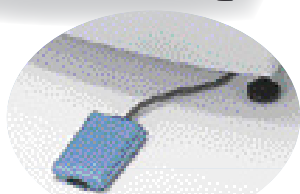


Hybrid High Speed Refrigerated Centrifuge



6200

Multi-Purpose Rotor & Micro Rotor can be used with this convenient model.



Optional foot switch available for hands-free lid opening

■ Rapid acceleration and deceleration

- Only need 10 seconds to reach the maximum speed 15,000rpm when AF-2018 (18 x 1.5/2mL tubes) is used.
- Swinging bucket rotor SF-2504S can be used up to 4,800rpm/4,300xg. Optional sealing caps and o-rings (code no. 055-0964) for anti biohazard are applicable.

■ 20 types of rotors are available for your needs

■ Easy-to-use and convenient functions

- Spin-down times from 1 up to 90 seconds can be memorized. The flashing key enables to call up the memorized spinning time.
- Equipped with tachometer port to comply with GMP requirements. Actual rotor speed is easy to check.
- 5 memory settings are available, which can save and recall operation by pressing the button.
- Acceleration and deceleration modes are available in three steps. Density gradient centrifugation also available.
- RCF (xg) setting operation function and step centrifugal force function can be applied.
- Integrator function can optimize centrifugal effect. G-sec value (integrated RCF value) can be measured and the operation with this value is possible.
- Timer can be set up to 990 seconds/minutes. During the hold condition, elapsed running time is displayed.

■ Safety quality

Equipped with various sensors that stop operation immediately for high safety if problem is detected. Rotor sensor detects the rotor being installed.

■ The temperature of sample is maintained at 4°C

Ambient temperature is 25°C. Please see the table of rotors.

One-touch rotor mechanism makes the rotors easy to be changed



Micro Rotor AF-2236



Rotor for Conical Tubes AF-5004CH
50mL conical tubes are available at 22,140xg.

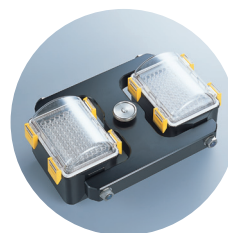


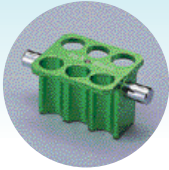
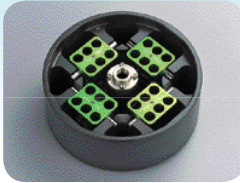
Plate Rotor PF-745S
Double stack Deep-well plates can be used.



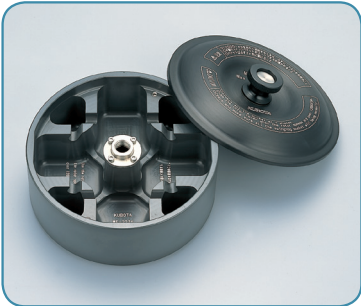


Multi-purpose Swinging Bucket Rotor SF-5004
500mL bottles are available at 4,000rpm/3,080xg.

Multi rotor MF-2236A

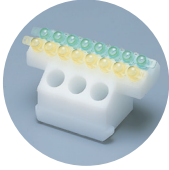

- 3 types of buckets can be used with this rotor.
This helps save cost and time of centrifugation.
- High Speed Centrifugation
Maximum speed : 15,000rpm
Maximum RCF : 18,870xg


=


Swinging bucket
24 x 1.5/2 mL
15,000 rpm
18,360 xg


+

=


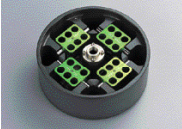


Fixed angle bucket
24 x 1.5/2 mL
15,000 rpm
18,870 xg


=


Combined fixed angle bucket
for 8-strip PCR tubes
1.5/2mL/0.5mL/0.2mL PCR tubes
15,000 rpm
17,860 xg

MF-2236A

Multi rotor MF-2236A

	Rotor Name	Nominal Capacity	Tube sizes (mm) diam. x length	Maximum rpm	Maximum RCF xg	Bucket Code No.	Tube rack Adaptor Code No.
	Swinging bucket	24 x 1.5/2mL	9.5~11.0 x 36~42	15,000	18,360	053-5860	—
		24 x 0.5mL	7.0~7.9 x 25~34		15,090		055-7590
		24 x 0.2mL PCR *	5.9~6.3 x 20~24		11,820		055-0500
	Fixed angle bucket	24 x 1.5/2mL	9.5~11.0 x 36~42	15,000	18,870	053-2000	—
		24 x 0.5mL	7.0~7.9 x 25~34		16,100		055-7590
		24 x 0.2mL PCR *	5.9~6.3 x 20~24		13,330		055-0500
	Combined fixed angle bucket	8 x 0.2mL 8-strip PCR	5.9~6.3 x 20~24	15,000	17,860	053-0060	—
		12 x 1.5/2mL	9.5~11.0 x 36~42		15,600		—
		12 x 0.5mL	7.0~7.9 x 25~34		13,330		055-7590
		12 x 0.2mL PCR *	5.9~6.3 x 20~24		11,320		055-0500

* 0.2mL PCR may not be able to be used at maximum speed since 0.2mL PCR tube cannot stand at the maximum g-force.

Table of Rotors, Buckets and Tube Racks for Model 6200



AF-2730 and AF-5004CS rotors are certified as "Biosealed rotors" by CAMR (U.K.). Even if tubes get broken, samples will not come out of the rotor. These rotors can be used for inspections of BSE, SARS, etc.

● The temperature of sample is maintained at 4°C at maximum speed of rotation. When AF-2236 or AF-2048 rotor is used, the temperature of sample is maintained at 4°C at speed of rotation indicated in the brackets (), and at 8°C at maximum speed.

For RCF indication, please refer to the instruction manual.

Micro Rotor



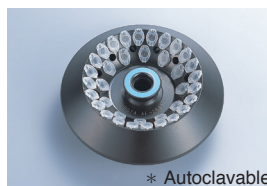
AF-2018
18 x 1.5/2mL
• Quick acceleration within 10 seconds



AF-2724A
24 x 1.5/2mL, 12 x 0.5/0.2mL PCR
• 4 types of tubes (1.5/2mL, 0.5mL, 0.2mL PCR) can be used without adaptors.
• RCF with 20,000 xg is effective for BSE tests.



AF-2730
Biosealed Rotor
30 x 1.5/2mL
• 4 types of tubes (1.5/2mL, 0.5mL, 0.2mL PCR) can be used without adaptors.



AF-2236
36 x 1.5/2mL, 12 x 0.2mL PCR
• 4 types of tubes (1.5/2mL, 0.5mL, 0.2mL PCR) can be used without adaptors.
• Caps of 1.5/2mL tubes can be set in the same direction, which is useful for experiments.



AF-2048A
48 x 1.5/2mL
• Useful for centrifuging a large number of samples.

Rotor Name	Nominal Capacity	Tube size (mm) diam. x length	Maximum Speed rpm	Maximum RCF xg	Tube Rack Adaptor Code No.
AF-2018 *1	18 x 1.5/2mL	9.5~11 x 36~42	15,000	20,630	—
	18 x 0.5mL	7~7.9 x 25~34	15,000	18,110	055-7590
AF-2724A *1	24 x 1.5/2mL	9.5~11 x 36~42	16,000	23,470	—
	12 x 0.5mL	7~7.9 x 25~34	16,000	19,180	—
AF-2730 *1	12 x 0.2mL PCR	5.9~6.3 x 20~24	16,000	16,890	—
	30 x 1.5/2mL	9.5~11 x 36~42	14,000	20,820	—
AF-2236 *1	14 x 0.5mL	7~7.9 x 25~34	14,000	17,530	—
	14 x 0.2mL PCR	5.9~6.3 x 20~24	14,000	16,430	—
AF-2048A *1	36 x 1.5/2mL	9.5~11 x 36~42	15,000 (14,000)	21,880 (19,060) *2	—
	12 x 0.2mL PCR	5.9~6.3 x 20~24	15,000 (14,000)	15,340 (13,370)	—
	36 x 0.5mL	7~7.9 x 25~34	15,000 (14,000)	19,620 (17,090) *2	055-7590
AF-2048A *1	48 x 1.5/2mL	9.5~11 x 36~42	12,000 (11,500)	15,780 (14,490) *2	—
	48 x 0.5mL	7~7.9 x 25~34	12,000 (11,500)	14,330 (13,160) *2	055-7590

Fixed Angle Rotor (for Conical Tubes)



AF-5004CH
4 x 50mL Conical tube
• 15,000rpm/22,140xg
• Protective structure for 50mL conical tube caps prevents the tubes from getting broken. (patented)



AF-5004CS
Biosealed Rotor
4 x 50mL Conical tube
• Various tubes can be used with adaptors.



AF-5004CA
4 x 50mL Conical tube



AF-5008C
8 x 50mL Conical tube

Fixed Angle Rotor (Middle Volume)



AF-512 *5
12 x 5mL



AF-5004RA
4 x 50mL
• 10mL biohazard-proof with sealing adaptors (code no. 055-4280) can be used.



AF-3806A
6 x 38mL



AF-1408A *6
8 x 14mL

Rotor Name	Nominal Capacity	Tube size (mm) diam. x length	Maximum Speed rpm	Maximum RCF xg	Tube Rack Adaptor Code No.
AF-5004CH	4 x 50mL conical tube *3,4	30 x 117	15,000	22,140	—
	4 x 15mL conical tube	17 x 121	15,000	21,130	055-1250
AF-5004CS	4 x 50mL conical tube *3	30 x 117	12,000	14,970	—
	4 x 15mL conical tube	17 x 121	12,000	14,490	055-1280
AF-5004CA	4 x 50mL conical tube *3	30 x 117	12,000	14,170	—
	4 x 15mL conical tube	17 x 121	12,000	13,520	055-1280
AF-5008C	8 x 50mL conical tube *3	30 x 117	10,000 (9,500)	13,420 (12,110)	—
	8 x 15mL conical tube	17 x 121	10,000 (9,500)	13,190 (11,910)	055-1280
AF-512	12 x 5mL *5	15 x 59	15,000	20,880	—
AF-1408A	8 x 14mL *6	17 x 75~100	12,000	14,330	—
AF-5004RA	4 x 50mL	28.5~29 x 102~115	15,000 (14,000)	21,880 (19,060)	—
	4 x 12mL	15.8~16.4 x 103~110	15,000 (14,000)	20,630 (17,970)	055-7410
	4 x 10mL	16~16.3 x 79~92	15,000 (14,000)	20,630 (17,970)	055-4280 *7
AF-3806A	6 x 38mL	25~25.6 x 87~103	15,000 (14,500)	21,880 (19,060)	—

⚠ Rotor has prescribed operating life cycle, after that the rotor must be replaced. For more details, please contact us.

* The number of times allowed for autoclaving is limited. For more details, please contact us.

*1 0.2mL PCR tubes can be used with adaptors (code no.055-0500).

When 055-0500 adaptor is used, it could not be used at maximum speed.

*2 This is a speed of outside tubes. Please contact us for more details.

*3 lwaki, Greiner, Corning, Sarstedt, Sumiron, Vioramo, BD falcon, Fisher, Labcon and Nunc's tubes (cap diam. 36mm or less) can be used.

*4 Nalgene tubes (catalogue no.3110-0500/PPCO, 3110-9500/PPCO, 3117-9500/PC) require adaptors (code no.055-1110).

*5 Biobic 5mL sampling tubes and Watson 5mL mega tubes are applicable.

*6 Falcon tubes (catalogue no.352059) can be used.

*7 These sealing adaptors can be used for anti-biohazard.

Plate Rotor

PF-206



Plate	Nominal Capacity	Plate size mm	Maximum Speed rpm	Maximum RCF xg	Adaptor Code No.
	2 x PCR plate *1 6 x MTP 2 x DWP	86 (W) × 128 (D) × 52 (H)	4,000	1,790	—

PF-745S



Plate	Nominal Capacity	Plate size mm	Maximum Speed rpm	Maximum RCF xg	Adaptor Code No.
	2 x PCR plate *1 12 x MTP 4 x DWP	86 (W) × 128 (D) × 90 (H)	4,200	3,100	Trays 055-6380 *2

Tray Code No.055-6380 (optional)

Ethanol precipitation can be carried out at 3,100 xg. Shield covers that can be used for biohazard proof are equipped with rotor. Double stack Deep-well plates can be used.



Swinging Bucket Rotor

Tube					
Nominal Capacity	24 x 1.5/2mL *3	16 x 5~10mL blood collection tube/15mL *4	4 x 7~10mL blood collection tube/15mL glass *5	4 x 7~10mL blood collection tube/15mL glass *5	8 x 7~10mL blood collection tube/15mL glass *5
Tube size (mm) diam. x length	9.5~11 x 36~42	12~17 x 65~105	12~17.2 x 86~110	12~17.8 x 87~110	12~17.2 x 86~110
Maximum Speed rpm	4,000	4,000	4,000	4,000	4,000
Maximum RCF xg	2,410	2,410	2,540	2,500	2,520
Bucket Code No.	053-4800	053-4930	053-4910	053-4990	053-4900
Adaptor Code No.	—	—	—	055-7400 *6 024-1400 (Rubber cushion)	—
SF-240 Max 4,000 rpm Max 2,610 xg					




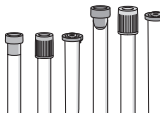





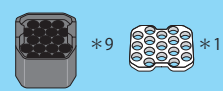
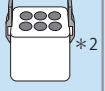






Tube							
Nominal Capacity	4 x 15mL Conical tube	4 x 15mL Conical tube	4 x 15mL Conical tube	8 x 15mL Conical tube	4 x 50mL glass	4 x 50mL Conical tube	4 x 50mL Conical tube
Tube size (mm) diam. x length	17 x 121	17 x 121	17 x 121	17 x 121	27~37 x 95~110	30 x 117	30 x 117
Maximum Speed rpm	4,000	4,000	4,000	4,000	4,000	4,000	4,000
Maximum RCF xg	2,580	2,590	2,590	2,580	2,540	2,610	2,610
Bucket Code No.	053-4910	053-5010	053-0040	053-4900	053-4990	053-0040	053-5010
Adaptor Code No.	—	055-1280	055-1280	—	—	—	—
SF-240 Max 4,000 rpm Max 2,610 xg							

















⚠ Rotor has prescribed operating life cycle and years of operation, after that the rotor must be replaced. For more details, please contact us.

* The number of times allowed for autoclaving is limited. For more details, please contact us.

- *1 Verify plates' strength before centrifugation. Plates in lower position may fracture.
- *2 Optional tray (code no.055-6380) is available.
- *3 Buckets can be made by request. Please contact us.
- *4 5-10mL blood collection tubes which can be used are Insepack II by SEKISUI, Venoject II by TERUMO, Neo tube by NIPRO and Vacutainer by BD.
- *5 7-10mL blood collection tubes which can be used are Insepack II by SEKISUI, Venoject II by TERUMO, Neo tube by NIPRO and Vacutainer by BD.
- *6 In case of using glass tubes, rubber cushion (code no.024-1400) is necessary.
- *7 Sealing caps and o-rings (silicon) are equipped with buckets. Autoclavable at 121°C.

Table of Rotors, Buckets and Tube Racks for Model 6200

		Tube			Flow cytometry				
									
		Nominal Capacity	36 x 1.5/2mL	72 x 1.5/2mL	80 x 1.5/2mL	68 x 5~7mL thin blood collection tube	24 x 8mL CPT cell preparation tube	80 x 10mL (glass)	
Swinging bucket rotor		Tube size (mm) diam. x length	9.5~11 x 36~42			12~13.7 x 62~110		13.5~15.8 x 81~130	12~13.8 x 65~95
		Maximum Speed rpm	4,800	4,000	3,500	3,500		3,500	3,500
		Maximum RCF x g	4,250	3,040	2,290	2,300		2,310	2,080
	SF-724 Max 3,500rpm Max 2,380 x g Autoclavable*	Tube Rack, Adaptor Code No.  Bucket Code No. 053-5820 Buckets are optional.	—	—	055-4800 	Bucket Code No. 053-5840 *9 Adaptor Code No. 055-0260 *1 	055-6900 *2 	055-4740 	
	SF-2504S Max 4,800rpm Max 4,300 x g Autoclavable*	Tube Rack, Adaptor Code No. 055-1190  Sealing caps and O-rings Code No.055-0964 Buckets are equipped with rotor. Sealing caps are optional.		—	—	—	—	—	
	SF-5004 Max 4,000rpm Max 3,080 x g Autoclavable*	Tube Rack, Adaptor Code No. Buckets and Sealing caps are equipped with rotor.	—	055-0770 	—	—	—	—	

		Tube							
									
		Nominal Capacity	4 x 50 mL conical tube	12 x 50 mL conical tube	16 x 50 mL conical tube	4 x 100mL (glass)		4 x 175/225mL conical tube	
Swinging bucket rotor		Tube size (mm) diam. x length	30 x 117			38~46.5 x 83~120	38~46.5 x 113~120		61 x 118/61 x 137
		Maximum Speed rpm	4,800	4,000	3,500	3,500		4,800	
		Maximum RCF x g	4,250	3,040	2,330	2,330		4,250	
	SF-724 Max 3,500rpm Max 2,380 x g Autoclavable*	Tube Rack, Adaptor Code No.  Bucket Code No. 053-5820 Buckets are optional.	—	—	055-6070 	055-4770 	—	—	
	SF-2504S Max 4,800rpm Max 4,300 x g Autoclavable*	Tube Rack, Adaptor Code No. 055-1170  Sealing caps and O-rings Code No.055-0964 Buckets are equipped with rotor. Sealing caps are optional.		—	—	—	055-1200 	*4,6	
	SF-5004 Max 4,000rpm Max 3,080 x g Autoclavable*	Tube Rack, Adaptor Code No. Buckets and Sealing caps are equipped with rotor.	—	055-0760 	—	—	055-1180 	—	

⚠ Rotor has prescribed operating life cycle and years of operation, after that the rotor must be replaced. For more details, please contact us.

* The number of times allowed for autoclaving is limited. For more details, please contact us.

68 x 10mL blood collection tube/15mL (glass)	28 x 5~10mL blood collection tube/15mL (glass)	48 x 5~10mL blood collection tube/15mL (glass)	48 x 5~10mL blood collection tube/15mL (glass)	16 x 15mL conical tube	28 x 15mL conical tube	28 x 15mL conical tube	32 x 15mL conical tube	4 x 50 mL (glass)	8 x 50 mL (glass)	12 x 50 mL (glass)
15~17.2x52~110	12~17.2x72~110	12~17.2x72~110	12~16.8x72~110	17x121				27~36.4x85~110		
3,500	4,800	4,000	3,500	4,800	3,500	4,000	3,500	4,800	3,500	4,000
2,300	4,150	2,970	2,300	4,280	2,300	3,060	2,330	4,150	2,330	2,990
Bucket Code No. 053-5840 *9	—	—	055-0880 *3	—	Bucket Code No. 053-5840 *9	—	055-4780 	—	055-4760 	—
—	055-1140 *3	—	—	055-1160 	—	—	—	055-1150 	—	—
—	—	055-0730 *3	—	—	—	055-0750 	—	—	—	055-0740

This convenient tube rack can accommodate various sizes (such as 5 mL, 7 mL, 10 mL) blood collection tubes, as well as 15 mL glass tubes.

- *1 5-7mL blood collection tubes which can be used are insepack II and ST series by SEKISUI, Venoject II by TERUMO, Neo tube by NIPRO and Vacutainer by BD. The tubes for flow cytometry are applicable.
- *2 The blood collection tubes which can be used are Vacutainer 8mL CPT by BD.
- *3 5-10mL blood collection tubes which can be used are insepack II and ST series by SEKISUI, Venoject II by TERUMO, Neo tube by NIPRO and Vacutainer by BD. The tubes for flow cytometry are applicable.

4 x 175/200/225mL conical tube	4 x 250mL *7	4 x 250mL *7	4 x 250mL *7	4 x 500mL *8	4 x Self-standing for sputum	Self-standing for sputum			Self-standing for sputum		
61 x 118/61 x 130/61 x 137	60~62 x 100~134.4			85 x 135	cap size φ48	cap size φ48	cap size φ37	cap size φ31	cap size φ48	cap size φ37	cap size φ31
3,500	4,000	3,500	4,800	4,000	4,800	4,000			3,500		
2,330	3,080	2,380	4,300	3,080	4,250	3,020			2,250	2,290	2,300
055-4850 *4 *5	—	055-4850 	—	—	—	—	—	—	055-0430 	055-0440 	055-0450
—	—	—	can be used without adaptors	—	055-1210 	—	—	—	—	—	—
—	055-0780 *4 *5 *6	—	—	055-0780 	can be used without adaptors	—	055-0810 	055-0800 	055-0790 	—	—

- *4 175/225mL Falcon conical tubes (catalogue No.352076/352075) require cushions (catalogue No.352090).
- *5 200mL Nalgene conical tubes (catalogue No.376813) require cushions (catalogue No.377585). Maximum RCF is 3,020 xg when SF-5004 rotor is used.
- *6 Sealing caps can not be used with 200/225mL conical tubes.
- *7 Nalgene, Helolab, and Corning 250mL flat bottom bottles can be used.
- *8 500mL bottles (Code No.K15501C/PPCO) can be used.
- *9 The bucket cannot be used for a glass spit tube (tapered tube).

Specifications

Model 6200

Maximum Speed	• 16,000 rpm
Maximum RCF	• 23,470 xg
Maximum Capacity	• 2,000 mL
Control system	• Micro-processor control (brush-less motor) Speed, RCF(g), Time, g·sec, Temperature, Acceleration and Deceleration, 5 memories
Alarm display	• Lid open, Imbalance, Over speed, Rotor set state, 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/indication	• 10 or 100 rpm increments
RCF setting/indication	• 10 or 100 xg increments
Integrator setting and indication	• Digital display, from 1.00 - 9.99 x 10 ³ g·sec
Timer setting and indication	• Digital display, with HOLD function (continuous operation) and flashing 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
Power requirements	• Single phase 50/60 Hz, 110V±10% 15A, 115V±10% 15A, 220V±10% 10A, 230V±10% 10A
Rated voltage and rated current	• 110V 7.9A, 115V 7.6A, 220V 3.9A, 230V 3.8A
Power consumption and heat output	• 720W 2.6 MJ/h
Dimensions, weight	• 50(W) x 65(D) x 85(H) cm ^(*) , 118 kg
Certificates of conformity	• IEC 61010-2-020 (except when using AF-5008C) CE Marking (AC220V and 230V Version, except when using AF-5008C)

(*1) Not including projections.

All specifications and external appearance are subject to be changed 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.

Precautions for use

Products in this catalogue are designed for use only by people who have the requisite technical knowledge, and must always be used with considerable care and only for their intended purpose. People who do not have adequate technical knowledge or training should only use the products under appropriate supervision by someone with expert knowledge, or else accidents are likely to occur.



Prohibited

Please immediately stop using the products in any of the cases listed on the right.

- The rotor or buckets appear to be damaged or corroded.
- When the replacement period (years of operation, operating lifetime) of a rotor has passed.
- The equipment emits a burning smell or becomes abnormally hot.
- You receive a weak electric shock when you touch the equipment with your bare hands.
- When any other abnormality or indication of failure is noticed.

IMPORTANT

If any of the cases listed at the left occurs, immediately turn off the power, disconnect the power cable plug or connecting terminals from the main power outlet, place a "Do not use" sign on the unit, and contact the nearest branch of Kubota Corporation.



Safety Precautions

To use the equipment safely, be sure to read the instruction manual carefully before you start operations.

Do not misplace the instruction manual. Keep the instruction manual nearby so that you can refer to it whenever necessary.

- The term of supplying spare parts for repair is 7 years after discontinuation of production (except spare parts which we are unable to procure).
- This catalogue is not for distribution in the USA, Canada and Mexico as products shown are not for sale in these countries.

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