

KT-TG20WS
Operation Instruction



Please read this manual carefully before use.

Subject to change without notice!

CHANGSHA KETHINK S&T CO.,LTD.

www.kethink.com

Product Name: Centrifuge

Product Model: KT-TG20WS

Main Components :

control system, centrifugal chamber, driving system, rotor, refrigeration system (in refrigerated medical centrifuge) and safety protection system.

Applicable People:

This product is only applicable to trained professional operators and technicians.

Operation Attention:

Non-professional operators are forbidden to use.

Warning & Suggestive Content: display on device screen.

Operation Instruction: See above

Label & Package:



Please read the instruction.

Storage Condition & Method:

Store in the room which is ventilated, dry, light-proof and free of corrosive gas.

Warranty: 1 Year.

Precautions & Security Warnings

Precautions:

- 1) Please read the operation instruction handbook before use.
- 2) To avoid instrument failure, **DO NOT** keep it in damp, high temperature or dusty place.
- 3) **DO NOT** move or open its door when instrument is running.
- 4) Instrument should be put in solid & flat desktop, four rubber feet should be in contact with the desktop with uniform stress.
- 5) Keep liquid volume in centrifuge tubes the same by visual inspection. A large vibration will occur if liquid volume is uneven. Instrument must be stopped immediately, check liquid volume to make sure they are the same, centrifuge tubes must be placed symmetrically in even numbers.
- 6) Open instrument door and keep inner cavity clean and dry after use.
- 7) Instrument use power supply must have a reliable grounding line.

Safety Warning:

- 1) To avoid damage in instrument mechanical or electrical part, **DO NOT** collide, vibrate or throw instrument.
- 2) To avoid damage in instrument mechanical or electrical part, **DO NOT** keep instrument in damp/ high temperature place.
- 3) To avoid instrument damage, When separate acidic or alkaline substances, **DO NOT** spill it into instrument cavity.
- 4) **DO NOT** use if there is crack on rotor body / hanging cup.
- 5) Under the situation of large rotor weighing error / unbalanced rotors, operation is forbidden.
- 6) To avoid accidents, exceed the maximum speed set by the rotor and operate instrument is forbidden.

After Sales Service:

- 1) 1 year warranty (within one year from the date of purchase).
- 2) If damage **NOT** caused by inappropriate operation / man-made damage, we promise to bear all the costs within warranty period. After warranty period, only maintenance costs be charged.

1. Working Principle & Application Range

KT-TG20WS bench top high speed (hereinafter referred to as the instrument) adopts the principle of centrifugal sedimentation of solution density of different particles separation, enrichment and purification. It is widely used in clinical medicine, biochemistry, genetic engineering, radiation immunology, etc, is an ideal instrument for scientific research institutes, hospitals, the ideal experimental instrument.

2. Main Technical Parameters

Type	KT-TG20WS
Max Speed	20000rpm
Max RCF	27816xg
Max Capacity	4*100ml
Speed Accuracy	±10rpm
Timer Range	1-99min
Display	LED
Motor	AC frequency conversion
Power	700W
Noise	≤58dB(A)
Voltage	AC 220V 50HZ 10A
Net Weight	35Kg
Instrument Dimension	240*260*250mm (L*W*H)

3. Structure Features

1) The instrument adopts brushless DC motor, no spark, carbon dust

pollution & low noise during running, perfectly meet the requirements of the laboratory work.

- 2) Adopt shock absorption system.
- 3) Adopt microcomputer control system, high speed control precision, touch panel helps user to set operation parameters conveniently & accurately; can modify parameters during operation & check the corresponding centrifugal force under current speed.
- 4) This machine is composed of instrument and optional rotors, suitable rotors and technical parameters are shown in the following table.

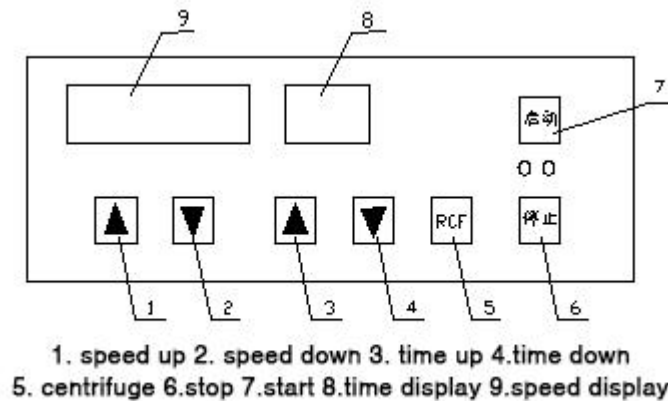
Table 1 parameters of suitable rotor (part of the rotors)

No	ITEM	MAX SPEED(rpm)	MAX RCF(xg)	VOLUME(ml)	TUBE SIZE(mm)
NO.1	Angle rotor	20000rpm	27816xg	12*1.5/2.2ml	Φ10*42
NO.2	Angle rotor	16000rpm	20653xg	24*1.5/2.2ml	Φ10 *42
NO.3	Angle rotor	14000rpm	19450xg	30*1.5/2.2ml	Φ10*42
NO.4	Angle rotor	13000rpm	17930xg	48*1.5/2.2ml	Φ10*42
NO.5	Angle rotor	14500rpm	21807xg	30*0.2/0.5ml	Φ8*30
NO.6	Angle rotor	14500rpm	21807xg	48* 0.2/0.5ml	Φ8*33
NO.7	Angle rotor	15000rpm	19350xg	8/10*5ml	Φ14*54
NO.8	Angle rotor	15000rpm	19350xg	16 * 5ml	Φ14*54
NO.9	Angle rotor	14000rpm	16370xg	12*7ml	Φ15*62
NO.10	Angle rotor	14000rpm	16460xg	6*10ml	Φ16* 87
NO.11	Angle rotor	15000rpm	22680xg	12*10ml	Φ16*87
NO.12	Angle rotor	15000rpm	22680xg	8*15ml	Φ16*118
NO.13	Angle rotor	5000rpm	3515xg	24*15ml	Φ16*118
NO.14	Angle rotor	5000rpm	3830xg	30*15ml	Φ16*118
NO.15	Angle rotor	15000rpm	22680xg	8*20ml	Φ22*104
NO.16	Angle rotor	14000rpm	19060xg	6*30ml	Φ25*94
NO.17	Angle rotor	13500rpm	18950xg	4*50ml	Φ29*106
NO.18	Angle rotor	12000rpm	14856xg	6*50ml	Φ29*106
NO.19	Angle rotor	10000rpm	10813xg	6*70ml	Φ32*150
NO.20	Angle rotor	12000rpm	15635xg	4*100ml	Φ37*124
NO.21	Angle rotor	12000rpm	15869xg	24pcs capillaries	Φ4*100

4. Installation

- 1) Instrument should be put on solid & flat desk top (reinforced concrete countertop is the best desk top).
- 2) Instrument should be placed on a horizontal desk top.
- 3) Instrument should be stored in dry, well ventilated room with relative humidity under 85%, room temperature within 5 °C ~ 35 °C. To avoid damage caused by electric leakage, DO NOT keep instrument under direct sunlight.
- 4) The power supply used must have a reliable ground wire to ensure reliable contact between the ground wire of the instrument and the ground wire of the network power supply to prevent leakage or accidental damage caused by the network power supply.

5. Operating Procedures



1. Open the door cover, install rotor, tighten bolt.
2. Put centrifuge tubes with liquid into rotors, centrifugal tube must be in even number with even liquid (inspected by visual), rotate rotor gently after putting the tubes.

3. Shut & lock the door cover, check whether the door cover is closed, otherwise instrument will not work.
4. Plug in power socket, press the power switch (on the back of the centrifuge, above the power socket).
5. Rotor NO/Speed/ Time Setting:

In the "stop" state, the user can set the rotor number, speed and time. Press the "SET" button, the centrifuge is in the setting state at this time, the stop light is on and the running light is flashing. In the "running" state, the user can only set the speed, time, press the "set"(SET) key, the centrifuge is in the setting state at this time, the running light is on and the stop light is flashing (in the stop state, press the "SET" key to cycle between time, speed and rotor number; in the running state press the "SET" key to cycle between time and speed).

(1) Rotor No setting(under the stopped state): Press the "Set" button, when the decimal in the lower right corner of the LED which displays rotor numbers lights up, it will enter the rotor number setting mode, and then press the "▲" or "▼" key to select the right rotor number that work with the centrifuge (there are 21 types of rotor numbers available).

(2) Speed setting: Press the "Set" button, when the decimal in the lower right corner of the LED which displays speed lights up, it will enter speed setting mode, press "▲" or "▼" button under speed display area (max speed:20000rpm).

(3) Time setting: Press the "Set" button, when the decimal in the lower right corner of the LED which displays time lights up, it will enter time setting mode, press "▲" or "▼" button to set the current running time (max running time:99min),countdown.

(4) When the above steps completed, press "ENTER" button to confirm,then press "START" to run. Control panel display rotor number, speed and remaining centrifugal time.

5) Centrifuge time countdown to "0", instrument stop automatically; when rotation speed is equal to zero, buzzer sounds;if press "stop" when instrument is running, centrifuge stop,buzzer stop.

6. If need to change RCF during operation, press " RCF" key, current RCF will be display on screen.It will automatically return to the running state.

7. During operation, if centrifugal force conversion needed, press the "RCF" key (RCF light is on), the centrifugal force at the current speed will be displayed, and it will automatically return to the running state after 3 seconds.

8. During the centrifugal operation, if need to check the original set parameters, press "SET" key, the instrument will display the original parameters; the instrument will automatically return to the running state after 4 seconds.

9. During the operation of the centrifuge, if need to modify the operating parameters, press "SET" key to the decimal point to the position of the

parameter to be modified, and then press the "▲" or "▼" key to select the parameter to be modified, and press the "ENTER" key to confirm the modification parameter.

10. When rotor stop rotating, press door lock on the right and take out centrifuge tubes.

11. Shut off the power switch after using it.

6. Safety Precautions

1) **DO NOT** move instrument or open its door cover when centrifuge is running.

2) Put centrifuge on solid & flat desk top, four rubber feet should be in contact with the desk top under even stress, lest vibration caused.

3) Liquid volume in centrifuge tube should keep the same by visual inspection. A large vibration may occur when there is large liquid volume difference. Instrument must be stopped & checked immediately, make sure liquid volume is the same, centrifuge tubes must be placed symmetrically in even numbers.

4) If centrifugal tube rupture when centrifuge is running, will occur a large vibration, machine must be stopped immediately.

5) The power supply must have a ground wire.

7. Warranty

1 year warranty (within one year from the date of purchase).

If damage NOT caused by inappropriate operation / man-made damage, we promise to bear all the costs within warranty period. After warranty period, only maintenance costs be charged.

Certificate of Conformity

Product Name: Tabletop high-speed Centrifuge

Product Model: KT-TG20WS

Product No:

Max Speed: 20000 rpm

Max RCF: 27816xg

This product has been tested and proved to be qualified for delivery in conformity with technical standard.

Inspector:



Date: April,10th, 2022

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Website: www.kethink.com

KT-TG20WS Tabletop High Speed Centrifuge**Packing List**

NO	Item	Specification	Quantity	Remarks
1	Tabletop High Speed Centrifuge	KT-TG20WS	1set	
2	Rotor			
3	Rack			
4	Tool		1pcs	
5	Power		1pcs	
6	User Manual		1pcs	
7	Certificate of Conformity		1pcs	
8	Packing List		1pcs	