

Operating the Thermo Scientific Sorvall Legend Micro 21R Centrifuge

Switching on the centrifuge

Set the main power switch of the instrument. The display shows that the instrument is going through an internal check of its software. After this check the display switched into the current value mode. The speed and the remaining run time show 0; the refrigeration unit display shows the current temperature of the sample.



Opening the lid

The main power must be on to open the lid. To open the lid press the “open-lid” button.



Closing the lid

The centrifuge lid is locked by slightly pressing down the front part of the lid. **DO NOT SLAM THE LID!**

Filling the centrifuge tubes

The smaller the centrifuge imbalance, the better the separation, because separate zones are no longer perturbed by vibration. It is therefore important to balance the centrifuge tubes as well as possible. To minimize imbalance you should fill the tubes as evenly as possible. You can achieve this by eye, however, you must nonetheless ensure that opposite tubes are filled to the same level.

Placing the tubes in the rotor

The rotor must be loaded symmetrically. When loading the rotor only partially, you must ensure that opposite bores always receive tubes of equal weight (when centrifuging a single sample, place a centrifuge tube e.g. filled with water opposite). The following gives examples for proper loading:



properly loaded rotors

The following are examples of improperly loaded rotors:



improperly loaded rotors

After you have loaded the tubes close the rotor lid. After you have closed the rotor lid close the centrifuge lid.

Entering Parameters

Switching from speed to RCF (relative centrifugal force) display

Upon turning on the centrifuge the speed display is set. By activating the selection key you can switch to the RCF-value or change between rpm and RCF displays:



Selecting speed

The centrifuge speed can be set to a minimum of 300 rpm. You can adjust the speed in 100 rpm increments. Proceed as follows:

1. Press one of the set keys (^ for increase or v for decrease) in the field of speed of the control panel.
2. If you hold the key pressed, the display changes continuously at first slowly, and after a few seconds at an accelerated pace to the higher or lower values.
3. Release the key as soon as you have reached the desired value and fine tune if necessary by repeatedly briefly pressing on of the keys. The first digit behind the decimal point flashes for a few seconds and then switches permanently into the current value mode. The new pre-selected speed is now stored.

Entering the RCF value

You can adjust the RCF pre-selected value in steps of 100 g. The RCF value can be set to a minimum of 100 x g. You can adjust the RCF values the same as you adjust the rpm values. The displayed RCF value is always corresponding to the maximum of centrifuge radius of the Micro liter rotor 24 x 2mL. For other rotors please calculate the RCF value.

Selecting the run time

You can select a run time between 1 and 99 minutes or continuous operation [hd].

Run time selection

Proceed as follows:

1. Press one of the “set” keys (^ for increase or v for decrease) in the field of time of the control panel.
2. If you keep the key pressed, the display changes at first slowly and after a few seconds at an accelerated pace to the higher or lower value.
3. Release the key as soon as you have reached the desired value and fine tune if necessary by repeatedly briefly pressing on of the keys. The run time display flashes for a number of seconds, then changes to permanent display of the current value mode. The new pre-selected run time is now stored.

Continuous operation

To operate the centrifuge in the continuous mode, you must press and key (v) until the display changed to “hd” for “hold”. In this mode the centrifuge runs until you stop the run by manually pressing the “stop” button.

Setting the temperature

To determine the sample temperature, operate as advised:

1. Press one of the “set” keys (^ for increase or v for decrease) in the field of “temperature” of the control panel. By pressing the key briefly, you increase or decrease the temperature in steps of 1 °C. This option is supposed to be used for small changes and fine tuning.
2. If you keep the key pressed, the display changes at first slowly and after a few seconds at an accelerated pace to the higher or lower values.
3. Release the key as soon as you are close to the desired value and fine tune if necessary by repeatedly briefly pressing the key. The display flashes for a few seconds and then turns to permanent display of the current value mode. The new pre-selected temperature is now stored.

The refrigeration starts operating after closing the centrifuge lid, at once if the pre-selected temperature is below the currently temperature of the rotor chamber.