



Large Capacity Refrigerated Centrifuge

**9925/9945**



## ➤ 1,000 mL x 6 high-speed, large-capacity, angle rotors

- The RS-8080 rotor for blood bags can simultaneously process eight 400 mL leukocyte separators/MAP.
- The inner cup for blood bags is designed to enable ease of use. Please refer to page 4.
- Electric door locks are used to ensure locking.  
The chamber lid only requires a slight press to close.
- Good separation of the sample can be reproduced.  
There are 10 setting levels that enable a well-matched acceleration curve and deceleration curve to the sample.
- GMP compliant
  - Since this comes with a tachometer port, checking the actual rotation speed of the rotor is easy.
  - A log system and barcode reader can be installed. (optional)
- Compliant with the IEC 61010-2-020 international safety standard. (except when a K12510 rotor is used)
- A foot switch for door lock release can be installed. (optional)



Large Capacity Refrigerated Centrifuge

**9925** IEC61010-2-020

## Rotor specifications for the model 9925



RS-8080



RS-7100



RS-7002



RS-3900



K12510

Rotor	Nominal capacity	Number of tube	Max. speed (rpm)	Max. RCF (×g)	Adaptor Code No.
RS-8080	200mL Blood bag	8	4,200	5,190	055-6220 (Set of 4) 055-6298 (Set of 8) *1
	250mL Double or Triple Blood bag	16	4,200	5,250	055-6244 (Set of 4)
	400mL Blood bag	8	4,200	5,250	055-6220 (Set of 4)
	500mL Double or Triple Blood bag	8	4,200	5,250	055-6244 (Set of 4)
RS-7100	1,000mL Stainless bottle*2	4	3,500	3,480	055-4930 (Set of 2)
	800mL Blood bag	4	4,200	5,090	055-4920 (Set of 4)
RS-7002	700mL Stainless bottle*3	6	3,500	3,660	—
	1,000mL Stainless bottle*2	6	2,900	2,510	—
	1,000mL Plastic bottle*4	6	3,900	4,540	—
	400-450mL Triple Blood bag	6	4,200	5,270	055-6176L (Set of 6)

Rotor	Nominal capacity	Number of tube	Tube size: Diameter × Length (mm)	Max. speed (rpm)	Max. RCF (×g)	Adaptor Code No.
RS-3900	RIA tube	364	9~11.4×75~110	3,000	2,490	055-0100 (Set of 4)
	6mL	364	11.5~13.4×75~110	3,000	2,490	055-0110 (Set of 4)
	15mL glass tube	200	15~17.2×75~110	3,000	2,490	055-0140 (Set of 4)
	15mL glass tube	252	15~17.2×75~110	3,000	2,490	055-0160 (Set of 4)
	50mL glass tube	56	27~36.5×75~110	3,000	2,490	055-0170 (Set of 4)
	50mL Conical tube	60	30×117	3,000	2,490	055-0180 (Set of 4)
K12510	250mL Plastic bottle	12	60~62.3×80~136	3,000	2,490	055-0190 (Set of 4)
	1,000mL Stainless bottle*5	6	100×172	7,000	11,290	—
	1,000mL Plastic bottle*6	6	98×175	7,000	11,230	K13511 (Set of 6)

Rotors have life cycles and service lives. Please contact us for more details.

Only one type of rotor listed in the table can be used for this main unit. No more than one type of rotor can be used at the same time.

\*1 This adaptor is dedicated to Code no. 055-6220 inner cups. This cannot be used for other inner cups.

\*2 Stainless steel tubes (Code no. 052-7080 /set of 2 pieces) can be used.

\*3 Stainless steel tubes (Code no. 052-1530 /set of 2 pieces) can be used.

\*4 HeroLab 1,000 mL bottles (Catalog no. 253562, 253565 made of PC; Catalog no. 253572, 253575 made of PPCCO) and Nalgene 1,000 mL bottles (Catalog no. 3120-1000 made of PPCCO, Catalog no. 3122-1000 made of PC) can be used.

\*5 Stainless steel tubes (Code no. K13510 /set of 6 pieces) can be used.

\*6 HeroLab 1,000 mL bottles (Catalog no. 253750, 253575 made of PPCCO) can be used.

## ➤ Twelve blood bags can be processed with a single instrument

- Uses an electric door lock.
 

The chamber lid automatically electrically locks. The lid only requires a slight press to close.
- The instrument is equipped with a warning lamp and buzzer that let users know the status quickly even from a distance.
  - The color of the warning lamp for operations and stopping can be changed for each memory setting. There is a choice of 7 colors.
  - Buzzer sounds can be selected from 5 melodies, a single buzzer sound, or no sound.
- The inner cup for blood bags is designed to enable ease of use.
 

The shape of the bottom prevents bags from tilting even if blood bags are removed from one side. If the inner cup is tilted, the separation layer is disturbed.
- Good separation of the sample can be reproduced.
 

The integrator function enables the measurement of g/sec values (centrifugal force integration value) and setting operations.
- Comes with a function to allow step centrifugation.
 

Can be used with automatic umbilical cord blood separators.
- GMP compliant
  - Since this comes with a tachometer port, checking the actual rotation speed of the rotor is easy.
  - A log system and barcode reader can be installed. (optional)
- Compliant with the IEC 61010-2-020 international safety standard.
- A foot switch for door lock release can be installed. (optional)



Large Capacity Refrigerated Centrifuge

**9945** IEC61010-2-020



The following are the functions of the operational history display LCD.

- To set various centrifuge parameters
  - Displays the number of times the centrifuge is used/duration of use/error history
  - Color of the centrifuge status notification lamp
  - Clock function (for log printers)
- To set various rotor parameters
  - Displays maximum rotor rotation speed/maximum centrifugal force, and changes the rotor rotating radius
  - Displays the number of times the rotor is used/duration of use

# Rotor specifications for the model 9945



RS-8120



RS-3920

Rotor	Nominal capacity	Number of tube	Max. speed (rpm)	Max. RCF (×g)	Adaptor Code No.
RS-8120	200mL Triple Blood bag	12	4,000	5,190	055-6226 (Set of 6) 055-6290 (Set of 12) *1
	250mL Double or Triple Blood bag	24	4,000	5,240	055-6246 (Set of 6)
	400mL Triple Blood bag	12	4,000	5,240	055-6226 (Set of 6)
	500mL Double or Triple Blood bag	12	4,000	5,240	055-6246 (Set of 6)

Rotor	Nominal capacity	Number of tube	Tube size: Diameter × Length (mm)	Max. speed (rpm)	Max. RCF (×g)	Adaptor Code No.
RS-3920	Aloka RIA setting rack	200	22×200×45*4	2,700	2,140	*2
	Aloka 50 tubes rack	200	110×220×60*4	2,700	2,140	*2
	Sysmex analytical rack	160	25×200×65*4	2,700	2,140	*2
	BML 50 tubes rack	200	106×206×70*4	2,700	2,140	*2
	Hitachi analytical rack	200	20×118×69*4	2,700	2,140	*2
	7-10mL blood collecting tube / 15mL glass tube	260	122×220×60*4	2,700	2,140	*3

Rotors have life cycles and service lives. Please contact us for more details.

Only one type of rotor listed in the table can be used for this main unit. No more than one type of rotor can be used at the same time.

\*1 This adapter is dedicated to Code no. 055-6226 inner cups. This cannot be used for other inner cups.

\*2 Adapters are custom-made (for a fee), so please specify the type of rack.

\*3 Custom-made tube racks can also be produced, so please contact us.

\*4 The size of tube racks (mm) is in width x depth x height.

## Features of inner cups for RS-8120/RS-8080

- A 400/500 mL blood bag fits into a partition type inner cup.  
In the unlikely event that one blood bag is damaged, contamination of the remaining bags is minimized.
- Can be used for both RS-8120 rotors for 9942 and RS-8080 rotors for 9920.  
(Code no. 055-6226/set of 6 and no. 055-6246/set of 6 for RS-8120, code no. 055-6220/set of 4 and no. 055-6244/set of 4 for RS-8080)
- There are also adapters for 200 mL blood bags.  
(Code no. 055-6290/set of 12 for RS-8120, code no. 055-6298/set of 8 for RS-8080)
- The shape of the bottom of the cup was taken into consideration to prevent the inner cup from easily tilting.



- There is a partition in the center of the inner cup.
- Blood bags can be easily taken in or out.



- Since there are partitions, each blood bag is independently seated in.
- In the unlikely event that one blood bag is damaged, contamination of the remaining bags is minimized.



- The shape of the bottom of the cup was taken into consideration to prevent the inner cup from easily tilting.



- The inner cup does not tilt even if one blood bag is removed and one side is emptied. The separation layer is not disturbed.

- Certain types of inner cups tilt and disturb the separation layer when blood bags are removed and one side is emptied.  
For this reason, there is a cumbersome need to use a special stand to remove the blood bags.  
In addition, blood bags with disturbed separation layers require re-centrifugation, which is time-consuming and cumbersome.

## ➤ Centrifuge log system for 9945

KUBOTA's centrifuge log system enables the monitoring of the status of centrifuge operations and recording, storage, and output of operational data. The use of barcodes and barcode readers enables blood bags to be linked to centrifuges, centrifuge conditions, and users, helping with blood bag tracing and quality control.

### Review and output of operational records

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Information can be checked by searching for the blood bag no., centrifuge no., centrifuging date and time, or logs of occurring errors.

### Tracking reliability

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Since the centrifuge status (e.g., centrifuge used, centrifuge program, error information) of each blood bag is recorded, required information can be quickly confirmed.



# ➤ 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.

# 9925

Product name	Large Capacity Refrigerated Centrifuge
Swing rotor	
Max. capacity	1,000mL×6, blood bag×8
Max. speed	4,200rpm(RS-7002/7100/8080)
Max. RCF	5,270×g(RS-7002)
Angle rotor	
Max. capacity	1,000mL×6(K12510)
Max. speed	7,000rpm(K12510)
Max. RCF	11,290×g(K12510)
Size	73(W)×83(D)×109(H) cm Height with opened lid: 158 cm*
Weight	375 kg
Power consumption and Heat out put	2.6 kW, 9.4MJ/h
Power requirements	Single phase 220V ± 10% 50/60Hz 30A Single phase 230V ± 10% 50/60Hz 30A
Rated voltage and Rated current	220V 15A, 230V 14A
Operation environment	For indoor use only Altitude: 2000m or less Temperature: 10°C to 40°C Relative humidity: Maximum relative humidity 80% at 10°C to 31°C, decreasing linearly to 50% relative humidity at 40°C at above 31°C.
Test standard	IEC61010-2-020 (except when K12510 rotor is used)
Control system	Inverter Microprocessor control, Speed, Centrifugal force, time, temperature, g-sec, acceleration / deceleration, 50 memory
Error and user message display	Lid open, imbalance, over speed, abnormally high temperature, Function for detecting an occurrence of electrical abnormality in motor, inverter, speed sensor and temperature sensor.
Speed setting	Digital display, in 10 rpm steps 100 rpm-7000 rpm
RCF setting	Digital display, in 10 × g steps The centrifugal force is calculated based upon the rotor rotation radius and the speed setting.
Timer setting	Digital display, with Hold From 1 sec. to 99 hour 59 min 59 sec, in 1sec. increment setting
Temperature force setting	Digital display, in 0.1 °C increments Setting range: From -9 °C to 40 °C in 1 °C increments Indication: From -9 °C to 43 °C in 1 °C increments Control the rotor temperature
Refrigerant	R404A Quantity : 1.4 kg GWP : 3920

# 9945

Product name	Large Capacity Refrigerated Centrifuge
Swing rotor	
Max. capacity	blood bag×12
Max. speed	4,000rpm(RS-8120)
Max. RCF	5,240×g(RS-8120)
Angle rotor	
Max. capacity	-
Max. speed	-
Max. RCF	-
Size	81(W)×91(D)×109(H) cm Height with opened lid: 167 cm*
Weight	450 kg
Power consumption and Heat out put	3.5 kW, 13 MJ/h
Power requirements	Single phase 220V ± 10% 50/60Hz 40A Single phase 230V ± 10% 50/60Hz 40A
Rated voltage and Rated current	220V 18A, 230V 17A
Operation environment	For indoor use only Altitude: 2000m or less Temperature: 10°C to 40°C Relative humidity: Maximum relative humidity 80% at 10°C to 31°C, decreasing linearly to 50% relative humidity at 40°C at above 31°C.
Test standard	IEC61010-2-020
Control system	Inverter Microprocessor control, Speed, Centrifugal force, time, temperature, g-sec, acceleration / deceleration, 50 memory
Error and user message display	Lid open, Imbalance, over speed, abnormally high temperature, Function for detecting an occurrence of electrical abnormality in motor, inverter, speed sensor and temperature sensor.
Speed setting	Digital display, in 10 rpm steps 100 rpm-4000 rpm
RCF setting	Digital display, in 10 × g steps The centrifugal force is calculated based upon the rotor rotation radius and the speed setting.
Timer setting	Digital display, with Hold From 1 sec. to 99 hour 59 min 59 sec, in 1sec. increment setting
Temperature force setting	Digital display, in 0.1 °C increments Setting range: From -9 °C to 40 °C in 1 °C increments Indication: From -9 °C to 43 °C in 1 °C increments Control the rotor temperature
Refrigerant	R404A Quantity : 1.2 kg CO2e : 4.7t GWP : 3920 Contains fluorinated greenhouse gases in a hermetically sealed system.

\* Not include an adjuster.

## 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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