



Hotplate Stirrer

User Manual & Setup Guide

THS RANGE

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**General
Warning Sign**

Warning sign: signifies a general warning, and indicates a risk to people specified by the supplementary sign that if not avoided, may result in death or serious injury.



**Warning;
Flammable**

Warning; Flammable: signifies a flammable warning, and indicates a risk of flammable content as specified by the supplementary sign that if not avoided, may result in a fire by igniting flammable material.



**Warning;
Electricity**

Warning; Electricity: signifies a electricity warning, and indicates a risk of contact with electricity as specified by the supplementary sign that if not avoided, could result in injury.



**Warning; Hot
Surface**

Warning; Hot Surface: signifies hot surface warning, and indicates a risk to people specified by the supplementary sign that if not avoided, will result in contact with hot surface.



**General
Prohibition Sign**

General Prohibition: signifies a prohibited action, indicates a risk to people specified by the supplementary sign that if not avoided, will result in death or serious injury.



**Do Not Expose
Outside**

Do Not Expose Outside: signifies prohibiting the exposure to direct sunlight, and indicates a raised temperature due to sunlight or placement on hot surface can cause harmful damage to cabinet.

This user manual is intended for Thermoline's range of hotplate stirrers. We recommend that you read this user manual the whole way through before you start using the hotplate stirrer. Consider this manual as a component of the hotplate stirrer and an integral part to its function. We recommend keeping it close and within easy access.

Intended Use

The hotplate stirrer provides excellent stirring performance and high-temperature accuracy. It comes with a ceramic-coated hotplate that is durable, chemical-resistant, easy to clean and allows for optimum heat transfer.

The optimised PID program control enables high-accuracy temperature and speed control. An external PT1000 temperature probe is available for applications that require precise temperature control.

The THS-185 also offers a countdown timer as standard and can be set from 0 to 99h59m.



Product Specifications

Hotplate Stirrer User Manual
By **Thermoline**



Dimensions

(WxDxHmm)

THS-135

THS-185

External

250x148x85

350x220x100

Plate Dimensions (mm)

Ø 135

185x185

Technical Specifications

Stirring Capacity (Max litres)

5

20

Speed Range (rpm)

50-1500

Max. stirring bar L x Ø (mm)

55x10

80x9.5

Temperature Range

Ambient to +280°C

Ambient to +510°C

Top Plate

Aluminum alloy with ceramic coating

Stainless Steel with ceramic coating

LED Display Accuracy

±0.1°C

Control accuracy with the external temperature sensor

±1°C

Timer Setting Range

N/A

0 - 99h 59min

Electrical

650W/230V

1050W/230V

Weight

1.8kg

4.5kg

Support Rod and Clamp

Optional

Optional

Safety

Residual Heat Warning

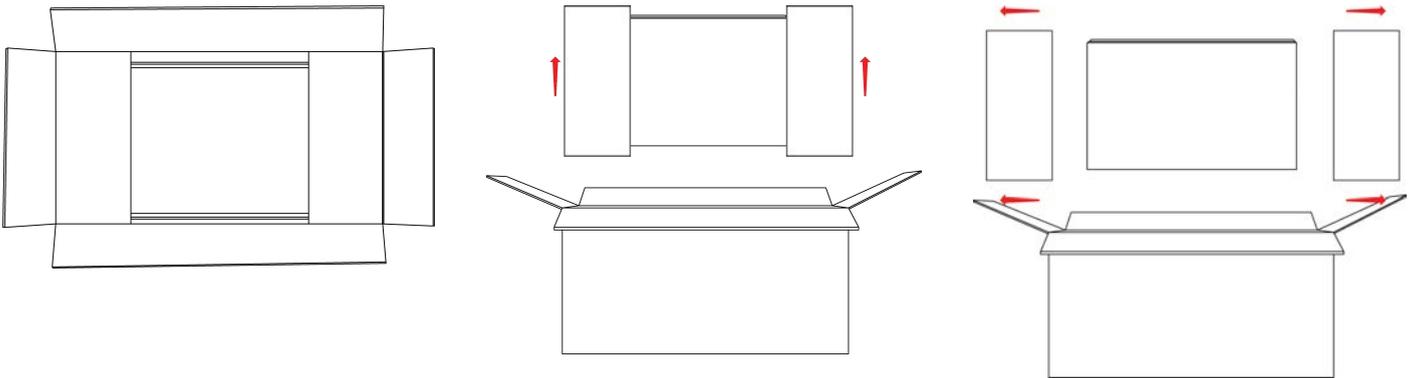
50-320°C

50-550°C

Unpacking

Unpacking Process:

- The hotplate stirrer will be delivered packed in a carton.
- Please see the below diagrams for removing the hotplate stirrer from the carton.
- If upon opening your package damage is present, notify the detail of any damage to your supplier or to Thermoline Scientific without delay at +61 2 9604 3911 or email at service@thermoline.com.au.



Packing List

THS-135

THS-185

Hotplate Stirrer

1

1

Power Lead

1

1

Stirrer Bar

1

1

External Temperature Sensor PT1000

1

1

Operating manual

Downloaded from the Thermoline Website

Setup

Hotplate Stirrer Components



Stand and Clamp (sold separately)

Setup

Location

Ensure the hotplate stirrer is placed in the correct environment, away from direct sunlight or direct heat sources. The product shouldn't be placed in a room where the ambient temperature exceeds that of which it was designed to operate. The hotplate stirrer should be stored inside at all times.

Extreme Operating Environment:

- **Temperature:** +5°C to +40°C
- **Humidity:** Up to 80%RH

Ensure the hotplate stirrer is placed on a level surface and that the mains plug and the switch are easily accessible.

The hotplate stirrer requires 100mm on the sides and back for ventilation and also to aid with accessibility.



Setup

Electrical Connections

The hotplate stirrer requires a 10amp 230V 50hz power supply.

All hotplate stirrers should be used in a dedicated outlet. Do not use power boards or the like. The hotplate stirrer includes a removable mains power lead with a three-pin plug and straight female IEC plug.

The hotplate stirrer itself has a 10 amp male IEC socket (power port). Ensure that the mains plug and the switch are easily accessible.



Setup

Cleaning

Careful cleaning of the exterior of the plate can be done using a soft cloth and soapy water. Never use abrasive cleaners or scouring pads, as these will scratch the surface and may result in corrosion. Never use caustic-type cleaning agents.

The hotplate stirrer has electrical components such as the temperature controller and stirring motor. These should not be subjected to moisture.

Note: Always switch the hotplate stirrer off and unplug it from the power before cleaning.



Hotplate Stirrer Warnings



Hotplate stirrers should be stored inside at all times. Failure to adhere to this could cause significant drops in performance and damage to items stored inside.



The hotplate stirrers are not suitable for use with flammable solvents! They are fitted with components that may be the source of ignition.



Hotplate stirrers heat up to 310/510°C and can become extremely hot.



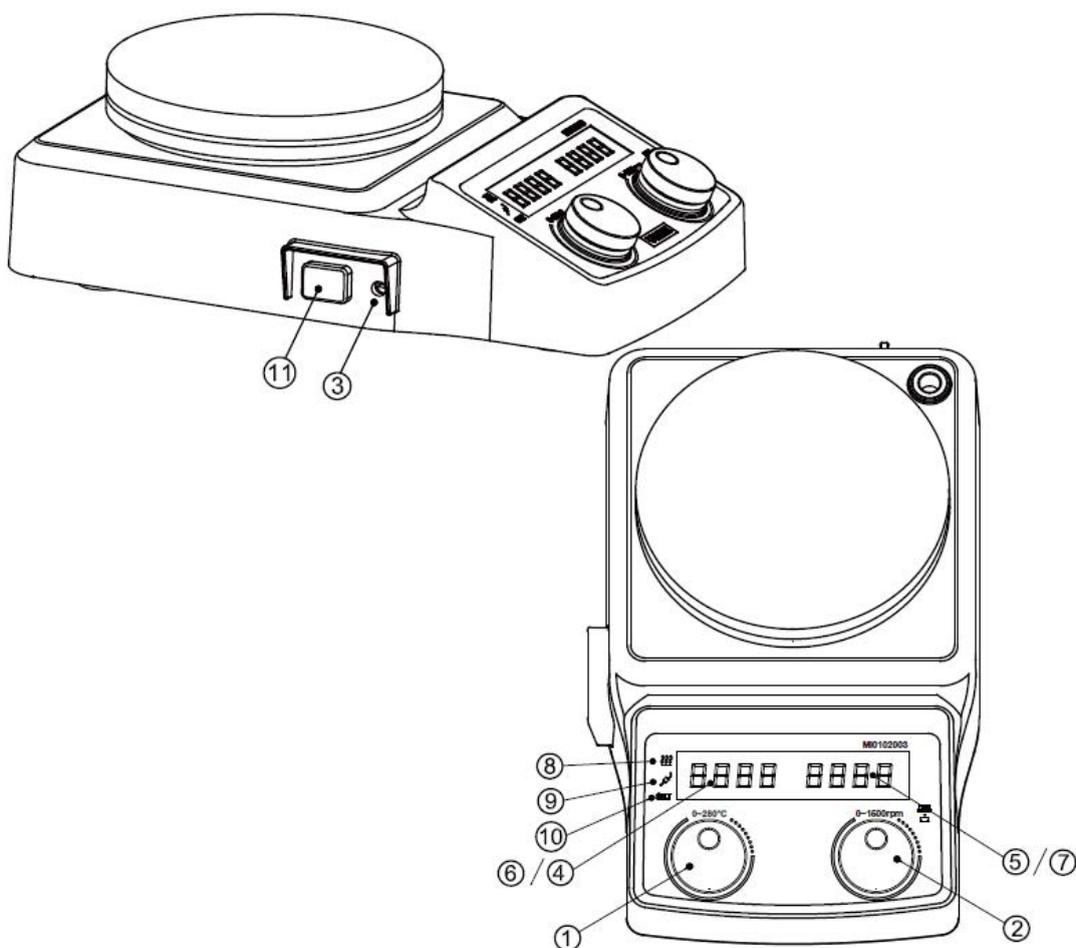
When you remove packaging from the hotplate stirrer you should be careful when using knives to cut tape and cardboard.

Pre Use Procedure

- Before proceeding, please make sure that all internal and external packaging has been removed from the hotplate stirrer and that all tape, plastic bags and foam pieces have been removed.
- Take the supplied lead and plug it into the male IEC socket on the rear of the hotplate stirrer. Next, plug the 3 pin plug into a 10amp General Purpose Outlet.
- Turn the main switch at the side of the unit to 'ON' to power up the hotplate stirrer.

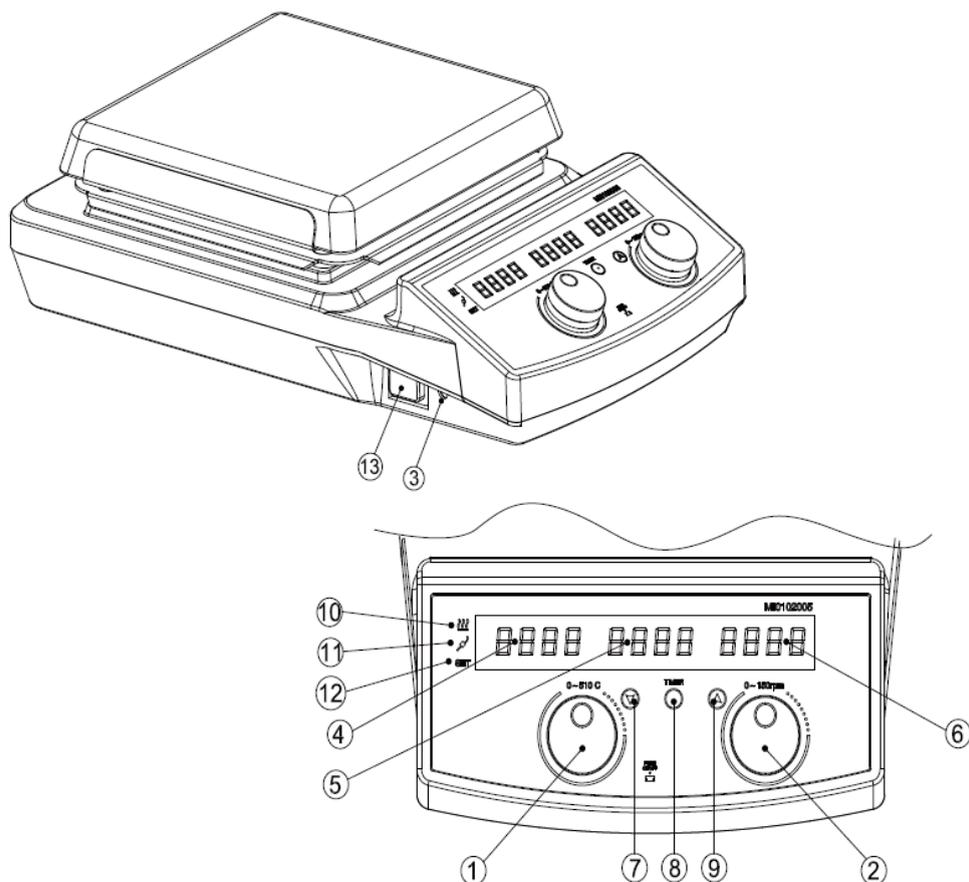


THS-135 Controls



① Knob for temperature setting	Set the temperature by rotating the knob Start/stop heating by pressing the knob
② Knob for speed setting	Set the speed by rotating the knob Start/stop stirring by pressing the knob
③ Knob for safety temperature setting	Set the safety temperature by rotating the knob. When the heating temperature is higher than the safety temperature, the machine stops heating.
④ Temperature display	When heating, it displays the target temperature and the actual temperature alternately. It displays "OFF" when heating stops.
⑤ Speed display	When stirring, it displays the target speed and the actual speed alternately. It displays "OFF" when the stirring stops.
⑥ ⑦ Safety temperature display	When setting the safety temperature, the first 4 digits display "SAFE" and the last 4 digits display the temperature value.
⑧ Heating indicator	It's lit when heating.
⑨ External temperature sensor indicator	When the external temperature sensor is connected, the indicator is lit and the LED displays the temperature of the external temperature sensor. When it's disconnected, the temperature of the internal temperature sensor is displayed.
⑩ Setting indicator	The light will flash when setting the temperature or speed.
⑪ Power switch	Switch on/off

THS-185 Controls



Item	Description
① Knob for temperature setting	Set the temperature by rotating the knob Start/stop heating by pressing the knob
② Knob for speed setting	Set the speed by rotating the knob Start/stop stirring by pressing the knob
③ Knob for safety temperature setting	Set the safety temperature by rotating the knob. When the heating temperature is higher than the safety temperature, the machine stops heating.
④ Temperature display	When heating, it displays the target temperature and the actual temperature alternately. It displays "OFF" when heating stops.
⑤ Time display	It displays the set time when working and it displays "OFF" when the timing stops.
⑥ Speed display	When stirring, it displays the target speed and the actual speed alternately. It displays "OFF" when the stirring stops.
⑦ Key to decrease the timing	Decrease the timing
⑧ Timer	Turn on/off timer
⑨ Key to increase the timing	Increase the timing
⑩ Heating indicator	It's lit when heating.
⑪ External temperature sensor indicator	When the external temperature sensor is connected, the indicator is lit and the LED displays the temperature of the external temperature sensor. When it's disconnected, the temperature of the internal temperature sensor is displayed.
⑫ Setting indicator	The light will flash when setting the temperature or speed.
⑬ Power switch	Switch on/off

Hotplate Stirrer General Controls

Safety Temperature Setting



The hotplate stirrer has a safety (maximum) temperature setting. This is adjusted using the supplied screwdriver through the hole next to the power on/off switch. Once you start to adjust the setting (turning the screw), the display will show the word SAFE and the current safety setting.

Temperature Setting

Set the temperature by adjusting the temperature setting knob.

- When heating, the LED will display alternately the target temperature and the current temperature.
- Heating is switched on/off by pressing the temperature setting.
- The set temperature of the last operation will be displayed when the machine is switched on.

Please note: The set temperature and the actual temperature may have some variances, such as:

- Between the hotplate centre and outer edge
- The sample inside the container and the container.

Residual heat warning (HOT)

This instrument has a residual heat warning function to prevent the risk of burns from the hotplate. When the heating is stopped, and the hotplate temperature is still above 50°C, "Hot" will flash to warn of a potential risk of burns. The instrument will be automatically powered off when the hotplate temperature drops to below 50°C. Please note that if the power out of the outlet is turned off and the power cord is disconnected, the residual heat warning will not work.

Stirring

Stirring is switched on / off by pressing the speed setting control knob. The speed is set by rotating the knob in the range of 50-1500rpm. When powered on, it displays the set speed of the last operation.

Hotplate Stirrer General Controls



External Temperature Sensor

Included with both models of hotplate stirrer as standard is a PT1000 external sensor. When the sensor is connected, the sensor indicator will light, and the machine is in the PT1000 operation mode. The temperature of the external sensor is set, and the actual temperature is displayed. When in use, the external sensor must be inserted into the sample. An optional stand and clamp is available (shown in use above).



Timer Setting (THS-185 only)

The THS-185 hotplate stirrer is equipped with a countdown timer as standard. It is activated by pressing the timer button. Holding the timer button for approximately three seconds will cause the value to flash, and you will be able to change it. Pressing the timer button again while in this edit mode will toggle from minutes to hours. After setting the timer the flashing will stop after a few seconds and the display will continue to count down.

See the below error codes and their descriptions.

Error code	Error description	Solutions
Er1	Short circuit in the external temperature sensor PT1000	Replace PT1000 and re-start the device
Er2	Open circuit in the internal temperature sensor PT1000	Re-start the device
Er3	Short circuit in the internal temperature sensor PT1000	Re-start the device
Er4	Excessive temperature of the device	Power off, and then re-start the device after cooling down
Er5	Motor failure	Reduce the sample

Technical and Repair Support

When contacting Thermoline regarding information about the product, it is important to have the Serial Number and other related information with you. The serial number is on a white sticker, usually located near the power IEC socket.

Contact Thermoline service on +61 2 9604 3911 or email at service@thermoline.com.au

 **Thermoline**

Model:
Serial No:
Watts/Amps:
Volts:

Phone: +61 2 9604 3911
Email: hello@thermoline.com.au



2
Years
Warranty

Have the following information available when you contact the service department. Model number and serial number. This is generally found on the exterior of the hotplate stirrer in the form of a stick-on label. The company name, address, contact name, contact phone number. A brief description of the problem. All warranty claims must be reported to, and agreed to by a Thermoline representative prior to any work being carried out.

Standard 24 Month Warranty

Thermoline Scientific Equipment Pty Ltd ABN 80 000 859 129 ('Thermoline')

Thermoline warrants to the original purchaser that this product will perform to its product specification for a period of 2 years from date of purchase, provided that the installation of the product has been carried out in accordance with the latest version of the manufacturer's instructions and further provided that the use of the product complies with that specified in the relevant specification. Thermoline is not responsible for any loss or damage arising from incorrect usage, usage outside the suitability of the product as stipulated in the manufacturer's instruction, damage caused by accident, fire, flood, act of God or failure to properly install, operate or maintain the goods in accordance with the printed instructions provided.

The following statement applies only to product sales that fall within the definition of a Consumer Sale set out in the Australian Consumer Law contained within the Competition and Consumer Act (Cth) 2012:

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure. Notwithstanding the preceding clause and to the extent permissible by law, the liability of Thermoline is limited, in relation to the warranted product and at the option of Thermoline to:

Replacing the product or the supply of equivalent product;
The repair of the product;
The payment of the cost of replacing the product or of acquiring equivalent product; or
The payment of the cost of having the product repaired.

To the extent permitted by law, all other warranties whether implied or otherwise, not set out in this Warranty are excluded and Thermoline is not liable in contract, tort (including, without limitation, negligence or breach of statutory duty) or otherwise to compensate the Purchaser for:

any increased costs or expenses;
calibration/certification services;
any loss of profit, revenue, business, contracts or anticipated savings;
any loss or expense resulting from a claim by a third party.
Any special, indirect or consequential loss or damage of any nature whatsoever caused by Thermoline's failure in complying with its obligations or the purchaser's failure due to accident damage, impact, misuse or negligence.

The benefits given to the purchaser in this Warranty are in addition to other rights and remedies under a law in relation to the products or services to which this warranty applies. This warranty applies only to products purchased and installed in Australia and does not cover any consumable items e.g. filters, light globes, ultrasonic nebulizers. The warranty does not extend to labour and freight costs where the warranted product is located outside Australia.

To make a warranty claim, contact Thermoline on 02 9604 3911 or service@thermoline.com.au.

We are proudly Australian owned

We will continue to invest in Australian
manufacturing.

