

1248/R, 1236R, 1580/R

Multi-Purpose, High-Speed Centrifuges

1248 · 1248R · 1236R  
1580 · 1580R

Multi-Purpose, High-Speed Centrifuges



- | The multi-purpose large capacity centrifuges designed for large-volume daily-working laboratories
- | Max. speed of 12,000 rpm or 15,000 rpm with high capacity and a large assortment of rotor
  
- | Fast cooling function to 4°C in 5 minutes for fast startup of cooled samples (only for "R" models)
- | The compressor-off function when lid is open minimizes unnecessary cooling and frosting (only for "R" models).
  
- | Intuitive control interface with numeric input buttons allows easy setting and editing of running conditions.
- | Selectable time mode of "at set SPEED" for counting running time only when reached the set speed
- | A separate "PULSE" key for quick spin
- | Parameters can be changed during operation.
- | Key lock function helps the set parameters secured during operation.
  
- | With motorized lid mechanics, only a gentle touch is sufficient to close and open the lid.
- | Lid drop protection design allows easiness and safety when loading or unloading samples.
- | The short working height of 84 cm (33 inches) ensures easy loading and unloading (only for 1236R).
- | A large assortment of rotors, buckets and adaptors support diverse application doable with one instrument.

## | Applications

Ideal for cellular and molecular biology work, clinical preparations, industrial applications, etc.

# 1248/R, 1236R, 1580/R

## Multi-Purpose, High-Speed Centrifuges

### Technical Specifications

		1248	1248R	1236R	1580	1580R
Max. RPM/RCF	Fixed angle	12,000 / 15,520 xg	12,000 / 16,582 xg	12,000 / 16,582 xg	15,000 / 24,249 xg	15,000 / 25,910 xg
	Swing-out	5,000 / 5,394 xg				
Max. capacity	Fixed angle	6 x 85 ml, 30 x 1.5/2.0 ml				6 x (250 & 15) ml, 30 x 1.5/2.0 ml
	Swing-out	4 x 250 ml, 48 x 15 ml, 16 MTPs			4 x 750 ml, 80 x 15 ml, 16 MTPs	
Temp. range (°C)		-	-20 to +40	-20 to +40	-	-20 to +40
FAST cool button		-	Yes	Yes	-	Yes
Time control		Pulse, timed < 100 min or continuous	Pulse, timed < 10 hr or continuous	Pulse, timed < 10 hr or continuous	Pulse, timed < 100 min or continuous	Pulse, timed < 10 hr or continuous
Time counting modes		Selectable, at set speed or from starting				
RPM/RCF conversion		Yes				
Noise level (dB)		≤ 60				
ACC/DEC		9/10 steps				
Program memory		100				
Parameters on display window		RPM (RCF), Oper Status, Lid Open/Close, Min:Sec, ACC, DEC	RPM (RCF), Oper Status, Lid Open/Close, Hr:Min, Temp, ACC, DEC		RPM (RCF), Oper Status, Lid Open/Close, Min:Sec, ACC, DEC	RPM (RCF), Oper Status, Lid Open/Close, Hr:Min, Temp, ACC, DEC
Display		Blue LCD				
Automatic rotor identification		Yes				
Imbalance cut-off		Yes				
Safety lid lock		Yes				
Lid drop protection		Yes				
Motorized lid open & close		Yes				
Automatic lid release at completion		Yes	-		Yes	-
Power supply (V/Hz)		220/50-60 (110V optional)				
Power requirement		900 VA	2.5 kVA	2.5 kVA	1.5 kVA	2.5 kVA
Dimension (W x D x H, mm)		475 x 561 x 330	655 x 610 x 355	473 x 610 x 830	540 x 650 x 380	770 x 650 x 390
Weight without rotor (kg)		40	78	110	57	93
CE mark		Yes	-	Yes	Yes	Yes
Cat. No.		GZ-1248	GZ-1248R	GZ-1236R	GZ-1580	GZ-1580R

| Rotors Overview

<p><b>GRS-G-750-4</b></p> <table border="0"> <tr> <td> <p><b>GLB-750-750</b></p>  <p>4 x 250 ml 4,000/3,667 xg</p> </td> <td> <p><b>GLB-b750-750</b></p>  <p>4 x 250 ml 4,000/3,667 xg</p> <p>only for 1580/1580R</p> </td> <td> <p><b>GLB-500-750</b></p>  <p>4 x 500 ml 4,000/3,900 xg</p> </td> <td> <p><b>GLP-mw-750</b></p>  <p>4 x 4 MTP 4,000/3,068 xg</p> </td> </tr> </table>				<p><b>GLB-750-750</b></p>  <p>4 x 250 ml 4,000/3,667 xg</p>	<p><b>GLB-b750-750</b></p>  <p>4 x 250 ml 4,000/3,667 xg</p> <p>only for 1580/1580R</p>	<p><b>GLB-500-750</b></p>  <p>4 x 500 ml 4,000/3,900 xg</p>	<p><b>GLP-mw-750</b></p>  <p>4 x 4 MTP 4,000/3,068 xg</p>	<p><b>GRS-G-r750-4</b></p> <table border="0"> <tr> <td> <p><b>GLB-r750-r750</b></p>  <p>4 x 250 ml 3,600/2,898 xg</p> </td> <td> <p><b>GLB-500-r750</b></p>  <p>4 x 500 ml 3,600/3,159 xg</p> </td> <td> <p><b>GLP-mw-r750</b></p>  <p>4 x 4 MTP 3,600/2,485 xg</p> </td> </tr> </table> <p>only for 1580/1580R</p>			<p><b>GLB-r750-r750</b></p>  <p>4 x 250 ml 3,600/2,898 xg</p>	<p><b>GLB-500-r750</b></p>  <p>4 x 500 ml 3,600/3,159 xg</p>	<p><b>GLP-mw-r750</b></p>  <p>4 x 4 MTP 3,600/2,485 xg</p>
<p><b>GLB-750-750</b></p>  <p>4 x 250 ml 4,000/3,667 xg</p>	<p><b>GLB-b750-750</b></p>  <p>4 x 250 ml 4,000/3,667 xg</p> <p>only for 1580/1580R</p>	<p><b>GLB-500-750</b></p>  <p>4 x 500 ml 4,000/3,900 xg</p>	<p><b>GLP-mw-750</b></p>  <p>4 x 4 MTP 4,000/3,068 xg</p>										
<p><b>GLB-r750-r750</b></p>  <p>4 x 250 ml 3,600/2,898 xg</p>	<p><b>GLB-500-r750</b></p>  <p>4 x 500 ml 3,600/3,159 xg</p>	<p><b>GLP-mw-r750</b></p>  <p>4 x 4 MTP 3,600/2,485 xg</p>											
<p><b>GRS-G-250-4</b></p> <table border="0"> <tr> <td> <p><b>GLB-250-250</b></p>  <p>4 x 250 ml 5,000/5,394 xg</p> </td> <td> <p><b>GLB-c250-250</b></p>  <p>4 x 250 ml 5,000/5,394 xg</p> </td> <td> <p><b>GLB-60-250</b></p>  <p>4 x 60 ml 5,000/5,394 xg</p> </td> <td> <p><b>GLB-d20/10-250</b></p>  <p>4 x 2 x (20 &amp; 10 ml) 5,000/4,752 xg (20) 5,000/4,472 xg (10)</p> </td> </tr> </table>				<p><b>GLB-250-250</b></p>  <p>4 x 250 ml 5,000/5,394 xg</p>	<p><b>GLB-c250-250</b></p>  <p>4 x 250 ml 5,000/5,394 xg</p>	<p><b>GLB-60-250</b></p>  <p>4 x 60 ml 5,000/5,394 xg</p>	<p><b>GLB-d20/10-250</b></p>  <p>4 x 2 x (20 &amp; 10 ml) 5,000/4,752 xg (20) 5,000/4,472 xg (10)</p>	<p><b>GRS-G-r250-4</b></p> <table border="0"> <tr> <td> <p><b>GLB-r250-r250</b></p>  <p>4 x 250 ml 4,000/3,134 xg</p> </td> <td> <p><b>GLP-mw-r250</b></p>  <p>4 x 4 MTPs 4,000/2,737 xg</p> </td> </tr> </table>		<p><b>GLB-r250-r250</b></p>  <p>4 x 250 ml 4,000/3,134 xg</p>	<p><b>GLP-mw-r250</b></p>  <p>4 x 4 MTPs 4,000/2,737 xg</p>		
<p><b>GLB-250-250</b></p>  <p>4 x 250 ml 5,000/5,394 xg</p>	<p><b>GLB-c250-250</b></p>  <p>4 x 250 ml 5,000/5,394 xg</p>	<p><b>GLB-60-250</b></p>  <p>4 x 60 ml 5,000/5,394 xg</p>	<p><b>GLB-d20/10-250</b></p>  <p>4 x 2 x (20 &amp; 10 ml) 5,000/4,752 xg (20) 5,000/4,472 xg (10)</p>										
<p><b>GLB-r250-r250</b></p>  <p>4 x 250 ml 4,000/3,134 xg</p>	<p><b>GLP-mw-r250</b></p>  <p>4 x 4 MTPs 4,000/2,737 xg</p>												
<p><b>GRS-G-100-6</b></p> <table border="0"> <tr> <td> <p><b>GLB-b100-100</b></p>  <p>6 x 100 ml 4,000/3,105 xg</p> </td> <td> <p><b>GLB-10-8-100</b></p>  <p>6 x 8 x 10 ml 4,000/3,105 xg</p> </td> <td> <p><b>GLB-bd15-100</b></p>  <p>6 x 2 x 15 ml 4,000/3,032 xg</p> </td> <td> <p><b>GLB-bdc15-100</b></p>  <p>6 x 2 x 15 ml (C) 4,000/3,105 xg</p> </td> <td> <p><b>GLB-b50-100</b></p>  <p>6 x 50 ml 4,000/3,032 xg</p> </td> </tr> </table>					<p><b>GLB-b100-100</b></p>  <p>6 x 100 ml 4,000/3,105 xg</p>	<p><b>GLB-10-8-100</b></p>  <p>6 x 8 x 10 ml 4,000/3,105 xg</p>	<p><b>GLB-bd15-100</b></p>  <p>6 x 2 x 15 ml 4,000/3,032 xg</p>	<p><b>GLB-bdc15-100</b></p>  <p>6 x 2 x 15 ml (C) 4,000/3,105 xg</p>	<p><b>GLB-b50-100</b></p>  <p>6 x 50 ml 4,000/3,032 xg</p>	<p><b>GRF-G-250-6</b></p>  <p>6 x (250 &amp; 15 ml) 8,000/9,588 xg (15 ml: 9,395 xg) only for 1580R</p>	<p><b>GRF-G-85-6</b></p>  <p>6 x 85 ml 12,000/17,709 xg (1580R) 10,000/12,298 xg (1248R, 1248, 1236R, 1580)</p>		
<p><b>GLB-b100-100</b></p>  <p>6 x 100 ml 4,000/3,105 xg</p>	<p><b>GLB-10-8-100</b></p>  <p>6 x 8 x 10 ml 4,000/3,105 xg</p>	<p><b>GLB-bd15-100</b></p>  <p>6 x 2 x 15 ml 4,000/3,032 xg</p>	<p><b>GLB-bdc15-100</b></p>  <p>6 x 2 x 15 ml (C) 4,000/3,105 xg</p>	<p><b>GLB-b50-100</b></p>  <p>6 x 50 ml 4,000/3,032 xg</p>									
<p><b>GRF-G-50-8</b></p>  <p>8 x 50 ml 15,000/25,910 xg (1580R) 12,000/16,582 xg (1248R, 1236R, 1580)</p>	<p><b>GRA-G-15-24</b></p> <p><b>GLB-15-FA</b></p>  <p>24 x 15 ml 4,000/3,134 xg</p>	<p><b>GRF-G-15-24</b></p>  <p>24 x 15 ml 8,000/ 7,370 xg (inner) / 8,872 xg (outer) only for R models</p>	<p><b>GRF-G-m2.0-30</b></p>  <p>30 x 2.0 ml 15,000/24,249 xg (1580R, 1580) 12,000/15,520 xg (1248R, 1248, 1236R)</p>	<p><b>GRF-G-s0.2-64</b></p>  <p>8 x PCR strip (8-tube) 12,000 9,434 xg (inner) / 10,803 xg (outer)</p>									

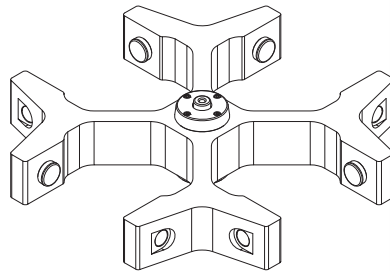
# 1248/R, 1236R, 1580/R

## Multi-Purpose, High-Speed Centrifuges

### Swing-Out Rotor, GRS-G-750-4

4 loadings  
 90°

only for 1580, 1580R



Bioseal Bucket with O-ring

Bioseal 750 ml Round Bucket GLB-b750-750 / GLB-750-750	
Bucket bore (ΦxL, mm)	99 x 101.5
Radius (mm)	205
Max. RPM	4,000
Max. RCF	3,067 xg
Max. height for tube fit (mm)	130 (w/ cap) / 142 (w/o cap)

\* GLB-b750-750 includes bioseal cap.

Tube											
Tube capacity (ml)	3	5	10	15	15 ml conical	50	50 ml conical	250	c250	c500	750
Tube rack											None
Cat. No.	GAM-5-24(750)		GAM-10-21 (750)	GAM-15-19 (750)	GAM-c15-14 (750)	GAM-50-7 (750)	GAM-c50-5 (750)	GAS-250 (750)	GAS-c250 (750)	GAS-c500 (750)	-
Rack capacity (ea/4)	24/96		21/84	19/76	14/56	7/28	5/20	1/4	1/4	1/4	1/4
Hole dimension (ΦxL, mm)	13.2 x 58	13.2 x 85	16 x 85	17.2 x 85	17 x 85	29.2 x 87	29.2 x 88	62.3 x 87	60.5 x 125	95.6 x 58	-



500 ml Round Bucket GLB-500-750	
Bucket bore (ΦxL, mm)	69.2 x 135
Radius (mm)	218
Max. RPM	4,000
Max. RCF	3,900 xg
Max. height for tube fit (mm)	165

Tube	
Tube capacity (ml)	500
Bucket capacity (ea/4)	1/4



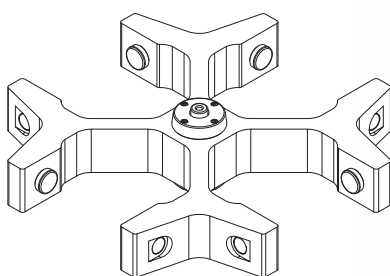
Microplate Holder GLP-mw-750	
Bucket bore (w x d x h, mm)	88 x 128.5 x 80
Radius (mm)	171.5
Max. RPM	4,000
Max. RCF	3,068 xg

Plate		
Plate capacity (ml)	MTP	DWP
Holder capacity (ea/4)	4/16	1/4

**Swing-Out Rotor, GRS-G-r750-4**

4 loadings  
 ↗ 90°

only for 1580, 1580R



**Rectangular 750 ml Bucket  
 GLB-r750-r750**

Bucket bore (w x d x h, mm) :  
 99 x 99 x 98  
 Radius (mm) : 200  
 Max. RPM : 3,600  
 Max. RCF : 2,898 xg  
 Max. height for tube fit (mm) : 135

Tube								
Tube capacity (ml)	3	5	10	15	15 ml conical	50	50 ml conical	250
Tube rack								
Cat. No.	<b>GAM-5-30(r750)</b>		<b>GAM-15-20(r750)</b>		<b>GAM-c15-16(r750)</b>	<b>GAM-50-8(r750)</b>	<b>GAM-c50-5(r750)</b>	<b>GAS-250(r750)</b>
Rack capacity (ea/4)	30/125		20/80		16/64	8/32	5/20	1/4
Hole dimension (Φ x L, mm)	13 x 56.5	13 x 85	17.2 x 85		17.5 x 85	29.5 x 85		62.5 x 87



**500 ml Round Bucket  
 GLB-500-r750**

Bucket bore (Φ x L, mm) : 69.2 x 135  
 Radius (mm) : 218  
 Max. RPM : 3,600  
 Max. RCF : 3,159 xg  
 Max. height for tube fit (mm) : 165

Tube	
Tube capacity (ml)	500
Bucket capacity (ea/4)	1/4



**Microplate Holder  
 GLP-mw-r750**

Bucket bore (w x d x h, mm)  
 : 88 x 128.5 x 80  
 Radius (mm) : 171.5  
 Max. RPM : 3,600  
 Max. RCF : 2,485 xg

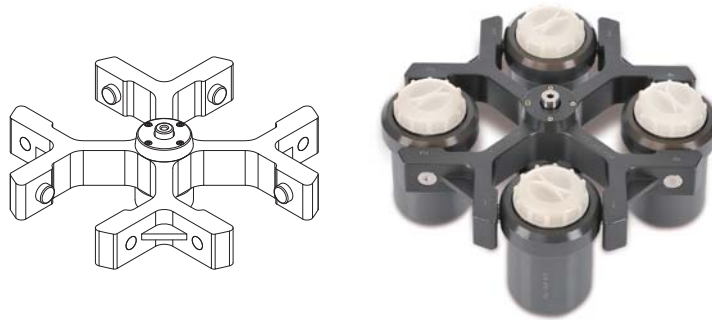
Plate		
Plate capacity (ml)	MTP	DWP
Holder capacity (ea/4)	4/16	1/4

# 1248/R, 1236R, 1580/R


## Multi-Purpose, High-Speed Centrifuges

### Swing-Out Rotor, GRS-G-250-4

4 loadings  
 ↘ 90°




<b>250 ml Round Bucket</b> <b>GLB-250-250</b> Bucket bore (ΦxL, mm) : 62 x 109 Radius (mm) : 193 Max. RPM : 5,000 Max. RCF : 5,394 xg Max. height for tube fit (mm) : 153
---

Tube	
Tube capacity (ml)	250
Bucket Capacity (ea/4)	1/4




<b>250 ml Conical Bucket</b> <b>GLB-c250-250</b> Bucket bore (ΦxL, mm) : 60.5 x 130.2 Radius (mm) : 193 Max. RPM : 5,000 Max. RCF : 5,394 xg Max. height for tube fit (mm) : 153
--

Tube	
Tube capacity (ml)	250 ml Conical
Bucket Capacity (ea/4)	1/4




<b>60 ml Syringe Bucket</b> <b>GLB-60-250</b> Bucket bore (ΦxL, mm) : 31.5 x 130.2 Radius (mm) : 193 Max. RPM : 5,000 Max. RCF : 5,394 xg Max. height for tube fit (mm) : 165
---

Tube	
Tube capacity (ml)	60 ml Syringe
Bucket Capacity (ea/4)	1/4

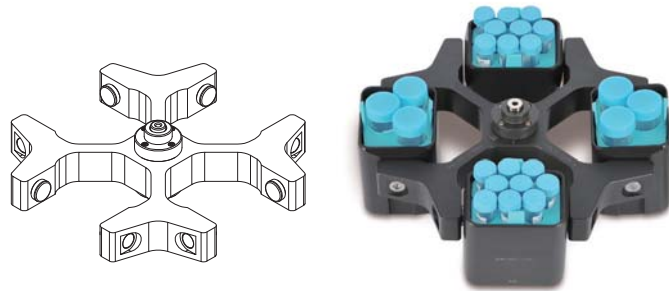


<b>Dual Syringe Bucket</b> <b>GLB-d20/10-250</b> Bucket bore (ΦxL, mm) : 22.5 x 100 (20) / 16 x 90 (10) Radius (mm) : 160 / 170 Max. RPM : 5,000 Max. RCF : 4,472 xg / 4,752 xg Max. height for tube fit (mm) : 132/125
--

Tube	
Tube capacity (ml)	20/10 ml Syringe
Bucket Capacity (ea/4)	2/8

**Swing-Out Rotor, GRS-G-r250-4**

4 loadings  
 ↗ 90°



**Rectangular 250 ml Bucket  
 GLB-r250-r250**

Bucket bore (w x d x h, mm)  
 86 x 70.3 x 102.5  
 Radius (mm) : 175.2  
 Max. RPM : 4,000  
 Max. RCF : 3,134 xg  
 Max. height for tube fit (mm) : 130

Tube										
Tube capacity (ml)	3	5	10	15	15 ml conical	50	50 ml conical	15	85	250
Tube rack										
Cat. No.	GAM-5-12(r250)		GAM-15-12(r250)		GAM-c15-9(r250)	GAM-50-4(r250)	GAM-c50-3(r250)	GAM-85-2(r250)		GAS-250(r250)
Rack capacity (ea/4)	12/48		12/48		9/36	4/16	3/12	2/8		1/4
Hole dimension (Φx L, mm)	13.5 x 58	13.5 x 80	17.5 x 90		17.5 x 90	30.2 x 90	30.5 x 90	17 x 86.5	38.5 x 86.5	62.5 x 87



**Microplate Holder  
 GLP-mw-r250**

Bucket bore (w x d x h, mm)  
 : 88 x 128.5 x 80  
 Radius (mm) : 153  
 Max. RPM : 4,000  
 Max. RCF : 2,737 xg

Plate		
Plate capacity (ml)	MTP	DWP
Holder capacity (ea/4)	4/16	1/4

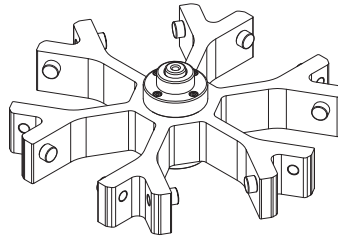


# 1248/R, 1236R, 1580/R

## Multi-Purpose, High-Speed Centrifuges

### Swing-Out Rotor, GRS-G-100-6

6 loadings  
 ↗ 90°



Bioseal Bucket with O-ring

#### Bioseal 100 ml Bucket GLB-b100-100

Bucket bore (Φx L, mm) : 47 x 99  
 Radius (mm) : 173.6  
 Max. RPM : 4,000  
 Max. RCF : 3,105 xg  
 Max. height for tube fit (mm)  
 : 120 (w/ cap) / 130 (w/o cap)

Tube										
Tube capacity (ml)	1.5~2.0	2.6~7	4~10	9~15	15 ml conical	15 ml conical	50	50 ml conical	85	100
Tube rack										
Cat. No.	GAM-m2.0-6 (b100)	GAM-7-5 (b100)	GAM-10-5 (b100)	GAM-15-3 (100)	GAM-c15-3 (100)	GAS-c15 (b100)	GAS-50 (b100)	GAS-c50 (b100)	GAS-85 (b100)	GAS-100 (b100)
Rack capacity (ea/6)	6/36	5/30	5/30	3/18	3/18	1/6	1/6	1/6	1/6	1/6
Hole dimension (Φx L, mm)	11 x 39	13.5 x 60	16 x 60	17.2 x 105	17.2 x 106.5	17.2 x 106.5	29.5 x 95.9	30 x 100	38.5 x 106.4	44.2 x 106.4

\* (b100) adaptors work fine with bioseal capping but [100] adaptors not.



#### Vacutainer 10 ml Bucket GLB-10-8-100

Bucket capacity : 8/ea  
 Bucket bore (Φx L, mm) : 16 x 89  
 Radius (mm) : 176.7  
 Max. RPM : 4,000  
 Max. RCF : 3,105 xg  
 Max. height for tube fit (mm) : 120

Tube	
Tube capacity (ml)	10
Bucket capacity (ea/6)	8/48



#### Bioseal Dual 15 ml Round Bucket GLB-bd15-100

Bucket capacity : 2/ea  
 Bucket bore (Φx L, mm) : 17 x 98  
 Radius (mm) : 169.5  
 Max. RPM : 4,000  
 Max. RCF : 3,032 xg  
 Max. height for tube fit (mm) : 120

Tube	
Tube capacity (ml)	15
Bucket capacity (ea/6)	2/12



#### Bioseal Dual 15 ml Conical Bucket GLB-bdc15-100

Bucket capacity : 2/ea  
 Bucket bore (Φx L, mm) : 17 x 104  
 Radius (mm) : 173.6  
 Max. RPM : 4,000  
 Max. RCF : 3,105 xg  
 Max. height for tube fit (mm)  
 : 123 (w/ cap) / 127 (w/o cap)

Tube	
Tube capacity (ml)	15 ml conical
Bucket capacity (ea/6)	2/12



#### Bioseal 50 ml Bucket GLB-b50-100

Bucket capacity : 1/ea  
 Bucket bore (Φx L, mm) : 30.5 x 97  
 Radius (mm) : 169.5  
 Max. RPM : 4,000  
 Max. RCF : 3,032 xg  
 Max. height for tube fit (mm)  
 : 115 (w/ cap) / 125 (w/o cap)



Tube				
Tube capacity (ml)	15	15 ml conical	50 ml conical	50
Adaptor				None
Cat. No.	GAS-u15(50)		GAS-c50(50)	-
Adaptor bore (Φx L, mm)	17.3 x 87		29.5 x 17.5	-

**Fixed Angle Rotor, GRF-G-250-6**

6 x (250 & 15 ml)  
 ∟ 25°  
 Hole diameter (250/15) (mm) : 62/17  
 Max height for tube fit (250/15) (mm) : 130/120













only for 1580R

Tube		
Tube capacity (ml)	15	250
Radius (mm)	131.3	134
Max. RPM	8,000	
Max. RCF (g-force)	9,395	9,588

**Fixed Angle Rotor, GRF-G-85-6**

6 x 85 ml  
 ∟ 34°  
 Hole diameter (mm) : 38.5  
 Max. height for tube fit (mm) : 122



Tube						
Tube capacity (ml)	10	15	15 ml conical	50	50 ml conical	85
Adaptor						None
Cat. No.	<b>GAS-15(85)</b>		<b>GAS-c15(85)</b>	<b>GAS-50(85)</b>	<b>GAS-c50(85)</b>	-
Adaptor bore (Φx L, mm)	17 x 94		17 x 98	29 x 95	29.5 x 98	-
Radius (mm)	102	103	101	104	102	110
Max. RPM (1580R)	12,000					
Max. RCF (g-force) (1580R)	16,424	16,582	16,260	16,743	16,421	17,709
Max. RPM (1248/1248R/1236R/1580)	10,000					
Max. RCF (g-force) (1248/1248R/1236R/1580)	11,404	11,515	11,292	11,627	11,404	12,298

# 1248/R, 1236R, 1580/R

## Multi-Purpose, High-Speed Centrifuges

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

8 x 50 ml  
 ∠ 30°  
 Hole diameter (mm) : 29.5  
 Max. height for tube fit (mm) : 120  
 Supplied with aerosol tight O-ring



for 1248R, 1236R, 1580, 1580R

Tube				
Tube capacity (ml)	10	15	15 ml conical	50
Adaptor				None
Cat. No.	GAS-15(50)		GAS-c15(50)	-
Adaptor bore (Φ x L, mm)	17 x 94		17 x 105	-
Radius (mm)	92.5	93.5	96	103
Max. RPM (1580R)	15,000			
Max. RCF (g-force) (1580R)	23,268	23,520	24,149	25,910
Max. RPM (1248R/1236R/1580)	12,000			
Max. RCF (g-force) (1248R/1236R/1580)	14,892	15,053	15,455	16,582

### Angle Rotor, GRA-G-15-24

24 x 15 ml  
 ∠ 45°  
 Hole diameter (mm) : 18  
 Max. height for tube fit (mm) : 125 (120 for conical tube)




Stainless Steel 15 ml Sleeve  
**GLB-15-FA**  
 Sleeve bore (Φ x L, mm) : 18 x 97.5  
 Radius (mm) : 175.2  
 Max. RPM : 4,000  
 Max. RCF : 3,134 xg

Tube						
Tube capacity (ml)	3	4	5	10	15	15 ml conical
Adaptor				None	None	None
Cat. No.	GAS-3(15)	GAS-4(15)	GAS-5(15)	-	-	-
Adaptor bore (Φ x L, mm)	13.5 x 61	13.5 x 65	13.5 x 85	-	-	-
Radius (mm)	155.2	158.2	167.2	174.5	175.5	171.5
Max. RPM	4,000					
Max. RCF (g-force)	2,776	2,830	2,990	3,121	3,134	3,068

**Fixed Angle Rotor, GRF-G-15-24**

24 x 15 ml  
 ∟ 30°  
 Hole diameter (mm) : 17.5  
 Max. height for tube fit (mm) : 115  
 Supplied with aerosol tight O-ring








Tube	
Tube capacity (ml)	15
Radius (mm)	103 (inner) / 124 (outer)
Max. RPM	8,000
Max. RCF (g-force)	7,370 (inner) / 8,872 (outer)

for 1248R, 1236R, 1580R

**Fixed Angle Rotor, GRF-G-m2.0-30**

30 x 1.5/2.0 ml  
 ∟ 45°  
 Hole diameter (mm) : 11.1  
 Max. height for tube fit (mm) : 52  
 Supplied with aerosol tight O-ring





Tube			
Tube capacity (ml)	0.2	0.5	1.5/2.0
Adaptor			None
Cat. No.	GAS-m0.2(2)	GAS-m0.5(2)	-
Adaptor bore (Φ x L, mm)	6.5 x 23	8 x 31	-
Radius (mm)	79	86	96.4
Max. RPM (1580R/1580)	15,000		
Max. RCF (g-force) (1580R/1580)	19,872	21,633	24,249
Max. RPM (1248/1248R/1236R)	12,000		
Max. RCF (g-force) (1248/1248R/1236R)	12,718	13,835	15,520

**PCR Rotor, GRF-G-s0.2-64**

8 x 8-tube PCR strips, 64 x 0.2 ml  
 ∟ 45°  
 Hole diameter (mm) : 6.5  
 Max. height for tube fit (mm) : 16



Tube		
Tube capacity (ml)	0.2	8-tube PCR strip
Radius (mm)	58.6 (inner) / 67.1 (outer)	
Max. RPM	12,000	
Max. RCF (g-force)	9,434 (inner) / 10,803 (outer)	