

KUBOTA

Universal Refrigerated Centrifuge



5930

3 types of biohazard-proof rotor available

High centrifugal force swinging bucket rotor compatible [RS-3020M: 3,430-3,200 xg]

Conforms to International Safety Standard IEC61010-2-020

7 rotor types available to fit your needs

- 4 types of buckets available for the RS-3020M swinging bucket rotor
- High centrifugal force RS-3020M rotor (3,420 xg) usable with sealing caps, for centrifugal separation of acid-fast bacteria
- PT-745MS plate rotor (up to 3,100 xg) with shield covers that prevent contamination

Sample balance can be measured by eye (for rotors used at 5,000rpm or less)

Streamline routine work with convenient functions for easy operation

- Memory flashing function for easy spin-down (patented) automatically memorizes the duration of spin-down operations ranging from 1 to 90 seconds. The last flashing operation (1-90sec.) is automatically memorized and easily recalled simply by pressing the "Flashing" key.
- 5 available memory settings, with one-touch save and recall operation.
- Operation according to centrifugal force (g) as well as stepped centrifuging and integral centrifuging (g-sec) settings.
- Timer can be set up to 990 min/sec. When on hold, the elapsed time is displayed.
- Optional foot switch enables hands-free lid opening.

Conforms to International Safety Standard IEC61010-2-020

(except when RA-410M3 rotor is used)

- In the event of breakage, all fragments will be safely retained inside the centrifuge unit.
- Lid lock mechanism includes interlock and twin-lock hook system (right and left).
- Interlocking parts are protected against mechanical impact and employ a two-stage electrical protection circuit.
- Various sensors immediately detect the onset of any trouble during operation.

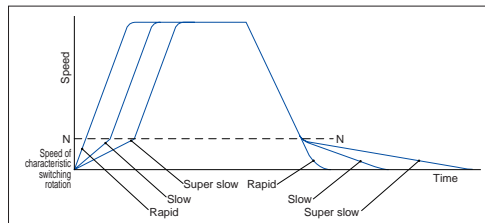
Tachometer port complies with GMP

- Easy verification of spinning state.

Sample temperature is maintained at 4°C at maximum speed of rotation of all rotors (at 25°C ambient temperature)

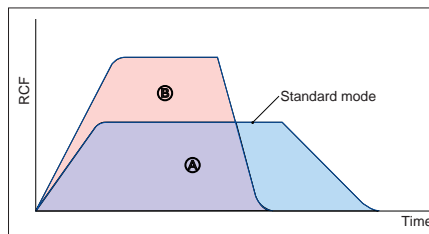


Variable acceleration and deceleration function
Acceleration and deceleration curves are adjustable to best fit your samples and goals. Initial acceleration and deceleration speeds can be adjusted to accommodate easily perturbed samples. Density gradient centrifugation is also enabled.



Acceleration/deceleration characteristics

- Super-slow acceleration or deceleration is available for centrifugation of especially sensitive samples, to avoid resuspension.
- Suitable for centrifugation of easily resuspended samples, density gradient methods and for blood cell cleaning.
- The rotational speed N when the acceleration/deceleration profile changes can be set, enabling super-slow acceleration and deceleration for especially sensitive samples.



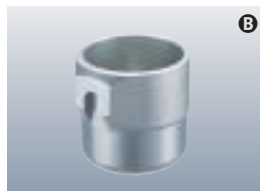
Integrator function g · sec value

Identical applications of total centrifugal force are easily reproducible using the g · sec function

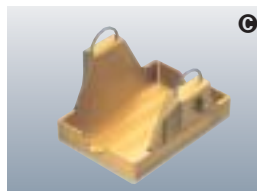
- The integrator function enables identical centrifugal effects to be applied. A = B



RS-3012M swinging bucket rotor
As shown, the rotor is fitted with optional shield covers (No.027-9210). A secure clip system lets you easily attach and remove the shield covers.



Code No.053-5180
Maximum capacity is 750mLx4 bottles. Various tube racks can be used.



Code No.053-5220
8 micro-plates and 4 deep-well plates can be set. This bucket has no center bar so plates can be easily removed.



Code No.053-5170
8 micro-plates and 8 tissue culture plates can be set.



RS-3020M swinging bucket rotor
As shown, the rotor is fitted with optional sealing caps (No.027-9300).

Rotor, Bucket, Tube Rack Table for Model 5930

Rotor Name	Nominal Capacity	Tube size (mm) diam. x length	Maximum Speed rpm	Maximum RCF xg	Bucket Code No.	Tube Rack Adaptor Code No.		
Swinging bucket rotor								
RS-3012M	140 x 6mL/RIA tube	10~12.3 x 65~100 (95)	3,300	2,150 *1	053-5310	055-5830		
	80 x 5-7mL blood collecting tube *2	12~13.3 x 63~110 (105)	3,300	2,280	053-5310	055-5000		
	100 x 10mL	12~14.2 x 76~110 (105)	3,300	2,280	053-5310	055-5840		
	80(64) x 5-10mL blood collecting tube/15mL *2	12~17.2 x 72~110 (105)	3,300	2,280	053-5310	055-0900		
	80(64) x 15mL	15~17.2 x 76~110 (105)	3,300	2,280	053-5310	055-5850		
	16 x 15/50mL	15mL 15~17.2 x 75~135 (125)	3,300	2,280	053-5310	055-5860		
		50mL 27~36 x 79~115 (110)						
	48 x 15mL Conical tube	17 x 121 (121)	3,300	2,280	053-5310	055-4660		
	24 x 50mL Conical tube	30 x 117 (117)	3,300	2,280	053-5310	055-4610		
	8 x 100mL	38~46.5 x 75~120 (116)	3,300	2,280	053-5310	055-5870		
	4 x 250mL *4	60~61.8 x 100~141 (136)	3,300	2,280	053-5310	055-6880		
	4 x 350mL	65~71 x 100~130 (122)	3,300	2,280	053-5310	055-6890		
	12x/16x/20x Self-standing sputum tube *5	Cap diam. 42/ 39/ 31	3,300	*5	053-5310	*5		
	A *3	72 x 15mL	15~17.2 x 75~110	3,300	2,280	053-5180	055-0210	
		16 x 50mL	27~36.8 x 79~114	3,300	2,280	053-5180	055-0240	
		48 x 15mL Conical tube	17 x 121	3,300	2,280	053-5180	055-0220	
		16 x 50mL Conical tube	30 x 117	3,300	2,280	053-5180	055-0230	
		4 x 250mL *4	60~61.8 x 100~141	3,300	2,280	053-5180	055-4490	
		4 x 350mL	65~71 x 100~130	3,300	2,280	053-5180	055-5880	
		4 x 500mL Conical tube *6	96 x 147	3,300	2,280	053-5180	431124 *6	
		4 x 650mL *13	98 x 136	3,300	2,280	053-5180	—	
		4 x 650mL *14	84~86 x 100~125	3,300	2,280	053-5180	055-5890	
		4 x 750mL	95~97.5 x 100~135	3,300	2,280	053-5180	—	
		C *7	8 x Micro-plates	88 (W) x 134 (D) x 50 (H)	3,300	2,020 *1	053-5220	—
			4 x Deep-well plates					
		D *7	8 x Micro-plates	92 (W) x 133 (D) x 36 (H)	2,000	770 *1	053-5170	055-5900
			8 x Tissue culture plates					—
	RS-3020M *8	76 x 15mL	15~17.2 x 83~116	4,000	3,200 *1	Equipped with rotor	055-0340	
		48 x 15mL Conical tube	17 x 121	4,000	3,400 *1	Equipped with rotor	055-0300	
		16 x 50mL	27~35.8 x 93~117	4,000	3,310 *1	Equipped with rotor	055-0330	
		20 x 50mL Conical tube	30 x 117	4,000	3,420	Equipped with rotor	055-0310	
		4 x 500mL Conical tube *6	96 x 147	4,000	3,430	Equipped with rotor	431124 *6	
		4 x 650mL *13	98 x 136	4,000	3,430	Equipped with rotor	—	
4 x 750mL		95~97.5 x 100~135	4,000	3,430	Equipped with rotor	—		
Plate rotor								
PT-21M	6 x Micro-plates *7	86 (W) x 130 (D) x 62 (H)	5,000	3,100	Equipped with rotor	—		
	2 x Deep-well plates *7							
PT-89M	8 x Micro-plates *7	86 (W) x 130 (D) x 89 (H)	2,400	1,080	Equipped with rotor	055-6370 *9		
	4 x Deep-well plates *7							
PT-745MS	12 x Micro-plates *7	86 (W) x 128 (D) x 90 (H)	4,200	3,100	Equipped with rotor	055-6380 *9		
	4 x Deep-well plates *7							
Fixed Angle rotor AT-508C angle rotor is a tool-less rotor.								
Nominal Capacity	Tube size (mm) diam. x length	AT-508C		RA-410M3		Bucket Code No.	Adaptor Code No.	
		Maximum Speed rpm	Maximum RCF xg	Maximum Speed rpm	Maximum RCF xg			
8 x 12mL (plastic) *10	15.9~16.5 x 97~120	6,000	5,110	8,500	9,370	—	055-1120	
8 x 14mL *11	17 x 100	6,000	4,990	8,500	9,130	—	055-0550	
8 x 15mL Conical tubes	17 x 121	6,000	5,270	8,500	9,530	—	055-1280	
8 x 50mL (plastic) *12	26.4~28.8 x 98~115	6,000	4,990	8,500	9,290	—	055-1110	
8 x 50mL Conical tubes	30 x 117	6,000	5,350	8,500	9,690	—	—	
Sartorius	Vivaspin 2	16.7 x 129	6,000	5,270	8,500	9,530	—	055-1280
	Vivaspin 6	16.7 x 129	6,000	5,270	8,500	9,530	—	055-1280
	Vivaspin 20	30 x 117	6,000	5,350	8,500	9,690	—	—
Millipore	Amicon Ultra-4	17 x 129	6,000	5,270	8,500	9,530	—	055-1280
	Amicon Ultra-15	30 x 121	6,000	5,350	8,500	9,690	—	—

* 1 For centrifugal force indications, please refer to the instruction manual.

* 2 Blood collecting tubes made by SEKISUI (Insepack II), Termo (Venoject II), Nipro (Neotube) or Beckton Dickinson (Vacutainer) can be used.

Tubes for flow cytometry can also be used.

* 3 Figures in parentheses indicate speeds when using optional shield covers (No.027-9210).

* 4 175mL, 200mL and 225mL conical tubes can be centrifuged if cushions are used.

No.352090 cushions must be used with 175 & 225mL conical tubes made by BD Falcon

(No.352076 & No.352075).

No.377585 cushions must be used with Nunc 200mL bottles (No.376813).

* 5 Various sputum tube capacities can be used. Contact our distributor for details.

* 6 Corning No.431123 tubes require No.431124 cushions.

* 7 Verify plate strength before centrifuging. Plates in lower position may fracture.

* 8 Optional 027-9300 sealing caps can be used, except with 500mL conical tubes.

* 9 Facilitates removing plates from buckets.

* 10 Nunc plastic tubes, No.3110-0120 and No.3117-0120.

* 11 BD Falcon plastic tubes, Nos.352006, 352018 and 352059.

* 12 Nunc plastic tubes, No.3110-0500, No.3110-9500, No.3112-0050, No.3114-0050, No.3117-9500,

No.3118-0050, and No.3119-0050.

* 13 Herolab bottles, 650mL (PPCO, PC).

* 14 Stainless bottles are available.

* Autoclave parameters should not be exceeded. Refer to operation and service manual.



* Autoclavable (121°C)

PT-21M Plate rotor

Can do ethanol precipitation at 3,100 xg.



PT-89M Plate rotor

Accepts 8 micro-plates or 4 deep-well plates.



with shield cover

PT-745MS Plate rotor

12 micro-plates and 4 deep-well plates can be set. Ethanol precipitation can be performed at 3,100 xg.



AT-508C Fixed-angle rotor

12 micro-plates x 8 conical tubes
This economical, multipurpose fixed-angle rotor accepts 12mL or 50mL tubes.



RA-410M3 Fixed-angle rotor

50/15mL x 8 conical tubes
This multipurpose fixed-angle rotor accepts 12mL or 50mL tubes.

Specifications

Model 5930

Maximum Speed	● 8,500 rpm
Maximum RCF	● 9,690 xg
Maximum capacity	● 3,000 mL
Control system	● Microprocessor control (brushless motor) Speed, RCF(g), Time, Temperature, Acceleration and Deceleration, 5 memory banks
Alarm display	● Lid open, Imbalance, Over speed, Rotor setting condition, Abnormally high temperature, Detected electrical abnormality in motor, inverter, lid interlock, speed sensor and temperature sensor
Acceleration / Deceleration	● Three selectable rates: Rapid, Slow and Super Slow
Speed setting	● From 200 to 8,500 rpm, 10 or 100 rpm increments
Speed indication	● Digital display, from 0 to 8,900 rpm, 10 rpm increments
RCF setting	● From 10 to 9,690 xg, 10 or 100 xg increments
RCF indication	● Digital display, from 0 to 10,620 xg, 10 g increments
Integrator setting and indication	● Digital display, from 1.00-9.99 x10 ³ g · sec
Single-step centrifugation	● speed, RCF(g), time, temperature, acceleration and deceleration, 1 memory bank
Timer setting and indication	● Digital display, with HOLD function (continuous operation) and electric buzzer 1 second to 100 seconds, 1 sec increments 100 seconds to 990 seconds, 10 sec increments 1 minute to 100 minutes, 1 min increments 100 minutes to 990 minutes, 10 min increments
Temperature setting and indication	● digital display, -20°C to +40°C, 1°C increments
Refrigerant	● R134a (CFC-free)
Power requirements	● Single phase 50/60Hz, 110V±10% 15A, 115V±10% 15A Single phase 50/60Hz, 220V±10% 10A, 230V±10% 10A
Rated voltage and rated current	● 110V 11A, 115V 10A, 220V 7.0A, 230V 6.6A
Power consumption and heat output	● 110/115V 990W 3.6MJ/h, 220/230V 1.1kW 4.0MJ/h
Dimensions, weight	● 50cm x 65cm x 85cm (WxDxH) ^(*) , 117kg
Certificates of conformity	● IEC 61010-2-020 (Except when RA-410M3 rotor is used.) CE Mark (AC220V and 230V versions)




(*1) Not including projections.

All specifications and external appearance are subject to change without notice.

* Use only rotors, adaptors and tube racks made by KUBOTA. Do not attempt to use rotors, adaptors or tube racks made by other manufacturers.

* Follow all instructions in the relevant Instruction & Service Manual when operating centrifuges.

Kubota has acquired ISO 9001 and ISO 13485 certification.

 Safety Precautions	For your safe use of the equipments, 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. <ul style="list-style-type: none"> •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 <p>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.</p>

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