

# MS-H-S/MS-S Magnetic/Hotplate Stirrers

## User Manual



MS-H-S      Analog Hotplate Magnetic Stirrer

MS-S         Analog Magnetic Stirrer

*Please read the User Manual and the related Video of this instrument on our website carefully before use, and follow all operating and safety instructions!*

*The website [www.sciologex.com](http://www.sciologex.com)*

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# Contents

- Contents ..... 1
- Preface ..... 2
- Service ..... 2
- Warranty ..... 2
- 1 Safety Instructions ..... 3
- 2 Proper use ..... 4
- 3 Inspection ..... 4
  - 3.1 Receiving Inspection ..... 4
  - 3.2 Listing of Items ..... 4
- 4 Trial run ..... 5
- 5 Control and Display ..... 5
- 6 Operation ..... 6
- 7 Faults..... 6
- 8 Maintenance and Cleaning ..... 6
- 9 Associated Standards and Regulations .....7
- 10 Technical data..... 7
- 11 Products and Accessories ..... 8

## Preface

Welcome to the “MS-(H)-S Analog Hotplate Magnetic Stirrer User Manual” . Users should read this Manual carefully, follow the instructions and procedures, and beware of all the cautions when using this instrument.

## Service

When help needed, you can always contact the service department of manufacturer for technical support in the following ways:

SCIOLOGEX, LLC

500 Four Rod Road

Suite 122

Berlin, CT 06037

USA

Tel: 1- (860) 828-5614

Fax: 1- (860) 828-5389

E-mail: [info@scilogex.com](mailto:info@scilogex.com)

Website: [Http://www.scilogex.com](http://www.scilogex.com)

Please provide the customer care representative with the following information:

- Serial Number (on the rear panel)
- Description of problem (i.e., hardware or software)
- Methods and procedures adopted to resolve the problems
- Your contact information

## Warranty

You have purchased a Scilogex instrument. This instrument is warranted to be free from defects in materials and workmanship under normal use and service, for a period of 24 months from the date of invoice. The warranty is extended only to the original purchaser. It shall not apply to any product or parts which have been damaged on account of improper installation, improper connections, misuse, accident or abnormal conditions of operation.

For claims under the warranty please contact your local dealer. You may also send the instrument direct to our works, enclosing the invoice copy and by giving reasons for the claim. You would be solely liable for freight costs.

# 1 Safety Instructions

	<p>Warning!</p> <ul style="list-style-type: none"> <li>• Read the operating instructions carefully before use the instrument.</li> <li>• Ensure that only trained staff work with the instrument.</li> <li>• Forbid to heat the substances with low- burning point or easy-volatile (MS-H-S)</li> </ul>
	<p>Risk of burn!</p> <ul style="list-style-type: none"> <li>• Caution when touching the housing parts and the heating plate. The heating plate can reach temperatures of 340 °C .</li> <li>• Pay attention to the residual heat after switching off.</li> </ul>
	<p>Protective ground contact!</p> <ul style="list-style-type: none"> <li>• Make sure that socket is earthed (protective ground contact) before use.</li> </ul>

• When work , wear the personal guard to avoid the risk from:

- Splashing and evaporation of liquids
- Release of toxic or combustible gases.

• Set up the instrument in a spacious area on an stable, clean, non-slip, dry and fireproof surface, do not operate the instrument in explosive atmospheres, with hazardous

substances or under water.

- Gradually increase the speed, reduce the speed if :
  - The stirring bar breakaway because of too high speed
  - The instrument is not running smoothly, or if the container moves on the base plate.
- Temperature must always be set to at least 25 °C lower than the fire point of the media used.
- Beware of hazards due to:
  - Flammable materials or media with a low boiling temperature
  - Overfilling of media
  - Unsafe container
- Process pathogenic materials only in closed vessels.
- If the case of the stirrer bar is PTFE, please note ;
  - Elemental fluorine, three fluoride and alkali metals will corrode the PTFE and Halogen alkanes make it expansion at room temperature
  - Molten alkali , alkaline earth metals or their solution, as well as the powder in second and third ethnic of the periodic table of elements will have chemical reaction with PTFE when temperature reaches 300 ~ 400 °C .
- The voltage stated on the label must correspond to the main power supply.
- Ensure that the mains power supply cable does not touch the hotplate. Do not cover the instrument.

- The instrument may only be opened by experts.
- Keep away from high magnetic field.
- Observe the minimum distances between the devices, between the instruments and the wall and above the assembly (min. 100 mm).

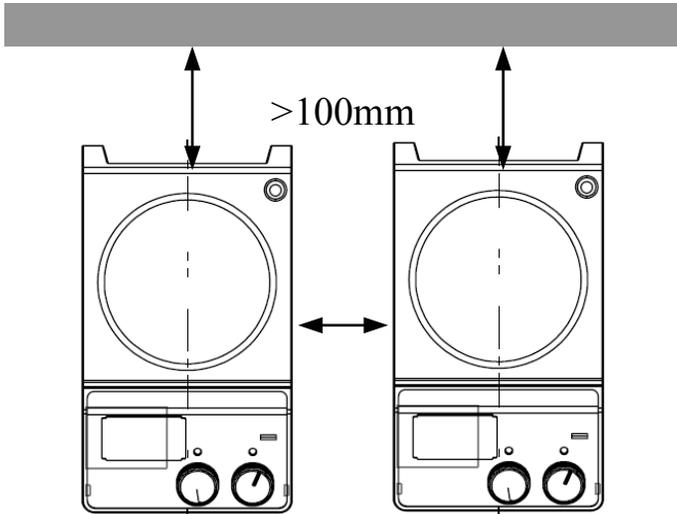


Figure 1

## 2 Proper use

The instrument is designed for schools, laboratories or factories. This device is not suitable for use in residential areas or other areas that may cause danger to the user or instrument as mentioned in Chapter 1.

## 3 Inspection

### 3.1 Receiving Inspection

Unpack the equipment carefully and check for any damages which may have arisen during transport. If it happens, please contact manufacturer Limited for technical support.



Note:

If there is any apparent damage to the system, please do not plug it into the power line.

### 3.2 Listing of Items

The packing includes the following items:

Items	Qty
Main unit	1
Power cable	1

Stirrer bar	1
User manual	1

Table 1

## 4 Trial run

- Make sure the required operating voltage and power supply voltage match.
  - Ensure the socket must be earthed.
  - Ensure the power be off and the speed control knob and the temperature control knob to the lowest position
  - Plug in the power cable and power on the device.
  - Add the medium into the vessel with a stirring bar.
  - Put the vessel on the plate.
  - Set the rated stirring speed and the device begins to work.
  - Set the rated temperature and the device begins to work(MS-H-S).
  - Keep the temperature control knob and the speed control knob slowly to the lowest position to turn off the function.
- If these operations above are normal, the device is ready to operate. If these operations are not normal, the device may be damaged during transportation, please contact DragonLab corporation for technical support.

## 5 Control and Display

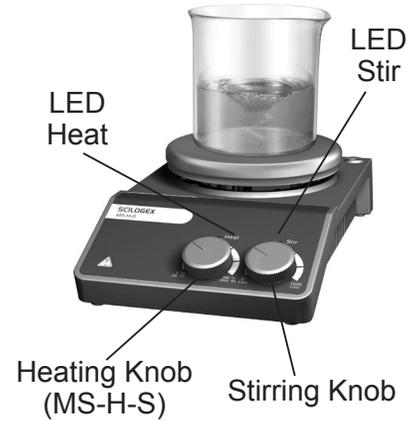


Figure 2

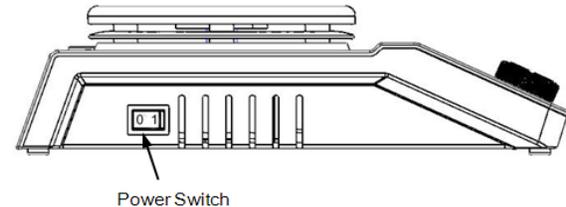


Figure 3

Items	Descriptions
Stir knob	Set the rated rotary speed in the safe stirring range from 0 to 1500 rpm. The function “Stirring” is switched ON or OFF via the knob
Heat knob (MS-H-S)	Set the rated temperature in the safe temperature range from room temperature to 340 °C. The function “heating” is switched ON or OFF via the knob.
LED heating	Lit when heating
LED Power	When the device is switched ON, the LED power is lit.
Mains switch	Switch ON or OFF.

Table 2

## 6 Operation

- Put the device on the stable and safe place, ensure the speed control knob and the temperature control knob to the lowest position and plug in the mains power.
- Turn ON the power switch.
- Turn the speed control knob regulation to set the rated rotary speed in the safe speed limit from 0 to 1500 rpm.
- Turn the temperature control knob regulation to set the

rated temperature in the safe limit from 0 to 340°C.(MS-H-S)

- The instrument begins to work.



Note:

Forbid to transfer the vessel when the instrument working, or you must restart Stir function again, avoiding Stirring bar breakaway.

## 7 Faults

- If a unit fault happens, please power down the instrument.
- Switch OFF the unit at the main ON/OFF switch for a few seconds.
- The stirring function will continue to operate at the speed set before the fault took place.
- The heating function will continue to operate at the set point before the fault took place.
- If the problem is not solved, take the unit to your technical service center.

## 8 Maintenance and Cleaning

- Proper maintenance can keep instruments working in a good state and lengthen its lifetime.
- Be careful not spray the cleanser into the instrument when

cleaning.

- Unplug the power line when cleaning.
- Only use cleanser that we advised as below:

Dyes	Isopropyl alcohol
Construction materials	Water containing tenside / isopropyl alcohol
Cosmetics	Water containing tenside / isopropyl alcohol
Foodstuffs	Water containing tenside
Fuels	Water containing tenside

Table 3

- Before using other method for cleaning or decontamination, the user must ascertain with the manufacturer that this method does not harm or destroy the instrument.
- Wear the proper protective gloves during cleaning of the instrument.
- The instrument must be cleaned and put it into the initial packaging carton before sending to service for repair, avoiding the contamination of hazardous.
- Use the instrument in a dry clean room and temperature stable environment.

## 9 Associated standards and regulations

Construction in accordance with the following safety standards:

EN 61010-1  
 UL 3101-1  
 CAN/CSA C22.2(1010-1)  
 EN 61010-2-10

Construction in accordance with the following EMC standards:

EN 61326-1

Associated EU guidelines:

EMC-guidelines: 89/336/EWG

Machine guidelines: 73/023/EWG

## 10 Technical data

Items	Parameters
Voltage [VAC]	200-240 / 100-120
Frequency [Hz]	50/60
Power [W]	530(MS-H-S) / 130(MS-S)
Stirring point position quantity	1
Max. stirring quantity (H <sub>2</sub> O) [L]	20

Max. magnetic bar [mm]	80
Motor type	External rotor brushless motor
Max. power input of motor [W]	18
Max. power output of motor [W]	10
Speed range[rpm]	0 ~ 1500
Speed display accuracy [rpm]	1
Hotplate material	Stainless steel/porcelain enamel
Ø of the hotplate [mm]	Ø 135
Heating power[W]	500(MS-H-S)
Heating rate (1L water) [K/min]	6(MS-H-S)
Temperature range[ °C]	RT~340(MS-H-S)
The safety temperature range of the hotplate [ °C]	350(MS-H-S)
Dimensions (mm)	280 × 160 × 85
Weight [kg]	2.8
Permitted ambient temperature[ °C]	5 ~ 40
Permitted relative humidity	80%
Protection class acc. to DIN 60529	IP42

Table 4

## 11 Products and Accessories

Cat.NO	Descriptions
811121019999	MS-H-S with Heating, Porcelain enamel, Cn plug, 220V/50Hz/60Hz
811121029999	MS-H-S with Heating, Porcelain enamel, USA plug, 110V/50Hz/60Hz
811121039999	MS-H-S with Heating, Stainless Steel, Cn plug, 220V/50Hz/60Hz
811121049999	MS-H-S with Heating, Stainless Steel, USA plug, 110V/50Hz/60Hz
811121059999	MS-H-S with Heating, Porcelain enamel, Euro plug, 220V/50Hz/60Hz
811121069999	MS-H-S with Heating, Porcelain enamel, UK plug, 220V/50Hz/60Hz
811121109999	MS-H-S with Heating, Stainless Steel Euro plug, 220V/50Hz/60Hz
811121119999	MS-H-S with Heating, Stainless Steel, UK plug, 220V/50Hz/60Hz
811121159999	MS-H-S with Heating, Porcelain enamel, USA plug, 220V/50Hz/61Hz

811111019999	MS-S without Heating, Stainless Steel, Cn plug 110V/220V/50Hz/60Hz
811111029999	MS-S without Heating, Stainless Steel, Euro plug 110V/220V/50Hz/60Hz
811111039999	MS-S without Heating, Stainless Steel, UK plug 110V/220V/50Hz/60Hz
811111049999	MS-S without Heating, Stainless Steel, USA plug 110V/220V/50Hz/60Hz
Accessories	
18900001	MS 135.1 Carrier plate, Used with MS135.2--5
18900002	MS 135.2 Quarter, 4 ml reaction vessel
18900003	MS 135.3 Quarter, 20 ml reaction vessel
18900004	MS 135.4 Quarter, 30 ml reaction vessel
18900005	MS 135.5 Quarter, 40 ml reaction vessel
18900048	MS 135.6 Quarter, 8 ml reaction vessel
18900049	MS 135.7 Quarter, 16 ml reaction vessel
18900006	Stirring bars (10mm x 6mm) , 1pcs/pk
18900007	Stirring bars (15mm x 8mm) , 1pcs/pk
18900008	Stirring bars (20mm x 8mm) , 1pcs/pk
18900009	Stirring bars (25mm x 8mm) , 1pcs/pk

12500005	Stirring bars (30mm x 6mm) , 1pcs/pk
12500005	Stirring bars (30mm x 6mm) , 1pcs/pk
18900011	Stirring bars (40mm x 8mm) , 1pcs/pk
12500004	Stirring bars (50mm x 8mm) , 1pcs/pk
18900013	Stirring bars (65mm x 8mm) , 1pcs/pk
18900014	Stirring bars (80mm x 13mm) , 1pcs/pk
18900015	Stirring bar mover, 1pc
18900018	F100 unit cover, for none heat plate model MS-Pro,MS-S
18900019	F101 unit cover, for heat plate model MS-H-S,MS-H-Pro

Table 5

**SCIOLOGEX, LLC**  
**1275 Cromwell Ave.**  
**Suite C6**  
**Rocky Hill, CT 06067 USA**  
**Tel: +1(860) 436-9221**  
**Fax: +1(860) 436-9745**  
**info@scilogex.com | www.scilogex.com**