

# 1696R II Multi Purpose, High-speed Centrifuge



## Features

- High RPM Centrifuges for 2.0 mL up to 250 mL tubes.
- Fast cool function, Pre-cooling to 4°C for temperature-sensitive samples.
- Bio-Safe buckets ensure safe centrifugation of hazardous samples.
- Direct fastening from rotor lid to the motor removes the necessity of tools. (Fixed angle only)
- Highly visible display screen and numeric keys with integrated soft touch buttons for easy maintenance and quick setting.
- High throughput operation with 152 x bloodtubes, 116 x 15 mL, and 52 x 50 mL tube capacity.

## Technical Specifications

<b>Max. RPM/PCF for Fixed Angle</b>	16,000 rpm / 27,991 xg	<b>RCF/RPM Conversion</b>	Yes
<b>Max. RPM/PCF for Swing-out</b>	5,000 rpm / 5,394 xg	<b>ACC/DEC Ramps</b>	9/10
<b>Max. Capacity for Fixed Angle</b>	6 x 250 mL, 24 x 15 mL, 48 x 1.5/2.0 mL, 20 x 5.0 mL	<b>Program Memory</b>	100, 3 easy program save / call
<b>Max. Capacity for Swing-out</b>	4 x 1,000 mL, 4 x 2 x 250 mL, 4 x 29 x 15 mL	<b>Power Supply</b>	AC 230V, 50Hz (AC 220-230V, 60/50Hz; 110V optional)
<b>Temp. Range (°C)</b>	-11°C to 40°C	<b>Power Requirement</b>	2.0 kVA
<b>Fast Cool Button</b>	Yes	<b>Dimension (W x D x H)</b>	775 x 695 x 395 mm
<b>Time Control</b>	Pulse, timed <10 hr or continuous	<b>Net Weight</b>	132 kg
<b>Time Counting Range</b>	Selectable, at set speed or from starting	<b>CE MARK</b>	Yes
<b>Noise Level (dependent on rotor)</b>	≤60 dB (GRS-B-750-4 : ≤70 dB)	<b>Cat No.</b>	GZ-1696R II

## Fixed Angle Rotor, GRF-B-250-6

- Capacity : 6 x 250 mL + 6 x 15 mL
- Max. RPM : 8,000
- Max. RCF : 9,588 xg



Tube type (mL)	Max. capacity per rotor	Max. RCF (xg)	Adaptor Cat. No.
100	6	8,586	GAS-100(250)
85	6	8,443	GAS-85(250)
50 conical(Skirt)	6	8,622	GAS-sc50(250)
50 conical	6	8,193	GAS-c50(250)
50	12	8,264	GAM-50-2(250)
30	18	9,159	GAM-30-3(250)
25 conical	6	8,228	GAS-c25(250)
15 conical	24	9,051	GAM-c15-4 (250)
15	24	9,230	GAM-15-4(250)
Φ16 x 100 mm VT	42	9,373	GAM-10-7(250)
Φ13 x 75~100 mm VT	48	9,373	GAM-7-8(250)
5	16	9,051	GAM-c5-4(250)
1.5 / 2.0	54	9,230	GAM-m2.0-9(250)

## Fixed Angle Rotor, GRF-B-85-6

- Capacity : 6 x 85 mL
- Max. RPM : 12,000
- Max. RCF : 16,019 xg



Tube type (mL)	Max. RCF (xg)	Adaptor Cat. No.
50 conical	14,731	GAS-c50(85)
50	15,053	GAS-50(85)
30	14,843	GAS-30(85)
25 conical	13,024	GAS-c25(85)
15 conical	14,570	GAS-c15(85)
15	14,843	GAS-15(85)

## Fixed Angle Rotor, GRF-B-50-8

- Capacity : 8 x 50 mL
- Max. RPM : 15,000
- Max. RCF : 25,910 xg



Tube type (mL)	Max. RCF (xg)	Adaptor Cat. No.
30	24,275	GAS-30(50)
25 conical	20,376	GAS-c25(50)
15 conical	24,149	GAS-c15(50)
15	23,520	GAS-15(50)

## Fixed Angle Rotor, GRF-B-c50-8

- **Capacity : 8 x 50 mL Conical**
- Max. RPM : 13,000
- Max. RCF : 20,784 xg



Tube type (mL)	Max. RCF (xg)	Adaptor Cat. No.
50	20,273	GAS-50(c50)
30	20,103	GAS-30(c50)
25 conical	17,779	GAS-c25(c50)
15 conical	19,877	GAS-c15(c50)

## Fixed Angle Rotor, GRF-B-c15-12

- **Capacity : 12 x 15 mL Conical**
- Max. RPM : 15,000
- Max. RCF : 25,910 xg



Tube type (mL)	Max. RCF (xg)	Adaptor Cat. No.
5	19,067	GAS-c5(c15)

## Fixed Angle Rotor, GRF-B-m5.0-20

- **Capacity : 20 x 5.0 mL**
- Max. RPM : 13,500
- Max. RCF : 22,209 xg



## Fixed Angle Rotor, GRF-B-m2.0-48

- **Capacity : 48 x 1.5/2.0 mL**
- Max. RPM : 16,000
- Max. RCF : 27,991 xg



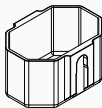
Tube type (mL)	Max. RCF (xg)	Adaptor Cat. No.
0.5	25,043	GAS-m0.5(2)
0.2	23,040	GAS-m0.2(2)

## Swing Rotor, GRS-B-1000-4

### - Capacity : 4 Buckets

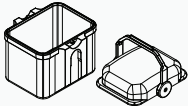
- Max. RPM : 3,700
- Max. RCF : 3,337 xg



	Tube type (mL)	Max. capacity per rotor	Max. RCF (xg)	Adaptor Cat. No.
 <p><b>1,000 mL High-capacity Bucket</b> <b>GLB-h1000-1000</b></p> <p>Max. RPM : 3,700 Max. RCF : 3,092 xg Hole bottom type : Flat</p>	250	8	3,030	GAM-250-2(h1000)
	50 conical	52	3,069	GAM-c50-13(h1000)
	50	52	2,985	GAM-50-13(h1000)
	15 conical	116	3,076	GAM-c15-29(h1000)
	15	116	2,908	GAM-15-29(h1000)
	14	72	2,916	GAM-10-38(h1000)
	Φ16 x 100 mm VT	152	2,916	GAM-10-38(h1000)
	Φ13 x 100 mm VT	192	2,916	GAM-5-48(h1000)
	Φ13 x 75 mm VT	192	2,916	GAM-5-48(h1000)

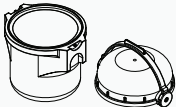
### Bio-Safe

Porton Down Certified

	Tube type (mL)	Max. capacity per rotor	Max. RCF (xg)	Adaptor Cat. No.
 <p><b>1,000 mL Click-Seal Rectangular Bucket</b> <b>GLBB-br1000-1000</b></p> <p>Max. RPM : 3,700 Max. RCF : 3,107 xg Hole bottom type : Flat</p>	MTP / DWP	24 / 4	3,030	GLP-mw-r1000
	50	40	3,061	GAM-50-10(br1000)
	50 conical	32	3,084	GAM-c50-8(br1000)
	25 conical	32	3,084	GAM-c50-8(br1000)
	15 conical	72	3,084	GAM-c15-18(br1000)
	5	72	3,084	GAM-c15-18(br1000)
	15	80	3,076	GAM-15-20(br1000)
	Φ16 x 100 mm VT	140	3,030	GAM-10-35(br1000)
	Φ13 x 100 mm VT	160	2,992	GAM-5-40(br1000)
	Φ13 x 75 mm VT	160	2,992	GAM-5-40(br1000)

### Bio-Safe

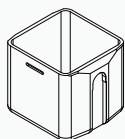
Porton Down Certified

	Tube type (mL)	Max. capacity per rotor	Max. RCF (xg)	Adaptor Cat. No.
 <p><b>1,000 mL Click-Seal Round Bucket</b> <b>GLBB-b1000-1000</b></p> <p>Max. RPM : 3,700 Max. RCF : 3,337 xg Hole bottom type : Flat</p>	1,000 *	4	3,337	-
	750	4	3,337	-
	500	4	3,283	GAS-500(750)
	500 conical	4	3,321	GAS-c500(750)
	250 conical	4	3,291	GAS-c250(750)
	250	4	3,275	GAS-250(750)
	50 conical	20	3,306	GAM-c50-5(750)
	50	28	3,275	GAM-50-7(750)
	15 conical	56	3,306	GAM-c15-14(750)
	5	40	3,306	GAM-c15-14(750)
	15	76	3,275	GAM-15-19(750)
	14	28	3,275	GAM-15-19(750)
	Φ16 x 100 mm VT	84	3,275	GAM-10-21(750)
	Φ13 x 100 mm VT	96	3,275	GAM-5-24(750)
	Φ13 x 75 mm VT	96	3,275	GAM-5-24(750)

\* Cannot use cap sealing

## Swing Rotor, GRS-B-r750-4

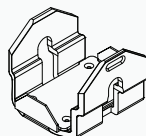
- Capacity : 4 Buckets
- Max. RPM : 3,600
- Max. RCF : 2,898 xg



750 mL Rectangular Bucket  
**GLB-r750-r750**

**Max. RPM : 3,600**  
**Max. RCF : 2,898 xg**  
**Hole bottom type : Flat**

Tube type (mL)	Max. capacity per rotor	Max. RCF (xg)	Adaptor Cat. No.
500	4	2,847	GAS-500(r750)
500 conical	4	2,883	GAS-c500(r750)
250 conical	4	2,883	GAS-c250(r750)
250	4	2,840	GAS-250(r750)
50 conical	20	3,869	GAM-c50-5(r750)
25 conical	20	2,869	GAM-c50-5(r750)
50	32	2,854	GAM-50-8(r750)
15 conical	64	2,869	GAM-c15-16(r750)
5	64	2,869	GAM-c15-16(r750)
15	80	2,854	GAM-15-20(r750)
Φ16 x 100 mm VT	80	2,854	GAM-15-20(r750)
14	32	2,854	GAM-15-20(r750)
Φ13 x 100 mm VT	120	2,854	GAM-5-30(r750)
Φ13 x 75 mm VT	120	2,854	GAM-5-30(r750)



Microplate Holder Bucket  
**GLP-mw-r750**

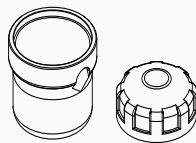
**Max. capacity per rotor: 16 x MTP / 4 x DWP**  
**Max. Load : 330g**  
**Max. RPM : 3,000**  
**Max. RCF : 1,726 xg**

## Swing Rotor, GRS-B-750-4

- Capacity : 4 Buckets
- Max. RPM : 4,600
- Max. RCF : 4,850 xg


**Bio-Safe**

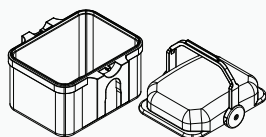
Manufacturer Validated

	Tube type (mL)	Max. capacity per rotor	Max. RCF (xg)	Adaptor Cat. No.
 <p>750 mL Click-Seal Round Bucket <b>GLBB-b750-750B</b></p> <p>Max. RPM : 4,600 Max. RCF : 4,850 xg Hole bottom type : Flat</p>	750 *	4	4,850	-
	500 *	4	4,767	GAS-500(750)
	500 conical *	4	4,826	GAS-c500(750)
	250 conical *	4	4,779	GAS-c250(750)
	250	4	4,755	GAS-250(750)
	50 conical	20	4,805	GAM-c50-5(750)
	50	28	4,755	GAM-50-7(750)
	15 conical	56	4,802	GAM-c15-14(750)
	5	40	4,802	GAM-c15-14(750)
	15	76	4,755	GAM-15-19(750)
	14	28	4,755	GAM-15-19(750)
	Φ16 x 100 mm VT	84	4,755	GAM-10-21(750)
Φ13 x 100 mm VT	96	4,755	GAM-5-24(750)	
Φ13 x 75 mm VT	96	4,755	GAM-5-24(750)	

\* Cannot use cap sealing

**Bio-Safe**

Manufacturer Validated

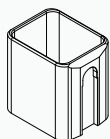


Microplate Click-Seal Bucket  
**GLBB-mw-750B**

Max. capacity per rotor: 16 x MTP / 4 x DWP  
Max. RPM : 4,600  
Max. RCF : 4,033 xg

## Swing Rotor, GRS-B-r250-4

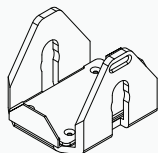
- Capacity : 4 Buckets
- Max. RPM : 4,000
- Max. RCF : 3,134 xg



250 mL Rectangular Bucket  
**GLB-r250-r250**

Max. RPM : 4,000  
Max. RCF : 3,134 xg  
Hole bottom type : Flat

Tube type (mL)	Max. capacity per rotor	Max. RCF (xg)	Adaptor Cat. No.
250	4	3,080	GAS-250(r250)
85 + 15	8	3,071	GAM-85-2(r250)
50 conical (Skirt)	16	3,145	GAM-sc50(r250)
50 conical	12	3,107	GAM-c50-3(r250)
25 conical	12	3,107	GAM-c50-3(r250)
50	16	3,095	GAM-50-4(r250)
15 conical	36	3,107	GAM-c15-9(r250)
15	48	3,095	GAM-15-12(r250)
Φ16 x 100 mm VT	48	3,095	GAM-15-12(r250)
14	24	3,095	GAM-15-12(r250)
Φ13 x 100 mm VT	48	3,095	GAM-5-12(r250)
Φ13 x 75 mm VT	48	3,095	GAM-5-12(r250)
1.5 / 2.0	80	3,045	GAM-m2.0-20(r250)



Microplate Holder Bucket  
**GLP-mw-r250**


Max. capacity per rotor: 16 x MTP / 4 x DWP  
Max. RPM : 4,000  
Max. RCF : 2,737 xg

## Swing Rotor, GRS-B-250-4

### - Capacity : 4 Buckets

- Max. RPM : 5,000
- Max. RCF : 5,394 xg



	Tube type (mL)	Max. capacity per rotor	Max. RCF (xg)	Adaptor Cat. No.
 <p><b>250 mL Round Bucket</b> <b>GLB-250-250</b></p> <p>Max. RPM : 5,000 Max. RCF : 5,394 xg Hole bottom type : Flat</p>	250	4	5,394	-
	250 conical	4	5,352	GAS-c250(250)
	100	4	5,255	GAS-100(250)
	85	4	5,255	GAS-85(250)
	50 conical (Skirted)	4	5,255	GAS-sc50(250)
	50 conical	4	5,394	GAS-c50(250)
	50	8	5,255	GAM-50-2(250)
	30	12	5,255	GAM-30-3(250)
	25 conical	4	5,394	GAS-c25(250)
	15 conical	16	5,338	GAM-c15-4 (250)
	15	16	5,311	GAM-15-4(250)
	Φ16 x 100 mm VT	16	5,311	GAM-10-7(250)
	Φ13 x 75 ~ 100 mm VT	32	5,311	GAM-7-8(250)
	5	16	5,338	GAM-c5-4(250)
	1.5 / 2.0	36	5,311	GAM-m2.0-9(250)

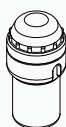


## Swing Rotor, GRS-B-100-6

- Capacity : 6 Buckets
- Max. RPM : 4,200
- Max. RCF : 3,424 xg


**Bio-Safe**

Porton Down Certified

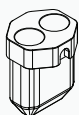


100 mL Bucket  
GLBB-b100-100

Max. RPM : 4,200  
Max. RCF : 3,424 xg  
Hole bottom type : Flat

Tube type (mL)	Max. capacity per rotor	Max. RCF (xg)	Adaptor Cat. No.
100 *	6	3,325	GAS-100(b100)
85	6	3,384	GAS-85(b100)
50 conical (Skirt)	6	3,364	GAS-sc50(b100)
50 conical	6	3,364	GAS-c50(b100)
50	6	3,384	GAS-50(b100)
30	6	3,384	GAS-30(b100)
25 conical	6	3,384	GAS-c25(b100)
15 conical *	18	3,424	GAM-c15-3(100)
15 conical	6	3,424	GAS-c15(b100)
15 *	18	3,364	GAM-15-3(100)
Φ16 x 100 mm VT	30	3,325	GAM-10-5(b100)
Φ13 x 75 ~ 100 mm VT	30	3,325	GAM-7-5(b100)
5	18	2,536	GAM-c5-3(b100)
1.5 / 2.0	36	3,325	GAM-m2.0-6(b100)

\* Cannot use cap sealing



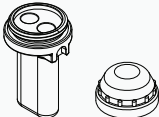
Dual 50 mL Conical Buckt  
GLB-dc50-100

Max. RPM : 4,200  
Max. RCF : 3,424 xg  
Hole bottom type : Conical

Tube type (mL)	Max. capacity per rotor	Max. RCF (xg)	Adaptor Cat. No.
50 conical	12	3,424	-
50	12	3,219	GAS-50(c50)
30	12	3,222	GAS-30(c50)
25 conical	12	2,702	GAS-c25(c50)
15 conical	12	3,424	GAS-c15(c50)

**Bio-Safe**

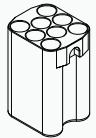
Manufacturer Validated

	Tube type (mL)	Max. capacity per rotor	Max. RCF (xg)	Adaptor Cat. No.
 <p><b>Dual 15 mL Bucket</b> <b>GLBB-bd15-100</b></p> <p>Max. RPM : 4,200 Max. RCF : 3,343 xg Hole bottom type : Round</p>	15 open top	12	3,343	-

**Bio-Safe**

Porton Down Certified

	Tube type (mL)	Max. capacity per rotor	Max. RCF (xg)	Adaptor Cat. No.
 <p><b>Dual 15 mL Conical Bucket</b> <b>GLBB-bdc15-100</b></p> <p>Max. RPM : 4,200 Max. RCF : 3,424 xg Hole bottom type : Conical</p>	15 conical	12	3,424	-
	14	12	2,958	GAS-14(c15)
	5	12	2,290	GAS-c5(c15)

	Tube type (mL)	Max. capacity per rotor	Max. RCF (xg)	Adaptor Cat. No.
 <p><b>Vacuum tube Bucket</b> <b>GLB-15-8-100</b></p> <p>Max. RPM : 4,200 Max. RCF : 3,372 xg Hole bottom type : Flat</p>	15	12	3,372	-
	15 open top	48	3,372	-
	Φ16 x 100 mm VT	48	3,372	-
	14	24	3,146	GAS-14(f15)
	5	24	2,584	GAS-c5(f15)
	Φ13 x 100 mm VT	48	3,372	GAS-5(f15)
	Φ13 x 75 mm VT	48	2,840	GAS-3(f15)