



Silicone Rubber Drum and Pail Heaters Instruction Manual



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.

Keep these instructions for future reference.

TABLE OF CONTENTS

Introduction.....	2
Applications.....	2
Approvals.....	2
Important Safety Instructions.....	3
Heater Characteristics / Specifications.....	4
Installation Instructions.....	5
Connecting Heater to Power.....	6
Operation.....	7
Emergency Procedures.....	8
Maintenance Instructions.....	9
Troubleshooting Guide.....	10
Warranty Information.....	12

INTRODUCTION

Thank you for purchasing a Morse Silicone Rubber Drum / Pail Heater. Your heater is designed to provide a long and efficient service life with function, reliability, and safety in mind. For additional information concerning this, or other Morse Manufacturing Co., Inc. products, please contact 1-315-437-8475.

APPLICATIONS

Intended Applications:

- Freeze protection
- Viscosity control
- Product heating
- For use on cylindrical vessels

Prohibited Applications:

- Immersion
- Exposed to weather
- Hazardous locations

APPROVALS



710 and 711 series.

2014 / 35 / EU (Low voltage directive)
IEC 60519-1:2015, 60519-2:2006
2011 / 65 / EU (RoHS Z directive)



710 and 711 series.

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

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.

DANGER

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

DANGER

- Do not immerse heater in 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.
- Do not modify this product. Modification will void warranty.

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

WARNING

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.
- 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 is 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.

CAUTION

- Never handle the heater while it is in operation; Always disconnect the heater from the power source and allow to cool prior to handling.
- Inspect heater before use (see page 9).
- Never operate a heater without a temperature control device.
- Do not wrap the heater over itself.
- 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.
- Fasten heater to device using approved methods only.
- 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.
- Use specified sized heater with same sized drum. Do not use for other applications.

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

HEATER CHARACTERISTICS / SPECIFICATIONS

Part Series	710	711
Band Width	4"	4"
Layers of Silicone	2	2
Max Power Density (W/in ²)	4.5	1.2
Max Exposure Temperature	450°F (232°C)	450°F (232°C)
Max Humidity	95%	95%
Ingress Protection	IP54	IP54
Grounded Heating Element	✓	✓
Moisture and Chemical Resistant	✓	✓
Suitable for Metal Container	✓	✓
Suitable for Plastic Container		✓
Suitable for Hazardous Locations*		
Adjustable Thermostat Controller	✓	✓
Built-in High Limit Safety Thermostat		

*Refer to product label for approved hazardous locations

INSTALLATION INSTRUCTIONS

⚠ Failure to follow these instructions could result in property damage, personal injury, or death.

Requirements:

- Electrical terminations must be completed by qualified persons.
- No special tools or protective equipment is needed to handle this product (specific applications or surfaces may require protective equipment).
- Installation temperature range: -60°F (-51°C) to 131°F (55°C).
- Clearance of 3" (7.5cm) required around vessel during installation.
- Voltage and frequency must be within +/- 10% of the value specified on the product label.

Surface Preparation:

Always install your heater on a clean even surface for optimum performance and longevity. Debris and residue on the surface can not only damage your heater but may also reduce the effectiveness of the heater by reducing the heat transfer between the surface and the heater.

- Remove or avoid contact with sharp edges including rough corners, weld spatter, exposed bolts, etc.
- Remove or avoid contact with rust, stickers, or other coverings.
- Remove oil, moisture, gel and other liquids.

Instructions:

1. Inspect heater prior to each installation (see inspection procedure).
2. Inspect vessel to be heated for any sharp edges, rust, oil, etc.
3. Ensure that there is no combustible material within 12" (30cm) of the surface to be heated.
4. Select a suitable location to install the heater. The heater should be located below the lowest expected content level (typically the bottom 1/3) of the vessel.

⚠ Do not overlap the heater on itself or another heater. Do not twist the heater or cover any protrusions that may cause an air gap beneath the heater.

5. Wrap the heater around the vessel. Extend the spring attached to the metal tab until it hooks onto the opposing metal tab as shown below.

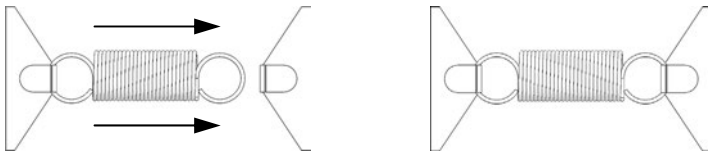


Figure 1

6. Check for any air-gaps between the heater and the vessel.
7. Install temperature controlling device if other than adjustable thermostat.

CONNECTING HEATER TO POWER SOURCE

⚠ All electrical wiring must be completed by qualified persons and must be in compliance with local codes and regulations.

Heater equipped with temperature controlling device:

Before connecting the heater to an electrical source, turn the adjustable dial on the heater's control box in the counter clockwise direction until it stops (this is the off position).

Heaters provided with a plug:

Connect the provided plug to a power supply receptacle.

Heaters provided with wire leads:

The power cable consists of three color-coded conductors: black, white and green. The black wire should be connected to Line 1. The white wire should be connected to Line 2. The green wire should be connected to earth ground. The power connections must be adequately rated to electrically support the voltage and amperage of the heater. The identification label located on the power cord displays voltage and amperage requirements.

OPERATION

710 and 711 series:

This product is equipped with a dial adjustable thermostat temperature controller. A maximum temperature is identified on the label: 425°F (218°C) or 160°F (71°C). Adjust dial to desired heat output. To increase temperature output of the heater, turn the adjustable dial in the clockwise direction. To decrease temperature output of the heater, turn the adjustable dial in the counter clockwise direction.

Note: Ambient conditions will affect the dial's position in which the heater begins to heat. In cooler temperature conditions the heater will begin to heat at a lower temperature position on the dial and in warmer temperature conditions the heater will begin to heat at a higher temperature position on the dial.

It is recommended that a thermometer is attached to the vessel being heated. Adjust the dial until you achieve the desired temperature.

Note: Changes in ambient conditions or in the temperature of the contents may cause the temperature to shift over time.

For heating temperature sensitive materials that require a specific set-point or have a tight tolerance temperature range Use of an external temperature controlling device is required. Select a temperature controller with the accuracy necessary for the application and is approved for the location and conditions where the drum heater is to be used. For lower temperature applications up to 212°F (100°C) BriskHeat recommends the use of a TC4X Digital Temperature Controller. For higher temperature applications BriskHeat recommends the use of a TTD Digital Temperature Controller.

Note: If assistance determining a proper temperature controlling device is required for your application, please contact BriskHeat or your local distributor for application assistance and product solutions.

Install and connect the external temperature controlling device between the drum heater and the electrical source as shown in Figure 2. Install the temperature controlling device in accordance with manufacturer's installation instructions.

Ensure a grounded connection is provided and if the temperature controlling device does not support a grounded connection, ensure an approved earth ground source is provided.

Mount the temperature sensor between the heater's metal tab and the outside of the container. Secure the sensor to the container using appropriately rated aluminum or fiberglass adhesive tape.

Set the drum heater's temperature controlling dial to the maximum temperature setting. Adjust heater output using the external temperature controlling device.

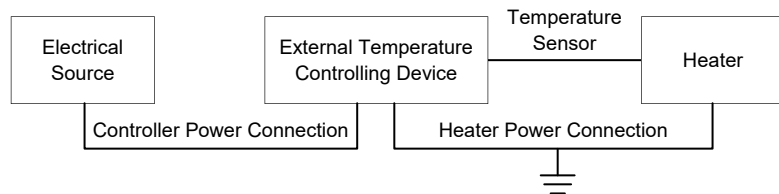


Figure 2

EMERGENCY PROCEDURES

Read and understand these procedures prior to using this heater.
Disconnect power to the heater in the event of an emergency.

Electric Shock:

- Do not touch the injured person while they are still in contact with the electrical current.
- Call your local emergency service if the injured person experiences: severe burns, confusion, difficulty breathing, heart rhythm problems, cardiac arrest, muscle pain and contractions, seizures or a loss of consciousness.

Minor Burns:

- Hold the burned area under cool running water for 10-15 minutes.
- Remove rings or other tight items from burned area.

Major Burns:

- Call your local emergency service.
- Protect the person from further harm.
- Remove rings or other tight items from burned area.
- Monitor breathing and perform CPR if necessary.

Fire:

- Call your local emergency service.
- If it is safe to do so, use a fire extinguisher to fight the fire, otherwise evacuate to a safe distance and wait for help to arrive.
- This heater is built from material that will not support a flame but could ignite nearby combustible material.

MAINTENANCE INSTRUCTIONS

Anyone who reads and understands these instructions is qualified to maintain this heater.

Maintenance:

- All maintenance should be performed after heater has cooled to room temperature and with the electricity disconnected.
- This product should be inspected prior to being installed and at least every 3 months during use.
- Dirt, oil, grease or other foreign matter can be removed with a damp rag and mild household cleaners.
- Do not attempt to repair a damaged heater.

Inspection:

- Inspection should be performed after the heater has cooled to room temperature and with the electricity disconnected.
- The heater should be free of any cuts, cracks, or punctures.
- The power leads should not have any visible breaks in their insulation
- The heater should be free of any build-up of dirt, oil, grease, or other foreign matter.

Storage:

- This product should be stored indoors.

Disposal:

- This product does not contain any hazardous substances and may be discarded with domestic waste.

TROUBLESHOOTING GUIDE

Please read this guide prior to contacting Morse Manufacturing Co., Inc.. This guide is designed to answer the most commonly asked questions. If you need additional assistance, please contact us at **1-315-437-8475**.

PROBLEM	SOLUTION(S)
Does not heat	Verify heater is connected to proper voltage. The identification label located on the power cord displays the heater's voltage requirement. Using an ohm meter, check to see if there is a resistance reading (not an open circuit) in the heater. If external temperature controlling device is installed, ensure the heaters control dial is in the maximum heating position.
Circuit breaker is tripping	Validate that the circuit breaker is capable of handling the amp requirement of heater. The identification label located on the power cord displays the heater's amperage requirement. Examine heater and cord for any damage.
Does not fit	Confirm that the heater provided was designed to fit around your specified drum. If the heater was designed for the specified drum, please call 1-315-437-8475 for further assistance.

NOTES**WARRANTY INFORMATION**

Morse Manufacturing Co., Inc. 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. Morse's obligation and the exclusive remedy under this warranty shall be limited to the repair or replacement, at Morse's option, of any parts of the product which may prove defective under prescribed use and service following Morse's examination, is determined by Morse to be defective. The complete details of the warranty can be found online at www.morsedrum.com or by contacting us at 1-315-437-8475.



Morse Manufacturing Co., Inc.
P.O. Box 518 727 West Manlius Street East Syracuse, NY 13057
Phone: (315) 437-8475
www.morsedrum.com