



Laboratory Metal Housed Heating Mantles

HM-MH Series: Metal Housed Mantle

HM-MC Series: Mantle with Built-in Controller

HM-MS Series: Mantle with Magnetic Stirrer

Instruction Manual


	<p>You must read and understand this manual before installing, operating, or servicing this product. Failure to understand these instructions could result in an accident causing serious injury or death.</p> <p>Keep these instructions for future reference.</p>
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INTRODUCTION

Thank you for purchasing a BriskHeat Laboratory Metal Housed Heating Mantle. Your heater is designed to provide a long and efficient service life with function, reliability, and safety in mind. For additional information concerning this product, or other BriskHeat products, please contact your local BriskHeat distributor or contact us toll free at 1-800-848-7673 (U.S. / Canada) or 614-294-3376 (Worldwide).

BriskHeat heating mantles are fiberglass insulated heaters for laboratory and pilot laboratory applications. They are used to heat a variety of round bottom flasks, to either increase temperature or keep media at a constant process temperature. All heating mantles are manufactured to high quality standards of craftsmanship.

These operating instructions provide essential assistance for the successful and safe operation of heating mantles series HM-MC, HM-MH, HM-MS. The operating instructions contain important information to operate the heating mantles safely, appropriately and economically. Following these instructions helps to avoid dangers and to increase the heating mantles reliability and service life. The operating instructions must be available at all times and must be read and applied by every person performing work with a heating mantle.

Notes regarding copyrights and property rights

These operating instructions have to be treated as confidential. They ought only be made accessible to authorized persons. They may only be yielded to third parties with the written approval of the manufacturer. All documentation is protected in terms of the Copyright Act. The dissemination and duplication of documents, also of excerpts, as well as the exploitation and communication of their contents is not permitted, unless this has expressly been granted in writing.

Notes for the operator

The operating instructions form an integral part of the heating mantles. The operator has to ensure that the operating personnel takes notes of these operating instructions and observes the specifications provided therein.

All heating mantles have had controlled heat-up applied ahead of shipment. Discoloration of the glass fiber braiding is not deterioration of quality. During initial start-up there may be a small amount of smoke. The smoke (fume) drift does not continue long.

Note: Before putting a heating mantle into service, it is essential to read and observe the operating instructions.

SAVE THESE INSTRUCTIONS!

Additional copies of this manual are available upon request.

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IMPORTANT SAFETY INSTRUCTIONS



SAFETY ALERT SYMBOL

The symbol above is used to call your attention to instructions concerning your personal safety. It points out important safety precautions. It means **“ATTENTION! Become Alert! Your Personal Safety is involved!”** Read the message that follows and be alert to the possibility of personal injury or death.



A person who has not read and understood all operating Instructions is not qualified to operate this product.



- Do not immerse or spray any component of the system with liquid.
- Keep volatile or combustible material away from heater when in use.
- Use heater only in approved locations.
- Keep sharp metal objects away from heater.

Failure to observe these warnings may result in electric shock, risk of fire, and personal injury.



End-User Must Comply to the Following:

- Only qualified personnel are allowed to connect electrical wiring.
- Disconnect all supply power at the source before making any power connections.
- All electrical wiring must follow local electrical codes and highly recommend following NEC Article 427.
- The person who performs the final installation / wiring must be qualified for this work.
- The end-user is responsible for providing a suitable disconnecting device.
- The end-user is responsible for providing suitable electrical protection device. It is highly recommended that a ground fault circuit breaker be used.

Failure to observe these warnings may result in personal injury or damage to the heater.



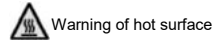
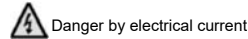
Immediate hazards which **WILL** result in severe personal injury or death.



Hazards or unsafe practices that **COULD** result in severe personal injury or death.



Hazards or unsafe practices that **COULD** result in minor personal injury or property damage.



Agency Approvals



Approvals valid only when installed in accordance with all applicable instructions, codes, and regulations.



- Never handle the heating element while it is in operation; always disconnect the heater from the power source and allow to cool prior to handling.
- Inspect heater before use.
- Never operate heater without a temperature control device.
- If spillage of foreign matter onto heater occurs, disconnect from power source and clean after heater is allowed to cool.
- Never operate a heater without an appropriate heat sink (device being heated is considered a heat sink).
- Do not operate heater above rated temperature value.
- Do not repair damaged or faulty heaters.
- Do not crush or apply severe physical stress on heater or cord assembly.
- Disconnect heater when not in use.

Failure to observe these warnings may result in personal injury or damage to the heater.

GENERAL SAFETY INFORMATION

HM heating mantles, hereinafter also referred to as heating mantles, have been constructed in accordance with the state-of-the-art and recognized safety rules.

Nevertheless, dangers for the user or a third party may arise during their use, or damage to the heating mantles and other material assets may occur, if

- they are operated by uninstructed personnel,
- they are not used for the intended purpose,
- they are inappropriately serviced or maintained.

Use in accordance with the intended purpose

The heating mantles' intended use is the heating of non-combustible and non-explosive media in glass flasks in laboratory and pilot laboratory applications. The size of the heating mantles has to correspond to the size of the glass flasks. It is only permitted to operate the heating mantles with a GFCI (Ground Fault Circuit Interruptor).

Any other use or use beyond the one mentioned is considered as not in accordance with the intended use. Use in accordance with the intended purpose also includes compliance with the safety, operating, servicing and maintenance information described in these operating instructions.

Understand the respectively mentioned safety information and act with particular care in these cases. Please also pass along all safety information to other users.

In addition to the information contained in these operating instructions, the general safety and accident prevention regulations also must be complied with.

Note: This points out special circumstances the consideration of which will ensure a safe, appropriate and efficient handling of the heating mantles. For the benefit of using the heating mantles in accordance with their intended purpose, all instructions are to be complied with. Please pass on all instructions to other users.

Residual risk

Even if all safety regulations are observed, a residual risk remains during operation of the heating mantles.

All persons working with the heating mantles have to be aware of these residual risks. They have to comply with the instructions preventing these residual risks from leading to accidents or damage.



- Hot surface at the top rim of the heating mantle may cause severe burns even after device has been switched off.
- Do not touch heating mantles when they are switched on.
- Before handling the heating mantle, switch it off, disconnect all supply power at the source, and allow for a sufficient cool-down period.

⚠ DANGER

- Penetration of moisture due to water or chemical liquids may cause dangerous to life-threatening electric shocks. Do not touch the heating mantles if a vessel breaks or liquids are spilled. Immediately disconnect the heating mantles from the main power supply. Wet or humid heating mantles have to be dried inside a drying cabinet at maximum 60°C for at least 3 hours before they may be put into operation again. Only put completely dry heating mantles into operation.
- Explosive media, explosive gas-air-mixtures or combustible liquids may explode due to heat processes or cause fires due to vessel breakage or spilling. Heating mantles are not explosion-proof. Do not use to heat explosive media or media which may generate an explosive gas-air mixture when they are heated. Do not use to heat combustible liquids. Observe safety data sheets for media prior to heating.
- Do not pierce the heating mantle with needles or similar objects.

Instructions and symbols on the heating mantles**⚠ Danger by electrical current!**

- The heating mantles may only be operated by qualified personnel. Maintenance of the heating mantles is by manufacturer only. There is a risk of shock occurring. Persons carrying out work on or with the heating mantle have to proceed with caution.

⚠ Warning of hot surface!

- Hot surfaces such as the top rim of the heating mantle and hot liquids are not always perceptible. Hot surfaces should be identified if their temperature may exceed 45°C (coagulation of protein) as they are then able to cause burns to human beings.
- Do not touch hot surfaces without protective gloves.

Read and observe operating instructions

- Only put heating mantles into operation that are in a technically perfect condition.
- The heating mantles' mains connection cable or mains connection components may not be replaced by the operator.
- In case of malfunctions of the heating mantles, immediately pull the power plug. Have malfunctions immediately eliminated by qualified persons who have been trained for that purpose.
- Protect heating mantles from humidity and moisture. Only put heating mantles into operation in a completely dry condition and in dry surroundings. Dry humid or moist heating mantles inside a drying cabinet.
- Protect heating mantles in particular from aggressive media. These may damage the heating conductors!
- Do not use any metal vessels or vessels with metal parts in the heating surface area!
- Do not pierce the heating surfaces with needles or sharp objects!

- Heating mantles are not explosion-proof. Do not use to heat explosive media, or media which may generate an explosive gas-air mixture when they are heated.
- The operator has to take adequate measures to ensure that the heating mantle has a secure standing.
- Permanent operation without temperature control may lead to the maximum permissible temperature being exceeded. The heating mantle will then be damaged or destroyed. It has to be ensured that the maximum heating element temperature is not exceeded at any point. The temperature indicated on the rating plate is the maximum heating element temperature at the heating conductor. Adequate measures have to be taken for all media used to ensure that the maximum heating element temperature is not exceeded.
- For safety reasons, heating mantles should be operated with temperature controllers and/or temperature limiters with corresponding temperature sensors.

Safety information for the operating personnel**Note:**

- The heating mantles are to be operated in accordance with the respective country's rules and regulations, the provisions of the Employer's Liability Insurance, Associations and the Industrial Safety Act or OSHA Law and Regulation.

⚠ DANGER

- The heating mantles may only be used in a perfect technical condition, in accordance with the regulations as well as in a safety and danger conscious manner taking into account these operating instructions period. Any malfunctions, in particular those that can impair safety, have to be eliminated without delay period.
- The heating mantles may only be operated on sockets equipped with earth conductors.
- Heating mantles may not be operated without supervision.
- Heating mantles may only be used with glass flasks of the correct size. For instance, do not heat a 50-ml flask in a 1-litre heating mantle.
- Do not use heating mantles to heat evacuated flasks. Local overheating may cause breakage of glass with subsequent fires and explosions.
- Never use heating mantles without glass flask or with an empty glass flask as these may easily overheat due to insufficient heat conduction.
- Any person assigned with the installation, commissioning, operation or servicing of the heating mantles must have completely read and understood these operating instructions- in particular the chapter on Safety prior to the start of work. The legally permissible minimum age must be observed period.
- The operating instructions must be ready to hand at the heating mantles all the time.
- No liability shall be assumed for damage and accidents resulting from non-observance of the operating instructions.
- Only use trained or instructed personnel period.

SPECIFICATIONS

Structure

The exterior of the mantle is a plastic-coated metal casing, with a pre-molded fiberglass liner to hold the round-bottom flasks. The heating element consists of a chrome-nickel alloy resistance wire which is electrically insulated using a crocheted high-temperature yarn. The adapted shape ensures an even heat transition to the glass flask, and a layer of fiberglass insulation under the heating element reduces heat dissipation to increase efficiency.

Designs and technical specifications

Series HM-MH

Nominal voltage	Available 120 VAC and 240 VAC
Nominal output	See chart below
Heating zones	See chart below
Protection class	I
Type of protection	Heating element: IP 00
Heating conductor temperature	Max. 842°F (450°C)
Main connection cable	120V: 60 in (1.5 m) with plug with grounded contact 240V: 60 in (1.5 m) with crimped ferrule terminated leads

Note: Available with other specifications

Flask Volume (ml)	Glass Flask Diameter (mm)	Output (Watts)	Heating Zones	120V Part Number	240V Part Number
50	51	60	1	HM0050MH1	HM0050MH2
100	64	110	1	HM0100MH1	HM0100MH2
250	85	165	2	HM0250MH1	HM0250MH2
500	105	220	2	HM0500MH1	HM0500MH2
1000	131	325	2	HM1000MH1	HM1000MH2
2000	166	545	2	HM2000MH1	HM2000MH2
3000	185	650	2	HM3000MH1	HM3000MH2
4000	207	815	2	HM4000MH1	HM4000MH2
5000	223	935	2	HM5000MH1	HM5000MH2
6000	236	1090	2	HM6000MH1	HM6000MH2

Series HM-MC with built-in Power Control

Nominal voltage	Available 120 VAC and 240 VAC
Nominal output	See chart below
Heating zones	See chart below
Protection class	I
Type of protection	Heating element: IP 00
Heating conductor temperature	Max. 842°F (450°C)
Main connection cable	120V: 60 in (1.5 m) with plug with grounded contact 240V: 60 in (1.5 m) with crimped ferrule terminated leads

Note: Available with other specifications

Flask Volume (ml)	Glass Flask Diameter (mm)	Output (Watts)	Heating Zones	120V Part Number	240V Part Number
50	51	60	1	HM0050MC1	HM0050MC2
100	64	110	1	HM0100MC1	HM0100MC2
250	85	165	2	HM0250MC1	HM0250MC2
500	105	220	2	HM0500MC1	HM0500MC2
1000	131	325	2	HM1000MC1	HM1000MC2
2000	166	545	2	HM2000MC1	HM2000MC2
3000	185	650	2	HM3000MC1	HM3000MC2
4000	207	815	2	HM4000MC1	HM4000MC2
5000	223	935	2	HM5000MC1	HM5000MC2
6000	236	1090	2	HM6000MC1	HM6000MC2

Series HM-MS with built-in Magnetic Stirrer

Nominal voltage	120 VAC
Nominal output	See chart below
Heating zones	See chart below
Protection class	I
Type of protection	Heating element: IP 00
Heating conductor temperature	Max. 842°F (450°C)
Rotational frequency	Up to 1600 rpm
Main connection cable	120V: 60 in (1.5m) with plug with grounded contact

Flask Volume (ml)	Glass Flask Diameter (mm)	Output (Watts)	Heating Zones	120V Part Number
100	64	100	1	HM0100MS1
250	85	150	2	HM0250MS1
500	105	200	2	HM0500MS1
1000	131	300	2	HM1000MS1

Replacement Stir Bar

Flask Volume (ml)	Stir Bar Size (mm)	Part No.
100	15 x 30	SB15X30
250	15 x 35	SB15X35
500	20 x 40	SB20X40
1000	20 x 50	SB20X50

Safety equipment

The building or facility's circuit breaker can be used as short-circuit protection.

The heating mantles may only be operated with the use of a GFCI (Ground Fault Circuit Interrupting) device (Not included).

Due to the high temperature range, the heating mantles are not protected against moisture and the heater core is not equipped with sufficient protection against dangerous currents.

Note: The heating mantles may be exclusively operated with an personal protection adapter (GFCI 30mA) connected ahead of it.

OPERATION

General

Note: Before putting the heating mantles into operation, they have to be checked to determine whether the voltage complies with the nominal voltage specified on the product label.

⚠ DANGER

- Putting a defective heating mantle into operation may lead to dangerous or life-threatening electric shocks.
- A heating mantle may not be connected and put into operation, if it exhibits visible damage such as embrittlement of the fabric or exposed heating conductors, it no longer functions properly according to the specifications of these operating instructions, testing of the personal protection adapter fails several times prior to putting the heating mantle into operation, the personal protection adapter cuts out during operation, or the heating mantle is moist or wet.

⚠ CAUTION

- Overheating of the heating mantle may possibly lead to overheating of the glass flask and its contents and to embrittlement of the heating mantle's fiberglass fabric.
- Only operate the heating mantles under supervision. Do not exceed the specified maximum heating element temperature.
- Avoid overheating by means of: switching MIN/MAX switch external power controllers or temperature controller and/or temperature limiter.
- Do not operate heating mantles with empty glass flask or without a glass flask. In case of the liquid level dropping, switch off heating zones located above current level.

Note:

- *The use of temperature controllers is recommended for delicate materials or in case of heating processes during which working temperatures have to be accurately adhered to.*
- *A support clamp (PN# HCLAMP) is used to facilitate the integration of metal-cased heating mantles with support scaffolding and allows support rods with diameter up to 13 mm to be attached to the metal-cased heating mantles. (Not included)*
- *All heating mantles have had a controlled heat-up applied ahead of shipment. Discoloration of the glass fiber braiding is not deterioration of quality.*
- *During initial start-up there may be a small amount of smoke. The smoke (fume) drift does not continue long.*

Heating mantle operation

DANGER

- Hot surface at the top rim of the heating mantle may cause severe burns even after device has been switched off. Do not touch heating mantles when they are switched on. Before touching the heating mantle, switch it off, disconnect all supply power at the source, and allow for a sufficient cool-down period.
- Penetration of moisture due to water or chemical liquids may cause dangerous to life-threatening electric shocks. Do not touch the heating mantles if a vessel breaks or liquids are spilled. Immediately disconnect the heating mantles from the main power supply by pulling the power plug.
- Wet or humid heating mantles have to be dried inside a drying cabinet at maximum 60°C for at least 3 hours before they may be put into operation again. Only put completely dry heating mantles into operation. Immediately disconnect heating mantles that have become wet or humid from the main power supply and do not put into operation again. Completely dry heating mantles inside a drying cabinet at maximum 60°C for at least 3 hours and only then put into operation again. Only put completely dry heating mantles into operation.
- Explosive media, explosive gas-air-mixtures or combustible liquids may explode due to heat processes or cause fires due to vessel breakage or spilling. Heating mantles are not explosion-proof. Do not use to heat explosive media or media which may generate an explosive gas-air mixture when they are heated. Do not use to heat combustible liquids. Observe safety data sheets.

Note:

- *If the personal protection adapter's protective function repeatedly triggers during operation of one of the heating mantles, the connected heating mantle has to be put out of operation and handed over to the manufacturer for inspection.*
- *If the personal protection adapter switches off due to moisture inside the heating mantle, the heating mantle must be immediately put out of operation and first be dried inside a drying cabinet.*
- *Only reconnect the heating mantle and put it into operation again as described in "Heating Mantle Operation" after it has completely dried.*
- *If the personal protection adapter's protective function still triggers after drying, the connected heating mantle must be put out of operation and handed over to the manufacturer for inspection.*

PRIOR TO INSTALLATION

1. Check for suspected damage to the heater like rips, punctures, etc.
2. Confirm voltage / wattage rating of heater is appropriate for power supply device or temperature controller. The heater is designed to work at a specific voltage to heat properly. Failure to operate the heater at the specified rating could result in overheating of the heating element, the surface being over-heated, or personal injury. Also note lower-than-rated voltage will result in under-heating.

To Avoid Electrical Shock, Always:

- Use an electrical outlet that operates with a fuse or a circuit breaker and a ground fault circuit interrupt (GFCI).
- Disconnect the mantle from the power supply prior to maintenance and servicing.

To Avoid Personal Injury:

- 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.
- Do not operate in damp or wet locations.
- Refer servicing to qualified personnel only.
- Flasks and vessels should be handled with care. Appropriate safety clothing, glasses, gloves, and coats should be worn when operating all heating mantles.

To Avoid Damage:

- Never plug HM-MH models directly into a power source. Your heating mantle MUST be operated with a temperature controller and with an appropriate size flask, filled with fluid.
- Never operate heating mantle without fluid within the flask.
- Fluid should not be allowed to come in contact with the cavity of the heating mantle.
- Never operate the mantle at temperatures above maximum exposure temperature .

INSTALLATION

Series HM-MH

Your heating mantle is a fiberglass-insulated heater designed for heating laboratory vessels. The mantles are specifically designed for glass flasks, however, with appropriate temperature control and product type, metal or plastic flasks can be used. Only use round bottom flasks of the size corresponding to the mantle size.

1. Use only properly sized flasks with your heating mantle.
2. For proper temperature control, secure the thermocouple, RTD, or other sensing device onto the flask using one strip of high-temperature adhesive tape so that it is sandwiched firmly in-between the heater and glass flask.
 - Sensor must be in close proximity to the heater to prevent overheating.
 - Sensor should be connected in accordance with instructions provided with temperature controller.
3. Ensure heater is in contact with the surface to be heated. The heater must fit tightly around the glass flask. Minimal air gaps between the heater and the flask provide the best thermal transfer of heat to the flask and extend heater life.
4. Once the mantle has been properly installed:
 - 120VAC: Plug the heater into an acceptable temperature controller. Use a variable transformer, manual control, or automatic controller to prevent overheating.



All electrical connections must be made by qualified personnel and in accordance with all applicable codes and regulations.

Series HM-MH

Note: Due to their overall size, the heating mantle sizes 50ml and 100ml are only designed with one heating zone. They are put into operation by means of an MIN/MAX switch to half the power.

Maximum heating element temperature for series HM-MH: 842°F (450°C).

1. Connect the heater to an appropriate power supply.
2. Heating Mantle can be switched on and off by using the green ON/OFF switch.
3. The heating power can be adjusted according to the liquid level in the flask by switching the MIN/MAX switch (See Figure 1)
4. In case of the liquid level dropping during operation, adjust MIN/MAX switch accordingly.
5. The built-in time percentage controller is used for adjusting heater output.





	Min	Max
1 heating zone power	 50%	 100%
2 heating zones power	 100%	 100%

Figure 1: Switch positions series HM-MH

Series HM-MC

Note: Due to their overall size, the heating mantle sizes 50ml and 100ml are only designed with one heating zone. They are put into operation by means of an MIN/MAX switch.

Maximum heating element temperature for series HM-MC: 842°F (450°C).

1. Connect the heater to an appropriate power supply.
2. Heating Mantle can be switched on and off by using the green ON/OFF switch.
3. The heating power can be adjusted according to the liquid level in the flask by switching the MIN/MAX switch (See Figure 2)
4. In case of the liquid level dropping during operation, adjust MIN/MAX switch accordingly.
5. The built-in time percentage controller is used for adjusting heater output.
6. The yellow indicator light indicates the heating power is on.





	Min	Max	Rotary Knob Position	Output Heating Mantle
1 heating zone power	 50%	 100%	0	0%
2 heating zones power	 100%	 100%	1 to 9	10% to 90%
			10	100%

Figure 2: Switch positions series HM-MC

Series HM-MS

Note: Due to their overall size, the heating mantle sizes 100ml is only designed with one heating zone. They are put into operation by means of an MIN/MAX switch.

Maximum heating element temperature: 842°F (450°C).

1. Connect the heater to an appropriate power supply.
2. Heating Mantle can be switched on and off by using the green ON/OFF switch.
3. The heating power can be adjusted according to the liquid level in the flask by switching the MIN/MAX switch (See Figure 3)
4. In case of the liquid level dropping during operation, adjust Min/Max switch accordingly.
5. The built-in time percentage controller is used for adjusting heater output.
6. The yellow indicator light indicates the heating power is on.





	Min	Max	Rotary Knob Position	Output Heating Mantle
1 heating zone power	 50%	 100%	0	0%
2 heating zones power	 100%	 100%	1 to 9	10% to 90%
			10	100%

Figure 3: Switch positions

7. The speed of the magnet is infinitely variable regulated by rotating the magnetic stirrer control knob. The green indicator light indicates the magnetic stirring function is operating mode.
8. In order to stir the liquid in the glass flask a stirring bar or pellet is added inside the flask and heated/stirred using a stirring heating mantle.

BAKE-OUT PROCEDURE FOR NEW HEATING MANTLES

On the initial heat-up of the mantles, a slight odor may be detected and some discoloration will occur in the cavity area. The discoloration of the cavity area has no effect on the operation of the mantle. If the heated vessel becomes discolored, it can be cleaned with water. To bake-out your mantle prior to use, connect the mantle to your temperature controller and fill a flask corresponding to the size of the mantle half full of water. Place the flask in the mantle cavity and allow the water to come to a boil and continue boiling for approximately 15 minutes. The mantle can be operated at full rated voltage during bake-out.

MAINTENANCE AND SERVICING

Your Heating Mantle is designed to provide a long service life. Overheating, contamination, and misuse will greatly reduce the life of the heating mantle.

If the flask or vessel breaks or fluid spills into the cavity, immediately disconnect the mantle from the power source. Allow the unit to dry completely before attempting to re-energize the mantle. Liquid spilled into the cavity may burn-out the heating element.



Repairs to the heating mantles may cause severe injuries or death by electrocution.

Repairs may only be carried out by the manufacturer or specialist firms authorized by manufacturer.

Note: Maintenance work may only be carried out by qualified employees. Repairs in particular replacing the connection cable and connection components may only be carried out at the manufacturing plant.

At regular intervals the operator has to inspect the BriskHeat heating mantles according to valid regulations for their safety and perfect functioning.

DISPOSAL

The heating mantles as well as the enclosed accessories have to be disposed of via accordance with the Electrical and Electronic Equipment Act (Act Governing the Sale, Return and Environmentally Sound Disposal of Electrical and Electronic Equipment) via the local collection points.

EC DECLARATION OF CONFORMITY

Laboratory devices for the heating of materials

Design: Metal-cased heating mantles.
 Series: HM-MH, HM-MC and HM-MS are developed, designed and manufactured in compliance with the EC directives.

2006/95/EC Low Voltage

2004/108EC Electromagnetic Compatibility.

The following harmonized standards are applied: **DIN EN 61010-1** Safety requirements for electrical equipment for measurement, control and laboratory use - Part 1: General requirements.

DIN EN 61010-2-010 Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 2-010: Particular requirements for laboratory equipment for the heating of materials.

DIN EN 6100-3-2-EMV

DIN EN 6100-3-3-EMV

DIN EN 61326-1-EMV

Date: November 2013

TROUBLESHOOTING GUIDE

Please read this guide prior to contacting BriskHeat[®]. This guide is designed to answer the most commonly asked questions. If you are unable to identify the problem or need additional assistance, please contact your local distributor/representative or BriskHeat at **1-800-848-7673**, **614-294-3376**, or **bhtsales1@briskheat.com**.

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Heating Mantle does not heat	Not connected to power supply	Check Mantle connection.
	No Power in circuit	Check power supply circuit.
	Defective Control	Repair or replace Control.
	Element burned out	Replace Mantle.
Heating Mantle outgasses	Has not been baked-out	Refer to Bake-Out Procedure for new mantles.
	Spillage of fluid	Disconnect from power supply and allow mantle to dry out completely before use.

WARRANTY INFORMATION

BriskHeat warrants to the original purchaser of this product for the period of eighteen (18) months from date of shipment or twelve (12) months from date of installation, whichever comes first. BriskHeat's obligation and the exclusive remedy under this warranty shall be limited to the repair or replacement, at BriskHeat's option, of any parts of the product which may prove defective under prescribed use and service following BriskHeat's examination, is determined by BriskHeat to be defective. The complete details of the warranty can be found online at www.briskheat.com or by contacting us at 1-800-848-7673 (toll free, U.S. / Canada) or 1-614-294-3376 (Worldwide).

Note



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