



Magnetic Stirrer Purchasing Guide: Scilogex Knowledge Library

Mixing is an integral part of various laboratory tasks. With different types and specifications of lab stirrers available in the market, deciding on the most suitable one to get for your qualitative or quantitative research laboratory is essential. Depending on the volume and viscosity of your samples under study, you can either get magnetic or overhead stirrers.

Whether for use in chemistry, biology, or microbiology applications, magnetic stirrers are designed to offer low-noise, better efficiency, lesser instances of external parts breaking or wearing out, and are preferred over overhead stirrers. This type of stirrer operates with magnetic bars that work best with commonly used glass containers for various chemical reactions. A magnetic stirrer may also come with a hot plate for simultaneous stirring and heating of samples.

Getting the most apt magnetic stirrer for a specific application will ensure optimal spinning of your solutions. Considering that there are a plethora of magnetic stirrer models to choose from, take some time and effort in filtering out what's best for your experiments. To make things easier and for you to not feel too overwhelmed with options available, Scilogex has prepared this simple guide with key points to take into account before purchasing the ideal magnetic stirrer for your laboratory.

What does your application require?

- *Liquid Volume and Liquid Viscosity*

If you are working with relatively small experiments and sample volumes, it is recommended to go for [magnetic stirrers](#). As an initial step, be sure to check on the maximum capacity of the unit you are buying. Most compact magnetic stirrer models have a 3 liter capacity and can be used for at least 1 liter surfactant solutions plus 250ml of an emulsion. Some may also offer a 10L max stirring capacity like the [SCIOLOGEX MS7-H550-S LED Digital 7x7 Hotplate Stirrer](#), a 20L stirring capacity like the [SCIOLOGEX MS-H-Pro Plus Circular-top LCD Digital Hotplate Stirrer](#).

If you are dealing with larger sample volumes, more viscous liquids, or thicker suspensions, mechanical stirring may be needed so you can opt for [overhead stirrers](#) instead.



- *Temperature Requirements and Frequency of Use*

Before buying a magnetic stirrer, go through your laboratory's daily procedures and necessities first. Do your experiments deal with heated solutions? If you rarely heat and stir samples, you can consider just procuring a simple magnetic stirrer and a separate hot plate.

On the other hand, for workrooms that frequently heat and stir samples, you can look for magnetic hotplate-stirrers instead. Take note of how hot your solutions should be and the power needed to achieve your temperature goal. Hot plates consisting of a metal plate or a ceramic plate can heat up between 350C and 500C. If you must evenly heat your liquids, go for hotplate stirrers that allow usage of heating blocks. You may also want to shop for models with a brushless stirrer motor as this can provide stirring consistency and longevity.

Other items to look out for in a magnetic hotplate stirrer include the heat output of the hotplate, minimum and maximum heating temperature, and minimum and maximum adjustable temperature.

Available hotplate/stirrers from Scilogex are classified as either one of the three classes below. Differentiate these classes [here](#).

- Class A: High temperature > 500C
- Class B: Temperature > 300C
- Class C: Temperature > 200C

- *RPM Requirements*

Heating your liquids at constant rotations per minute is crucial. Minimum speed for most magnetic hotplate stirrer models is around 1000rpm while powerful models have a maximum speed of up to 2000rpm like the [SCILOGEX EcoStir Magnetic Stirrer](#). Units with RPM between 1000-15000 should be fine for most laboratories. For hotplate/stirrers that can offer 0-1500rpm or 100-1500rpm, be sure to browse SCILOGEX [analog](#) and [digital](#) hotplate stirrers.

- *Type of Experiment*

For experiments where you need to attentively monitor pH levels of buffered systems, check out magnetic hotplate stirrers that can connect with pH probes. You can also get units with remote control or pre-programmable features if your experiment requires adjustments in the wee hours of the night.



Models with free software for control and data logging are also available such as the [SCILOGEX MS-H-Pro-T Circular-top LCD Digital Hotplate Stirrer](#). Some may allow saving of stirring and heating functions like the [SCILOGEX MS-H-Pro Plus Circular-top LCD Digital Hotplate Stirrer](#).

For applications that call for very precise temperatures or minimum variation in temperatures, you might want to shop for heating blocks or water baths instead of hotplates or hotplate stirrers.

- *Other items to evaluate*
 - Working Temperature - if you have a humid lab environment or if you will be mixing high temperature materials, think of the maximum allowed working temperature and humidity of the magnetic stirrer unit you are buying.
 - Environmental Conditions - if you will be using the magnetic stirrer under a potentially hazardous environment, in the field where it may be subjected to weather, or be frequently in contact with chemicals or washed with water, you should shop for a unit featuring a chemically resistant plate.
 - Surface Dimension - the size of beakers you can use will always depend on the surface dimension of your magnetic stirrer unit.
 - Size of Magnet to Use - working with beakers in different sizes would require differently sized magnetic bars as well. The size of the magnetic bar to use is usually 0.5-1.0cm smaller than the diameter of your beaker.
 - Safety Features - built in safety features may increase the price of a unit but is an important factor to assess before making a purchasing decision. Some units may come with over temperature controls that turns off a hotplate if an over temperature situation occurs or may show a hot warning sign if temperature is above 50C like the [SCILOGEX MS-H280-Pro Circular-top LED Digital Hotplate Stirrer](#).



What are the different types of magnetic stirrers to consider?

Familiarizing yourself with different options available can make unit selection faster and easier. Listed below are some magnetic stirrer types and their brief descriptions. Review your applications and identify which one would work better to meet your needs.

- **Analog Hotplate/Stirrers**

Most analog hotplate/stirrers feature electronic speed control for constant speed even during changes in sample load. Analog hotplate-stirrers usually have low heat temperature stability. If you are looking for a cost-effective and durable [Analog Hotplate-Stirrer](#) with high magnetic adhesion, you can check out the [SCILOGEX MS-H-S Circular-top Analog Hotplate Stirrer](#).

If you only require an [Analog Stirrer](#), you may want to look at the [SCILOGEX FlatSpin Stirrer](#) featuring automatic reverse rotation for ideal stirring, [SCILOGEX MS-PB Circular-top Analog Magnetic Stirrer](#) that comes with an ABS plate, or the [SCILOGEX MS7-S 7x7 Analog Magnetic Stirrer](#) with a ceramic-glass plate.

- **Digital Hotplate/Stirrers**

Digital Hotplate/Stirrers either have LCD or LED displays that show rotation speed and temperature, offering easy adjustment until appropriate target values are reached. These digital units also feature an electronic speed control that ensures constant speed maintenance.

Looking for Digital Hotplate/Stirrers? Consider getting the CE Marked and cTUVus approved [SCILOGEX MS7-H550-Pro 7x7 LCD Digital Hotplate Stirrer](#), [SCILOGEX MS-H-Pro Plus Circular-top LCD Digital Hotplate Stirrer](#), or [SCILOGEX MS-H280-Pro Circular-top LED Digital Hotplate Stirrers](#).

Interested only in [Digital Hotplates](#)? Check out the [SCILOGEX HP550-S LED Digital 7x7 Hotplate](#) with a ceramic-glass hotplate and an ambient temperature of 550C.

- **Multi-position Hotplate/Stirrers**

This type can heat and/or stir multiple beakers or flasks at the same time on the platform. By simultaneously heating and stirring a number of solutions on one model, reaction conditions are set to be consistent throughout all individual samples.

Need chemical-resistant [multi-position hotplate/stirrers](#) with long life brushless motors? If you need a unit for 16 solutions each having sample volume up to 400ml, SCILOGEX offers the powerful [MS-M-S16 Analog Magnetic Stirrer 16-Channel](#). If you have lesser solutions to work with, you can go for the [MS-M-S10 10-Place Analog Magnetic Stirrer](#) that can provide consistent sample conditions across 10 solutions.



- Cell Culture Stirrers

Cell culture stirrers are specifically designed for careful mixing of cell suspensions, microcarrier cultures, and culture broths. Offering gentle stirring that prevents cell shearing, cell culture stirrers promote higher cell yields. These also provide low heat output to safeguard sensitive cell or tissue cultures and are suitable for use in incubators and cold rooms.

For optimal suspension cell culture, opt for units with various program modes, slow acceleration and deceleration, with timer functions and easy to read displays like the [SCIOLOGEX MS-C-S1 Cell-Culture Stirrer](#) and the [SCIOLOGEX MS-C-S4 Cell-Culture Stirrer](#).

When it comes to value and performance, you can always rely on Scilogex. All Scilogex digital hotplates/hotplate-stirrers come with a FREE PT1000 sensor to accurately measure and control a medium's temperature. Models incorporating brushless DC motors ideal for long term stirring and longevity including the [SCIOLOGEX MS-H-S](#), [SCIOLOGEX MS-H-Pro](#), [SCIOLOGEX MS-H-Pro-T](#), [SCIOLOGEX MS7-Pro](#), and the [SCIOLOGEX MS7-H550-Pro](#) are available as well.

Meet requirements for all your areas of research with our large inventory of innovative lab equipment including magnetic hotplate/stirrers, spin bars, stands, reaction blocks, [hotplate stirrer accessories](#), and a range of lab equipment supplies. With lab products manufactured under an ISO9001 facility, available warranty options, and lab experts for pre-purchase support and product recommendations, Scilogex only guarantees quality and excellence. If you require product assistance or have any product inquiries, feel free to contact us at 877-724-5643 or email us at info@scilogex.com today!