

Benchmark's ORBI-SHAKER™ JR. Orbital Shaker

Model BT302 Instruction Manual

Benchmark's ORBI-SHAKER JR. is a digital orbital shaker with a 19mm (.75 in) orbit and the capacity to shake up to 4 x 1-liter flasks. The ORBI-SHAKER JR. has a speed range of 50 to 300 rpm in 10 rpm increments and a digital timer for settings up to 100 hours in 1 minute increments. The unit can operate in cold rooms down to 4C and in heated chambers up to 65C at relative humidity levels up to 70%RH.

I. Product Specifications: ORBI-SHAKER JR model BT302

Speed: User adjustable from 50rpm to 300rpm Orbit Size: 19mm (.75in) diameter

Motor: Electronically controlled brushless motor (no carbon brushes to replace)

Standard Flat Platform Load Capacity: up to 4kg

Optional Flask Platform Capacity (non-adding): 4 x 1L; 6 x 500ml; 8 x 250ml; 12 x 125ml; 20 x 50ml

Dimensions (wxdxh): 11.4 x 10.6 x 4.7in (290 x 270 x 120mm) Weight: 12lbs (5.5 kg)

Electrical: 100-240VAC, 50/60Hz, 1A **UL/CSA CE** compliant

Operating Environment: 4C (cold room) to 65C 70%RH Warranty: 1 year

II. Product Set-Up:

Place the shaker on a clean, flat, stable surface. Insure that the suction feet adhere to the bench surface. You may want to use a flat rubber mat under the unit and feet to help prevent the from shaker "walking" when operating. Mount the platform using the four screws and Phillips screw driver that come with the unit. Be sure to fully tighten the screws. Make sure that the power switch is in the OFF position. Plug the power pack into the shaker then plug the electrical cord into a properly grounded outlet. Check that nothing blocks the platform orbital motion.

III. Platform Loading and Balance:

It is very important to load the platform in a balanced manner to reduce vibration and walking and for safety. If you are using flask clamps and flasks, be sure to position the flasks so they form a balanced load on the platform. If necessary, use flasks with water to counter balance flasks with samples to establish a balanced load on the platform.

IV. Product Operation:

After loading the platform, turn the unit on using the switch on the back. The unit will go through a start-up routine by lighting each digit on the display. When complete, the display will show any pre-set time on the timer and the word **oFF** for speed. Push in on the knob and hold it down to start the shaker. The shaker will increase speed up to the prior speed setting. The timer will start counting down if a prior time was set. The two dots in the center of the timer will blink as the unit times down and/or when the unit is shaking. When time is reached the unit will stop shaking and the timer will display the word **oVer**. If time was not set, the unit will continue shaking until stopped. The unit can be stopped at any time by pressing and holding the knob down.

IV. Setting SPEED and TIME

Shaker speed can be set between 50 and 300rpm. Setting the speed below 50rpm causes the display to show the word **oFF**. The timer can be set up to 100hrs in one minute increments. Setting the time to all zeros (00:00) will allow the shaker to operate continuously. To set shaker speed and time, press the knob briefly and release. You will see one of the **SPEED** digits flashing. Rotate the knob clockwise to increase the speed setting and counterclockwise to decrease the speed setting. Once the speed is set, press the knob briefly again and the **Time** minute digit will begin to flash. Rotate the knob to set the desired number of minutes then press the knob briefly again to set the desired number of hours. When done, press the knob briefly one more time and the display will show both the speed setting and the time setting. Press and hold down the knob to begin operation.

V. Care and Maintenance:

No routine maintenance is required other than cleaning. Cleaning can be done with a damp cloth. Avoid the use of solvents as they may attack the housing or display.