

Beckman Coulter

GS-6 Series Centrifuges



***In the Beckman Tradition, The GS-6
Centrifuge Sets the Standards.***

The GS-6 is available in both tabletop and kneewell design, making maximum use of our available lab space. Both models offer easy access and excellent performance, despite their compact size. The kneewell unit offers the added advantage of easy transportability, due to its light weight, small size and rolling platform.

VERSATILE

A variety of rotor/adaptor combinations are available to handle almost any application. Select from two fixed angle rotors or the high capacity GH-3.8 swinging bucket rotor, which uses a variety of adapters to spin tubes and bottles of all sizes. Special blood bag cups can be used in the rotor buckets, or you can substitute microplate carriers for the buckets to process tissue culture plates.

PRODUCTIVE

With a sample capacity of as much as 3 liters and a rugged drive that generates up to 5,642 g, the GS-6 processes plenty of sample quickly. Automatic soft start provides optimum acceleration times while protecting delicate gradients, and the two-stage dynamic/disk brake allows rapid, smooth deceleration.

Add to that a worldwide network of service centers and you get a reliable, high-output centrifuge that can be quickly and efficiently serviced on site. You'll enjoy years of productive, trouble-free service from your GS-6!

SAFE

In today's working environment laboratory safety is a major concern. Beckman addresses this issue with special Aerosolve cannisters designed for protection from aerosols for an added degree of bio-containment. Other safety features include a diagnostic display that alerts you to overtemperature or imbalance conditions and an automatic door interlock. All designed to help ensure a safe, healthy working environment.

CONVENIENT

The GS-6 was designed from the ground up to perfectly match your space requirements and application needs. It is available in compact tabletop and floor models,

both with or without refrigeration. The instrument panel is a simple combination of control dials and switches for power; run parameters and brake settings. And our new Accuset control makes setting run speeds easy and assures that the speed you set will be within 10 rpm of the speed you get.

RELIABLE

Like all Beckman centrifuges, the GS-6 benefits from our decades of experience in centrifuge design, manufacture and service. The direct drive motor; an indicator of overall quality, is smooth, quiet, powerful and remarkably rugged for day-to-day operation. And with Beckman, you're doubly protected by our warranty that covers all drive components.

A Versatile Performer, to Handle YOUR Specific Applications.

Our O-ring sealed Aerosolve[®] cannister fits in the buckets of the GH-3.8 rotor and is designed to provide containment of aerosols should a tube or bottle break during centrifugation. The cannister is completely transparent, so broken tubes can be seen and proper precautions taken before breaking the seal. Special tube racks accommodate most popular tubes within the cannister Or use the cannister without a tube rack as a 500-mL wide-mouth bottle for processing up to two liters per run.

Large-volume bottles fit snugly in GH-3.8 rotor buckets using special sleeves that accommodate 250-mL, 500-mL and 750-mL bottles- even 250-mL conical tip tissue culture bottles! Blood bag cups are available with a diameter of 90 mm for single and double packs, 97 mm for triple and quad packs.

A SELECTION OF ROTORS

The workhorse rotor for the GS-6 is the rugged, versatile GH-3.8 rotor, which spins almost everything by virtue of its large swinging buckets and the assortment of adapters they hold. The yoke is made of tough stainless steel for strength and corrosion resistance and the buckets are made of light-weight aluminum.

The fixed-angle rotors for the GS-6 centrifuges share a common tube

angle (35° for pelleting efficiency) but offer different tube configurations. The GA-10, named for its 10-tube capacity, accommodates 50-mL tubes. Special adapters also allow the rotor to process 15-mL and 30-mL tubes. The GA-24 holds 24 15-mL tubes or, with adapters, 7-mL and 10-mL tubes.

GS-6 SERIES ROTORS











Description	Max rpm	Max g	r Max	Max Capacity	Order No.
GH-3.8 Horizontal Rotor with four buckets	3750	3200	204 mm	3 Liters	360581
Microplate Carriers for GH-3.8 Rotor	2750	1420	168 mm	8 96-well plates	356412 (Set of 2) 356004 (Set of 4)
GA-10 Fixed Angle Rotor, 35° Angle	6400	5642	123 mm	10x50mL 10 x 30 mL1 10 x 15 mL2	349826
GA-24 Fixed Angle Rotor, 35° Angle*	6400	5642 4954	123 mm 108 turn 24 x 7 mL4	24 x 15 mL 24 x 10 mL	349827

1. 870331 Adapter required. 2. 870329 Adapter required. 3. 342641 Adapter required. 4. 342642 Adapter required. *The GA-24 holds 24 tubes in two concentric rows, 16 tubes in the outer row and 8 tubes in an inner row. As the chart indicates, tubes in the inner row are centrifuged at lower g forces than the outer row because the r Max is less.












MODULAR DISK ADAPTERS

There are 10 different modular disk adapters for the GH-3.8 rotor that hold a broad range of tube sizes and shapes. Their stacked design makes them easy to disassemble for cleaning and autoclaving, and they can easily be shortened by unstacking to accommodate shorter tubes. Color coding allows you to instantly identify specific adapters for vessels ranging from 10 min to 44 min in diameter (with volumes from 1.5 mL to 100 mQ. To minimize tube breakage during centrifugation, tube bottoms are supported by thick-rubber base pads molded to accommodate different tube shapes, whether conical, round-bottom or flat. Rugged adapter bases lock the stacks in position for a secure assembly.






MODULAR DISK ADAPTERS

Color Code	Tube Vol. (mL)	Nominal Diam. x Length (mm)	# per Rack	# per Run	Rotor Capacity (mL)	Order Number (set of 2)	Order Number (set of 4)
 Blue	3 and 5	12 x 110	37	148	740	359469	359148
 Tan	7	13 x 110	30	120	840	359478	359157
 Orange	10	14 x 110	24	96	960	359470	359149
 Purple	12	16 x 120	19	76	912	359471	359150
 Green	15 (conical)	18 x 120	14	56	840	359472	359151
 Green	15 and 20 (round)	18 x 125	14	56	1120	359473	359152
 Yellow	50 (round)	29 x 120	7	28	1400	359474	359153
 Lt. Green	50 (conical)	30 x 120	4	16	800	359475	359154
 Dk. Blue	50	35 x 136	4	16	800	359476	359155
 Brown	100	44 x 145	2	8	800	359477	359156



AEROSOLVE® TUBE RACKS (FOR USE WITH 359232 CANNISTER)

Color Code	Tube Vol. (mL)	Nominal Diam. x Length (mm)	# per Rack	# per Run	Rotor Capacity (mL)	Order Number (set of 2)	Order Number (set of 4)
 White	1.5	11 x 38	24	96	144	354495*	—
 Blue	3 & 5	12 x 110	24	96	480	359482	359160
 White	4	14 x 55	10	40	160	344517*	—
 Tan	5	12 x 110	24	96	480	359489	358993
 Orange	10	14 x 110	18	72	720	359483	359161
 Purple	12	16 x 120	12	48	576	359484	359162
 Lt. Green	15 (conical)	16 x 100	6	24	360	359487	358991
 Green	15 & 20	18 x 100	12	48	960	359485	359163
 Yellow	50	29 x 120	4	16	800	359486	359164
 Lime Green	50 (conical)	29 x 103	4	16	800	359488	358992
 White	230	62 x 141	1	4	920	—	356985

BOTTLE SLEEVES

Color Code	Bottle Vol. (mL)	Nominal Diam. x Length (mm)	# per Bucket	# per Run	Rotor Capacity	Order Number
 Orange	230 (conical)	62 x 141	1	4	920 mL	356983
 Orange	250 (flat)	62 x 125	1	4	1 Liter	349946
 White	250 (conical)	62 x 170	1	4	1 Liter	349849
 Yellow	500 (flat)	70 x 160	1	4	2 Liters	349945
 Blue	750 (flat)	96 x 130	1	4	3 Liters	349846

BLOOD BAG CUPS

Color Code	Cup Capacity	Cup Diam. (mm)	Bags per Cup	Cups per Bucket	Rotor Capacity	Order Number
 Yellow	Single/Double	90 mm	1	1	4 Packs	356856
 Orange	Triple/Quad	97 mm	1	1	4 Packs	356857

*Sold individually only, not available in sets.

Imbalance Detection/ Compensation

A rugged, self-balancing drive compensates for load imbalance while avoiding damage to the drive shaft, bearings or motor. A diagnostic display alerts you to imbalance or overtemperature conditions. In cases of gross imbalance, a special detector shuts down operation until sample weight is properly distributed

Smooth Direct Drive Motor

The direct-drive motor of the GS-6 reaches speeds to 6,400 rpm with fixed angle rotors. Using the GH-3.8 rotor up to three liters of sample can be processed. And despite its high output, the motor is remarkably imbalance tolerant. You get excellent throughput with a motor that is surprisingly smooth and quiet, contributing to a peaceful, productive lab environment.

Refrigeration

For biologically active samples, a range of operating temperatures from -10° to 25°C can be selected in the GS-6R and the GS-6KR. Temperature is displayed at the front of the unit in increments of 1C

Accuset Speed Control

A one-button speed control system makes precise adjustments easier than ever. Simply hold the Accuset button while adjusting the speed dial until the desired speed appears on the digital readout, then release the button. The instrument accelerates to the desired velocity and maintains it to within 10 rpm of the displayed setting!

Run Time

A simple knob is used to time runs of up to 30 minutes in one-minute increments. Or select "HOLD" for longer runs. Runs can be terminated at any time by simply switching the timer "OFF"

Door Interlock

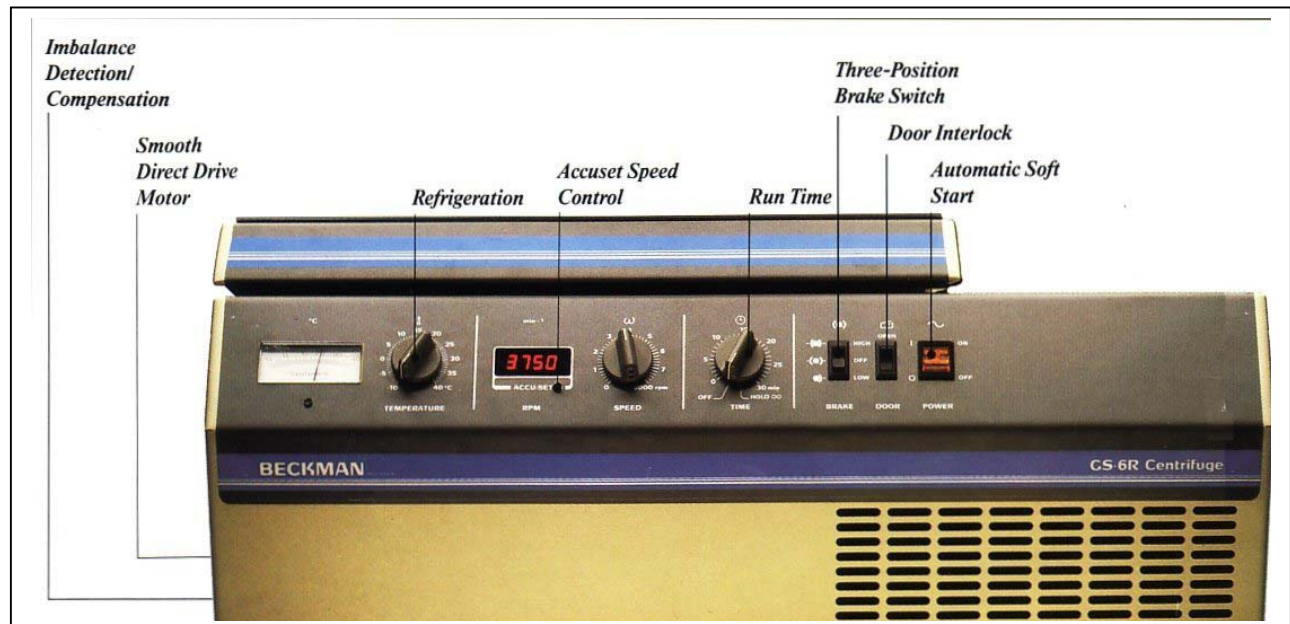
Additional safety features include an automatic door lock that both prevents the opening of an operating unit and prevents run initiation unless the door is securely locked.

Three-Position Brake

Switch Self balancing "Off" lets the rotor gradually coast from set speed to a stop. "LOW" engages dynamic braking from set speed to 50 rpm, at which point samples coast down to 0 rpm. The "HIGH" braking mode engages a powerful electromechanical disk brake from 1,600 rpm to 1,000 rpm. Then dynamic braking takes over until speeds reach 40 rpm, when samples again coast to a stop. Whichever mode you select, your samples are protected from abrupt speed transitions in the crucial range of 40 to 0 rpm.

Automatic Soft Start

The GS-6 soft-start program assures fast yet gentle starts to help protect delicate sample gradients. With the GS-6, 200 rpm is achieved in 11 to 15 seconds, followed by rapid acceleration to set speed.



SPECIFICATIONS

Maximum rated speed	6400 rpm with Fixed Angle Rotors
Maximum force	5642 g with Fixed Angle Rotors
Maximum rotor capacity	Three Liters with the GH-3.8 Horizontal Rotor
Speed setting	Analog dial, 200 rpm increments
Speed display	Digital, 30 rpm increments
Speed control	Closed-loop, within 10 rpm of indicated speed
Set time	30-minute countdown timer, 1-minute increments, HOLD
Drive system	Direct drive with replaceable brushes
Braking system	HIGH, LOW and OFF for coasting
Rotor chamber	18-in. diameter (45.7 cm), aluminum
Chamber door	Steel with strobe, port for speed verification
Refrig. temp range	-10 to 25°C
Maximum heat output	0.9 kW/3071 Btu/hr, (GS-6/GS-6K); 1.59 kW/5425 Btu/h, (GS-6R/GS-6KR)
Refrigeration system	Condenser, 1/3-hp compressor, chamber wrapped with direct-coil copper tubing
Safety features	Automatic door interlock, imbalance detector, self-balancing drive

WEIGHTS AND MEASURES

	GS-6RGS-6KR			
	GS-6	GS-6K	Refrigerated	Refrigerated
	Tabletop	Kneewell	Tabletop	Kneewell
Weight	114 lbs. (51.7 kg)	163 lbs. (73.9 kg)	167 lbs. (75.8 kg)	199 lbs. (90.3 kg)
Width	21 1/2 in. (54.6 cm)	21 1/2 in. (54.6 cm)	30 in. (76.2 cm)	21 1/2 in. (54.6 cm)
Depth, overall	26 in. (66.0 cm)	26 in. (66.0 cm)	26 in. (66.0 cm)	26 in. (66.0 cm)
Depth, at base	23 in. (58.4 cm)	23 in. (58.4 cm)	23 in. (58.4 cm)	23 in. (58.4 cm)
Height, door closed	15 1/2 in. (39.4 cm)	26 1/2 in. (67.3 cm)	15 1/2 in. (39.4 cm)	26 1/2 in. (67.3 cm)
Height, door open	37 in. (94.0 cm)	49 1/2 in. (125.7 cm)	37 in. (94.0 cm)	49 1/2 in. (125.7 cm)