



**LabTech**

POWERED BY GYROZEN

Product Guide 2018

*We are,*

At GYROZEN, we stand for high-quality laboratory instruments defined by their clean aesthetics and high quality. Designed, manufactured, and assembled all under one roof, we provide a wide range of laboratory and medical use centrifuges, and other sample preparation instruments as well. Instead of relying on third party manufacturers, we proudly fabricate and manufacture the key parts for our products such as motors and rotors, in order to ensure the consistent delivery of excellence based on an effective in-house quality management system that exceeds our customer expectations.

*Facility / Product Certification,*

ISO9001, ISO13485, KGMP / CE, CE MDD, MFDS

*Sales and Distribution,*

GYROZEN products are distributed in more than 50 countries internationally through retail channels or via our strategic partnerships with respected local distributors.



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## Contents

<b>Centrifuges</b>	<b>05</b>
Micro Centrifuges	16
Multi-Purpose, High-Speed Centrifuges	30
Large Capacity, High-Speed Centrifuges	46
Low-Speed, Clinical Centrifuges	72



## Centrifuges

<b>Micro Centrifuges</b>	<b>16</b>
mini	18
1536	21
1730R	25
<b>Multi-Purpose, High-Speed Centrifuges</b>	<b>30</b>
1248 / 1248R / 1236R / 1580 / 1580R	32
<b>Large Capacity, High-Speed Centrifuges</b>	<b>46</b>
1736R	48
2236R	55
1096R	63
<b>Low-Speed, Clinical Centrifuges</b>	<b>72</b>
406	74
416	77
624R	82

# Designed to perfectly meet your needs.

# Wide range of modern centrifuges for a variety of laboratory applications



- ✓ Manufactured and tested to IEC standards, stable spinning operation within +/-1% variation
- ✓ Steady and soft deceleration with dynamic brake technology
- ✓ Unique internal air flow design preventing from sample heating
- ✓ High-capacity, strong compressor ensures fast cooling of chamber and samples
- ✓ Fast cooling function to 4°C in 5 minutes for fast start up of cooled samples
- ✓ Automatic rotor identification
- ✓ Automatic RPM/RCF conversion
- ✓ Fine control of time counting by selection of “at set speed” or from starting



- ✓ Sturdy structured, two or three layered lid for noise-minimized and safe operation
- ✓ Safety lid lock scheme for safe and reliable work environment
- ✓ Lid-drop protection protecting the operator and samples
- ✓ Automatic rotor identification for safe operation
- ✓ Automatic detection and warning for imbalance, excess speed and over-heating
- ✓ Emergency lid-lock release for power blackout or sudden stoppage
- ✓ The eco-friendly compressor-off function on when lid is open
- ✓ The aerosol tight buckets and rotors to prevent contamination
- ✓ Autoclavable and corrosion-free rotors



- ✓ Soft touch buttons and display screen with intuitive controls
- ✓ Highly legible blue and white LCD display
- ✓ Time control functions of pulse, timed and continuous
- ✓ Automatic RPM/RCF conversion
- ✓ Easy to check actual rotation through the viewing window in the lid
- ✓ Program memory up to 100 (or 10) programs
- ✓ Automatic rotor identification
- ✓ Automatic lid release at the completion of spinning
- ✓ A large assortment of rotors, buckets and adaptors for diverse applications



- ✓ Any rotors, sample containers and adaptors can be customized upon specified requirement
- ✓ High flexibility of structural & functional modifications



- ✓ Accredited with ISO 9001, ISO 13485, and KGMP
- ✓ Comply with CE conformity
- ✓ Approved as Class IIa medical devices (MD406 and MD416 only)

# Product Selection Guide by Max Speed & Sample Container

Centrifuges	Micro Centrifuges			Multi-Purpose, High-Speed Centrifuges							Low-Speed, Clinical Centrifuges		
	mini p18~20	1536 p21~24	1730R p25~29	Benchtop			Floor Stand				406 p74~76	416 p77~81	624R p82~90
				Mid Capacity			Large Capacity						
Refrigeration													
<b>Max. Force</b>													
Fixed Angle Rotor	Max. 2,000 xg												
	Max. 2,700 xg												
	Max. 3,800 xg												
	Max. 12,300 xg	●											
	Max. 14,980 xg												
	Max. 15,520 xg				●								
	Max. 16,500 xg				●	●			●				
	Max. 21,200 xg		●										
	Max. 25,900 xg												
	Max. 27,200 xg			●									
Max. 32,300 xg													
Max. 54,111 xg									●				
Swing-Out Rotor	Max. 2,800 xg												
	Max. 3,100 xg												
	Max. 3,500 xg												
	Max. 3,600 xg												
	Max. 3,800 xg												
	Max. 16,300 xg			●	●	●	●	●	●	●			
<b>Sample Container / Max. Force</b>													
Micro Tube	PCR strip	●	●	●	●	●	●	●	●	●			
	0.2/0.5 ml	●	●	●	●	●	●	●	●	●			●
	1.5/2.0 ml	●	●	●	●	●	●	●	●	●		●	●
	Micro filter tube		●	●									
Tube	1.8 ml cryotube	●											
	5.0 ml		●	●									
	3/4/5 ml				●	●	●	●	●	●	●	●	●
	7 ml				●	●	●	●	●	●	●	●	●
	10/15 ml				●	●	●	●	●	●	●	●	●
	15 ml conical				●	●	●	●	●	●	●	●	●
	50 ml				●	●	●	●	●	●	●	●	●
	50 ml conical				●	●	●	●	●	●	●	●	●
	85 ml				●	●	●	●	●	●	●	●	●
	100 ml				●	●	●	●	●	●	●	●	●
	100 ml conical glass												
	250 ml				●	●	●	●	●	●	●	●	●
	250 ml conical				●	●	●	●	●	●	●	●	●
	500 ml												
500 ml conical													
750 ml													
1,000 ml													
Plate	PCR plate				●	●	●	●	●	●		●	●
	Micro assay plate				●	●	●	●	●	●		●	●
	Tissue culture plate				●	●	●	●	●	●		●	●
	Deep well plate				●	●	●	●	●	●		●	●
	Filter set plate												
Syringe				●	●	●	●	●	●				
Blood Bag													

● Only for fixed angle rotors   ● Only for swing-out rotors   ● Both for fixed angle and swing-out rotors

## ▶ Rotor Availability (Micro Centrifuges)

Micro

mini p18-20	Rotor Cat. No.	GRA-s0.2-32	GRF-m1.8-10	GRF-m2.0-12				
	Max. Capacity	32 x 0.2 ml	10 x 1.8 ml cryotube	12 x 2.0 ml				
	Shape				<b>A</b>			
	Max. RPM/RCF	6,000/1,554(1 row), 1,850(2 row)	13,500/12,300	13,500/12,300				
1536 p21-24	Rotor Cat. No.	GRE-s0.2-32	GRE-m2.0-24	GRE-m2.0-36	GRE-m5.0-10			
	Max. Capacity	32 x 0.2 ml	24 x 2.0 ml	36 x 2.0 ml	10 x 5.0 ml			
	Shape							
	Max. RPM/RCF	15,000/14,187	15,000/21,206	15,000/21,206	15,000/21,583			
	Hole Diameter (mm)	6.5	11.1	11.1	17			
1730R p25-29	Rotor Cat. No.	GRE-M-s0.2-64	GRE-M-m2.0-18	GRE-M-m2.0-24	GRE-M-m2.0-30	GRE-M-m5.0-12	GRD-M-m2.0-8	GRD-M-m2.0-16
	Bucket Cat. No.	-	-	-	-	-	GLB-m2.0(8)	GLB-m2.0-4(16)
	Max. Capacity	64 x 0.2 ml	18 x 2.0 ml filter tube	24 x 2.0 ml	30 x 2.0 ml	12 x 5.0 ml	8 x 2.0 ml	16 x 2.0 ml
	Shape							
	Max. RPM/RCF	12,500/10,237(1row), 11,722(2row)	15,000/18,891	17,000/27,237	14,000/21,124	15,000/22,967	13,000/16,343	13,000/15,682
	Hole Diameter (mm)	6.5	11.1	11.1	11.1	17	11.1	11.1
	Max. Height for Tube fit (mm)	16	65	52	52	68	48	43

Fixed Angle Rotors   **A** Adaptors available for smaller tubes  
 Swing-Out Rotors   **R** Refrigerated models

- The fixed angle rotors are supplied with rotor lid (except PCR strip rotors).
- The open style angle rotors are supplied with tube sleeves.
- The swing-out rotor may be ordered together with compatible buckets and adaptors.
- The colors of the rotors, buckets and adaptors may be different and changeable without notification.

Rotor Availability (Large Capacity / Multi-Purpose / Clinical, Low-Speed Centrifuges)

Model	Rotor Cat. No.	Large Capacity / Multi-Purpose											
		GRF-L-s0.2-64	GRF-L-m2.0-30	GRF-L-15-12	GRF-L-c15-12	GRF-L-50-6	GRF-L-c50-6	GRF-L-50-8	GRF-L-85-6	GRF-L-250-6	GRF-L-500-6		
1736R p48-54	Bucket Cat. No.	-	-	-	-	-	-	-	-	-	-		
	Max. Capacity	64 x 0.2 ml	30 x 2.0 ml	12 x 15 ml	12 x 15 ml conical	6 x 50 ml	6 x 50 ml conical	8 x 50 ml	6 x 85 ml	6 x (250 & 15 ml)	6 x 500 ml		
	Shape												
	Max. RPM/RCF	12,000/9,434(inner), 10,803(outer)	17,000/31,147	17,000/32,310	15,000/25,910	17,000/32,310	15,000/24,753	15,000/25,910	15,000/25,029	10,000/14,981(250), 14,679(15)	8,000/11,305		
	Hole Diameter (mm)	6.5	11.1	17	17	29.5	29.5	29.5	38.3	62(250), 17(15)	70		
Max. Height for Tube fit (mm)	16	52	125	125	120	125	120	125	130(250), 120(15)	170			
2236R p55-62	Rotor Cat. No.	GRF-L-s0.2-64	GRF-L-m2.0-30	GRF-L-15-12	GRF-L-c15-12	GRF-L-50-6	GRF-L-c50-6	GRF-L-50-8	GRF-L-85-6	GRF-L-250-6	GRF-L-500-6	GRF-L-1000-4	GRF-L-1000-6
	Bucket Cat. No.	-	-	-	-	-	-	-	-	-	-	-	-
	Max. Capacity	64 x 0.2 ml	30 x 2.0 ml	12 x 15 ml	12 x 15 ml conical	6 x 50 ml	6 x 50 ml conical	8 x 50 ml	6 x 85 ml	6 x (250 & 15 ml)	6 x 500 ml	4 x 1,000 ml	6 x 1,000 ml
	Shape												
	Max. RPM/RCF	12,000/9,434(inner), 10,803(outer)	22,000/52,163	20,000/44,720	20,000/46,062	22,000/54,111	17,000/31,793	20,000/46,062	20,000/44,496	13,000/25,318(250), 34,808(15)	10,000/17,664	8,000/12,071	7,000/10,825
Hole Diameter (mm)	6.5	11.1	17	17	29.5	29.5	29.5	38.3	62(250), 17(15)	70	98	98	
Max. Height for Tube fit (mm)	16	52	125	125	120	125	120	125	130(250), 120(15)	170	175	175	
1096R p63-71	Rotor Cat. No.	GRF-L-250-6	GRF-L-500-6	GRS-L-r250-4									
	Bucket Cat. No.	-	-	GLB-100(L)-r250	GLB-100(S)-r250								
	Max. Capacity	6 x (250 & 15 ml)	6 x 500 ml	4 x 100 ml	4 x 100 ml								
	Shape												
	Max. RPM/RCF	10,000/14,981(250), 14,679(15)	8,000/11,305	4,000/4,358	4,000/4,155								
Hole Diameter (mm)	62(250), 17(15)	70	35.5	44.6									
Max. Height for Tube fit (mm)	130(250), 120(15)	170	207	190									
1236R 1248R / 1248	Rotor Cat. No.	GRF-G-s0.2-64	GRF-G-m2.0-30	GRA-G-15-24A	GRF-G-15-24	GRF-G-c15-12	GRF-G-50-8	GRF-G-c50-6	GRF-G-85-6				
	Bucket Cat. No.	-	-	GLB-15A-FA	-	-	-	-	-				
	Max. Capacity	64 x 0.2 ml	30 x 2.0 ml	24 x 15 ml	24 x 15 ml	12 x 15 ml conical	8 x 50 ml	6 x 50 ml conical	6 x 85 ml				
	Shape												
	Max. RPM/RCF	12,000/9,434(inner), 10,803(outer)	12,000/15,520	4,000/3,134	8,000/7,370(inner), 8,872(outer)	12,000/16,582	12,000/16,582	10,000/11,101	10,000/12,298				
Hole Diameter (mm)	6.5	11.1	18	17.5	17	29.5	29.5	38.5					
Max. Height for Tube fit (mm)	16	52	125	115	125	120	125	122					
1580 / 1580R p30-45	Rotor Cat. No.	GRF-G-s0.2-64	GRF-G-m2.0-30	GRA-G-15-24A	GRF-G-15-24	GRF-G-c15-12	GRF-G-50-8	GRF-G-c50-6	GRF-G-85-6	GRF-G-250-6			
	Bucket Cat. No.	-	-	GLB-15A-FA	-	-	-	-	-	-			
	Max. Capacity	64 x 0.2 ml	30 x 2.0 ml	24 x 15 ml	24 x 15 ml	12 x 15 ml conical	8 x 50 ml	6 x 50 ml conical	6 x 85 ml	6 x (250 & 15 ml)			
	Shape												
	Max. RPM/RCF	12,000/9,434(inner), 10,803(outer)	15,000/24,249	4,000/3,134	8,000/7,370(inner), 8,872(outer)	12,000/16,582	12,000/16,582	10,000/11,101	10,000/12,298	8,000/9,588(250), 9,395(15)			
Hole Diameter (mm)	6.5	11.1	18	17.5	17	29.5	29.5	38.5	62(250), 17(15)				
Max. Height for Tube fit (mm)	16	52	125	115	125	120	125	122	130(250), 120(15)				
406 / 416 / 624R p74-81	Rotor Cat. No.	GRF-SR-m2.0-24	GRA-S-15-6A	GRA-S-15-16A	GRA-SR-15-24	GRF-SR-50-6	GRF-SR-c50-6						
	Bucket Cat. No.	-	GLB-15A-FA	GLB-15A-FA	GLB-15A-FA	-	-						
	Max. Capacity	24 x 2.0 ml	6 x 15 ml	16 x 15 ml	24 x 15 ml	6 x 50 ml	6 x 50 ml conical						
	Shape												
	Max. RPM/RCF	6,000/3,393	4,000/2,075	4,000/2,700	4,000/2,469(inner), 2,773(outer)	6,000/3,824	6,000/3,960						
Hole Diameter (mm)	11.1	18	18	18	29.5	29.5							
Max. Height for Tube fit (mm)	52	125	125	125	120	125							
p82-90	Rotor Cat. No.	GRS-S-15-6	GRS-SR-15-6	GRS-S-50-4 (only for 416) / GRS-SR-50-4 (only for 624R)	GRS-S-100-4 (only for 416) / GRS-SR-100-4 (only for 624R)	GRS-S-mw-2	GRS-SR-mw-2						
	Bucket Cat. No.	GLB-15-15	GLB-15-15	GLB-50-50	GLB-c50-50	GLB-15-50	-						
	Max. Capacity	6 x 15 ml	6 x 15 ml	4 x 50 ml	4 x 50 ml conical	4 x 15 ml	-						
	Shape												
	Max. RPM/RCF	4,000/2,826	4,400/3,420	4,000/2,700 (416), 4,800/3,888 (624R)	4,000/2,700 (416), 4,200/2,976 (624R)	4,000/1,986	4,000/1,986						
Hole Diameter (mm)	17	17	30.5	47	88.5 x 130.3	88.5 x 130.3							
Max. Height for Tube fit (mm)	125	125	125	125	35	35							

GRS-L-r250-4	
GLB-r250-r250	GLP-mw-r250
4 x 250 ml	4 x 4 MTPs
4,000/3,134	4,000/2,737
86 x 70.3	88 x 128.5
130	80

- Fixed Angle Rotors
- Swing-Out Rotors
- A** Adaptors available for smaller tubes
- R** Refrigerated models

GRS-L-r250-4	
GLB-r250-r250	GLP-mw-r250
4 x 250 ml	4 x 4 MTPs
4,000/3,134	4,000/2,737
86 x 70.3	88 x 128.5
130	80

- The fixed angle rotors are supplied with rotor lid (except PCR strip rotors).
- The open style angle rotors are supplied with tube sleeves.
- The swing-out rotor may be ordered together with compatible buckets and adaptors.
- The colors of the rotors, buckets and adaptors may be different and changeable without notification.

GRS-L-r250-4		GRS-L-r750-4		GRS-L-750-4				GRS-L-750-6		GRS-L-1400-4W		GRS-L-mw-4W		
GLB-100(C)-r250	GLB-r250-r250	GLP-mw-r250	GLB-r750-r750	GLB-500-r750	GLP-mw-r750	GLB-750-750	GLB-b750-750	GLB-500-750	GLP-mw-750	GLB-750-750	GLB-500-750	GLP-mw-750	GLB-1400-1400	GLP-mw-1400
4 x 100 ml	4 x 250 ml	4 x 4 MTPs	4 x 500 ml conical	4 x 500 ml	4 x 4 MTPs	4 x 750 ml	4 x 750 ml	4 x 500 ml	4 x 4 MTPs	6 x 750 ml	6 x 500 ml	6 x 4 MTPs	4 x 1,400/4 blood bags	4 x 4 MTPs
4,000/4,191	4,000/3,134	4,000/2,737	3,600/2,898	3,600/3,159	3,600/2,485	4,000/3,667	4,000/3,900	4,000/3,900	4,000/3,068	4,000/4,248	4,000/3,384	4,000/3,982	4,000/3,982	4,000/3,982
61.5	86 x 70.3	88 x 128.5	99 x 99	69.2	88 x 128.5	99	99	99	88 x 128.5	99 x 101.5	69.2 x 135	88 x 128.5	134 x 115	86.1 x 128.1
190	130	80	135	165	80	142	130	165	80	142	165	80	150	57.1

GRS-G-100-6		GRS-G-250-4				GRS-G-r250-4		
GLB-b100-100	GLB-b50-100	GLB-bd15-100	GLB-250-250	GLB-c250-250	GLB-60-250	GLB-d20/10-250	GLB-r250-r250	GLP-mw-r250
6 x 100 ml	6 x 50 ml	6 x 2 x 15 ml conical	4 x 250 ml	4 x 250 ml conical	4 x 60 ml	4 x 2 x (20 & 10 ml)	4 x 250 ml	4 x 4 MTPs
4,000/3,105	4,000/3,032	4,000/3,105	5,000/5,394	5,000/5,394	5,000/5,394	5,000/4,752 (20), 4,472 (10)	4,000/3,134	4,000/2,737
47	30.5	17	62	60.5	31.5	22.5 (20), 16 (10)	86 x 70.3	88 x 128.5
120	115	120	153	153	165	132 (20), 125 (10)	130	80

GRS-G-100-6		GRS-G-250-4				GRS-G-r250-4		GRS-G-r750-4		GRS-G-750-4					
GLB-10-8-100	GLB-bd15-100	GLB-bdc15-100	GLB-250-250	GLB-c250-250	GLB-60-250	GLB-d20/10-250	GLB-r250-r250	GLP-mw-r250	GLB-r750-r750	GLB-500-r750	GLP-mw-r750	GLB-750-750	GLB-b750-750	GLB-500-750	GLP-mw-750
6 x 8 x 10 ml vacutainer	6 x 2 x 15 ml	6 x 2 x 15 ml conical	4 x 250 ml	4 x 250 ml conical	4 x 60 ml	4 x 2 x (20 & 10 ml)	4 x 250 ml	4 x 4 MTPs	4 x 500 ml conical	4 x 500 ml	4 x 4 MTPs	4 x 750 ml	4 x 750 ml	4 x 500 ml	4 x 4 MTPs
4,000/3,105	4,000/3,032	4,000/3,105	5,000/5,394	5,000/5,394	5,000/5,394	5,000/4,752 (20), 4,472 (10)	4,000/3,134	4,000/2,737	3,600/2,898	3,600/3,159	3,600/2,485	4,000/3,667	4,000/3,900	4,000/3,900	4,000/3,068
16	17	17	62	60.5	31.5	22.5 (20), 16 (10)	86 x 70.3	88 x 128.5	99 x 99	69.2	88 x 128.5	99	99	69.2	88 x 128.5
120	123	120	153	153	165	132 (20), 125 (10)	130	80	135	165	80	142	130	165	80

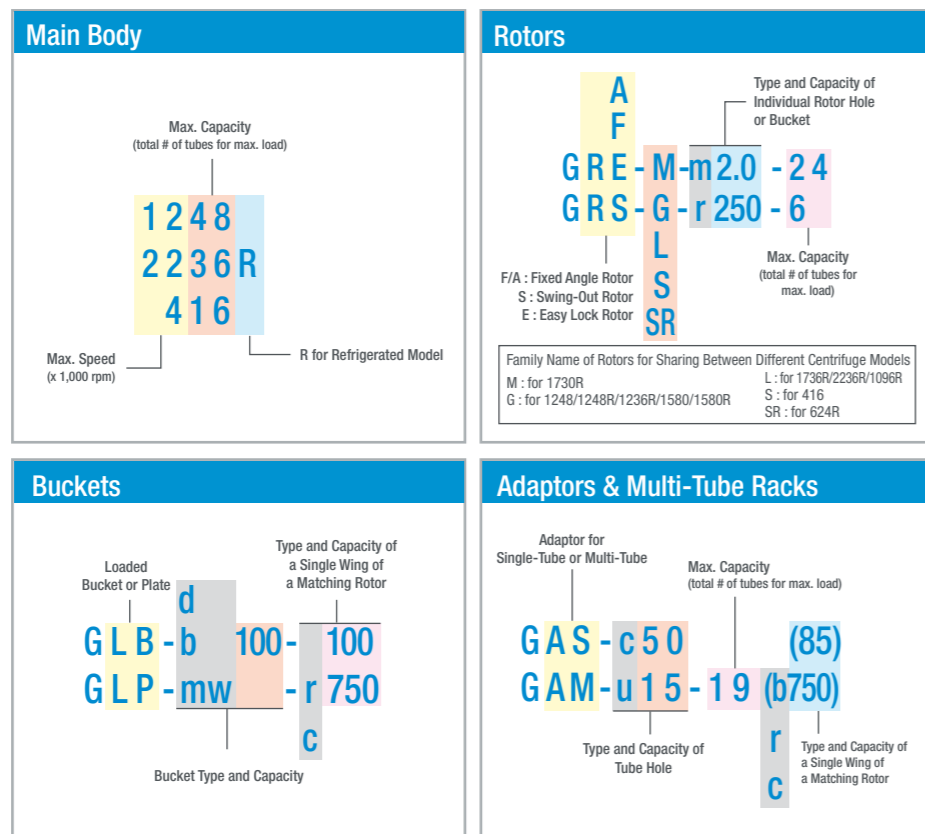
GRS-S-50-4 (only for 416) / GRS-SR-50-4 (only for 624R)		GRS-S-100-4 (only for 416) / GRS-SR-100-4 (only for 624R)				GRS-S-mw-2		GRS-SR-mw-2	
GLB-c15-50	GLB-d15-50	GLB-dc15-50	GLB-b100-100	GLB-b50-100	GLB-10-8-100	GLB-bd15-100	GLB-bdc15-100	-	-
4 x 15 ml conical	4 x 2 x 15 ml	4 x 2 x 15 ml conical	4 x 100 ml	4 x 50 ml	4 x 8 x 10 ml vacutainer	4 x 2 x 15 ml	4 x 2 x 15 ml conical	1 x 2 MTPs	1 x 2 MTPs
4,000/2,700 (416), 4,800/3,888 (624R)	4,000/2,700 (416), 4,200/2,976 (624R)	4,000/2,700 (416), 4,200/2,976 (624R)	4,000/2,700 (416), 4,200/2,976 (624R)	4,000/2,700 (416), 4,200/2,976 (624R)	4,000/2,700 (416), 4,200/2,976 (624R)	4,000/2,700 (416), 4,200/2,976 (624R)	4,000/2,700 (416), 4,200/2,976 (624R)	4,000/1,986	4,000/1,986
17	17	17	47	30.5	16	17	17	88.5 x 130.3	88.5 x 130.3
120	120	120	120	115	120	123	120	35	35



# Catalog Numbering Rule of Centrifuges and Accessories

No symbol : round type  
 r : rectangular type  
 c : conical type  
 d : dual hole type

m: for micro tube  
 b : for bioseal application  
 u : universal for both round & conical tube  
 mw : for multiwell plate



# Featured Functions

- Fast Cooling**  
Cooling down to 4°C within 5 minutes
- Motorized Lid Mechanics**  
Only a gentle touch is sufficient to close and open the lid.
- ACC/DEC Rate Control**  
Setting run-up (9 steps) / down (10 steps) rates
- Adjustable End Alarm**  
alerts completion of the operation.
- Rotor ID**  
Automatic rotor identification for safe operation
- A Large Assortment of Rotors, Buckets and Adaptors**  
support diverse applications doable with one instrument.
- Up to 100 or 10 Program Memory**  
for convenient operation of the routine protocols
- Glove-Friendly, Soft Touch Buttons**  
allows easy setting of running conditions.
- Short Spin (Pulse)**  
One-touch key for quick spin
- Lid Drop Protection Design**  
allows operator's convenience and safety.
- Imbalance Cut-Off**  
and accompanied warning keep the instrument protected from unsuitable operation.
- User ID and Password Function**  
ideal for core laboratory or multi-user environments
- Selectable Time Mode of "At Set Speed"**  
for counting running time only when reached the set speed
- Automatic Lid Release**  
at the completion of the operation
- Soft Start/Stop Function of 416**  
to achieve gentle run-up and down
- Automatic RPM/RCF Conversion**  
for easy detection of g-value forced to samples



# Micro Centrifuges



Powder White



Rose Pink



Steel Blue

**MINI**  
 13,500 / 12,300 xg  
 12 x 1.5/2.0 ml



**1536**  
 15,000 / 21,583 xg  
 36 x 1.5/2.0 ml



**1730R**  
 17,000 / 27,237 xg  
 30 x 1.5/2.0 ml

\* All tubes showed in this catalog are not included in GYROZEN products.

# mini



GYROZEN mini centrifuge is designed to offer maximum performance in a small footprint of every experimental workstation. Compact product design, user-friendly and intuitive interface are easy and comfortable for the operation. mini has a fully-functioning safety architecture of patented air-cooling and anti-vibration. Three colors of powder white, rose pink and steel blue are optionally available and it will liven up any laboratory environment.

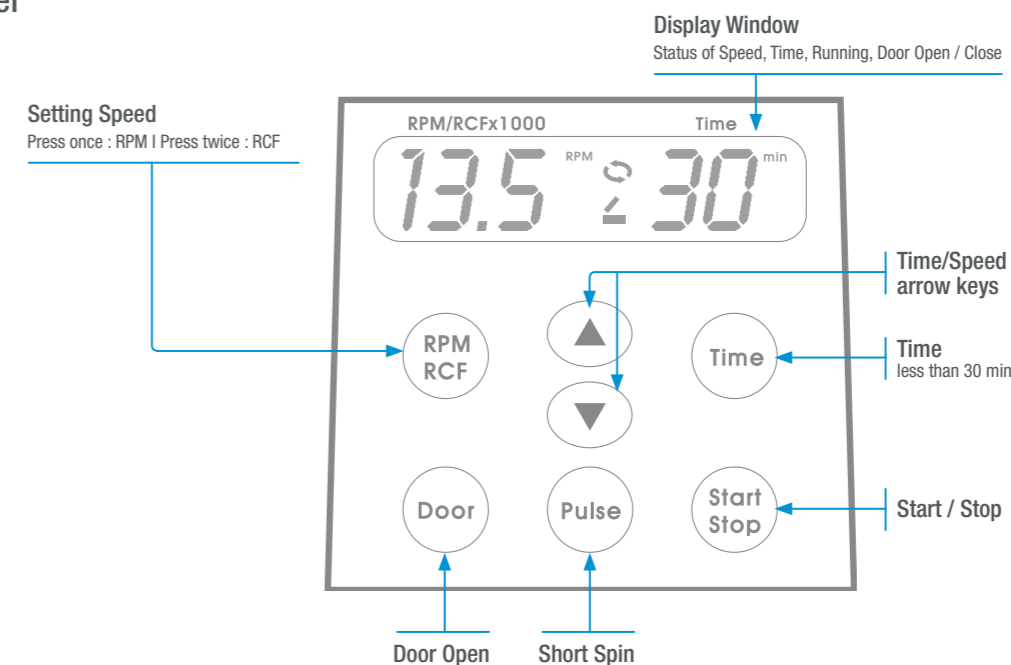
### ► Features

- 12 microtubes or 10 cryotubes can be run up to 13,500 rpm (12,300 xg).
- Compact design built to accommodate PCR tubes, microtubes and cryotubes (0.2 to 2.0 ml)
- Patented air-cooling to minimize noise and heat generation
- A separate "PULSE" key for quick spin
- Very quiet operation at less than 56 dB allows for comfortable laboratory environment.
- Supplied with autoclavable 12-place fixed angle micro-rotor, snap-fit plastic rotor lid and 12 adaptors for 0.2 ml PCR tubes

### ► Technical Specifications

Max. RPM/RCF	13,500 / 12,300 xg	Safety lid lock	Yes
Max. capacity	12 x 1.5/2.0 ml, 4 x 8-tube PCR strips	Automatic lid release at completion	Yes
Time control	Pulse or timed ≤ 30 min	Chamber material	PC/ABS
RPM/RCF conversion	Yes	Power supply	230 V, 50 Hz (AC 220-230 V, 50/60 Hz; 110 V optional)
Noise level (dB)	~ 56	Power requirement (VA)	110
ACC / DEC (sec)	≤ 12 / ≤ 16	Dimension (W x D x H, mm)	208 x 245 x 145
Parameters on display window	RPM (RCF), Oper Status, Lid Open/Close, Min(sec)	Weight without rotor (kg)	4.4
Display	Blue LCD	CE mark	Yes
		Cat. No.	GZ-1312

### ► Control Panel



### ► Applications

- Molecular works of cell collection, phenol extraction, simple spin-down, etc.

mini



**Fixed Angle Rotor,  
GRF-m2.0-12**  
12 x 1.5/2.0 ml  
∠ 45°  
Hole diameter (mm) : 11.1  
Max. height for tube fit (mm) : 42

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 (ΦxL, mm)	6.5 x 23	8 x 31	-
Radius (mm)	43.5	50.5	60.4
Max.RPM	13,500		
Max.RCF (g-force)	8,863	10,290	12,300



**Fixed Angle Rotor,  
GRF-m1.8-10**  
10 x 1.8 ml Cryotube  
∠ 45°  
Hole diameter (mm) : 12.8  
Max. height for tube fit (mm) : 50

Tube	
Tube capacity (ml)	1.8 cryotube
Adaptor	None
Cat No.	-
Adaptor bore (ΦxL, mm)	-
Radius (mm)	60.4
Max.RPM	13,500
Max.RCF (g-force)	12,300



**PCR Rotor  
GRA-s0.2-32**  
4 x 8-tube PCR strips, 32 x 0.2 ml  
∠ 45°  
Hole diameter (mm) : 6.5

Tube		
Tube capacity (ml)	0.2	8-Strip tube
Radius (mm)	1st : 38.6 / 2nd : 46	
Max.RPM	6,000	
Max.RCF (g-force)	1st : 1,554 / 2nd : 1,850	

# 1536



GYROZEN 1536 will be the new standard micro centrifuge in the laboratory. 1536 boasts a smooth curve design and a unique ergonomic user interface in its class. As many as 36 microtubes and 12 0.2 ml-tubes can be operated simultaneously at up to 15,000 rpm. It is suitable for all molecular biology applications as it can accommodate from 0.2 ml tube containing PCR strip to 5.0 ml tube. 1536 has an intuitive and user-friendly interface with a wide LCD display to check the operation status and the setting parameters simultaneously. It provides easy and sophisticated controls such as "At Set Speed" for timed runs at the set speed, 100 programs saving and adjustability of parameters during operation. The new "Easy-Lock" rotors deliver operators the highest easiness and comfort to handle frequent routine works. You can enjoy not only artistic design but also convenient operational experiences with our 1536.

## ► Applications

- Molecular works of cell collection, phenol extraction, simple spin-down, filter tube separation, etc.

# 1536

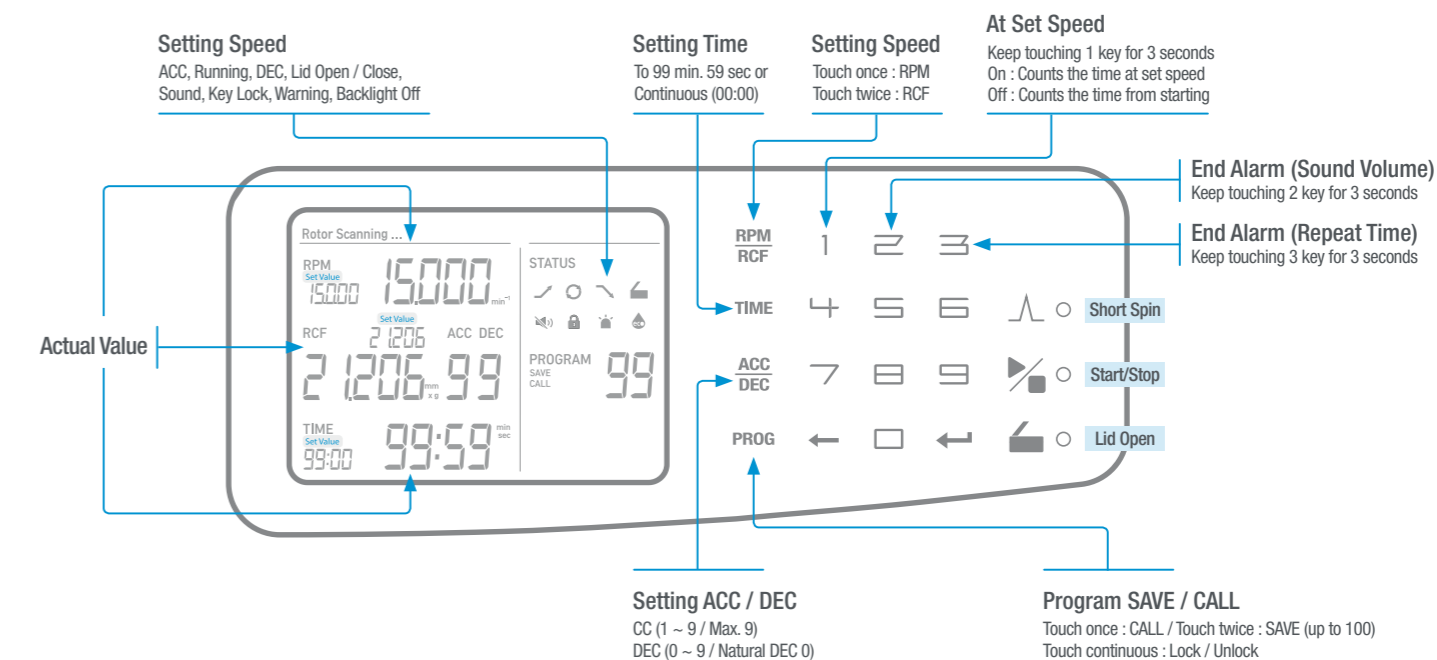
## ► Technical Specifications

Max. RPM/RCF	15,000 / 21,583 xg	Imbalance cut-off	Yes
Max. capacity	36 x 1.5/2.0 ml, 10 x 5.0 ml, 4 x 8-tube PCR strips	Safety lid lock	Yes
Time control	Pulse, timed < 100 min or continuous	Lid drop protection	Yes
Time counting modes	Selectable, at set speed or from starting	Motorized lid open & close	Yes
RPM/RCF conversion	Yes	Automatic lid release at completion	Yes
Noise level (dB)	~ 60	Chamber material	Aluminum/Anodizing
ACC/DEC (step or time)	9 / 10 steps (15 / 15 sec)	Power supply	230 V, 50 Hz (AC 220-230 V, 50/60 Hz; 110 V optional)
Program memory	100	Power requirement (VA)	450
Parameters on display window	Simultaneous display of all parameters of set and actual figures	Dimension (W x D x H, mm)	240 x 378 x 240
Display	3.5" LCD	Weight without rotor (kg)	11.9
		CE mark	Yes
		Cat. No.	GZ-1536

## ► Features

- Compact design built to accommodate PCR tubes, microtubes and filter tubes (0.2 to 5.0 ml)
- Soft touch control panel is highly sensitive and intuitive to input parameters.
- 3.5" LCD window with simultaneous display of all operational parameters of set and actual figures
- 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.
- Lid drop protection design allows easiness and safety when loading or unloading sample.
- With motorized lid mechanics, only a gentle touch is sufficient to close and open the lid.
- Aerosol-tight, bio-seal Easy-Lock rotor with a set of O-rings

## ► Control Panel



# 1536



## Fixed Angle Rotor, GRE-m2.0-24

24 x 1.5/2.0 ml  
 < 45°  
 Hole diameter (mm) : 11.1  
 Max. height for tube fit (mm) : 52

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 (ΦxL, mm)	6.5 x 23	8 x 31	-
Radius (mm)	67	73	84.3
Max.RPM	15,000		
Max.RCF (g-force)	16,854	18,363	21,206



## Fixed Angle Rotor, GRE-m2.0-36

36 x 1.5/2.0 ml (12 x 0.2 ml)  
 < 45°  
 Hole diameter (mm) : 11.1  
 Max. height for tube fit (mm) : 52

Tube					
Tube capacity (ml)	0.2	0.5	0.2	1.5/2.0	2 ml filter tube
Adaptor			None	None	None
Cat No.	GAS-m0.2(2)	GAS-m0.5(2)	-	-	-
Adaptor bore (ΦxL, mm)	6.5 x 23	8 x 31	-	-	-
Radius (mm)	53.5/67	60.5/73	58.2	70.9/84.3	59.1
Max.RPM	15,000				
Max.RCF (g-force)	13,458/16,854	15,219/18,363	14,640	17,835/21,206	14,867

It can accommodate only 12 x 2 ml filter tubes in the inner line.



## Fixed Angle Rotor, GRE-s0.2-32

8 x 8-Tube PCR strips, 32 x 0.2 ml  
 < 45°  
 Hole diameter (mm) : 6.5  
 Max. height for tube fit (mm) : 16

Tube		
Tube capacity (ml)	0.2	8-Strip tube
Radius (mm)	56.4	
Max.RPM	15,000	
Max.RCF (g-force)	14,187	



## Fixed Angle Rotor, GRE-m5.0-10

10 x 5.0 ml  
 < 45°  
 Hole diameter (mm) : 17  
 Max. height for tube fit (mm) : 68

Tube	
Tube capacity (ml)	5.0
Adaptor	None
Cat No.	-
Adaptor bore (ΦxL, mm)	-
Radius (mm)	85.8
Max.RPM	15,000
Max.RCF (g-force)	21,583

# 1730R



GYROZEN refrigerated high-speed micro centrifuge, 1730R is a must-have for the experiments in molecular and cellular biology. It can accommodate up to 30 microtubes or 12 x 5 ml-tubes. With the most popular 24 hole micro-rotor, maximum 17,000 rpm (27,237 x g) can be reached even at 4 °C. Its powerful refrigeration system specifies the temperature range from -20 °C to + 40 °C and offers "FASTCOOL" function of cooling down to 4 °C in 5 minutes. All rotor types have been extended to the new "Easy-Lock" lid, allowing easy and convenient rotor lid opening and closing. The Teflon-coated chamber of 1730R is more resistant to organic solvents, reactive or corrosive chemicals. The powerful and compact refrigerated micro centrifuge 1730R is one of the best products in the GYROZEN portfolio. It will be a perfect tool to get the results you want in your laboratory.

### ► Applications

- Molecular works of ethanol precipitation, phenol extraction, NA preparation, cell collection, spin-down of temperature sensitive reaction mixtures, etc.

# 1730R

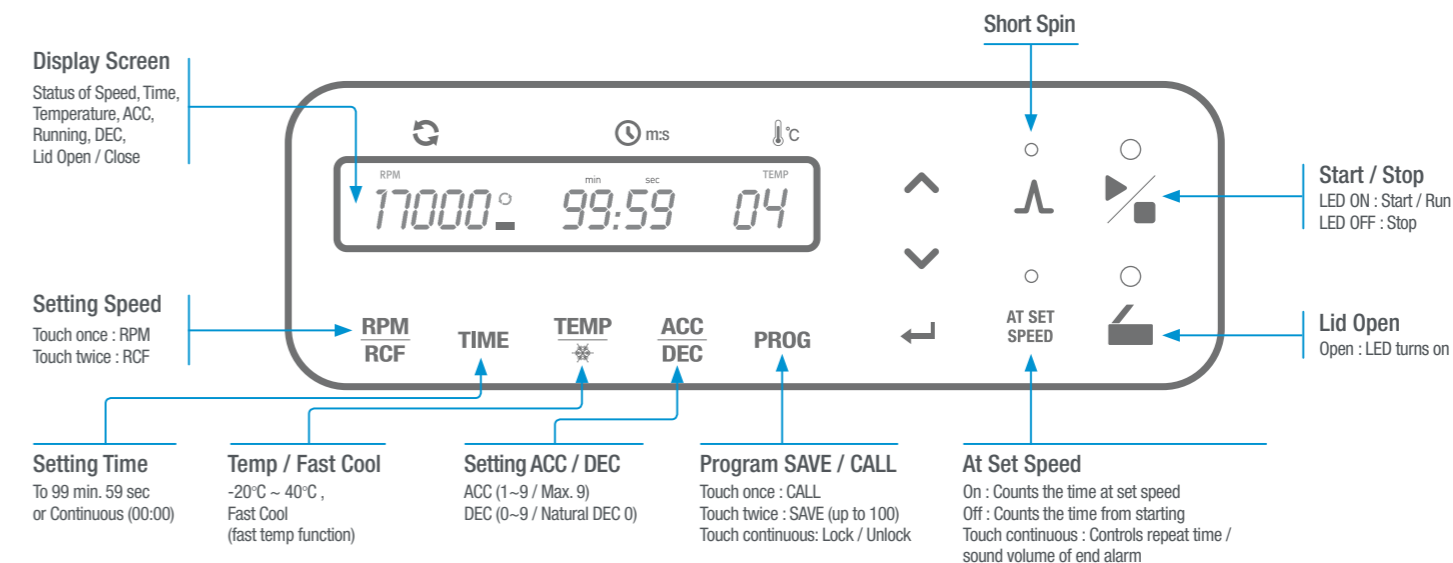
## ► Technical Specifications

Max. RPM/RCF	Fixed angle	17,000 / 27,237 xg	Parameters on display window	RPM (RCF), Oper Status, Lid Open/Close, Min:Sec, Temp, ACC, DEC
	Swing-out	13,000 / 16,343 xg	Display	Blue LCD
Max. capacity	Fixed angle	30 x 1.5/2.0 ml, 12 x 5.0 ml, 8 x 8-tube PCR strips	Automatic rotor identification	Yes
	Swing-out	16 x 1.5/2.0 ml	Imbalance cut-off	Yes
Temp. range (°C)		-20 to +40	Safety lid lock	Yes
FAST cool button		Yes	Lid drop protection	Yes
Time control		Pulse, timed < 100 min or continuous	Chamber material	SUS304/Teflon-coated
Time counting modes		Selectable, at set speed or from starting	Power supply	230 V, 50 Hz (AC 220-230 V, 50/60 Hz; 110 V optional)
			Power requirement (kVA)	2.0
RPM/RCF conversion		Yes	Dimension (W x D x H, mm)	310 x 620 x 290
Noise level (dB)		~ 56	Weight without rotor (kg)	43
ACC/DEC (step or time)		9/10 steps (17/17 sec)	CE mark	Yes
Program memory		100	Cat. No.	GZ-1730R

## ► Features

- The refrigerated microcentrifuge, 1730R is a "must-have" item for molecular and cellular lab works with max. speed of 17,000 rpm (27,237 xg)
- Maximum capacity for 12 x 5 ml tubes or 30 x 1.5/2.0 ml tubes or 18 microfilter tubes or 64 PCR tubes
- Fast cooling function to 4°C in 5 minutes for fast start up of cooled samples
- The compressor-off function when lid is open minimizes unnecessary cooling and frosting.
- Teflon coated rust-free chamber
- Very quiet operation at less than 56 dB allows for comfortable laboratory environment.
- 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.
- Aerosol-tight, bio-seal Easy-Lock rotor with a set of O-rings

## ► Control Panel



# 1730R



## Fixed Angle Rotor, GRE-M-m2.0-24

24 x 1.5/2.0 ml  
 < 45°  
 Hole diameter (mm) : 11.1  
 Max. height for tube fit (mm) : 52

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 (ΦxL, mm)	6.5 x 23	8 x 31	-
Radius (mm)	67	73	84.3
Max.RPM	17,000		
Max.RCF (g-force)	21,648	23,910	27,237



## Fixed Angle Rotor, GRE-M-m2.0-30

30 x 1.5/2.0 ml  
 < 45°  
 Hole diameter (mm) : 11.1  
 Max. height for tube fit (mm) : 52

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 (ΦxL, mm)	6.5 x 23	8 x 31	-
Radius (mm)	79	86	96.4
Max.RPM	14,000		
Max.RCF (g-force)	17,311	18,845	21,124



## Fixed Angle Rotor, GRE-M-m2.0-18

18 x 1.5/2.0 ml  
 < 45°  
 Hole diameter (mm) : 11.1  
 Max. height for tube fit (mm) : 65

Tube				
Tube capacity (ml)	0.2	0.5	1.5/2.0	2 ml filter tube
Adaptor			None	None
Cat No.	GAS-m0.2(2)	GAS-m0.5(2)	-	-
Adaptor bore (ΦxL, mm)	6.5 x 23	8 x 31	-	-
Radius (mm)	57.8	63.8	75.1	64.2
Max.RPM	15,000			
Max.RCF (g-force)	14,540	16,049	18,891	16,150



## Fixed Angle Rotor, GRE-M-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-Strip tube
Radius (mm)	1st : 58.6 / 2nd : 67.1	
Max.RPM	12,500	
Max.RCF (g-force)	1st : 10,237 / 2nd : 11,722	



## Fixed Angle Rotor, GRE-M-m5.0-12

12 x 5.0 ml  
 < 45°  
 Hole diameter (mm) : 17  
 Max. height for tube fit (mm) : 68

Tube	
Tube capacity (ml)	5.0
Adaptor	None
Cat No.	-
Adaptor bore (ΦxL, mm)	-
Radius (mm)	91.3
Max.RPM	15,000
Max.RCF (g-force)	22,967



Bucket, GLB-m2.0(8)



Bucket, GLB-m2.0-4(16)



## Swing-out Rotor, GRD-M-m2.0-8

8 x 1.5/2.0 ml  
 < 90°  
 Hole diameter (mm) : 11.1  
 Max. height for tube fit (mm) : 48

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 (ΦxL, mm)	6.5 x 23	8 x 31	-
Radius (mm)	68.5	76.5	86.5
Max.RPM	13,000		
Max.RCF (g-force)	12,943	14,454	16,343

## Swing-out Rotor, GRD-M-m2.0-16

16 x 1.5/2.0 ml  
 < 90°  
 Hole diameter (mm) : 11.1  
 Max. height for tube fit (mm) : 43

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 (ΦxL, mm)	6.5 x 23	8 x 31	-
Radius (mm)	66	74	83
Max.RPM	13,000		
Max.RCF (g-force)	12,470	13,982	15,682

# Multi-Purpose, High-Speed Centrifuges



1580R

15,000 / 25,910 xg



1580

15,000 / 24,249 xg



1248R

12,000 / 16,582 xg



1248

12,000 / 15,520 xg



1236R

12,000 / 16,582 xg

\* All tubes showed in this catalog are not included in GYROZEN products.



# 1248 · 1248R · 1236R 1580 · 1580R



GYROZEN multi-purpose, high-speed centrifuges - 1248, 1248R, 1236R, 1580 and 1580R - share rotors (G-family), buckets and accessories so as to offer a cost-efficient solution and save laboratory space. 1248, 1248R and 1236R with max. 12,000 rpm can accommodate up to four of 250 ml capacity with a compact footprint and can be used for medium throughput applications. 1580 and 1580R multi-purpose centrifuges are designed for daily-working laboratories with large-volumes and quantities samples up to 3 Liters (4 x 750 ml). These two go up to 15,000 rpm and offer a great variety of rotors, buckets and tube adaptors for diverse applications. The 'R' models are equipped with a powerful refrigeration system that allows the temperature to cool down to 4 °C from room temperature within 5 minutes. Therefore, you can save your time and your precious samples at a proper temperature. 1248, 1248R, 1580 and 1580R are bench-top centrifuges whereas the 1236R is a floor standing. The space-saving, compact 1236R has 4 casters at the bottom of the body so that it can be easily moved, positioned and safely locked. Also, its perfect height allows you to easily load and unload samples. GYROZEN's multi-purpose centrifuges are ideal for cellular and molecular biology work, clinical preparations, nano-particles separations, industrial applications and food science, etc.



## ► Features

- 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 83 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.

# 1248 · 1248R · 1236R · 1580 · 1580R

## ► Technical Specifications

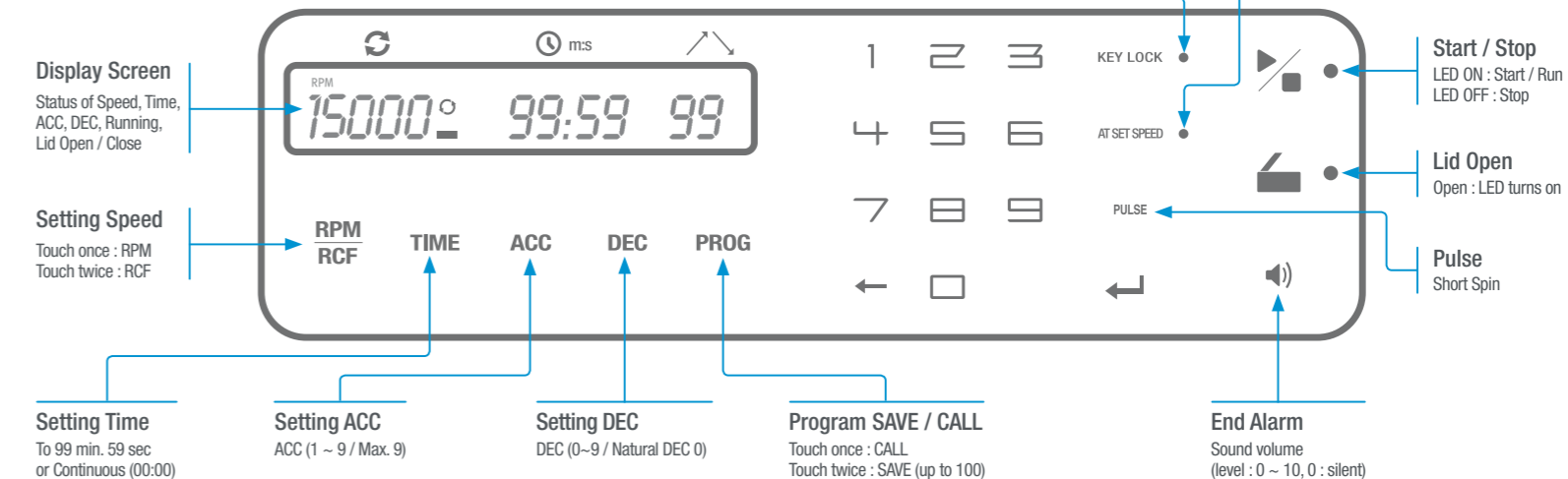
	1248	1248R	1236R	1580	1580R	
Max. RPM/RCF	Fixed angle	12,000 / 15,520 xg	12,000 / 16,582 xg	12,000 / 16,582 xg	15,000 / 24,249 xg	15,000 / 25,910 xg
	Swing-out	5,000 / 5,394 xg				
Max. capacity	Fixed angle	6 x 85 ml, 30 x 1.5/2.0 ml			6 x (250 & 15) ml, 30 x 1.5/2.0 ml	
	Swing-out	4 x 250 ml, 48 x 15 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	-	
Chamber material	Aluminum/Anodizing	SUS304	SUS304	Aluminum/Anodizing	SUS304	
Power supply	230 V, 50 Hz (AC 220-230 V, 50/60 Hz; 110 V 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 591 x 330	655 x 610 x 355	475 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					
Cat. No.	GZ-1248	GZ-1248R	GZ-1236R	GZ-1580	GZ-1580R	

## ► Applications

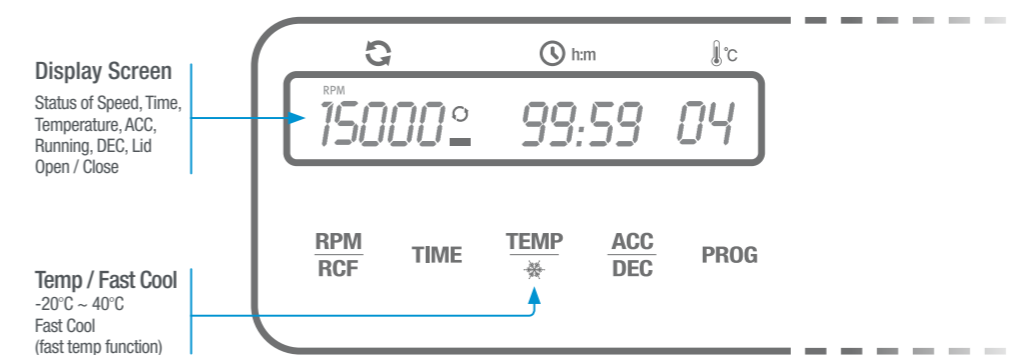
- Ideal for cellular and molecular biology work, clinical preparations, industrial applications, etc.

## ► Control Panel

1248 · 1580



1248R · 1236R · 1580R



1248 · 1248R · 1236R · 1580 · 1580R

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

4 loadings  
≤ 90°

Only for 1580, 1580R



### Swing-out Rotor, GRS-G-r750-4

4 loadings  
≤ 90°

Only for 1580, 1580R



\* GLB-b750-750 includes cap.



#### Round 750 ml Bucket with Cap GLB-b750-750/ GLB-750-750

Bucket bore (Φ x L, mm) : 99 x 101.5  
Radius (mm) : 205  
Max.RPM : 4,000  
Max.RCF (g-force) : 3,667  
Max. height for tube fit (mm) :  
130 (w/ cap) / 142 (w/o cap)

Tube											
Tube capacity (ml)	3	5	10	15	15 ml conical	50	50 ml conical	250	250 ml conical	500 ml conical	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	-



#### Rectangular 750 ml Bucket GLB-r750-750

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

Tube										
Tube capacity (ml)	3	5	10	15	15 ml conical	50	50 ml conical	250	250 ml conical	500 ml conical
Tube rack										
Cat. No.	GAM-5-30(r750)		GAM-15-20(r750)		GAM-c15-16(r750)	GAM-50-8(r750)	GAM-c50-5(r750)	GAS-250(r750)	GAS-c250(r750)	GAS-c500(r750)
Rack capacity (ea/4)	30/120		20/80		16/64	8/32	5/20	1/4	1/4	1/4
Hole dimension (ΦxL, mm)	13 x 56.5	13 x 85	17.2 x 85		17.5 x 85	29.5 x 85	29.5 x 85	62.5 x 87	61 x 93	98 x 94



#### Round 500 ml Bucket GLB-500-750

Bucket bore (Φ x L, mm) : 69.2 x 135  
Radius (mm) : 218  
Max.RPM : 4,000  
Max.RCF (g-force) : 3,900  
Max.height for tube fit (mm) : 165

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



#### Microplate Holder GLP-mw-750

Holder bore (w x d x h, mm) : 88 x 128.5 x 80  
Radius (mm) : 171.5  
Max.RPM : 4,000  
Max.RCF (g-force) : 3,068

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



#### Round 500 ml Bucket GLB-500-r750

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

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



#### Microplate Holder GLP-mw-r750

Holder bore (w x d x h, mm) : 88 x 128.5 x 80  
Radius (mm) : 171.5  
Max.RPM : 3,600  
Max.RCF (g-force) : 2,485

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

1248 · 1248R · 1236R · 1580 · 1580R

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

4 loadings  
∠ 90°



### Swing-out Rotor, GRS-G-r250-4

4 loadings  
∠ 90°



Round 250 ml Bucket  
**GLB-250-250**  
Bucket bore (Φ x L, mm) : 62 x 109  
Radius (mm) : 193  
Max.RPM : 5,000  
Max.RCF (g-force) : 5,394  
Max.height for tube fit (mm) : 153

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



Conical 250 ml Bucket  
**GLB-c250-250**  
Bucket bore (Φ x L, mm) : 60.5 x 130.2  
Radius (mm) : 193  
Max.RPM : 5,000  
Max.RCF (g-force) : 5,394  
Max.height for tube fit (mm) : 153

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



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 (g-force) : 3,134  
Max.height for tube fit (mm) : 130

Tube											
Tube capacity (ml)	1.5/2.0	3	5	10	15	15 ml conical	50	50 ml conical	15	85	250
Tube rack											
Cat. No.	GAM-m2.0-20 (r250)	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)	20/80	12/48		12/48		9/36	4/16	3/12	2/8		1/4
Hole dimension (ΦxL, mm)	11.3 x 39	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



60 ml Syringe Bucket  
**GLB-60-250**  
Bucket bore (Φ x L, mm) : 31.5 x 130.2  
Radius (mm) : 193  
Max.RPM : 5,000  
Max.RCF (g-force) : 5,394  
Max.height for tube fit (mm) : 165

Tube	
Tube capacity (ml)	60 ml syringe
Bucket capacity (ea/4)	1/4
Adaptor	
Cat No.	GAS-60s(60)
Adaptor bore (ΦxL, mm)	Custom-made



Dual Syringe Bucket  
**GLB-d20/10-250**  
Bucket bore (Φ x L, mm) :  
22.5 x 100 (20) / 16 x 90 (10)  
Radius (mm) : 170 / 160  
Max.RPM : 5,000  
Max.RCF(g-force) : 4,752 / 4,472  
Max.height for tube fit (mm) : 132 / 125

Tube		
Tube capacity (ml)	10 ml syringe	20 ml syringe
Bucket capacity (ea/4)	2/8	2/8
Adaptor		
Cat. No.	GAS-10s(10)	GAS-20s(20)
Adaptor bore (ΦxL, mm)	Custom-made	Custom-made



Microplate Holder  
**GLP-mw-r250**  
Holder Dimension (w x d x h, mm)  
: 88 x 128.5 x 80  
Radius (mm) : 153  
Max.RPM : 4,000  
Max.RCF(g-force) : 2,737

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

1248 · 1248R · 1236R · 1580 · 1580R

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

6 loadings  
≤ 90°



### Round 100 ml Bucket with Cap GLB-b100-100

Bucket bore (Φ x L, mm) : 47 x 99  
Radius (mm) : 173.6  
Max.RPM : 4,000  
Max.RCF (g-force) : 3,105  
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 ml	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 (ΦxL, mm)	11 x 39	13.5 x 60	16 x 60	17.5 x 105	17.2 x 106.5	17.2 x 106.5	29.5 x 95.9	30 x 100	38.5 x 96.4	44.2 x 93

\* GLB-b100-100 includes cap.  
\* (b100) adaptors work fine with cap but (100) adaptors not.



### Round 50 ml Bucket with Cap GLB-b50-100

Bucket bore (Φ x L, mm) : 30.5 x 97  
Radius (mm) : 169.5  
Max.RPM : 4,000  
Max.RCF (g-force) : 3,032  
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 (ΦxL, mm)	17.3 x 87	29.5 x 17.5	-	-



### Dual Round 15 ml Bucket with Cap GLB-bd15-100

Bucket bore (Φ x L, mm) : 17 x 98  
Radius (mm) : 169.5  
Max.RPM : 4,000  
Max.RCF (g-force) : 3,032  
Max.height for tube fit (mm)  
: 123(w/ cap) / 127(w/o cap)

Tube	
Tube capacity (ml)	15
Bucket capacity (ea/4)	2/12



### Dual Conical 15 ml Bucket with Cap GLB-bdc15-100

Bucket bore (ΦxL):17 x 102.5  
Radius (mm) : 173.6  
Max.RPM : 4,000  
Max.RCF (g-force) : 3,105  
Max.height for tube fit (mm) : 120

Tube	
Tube capacity (ml)	15 ml conical
Bucket capacity (ea/4)	2/12



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

Bucket bore (ΦxL,mm) : 16 x 89  
Radius (mm) : 173.6  
Max.RPM : 4,000  
Max.RCF (g-force) : 3,105  
Max.height for tube fit (mm) : 120

Tube			
Tube capacity (ml)	3	5	10
Bucket capacity (ea/6)	8/48	8/48	8/48
Adaptor			None
Cat No.	GAS-3(10)	GAS-5(10)	-
Adaptor bore (ΦxL, mm)	13 x 57	13 x 82	-
Radius (mm)	142.6	167.6	173.6
Max. RPM	4,000		
Max. RCF (g-force)	2,551	2,998	3,105



1248 · 1248R · 1236R · 1580 · 1580R



**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 (1580R)	8,000	
Max.RCF (g-force)	9,395	9,588



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

8 x 50 ml  
 ∠ 30°  
 Hole diameter (mm) : 29.5  
 Max. height for tube fit (mm) : 120

Not applicable for 1248











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



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

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




Not applicable for 1248

Tube						
Tube capacity (ml)	10	15	15 ml conical	50	50 ml conical	85
Adaptor						None
Cat. No.	GAS-15(85)		GAS-c15(85)	GAS-50(85)	GAS-c50(85)	-
Adaptor bore (ΦxL, 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)	16,424	16,582	16,260	16,743	16,421	17,709
Max.RPM (1248/1248R/1236R/1580)	10,000					
Max.RCF (g-force)	11,404	11,515	11,292	11,627	11,404	12,298



**Fixed Angle Rotor,  
GRF-G-c50-6**

6 x 50 ml conical  
 ∠ 25°  
 Hole diameter (mm) : 29.5  
 Max. height for tube fit (mm) : 125

Tube		
Tube capacity (ml)	15 ml conical	50 ml conical
Adaptor		None
Cat. No.	GAS-c15(c50)	-
Adaptor bore (ΦxL, mm)	17 x 105	-
Radius (mm)	93.6	98.4
Max.RPM (1580R)	13,000	
Max.RCF (g-force)	17,685	18,592
Max.RPM (1236R/1248R/1580)	10,000	
Max.RCF (g-force)	10,464	11,101

1248 · 1248R · 1236R · 1580 · 1580R



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

24 x 15 ml  
 ∠ 30°  
 Hole diameter (mm) : 17.5  
 Max. height for tube fit (mm) : 115

Only for R models

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

Not applicable for 1248



**Fixed Angle Rotor,  
GRF-G-c15-12**

12 x 15 ml conical  
 ∠ 25°  
 Hole diameter (mm) : 17  
 Max. height for tube fit (mm) : 125

Tube	
Tube capacity(ml)	15 ml conical
Radius(mm)	103
Max.RPM (1580R)	15,000
Max.RCF (g-force)	25,910
Max.RPM (1236R/1248R/1580)	12,000
Max.RCF (g-force)	16,582



**Angle Rotor,  
GRA-G-15-24A**

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

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 (ΦxL, 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-m2.0-30**

30 x 1.5/2.0 ml  
 ∠ 45°  
 Hole diameter (mm) : 11.1  
 Max. height for tube fit (mm) : 52

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 (ΦxL, mm)	6.5 x 23	8 x 31	-
Radius (mm)	79	86	96.4
Max.RPM (1580/1580R)	15,000		
Max.RCF (g-force)	19,872	21,633	24,249
Max.RPM (1248/1248R/1236R)	12,000		
Max.RCF (g-force)	12,718	13,835	15,520



**Fixed Angle 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-Strip tube
Radius(mm)	1st : 58.6 / 2nd : 67.1	
Max.RPM	12,000	
Max.RCF(g-force)	1st : 9,434 / 2nd : 10,803	

Aluminum 15 ml Sleeve **GLB-15A-FA**

Sleeve bore (Φ x L, mm) : 18 x 90  
 Radius (mm) : 175.2  
 Max. RPM : 4,000  
 Max.RCF(g-force) : 3,134

# Large Capacity, High-Speed Centrifuges



**1736R**  
17,000 / 32,310 xg



**2236R**  
22,000 / 54,111 xg



**1096R**  
10,000 / 14,981 xg

\* All tubes showed in this catalog are not included in GYROZEN products.



# 1736R



GYROZEN 1736R is a multi-purpose, large capacity and floor-standing centrifuge that can process samples at speeds up to 17,000 rpm (32,310 x g) and so enables efficient centrifugation in research and laboratory experiments. PCR tubes and micro tubes can be run at 12,000 rpm (10,803 x g) and 17,000 rpm (31,147 x g) respectively and up to six of 500 ml capacity can go to 8,000 rpm (11,305 x g). Even though the most common usage of this model comes with fixed angle rotors for high speed, the swing-out rotor with a capacity of four 250 ml extends the flexibility of this multi-purpose centrifuge. 1736R operates very quietly and fits well in a very crowded laboratory with its compact footprint.

## ► Applications

- Ideal for all kinds of basic and analytical experiments such as phenol extraction, NA preparation, cell harvest, precipitation, density gradient separation, etc

## ► Technical Specifications

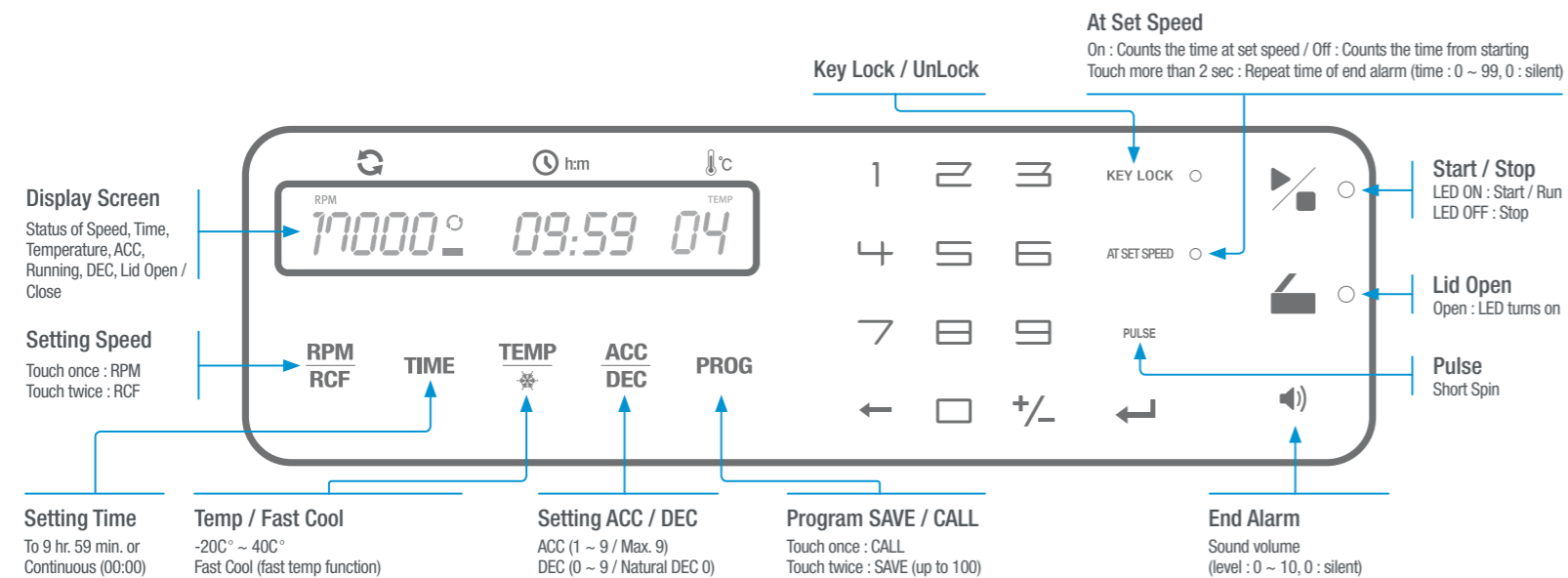
Max. RPM/RCF	Fixed angle	17,000 / 32,310 xg	Program memory	100
	Swing-out	4,000 / 3,134 xg	Display	Blue LCD
Max. capacity	Fixed angle	6 x 500 ml, 30 x 1.5/2.0 ml	Automatic rotor identification	Yes
	Swing-out	4 x 250 ml, 48 x 15 ml, 16 MTPs	Imbalance cut-off	Yes
Temp. range (°C)		-20 to +40	Safety lid lock	Yes
FAST cool button		Yes	Lid drop protection	Yes
Time control		Pulse, timed < 10 hr or continuous	Motorized lid open & close	Yes
Time counting modes		Selectable, at set speed or from starting	Chamber material	SUS304
RPM/RCF conversion		Yes	Power supply	230 V, 50 Hz (AC 220-230 V, 50/60 Hz; 110 V optional)
Noise level (dB)		~ 60	Power requirement (kVA)	2.5
ACC/DEC		9 / 10 steps	Dimension (W x D x H, mm)	473 x 610 x 830
Parameters on display window		RPM (RCF), Oper Status, Lid Open/Close, Hr:Min, Temp, ACC, DEC	Weight without rotor (kg)	110
			CE mark	Yes
			Cat. No.	GZ-1736R

## ► Features

- For up to 17,000 rpm (32,310 x g) with 6 x 50 ml tubes and 8,000 rpm (11,305 x g) with 6 x 500 ml tubes
- 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.
- A large assortment of rotors, buckets and adaptors support diverse applications doable with one instrument.
- Fast cooling function to 4°C in 5 minutes for fast startup of cooled samples
- The compressor-off function when lid is open minimizes unnecessary cooling and frosting.
- 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.

# 1736R

## Control Panel



**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 (g-force) : 3,134  
Max.height for tube fit (mm) : 130

Tube											
Tube capacity (ml)	1.5/2.0	3	5	10	15	15 ml conical	50	50 ml conical	15	85	250
Tube rack											
Cat. No.	GAM-m2.0-20 (r250)	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)	20/80	12/48		12/48	9/36	4/16	3/12	2/8		1/4	
Hole dimension (ΦxL, mm)	11.3 x 39	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**  
Holder (w x d x h, mm) : 88 x 128.5 x 80  
Radius (mm) : 153  
Max.RPM : 4,000  
Max.RCF (g-force) : 2,737

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



**Swing-out Rotor,**  
**GRS-L-r250-4**



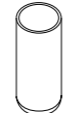
4 loadings  
∠ 90°

# 1736R



## Fixed Angle Rotor, GRF-L-500-6



6 x 500 ml  
 ∠ 25°  
 Hole diameter (mm) : 70  
 Max. height for tube fit (mm) : 170

Tube		
Tube capacity (ml)	250	500
Adaptor		None
Cat. No.	GAS-250(500)	-
Adaptor bore (ΦxL, mm)	69 x 100	-
Radius (mm)	138.3	158
Max.RPM	8,000	
Max.RCF (g-force)	9,896	11,305



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











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

Tube		
Tube capacity (ml)	15	250
Radius (mm)	131.3	134
Max.RPM	10,000	
Max.RCF (g-force)	14,679	14,981



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







6 x 85 ml  
 ∠ 25°  
 Hole diameter (mm) : 38.3  
 Max. height for tube fit (mm) : 125

Tube						
Tube capacity (ml)	10	15	15 ml conical	50	50 ml conical	85
Adaptor					None	
Cat. No.	GAS-15(85)	GAS-c15(85)	GAS-50(85)	GAS-c50(85)	-	
Adaptor bore (ΦxL, mm)	17 x 94	17 x 98	29 x 95	29.5 x 98	-	
Radius (mm)	91.5	92.5	90.5	93.5	91.5	99.5
Max.RPM	15,000					
Max.RCF (g-force)	23,017	23,268	22,765	23,520	23,017	25,029



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


8 x 50 ml  
 ∠ 30°  
 Hole diameter (mm) : 29.5  
 Max. height for tube fit (mm) : 120

Tube				
Tube capacity (ml)	10	15	15 ml conical	50
Adaptor				None
Cat. No.	GAS-15(50)		GAS-c15(50)	-
Adaptor bore (ΦxL, mm)	17 x 94		17 x 105	-
Radius (mm)	92.5	93.5	96	103
Max.RPM	15,000			
Max.RCF (g-force)	23,268	23,520	24,149	25,910



## Fixed Angle Rotor, GRF-L-50-6




6 x 50 ml  
 ∠ 30°  
 Hole diameter (mm) : 29.5  
 Max. height for tube fit (mm) : 120

Tube	
Tube capacity (ml)	50
Adaptor	None
Cat. No.	-
Adaptor bore (ΦxL, mm)	-
Radius (mm)	100
Max.RPM	17,000
Max.RCF (g-force)	32,310



## Fixed Angle Rotor, GRF-L-c50-6

6 x 50 ml conical  
 ∠ 25°  
 Hole diameter (mm) : 29.5  
 Max. height for tube fit (mm) : 125

Tube		
Tube capacity (ml)	15 ml conical	50 ml conical
Adaptor		None
Cat. No.	GAS-c15(c50)	-
Adaptor bore (ΦxL, mm)	17 x 105	-
Radius (mm)	93.6	98.4
Max.RPM	15,000	
Max.RCF (g-force)	23,545	24,753

# 1736R



## Fixed Angle Rotor, GRF-L-15-12

12 x 15 ml  
 ∠ 30°  
 Hole diameter (mm) : 17  
 Max. height for tube fit (mm) : 125

Tube		
Tube capacity (ml)	10	15
Radius (mm)	100	
Max.RPM	17,000	
Max.RCF (g-force)	32,310	



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

12 x 15 ml conical  
 ∠ 25°  
 Hole diameter (mm) : 17  
 Max. height for tube fit (mm) : 125

Tube	
Tube capacity(ml)	15 ml conical
Radius(mm)	103
Max.RPM	15,000
Max.RCF(g-force)	25,910



## Fixed Angle Rotor, GRF-L-m2.0-30

30 x 1.5/2.0 ml  
 ∠ 45°  
 Hole diameter (mm) : 11.1  
 Max. height for tube fit (mm) : 52

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 (ΦxL, mm)	6.5 x 23	8 x 31	-
Radius (mm)	79	86	96.4
Max.RPM	17,000		
Max.RCF (g-force)	25,525	27,787	31,147



## Fixed Angle Rotor, GRF-L-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)	1st : 58.6 / 2nd : 67.1	
Max. RPM	12,000	
Max. RCF (g-force)	1st : 9,434 / 2nd : 10,803	

# 2236R



GYROZEN 2236R centrifuge is designed for large capacity and high-speed daily working laboratories to save time with a streamlining process. This model goes up to 22,000 rpm (54,111 x g) with six of 50 ml tubes and 7,000 rpm (10,825 x g) with six of one-liter bottles. It covers down to PCR-tube and micro tubes and up to 1 L tubes. The beauty of this model is graphical display on a 7" touch screen with intuitive controls. All the setting conditions are shown in a numerical way and the actual operating status in a graphic. It also provides high flexibility in manipulations of sophisticated protocols such as multi-step centrifugation or step-wise continuous operation. 2236R is the best choice for the multi-users environment like a core facility with functions of ID and password control and tracking. It is widely used not only research laboratories but industrial production facilities too. With the lift-up lid and the small footprint of 2236R, you will love the freedom of space organization.

### ► Applications

- Ideal for a wide range of experiments from simple precipitation and separation to filtering, concentration, precipitations, density gradient separation, etc.
- Clinical, industrial, academic and scientific separation applications

# 2236R

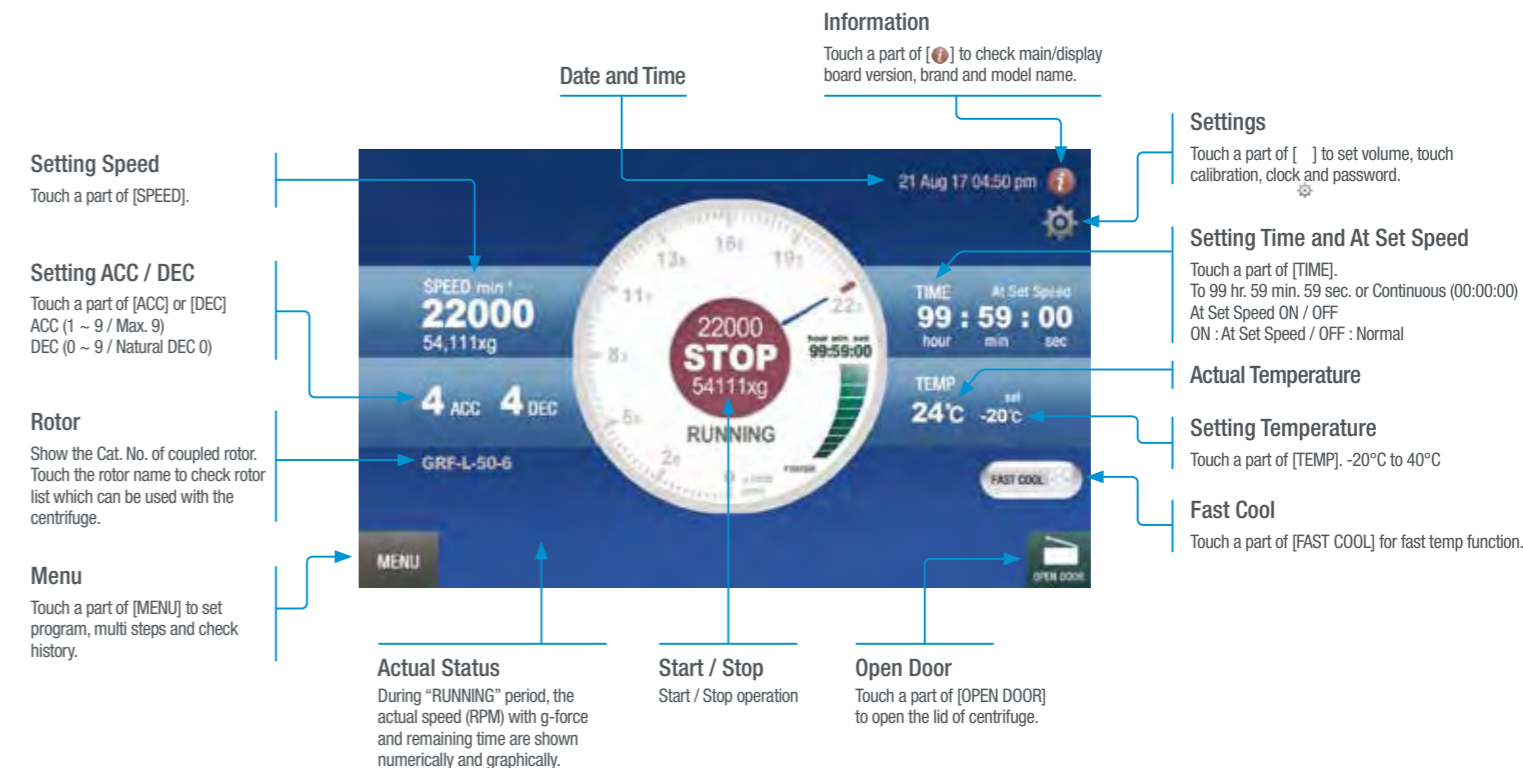
## ► Technical Specifications

Max. RPM/RCF	Fixed angle	22,000 / 54,111 xg	Parameters on display window	Simultaneous display of all parameters of set and actual figures
	Swing-out	4,000 / 3,134 xg	Automatic rotor identification	Yes
Max. capacity	Fixed angle	6 x 1,000 ml, 30 x 1.5/2.0 ml	Imbalance cut-off	Yes
	Swing-out	4 x 250 ml, 48 x 15 ml, 16 MTPs	Safety lid lock	Yes
Temp. range (°C)		-20 to +40	Lid drop protection	Yes
FAST cool button		Yes	Motorized lid open & close	Yes
Time control		Timed < 100 hr or continuous	Automatic lid release at completion	Yes
Time counting modes		Selectable, at set speed or from starting	Chamber material	SUS304
		Windows CE / 7" touch screen	Power supply	230 V, 50 Hz (AC 220-230 V, 50/60 Hz; 110 V optional)
OS / Control Display		Windows CE / 7" touch screen	Power requirement (kVA)	4.0
RPM/RCF conversion		Yes	Dimension (W x D x H, mm)	824 x 634 x 1,049
Noise level (dB)		~ 60	Weight without rotor (kg)	240
ACC/DEC		9/10 steps	CE mark	Yes
Program memory		100	Cat. No.	GZ-2236R

## ► Features

- For up to 22,000 rpm (54,111 xg) with 6 x 50 ml tubes and 7,000 rpm (10,825 xg) with 6 x 1 L bottles
- Instrument lock/unlock by password control and protocol management by user ID is ideal for core lab facility or multi-user environment
- A large assortment of rotors, buckets and adaptors support diverse applications doable with one instrument.
- Fast cooling function to 4°C in 5 minutes for fast startup of cooled samples
- The compressor-off function when lid is open minimizes unnecessary cooling and frosting.
- 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.
- Intuitive control interface with numeric input buttons and graphic pictograms for easy setting and editing of running conditions.
- Windows CE based 7" LCD Touch Screen with simultaneous display of all the parameters of set and actual values.
- Selectable time mode of "at set SPEED" for counting running time only when reached the set speed
- Up to 5 protocols per run can be combined for convenient operation of complicated experiments.
- The parameters of TIME, TEMP, ACC and DEC are allowed to be changed during operation.

## ► Control Panel



# 2236R

## Swing-out Rotor, GRS-L-r250-4

4 loadings  
 $\leq 90^\circ$



### 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 (g-force) : 3,134  
 Max.height for tube fit (mm) : 130

Tube											
Tube capacity (ml)	1.5/2.0	3	5	10	15	15 ml conical	50	50 ml conical	15	85	250
Tube rack											
Cat. No.	GAM-m2.0-20 (r250)	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)	20/80	12/48		12/48		9/36	4/16	3/12	2/8		1/4
Hole dimension (ΦxL, mm)	11.3 x 39	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

Holder (w x d x h, mm)  
 : 88 x 128.5 x 80  
 Radius (mm) : 153  
 Max.RPM:4,000  
 Max.RCF(g-force):2,737

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



## Fixed Angle Rotor, GRF-L-1000-6

6 x 1000 ml  
 $\leq 25^\circ$   
 Hole diameter (mm) : 98  
 Max. height for tube fit (mm) : 175

Tube			
Tube capacity (ml)	250	500	1000
Adaptor			None
Cat No.	GAS-250(1000)	GAS-500(1000)	-
Adaptor bore (ΦxL, mm)	62 x 109	69 x 149	-
Radius (mm)	164.1	183.4	197.6
Max.RPM	7,000		
Max.RCF (g-force)	8,990	10,047	10,825



## Fixed Angle Rotor, GRF-L-1000-4

4 x 1000 ml  
 $\leq 25^\circ$   
 Hole diameter (mm) : 98  
 Max. height for tube fit (mm) : 175


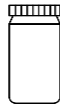
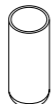
Tube			
Tube capacity (ml)	250	500	1000
Adaptor			None
Cat No.	GAS-250(1000)	GAS-500(1000)	-
Adaptor bore (ΦxL, mm)	62 x 109	69 x 149	-
Radius (mm)	135.2	154.5	168.7
Max.RPM	8,000		
Max.RCF (g-force)	9,674	11,055	12,071

# 2236R



## Fixed Angle Rotor, GRF-L-500-6



6 x 500 ml  
 ∠ 25°  
 Hole diameter (mm) : 70  
 Max. height for tube fit (mm) : 170

Tube		
Tube capacity (ml)	250	500
Adaptor		None
Cat. No.	GAS-250(500)	
Adaptor bore (ΦxL, mm)	69 x 100	
Radius (mm)	138.3	158
Max.RPM	10,000	
Max.RCF (g-force)	15,462	17,664



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











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

Tube		
Tube capacity (ml)	15	250
Radius (mm)	131.3	134
Max.RPM	13,000	
Max.RCF (g-force)	24,808	25,318



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







6 x 85 ml  
 ∠ 25°  
 Hole diameter (mm) : 38.3  
 Max. height for tube fit (mm) : 125

Tube						
Tube capacity (ml)	10	15	15ml conical	50	50ml conical	85
Adaptor						None
Cat. No.	GAS-15(85)		GAS-c15(85)	GAS-50(85)	GAS-c50(85)	-
Adaptor bore (ΦxL, mm)	17 x 94		17 x 98	29 x 95	29.5 x 98	-
Radius (mm)	91.5	92.5	90.5	93.5	91.5	99.5
Max.RPM	20,000					
Max.RCF (g-force)	40,919	41,366	40,472	41,813	40,919	44,496



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


8 x 50 ml  
 ∠ 30°  
 Hole diameter (mm) : 29.5  
 Max. height for tube fit (mm) : 120

Tube				
Tube capacity (ml)	10	15	15 ml conical	50
Adaptor				None
Cat. No.	GAS-15(50)		GAS-c15(50)	-
Adaptor bore (ΦxL, mm)	17 x 94		17 x 105	-
Radius (mm)	92.5	93.5	96	103
Max.RPM	20,000			
Max.RCF (g-force)	41,366	41,813	42,931	46,062



## Fixed Angle Rotor, GRF-L-50-6




6 x 50 ml  
 ∠ 30°  
 Hole diameter (mm) : 29.5  
 Max. height for tube fit (mm) : 120

Tube	
Tube capacity (ml)	50
Adaptor	None
Cat. No.	-
Adaptor bore (ΦxL, mm)	-
Radius (mm)	100
Max.RPM	22,000
Max.RCF (g-force)	54,111



## Fixed Angle Rotor, GRF-L-c50-6

6 x 50 ml conical  
 ∠ 25°  
 Hole diameter (mm) : 29.5  
 Max. height for tube fit (mm) : 125

Tube		
Tube capacity (ml)	15 ml conical	50 ml conical
Adaptor		None
Cat. No.	GAS-c15(c50)	-
Adaptor bore (ΦxL, mm)	17 x 105	-
Radius (mm)	93.6	98.4
Max.RPM	17,000	
Max.RCF (g-force)	30,242	31,793

## 2236R



### Fixed Angle Rotor, GRF-L-15-12

12 x 15 ml  
 ∠ 30°  
 Hole diameter (mm) : 17  
 Max. height for tube fit (mm) : 125

Tube		
Tube capacity (ml)	10	15
Radius (mm)	100	
Max.RPM	20,000	
Max.RCF (g-force)	44,720	



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

12 x 15 ml conical  
 ∠ 25°  
 Hole diameter (mm) : 17  
 Max. height for tube fit (mm) : 125

Tube	
Tube capacity(ml)	15 ml conical
Radius(mm)	103
Max.RPM	20,000
Max.RCF(g-force)	46,062



### Fixed Angle Rotor, GRF-L-m2.0-30

30 x 1.5/2.0 ml  
 ∠ 45°  
 Hole diameter (mm) : 11.1  
 Max. height for tube fit (mm) : 52

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 (ΦxL, mm)	6.5 x 23	8 x 31	-
Radius (mm)	79	86	96.4
Max.RPM	22,000		
Max.RCF (g-force)	42,748	46,536	52,163



### Fixed Angle Rotor, GRF-L-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)	1st : 58.6 / 2nd : 67.1	
Max.RPM	12,000	
Max.RCF (g-force)	1st : 9,434 / 2nd : 10,803	

# 1096R



GYROZEN 1096R is a large capacity centrifuge for large-volume daily-working processes such as high-throughput sample preparation. This model offers a performance of up to 10,000 rpm (14,981 x g) with six of 250 ml tubes and 5,000 rpm (5,324 x g) with 96-well filter plate set. The capacity of eight 400 ml blood bags or 144 vacutainer tubes per single run makes 1096R ideal for blood fractionation and collection in blood banks, clinics and commercial laboratories. The two-step deceleration profile supports the separated blood phases being kept as it is. In addition, this model can be operated in a variety of applications like oil analysis, milk fat measurement, impurity investigation, etc. with many different shapes of 100 ml glass tubes. A wide range of accessories of six swing-out rotors and two fixed-angle rotors make it possible for versatile and high-throughput operations. The cooling function can set the temperature in the range from -10 °C to + 40 °C. Same as other GYROZEN refrigerated centrifuges, 1096R has a powerful cooling system that reaches 4 °C within 5 minutes at room temperature through the "Fast Cool" function. With GYROZEN 1096R centrifuge, you can enjoy the high-quality performance to retain the valuable samples at desired temperature and conditions.

### ► Applications

- Ideal for diverse clinical, industrial, academic and scientific applications
- Specially designed buckets available for 100 ml glass tubes to analyze oil, milk fat toxic components, impurities, etc.
- Adaptors available for blood separation in 500 ml & 250 ml blood bags or variable sizes of blood collection tubes



# 1096R

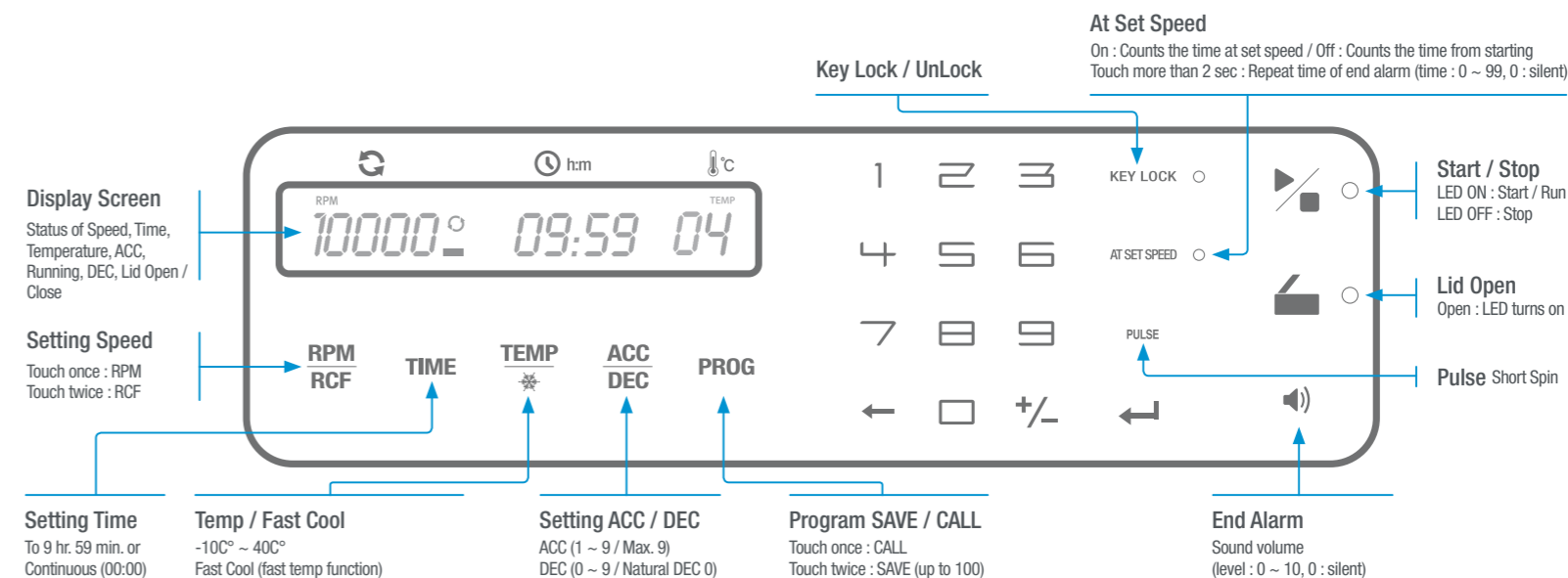
## ► Technical Specifications

Max. RPM/RCF	Fixed angle	10,000 / 14,981 xg	Parameters on display window	RPM (RCF), Oper Status, Lid Open /Close, Hr:Min, Temp, ACC, DEC
	Swing-out	5,000 / 5,324 xg	Display	Blue LCD
Max. capacity	Fixed angle	6 x 500 ml	Automatic rotor identification	Yes
	Swing-out	4 x 1,400 ml, 6 x 750 ml, 4 FTPs	Imbalance cut-off	Yes
Temp. range (°C)		-10 to +40	Safety lid lock	Yes
FAST cool button		Yes	Lid drop protection	Yes
Time control		Pulse, timed < 10 hr or continuous	Motorized lid open & close	Yes
Time counting modes		Selectable, at set speed or from starting	Chamber material	SUS304
			Power supply	230 V, 50 Hz (AC 220-230 V, 50/60 Hz; 110 V optional)
RPM/RCF conversion		Yes	Power requirement (kVA)	3.0
Noise level (dB)		~ 60	Dimension (W x D x H, mm)	643 x 762 x 850
ACC/DEC		9/10 steps	Weight without rotor (kg)	180
Program memory		100	CE mark	Yes
			Cat. No.	GZ-1096R

## ► Features

- For up to 10,000 rpm (14,981 xg) with 6 x 250 ml tubes and 5,000 rpm (5,324 xg) with filter plate set
- Temperature setting from -10°C to 40°C
- Fast cooling function to 4°C in 5 minutes for fast startup of cooled samples
- The compressor-off function when lid is open minimizes unnecessary cooling and frosting.
- 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.
- 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.
- A large assortment of rotors, buckets and adaptors support diverse applications doable with one instrument.
- Windshield rotor with lid available for large capacity swing-out centrifugation

## ► Control Panel



# 1096R

## Swing-out Rotor, GRS-L-1400-4W

4 loadings  
 < 90°



Oval Bucket  
**GLB-1400-1400**  
 Bucket bore (w x d x h, mm)  
 :134 x 115 x 135  
 Radius(mm) : 222.6  
 Max.RPM : 4,000  
 Max.RCF(g-force) : 3,982  
 Max.height for tube fit (mm) : 150

Tube							
Tube capacity (ml)	10	15	15 ml conical	50	50 ml conical	200	400
Tube Rack							
Cat. No.	GAM-10-38(1400)	GAM-15-24(1400)	GAM-c15-24(1400)	GAM-50-12(1400)	GAM-c50-9(1400)	GAM-200-3(1400)	GAM-400-2(1400)
Hole dimension (ΦxL, mm)	16 x 88	17 x 98	17.2 x 100	29 x 93	29.5 x 100	104 x 39 x 135	104 x 58 x 135
Rack capacity (ea/4)	38/152	24/96	24/96	12/48	9/36	1/4	2/8
Radius (mm)	197.6	197.6	197.6	180.6	187.6	222.6	222.6
Max.RPM	4,000						
Max.RCF (g-force)	3,535	3,535	3,535	3,231	3,356	3,982	3,982

## Swing-out Rotor, GRS-L-mw-4W

4 loadings  
 < 90°



Microplate Holder  
**GLP-mw-1400**  
 Holder bore (w x d x h, mm)  
 :86.1 x 128.1 x 57.1  
 Radius (mm) : 190.5  
 Max.RPM : 5,000  
 Max.RCF(g-force) : 5,324

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

## Swing-out Rotor, GRS-L-750-6

6 loadings  
 < 90°



Round 750 ml Bucket  
**GLB-750-750**  
 Bucket bore (Φ x L, mm) : 99 x 101.5  
 Radius (mm) : 222.6  
 Max.RPM : 4,000  
 Max.RCF(g-force) : 3,982  
 Max.height for tube fit (mm) : 142

Tube											
Tube capacity (ml)	3	5	10	15	15 ml conical	50	50 ml conical	250	250 ml conical	500 ml conical	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/6)	24/144		21/126	19/114	14/84	7/42	5/30	1/6	1/6	1/6	1/6
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	-



Round 500ml Bucket  
**GLB-500-750**  
 Bucket bore (Φ x L, mm) : 69.2 x 135  
 Radius (mm) : 237.5  
 Max.RPM : 4,000  
 Max.RCF(g-force) : 4,248  
 Max.height for tube fit (mm) : 165

Tube	
Tube capacity (ml)	500
Bucket capacity (ea/6)	1/6



Microplate Holder  
**GLP-mw-750**  
 Holder bore (w x d x h, mm)  
 : 88 x 128.5 x 80  
 Radius (mm) : 189.2  
 Max.RPM : 4,000  
 Max.RCF (g-force) : 3,384

Plate		
Plate capacity (ml)	MTP	DWP
Holder capacity (ea/6)	4/24	1/6

1096R

**Swing-out Rotor,  
GRS-L-750-4**

4 loadings  
≤ 90°



**Swing-out Rotor,  
GRS-L-r750-4**

4 loadings  
≤ 90°



**Round 750 ml Bucket with Cap  
GLB-b750-750/  
GLB-750-750**

Bucket bore (Φ x L, mm) : 99 x 101.5  
Radius (mm) : 205  
Max.RPM : 4,000  
Max.RCF (g-force) : 3,667  
Max.height for tube fit (mm)  
:130(w/cap) / 142(w/o cap)

\* GLB-b750-750 includes cap.

Tube											
Tube capacity (ml)	3	5	10	15	15 ml conical	50	50 ml conical	250	250 ml Conical	500 ml conical	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	-



**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 (g-force) : 2,898  
Max.height for tube fit (mm) : 135

Tube										
Tube capacity (ml)	3	5	10	15	15 ml conical	50	50 ml conical	250	250 ml conical	500 ml conical
Tube rack										
Cat. No.	GAM-5-30(r750)		GAM-15-20(r750)		GAM-c15-16(r750)	GAM-50-8(r750)	GAM-c50-5(r750)	GAS-250(r750)	GAS-c250(r750)	GAS-c500(r750)
Rack capacity (ea/4)	30/120		20/80		16/64	8/32	5/20	1/4	1/4	1/4
Hole dimension (ΦxL, mm)	13 x 56.5	13 x 85	17.2 x 85		17.5 x 85	29.5 x 85	29.5 x 85	62.5 x 87	61 x 93	98 x 94



**Round 500 ml Bucket  
GLB-500-750**

Bucket bore (Φ x L, mm) : 69.2 x 135  
Radius (mm) : 218  
Max.RPM : 4,000  
Max.RCF (g-force) : 3,900  
Max.height for tube fit (mm) : 165

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



**Microplate Holder  
GLP-mw-750**

Holder bore (w x d x h, mm) : 88 x 128.5 x 80  
Radius (mm) : 171.5  
Max.RPM : 4,000  
Max.RCF (g-force) : 3,068

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



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

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

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



**Microplate Holder  
GLP-mw-r750**

Holder bore (w x d x h, mm) : 88 x 128.5 x 80  
Radius (mm) : 171.5  
Max.RPM : 3,600  
Max.RCF (g-force) : 2,485

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

1096R

**Swing-out Rotor,  
GRS-L-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 (g-force) : 3,134  
Max.height for tube fit (mm) : 130

Tube											
Tube capacity (ml)	1.5/2.0	3	5	10	15	15 ml conical	50	50 ml conical	15	85	250
Tube rack											
Cat. No.	GAM-m2.0-20 (r250)	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)	20/80	12/48		12/48		9/36	4/16	3/12	2/8		1/4
Hole dimension (ΦxL, mm)	11.3 x 39	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**

Holder bore (w x d x h, mm)  
: 88 x 128.5 x 80  
Radius (mm) : 153  
Max.RPM : 4,000  
Max.RCF(g-force) : 2,737

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



**100 ml Bucket  
GLB-100(S)-r250**

Bucket bore (Φ x L, mm) : 44.6 x 143.3  
Radius (mm) : 232.3  
Max.RPM : 4,000  
Max.RCF(g-force) : 4,155  
Max height for tube fit(mm) : 190

Glass	
Glass capacity (ml)	100



**100 ml Bucket  
GLB-100(L)-r250**

Bucket bore (Φ x L, mm) : 35.5 x 180.6  
Radius (mm) : 243.6  
Max.RPM : 4,000  
Max.RCF(g-force) : 4,358  
Max height for tube fit(mm) : 207

Glass	
Glass capacity (ml)	100



**100 ml Bucket  
GLB-100(C)-r250**

Bucket bore (Φ x L, mm) : 61.5 x 145.3  
Radius (mm) : 234.3  
Max.RPM : 4,000  
Max.RCF(g-force) : 4,191  
Max height for tube fit(mm) : 190

Glass	
Glass capacity (ml)	100



**Fixed Angle Rotor,  
GRF-L-500-6**

6 x 500 ml  
≤ 25°  
Hole diameter (mm) : 70  
Max. height for tube fit (mm) : 170

Tube		
Tube capacity (ml)	250	500
Adaptor		None
Cat No.	GAS-250(500)	-
Adaptor bore (ΦxL, mm)	69 x 100	-
Radius (mm)	138.3	158
Max.RPM	8,000	
Max.RCF (g-force)	9,896	11,305



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

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

Tube		
Tube capacity (ml)	15	250
Radius (mm)	131.3	134
Max.RPM	10,000	
Max.RCF (g-force)	14,679	14,981

Centrifuges

Concentrators

Laboratory Shakers

# Low-Speed, Clinical Centrifuges



**406**  
4,000 / 2,075 xg



**416**  
4,000 / 2,826 xg



**624R**  
6,000 / 3,824 xg

\* All tubes showed in this catalog are not included in GYROZEN products.

# 406



The compact and robust low-speed model, 406 is well suited for routine work with small sample sizes less than 15 ml tubes. It has an open style of 15 ml angle rotor that can spin at max. 4,000 rpm (2,075 x g). The product is basically supplied together with an angle rotor and six 15 ml aluminum sleeves, which can be spun immediately upon receipt. Optional tube adaptors for 3 ml, 4 ml and 5 ml tubes are available for easy separation of the small tubes including vacutainers. It features maximized simplicity in operation and highest safety in everyday work. It is commonly used in bio-banks, clinical and commercial laboratories for the fractionation of blood samples and simple precipitation of clinical and biological samples.

## ► Features

- Commonly used in the fractionation of blood samples and simple precipitation of biological samples
- Automatic lid release and vivid end alarm for easy retrieval of samples
- Supplied with an angle rotor including 6 of aluminum sleeves for 15 ml tubes

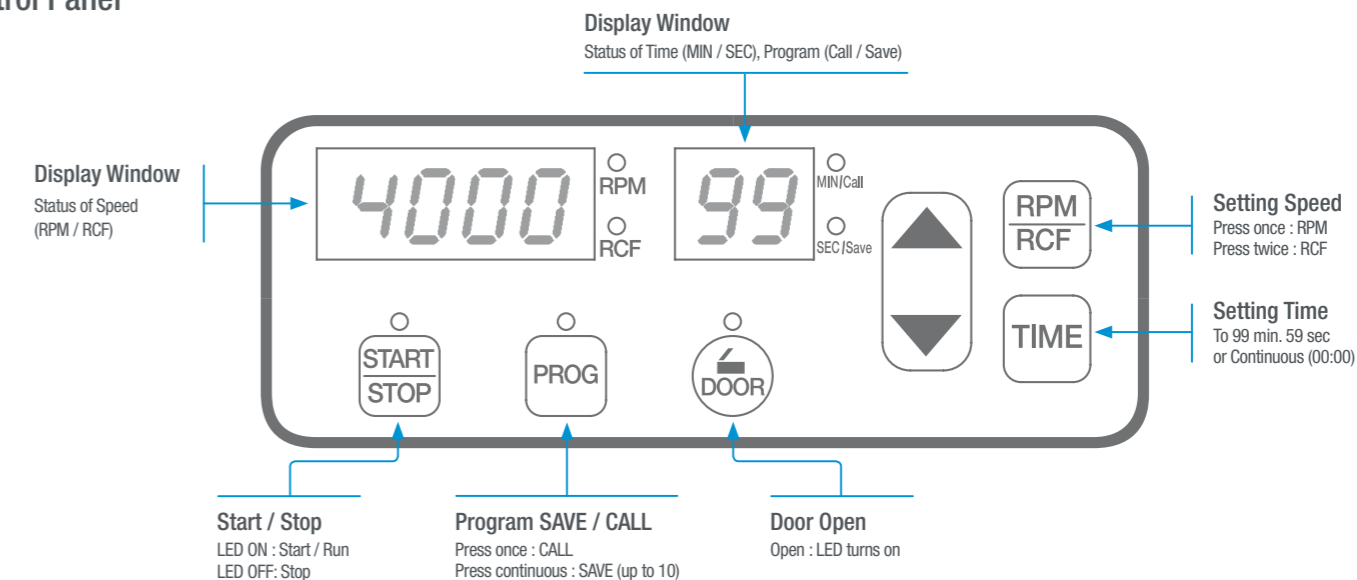
- CE MDD-certified version, MD406, is also available (if required)



## ► Technical Specifications

Max. RPM/RCF	4,000 / 2,075 xg	Safety lid lock	Yes
Max. capacity	6 x 15 ml	Lid drop protection	Yes
Time control	Timed < 100 min or continuous	Automatic lid release at completion	Yes
RPM/RCF conversion	Yes	Chamber material	Aluminum/Anodizing
Noise level (dB)	~ 56	Power supply	230 V, 50 Hz (AC 220-230 V, 50/60 Hz; 110 V optional)
ACC/DEC (sec)	≤ 20 / ≤ 20	Power requirement (VA)	140
Program memory	10	Dimension (W x D x H, mm)	296 x 412 x 206
Parameters on display window	RPM (RCF), Min (Sec)	Weight without rotor (kg)	17.5
Imbalance cut-off	Yes	CE mark	Yes
		Cat. No.	GZ-0406

## ► Control Panel



## ► Applications

- Routine separation of blood, urine or cells

406



Aluminum 15ml Sleeve **GLB-15A-FA**  
 Sleeve bore (ΦxL) :18 x 90  
 Radius (mm) :116  
 Max.RPM : 4,000  
 Max.RCF (g-force) : 2,075



**Angle Rotor, GRA-15-6A**

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

Tube						
Tube capacity (ml)	3	4	5	10	15	15 ml conical
Adaptor				None	None	None
Cat. No.	<b>GAS-3(15)</b>	<b>GAS-4(15)</b>	<b>GAS-5(15)</b>	-	-	-
Adaptor bore (ΦxL, mm)	13.5 x 61	13.5 x 65	13.5 x 85	-	-	-
Radius (mm)	95.5	98.5	111	115	116	112
Max.RPM	4,000					
Max.RCF (g-force)	1,703	1,762	1,986	2,057	2,075	2,003

416



GYROZEN 416 is a compact bench-top centrifuge with a maximum capacity of 400 ml at a time. It has five versatile rotors, so you can choose the desired rotor, buckets and adaptors according to your application. With GRS-S-100-4 rotor and universal 100 ml buckets and diverse adaptors, you can enjoy everyday laboratory work to its fullest. The immediate separation of 32 vacutainer samples or small tubes is also feasible with unique vacutainer buckets. An additional offering of microplate rotor extends the 416's application. It is furnished with unique air flow structure and anti-vibration structure. Its ergonomic design with intuitive control panel offers easiness in operation. The SOFT START/STOP function of 416 enables gentle acceleration and deceleration, which is effective for vibration-sensitive sample separation such as blood fractionation. GYROZEN 416 centrifuge guarantees the highest test standards that you need for your daily work with industry-leading safety and quality.

► **Features**

- Commonly used in the fractionation of blood samples and simple precipitation of biological samples
- A separate button for "Soft" start/stop function to achieve very gentle acceleration and deceleration
- Furnished with unique air flow design and anti-vibration structure to minimize heat and noise generation
- Lid drop protection design allows easiness and safety when loading or unloading samples.
- Automatic lid release and vivid end alarm for easy retrieval of sample
- A large assortment of rotors, buckets and adaptors for microtubes and all sizes of tubes up to 100 ml

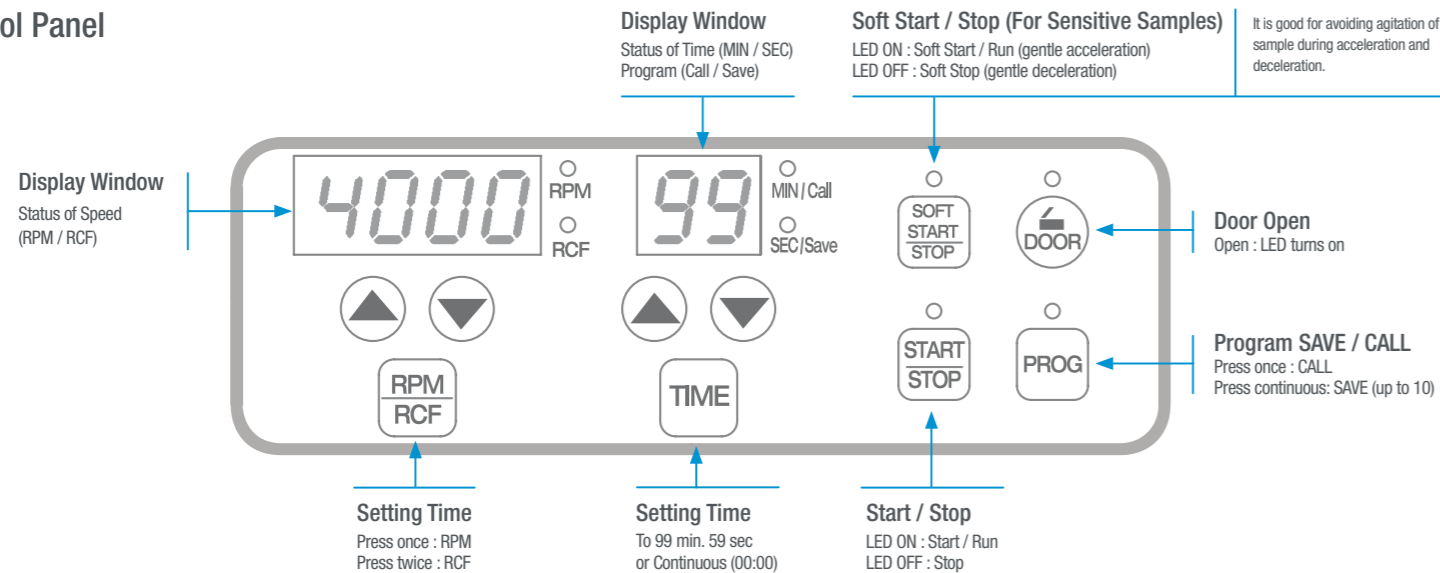
- CE MDD-certified version, MD416, is also available (if required)



► Technical Specifications

Max. RPM/RCF	Fixed angle	4,000 / 2,700 xg	Imbalance cut-off	Yes
	Swing-out	4,000 / 2,826 xg	Safety lid lock	Yes
Max. capacity	Fixed angle	16 x 15 ml	Lid drop protection	Yes
	Swing-out	4 x 100 ml, 32 vacutainer tube, 4 MTPs	Automatic lid release at completion	Yes
Time control	Timed < 100 min or continuous		Chamber material	Aluminum/Anodizing
RPM/RCF conversion	Yes		Power supply	230 V, 50 Hz (AC 220-230 V, 50/60 Hz; 110 V optional)
Noise level (dB)	~ 56		Power requirement (VA)	340
ACC/DEC (sec)	≤ 20 / ≤ 25		Dimension (W x D x H, mm)	375 x 480 x 260
SOFT start/stop	Yes		Weight without rotor (kg)	23
Program memory	10		CE mark	Yes
Parameters on display window	RPM (RCF), Min (Sec)		Cat. No.	GZ-0416

► Control Panel



► Applications

- General laboratory applications including sample separations of cellular materials, blood, urine, sperm, etc.
- Clinical applications including PRP, PRF and stem cell isolation
- Low-speed gentle centrifugation of microbead containing microplates
- Gentle and soft spin-down or washing of primary cells and cell lines

Swing-out Rotor,  
GRS-S-100-4

4 loadings  
≤ 90°



Round 100 ml Bucket with Cap  
**GLB-b100-100**  
Bucket bore (Φ x L, mm) : 47 x 99  
Radius (mm) : 155.1  
Max.RPM: 4,000  
Max.RCF(g-force) : 2,774  
Max.height for tube fit(mm) : 120(w/ cap) / 130(w/o cap)

\* GLB-b100-100 includes cap. \* (b100) adaptors work fine with cap but (100) adaptors not.

Tube										
Tube capacity (ml)	1.5~2.0	2.6~7	4~10	9~15	15 ml conical	15 ml conical	50 ml	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/4)	6/24	5/20	5/20	3/12	3/12	1/4	1/4	1/4	1/4	1/4
Hole dimension (Φ x L, mm)	11 x 39	13.5 x 60	16 x 60	17.5 x 105	17.2 x 106.5	17.2 x 106.5	29.5 x 95.9	30 x 100	38.5 x 96.4	44.2 x 93



Round 50 ml Bucket with Cap  
**GLB-b50-100**  
Bucket bore (Φ x L, mm) : 30.5 x 97  
Radius(mm) : 150.9  
Max.RPM : 4,000  
Max.RCF(g-force) : 2,700  
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 (Φ x L, mm)	17.3 x 87	29.5 x 17.5	-	



Dual Round 15 ml Bucket with Cap  
**GLB-bd15-100**  
Bucket bore (Φ x L, mm) : 17 x 98  
Radius(mm) : 150.9  
Max.RPM : 4,000  
Max.RCF(g-force) : 2,700  
Max.height for tube fit(mm) : 123(w/ cap) / 127(w/o cap)

Tube	
Tube capacity (ml)	15
Bucket capacity (ea/4)	2/8



Dual Conical 15 ml Bucket with Cap  
**GLB-bdc15-100**  
Bucket bore (Φ x L, mm) : 17 x 102.5  
Radius(mm) : 155.1  
Max.RPM: 4,000  
Max.RCF(g-force) : 2,774  
Max.height for tube fit(mm) : 120

Tube	
Tube capacity (ml)	15 ml conical
Bucket capacity (ea/4)	2/8



Vacutainer 10 ml Bucket  
**GLB-10-8-100**  
Bucket bore (Φ x L, mm) : 16 x 89  
Radius(mm) : 155.1  
Max.RPM : 4,000  
Max.RCF(g-force) : 2,774  
Max.height for tube fit(mm) : 120

Tube			
Tube capacity (ml)	3	5	10
Bucket capacity (ea/4)	8/32	8/32	8/32
Adaptor			None
Cat No.	GAS-3(10)	GAS-5(10)	-
Adaptor bore (Φ x L, mm)	13 x 57	13 x 82	-
Radius (mm)	121	146	115.1
Max. RPM	4,000		
Max. RCF (g-force)	2,164	2,612	2,774



**Swing-out Rotor,  
GRS-S-50-4**

4 loadings  
∠ 90°




**Angle Rotor,  
GRA-S-15-16A**

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










**Swing-Out Rotor,  
GRS-S-15-6**

6 loadings  
∠ 90°






**Round 50 ml Bucket  
GLB-50-50**  
Bucket bore (Φ x L, mm) : 30.5 x 91  
Radius(mm) : 150.9  
Max.RPM : 4,000  
Max.RCF(g-force) : 2,700  
Max.height for tube fit(mm) : 125

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





**Conical 50 ml Bucket  
GLB-c50-50**  
Bucket bore (Φ x L, mm) : 29.5 x 91.5  
Radius(mm) : 150.9  
Max.RPM : 4,000  
Max.RCF(g-force) : 2,700  
Max.height for tube fit(mm) : 125

Tube	
Tube capacity (ml)	50 ml conical













**Round 15 ml Bucket  
GLB-15-50**  
Bucket bore (Φ x L, mm) : 17 x 93  
Radius(mm) : 150.9  
Max.RPM : 4,000  
Max.RCF(g-force) : 2,700  
Max.height for tube fit(mm) : 125

Tube	
Tube capacity (ml)	15






**Aluminum 15ml Sleeve  
GLB-15A-FA**  
Sleeve bore (Φ x L, mm) : 18 x 90  
Radius (mm) : 151.5  
Max. RPM : 4,000  
Max.RCF (g-force) : 2,700

Tube						
Tube capacity (ml)	3	4	5	10	15	15ml 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)	134	136	146	150.5	150.9	147.5
Max. RPM	4,000					
Max. RCF (g-force)	2,397	2,433	2,612	2,692	2,700	2,638





**Round 15ml Bucket  
GLB-15-15**  
Bucket bore(ΦxL):17 x 93.8  
Radius(mm):158  
Max.RPM:4,000  
Max.RCF(g-force):2,826  
Max.height for tube fit(mm):125

Tube		
Tube capacity (ml)	10	15




**Conical 15 ml Bucket  
GLB-c15-50**  
Bucket bore (Φ x L, mm) : 17 x 93  
Radius(mm) : 150.9  
Max.RPM : 4,000  
Max.RCF(g-force) : 2,700  
Max.height for tube fit(mm) : 120

Tube	
Tube capacity(ml)	15 ml conical



**Dual Round 15 ml Bucket  
GLB-d15-50**  
Bucket bore (Φ x L, mm) : 17 x 91.5  
Radius(mm) : 150.9  
Max.RPM : 4,000  
Max.RCF(g-force) : 2,700  
Max.height for tube fit(mm) : 120

Tube	
Tube capacity (ml)	15
Bucket capacity (ea/4)	2/8





**Dual Conical 15 ml Bucket  
GLB-dc15-50**  
Bucket bore (Φ x L, mm) : 17 x 91.5  
Radius(mm) : 150.9  
Max.RPM : 4,000  
Max.RCF(g-force) : 2,700  
Max.height for tube fit(mm) : 120

Tube	
Tube capacity (ml)	15 ml conical
Bucket capacity (ea/4)	2/8

**Swing-Out Rotor,  
GRS-S-mw-2**

2 loadings  
∠ 90°  
Area dimension (mm) : 88.5 x 130.3  
Max. height for microplate fit (mm) : 35



Plate		
Plate capacity (ml)	MTP	DWP
Holder capacity (ea/2)	1/2	
Radius (mm)	111	
Max. RPM	4,000	
Max. RCF (g-force)	1,986	

# 624R



GYROZEN 624R is a compact bench-top refrigerated centrifuge with versatility, convenience, stability and sophisticated design and leads to reliable experimental results. It can spin samples up to a capacity of four 100 ml at 4,200 rpm (3,059 x g) and six 50 ml conical at max. 6,000 rpm (3,960 x g). This model provides three kinds of fixed-angle rotors for micro tubes, 15 ml and 50 ml tubes as well as four swing-out rotors. The comprehensive range of rotors and accessories makes it possible for efficient and versatile performances. The sleek, ergonomic design, vivid display and intuitive control will create a new laboratory environment that is never seen anywhere else. You can choose the color of the control panel between onyx black or clean white. GYROZEN 624R is used in general laboratories and clinical applications including sample separations of cellular materials and blood, and ideal for appropriate experiments for temperature-sensitive samples.

## ► Applications

- Ideal for cellular and molecular biology work, clinical preparations, industrial applications, etc.
- General laboratory applications including sample separations of cellular materials, blood, urine, sperm, etc.
- Clinical applications including PRP, PRF and stem cell isolation

## ► Technical Specifications

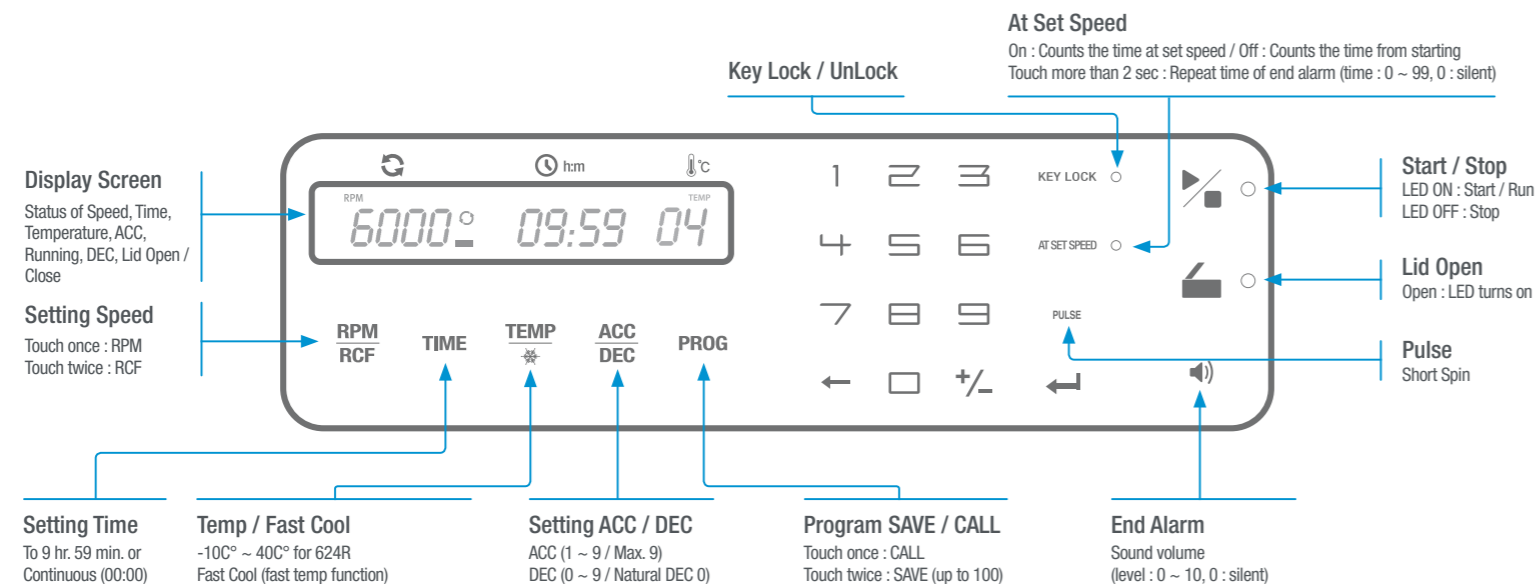
Max. RPM/RCF	Fixed angle	6,000 / 3,960 xg	Parameters on display window	RPM (RCF), Oper Status, Lid Open/Close, Hr:Min, Temp, ACC, DEC
	Swing-out	4,800 / 3,888 xg		
Max. capacity	Fixed angle	6 x 50 ml, 24 x 15 ml	Display	White LCD
	Swing-out	4 x 100 ml, 32 vacutainer tube, 4 MTPs	Automatic rotor identification	Yes
Temp. range (°C)		-10 to +40	Imbalance cut-off	Yes
FAST cool button		Yes	Safety lid lock	Yes
Time control		Pulse,	Lid drop protection	Yes
		timed < 10 hr or continuous	Motorized lid open & close	Yes
Time counting modes		Selectable,	Power supply	230 V, 50 Hz (AC 220-230 V, 50/60 Hz; 110 V optional)
		at set speed or from starting	Power requirement (VA)	900
RPM/RCF conversion		Yes	Dimension (W x D x H, mm)	584 x 535 x 317
Noise level (dB)		~ 60	Weight without rotor (kg)	65
ACC/DEC		9/10 steps	CE mark	Yes
Program memory		100	Cat. No.	GZ-0624R-W (White display), GZ-0624R-B (Black display)

## ► Features

- For up to 6,000 rpm (3,960 xg) with 6 x 50 ml conical tubes and 4,800 rpm (3,888 xg) with 4 x 100 ml tubes
- Commonly used in the fractionation of blood samples and simple precipitation of biological samples
- Fast cooling function to 4°C in 5 minutes for fast startup of cooled samples
- The compressor-off function when lid is open minimizes unnecessary cooling and frosting
- Intuitive control interface with numeric input buttons allows easy setting and editing of running conditions.
- The control panel design can be selected according to user's preference. (The black or white control panel is optionally available.)
- 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.
- A large assortment of rotors, buckets and adaptors for microtubes and all sizes of tubes up to 100 ml

# 624R

## ► Control Panel



## Swing-out Rotor, GRS-SR-50-4

4 loadings  
∠ 90°



**Round 50 ml Bucket GLB-50-50**  
Bucket bore(Φ x L, mm) : 30.5 x 91  
Radius(mm) : 150.9  
Max.RPM : 4,800  
Max.RCF(g-force) : 3,888  
Max.height for tube fit(mm) : 125

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



**Conical 50 ml Bucket GLB-c50-50**  
Bucket bore(Φ x L, mm) : 29.5 x 91.5  
Radius(mm) : 150.9  
Max.RPM : 4,800  
Max.RCF(g-force) : 3,888  
Max.height for tube fit(mm) : 125

Tube	
Tube capacity (ml)	50 ml conical



**Round 15 ml Bucket GLB-15-50**  
Bucket bore(Φ x L, mm) : 17 x 93  
Radius(mm) : 150.9  
Max.RPM : 4,800  
Max.RCF(g-force) : 3,888  
Max.height for tube fit(mm) : 125

Tube	
Tube capacity (ml)	15



**Conical 15 ml Bucket GLB-c15-50**  
Bucket bore(Φ x L, mm) : 17 x 93  
Radius(mm) : 150.9  
Max.RPM : 4,800  
Max.RCF(g-force) : 3,888  
Max.height for tube fit(mm) : 120

Tube	
Tube capacity (ml)	15 ml conical



**Dual Round 15 ml Bucket GLB-d15-50**  
Bucket bore(Φ x L, mm) : 17 x 91.5  
Radius(mm) : 150.9  
Max.RPM : 4,800  
Max.RCF(g-force) : 3,888  
Max.height for tube fit(mm) : 120

Tube	
Tube capacity (ml)	15
Bucket capacity (ea/4)	2/8



**Dual Conical 15 ml Bucket GLB-dc15-50**  
Bucket bore(Φ x L, mm) : 17 x 91.5  
Radius(mm) : 150.9  
Max.RPM : 4,800  
Max.RCF(g-force) : 3,888  
Max.height for tube fit(mm) : 120

Tube	
Tube capacity (ml)	15 ml conical
Bucket capacity (ea/4)	2/8

624R

Swing-out Rotor,  
GRS-SR-100-4

4 loadings  
∠ 90°



Round 50 ml Bucket with Cap  
**GLB-b50-100**  
Bucket bore (Φ x L, mm) : 30.5 x 97  
Radius(mm) : 150.9  
Max.RPM : 4,200  
Max.RCF(g-force) : 2,976  
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.	<b>GAS-u15(50)</b>	<b>GAS-c50(50)</b>	-	
Adaptor bore (Φ x L, mm)	17.3 x 87	29.5 x 17.5	-	



Dual Round 15 ml Bucket with Cap  
**GLB-bd15-100**  
Bucket bore(Φ x L, mm) : 17 x 98  
Radius(mm) : 150.9  
Max.RPM : 4,200  
Max.RCF(g-force) : 2,976  
Max.height for tube fit(mm) : 123(w/ cap) / 127(w/o cap)

Tube	
Tube capacity (ml)	15
Bucket capacity (ea/4)	2/8



Dual Conical 15 ml Bucket with Cap  
**GLB-bdc15-100**  
Bucket bore(Φ x L, mm) : 17 x 102.5  
Radius(mm) : 155.1  
Max.RPM : 4,200  
Max.RCF(g-force) : 3,059  
Max.height for tube fit(mm) : 120

Tube	
Tube capacity (ml)	15 ml conical
Bucket capacity (ea/4)	2/8

\* GLB-b100-100 includes cap. \* (b100) adaptors work fine with cap but (100) adaptors not.



Round 100 ml Bucket with Cap  
**GLB-b100-100**  
Bucket bore (Φ x L, mm) : 47 x 99  
Radius (mm) : 155.1  
Max.RPM : 4,200  
Max.RCF(g-force) : 3,059  
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 ml	50 ml conical	85	100
Tube rack										
Cat. No.	<b>GAM-m2.0-6 (b100)</b>	<b>GAM-7-5 (b100)</b>	<b>GAM-10-5 (b100)</b>	<b>GAM-15-3 (100)</b>	<b>GAM-c15-3 (100)</b>	<b>GAS-c15 (b100)</b>	<b>GAS-50 (b100)</b>	<b>GAS-c50 (b100)</b>	<b>GAS-85 (b100)</b>	<b>GAS-100 (b100)</b>
Rack capacity (ea/4)	6/24	5/20	5/20	3/12	3/12	1/4	1/4	1/4	1/4	1/4
Hole dimension (Φ x L, mm)	11 x 39	13.5 x 60	16 x 60	17.5 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



Vacutainer 10 ml Bucket  
**GLB-10-8-100**  
Bucket bore(Φ x L, mm) : 16 x 89  
Radius(mm) : 155.1  
Max.RPM : 4,200  
Max.RCF(g-force) : 3,059  
Max.height for tube fit(mm) : 120

Tube			
Tube capacity (ml)	3	5	10
Bucket capacity (ea/4)	8/32	8/32	8/32
Adaptor			None
Cat No.	<b>GAS-3(10)</b>	<b>GAS-5(10)</b>	-
Adaptor bore (Φ x L, mm)	13 x 57	13 x 82	-
Radius (mm)	121	146	155.1
Max. RPM	4,200		
Max. RCF (g-force)	2,386	2,879	3,059



Dual Conical 50 ml Bucket  
**GLB-dc50-100**  
Bucket bore(Φ x L, mm) : 30 x 89  
Radius(mm) : 155.1  
Max.RPM : 4,200  
Max.RCF(g-force) : 3,059  
Max. height for tube fit(mm) : 125

Tube	
Tube capacity (ml)	50ml conical
Bucket capacity (ea/4)	2/8

624R

**Swing-Out Rotor,  
GRS-SR-15-6**

6 loadings  
∠ 90°



Round 15ml Bucket  
**GLB-15-15**  
Bucket bore(Φ x L, mm) : 17 x 93.8  
Radius(mm):158  
Max.RPM:4,400  
Max.RCF(g-force) : 3,420  
Max.height for tube fit(mm) : 125

Tube		
Tube capacity (ml)	10	15

**Swing-Out Rotor,  
GRS-SR-mw-2**

2 loadings  
∠ 90°  
Area dimension (mm) : 88.5 x 130.3  
Max. height for microplate fit (mm) : 35



Plate		
Plate capacity (ml)	MTP	DWP
Holder capacity (ea/2)	1/2	
Radius (mm)	111	
Max. RPM	4,000	
Max. RCF (g-force)	1,986	



**Fixed Angle Rotor,  
GRF-SR-50-6**

6 x 50 ml  
∠ 25°  
Hole diameter (mm) : 29.5  
Max. height for tube fit (mm) : 120

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)	87.9	88.9	91	95
Max.RPM	6,000			
Max.RCF (g-force)	3,538	3,578	3,663	3,824



**Fixed Angle Rotor,  
GRF-SR-c50-6**

6 x 50 ml conical  
∠ 25°  
Hole diameter (mm) : 29.5  
Max. height for tube fit (mm) : 125

Tube		
Tube capacity (ml)	15 ml conical	50 ml conical
Adaptor		None
Cat No.	GAS-c15(c50)	-
Adaptor bore (Φ x L, mm)	17 x 105	-
Radius (mm)	93.6	98.4
Max.RPM	6,000	
Max.RCF (g-force)	3,767	3,960



**Angle Rotor,  
GRA-SR-15-24**

24 x 15 ml  
 <math>\leq 45^\circ</math>  
 Hole diameter (mm) : 18  
 Max. height for tube fit (mm) : 125  
 (120 for conical tube)

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 (ΦxL, mm)	13.5 x 61	13.5 x 65	13.5 x 85	-	-	-
Radius (mm)	116.3/132.3	117.7/133.7	136.8/152.8	137.5/154.5	138/155	133/149
Max.RPM	4,000					
Max.RCF (g-force)	2,080/2,367	2,105/2,463	2,447/2,733	2,460/2,764	2,469/2,773	2,379/2,665



Aluminum 15 ml Sleeve **GLB-15A-FA**  
 Sleeve bore (Φ x L, mm) : 18 x 90  
 Radius(mm) : 138/155  
 Max. RPM : 4,000  
 Max.RCF(g-force) : 2,469/2,773



**Fixed Angle Rotor,  
GRF-SR-m2.0-24**

24 x 1.5/2.0 ml  
 <math>\leq 45^\circ</math>  
 Hole diameter (mm) : 11.1  
 Max. height for tube fit (mm) : 52

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 (ΦxL, mm)	6.5 x 23	8 x 31	-
Radius (mm)	67	73	84.3
Max.RPM	6,000		
Max.RCF (g-force)	2,697	2,938	3,393

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