

# High Capacity Refrigerated Centrifuge

Model **8920**

Microprocessor-controlled

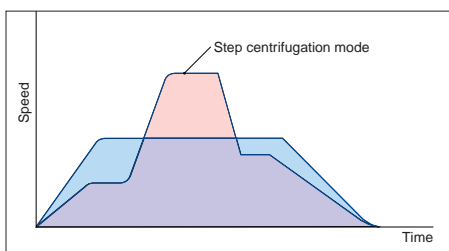


**KUBOTA**

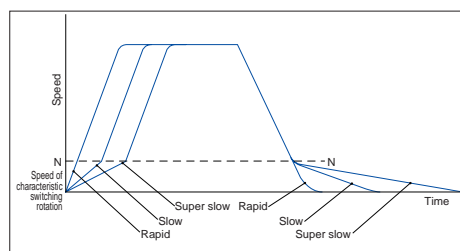
**ISO**  
9001  
CERTIFIED  
KUBOTA MFG. CORP.

The swing rotor can centrifuge 24 x 50 ml culture tubes, 96 x 15 ml culture tubes, a 750 ml bottle, and a 400 ml blood bag at 4,000 rpm and micro plates/deep well plates at 4,200 rpm. It can take measures for a biohazard and prevent contamination. A shield cover, sealing cap, and [class I] safety cabinet can be used. (Options)

- For routine work. Easily usable convenient functions.
  - Five operating condition memories allow one-touch memory saving, call and operation.
  - Acceleration and deceleration curves can be changed in three stages depending on samples and purposes. Density gradient centrifugation is also enabled.
  - Operation is enabled using the centrifugal force (xg) setting and operating function, step centrifuging function, and integrator function.
  - The timer enables settings of up to 990 minutes/990 seconds. In the hold operation, an elapsed time is displayed.
- The memory flashing function simplifies speed reduction. The memory automatically stores the times of speed-reduced operation from 1 sec. to 90 sec. When the key is just pressed next time, the operating speed is reduced for the time stored in the memory. (Patent pending)
- Foot pedal (Option)
  - An optional foot pedal allows hands-free lid opening, enabling the interlock mechanism to be released by foot.
- A tachometer port for a GMP is attached. The actual speed of rotor rotation can be measured.
- This unit conforms to the International Safety Standard IEC 1010-2-020 in consideration of safety.
- Various detection sensors improve safety and stops the operation at fault. The automatic rotor identifying function automatically identifies rotor types when rotors are merely loaded on the drive shaft and detects excessive speeds.
- Sample balance can be centrifuged by eye measure.
- The sample temperature is maintained at 4°C in the maximum speed of rotation of all rotors. (At 25°C room temperature)

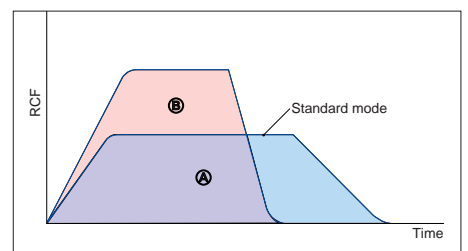


Step centrifuging function



**Acceleration or deceleration characteristics**

- Super slow acceleration or deceleration is suitable for centrifugation of a sensitive sample easy to float.
- Suitable for centrifugation of a sample easy to float, such as the density gradient method and blood cell cleaning.
- The speed of characteristic switching rotation N for super slow acceleration and super slow deceleration can be set.



**Integrator function**

**g · sec value**

- The integrator function can reproduce the identical centrifugal effect. (A) = (B)



Can be made into an autoclave (121°C).

**RS-730 Rotor**  
A shield cover can be used. Rotors shown in the picture are attached with buckets (S13240)

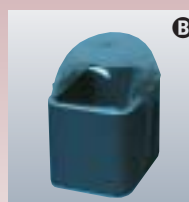


Can be made into an autoclave (121°C).

**RS-730 Rotor for Blood Bags**  
Rotors shown in the picture are attached with buckets (S13525).



**Code No. S13215**  
Bucket (small) for tube racks  
Buckets for a few samples and the speed of rotation is 4,200 rpm. Shielded covers (S17112) can be used. (Option)



**Code No. S13420**  
Bucket (large) for tube racks  
15 ml x 96 bottles  
Buckets shown in the picture are attached with shield covers (S17114). (Option)



**Code No. S13520**  
500 ml Bucket  
A 500 ml PP bottle can be used. One type of an adapter is available.



**Code No. S13550**  
750 ml Bucket  
A 750 ml PP bottle can be used. Buckets shown in the picture are attached with sealing caps (S17135). (Option)

# Rotor, Bucket, Tube Rack Table for model 8920

Rotor Name	Nominal Capacity	Tube sizes (mm) diam. x length	Maximum Speed rpm	Maximum RCF × g	Bucket Code No.	Tube Rack Adaptor Code No.
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## Swinging Bucket Rotors

RS-730 *1	A	80 x RIA tube	12 x 75-110	4,200	3,590	S13215	S18005
		48 x 7ml Vacutainer	12.5-13 x 75-106	4,200	3,590	S13215	S18012
		48 x 15ml *3	15.5-17 x 96-115	4,200	3,590	S13215	S18015
		16 x 15ml Conical (TC)	16.5 x 120.6	4,200	3,590	S13215	S18016
		8 x 50ml Conical (TC) *2	29.5 x 117	4,200	3,590	S13215	S18052
	B	160 x RIA tube *4	12 x 75-110	4,000	3,450	S13420	S18005
		96 x 7ml Vacutainer *4	12.5-13 x 75-106	4,000	3,450	S13420	S18012
		96 x 15ml *3, 4	15.5-17 x 96-115	4,000	3,450	S13420	S18015
		40 x 15ml Conical (TC)	16.5 x 120.6	4,000	3,450	S13420	S18615
		32 x 15ml Conical (TC) *4	16.5 x 120.6	4,000	3,450	S13420	S18016
		24 x 50ml Conical (TC)	29.5 x 117	4,000	3,450	S13420	S18650
		16 x 50ml Conical (TC) *4	29.5 x 117	4,000	3,450	S13420	S18052
		28 x 50ml Conical (TC)	29.5 x 117	4,200	3,750	S13235	
	C	4 x 400ml MAP Blood Bags		4,000	3,760	S13525	
		D	4 x 500ml *7	69 x 159	4,000	3,720	S13520
	E		64 x RIA · 7ml Vacutainer	12-16 x 60-85	4,000	3,830	S13550
		40 x 15ml attached caps	17-19.4 x 107	4,000	3,830	S13550	S17357
		48 x 15ml	15.5-17 x 96-115	4,000	3,830	S13550	S17358
		36 x 15ml Conical (TC)	16.5 x 120.6	4,000	3,830	S13550	S17359
		12 x 50ml	34 x 100	4,000	3,830	S13550	S17375
		16 x 50ml Conical (TC)	29.5 x 117	4,000	3,830	S13550	S17377
		16 x 50ml Conical (TC)	Self-Standing 29.5 x 117	4,000	3,830	S13550	S17378
		4 x 250ml Bottle/Glass tube *8	61.5 x 125/57 x 135	4,000	3,830	S13550	S17405/S17401
		4 x 500ml	69 x 159	4,000	3,830	S13550	S13555
		4 x 750ml	85 x 170	4,000	3,830	S13550	
		F	12 x Micro plates *5	86 (W) x 130 (D) x 49 (H)	4,200	3,180	S13220
	4 x Deep well plate *6		4,200		3,180	S13220	

## Swinging Bucket Rotors for micro plates

PT-20	6 x Micro plates *5	85 (W) x 128 (D) x 52 (H)	4,000	1,790	attached to rotor	
	2 x Deep well plates *6					
PT-21	6 x Micro plates *5	86 (W) x 130 (D) x 62 (H)	5,000	3,100	attached to rotor	
	2 x Deep well plates *6					
PT-89	8 x Micro plates *5	86 (W) x 130 (D) x 89 (H)	2,400	1,080	attached to rotor	055-6370
	4 x Deep well plates *6					
PT-745	12 x Micro plates	86 (W) x 128 (D) x 90 (H)	4,200	3,100	attached to rotor	055-6380
	4 x Deep well plates					

## Angle Rotors

RA-288M2	24 x 12ml	15.9-16.5 x 97-120	8,500	9,690		
RA-410M2	8 x 15ml Conical (TC)	17 x 121	8,500	9,530		055-1280
	8 x 50ml Conical (TC)	30 x 117	8,500	9,690		
RA-500M2	10 x 50ml	26.4-29.2 x 98-121	8,500	9,690		

- \*1 Shielded covers are sold separately. The packet S13215 shield cover is divided into code No. S17112 (made of PC) and S17113 (made of PP). The packet S13420 shield cover is divided into code No. S17114 (made of PC) and S17115 (made of PP). The packet S13550 sealing cap is code No. S17135 (made of PC).
- \*2 FALCON®, SARSTEDT®, Lab-Tek®, GREINER (White), and IWAKI 50 ml conical tube can use shield covers.
- \*3 When shielded covers are used, tubes cannot be inserted in the tube holes at the four corners of the bucket. Accordingly, the number of tubes for each bucket is reduced by four tubes. (Example: When 15 ml glass tubes are used in bucket S13420, up to 80 tubes can be used.)
- \*4 The code No. S13420 bucket uses two tube racks each (a total of eight) in one bucket. Do not use this bucket when a different type of a tube rack is contained in this bucket to prevent a danger.
- \*5 When micro plates are used, the plates exceeding two stages can be piled up in each bucket. However, use the plates after testing their strength before centrifugation. The micro plate at the lower stage may be crushed.
- \*6 This maximum speed of rotation is the allowable speed of rotor rotation. For the allowable speed of rotation of a deep well plate, contact the plate's manufacturer.
- \*7 This bucket is divided into adapters (S13174 and S13175 combined jointly) for NALGEN® 175 ml type bottom bottle (3143-0175). Contact us.
- \*8 250 ml bottle adapter (S17405) and 250 ml glass tube adapter (S17401)

 <p>Can be made into an autoclave (121°C).</p> <p><b>Code No. S13220</b> Ethanol can be settled for 3,180 xg.</p>	 <p>Can be made into an autoclave (121°C).</p> <p><b>PT-20 Plate Rotor</b> Six micro plates and two deep well plates can be centrifuged.</p>	 <p>Can be made into an autoclave (121°C).</p> <p><b>PT-21 Plate Rotor</b> Ethanol can be settled for 3,100 xg.</p>	 <p><b>PT-89 Plate Rotor</b> Eight micro plates and four deep well plates can be centrifuged.</p>	 <p><b>PT-745 Plate Rotor</b></p>	 <p><b>RA-410M2 Angle Rotor</b> Eight 50 ml and 15 ml conical (culture) tubes can be centrifuged.</p>	 <p><b>RA-500M2 Angle Rotor</b> 10 bottles x 50 ml</p>
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# Specifications

## Model 8920

- Maximum Speed ● 8500 rpm
- Maximum RCF ● 9690 xg
- Maximum Capacity ● 3000 ml
- Control system ● Micro-processor control (Brushless motor)  
Speed, RCF, Time, Acceleration & Deceleration, 5 channel memories
- Alarm display ● Lid open, Imbalance, Over speed, Over temperature,  
Function for detecting an occurrence of electrical abnormality in motor, inverter,  
lid interlock and speed sensor.
- Acceleration / Deceleration ● Three-level selectors; Rapid, Slow and Super Slow
- Speed setting ● From 200 to 8500 rpm, 100 rpm increments
- Speed indication ● Digital display, From 0 to 8900 rpm, 10 rpm increments
- RCF setting ● From 10 to 9690 xg, 100 xg increments
- RCF indication ● Digital display, From 0 to 10620 xg, 10 xg increments
- Integrator setting and indication ● Digital display, From 1.00 to 9.99 x 10<sup>3</sup> g · sec
- Timer setting and indication ● Digital display, with Hold and Electric buzzer  
from 1 sec. to 100 sec., in 1 sec. increment setting  
from 100 sec. to 990 sec., in 10 sec increments setting  
from 1 min. to 100 min., in 1 min. increment setting  
from 100 min. to 990 min., in 10 min. increments setting
- Temperature setting and indication ● Digital display, 1°C increments setting and indication from -20°C to 40°C
- Power requirements ● Single phase AC220V±10%, 230V±10%, 50/60Hz, 15A
- Rated voltage and Rated current ● 220/230V, 10A
- Power consumption and Heat output ● 1.5kW, 5.4MJ/h
- Dimensions, weight ● 56(W)x70(D)x84(H)cm\*, 115kg
- Test standard ● Manufactured and tested in accordance with IEC 1010-2-020

(\* 1) Those of projections are not included.

All specifications and external appearance subject to change without notice.

\* On Model 8920 only use KUBOTA made rotor, adapter and tube rack. Do not attempt use rotors, adapters or tube racks made by other manufacturers.

\* The rotor mentioned in the catalogue is usable on other KUBOTA centrifuge models. For details, refer to the catalogues relevant to each model.

\* Follow instructions given in the relevant Instruction & Service Manual for operating centrifuges.



### Safety Precautions

• For your safe use of this equipment, be sure to read the instruction manual carefully before you start its operation.

Parts may be adversely affected by heat, humidity and specimens or deteriorated by aging resulting in functional failures or may even lose their safety characteristic to cause accidents.



### DISCONTINUE USE

Always discontinue use when phenomena listed at right appear.

- The rotor or bucket has been found to be damaged or corroded.
- A burnt smell comes out of the equipment.
- You receive a minor electrification when you touch the equipment body by a naked hand.
- Some other abnormality or failure has been found occurring.

### IMPORTANT

To prevent occurrences of functional failures or accidents, turn off the power switch, pull out the power cable plug from the plug socket and be sure to contact your nearest Kubota Dealer, or an office of Kubota Corporation when there is no Kubota Dealer in your neighbourhood.

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