

# 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

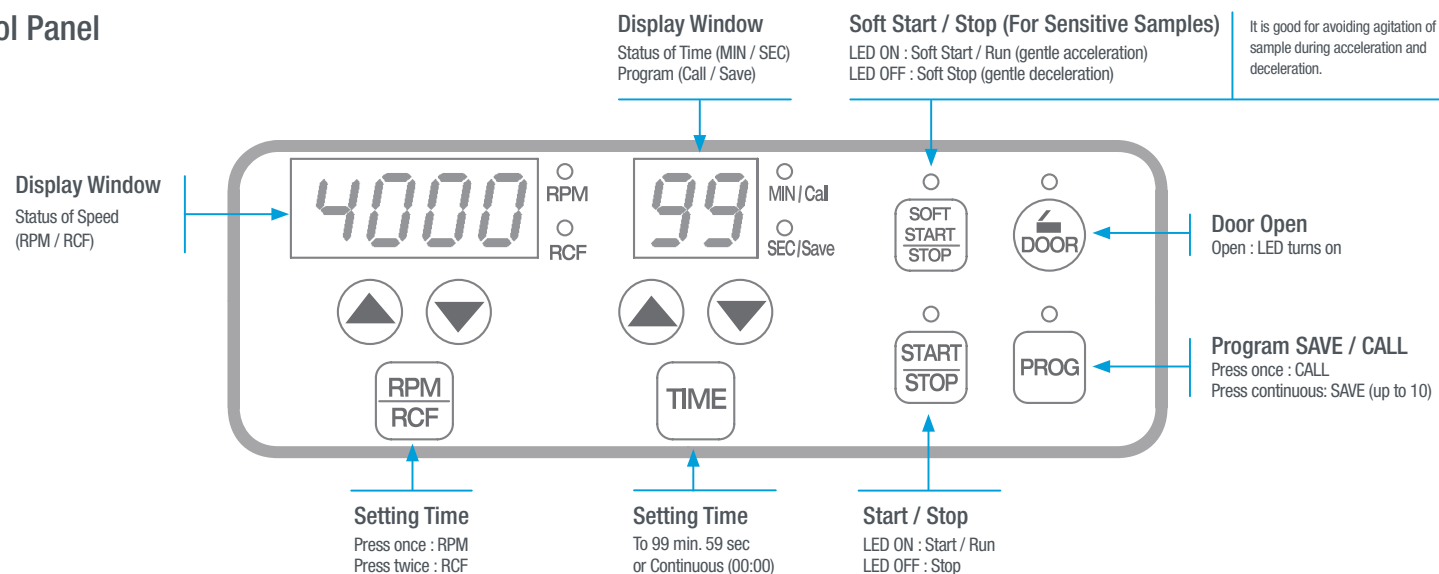
- CE MDD-certified version, MD416, is also available (if required)



## ► 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  
 $\leq 90^\circ$



Round 50 ml Bucket  
**GLB-50-50**

Bucket bore ( $\Phi \times L$ , 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
Adaptor			None
Cat. No.	GAS-u15(50)	GAS-c50(50)	-
Adaptor bore ( $\Phi \times L$ , mm)	17.3 x 87	29.5 x 17.5	-



Conical 50 ml Bucket  
**GLB-c50-50**

Bucket bore ( $\Phi \times L$ , 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 ( $\Phi \times L$ , 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



Conical 15 ml Bucket  
**GLB-c15-50**

Bucket bore ( $\Phi \times L$ , 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 ( $\Phi \times L$ , 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 ( $\Phi \times L$ , 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

### 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°



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(Φ x L):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

### 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	