

Quick Reference Chart for Optima L and LE-80 Series Ultracentrifuges

Before operating your Optima L or LE-80 ultracentrifuge, read the complete operating instructions in the manual supplied with your ultracentrifuge. For fast temperature equilibration, refrigerate or warm the rotor to the required temperature before the run.

NOTE

To keep the rotor chamber dry and clean, keep the door closed between runs.

Check that power is on and the vacuum system is turned off, then install the rotor. Close the chamber door. Press [**VACUUM**] if you want to evacuate the chamber now.

STANDARD OPERATION

1. Enter the required run conditions: SPEED, TEMP, and TIME, HOLD, or ω^2t .
2. Select ACCEL and/or DECEL profiles if required. (Otherwise the instrument will automatically select maximum acceleration and deceleration rates.)
3. Press [**ENTER/RECALL**] then [**START**]. (The vacuum system is automatically activated now if you did not press [**VACUUM**] earlier.)
4. Press [**STOP**] to terminate a run in the HOLD mode (or to stop any run in progress). Runs in the timed or ω^2t mode will terminate automatically when the set value is reached.
5. When the rotor has stopped, press [**VACUUM**] to vent the chamber. Then open the door and remove the rotor.

REPEATING THE SAME RUN

To repeat a run, press [**ENTER/RECALL**] then [**START**]. There is no need to reenter run conditions unless you need to make a change.

PROGRAMMED OPERATION

1. Press [**PROG**], then use the keypad to select a program number. (Or press [**PROG**] until the required program appears.)
2. Press [**ENTER/RECALL**] then [**START**]. (The vacuum system is automatically activated now if you did not press [**VACUUM**] earlier.)

To Change a Parameter During a Programmed Run

Run parameters can be changed while a programmed run is in progress. However, these changes will affect only the current run—they do not change the program.

1. Press the appropriate parameter key (for example, [**SPEED**]).
2. Use the keypad to enter a new value.
3. Press [**ENTER/RECALL**]. Change other values in the same manner as required. The run in progress will be modified accordingly.
4. Runs in the timed or ω^2t mode will terminate automatically when the set value is reached. When the rotor has stopped, press [**VACUUM**] to vent the chamber. Then open the door and remove the rotor.

Delayed Start Program

1. Press [**PROG**]. Use the keypad to enter [0], and then the number of the second program. Press [**ENTER/RECALL**].
2. Press [**ENTER/RECALL**] then [**START**].

The word “delay” will appear in the **SPEED** display and the second program number you selected will appear in the **PROG** display. When the time in program 0 reaches zero, the second program will begin automatically.

DIAGNOSTIC MESSAGES

If an abnormal condition occurs during operation, a diagnostic LED will blink on the control panel. If the diagnostic is cautionary, the run will continue uninterrupted; in special cases, the instrument will shut down. For more information and recommended actions, see Section 4 of your ultracentrifuge instruction manual. To clear the diagnostic LED after correcting the problem, press [**CE**]. If the problem persists or has no user solution, contact Beckman Field Service for assistance.

ZONAL OPERATION (Optima L only)

Refer to the zonal rotor manual for detailed instructions on preparing and loading the zonal rotor.

1. Precool the zonal rotor to the required temperature.

2. Turn the key on the control head to the left to select zonal operation. (The arrow on the key will point to the zonal icon.) This permits open-door operation up to 3000 rpm.
3. Prepare the rotor assembly, then install the rotor, anti-condensation shield, and rotating shield assembly as described in the zonal rotor manual.
4. Enter the required run conditions: SPEED, TEMP, and TIME, HOLD, or ω^2t . (In the timed and ω^2t modes, the instrument will not begin counting time remaining until the chamber door is closed after the rotor has been loaded, the vacuum level is below 1000 microns, and the rotor speed reaches 3100 rpm.)
5. Press [**ENTER/RECALL**] then [**START**]. The rotor will accelerate to the selected loading speed and will remain at this speed until the chamber door is closed.
6. Load the rotor.
7. Disconnect the seal assembly and cap the rotor.
8. Close the chamber door. The vacuum system will activate automatically. The rotor will hold at 3000 rpm until the chamber pressure drops below 750 microns, at which time it will accelerate to set speed and the instrument will begin counting time remaining or time elapsed.
9. When the run is ended, the rotor decelerates to 2000 rpm. (To abort a zonal run in progress, press [**STOP**]. When the rotor speed decelerates to 2000 rpm, press [**STOP**] again.)
10. When the **SPEED** display indicates that the rotor is spinning at 2000 rpm, a series of beeps will sound; press [**VACUUM**] to vent the chamber. Then open the chamber door.
11. Unload the rotor as described in the zonal rotor manual. Press [**STOP**] after unloading to bring the rotor to rest.

When the rotor is at rest, the instrument will automatically reset to the Normal mode.

NOTE

If you are performing consecutive zonal runs: at the end of each zonal run, the centrifuge will automatically reset to the normal mode. To reconfirm the zonal mode, turn the key left to right from the zonal position to the normal position, then back to the zonal position. Press [**ENTER/RECALL**] and [**START**] to begin the run. If you press [**ENTER/RECALL**] and [**START**] without having reset the key, the “DOOR” diagnostic message will be displayed and the instrument will not start. Press [**CE**] to clear the diagnostic. To begin operation, turn the key as described above and press [**ENTER/RECALL**] and [**START**] again.