



## **OPERATING INSTRUCTIONS FOR ROTARY TUMBLE STIRRERS**

The proper operating speed of the Tumble Stirrer is dependant upon your particular application and needs to be empirically determined for your application. Once you have determined the optimal stirring speed, note that position and leave the speed knob set to that position. Factors to consider in determining optimal stir speed are the fragility of the objects being stirred, size, shape, composition of the well (polypropylene or polystyrene), depth of the microwells, volume and viscosity of the liquid, and the type of stir disc or bar used.

In general, stirring microbial cultures works best at low speeds and thus the Rotary Tumble Stirrer is well suited for this type of application since it can function at minimum RPMs. Stirring to resoluabilize extracts, or to stir in 96 deep well microplates, requires high speed. The Rotary Tumble Stirrers is equally as effective in this role as it will also operate at high RPM. Again the speed of stirring needs to be determined empirically for your particular application.

The speed control for the stirrers is designed to control the speed and to gradually take the unit from the off position to the set speed in a gradual ramp up. First, place the power switch in the "on" position. The speed control knob is then used to adjust the operating speed of the Tumble Stirrer. Just below the speed control knob is a direction knob allowing selection of "Forward, Brake or Reverse." The speed control knob should not be used to stop the motion of the Tumble Stirrers. To stop the Tumble Stirrer always flip the power switch to the off position or select "Brake" on the direction knob.

Each magnetic tumble stirrer is covered by a one year factory warranty for parts and labor. We ask that you keep the special shipping carton in case you need to send the unit back to us.