

KUBOTA

Table Top Micro Refrigerated Centrifuge



3500

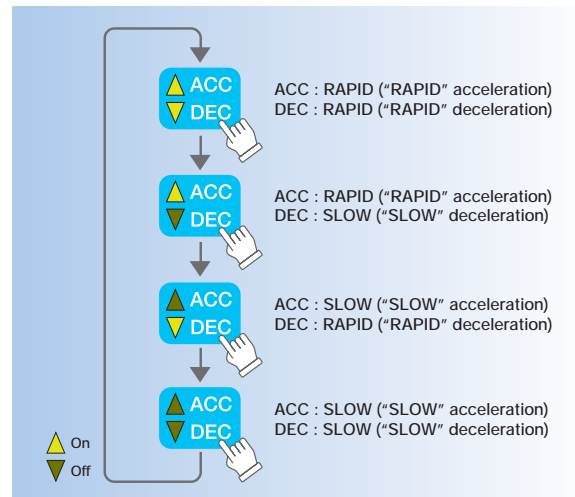
Compact Size with fast, Powerful-cooling and Quiet Operation

Features and Convenient functions

- **Maximum speed of 15,000rpm**
- **Maximum RCF of 20,630xg**
- **Powerful cooling**
Sample temperature of 4°C is maintained at the maximum Speed of 15,000rpm with rotor lid.
- **Pre-cooling**
Enables rotor to reach low temperature before experiments.
- **Temperature setting from -9°C to 40°C**
- **Rapid acceleration speed**
17 sec to the maximum speed of 15,000rpm when AT-2018M rotor is used.
20 sec to the maximum speed of 15,000rpm when RA-2024 or RA-2724 rotor is used.
- **Choice of two levels of acceleration and deceleration curve**
Rapid/slow acceleration and rapid/slow deceleration can be switched according to types of sample and experimental conditions. The switch pattern is shown in the right.
- **Compact size of 37(W) x 64(D) x 30(H) cm**
- **Buzzer at the end of operation**
5 different buzzer sounds allow recognition of the end of a centrifuge operation from across the room.
- **Program memories (3 channels) for repeated routine operation**
A memory function is available for repetitive operation using same set values of operation, i.e. speed, time and temperature.
- **Memory flashing**
Spin down time from 1 to 99 sec is memorized. Key-in of flashing button next time calls up the memorized spinning time.
- **Compliance with GMP requirements**
Equipped with a tachometer port. Actual rotor speed is easy to check.
Actual rotation radius can be set and correct RCF is realized.

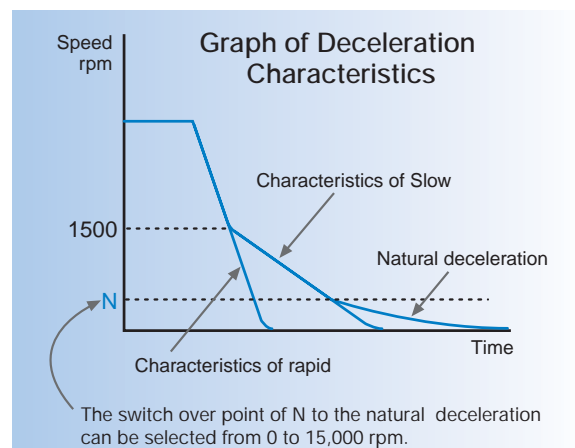


Acceleration/Deceleration Function



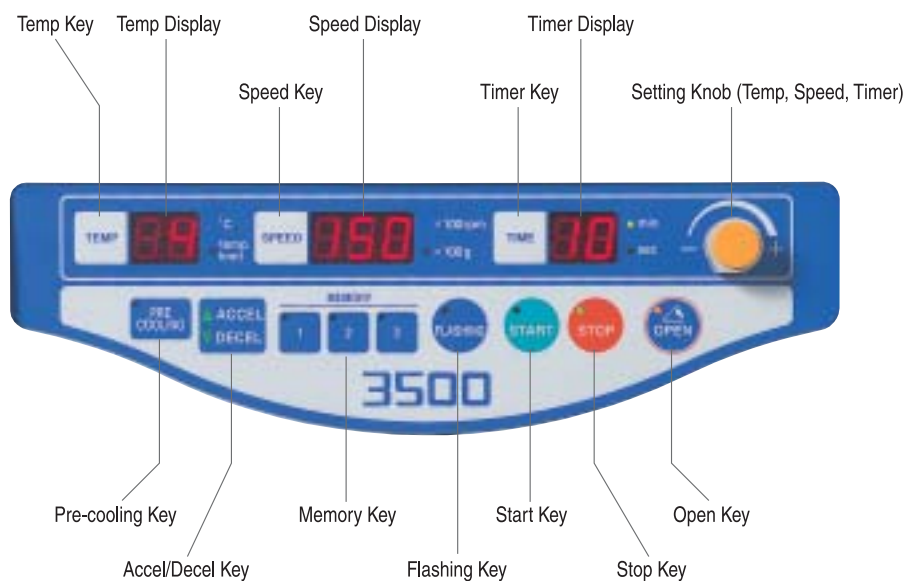
Safety pursued

- **3500 conforms to the International Safety Standard IEC61010-2-020.**
- **Equipped with various sensors for higher safety.**
Operation stops at the occurrence of an abnormality.



Operation Panel of Model 3500

Easy-to-follow Digital Display



Rotor Table for Model 3500

| Rotor Name | Nominal Capacity | Tube size (mm) diam. x length | Maximum Speed ^{*3} rpm | Maximum RCF ^{*3} xg | Adaptor Code No. |
|----------------------------|--------------------------------------|----------------------------------|------------------------------------|---------------------------------|---------------------|
| AT-2018M | 18x1.5/2mL | 9.5 ~ 11 x 36 ~ 42 | 15,000 (14,000) | 20,630 (17,970) | |
| | 18x0.5mL | 7 ~ 7.9 x 25 ~ 34 | 15,000 (14,000) | 18,110 (15,780) | 055-7590 |
| | 18x0.4mL | 5.4 ~ 6.1 x 26 ~ 48 | 15,000 (14,000) | 20,120 (17,530) | 055-7580 |
| | 18x0.2mL PCR | 5.9 ~ 6.3 x 20 ~ 24 | 15,000 (14,000) | 15,850 (13,810) | 055-0500 |
| RA-2024 ^{*2} | 24x1.5/2mL | 9.5 ~ 11 x 36 ~ 42 | 15,000 (14,500) | 20,630 (19,270) | |
| | 24x0.5mL | 7 ~ 7.9 x 25 ~ 34 | 15,000 (14,500) | 18,360 (17,160) | 055-7590 |
| | 24x0.4mL | 5.4 ~ 6.1 x 26 ~ 48 | 15,000 (14,500) | 20,380 (19,040) | 055-7580 |
| | 24x0.2mL PCR | 5.9 ~ 6.3 x 20 ~ 24 | 15,000 (14,500) | 16,100 (15,040) | 055-0500 |
| RA-2724 ^{*1,2} | 24x1.5/2mL | 9.5 ~ 11 x 36 ~ 42 | 15,000 (14,500) | 20,630 (19,270) | |
| | 12x0.5mL | 7 ~ 7.9 x 25 ~ 34 | 15,000 (14,500) | 16,850 (15,750) | |
| | 24x0.4mL | 5.4 ~ 6.1 x 26 ~ 48 | 15,000 (14,500) | 20,380 (19,040) | 055-7580 |
| RA-2024F | 24x Millipore Microcon ^{*4} | 12.3 x 48.2 | 15,000 (14,500) | 20,630 (19,270) | |
| | 24x1.5/2mL | 9.5 ~ 11 x 36 ~ 42 | 15,000 (14,500) | 20,630 (19,270) | |
| | 24x0.5mL | 7 ~ 7.9 x 25 ~ 34 | 15,000 (14,500) | 18,360 (17,160) | 055-7590 |
| | 24x0.4mL | 5.4 ~ 6.1 x 26 ~ 48 | 15,000 (14,500) | 20,380 (19,040) | 055-7580 |
| | 24x0.2mL PCR | 5.9 ~ 6.3 x 20 ~ 24 | 15,000 (14,500) | 16,100 (15,040) | 055-0500 |

*1 Three tubes of 2mL, 0.5mL and 0.2mL PCR can be used without an adaptor.

*2 Rotor lid is available as optional. With the rotor lid, the sample can be cooled down to 4°C at the maximum speed.

*3 The figures in parentheses show the maximum speed or the maximum RCF at which the sample can be at 4°C without the rotor lid.

*4 When microtubes are used with caps, 12 tubes can be centrifuged. Distribute tubes alternately.



Autoclavable at 121°C

AT-2018M

Rotor lid is not available.



Autoclavable at 134°C

RA-2024

Rotor lid is optional.



Autoclavable at 134°C

RA-2724

Rotor lid is optional.



Autoclavable at 121°C

RA-2024F

Rotor lid is not available.

This rotor can be used with microtube caps opened.
SpinColumns can be set on microtubes.

Note: The number of autoclave repetition is limited. Please refer to the instruction manual.

Specifications

Model 3500

| | |
|---|---|
| Maximum Speed | ● 15,000rpm |
| Maximum RCF | ● 20,630xg |
| Maximum Capacity | ● 48mL |
| Control system | ● Micro-processor control (Brushless motor) Speed, RCF, Time, Temperature, 3 channel memories |
| Alarm display | ● Lid open, Imbalance, Over speed, Abnormal High Temperature Function for detecting an occurrence of electrical abnormality in speed sensor, Inverter, lid lock, motor, temperature sensor |
| Acceleration / Deceleration | ● Rapid, Slow, 4 ways of switching with natural deceleration (commencement speed of natural deceleration changable) |
| Speed setting | ● From 300 to 15,000rpm in 100rpm increments |
| Speed indication | ● Digital display, From 0 to 15,300rpm in 100rpm increments |
| RCF setting | ● From 100 to 20,630xg in 100xg increments (Actual rotation radius can be set.) |
| RCF indication | ● Digital display, From 0 to 21,400xg in 100xg increments (Actual rotation radius can be set.) |
| Timer setting and indication | ● Digital display, with Hold and with Memory Flashing from 1 sec to 99 sec, in 1 sec increment setting / from 0 sec to 99 sec, in 1 sec increment indication from 1 min to 99 min, in 1 min increment setting / from 0 min to 99 min, in 1 min increment indication |
| Setting the sound that informs the end of the operation | ● 5 kinds + Sound none |
| Temperature setting and indication | ● Digital display in 1°C increments, with pre-cooling from -9°C to 40°C setting / from -9°C to 43°C indication |
| Refrigerant | ● R-134a |
| Power requirements | ● Single phase AC110V±10%, AC115V±10%, 50/60Hz, 15A Single phase AC220V±10%, 230V±10%, 50/60Hz, 10A |
| Rated voltage and Rated current | ● 110V 6.0A, 115V 5.7A, 220V 3.0A, 230V 2.9A |
| Power consumption and Heat output | ● 550W 2MJ/h |
| Dimensions, weight | ● 37(W) x 64(D) x 30(H)cm ^{*1} , 110/115V 42kg, 220/230V 45kg |
| Certificates of Conformity | ● IEC 61010-2-020 CE Marking (AC220V and 230V Version) |

(*1) Those of projections are not included.




All specifications and external appearance subject to change without notice.

* On Model 3500 only use KUBOTA made rotor, adapter and tube rack. Do not attempt use rotors, adapters or tube racks made by other manufacturers.

* The rotor mentioned in the catalogue is usable on other KUBOTA centrifuge models. For details, refer to the catalogues relevant to each model.

* Follow instructions given in the relevant Instruction & Service Manual for operating centrifuges.

Kubota has acquired Certification of ISO 9001 and ISO 13485.

| | | |
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|  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. <ul style="list-style-type: none"> •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 <p>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.</p> |

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