PrO-Analytical Centrifuges

Analytical. General. Industrial. Laboratories

By Centurion Scientific
Quick Start User Manual

It is imperative to read the full manual before use, this quick start is a guideline only. See disc supplied and information is also available on our website. See back page.

27 years of Excellence

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Transport and Set Up

Before Setting Up

1. Check the centrifuge and the packaging for any shipping damage. Inform the shipping company and Centurion Scientific Ltd immediately if any damage is discovered.

2. Remove the packaging.

3. Check the order for completeness. (see "Items Supplied" on page 3) If the order is incomplete, please contact Centurion Scientific Ltd.

Location

The centrifuge should only be operated indoors.
The set-up location must fulfill the following requirements:

- A safety zone of at least 30 cm must be maintained around the centrifuge.
- People and hazardous substances must be kept out of the safety zone while centrifuging.
- The supporting structure must be stable and free of resonance.
- The supporting structure must be suitable for horizontal setup of the centrifuge.
- The centrifuge should not be exposed to heat and strong sunlight.

WARNING

UV rays reduce the stability of plastics.
Do not subject the centrifuge, rotors and plastic accessories to direct sunlight.
- The set-up location must be well-ventilated at all times.

Transporting the Centrifuge

- Due to its weight, the centrifuge should be carried by several people.
- Always lift the centrifuge at both sides.

- Transport the centrifuge upright and if at all possible in its packaging.

NOTICE

Store the original centrifuge packaging. Contact a shipping company for the transport or inform the customer service.

Always remove the rotor before moving the centrifuge. If you do not remove the rotor you might damage the centrifuge drive or centrifuge spindle.

WARNING

Always lift the centrifuge on both sides. Never lift the centrifuge by its front or back panel. Always remove the rotor before moving the centrifuge.

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Aligning the Centrifuge

The horizontal alignment of the centrifuge must be checked every time after moving it to a different location.The supporting structure must be suitable for horizontal setup of the centrifuge.

CAUTION

If the centrifuge isn't leveled, imbalances can occur and the centrifuge can be damaged. Do not place anything under the centrifuge feet to level the centrifuge.

Mains Connection

1. Turn off the power supply switch located on the Left side of the centrifuge (press "O")

Power supply switch

2. Plug the centrifuge into grounded electrical sockets only.
3. Check whether the cable complies with the safety standards of your country.
4. Make sure that the voltage and frequency correspond to the figures on the rating plate.
5. Establish the connection to the power supply with the connecting cable.

Storage

WARNING

When removing the centrifuge and accessories from use you have to clean and if necessary disinfect or decontaminate the entire system. In doubt contact the Centurion Scientific customer service.

- Before storing the centrifuge and the accessories, it must be cleaned and if necessary desinfected and decontaminated.
- Store the centrifuge in a clean, dust-free location.
- Be sure to place the centrifuge on its feet.
- Avoid direct sunlight.

Shipping the Centrifuge

Before shipping the centrifuge please bear the following in mind:

- The centrifuge must be clean and decontaminated.
- The decontamination must be confirmed in a special form.

WARNING

Before shipping the centrifuge and accessories you have to clean and if necessary disinfect or decontaminate the entire system. In doubt contact the Centurion Scientific customer service.

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Rotors & Fitment

Supplied with the rotor are full instructionson how to fit it correctly. Also on the CD supplied and on our website too.
These instructions must be followed.

Failure to follow these instructions could cause serious damage to the centrifuge and possibly injury to persons nearby. Warranty will be invalid, if these instructions are not followed.

Rotors should be hand tightened and checked on a regular basis.

Maintenance instructions for the Rotor and the centrifuge are contained in the main manual CD.

Rotors & Fitment

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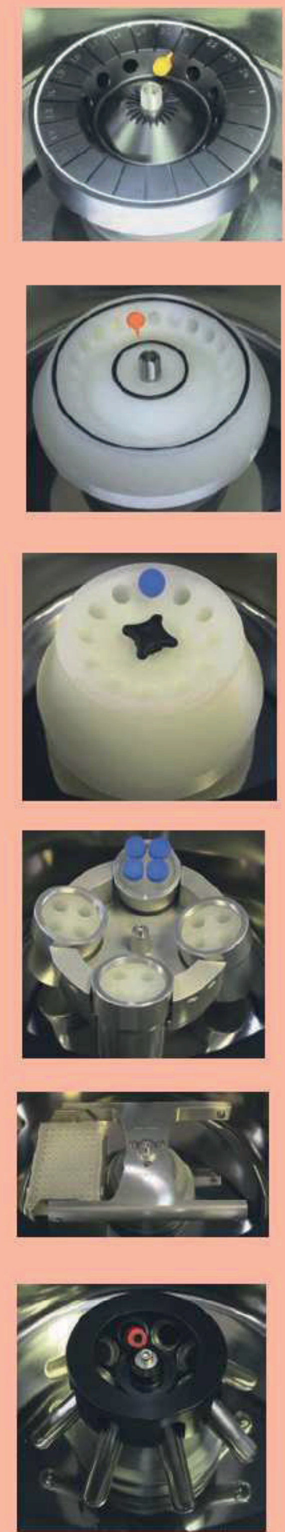
Making Sure your Rotor is Balanced

In Centrifugation it is vitaly important that rotors are balance corretly, any slight imbalance when weighing or placing your sample in the rotor could be exagerted once the Centrifuge is spinning.

Please take note of the bellow rotor posisitions.

Incorrect



Incorrect

Correct

How to use & Program

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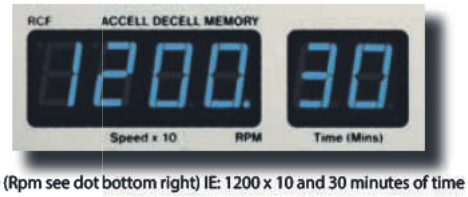
INSTRUCTION PAGE



Above shows 12000 (Rpm see dot bottom right) IE: 1200 x 10 and 30 minutes of time

To set speed in Rpm

Press up or down arrows below speed display.

To set time

Press up or down arrows below time display.

To set in Rcf (G)

Press Function button (keep held down) then press Lid open button.
NOTE the direction of blue dot in the speed display
Top left for RCF program, bottom right for Rpm.

Above shows Acceleration rate of 9, Decelleration rate of 9 and Memory number 1

To set: acceleration or deceleration rates

Press Function button (keep held down) then
Press Speed Down arrow for acceleration
Press Speed Up arrow for Decelleration (brake)
Both show 0-9 inclusive, 9 is the highest rate

To set: memory and store

(first set speed or rcf &time)
Press Function button (keep held down) then
Press Pulse button to select number 0-9 inclusive
Press Time down arrow to store

To recall memory

First recall memory number (see above)
Press Function button (keep held down) then
Press Time up arrow to recall memory

To use the centrifuge

Follow safety instructions on previous pages. Always load samples evenly.

Load samples, Fit lid (if applicable) Set Speed or Rcf(G) then designated time.
Close the Centrifuge lid. Press down firmly on both left & right sides.
Press Start button (bottom left), the motor will now accelerate to the designated setting.
When time has counted down (time display right) the rotor will decelerate (brake).
According to the setting you have made (9 is fastest) the rotor will stop and OpEn will appear on the display.
Press Lid open button and retrieve your samples.
You can stop the run at any time by pressing the Start / Stop button.

To use Pulse (short run)

This method allows very short runs mainly for "Pelleting" purposes.
Set your desired speed or RCF (G) Time is not relevant.
Load your samples. Fit lid (if applicable).
Press Pulse button (bottom right) keep held down, you will see the Time display counting up in seconds.
As long as you keep the button held down time will increase. On releasing the button centrifuge will brake.
Press Lid open when OPEn appears on the display , and retrieve your samples.

How to use & Program

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Please make sure the lid is kept closed at all times, otherwise temperature control cannot be held. Allow at least 20 minutes for below ambient temperatures to be reached and stabilised. NOTE for above ambient temperatures please lower the temperature to 4 C first (to work the internal gases). Once this temperature has been reached, then raise 20 20-40 C as required. Wipe the bowl regularly to remove moisture that can collect due to the dew point effect.

Refrigerated Model Instructions

Above shows 4°C ,12000 (Rpm see dot bottom right) IE: 1200 x 10 and 30 minutes of time

To set temperature
Press up or down arrows below speed display.

To set speed in Rpm
Press up or down arrows below speed display.

To set time
Press up or down arrows below time display.

To set in Rcf (G)
Press Function button (keep held down) then press Lid open button.
NOTE the direction of blue dot in the speed display
Top left for RCF program, bottom right for Rpm.

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Both show 0-9 inclusive, 9 is the highest rate

To set: memory and store
(first set speed or rcf &time)
Press Function button (keep held down) then
Press Pulse button to select number 0-9 inclusive
Press Time down arrow to store

To recall memory
First recall memory number (see above)
Press Function button (keep held down) then
Press Time up arrow to recall memory

To use the centrifuge
Follow safety instructions on previous pages. Always load samples evenly.

Load samples, Fit lid (if applicable) Set Speed or Rcf(G) then designated time.
Close the Centrifuge lid. Press down firmly on both left & right sides.
Press Start button (bottom left), the motor will now accelerate to the designated setting.
When time has counted down (time display right) the rotor will decelerate (brake).
According to the setting you have made (9 is fastest) the rotor will stop and OpEn will appear on the display.
Press Lid open button and retrieve your samples.
You can stop the run at any time by pressing the Start / Stop button.

To use Pulse (short run)
This method allows very short runs mainly for "Pelleting" purposes.
Set your desired speed or RCF (G) Time is not relevant.
Load your samples. Fit lid (if applicable).
Press Pulse button (bottom right) keep held down, you will see the Time display counting up in seconds.
As long as you keep the button held down time will increase. On releasing the button centrifuge will brake.
Press Lid open when OPEN appears on the display , and retrieve your samples.

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Troubleshooting

Mechanical Emergency Door Release

During a power failure, you will not be able to open the centrifuge lid with the regular electric lid release. A mechanical override is provided to allow sample recovery in the case of an emergency. However, this should be used only inemergencies and after the rotor has come to a complete stop

WARNING

The rotor can still be spinning at high speed. If touched, it can cause serious injuries. Always wait until the rotor has come to a stop without braking. The brake does not work when there is no current. The braking process lasts much longer than usual.

Proceed as follows:

1. Make sure the rotor has stopped (view port in the lid).

WARNING NEVER USE YOUR HAND OR OTHER TOOLS TO BRAKE THE ROTOR

2. Pull out the power supply plug.

3. On the bottom of the housing is one black plastic plug which you can pry out of the side plate with a screwdriver. It is located below the frontside of the centrifuge. It is reachable with a screwdriver. Pull the release cord attached to it to trigger the mechanical door release. The door will open and the samples can be removed. Open the front door.

Over hang the machine to gain access to emergency lid release

Mechanical Emergency Door Release on the downside

4. Place the centrifuge so that you have access to the downside of the front panel.

Due to its weight, the centrifuge should be carried by several people. Always lift the centrifuge at both sides.

5. Push the cord back into the centrifuge and mount the plug.

Reconnect the centrifuge once the power has been restored. Switch on the centrifuge. Press the OPEN key to have the door locks operative again.

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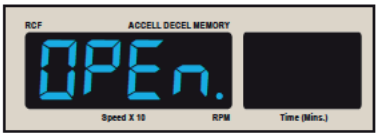
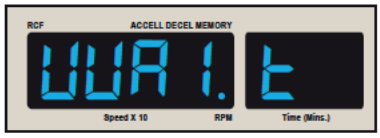
Ambient Models

Troubleshooting

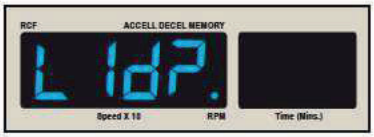
CODES SHOWN ON THE LED DISPLAY



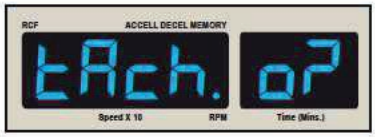
OPEn - You may now open the Lid.



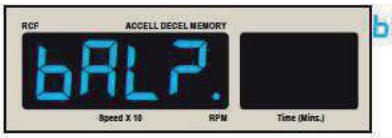
UUA 1t – Wait 5 seconds press Lid open again.



L Id? – Close the lid.



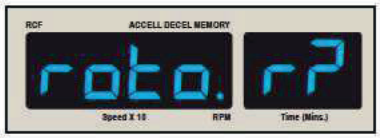
tAcho? – Check that your tubes are not too long and fouling the lid or anything else is stopping rotation of the rotor.



bAL? – An imbalance has occurred Please check the tubes are diagonally opposite and of the same weight.
Check if the tubes are broken If so use better quality, or if glass reduce the speed to the manufacturers recommended G force.

NOTE: If druch or drtuE (drive) show please Contact Service Department, or refer to technical manual.

Rotor recognition models only



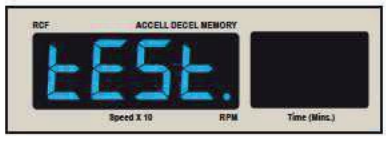
rotor?
The sensor has found the speed to be incorrect to the rotors settings, it will have readjusted. Please recheck your speed and try again. If this continues contact the service department.

rrEc ?
A problem with the sensor or inverter has occurred please contact the service department.

Test tESt Routine

(all C series LED models)

This allows you to turn on or off the buzzer and to check the sensors for, Tachometer, Rotor recognition, Lid open & Imbalance detector.



See 23 Each go 0/1 as you turn rotor or operate Imbalance detector or shut lid.
Centrifuge lid in open position. Mains off at rear switch.
Press function (keep held down) whilst turning on at rear switch. When test shows release function button.
Press time up arrow See numbers in time display go to 18
Buzzer off or on (0/1) 18
Set speed Rpm digits in 10 or 100 Rpm steps 19

Next is EEtE St E prom check Press Speed up arrow ..... Number not shown
8888 88 LED display check increment speed up arrow ..... Number not shown
Rotor rec Tacho Lid open Imbalance 24
Turn rotor Turn rotor Close lid Push rotor to one side ..... Display changes from 0 to 1
Buzt St Buzzer test press speed up arrow ..... Number not shown
Dogt St Watchdog test Press speed up arrow. HELLO (Hello) should display, then back to normal.

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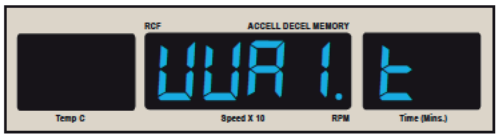
Refrigerated Models

Troubleshooting

CODES SHOWN ON THE LED DISPLAY

OPEn - You may now open the Lid.

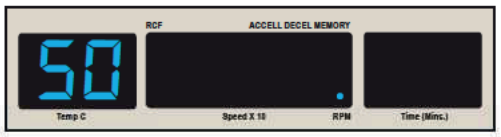


UUA 1t – Wait 5 seconds press Lid open again.

L 1d? – Close the lid.

tAcho? – Check that your tubes are not too long and fouling the lid or anything else is stopping rotation of the rotor.

bAL? – An imbalance has occurred Please check the tubes are diagonally opposite and of the same weight.
Check if the tubes are broken If so use better quality, or if glass reduce the speed to the manufacturers recommended G force.



S0- Temperature sensor has failed.

NOTE: If druch or drLuE (drive) show please Contact Service Department, or refer to technical manual.

Rotor recognition models only

rotor? The sensor has found the speed to be incorrect to the rotors settings, it will have readjusted. Please recheck your speed and try again. If this continues contact the service department.

rrEc ? A problem with the sensor or inverter has occurred please contact the service department.

Test tESt Routine

(LED models)

This allows you to turn on or off the buzzer and to check the sensors for, Tachometer, Rotor recognition, Lid open & Imbalance detector.

See 23 Each go 0/1 as you turn rotor or operate Imbalance detector or shut lid.
Centrifuge lid in open position. Mains off at rear switch.
Press function (keep held down) whilst turning on at rear switch. When test shows release function button.
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Troubleshooting

Fault seen

tACh0 shown on the display

NOTE this does not necessarily mean a Tachometer or board problem
First check that the sample tubes are not too tall and preventing the rotor to move when the lid is closed
check the rotor and motor for movement , they must rotate smoothly
check the tachometer on the underside for dust or intrusions to the sensor
If none of the above contact your Distributor

bAL shown on the display

An imbalance has occured
Check you sample tubes for equal and opposite positioning
See use and programming section for correct loading and instructions
Turn off the centrifuge at the power inlet. WAIT 2 minutes
If bAL still shows on display the detector is damaged

If none of the above contact your Distributor

Speed will not go beyond 2000rpm

Electronics have set the rotor into safety mode
if the machine model has an R at the end of its name , it has rotor recognition.
check the sensor on top of the motor, check the magnets are clean(wipe with a dry cloth) on underside of rotor

If none of the above contact your Distributor

noisy

balance the samples in the rotor, check the lid seals are in place and in good order

lid support is weak

Gas srut failure, contact your distributor

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