

# Stir Station

(Order Code STIR)

The Stir Station is a multi-function magnetic stirrer. It includes the following features

- works efficiently with beakers from 50 mL to 1 L in size and a wide range of sizes and shapes of magnetic stirring bars; stirring capacity of 800 mL in a 1 L beaker
- stirring speed range of 50-1250 RPM
- stirring platform is lit with 3 white, cool LEDs
- ring stand post is conveniently positioned and affixed to the stirrer base, 4 inches from the center of the stirring platform; ideal for use with the Vernier Drop Counter
- runs on 6-volt DC power adapter (included) or 4 C batteries (not included)



**NOTE:** This product is to be used for educational purposes only. It is not appropriate for industrial, medical, research, or commercial applications.

## What is included with the Stir Station?

- Stir Station unit
- stirring bar (4 cm)
- Vernier Microstirrer
- ring stand post (46 cm)
- 6-volt DC power adapter
- Stir Station booklet (this booklet)

## How the Stir Station Works

The Stir Station uses a tachometer feedback control system, thus making it easier to fine-tune and maintain its stirring speed. This method of speed control also allows you to remove a beaker while it is stirring without affecting the Stir Station's motor speed.

Three LEDs are positioned beneath the translucent stirring platform and offer efficient lighting for a wide range of beaker sizes. The LEDs do not heat the stirring platform and have a long life span so they will most likely never need replacing.

The Stir Station motor is sufficiently powerful to operate most common-size magnetic stirring bars. It will stir solutions of a viscosity nearing the 1000-centipoise range (roughly half the viscosity of grocery store corn syrup). You may also use a Vernier Microstirrer (included) with the Stir Station.



The Stir Station is powered by either the DC power adapter (included) or four C batteries (not included). To use the Stir Station with the 6-volt DC power adapter, plug the round plug on the power adapter into the back of the Stir Station. To use the Stir Station with batteries, remove the battery compartment cover from the underside of the unit, insert four C batteries, and replace the compartment cover. Rechargeable batteries may be used as well. If batteries are in the battery compartment, the adapter overrides the batteries.

## Safety

The Stir Station contains strong magnets. It should not be used near Cardiac pacemakers, CDs, cassette tapes, or other similar data storage devices. The Stir Station is not designed to be used under water.

## Using the Stir Station with the Vernier Drop Counter

The Stir Station's ring-stand post makes it a perfect complement to the Vernier Drop Counter (shown here) as your students conduct titration experiments. Simply connect the Drop Counter to the ring stand post and position a buret clamp and reagent reservoir to deliver the titrant dropwise to a container of liquid. Using Logger Pro<sup>®</sup> 3 software on a Windows<sup>®</sup> or Macintosh<sup>®</sup> computer, DataDrop program on a TI graphing calculator, or Data Pro (1.15 or newer) on a Palm OS<sup>®</sup> handheld you can collect data, and view plots of pH vs. volume, first derivative vs. volume, or second derivative vs. volume.



## Helpful Tips for Using the Stir Station

1. Although the ring stand post is firmly seated in a metal-reinforced, threaded collar, do not lift the Stir Station by the ring stand post to move it.
2. The Stir Station is a mechanical device with many moving parts. It is best to turn off the Stir Station motor and the LED lights when the device is not in use.
3. Under normal operating conditions, the Stir Station will run in excess of 100 hours on battery power, without the lights. When you use the Stir Station with batteries, as the batteries run down you may notice the lights dimming. The stirring motor will continue to run but the maximum stirring speed may be compromised.
4. The stirring platform of the Stir Station is made of ABS plastic. ABS, or acrylonitrile butadiene styrene, was selected because of its strength, rigidity, and toughness. It has good chemical and stress-cracking resistance. Even so, it is wise to clean spills promptly, following the normal guidelines used in dealing with chemical spills. Many stains can be removed from the stirring platform with soap and water. Never immerse the unit or flood it with water or other liquids.
5. When using the Vernier Microstirrer, it is best to position the Microstirrer slightly off center of the beaker. Rotate the Microstirrer to find the smoothest and quietest operating position.
6. The stirring controls are sufficiently steady on the Stir Station that you can set the stirring at a desired speed and it will not change appreciably over several hours.

## Specifications

Stirring quantity maximum (mL): 800

Speed range (RPM): 50–1250

Speed Control: stepless

Stirring platform material: ABS plastic

Diameter of stirring platform (cm): 10

Weight, without batteries (g): 460

Permissible ambient temperature (°C): 0–60

Permissible relative moisture (%): 90

Power supply: 6-volt AC adapter (included) or four C dry cell batteries

Installation category: II

## Warranty

Vernier warrants this product to be free from defects in materials and workmanship for a period of five years from the date of shipment to the customer. This warranty does not cover damage to the product caused by abuse or improper use.



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