



Analog Hotplate Stirrer

User Guide version 1.0

Model
PA1150, PA1180, PA1300

Thank you for purchasing this product
from LK Lab Korea co., Ltd.

This user guide provides explanations of function of product,
user manual and cautions.

Be sure to read this manual thoroughly before using this product.

Particular attention should be paid
to the used of the following warnings.



[Caution]

Indicates the situation requires user's attention.
Be careful when operating or controlling during usage.



[Warning]

Indicates a dangerous situation.
Failure of this warning could result in serious injury of equipment
damage.

Contents

1. Preparation	3
1.1 Product Introduction	3
1.2 Product Features	3
1.3 Product Structure	4
1.4 Product Installation	5
2. Usage	6
2.1 Initial Setting	6
2.2 Stirring Instructions	6
2.3 Heating Instructions	7
3. Maintenance	8
3.1 Maintenance	8
3.2 Cause of abnormal problem and matter of management	8
3.3 Product A/S (Warranty)	9
4. Specification	10

1. Preparation

1.1 Product Introduction

This Hotplate designed Chemical, Biological, Medical, Pharmaceutical and many other purposes.

Our Hotplate, stirrer or stirring hot plate is a general-purpose heating and/or stirring plate designed for laboratory procedures requiring precise control of temperature and/or stirring speed.

Numerous functions and safeguards maximize user convenience and safety.

1.2 Product Features

1.2.1 Product Performance and Convenience

- Ceramic coated top plate: Ceramic coated top plate is corrosion proof, temperature resistant and resists aggressive fluids.
- Coated in a pure white plate allows for easy observation of sample color change during use
- The top plate allows for quick thermal conduction and uniform surface temperature
- This device uses an electronic Analog temperature controller to control temperature
- The Hot Plate Stirrers were designed to start and stop smoothly to prevent fluid spill over from rapid turnover and decoupling of stir bar
- The Hot plate has an electronic feedback control which will accurately maintain Temperature

1.3 Product Structure



[1] Ceramic Coated Top Plate

[2] Heat Control Knob

[3] Stir Control Knob

[4] Power Switch

1.4 Product Installation

1.4.1 Product Component

Main Body (1 EA), User Guide (1 EA), Power Cord

1.4.2 Product Installation Environment

- Keep the product dry and clean
- Do not immerse the product for cleaning
- Do not heat or stir volatile or flammable materials
- The ceramic coated top surface may break if impacted
- The maximum sample volume stirring capacity is 5 L
- These units are not explosion or spark proof
- Do not operate this product near volatile or flammable materials
- Do not use this product with a metal vessel



- Install this product at an ambient temperature of 5 to 40 degrees.
- Install in a place where the ambient humidity is 80% or less.

1.4.3 Power Connection

- Set the power switch to OFF
- If the power cord is disconnected from the main body, connect with main body first then plug into the outlet.



- Supply power according to product specification
- Must use a grounded power source

2. Usage

2.1 Initial Setting

- Turn temperature and speed to zero before plugging in.
And connect the Main power cord to power supply.
Place your container or heating bath with the magnetic stirrer bar.
Stirrer bar should be placed in center of hot plate
- Place your container or heating bath with magnetic stirrer bar. Stirrer bar should be placed in Center of hot plate.
- Turn Power Switch ON.

2.2 Stirring Instructions

- Fill vessel with solution to be stirred.
- Place stir bar into vessel.
- Place vessel in the center of the top surface.
- Turn power switch ON. Then Hot Top Indicator Lamp will illuminate.
- Turn Stir Control Knob until the desired speed.
- Speed on Indicator Lamp will illuminate when the motor runs.
- Heating and stirring can be performed simultaneously on the MS300HS models which offer both heating and stirring functions.
- When the desired stirring is complete, turn the Stir Control Knob to "0" position.
Allow stir bar to cease rotation before removing the vessel from the unit.
- Disconnect Main power cord from the unit.
- Keep the product dry and clean disconnecting Main power cord when the unit is not used for a long time

Note

- Range of speed control : 100~1500 RPM
- Speed control knob in extreme left (CCW) position stops operating.
- If motor does not run upon turning the knob, increasing until 100rpm or more

Please note that the viscosity of the stirred material will affect the ability of the stir bar to remain coupled to the rotating ring magnet. Materials of high viscosity must be stirred at slower speed settings

2.3 Heating Instructions

- Fill vessel with solution to be heated
- If using a MS300HS and the stirring function, place stir bar into vessel.
- Place vessel in the center of the top surface.
- Turn power switch ON. Then Hot Top Indicator Lamp will illuminate.
- Heat Control Knob until the desired temperature.
- Temperature Indicator Lamp will illuminate when the heater runs
- When the desired heating is complete, turn the Heat Control Knob to “0” position.
And remove the vessel from the unit
- Disconnect Main power cord from the unit
- Keep the product dry and clean disconnecting Main power cord when then unit is not used for a long time.



The Hot Top Indicator will turn OFF when the power switch is OFF even if the temperature of the top surface is still hot to touch.

3. Maintenance

3.1 Maintenance

3.1.1 General

- It is important to keep this product dry and clean.
- Remove minor exterior liquid spills promptly.
- Clean exterior surfaces with a nonabrasive cleaner. Do not clean this product with substances such as alcohol or benzene. (Use neutral detergent.) Do not reconnect product to power input until all cleaned surfaces have dried.
- If liquid or wet solid material gets inside the product, immediately disconnect power to the product and discontinue use.
- Do not disassemble, modify, revise or repair this product. This may be a cause a malfunction, electrical fire.
- We recommend to store the item and its components in its original box, or a similar container that offers adequate protection against damage in transit.

3.1.2 Top Plate

- The top plate may break during use if not properly maintained.
- Keep the top plate clean. A nonabrasive cleaner may be used to clean the top plate.
- Inspect the top plate for damage during cleaning.
- Discontinue product use if the top plate is chipped, etched, or shows excessive scratching.

3.2 Cause of abnormal problem and matter of management

3.2.1 If the product does not turn on

- Check the power supply.
- Make sure that the power switch is ON which is located on the side of the main body.
- Make sure that power cord is securely connected.
- Make sure that the breaker of the outlet is turned on which is connected to the main body.
- If all necessary action is made but still having a problem, please contact our A/S department.

3.3 Product A/S

3.3.1 Warranty Period

The warranty period is 1 year from the date of purchase. After 1 year, warranty service without charges are done and user needs to pay for repair or replacement of parts. Within warranty period, user can receive A/S customer service from LK Lab Korea co., Ltd. or product purchased store

3.3.2 Exception from Warranty Period

Damage caused by fire or flooding, contamination due to unauthorized usage, not using liner power supply, usage during abnormal situation, misuse or malfunction will be the exceptions from receiving warranty service

3.3.3 How to receive A/S

First, contact our A/S department of product purchased store then enclose your contact information along with the detailed symptoms of the product that you are sending. You will receive a quotation of repair for you to make a decision for repairing. If we do not hear from you within 2 weeks of submitting your quotation, the product will be returned



- is product needs to be fixed, user must contact our A/S department or product purchased store to have it repaired. If disassemble the product or replace the parts on your own, it may not be possible to repair it.
- Damage beyond the normal fixing limit cannot be fixed.

A/S Department of LK Lab Korea co., Ltd. +82-(0)31-572-4952

4. Specification

Cat. No.	Model	Plate Size
H03-03-112	PA1150	w150 x d150 mm
H03-03-113	PA1180	w180 x d180 mm
H03-03-114	PA1300	w300 x d300 mm

Cat. No.	H03-03-112	H03-03-113	H03-03-114	
Model	PA1150	PA1180	PA1300	
Stirring Capacity (at Water)	2 L	5 L	15 L	
Speed Range	100~1500 rpm		100~1300 rpm	
Temperature Range	Max. 380 °C		Max. 350 °C	
Heater Power	480 W	680 W	1400 W	
Speed Controller	Feedback control			
Material Heating Plate	Ceramic Coated Aluminum			
Size	Plate (mm)	w150 x d150	w180 x d180	w300 x d300
	Exterior (mm)	w160 x d280 x h107	w200 x d310 x h107	w310 x d430 x h120
Power	1 Phase, 220 Vac, 50/60 Hz			

생산물배상책임보험 증권

증권 번호	P151400668
계약자	(주)엘케이랩코리아
주소	[136-075] 서울특별시 성북구 계문사길 57 - 3(안암동5가)
피보험자	(주)엘케이랩코리아
주소	[136-075] 서울특별시 성북구 계문사길 57 - 3(안암동5가)
가입기간	2014년 04월 10일 00:00 ~ 2015년 04월 09일 24:00 (증권발행지의 표준시 기준)

[계약일반사항]

제품종류(명)	각종실험기기		
소급담보일	2014년 04월 10일		
재판관할지역	대한민국	미출액	₩ 2,662,000,000

[가입조건]

[생산물배상책임]

대인, 대물 불발 연간 총 보상한도: ₩ 100,000,000
 대인, 대물 불발 1정구당 보상한도: ₩ 100,000,000
 자기부담금: ₩ 1,000,000

[사용약관]

생산물배상책임(PL)단체보험 공제약관
 생산물배상책임보험(PL) 보험약관 - 피보험구거론
 납과인식오류 부담보 추가약관
 품질지하부담보험약관
 화재위험부담보험약관

[보험료 납입] 일시납

총 보험료: ₩ 1,827,000
 납입보험료: ₩ 1,827,000 (2014년04월09일)

이 보험은 전기 환급금이 없는 소멸성 상품입니다.

문의처 : 중소기업중앙회
 손해공제부 (www.plkorea.com)

전화번호 : 1666 - 9988
 팩스번호 : (0502) 397-0200

2014년 04월 09일
 중소기업중앙회
 회장 김기문



Memo

A large, empty rounded rectangular box with a thin gray border, intended for writing a memo. The box is vertically oriented and occupies most of the page below the title.

Memo

A large, empty rounded rectangular box with a thin gray border, intended for writing a memo. The box is vertically oriented and occupies most of the page below the title.

**77-9, Toegyewon-ro, Toegyewon-myeon,
Namyangju-si, Gyeonggi-do, Korea**

Tel. +82 31 573 4952

Fax. +82 31 527 4958

Analog Hotplate Stirrer User Guide

77-9, Toegyewon-ro, Toegyewon-myeon,
Namyangju-si, Gyeonggi-do, Korea

Tel. +82 31 573 4952

Fax. +82 31 527 4958