

Product name	Benchtop Centrifuge					
Swing rotor						
Max. capacity	68×15 mL					
Max. speed	4,800 rpm					
Max. RCF	4,300×g					
Angle rotor	· · ·					
Max. capacity	8×50 mL conical tube					
Max. speed	6,000 rpm					
Max. RCF	5,350×g					
Size	44(W)×53(D)×32(H) cm Height with opened lid: 76 cm					
Weight	110V: 37 kg, 220/230V: 39 kg					
Power consumption: calorific value	520W, 1.9MJ/h (Power-saving mode: Approx. 7W)					
Power requirements	Single phase 110 \pm 10 $\%$ V 50/60Hz, 15A Single phase 220 \pm 10 $\%$ V 50/60Hz, 8A Single phase 230 \pm 10 $\%$ V 50/60Hz, 8A					
Rated voltage, rated current	110V: 7.0A, 220V: 3.2A, 230V: 3.1A					
	Temperature: 10 − 35 °C					
Use environment	Humidity: 30 – 85%					
	Atmospherics pressure: 70 – 106 kPa (700 – 1,060 mbar)					
Conforming standard	IEC61010-2-020					
Driving method	Direct-drive (directly connected to brushless motor)					
Control method	Inverter microprocessor control (brushless motor)					
Error display	Lid open, imbalance, over-speed, motor, rotation sensor, lid sensor, inverter, rotor sensor, imbalance sensor					
Stoppage alarm	11 types of sounds + silent, 5 levels of sound volume (including silent)					
Rotation radius settings	It can be set for each rotor.					
Centrifugation increments	3 steps (rotation speed, time)					
Spood cotting range	200 – 6,000 rpm					
Speed setting range	10 or 100 rpm increments					
PCE sotting range	10 − 5,350×g					
RCF setting range	10 or 100×g increments					
	1 sec. to 99 hours and 59 min.					
	Sec.: 1 sec. increments					
Timer setting range	Min.: 1 min. increments					
	Hour: 1 hour increments					
	Hold					
Temperature setting range	_					
Refrigerated	_					
Program memory	99 channels (5 for direct invocation using the panel button)					
Acceleration / deceleration	3 steps					

5500FR

Product name	Floor-standing Refrigerated Centrifuge					
Swing rotor						
Max. capacity	4×500 mL					
Max. speed	4,800 rpm					
Max. RCF	4,300×g					
Angle rotor						
Max. capacity	8×50 mL conical tube					
Max. speed	8,500 rpm					
Max. RCF	9,690×g					
Size	54(W)×64(D)×84(H) cm					
W. t. L.	Height with opened lid: 136 cm					
Weight	116 kg					
Power consumption: calorific value	690W, 2.5MJ/h (Power-saving mode: Approx. 7W)					
Power requirements	Single phase 110 ± 10 % V, 50/60Hz, 15A					
	Single phase 220 ± 10 % V, 50/60Hz, 10A					
	Single phase 230 ± 10 % V, 50/60Hz, 10A					
Rated voltage, rated current	110V: 8.4A, 220V: 4.3A, 230V: 4.1A					
	Temperature: 10 − 35 °C					
Use environment	Humidity: 30 - 85%					
	Atmospherics pressure: 70 – 106 kPa (700 – 1,060 mbar)					
Conforming standard	IEC61010-2-020					
Driving method	Direct-drive (directly connected to brushless motor)					
Control method	Inverter microprocessor control (brushless motor)					
Error display	Lid open, imbalance, over-speed, motor, rotation sensor, temperature sensor, lid sensor, inverter, abnormal temperature rotor sensor, imbalance sensor					
Stoppage alarm	11 types of sounds + silent, 5 levels of sound volume (including silent)					
Rotation radius settings	It can be set for each rotor.					
Centrifugation increments	3 steps (rotation speed, time)					
Speed setting range	200 - 8,500 rpm					
Speed setting range	10 or 100 rpm increments					
RCF setting range	10 − 9,690×g					
ner setting range	10 or 100×g increments					
	1 sec. to 99 hours and 59 min.					
	Sec.: 1 sec. increments					
Timer setting range	Min.: 1 min. increments					
	Hour: 1 hour increments					
	Hold					
Temperature setting range	−10 to +40°C 1°C increments					
Refrigerated	R134a 0.28 kg GWP 1,430					
Program memory	99 channels (3 for direct invocation using the panel button)					
Acceleration / deceleration	3 steps					

Kubota has acquired ISO 9001 and ISO 13485 certification.



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.



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.



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.



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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Multipurpose Centrifuge S500 Series





Universal design

Visual and intuitive operation in an interface with a rounded body offering smooth lines and sharp lines. This design shattered the traditional image of hard, square centrifuges, while our new centrifuge is packed full of the latest technology.



Floor-standing Refrigerated Centrifuge







Innovation—New Function

Self-check function to support daily inspection of your centrifuge

Daily operation checks of previous centrifuges were not able to check whether sensors and lid sensors operated normally; however, the "Self-Check Function" mounted on the S500 Series allows easy checks of sensors and lid sensor operation during daily inspection by just operating the centrifuge in accordance with the display.

This new function has been developed for our customers for safe and reliable use of the centrifuge.

The self-check function checks the following items and judges acceptability. After the results of the self-check function are displayed, the available use frequency until the equipped rotor alarm is displayed.

- Lid sensor

- Inverter

- Rotor sensor

- Rotation sensor
- Imbalance sensor
- Operation test
- Temperature sensor (S500FR only)





Fail-Safe Function Early detection of Imbalance

ST-724M, ST-2504MS, ST-480M (For S500T/S500FR) ST-5004M (For S500FR)

A big imbalance usually causes contact between bucket and chamber and breakage.

The impact can damage both the motor and shaft.

Fixing this damage requires high costs and the centrifuge cannot be used during repair.

KUBOTA prevents damage to centrifugal tubes and loss of time by the fail-safe function, as well as providing a centrifuge that can be used comfortably.



Responding to User Needs in a Multitude of Ways

Mixed Loading MIX

KUBOTA achieved Mixed Loading where two different types of buckets or tube racks can be centrifuged at the same time.

Moreover, frequently used combinations of buckets are offered as a set as standard so that the accessories become more affordable.

> Available swing rotors: ST-724M, ST-2504MS, ST-5004M, ST-480M



16×15mL conical tubes; 8×50mL conical tubes



8×15mL conical tubes; 2×50mL conical tubes



ST-5004M 14×15mL conical tubes; 6×50mL conical tubes



8×15mL conical tubes: 4×50mL conical tubes

User Interface 3-channel 5-channel







S500T direct memory 5-channel S500FR direct memory 3-channel

Three or five Short-Cut Program Keys for Direct Access.

Larger and prominent START / STOP / OPEN buttons for simple operation. Centrifuge operation for routine work can be performed with these simple keys.

Settings can be adjusted using the arrow keys.





Menu and error displays have also been enhanced.

Equipped with self-luminous display (VFD) VFD 126



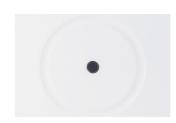


- Equipped with technology unique to Japan, VFD (Vacuum fluorescent display)
- Visibility of display generally depends on the contrast ratio

of dots in the display. VFD dots are self-luminous and other parts are blacked-out. Therefore, the contrast ratio is large and displays can be identified clearly from a distance.



- With a minimum viewing angle of 126°, the wide viewing angle allows you to see the display even from an angle.
- The display blinks to notify you of the end of centrifugation.



Viewport 🕃



■ It responds to speed measurement for inspections by using an tachometer.

Power-saving mode



- S500FR automatically stops the refrigeration process and turns off the display. Power consumption in this mode is approximately 7 W.
- S500T automatically turns off the display. Power consumption in this mode is approximately 7 W.



Motorized lid lock

- A newly developed motorized lid lock system.
- A light touch is all that is needed to activate the lid motor and lock it automatically.



KUBOTA

➤ Responding to User Needs in a Multitude of Ways

Compact body, but wide interior

It has a wide chamber (diameter: 38 cm), but compact body (height: 32 cm, depth: 53 cm). (For S500T only)

Equipped with a delayed start function after setting samples

Settings to delay start of operation, which is convenient for serum separation, are available. (Up to 900 sec.)

Easy spin-down with flashing function

Rotor rotates only while the start button is pressed.

Automatic identification of rotors by rotor sensor

It prevents the set rotor from rotating more than the maximum speed. Use frequency is recorded for each rotor.

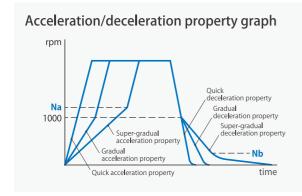


Equipped with a toolless rotor

Rotor can be set and exchanged easily without tools.(excluding RA-508C)

Changeable acceleration and deceleration curve

It prevents flying up during collection of cells, etc.



■ In cases of gradual acceleration property, property switch speed "Na" can be set at variables of 100 rpm increments between 0 and the maximum speed.

44 cm

32 cm

53 cm

■ In cases of gradual deceleration property, natural deceleration (no brakes) can be performed.

➤ KUBOTA's Dedication to Safety

IEC61010-2-020: International safety requirements for centrifuges

- Centrifuge rotors store large amounts of kinetic energy when spinning at high rates. All of the rotors pass strict tests for durability under maximum load, but wear and external factors mean that rotor breakage during centrifugation cannot be entirely ruled out.
- Centrifuges that meet the IEC61010-2-020 requirements will retain fragments within the centrifuge if the rotor breaks during centrifugation, ensuring user safety.

Rotor durability

- The rotating parts of the centrifuge, its rotors and buckets, are made of metal, such as stainless steel and aluminum.
- If a metal plate is bent and straightened over and over, it will eventually break due to metal fatigue.
- Rotors and buckets undergo repeated "bending and straightening" during spin-up and spin-down. After a specified period of use or number of operations is reached, these parts may break due to metal fatigue.
- To use KUBOTA's products safely, we ask that you replace any rotor that has reached the end of its life time. We appreciate your understanding and cooperation.

To deliver quality products to KUBOTA's customers:

- KUBOTA manufactures prototypes at the development phase and implements durability tests based on actual use conditions.
- Only products that pass the strict durability tests can proceed to the next stage.
- After durability tests, we produce additional prototypes and perform field tests in workplaces with actual users. Feedback from these users is then incorporated in the products.
- Experienced engineers perform release inspections. Every unit is inspected carefully by activating the centrifuge and carefully monitoring its sounds and vibrations.





Rotor specifications

This tube rack is convenient and available for 5 mL, 7 mL, and 10 mL blood collection tubes and 15 mL glass tubes.

A Rotors are subject to durability. For more details, please contact us.

Nominal capacity 36×1.5/2mL 72×1.5/2mL 80×1.5/2mL 68×5~7mL thin blood collection tube 12~13.7×62~110 13.5~15.8×81~130 12~13.8×65~95 15~17.2×52~110 12~17.2×72~110 12~16.8	tube glass tube glass tube glass tube 27~36.4×85~110
Nominal capacity 36×1.5/2mL 72×1.5/2mL 80×1.5/2mL thin blood collection tube thin blood col	tube glass tube glass tube glass tube 27~36.4×85~110
Swing rotor Max. speed(rpm) 4,800 4,000 3,500 3,500 3,500 3,500 4,800 4,000 3,500 4,000<	
Swing rotor Max. RCF(×g) 4,250 3,040 2,290 2,300 2,310 2,080 2,300 4,150 2,970 2,300 4,280 2,300 3,060 2,30 ST-724M Code No. 055-4800 Bucket Code No. 055-6900 055-4740 Bucket Code No. 055-0880 Bucket Code No. 055-4740	
Max. RCF(xg) 4,250 3,040 2,290 2,300 2,310 2,080 2,300 4,150 2,970 2,300 4,280 2,300 3,060 2,300 ST-724M Code No.	
	780 055-4760
Bucket O53-5820 (Set of 4) Buckets are optional. Max 3.500rpm Max 2.380×g	
ST-2504MS Code No. 055-1190 055-1160	055-1150
Sealing caps 055-0964 (Set of 4) Buckets are equipped with rotor. Sealing caps are optional. Max 4,800rpm Max 4,800rg optional.	
ST-5004M Code No. 055-0770 055-0750	055-0740
(S500FR only) Buckets and sealing caps are equipped to the same sequipped to the same s	
Max 4,000rpm caps are equipped with rotor	
Tube Mix 10 10 10 10 10 10 10 1	Self-Standing sputum tube
Nominal capacity A×50mL 12×50mL 16×50mL conical tube co	x8 ×12 ×16
Tube size:Diameter×Length(mm) 30×117 17×121/30×117 38~46.5× 83~120 38~46.5× 13~120 61×118 61×118/61×130/61×137 60~62×100~134.4 85×135 488 cap diam.	
Swing rotor Max. speed(rpm) 4.800 4.000 3.500 4.800 4.000 3.500 4.800 4.000 4.800 4.000 4.800 4.000 4.800 4.000 4.800 4.000 4.800 4.000 4.800 4.000	3,500
Swing rotor Max. RCF(×g) 4,250 3,040 2,330 2,330 4,280/4,250 3,060/3,040 2,330 4,250 2,970 4,250 2,330 3,080 2,380 4,300 3,080 4,250 3,080 3,080 4,250 3,080 3,080 4,250 3,080 4,250 3,080 4,250 3,080 4,250	2,250 2,290 2,300
ST-724M Code No. 055-6070 055-1600 055-4770 055-4850 055-4850	055-0430 055-0440 055-0450
Bucket 053-5820 (Set of 4) Buckets are optional.	
ST-2504MS Code No. 055-1170 055-1610 055-1200 055-1210	
Sealing caps	_
Max 4,800rpm Max 4,800rpm Max 4,300×g Optional.	
Max 4,800rpm Max 4,300×g Buckets are equipped with rotor. Sealing caps are optional. Buckets are equipped with rotor. Sealing caps are optional.	

- *1. Thin blood collection tubes of 5 to 7 mL of Sekisui Insepack II, Terumo Venoject II, Nipro Neo tube, and BD Vacutainer can be used. Tubes for flow cytometry can also be used.

 *2. This tube is for 8 mL Vacutainer CPT blood collection tubes for the separation of mononuclear cells of BD (nominal: \$\phi\$ 16×125).

Buckets and sealing caps are equipped with rotor

- *3. Thin and thick blood collection tubes of 5 to 10 mL of Sekisui Insepack II, Terumo Venoject II, Nipro Neo tube, and BD Vacutainer can be used. Tubes for flow cytometry can also be used.
- *4. When using the bucket No. 053-5840 only, bucket No. 053-5820 is not necessary. Glass spitz tubes (tapered tubes) cannot be used with this bucket.

 *5. Falcon 175 mL conical tubes (Catalog No. 352076) can be centrifuged using a cushion
- *6. Nunc 200 mL conical tubes (Catalog No. 376813) can be centrifuged using a cushion (Catalog No. 377585). Falcon 225 mL conical tubes (Catalog No. 352075) can be centrifuged

- using a cushion (Catalog No. 352090).

 *7. When centrifuging a 200/225 mL conical tube, a sealing cap cannot be used.

 *8. 250 mL flat-bottomed bottles of Nalgene, Herolab, and Corning can be used.

 *9. 500 mL bottles (Code No. K15501C/polypropylene copolymer) can be used.
- *10. Mix set are exclusively for S500T/S500FR and cannot be used for other models.
- *11. This tube rack (Code No. 055-1600) is sold as a set 2 of Code No. 055-4780 and 2 of Code No. 055-6070.
- * 12. This tube rack (Code No. 055-1610) is sold as a set 2 of Code No. 055-1160 and 2 of Code No. 055-1170.
- *13. This tube rack (Code No. 055-1620) is sold as a set 2 of Code No. 055-0750 and 2 of Code No. 055-0760.

Rotor specifications

	Tube		Flow					
	Nominal capacity 48×1.5/2mL		16×5-10mL blood collection tube/ 15mL glass tube	4×7-10mL long blood collection tube / 15mL glass tube	8×7-10mL long blood collection tube / 15mL glass tube	32×7-10mL long blood collection tube / 15mL glass tube	4×50mL glass tube	8×50mL glass tube
	Tube size:Diameter×Length(mm)	9.5~11×36~42	12~17×65~107	1	2~17.2×86~11	0	27~38×1	00~110
Swing rotor	Max. speed(rpm)	3,500	3,500	3,500(5,000)	3,500	3,500	3,500(5,000)	3,500
Swirig rotor	Max. RCF(×g) 1,880		2,220	2,230(4,560) 2,230		2,270	2,270(4,640)	2,270
ST-480M	Code No. 053-5040		053-4930 *5	053-7110	053-7150	053-7130*5	053-7110	053-7150
	Max 3,500rpm Max 2,380×g		*1			*2		
ST-504M	Code No. Max 5,000rpm Max 4,860×g	_	_	055-7080	_	-	053-7080	_
ST-480M·S	Code No. ST-504M	_	_	055-7400 *2 *3 (Set of 4)	055-7400 *2 *3 (Set of 4)	_	_	_

Please select bucket and adapter. They are optional (sold separately).

Max speed and RCF of ST-504M are the figures in parentheses.

Rotors are subject to durability. For more details, please contact us.

	Tube	(Regeneration)			пининий ф		Mix *6	Sealing type for biohazard countermeasures	
	Nominal capacity	16×15mL conical tube	4×15mL conical tube	4×50mL conical tube	8×15mL conical tube		8×15mL conical tube 4×50mL conical tube		4×50mL conical tube
	Tube size:Diameter×Length(mm)	17×121	17×121	30×117	17×121	30×117	17×121/30×117	17×121	30×117
Swing rotor	Max. speed(rpm)	3,500	3,500 (5,000)	3,500(5,000)	3,500	3,500	3,500	3,500(5,000)	3,500(5,000)
Swillig Fotoi	Max. RCF(×g)	2,340	2,370(4,840)	2,380(4,860)	2,370	2,380	2,340/2,380	2,370(4,840)	2,380(4,860)
ST-480M	Code No.	053-1590	053-	5010	053-5020		053-6040 *7	053-0040	
	Max 3,500rpm Max 2,380×g					61			*4
ST-504M	ST-504M Code No. Max 5,000rpm Max 4,860×g		053-4970		-		_	053-	*4
Code No.		-	055-1280 (Set of 2)	_	055-1280 (Set of 2)	_	_	055-1280 (Set of 2)	_

Rotors are subject to durability. For more details, please contact us.

- *1. A blood collection tube with a cap diameter of 18 mm or less and a length under the cap of 61 mm or more can be used. Thick/thin and long/short blood collection tubes of 5 to 10 mL of Sekisui Insepack II, Terumo Venoject II, Nipro Neo tube, and BD Vacutainer can be used. Tubes for flow cytometry can also be used.
- *2. A blood collection tube with a cap diameter of 18 mm or less and a length under the cap of 85 mm or more can be used. Thick/thin and long blood collection tubes of 7 to 10 *3. Rubber cushions (Code No. 024-0159/10 pieces) that are sold separately are necessary.

 *4. A bucket with a sealing cap. Sealing cap and O ring (silicon) are included as standard.

 *5. This is shipped with rubber cushion (Code No. 024-0159) equipped.

 *6. MiX set are exclusively for \$500T and \$500FR and cannot be used for former models.

- *7. This bucket (Code No. 053-6040) is sold as a set 2 of Code No. 053-1590 and 2 of No. 053-5020.

Plate rotor	Plate	Nominal capacity	Plate size: Diameter×Length(mm)	Max. speed (rpm)	Max. RCF (×g)	Adaptor Code No.
PT-22M		*1 2×PCR plate 6×MTP 2×DWP	86(W)×130(D)×62(H)	5,000	3,100	_
PT-89M		*1 2×PCR plate 8×MTP 4×DWP	86(W)×130(D)×89(H)	2,400	1,080	*2,3 055-6370 (Set of 2)
PT-745MS (S500FR only)		*1 2×PCR plate 12×MTP 4×DWP	86(W)×128(D)×90(H)	4,200	3,100	*2,3 055-6380 (Set of 2)

Tray 055-6380 (option) (Set of 2)











				AT-5	08 <i>C</i>	RA-5	08 <i>C</i>	
Angle rotor	Tube	Nominal capacity	Tube size:Diameter ×Length(mm)	Max. speed (rpm)	Max. RCF (×g)	Max. speed (rpm)	Max. RCF (×g)	Adaptor Code No.
AT-508C 8×50mL conical tube	9	8×12mL *4 plastic	15.7~16.4×102~105	6,000	5,110	8,500	9,370	055-1120 (Set of 8)
RA-508C 8×50mL conical tube (S500FR only) Lid (Code No.028-0595) is optional.		*5 8×14mL	17×100	6,000	4,990	8,500	9,130	055-0550 (Set of 4)
		8×15mL conical tube	17×121	6,000	5,270	8,500	9,530	055-1280 (Set of 2)
	Sartorius	8×50mL conical tube	30×117	6,000	5,350	8,500	9,690	_
		@ Vivaspin 2	16.7×129		5,270	7,780	7,990	055-1280
		Vivaspin 6	16.7×129	6,000				(Set of 2)
	(a)(b)(c)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)(d)<	© Vivaspin 15R/20	30×117	6,000	5,350	6,680	5,990	_
	Millipore (a) (e)	@ Amicon Ultra-4	17.3×124	6,000	5,270	7,540	7,500	055-1280 (Set of 2)
		Amicon Ultra-15	29.7×121	5,800	5,000	6,100	4,990	_

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A Rotors are subject to durability. For more details, please contact us.

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

- *1. Please test the strength of plates before starting centrifugation. The lower plate may be crushed in some cases.
 *2. This tray is convenient when taking a plate out of the bucket.
 *3. The tray is optional (sold separately).
 *4. This tube is a Nalgene plastic tube (Catalog No. 3110-0120, 3117-0120).
 *5. This tube is a Falcon tube (Catalog No. 352006, 352018, 352059).