



Isotemp Hotplates, Stirrers and Stirring Hotplates

OPERATION MANUAL AND PARTS LIST

Catalog #	Type	Top Plate Size and Material	Voltage
11100100H	Hotplate	10x10 Ceramic	120
11100100S	Stirrer	10x10 Ceramic	120
11100100SH	Stirring Hotplate	10x10 Ceramic	120
1110016H	Hotplate	4x4 Ceramic	120
1110016S	Stirrer	4x4 Ceramic	120
1110016SH	Stirring Hotplate	4x4 Ceramic	120
1110049H	Hotplate	7x7 Ceramic	120
1110049S	Stirrer	7x7 Ceramic	120
1110049SH	Stirring Hotplate	7x7 Ceramic	120
1120049H	Hotplate	7x7 Aluminum	120
1120049S	Stirrer	7x7 Aluminum	120
1120049SH	Stirring Hotplate	7x7 Aluminum	120
1110116H	Hotplate	4x4 Ceramic	100
1110149H	Hotplate	7x7 Ceramic	100
1110149S	Stirrer	7x7 Ceramic	100
1110149SH	Stirring Hotplate	7x7 Ceramic	100
1120149S	Stirrer	7x7 Aluminum	100
1120149SH	Stirring Hotplate	7x7 Aluminum	100
11101100H	Hotplate	10x10 Ceramic	100
11101100S	Stirrer	10x10 Ceramic	100
11101100SH	Stirring Hotplate	10x10 Ceramic	100
1110216H	Hotplate	4x4 Ceramic	230
1110216S	Stirrer	4x4 Ceramic	230
1110216SH	Stirring Hotplate	4x4 Ceramic	230
1110249H	Hotplate	7x7 Ceramic	230
1110249S	Stirrer	7x7 Ceramic	230
1110249SH	Stirring Hotplate	7x7 Ceramic	230
1120249H	Hotplate	7x7 Aluminum	230
1120249S	Stirrer	7x7 Aluminum	230
1120249SH	Stirring Hotplate	7x7 Aluminum	230
11102100H	Hotplate	10x10 Ceramic	230
11102100S	Stirrer	10x10 Ceramic	230
11102100SH	Stirring Hotplate	10x10 Ceramic	230

Table of Contents

Safety Information	3
Warnings	3
Specifications	5
Environmental Conditions	6
Declaration of Conformity.....	6
Unpacking and Installation	7
General Usage	7
Unpacking	7
Installation	7
Operation	8
Setting the Stirring Speed	8
Setting the Temperature	8
Heating Metal Vessels and Sand Baths.....	8
Maintenance and Troubleshooting	9
General Cleaning Instructions	9
Error Codes	9
Replacement Parts.....	10
Accessories	10
Warranty	11

Safety Information

Alert Signals



Warning

Warnings alert you to a possibility of personal injury.

Your Fisher Isotemp Hotplate, Stirrers or Stirring Hotplate has been designed with function, reliability, and safety in mind. It is your responsibility to install it in conformance with local electrical codes. For safe operation, please pay attention to the alert signals throughout the manual.

This manual contains important operating and safety information. The user must carefully read and understand the contents of this manual prior to the use of this equipment.

Warnings

To avoid electrical shock, always:

1. Use a properly grounded electrical outlet of correct voltage and current handling capacity.
2. Disconnect from the power supply prior to maintenance and servicing.

To avoid personal injury:

1. Do not use in the presence of flammable or combustible materials — fire or explosion may result. This device contains components which may ignite such materials. Not rated for use in hazardous atmospheres.
2. Use caution when heating volatile materials; top surface and element can reach the “Flash Point Temperature” of many chemicals. These stirring hotplates are not explosion proof. Fire or explosion may result. Unit contains components which may ignite such materials.
3. Keep top surface clean. Use a non-abrasive cleaner. Alkali spills, hydrofluoric acid spills or phosphoric acid spills may damage top and lead to thermal failure. Unplug unit and remove spills promptly. Do not immerse unit for cleaning.
4. Replace the top immediately if damaged by etching, scratching or chipping. A damaged top can break in use.

SAFETY INFORMATION

5. Do not use metal foil on hotplate which may block air flow. Overheating will result.
6. Check and tighten the removable cord periodically making sure it is secure. If loosened, the cord could become hot and/or spark and be a potential fire hazard. If cord appears damaged, replace immediately.
7. Do not remove or modify grounded power plug. Use only properly grounded outlets to avoid shock hazard.
8. Use appropriate hand and eye protection when handling hazardous chemicals.
9. Gross weight of items placed on top of stirring hotplates should not exceed 35 lbs. (15.9 kg.) on the 10" x 10" models, 25 lbs. (11.3 kg) on the 7" x 7" models, and 15 lbs. (6.8 kg.) on the 4" x 4" models.
10. The top plate of the unit can remain hot for some time after use. A "CAUTION - HOT TOP" light will remain on until top plate temperature cools to below 50°C.
11. Note that the exterior housing will be hot during and for a period of time after use.
12. Refer servicing to qualified personnel.

Specifications

Catalog #	Electrical (Volts/Amps/Watts/Freq./Phase)	Temperature Range*	Speed Range (rpm)	Top Plate Capacity
11100100H	120/11.7/1410/60/1	5 - 400° C	N/A	6L flask / 35 lbs.
11100100S	120/0.37/20/60/1	N/A	60-1200 rpm	6L flask / 35 lbs.
11100100SH	120/12/1440/60/1	5 - 400° C	60-1200 rpm	6L flask / 35 lbs.
1110016H	120/3.2/385/60/1	5 - 540° C	N/A	1L flask / 15 lbs.
1110016S	120/0.37/20/60/1	N/A	60-1200 rpm	1L flask / 15 lbs.
1110016SH	120/3.3/395/60/1	5 - 540° C	60-1200 rpm	1L flask / 15 lbs.
1110049H	120/8.8/1060/60/1	5 - 540° C	N/A	4L flask / 25 lbs.
1110049S	120/.037/20/60/1	N/A	60-1200 rpm	4L flask / 25 lbs.
1110049SH	120/8.9/1070/60/1	5 - 540° C	60-1200 rpm	4L flask / 25 lbs.
1120049H	120/5.5/660/60/1	5 - 300° C	N/A	4L flask / 25 lbs.
1120049S	120/0.5/35/60/1	N/A	60-1200 rpm	4L flask / 25 lbs.
1120049SH	120/5.7/680/60/1	5 - 300° C	60-1200 rpm	4L flask / 25 lbs.
1110116H	100/3.8/385/50-60/1	5 - 540° C	N/A	1L flask / 15 lbs.
1110149H	100/10.7/1070/50-60/1	5 - 540° C	N/A	4L flask / 25 lbs.
1110149S	100/0.47/25/50-60/1	N/A	60-1200 rpm	4L flask / 25 lbs.
1110149SH	100/11.0/1095/50-60/1	5 - 540° C	60-1200 rpm	4L flask / 25 lbs.
1120149S	100/0.6/35/50-60/1	N/A	60-1200 rpm	4L flask / 25 lbs.
1120149SH	100/6.8/680/50-60/1	5 - 300° C	60-1200 rpm	4L flask / 25 lbs.
11101100H	100/11.2/1125/50-60/1	5 - 400° C	N/A	6L flask / 35 lbs.
11101100S	100/0.47/25/50-60/1	N/A	60-1200 rpm	6L flask / 35 lbs.
11101100SH	100/11.5/1150/50-60/1	5 - 400° C	60-1200 rpm	6L flask / 35 lbs.
1110216H	230/1.7/420/50-60/1	5 - 540° C	N/A	1L flask / 15 lbs.
1110216S	230/0.17/20/50-60/1	N/A	60-1200 rpm	1L flask / 15 lbs.
1110216SH	230/1.8/440/50-60/1	5 - 540° C	60-1200 rpm	1L flask / 15 lbs.
1110249H	230/4.8/1150/50-60/1	5 - 540° C	N/A	4L flask / 25 lbs.
1110249S	230/0.17/20/50-60/1	N/A	60-1200 rpm	4L flask / 25 lbs.
1110249SH	230/4.9/1170/50-60/1	5 - 540° C	60-1200 rpm	4L flask / 25 lbs.
1120249H	230/2.9/690/50-60/1	5 - 300° C	N/A	4L flask / 25 lbs.
1120249S	230/0.3/35/50-60/1	N/A	60-1200 rpm	4L flask / 25 lbs.
1120249SH	230/3.0/720/50-60/1	5 - 300° C	60-1200 rpm	4L flask / 25 lbs.
11102100H	230/6.4/1530/50-60/1	5 - 400° C	N/A	6L flask / 35 lbs.
11102100S	230/0.17/20/50-60/1	N/A	60-1200 rpm	6L flask / 35 lbs.
11102100SH	230/6.5/1550/50-60/1	5 - 400° C	60-1200 rpm	6L flask / 35 lbs.

* This stirring hotplate does not cool. The minimum temperature is 5°C if used in a cold room.

SPECIFICATIONS

Environmental Conditions

Operating: 17°C to 27°C; 20% to 80% relative humidity, non-condensing. Installation category II (overvoltage) in accordance with IEC 664. Pollution degree 2 in accordance with IEC 664.
Altitude Limit: 2,000 meters.

Storage: -25°C to 65°C
10% to 85% relative humidity

Declaration of Conformity

(for 230 volt)

We hereby declare under our sole responsibility that this product conforms with the technical requirements of the following standards:

EMC:	EN 61000-3-2	Limits for harmonic current emissions
	EN 61000-3-3	Limits for voltage fluctuations and flicker
	EN 61326-1	Electrical equipment for measurement, control, and laboratory use; Part I: General Requirements
Safety:	EN 61010-1	Safety requirements for electrical equipment for measurement, control, and laboratory use; Part I: General Requirements
	EN 61010-2-010	Part II: Particular requirements for laboratory equipment for the heating of materials (Hotplates and Stirring Hotplates)
	EN 61010-2-051	Part II: Particular requirements for laboratory equipment for mixing and stirring (Stirrers and Stirring Hotplates)

per the provisions of the Electromagnetic Compatibility Directive 89/336/EEC, as amended by 92/31/EEC and 93/68/EEC, and per the provisions of the Low Voltage Directive 73/23/EEC, as amended by 93/68/EEC.

The authorized representative located within the European Community is:

Thermo Fisher Scientific
419 Sutton Road
Southend On Sea
Essex SS2 5PH
United Kingdom

Copies of the Declaration of Conformity are available upon request.

Unpacking and Installation



Warning

Use a properly grounded electrical outlet of correct voltage and current handling capacity.

General Usage

Do not use this product for anything other than its intended usage.

Unpacking

Remove your Isotemp hotplate, stirrer or stirring hotplate from the carton. Inspect to ensure that the unit has not been damaged during shipment. If the unit appears to have sustained shipping damage contact Fisher Scientific at 800-926-0505.

The following items are included in the shipment:

Isotemp Hotplate, Stirrer or Stirring Hotplate

Cord

Stir Bar (Stirring models only)

Adapter (100V models only)

Knob

Operator's Manual

Installation

Set the unit on a flat stable surface at least 12" away from combustible materials, and plug the cordset into a properly grounded electrical outlet of correct voltage and current handling capacity.

Operation



Warning

Use caution when heating volatile materials; top surface and element can reach the “Flash Point Temperature” of many chemicals. These hotplates and stirring hotplates are not explosion proof. Fire or explosion may result. Unit contains components which may ignite such materials.

Use appropriate hand and eye protection when handling hazardous chemicals.

“Caution: Hot Top. Avoid Contact.” The top plate of the unit can remain hot for some time after use. A “CAUTION - HOT TOP” light will remain on until top plate temperature cools to below 50°C.

Setting the Stirring Speed

To set the speed, turn the STIR knob to the desired setting. Turn the knob clockwise to increase the speed or counter-clockwise to decrease the speed. To discontinue stirring, turn knob counter-clockwise to OFF.

Setting the Temperature

To set the temperature, turn the HEAT knob to the desired setting. Turn the knob clockwise to increase the temperature or counter-clockwise to decrease the temperature. To discontinue heating, turn knob counter-clockwise to OFF.

The temperature will display in °C. When choosing a setpoint, the display will indicate the setpoint for 5 seconds, after which the display will flash until the desired setpoint is reached.

The “CAUTION - HOT TOP” indicator illuminates when the plate reaches 50°C. When the heating is turned off, the indicator will continue to flash until the plate temperature drops below 50°C.

Heating Metal Vessels and Sand Baths

Metal vessels and sand baths may be heated safely without the danger of the ceramic top breaking. Use the lowest temperature setting possible for applications to limit thermal stress to the ceramic top. Using a metal vessel or sand bath may reduce the life of the stirring hotplate.

Maintenance and Troubleshooting

General Cleaning Instructions

Wipe exterior surfaces with lightly dampened cloth containing mild soap solution.

Error Codes - Hotplates and Stirring Hotplates only

The following errors should not be addressed by the user. If any of the errors appear, contact Fisher Scientific Technical Service at 800-926-0505.

Displayed Message	Intended to Detect	Cause	Solution
E01 Call Tech. Service	Thermocouple out of range.	Thermocouple not connected. Thermocouple open circuit.	Replace element assembly (attached to thermocouple).
E02 Call Tech. Service	Excessive heat-up time.	Thermocouple short circuit. Failure of element. Failure of element circuit.	Remove short. Replace element assembly (attached to thermocouple). Replace Element. Replace Control Board.
E11 Call Tech. Service	Alternating current measurement failure.	Failure to detect alternating current.	Replace Control Board.
E12 Call Tech. Service	Motor system failure.	Locked rotor condition. Failure of motor. Failure of motor circuit. Failure of motor sensor.	Free locked rotor. Replace motor. Replace Control Board. Replace motor sensor.

Notes:

Errors E01 and E02 are heating errors. Heating functions will be locked out. Stirring functionality is unaffected.

Errors E11 and E12 are stirring errors. Stirring functions will be locked out. Heating functionality is unaffected.

Replacement Parts

4x4 Ceramic Part No.	7x7 Ceramic Part No.	7x7 Aluminum Part No.	10x10 Ceramic Part No.	Description
261575	261575	261575	261575	PC Board Fuse - 220-240V
PCX118	PCX118	PC1895X1	PC1886X1	Control Board - 100V, 120V (SHP)
PCX119	PCX119	PC1895X2	PC1886x2	Control Board - 220-240V (SHP)
PC1887X1	PC1887X1	PC1893X1	PC1884X1	Control Board - 100V, 120V (HP)
PC1887X2	PC1887X2	PC1893X2	PC1884X2	Control Board - 220-240V (HP)
PC1888X1	PC1888X1	PC1888X1	PC1885X1	Control Board - 100V, 120V (S)
PC1888X2	PC1888X2	PC1888X2	PC1885X2	Control Board - 220-240V (S)
266058	266058	266058	266058	PC Board Fuse - 100V, 120V
PCX113	PCX113	PCX113	PCX113	Display Board
PC1363X3	PC1363X3	PC1363X3	PC1363X3	Speed/Heat Adjustment Board (2)
KBX111	KBX111	KBX111	KBX111	Knob (2)
CRX106	CRX106	CRX106	CRX106	Cord Set - 100V, 120V
CRX104	CRX104	CRX104	CRX104	Cord Set - 220-240V
KBX78	KBX78	KBX78	KBX78	Knob
ZSX122A	ZSX65A	ZSX65A	ZSX65A	Stir Bar
MT1313X3	MT1313X3	MT1313X3	MT1316X3	Motor - 120V, 100V
MT1313X4	MT1313X4	MT1313X4	MT1316X4	Motor - 220-240V
ELX41	ELX44	ELX77	ELX47	Heating Element - 120V - w/thermocouple
ELX42	ELX45	ELX78	ELX48	Heating Element - 100V - w/thermocouple
ELX43	ELX46	ELX79	ELX49	Heating Element - 220-240V - w/thermocouple
540-0033	710-0117	CT1420X1	719-0073	Ceramic or Aluminum Top
EL1310X1	EL1313X1	EL1895X1	EL1316X1	Hot Plate Top Assembly - 120V
EL1310X2	EL1313X2	EL1895X2	EL1316X2	Hot Plate Top Assembly - 100V
EL1310X3	EL1313X3	EL1895X3	EL1316X3	Hot Plate Top Assembly - 220-240V
----	-----	TC1895X1	-----	Thermocouple

Accessories

Part No.	Description
14-666-10AQ	Support Rod - 12"
14-666-10BQ	Support Rod - 18"
14-666-10CQ	Support Rod - 24"

Please refer to the Specification Plate for the complete model number, serial number, and series number when requesting service, replacement parts or in any correspondence concerning this unit.

All parts listed herein may be ordered from Fisher Scientific by calling 800-926-0505

Warranty

Laboratory instruments and equipment manufactured by Fisher Scientific Company L.L.C. – Laboratory Equipment Division (hereinafter called “the Company”) are warranted only as stated below.

Subject to the exceptions and upon the conditions specified below, the Company agrees, at its election, to correct by repair, by replacement, or by credit to the purchaser, any defect of materials or workmanship which develops within one year (13 months for refrigerator and freezer products) from the date of purchase by the original purchaser by the Company or by an authorized dealer of the Company provided that investigation or factory inspection by the Company discloses that such defect developed under normal and proper use

The exceptions and conditions mentioned above are the following:

- a. The Company makes no warranty concerning components or accessories not manufactured by it, such as tubes, batteries, etc. However, in the event of the failure of any component or accessory not manufactured by the Company, the Company will give reasonable assistance to the purchaser in obtaining from the respective manufacturer whatever adjustment is reasonable in the light of the manufacturer’s own warranty.
- b. The Company shall be released from all obligations under its warranty in the event repairs or modifications are made by persons other than its own service personnel or authorized dealer personnel unless such repairs by others are made with the written consent of the Company.
- c. **THE COMPANY MAKES NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, EITHER IN FACT OF BY OPERATION OF LAW,...STATUTORY OR OTHERWISE.**
- d. The above warranty and the above obligations to repair, replace, or credit are complete and exclusive and the Company expressly disclaims liability for lost profits or for special, indirect, incidental, consequential, or exemplary damages of any nature whether attributable to contract, warranty, negligence, strict liability, or otherwise even if the Company has been advised of the possibility of such damages.
- e. Representations and warranties made by any person, including dealers and representatives of the Company, which are inconsistent or in conflict with the foregoing warranty shall not be binding upon the Company unless reduced to writing and signed by an officer of the Company.



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