

KUBOTA

Universal Refrigerated Centrifuge



5910

Set rotors without tools

Conforms to International Safety Standard IEC61010-2-020

Measure sample balance by eye (for rotors at 5,000 rpm or less)

Set and change rotors easily, without tools

(except when RA-410M3 rotor is used)

Sample balance can be measured by eye

(for rotors at 5,000 rpm or less)

Easy-to-use functions maximize convenience

- Memory function for easy spin-down automatically memorizes duration of spin-down operations (patent pending).
- 5 available memory settings, with one-touch save and recall operation.
- Operation according to the centrifugal force (xg), as well as stepped centrifuging and integral centrifuging (g-sec) settings.
- Optional foot switch enables hands-free lid opening.

Conforms to International Safety Standard

IEC61010-2-020 (except when RA-410M3 rotor is used)

Numerous detectors ensure safe, reliable operations. If trouble is detected, operation stops immediately.

- Rotor mounting sensor detects whether or not the rotor is properly set on the driveshaft. (patent pending) (*)

Complies with GMP requirements

- Equipped with a tachometer port to comply with GMP requirements. Actual rotor speed is easy to check.

Multi-purpose unit supports using a wide variety of rotors and accessories

- Swinging bucket ST-410 rotor can be used up to 5,000 rpm/4,470 xg, and optional sealing caps for biohazard-proof operations are available.

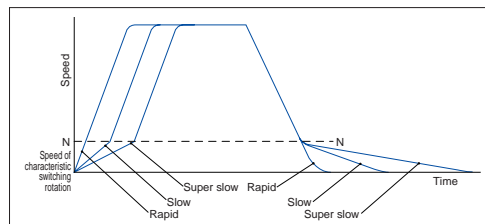
Sample temperature maintained at 4°C at maximum speed of rotation for all rotors

(25°C ambient temperature).

* Contact our distributor when planning to use certain swinging bucket or plate rotors, or 2 or more rotors simultaneously.



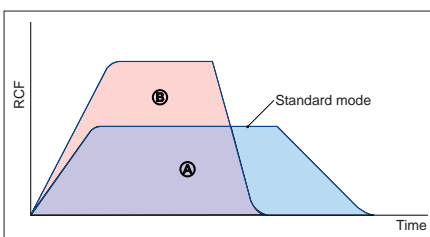
Variable acceleration and deceleration function
Acceleration and deceleration curves can be changed to best fit your samples and goals. Initial acceleration and deceleration speeds can be adjusted to accommodate easily perturbed samples. Density gradient centrifugation is also enabled.



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 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.

* Autoclave parameters should not be exceeded. Refer to the Operation and Service Manual.



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)



ST-720
Swinging bucket rotor



* Autoclavable (121°C)

ST-410 Swinging bucket rotor
(buckets included)
Optional sealing caps are available. (Code No.K17111)
Combination illustrated in photo cannot be actually used.



ST-480
Swinging bucket rotor

Rotor, Bucket, Tube Rack Table for Model 5910

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							
ST-720 *1	80 x 1.5/2 mL	9.5-11 x 36-42	3,500	2,290	053-5820	055-4800	
	96 x RIA tube	10-12.3 x 65-95	3,500	2,190	053-5820	055-4730	
	48 x 5-7 mL Narrow blood collecting tube *2	12-13.3 x 63-110	3,500	2,310	053-5820	055-4990	
	24 x 8 mL CPT cell preparation tube *3	13.5-15.8 x 81-130	3,500	2,310	053-5820	055-6900	
	80 x 10 mL	12.5-13.8 x 65-95	3,500	2,260	053-5820	055-4740	
	48 x 5-10 mL Narrow/thick blood collecting tube/15 mL *2	12-17.2 x 72-110	3,500	2,330	053-5820	055-0880	
	48 x 10 mL Blood collecting tube/15 mL	15-17.2 x 81-110	3,500	2,330	053-5820	055-4750	
	68 x 5-7 mL Narrow blood collecting tube *2	12-13.7 x 62-110	3,500	2,300	053-5840	055-0260	
	68 x 10 mL Blood collecting tube/15 mL	15-17.2 x 52-110	3,500	2,300	053-5840	—	
	28 x 15 mL Conical tube	17 x 121	3,500	2,300	053-5840	—	
	32 x 15 mL Conical tube	17 x 121	3,500	2,330	053-5820	055-4780	
	8 x 50 mL	27-36.4 x 85-110	3,500	2,330	053-5820	055-4760	
	16 x 50 mL Conical tube	30 x 117	3,500	2,330	053-5820	055-6070	
	4 x 100 mL	38-46.5 x 75-120	3,500	2,330	053-5820	055-4770	
	4 x 175/200/225 mL Conical tube *4	61 x 118/61 x 130/61 x 137	3,500	2,330	053-5820	055-4850	
4 x 250 mL	60-61.8 x 100-130	3,500	2,380	053-5820	055-4850		
8x/12x/16x Self-standing spulum tube *5	Cap diam. 48/ 37/ 31	3,500	*5	053-5820	*5		
ST-410 *1	48 x 1.5/2 mL	10.7 x 42	5,000	4,160	Equipped with rotor	K17008	
	48 x 5 mL RIA tube	12.5 x 55-75	5,000	4,160	Equipped with rotor	K17006	
	48 x 7 mL	12-12.5 x 100-112	5,000	4,160	Equipped with rotor	K17007	
	28 x 5-7 mL Blood collecting tube *2	12.5-13 x 75-106	5,000	4,160	Equipped with rotor	K17027	
	12 x 15 mL Conical tube *6	16.5 x 120.6	5,000	4,160	Equipped with rotor	K17019	
	12 x 15 mL Conical tube *6	16.5 x 120.6	5,000	4,470	K13130	—	
	28 x 10 mL Blood collecting tube/15 mL	15.5-17 x 87-110	5,000	4,160	Equipped with rotor	K17015	
	4 x 50 mL	27-35.8 x 82-110	5,000	4,160	Equipped with rotor	055-5670	
	4 x 50mL Conical tube	29.5 x 117	5,000	4,160	Equipped with rotor	K17049	
	4 x 100 mL	44-45 x 110	5,000	4,160	Equipped with rotor	K17100	
4 x 200 mL	56.5 x 104	5,000	4,160	Equipped with rotor	—		
ST-480 *1	64 x 1.5/2 mL	9.5-11 x 36-42	3,000	1,570	053-7030	—	
	48 x 10 mL	12-13.3 x 46-110	3,000	1,600	053-7190	—	
	32 x 10 mL Blood collecting tube/15 mL	15-17.2 x 86-110	3,500	2,270	053-7130	—	
	4 x 50 mL *7,8	27-38 x 100-110	5,000	4,640	053-7110	—	
	8 x 50 mL *8	27-38 x 100-110	3,500	2,270	053-7150	—	
	16 x 15 mL Conical tube	17 x 121	5,000	4,640	053-5790	055-1270	
4 x 50 mL Conical tube *9	30 x 117	5,000	4,640	053-5010	—		
8 x 50 mL Conical tube *9	30 x 117	3,500	2,270	053-5020	—		
Plate Rotor							
PT-20 *1	6 x Micro-plates *10	86(W) x 128(D) x 52(H)	4,000	1,790	Equipped with rotor	—	
	2 x Deep-well plates *10						
PT-21 *1	6 x Micro-plates *10	86(W) x 130(D) x 62(H)	5,000	3,100	Equipped with rotor	—	
	2 x Deep-well plates *10						
PT-89 *1	8 x Micro-plates *10	86(W) x 130(D) x 89(H)	2,400	1,080	Equipped with rotor	055-6370 *11	
	4 x Deep-well plates *10						
PT-745S *1	12 x Micro-plates *10	86(W) x 128(D) x 90(H)	4,200	3,100	Equipped with rotor	055-6380 *11	
	4 x Deep-well plates *10						
Angle Rotor							
RA-410M3	8 x 12 mL (Plastic) *12	15.9-16.5 x 97-120	8,500	9,370	—	055-1120	
	8 x 14 mL *13						
	8 x 15 mL Conical tube						
	8 x 50 mL (Plastic) *14						
	8 x 50 mL Conical tube						
	Sartorius						Vivaspin 2
							Vivaspin 6
							Vivaspin 20
	Millipore						Amicon Ultra-4
							Amicon Ultra-15

Plate Rotor

PT-20 *1	6 x Micro-plates *10	86(W) x 128(D) x 52(H)	4,000	1,790	Equipped with rotor	—
	2 x Deep-well plates *10					
PT-21 *1	6 x Micro-plates *10	86(W) x 130(D) x 62(H)	5,000	3,100	Equipped with rotor	—
	2 x Deep-well plates *10					
PT-89 *1	8 x Micro-plates *10	86(W) x 130(D) x 89(H)	2,400	1,080	Equipped with rotor	055-6370 *11
	4 x Deep-well plates *10					
PT-745S *1	12 x Micro-plates *10	86(W) x 128(D) x 90(H)	4,200	3,100	Equipped with rotor	055-6380 *11
	4 x Deep-well plates *10					

Angle Rotor

RA-410M3	8 x 12 mL (Plastic) *12	15.9-16.5 x 97-120	8,500	9,370	—	055-1120	
	8 x 14 mL *13						
	8 x 15 mL Conical tube						
	8 x 50 mL (Plastic) *14						
	8 x 50 mL Conical tube						
	Sartorius						Vivaspin 2
							Vivaspin 6
							Vivaspin 20
	Millipore						Amicon Ultra-4
							Amicon Ultra-15

*1 Contact our distributor when planning to use these swinging bucket and plate rotors, or 2 or more rotors simultaneously.

*2 Blood collecting tubes made by SEKISUI (Insepack II), Termo (Venoject II), Nipro (Neotube), Beckton Dickinson (Vacutener) can be used. Tube for flow cytometry can also be used.

*3 Vacutener 8 mL blood collecting tube for CPT cell separation made by Beckton Dickinson can be used.

*4 175 mL, 200 mL and 225 mL conical tubes can be centrifuged if cushions are used. 175/225 mL conical BD Falcon tubes (Code No.352076/No.352075) require cushions (Code No.352090).

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

*6 Sealing caps cannot be used with tube racks. Sealing caps (Code No.K17111) can be used with 12 x 15 mL conical tubes (Code No.K13130).

*7 Sealing adaptor for biohazard-proof requirements, 50 mL conical tubes (Code No.055-5760), 15 mL conical tubes (Code No.055-5750) and 50 mL Oak Ridge tubes (Code No.055-4310) are available.

*8 15 mL glass tubes are available when used with adaptor (Code No.055-7400). Cushions required (Code No. 024-1400) (Optional).

*9 15 mL conical tubes are available when used with adaptor (Code No.055-1280).

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

*11 Facilitates removing plates from buckets.

*12 Nunc plastic tube (Code No.3110-0120, No.3117-0120).

*13 BD Falcon plastic tube (Code No.352006, 352018, 352059).

*14 Nunc plastic tube (Code No.3110-0500, No.3110-9500, No.3112-0050, No.3114-0050, No.3117-9500, No.3118-0050, No.3119-0050).

* Autoclave parameters should not be exceeded. Refer to the Operation and Service Manual.



* Autoclavable (121°C)

PT-20/21 Plate rotor

Ethanol precipitation can be carried out at 3,100 xg using the PT-21 rotor.



PT-89 Plate rotor

8 micro-plates, 2 filter plates and 2 deep-well plates can be set. Plates with a maximum height of 89 mm can be used.



with shield cover

PT-745S Plate rotor

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



RA-410M3 Angle rotor

For 8 x 50/15 mL conical tubes 12 mL and 50 mL tubes can be used with this multipurpose angled rotor.

Specifications

Model 5910

- Maximum Speed ● 8,500 rpm
- Maximum RCF ● 9,690 xg
- Maximum capacity ● 1,020 mL
- Control system ● Micro-processor control (brush-less motor)
Speed, RCF(g), Time, g-sec, Temperature, Acceleration and Deceleration, 5 memory banks
- Alarm display ● Lid open, Imbalance, Over speed, 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 xg increments
- Integrator setting and indication ● Digital display, from 1.00-9.99 x 10³ g-sec
- Stepped centrifugal ● 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 50/60 Hz, 110V±10% 15A, 115V±10% 15A
Single phase 50/60 Hz, 220V±10% 10A, 230V±10% 10A
- Rated voltage and rated current ● 110V 12A, 115V 11A, 220V 4.8A, 230V 4.6A
- Power consumption and heat output ● 840W 3.0 MJ/h
- Dimensions, weight ● 50(W) x 65(D) x 85(H) cm^(*), 110kg
- Certificates of conformity ● IEC 61010-2-020 (except when RA-410M3 rotor is used)
CE Mark (AC220V and 230V Version)

(*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.

Sealing adaptors for biohazard-proof applications

For buckets (Code No.053-7110)
High maximum speed and RCF



Swinging bucket rotor
ST-480



Code No.055-5760
for 50 mL conical tubes
5,000 rpm 4,560 xg



Code No.055-5750
for 15 mL conical tubes
5,000 rpm 4,580 xg



Code No.055-4310
for 50 mL Oak Ridge tubes
5,000 rpm 4,440 xg

Kubota has acquired ISO 9001 and ISO13485 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.

- 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.

KUBOTA CORPORATION

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