

❄️ Refrigerated

# 2236R High Speed Refrigerated Centrifuge for up to 54,000 g

Ideal for high volume (6 x 1,000 ml) centrifugation at high-speed



- 22,000 RPM
- 54,111 x g RCF
- WinCE
- 7" LCD Touch
- 3 door
- Compressor Cooling
- Imbalance
- 100 Programs
- Rotor ID Auto
- 10 ACC  
10 DEC
- Radius Correction



- Floor type, high capacity centrifuge with 7" LCD touch screen
- Max. 22,000 rpm/ 54,111 g, Time setting to 99 hr, 59 min 59 sec or continuous, Temp setting to -20°C
- Useful for a wide range of tubes from microtubes to 1,000 ml bottles
- Easy Editing and programming with user friendly Window based operation and 7" LCD display
- Incremental and decrement setting of speed, time and temperature
- Run-time control at set rpm or simple count-down
- 10 acceleration and 10 deceleration ramps
- Easy calculation of rpm and rcf on the same screen
- "Hold" or changing of time and temperature possible while running
- Program memory for up to 100
- USB connection available for PC control
- Automatic rotor identification when spinning starts to avoid unacceptable operation
- Automatic recognition and alarms for imbalance, over-speed and over-heat
- Three layered safe door with auto-lock function and automatic door release
- Compressor-off when the door is open to minimize frosting and rust
- Environment friendly R404a refrigerant
- Mounted on four-wheel canister for easy movement and lock-up
- Diverse fixed angle rotors, swing rotors and buckets, and adaptors for many kinds of tubes

Technical Specifications

Max. capacity	Fixed Angle Rotor	Swing Rotor
	30 x 1,5/2,0 ml	
	8 x 15 ml	4 x 12 x 15 ml
	8 x 50 ml	4 x 4 x 50 ml
	6 x 85 ml	4 x 2 x 85 ml
	6 x 250 ml	4 x 250 ml
	6 x 500 ml 6 x 1,000 ml	4 x 4 x MTP
Max. RPM/RCF	22,000/54,111	4,000/3,134
Temp. range	-20°C to 40°C	
Time control	timed < 100 hr, or continuous	
RCF/RPM conversion	Yes	
Noise level (dependent on rotor)	≤60 dB	
OS	Windows CE	

Acceleration ramp	9
Deceleration ramp	10
Display	7" LCD
Rotor Identification	Automatic
Imbalance cutout	Yes
Safety lid lock	Yes
Lid drop protection	Yes
Power supply	220V/50~60Hz (110V optional)
Power requirement	4,0 KVA
Dimension (W x D x H)	824 x 634 x 1,049 mm
Weight without rotor	240 kg
Cat. No.	7,700,100,101

Advanced Features in the Control and Display Interface of 2236R

Logo and Model Name

Operation Status Icon

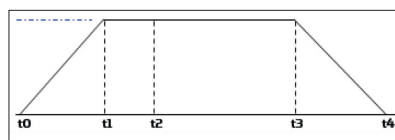
Date and Time

MENU for History tracking, Program Editing, Radius Correction, Information Call, and etc

Hold button for temporary stop or change of time and temp

User Friendly Touch Screen and Easy Programming

The WinCE based program and display help operators to edit and confirm the centrifuge conditions very easily. All features of both set and actual value of rpm, rcf, running time, temperature, acceleration/deceleration ramp are presented on the same screen.



- Normal Time Counting : From t0 to t3
- Section Time Counting : From t1 to t3

Accurate Time Counting

The Normal function of time setting is for simple count-down of set time while the Section function is for setting the exact time count at set rpm. It helps operators to deal more accurate with delicate experiments.

Combination of 10 Different Running Conditions in a Single Run up

The Shift programming function helps operators to manage complicated experiments in a single run by combining different conditions of speed, temperature, and time.

User ID and Protocol Tracking Function

Valuable for laboratory security and instrument management

Easy to Change Display Options

The color of display screen, the keyboard sound volume, the calibration of touch position, and the selection of input methods can be changed to operator's preference.

Rotors & Accessories



Swing rotor, **7,700,100,201**  
 4 loadings  
 Angle : 90°  
 Area dimension (mm) : 86 x 70.3  
 Max height for tube fit (mm) : 125



Rectangular bucket,  
**7,800,500,022**  
 Bucket bore(wxdxh)mm : 86 x 70.3 x 125



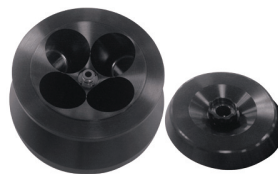
Microplate holder,  
**7,800,500,015**  
 Bucket bore(wxdxh)mm : 88 x 128.5 x 80

Tube												
Tube capacity(ml)	5	3	15	10	15 ml conical	50	50 ml conical	250	85	15	MTP	DWP
Tube rack											None	None
Cat. No.	7,603,111,110		7,603,111,140		7,603,111,170	7,603,111,200	7,603,111,230	7,603,111,260	7,604,111,852		-	-
Rack Φ x L(mm)	13.5 x 80	13.5 x 58	17.5 x 90		17.5 x 90	30.2 x 90	30.5 x 90	62.5 x 90	38.5 x 90	17 x 90	-	-
Rack capacity(ea/4)	12/48	12/48	12/48		9/36	4/16	3/12	1/4	2/8		4/16	1/4
Max.rpm	4,000											
Max.rcf(g-force)											2,737	
Radius(mm)											153	



Fixed angle rotor,  
**7,700,100,225**  
 6 x 1,000 ml  
 Angle : 25°  
 Hole diameter (Φ, mm) : 97  
 Max height for tube fit (mm) : 175

Tube	
Tube capacity(ml)	1,000
Max. RPM	7,000
Max. RCF(g-force)	10,825
Radius(mm)	197.6



Fixed angle rotor,  
**7,700,100,325**  
 4 x 1,000 ml  
 Angle : 25°  
 Hole diameter (Φ, mm) : 97  
 Max height for tube fit (mm) : 175

Tube	
Tube capacity(ml)	1,000
Max. RPM	8,000
Max. RCF(g-force)	12,071
Radius(mm)	168.7



Fixed angle rotor,  
**7,700,100,210**  
 6 x 500 ml  
 Angle : 25°  
 Hole diameter (Φ, mm) : 70  
 Max height for tube fit (mm) : 170

Tube	
Tube capacity(ml)	500
Max. RPM	9,000
Max. RCF(g-force)	14,308
Radius(mm)	158



Fixed angle rotor,  
**7,700,100,209**  
 6 x 250 ml  
 Angle : 25°  
 Hole diameter (Φ, mm) : 62  
 Max height for tube fit (mm) : 134

Tube	
Tube capacity(ml)	250
Max. RPM	12,000
Max. RCF(g-force)	21,573
Radius(mm)	134



Fixed angle rotor, **7,700,100,208**  
 6 x 85 mL  
 Angle : 25°  
 Hole diameter (Φ, mm) : 38.3  
 Max height for tube fit (mm) : 125

Tube						
Tube capacity(mL)	15	10	15 mL conical	50	50 mL conical	85
Adaptor						None
Cat. No.	7,604,113,010	7,604,113,020	7,604,113,030	7,604,113,040	-	-
Adaptor Φ x L(mm)	16.2 x 97		17 x 105	29 x 90	29.5 x 100	-
Max. RPM	20,000					
Max. RCF(g-force)	41,366	40,919	40,472	41,813	40,919	44,496
Radius(mm)	92.5	91.5	90.5	93.5	91.5	99.5



Fixed angle rotor, **7,700,100,205**  
 6 x 50 mL  
 Angle : 34°  
 Hole diameter (Φ, mm) : 29.5  
 Max height for tube fit (mm) : 125



Fixed angle rotor, **7,700,100,207**  
 8 x 50 mL  
 Angle : 34°  
 Hole diameter (Φ, mm) : 29.5  
 Max height for tube fit (mm) : 120

Tube				
Tube capacity(mL)	50	15	10	15 mL conical
Adaptor	None			
Cat. No.	-	7,601,113,041		7,601,113,042
Adaptor Φ x L(mm)	-	17 x 97		17 x 105
Max. RPM (6/8)	22,000/20,000			
Max. RCF(g-force) (6/8)	54,111/46,062	50,594/41,813	50,053/41,366	51,947/42,931
Radius(mm) (6/8)	100/103	90.5/93.5	89.5/92.5	93/96



Fixed angle rotor, **7,700,100,203**  
 24 x 1.5/2.0 mL  
 Angle : 45°  
 Hole diameter (Φ, mm) : 11.1  
 Max height for tube fit (mm) : 46



Fixed angle rotor, **7,700,100,204**  
 30 x 1.5/2.0 mL  
 Angle : 45°  
 Hole diameter (Φ, mm) : 11.1  
 Max height for tube fit (mm) : 46



Fixed angle rotor, **7,700,100,206**  
 6 x 50 mL conical  
 Angle : 34°  
 Hole diameter (Φ, mm) : 29.5  
 Max height for tube fit (mm) : 135

Tube	
Tube capacity(mL)	50 mL conical
Adaptor	None
Max. RPM	17,000
Max. RCF(g-force)	31,793
Radius(mm)	98.4

Tube			
Tube capacity(mL)	1.5/2.0	0.2	0.5
Adaptor	None		
Cat. No.	-	7,600,113,010	7,600,113,020
Adaptor Φ x L(mm)	-	6.5 x 23	8 x 31
Max. RPM (24/30)	22,000/18,000		
Max. RCF(g-force) (24/30)	45,616/34,919	36,255/28,616	39,501/31,152
Radius(mm) (24/30)	84.3/96.4	67/79	73/86