube holders (Mounted on MT-2925 for use)



Tube holder M-0015

3 sets × 8 racks for 1.5/2.0 mL Microtube and Micro Vial

Tube holder M-0150

Disposable Centrifuge tube for 15 mL
3 sets × 6 racks (*)

Tube holder M-0500

Disposable Centrifuge tube for 50 mL
3 sets × 4 racks (*)

(*)Up to two can be attached to MT-2925 for BR-21/22/23 series. (If three are installed, the tip of the vessels will protrude from MT-2925 and may hit the inside of the chamber during shaking.)

Angle rack for Erlenmeyer flasks

(Mounted on Shaking platforms *Clamps required)

Model	AF-2070	AF-2570
Capacity	50 mL: 4, 100 mL: 3, 200 to 300 mL: 2, 500 mL: 1	50 mL: 5, 100 mL: 4, 200 mL: 3, 250 to 500 mL: 2
AF-2070		
Mounting qty on MT-2925	2 (*)	-
Mounting qty on MT-4030	2 (*)	2 (*)
Mounting qty on MT-6040E	4 (*)	4 (*)
Mounting qty on MT-7050	4 (*)	4 (*)
Mounting qty on MT-8060A	10 (*)	5 (*)
External dimension	250 × 110 × 50H mm	300 × 110 × 50H mm
Weight	Apporx. 0.8 kg	Apporx. 0.9 kg

(*)The qty when Angle rack is tilted 30°.

Angle rack for Disposable Centrifuge tubess

(Mounted on Shaking platforms for use)

Model	AT-3518
Capacity	50 mL × 18
Mounting qty on MT-2925	1
Mounting qty on MT-4030	2 (When Angle rack is tilted 45°)
Mounting qty on MT-6040E	4 (When Angle rack is tilted 45°)
Mounting qty on MT-7050	4 (When Angle rack is tilted 45°)
Mounting qty on MT-8060A	8 (When Angle rack is tilted 45°)
External dimension/Weight	285 × 110 × 102H mm, Apporx. 0.8 kg
Remarks	Be sure to use below 50°C.

Angle rack for Test tubes

(Mounted on Shaking platforms 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
AT-1250				
Mounting qty on MT-2925	1	2	1	-
Mounting qty on MT-4030	2	3	2	3
Mounting qty on MT-6040E	4	6	4	5
Mounting qty on MT-7050	4	6	4	6
Mounting qty on MT-8060A	10	16	8	6
External dimension (mm)	250 × 100 × 95H	285 × 70 × 80H	286 × 110 × 100H	320 × 70 × 80H
Weight	Apporx. 0.8 kg	Apporx. 0.6 kg	Apporx. 0.9 kg	Apporx. 0.7 kg

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

The mounting direction of Angle rack.


The tilt direction of Angle rack should be mounted orthogonal to the shaking direction (direction of shaking efficiency decreases) when reciprocating due to the inside dimension of the chamber.

AT-3518



Options for large size BR (BR-180/300/3300/G-BR) series

Spring net shaking platform and Capacity/Qty of Vessels (Mounted on Shaking platform for use)


Model	MR-4030L
	The usable Shaking platform where Vessels can be easily mounted on regardless of its shape. Fixed with the screws to Platform MT-7050 for using. (Not used with BR-180LF-70RT) •MT-6040E: Up to 2 pcs per one sheet •MT-7050: Up to 2 pcs per one sheet •MT-8060A: Up to 4 pcs per one sheet.
4 pcs installed on MT-8060A	
Spring net Pitch	20 mm
Spring net stage	2 stage (Height is changeable.)
External dimension/Weight	400 × 300 × 108H mm, Approx. 2 kg

(*)The Capacity/Qty of vessels are less than those of Universal platform. The capacity is doubled in the double platform. (**)The qty when Angle rack is tilted 45°. φ16 mm or less test tube should be fixed with the stand per net.

Mounting Qty of MR-4030L		1	2	4	
Capacity of Vessels (*)	Erlenmeyer flask	φ16 mm test tubes (**)	96 pcs	192 pcs	384 pcs
		Disposable Centrifuge tube for 50 mL (**)	48 pcs	96 pcs	192 pcs
		50 mL	24 pcs	48 pcs	96 pcs
		100 mL	20 pcs	40 pcs	80 pcs
		200 mL	12 pcs	24 pcs	48 pcs
		250 mL	9 pcs	18 pcs	36 pcs
		300 mL	9 pcs	18 pcs	36 pcs
		500 mL	6 pcs	12 pcs	24 pcs
		1 L	3 pcs	6 pcs	12 pcs
			Sakaguchi flask 500 mL	6 pcs	12 pcs

Shaking platform and Capacity/Qty of Flasks


For BR-180LF, GBR-200/300

Model	MT-7050			
	It is used together with Clamps, Angle racks and "ODMonitor" series (Clamps of Erlenmeyer flasks and Sakaguchi flasks are available). It can hold flasks tightly compared to Spring shaking platform.			
External dimension/Weight	700 × 500 × 22H mm, Apporx. 6 kg			
Capacity of Flask	Erlenmeyer flask 50 mL	96	Erlenmeyer flask 2 L	8
	Erlenmeyer flask 100 mL	48	Erlenmeyer flask 3 L	6
	Erlenmeyer flask 200 mL	35	Erlenmeyer flask 5 L/Disposable 3&5 L	4/5
	Erlenmeyer flask 250 mL	28	Sakaguchi flask 500 mL	18
	Erlenmeyer flask 300 mL	28	Sakaguchi flask 1 L	12
	Erlenmeyer flask 500 mL	24	Sakaguchi flask 2 L	6
	Erlenmeyer flask 1 L	13	Sakaguchi flask 3 L	5


For BR-180LF-70RT

Model	MT-6848 (for 70RT, Pre-assembled)
	Designed for BR-180LF-70RT. Fixed with Optional clamps. Not equipped with a Drawer mechanism due to being designed for High load.
External dimension/Weight	680 × 480 × 22H mm, Apporx. 5.2 kg
Capacity	same as MT-7050 (see left)

For BR-3300 Series

Model	MT-8060A			
	It is used together with Optional Clamps, Angle racks, and "OD-Monitor" series. 2 sets used with Double shaking platform type (included in BR-3000LF). The old MT-8060 (before the lever puller type) is also available.			
External dimension/Weight	800 × 600 × 45H mm, Apporx. 9 kg			
Capacity of Flask	Erlenmeyer flask 50 mL	98	Erlenmeyer flask 2 L	12
	Erlenmeyer flask 100 mL	72	Erlenmeyer flask 3 L	9
	Erlenmeyer flask 200 mL	63	Erlenmeyer flask 5 L/Disposable 3&5 L	6/7
	Erlenmeyer flask 250 mL	46	Sakaguchi flask 500 mL	27
	Erlenmeyer flask 300 mL	46	Sakaguchi flask 1 L	18
	Erlenmeyer flask 500 mL	32	Sakaguchi flask 2 L	12
	Erlenmeyer flask 1 L	18	Sakaguchi flask 3 L	9

For BR-300LF, Double platform BR-300LF

Model	MT-6040E			
	It is used together with Clamps, Angle racks and "ODMonitor" series. The old MT-6040A (before the lever puller type) is also available.			
External dimension/Weight	600 × 400 × 42H mm, Apporx. 4 kg			
Capacity of Flask	Erlenmeyer flask 50 mL	70	Erlenmeyer flask 2 L	6
	Erlenmeyer flask 100 mL	35	Erlenmeyer flask 3 L	4
	Erlenmeyer flask 200 mL	28	Erlenmeyer flask 5 L and Disposable 3&5 L	3
	Erlenmeyer flask 250 mL	21	Sakaguchi flask 500 mL	15
	Erlenmeyer flask 300 mL	21	Sakaguchi flask 1 L	9
	Erlenmeyer flask 500 mL	15	Sakaguchi flask 2 L	6
	Erlenmeyer flask 1 L	9	Sakaguchi flask 3 L	4
Total capacity in the Double platform				
Capacity of Flask (Two stages in total)	Erlenmeyer flask 50 mL	140	Erlenmeyer flask 2 L (*)	6
	Erlenmeyer flask 100 mL	70	Erlenmeyer flask 3 L (*)	4
	Erlenmeyer flask 200 mL	56	Erlenmeyer flask 5 L and Disposable 3&5 L (*)	3
	Erlenmeyer flask 250 mL	42	Sakaguchi flask 500 mL	30
	Erlenmeyer flask 300 mL	42	Sakaguchi flask 1 L (*)	9
	Erlenmeyer flask 500 mL	30	Sakaguchi flask 2 L (*)	6
	Erlenmeyer flask 1 L	18	Sakaguchi flask 3 L (*)	4

(*)It cannot be used on the upper platform but it can be used on the lower platform when the upper is removed.

Total capacity in the Double platform				
Capacity of Flask (Two stages in total)	Erlenmeyer flask 50 mL	196	Erlenmeyer flask 2 L (*)	12
	Erlenmeyer flask 100 mL	144	Erlenmeyer flask 3 L (*)	9
	Erlenmeyer flask 200 mL	126	Erlenmeyer flask 5 L and Disposable 3&5 L (*)	6/7
	Erlenmeyer flask 250 mL	92	Sakaguchi flask 500 mL	54
	Erlenmeyer flask 300 mL	92	Sakaguchi flask 1 L (*)	18
	Erlenmeyer flask 500 mL	64	Sakaguchi flask 2 L (*)	12
	Erlenmeyer flask 1 L	36	Sakaguchi flask 3 L (*)	9

(*)It cannot be used on the upper platform but it can be used on the lower platform when the upper is removed.

Optional parts: LED light illumination unit mounting bracket

Model	LC-0950BR
External dimension/Weight	Mounting brackets for attaching the LED irradiation unit (LC-450EXP) to the Universal shaking platform MT-6040/7050/8060 for large size BRs. One set is required per one LED irradiation unit.



About delivery cart

With the exception of BR-180LF, carts are attached to both sides of the main unit of the large size BR for delivery. This is not an accessory and will be collected after delivery.