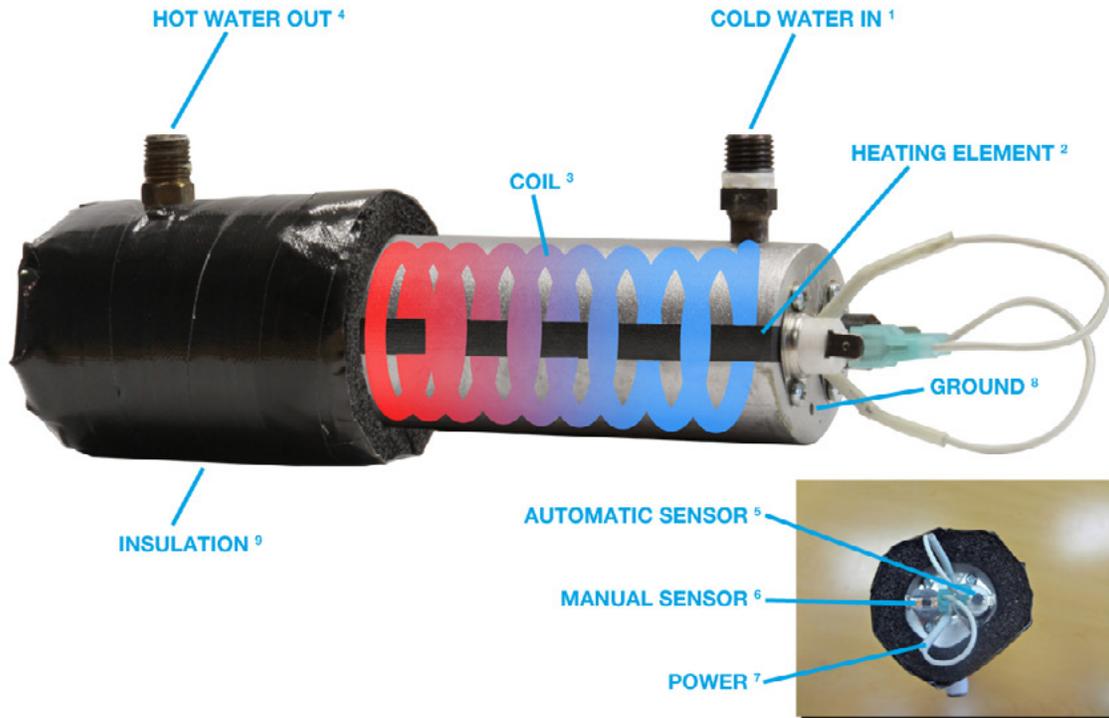


# TECHNICAL SUPPORT

## HEATERS



### Basic Operation



### Basic Heater Operation

- Cold water from the solution pump is pumped into the heater (1).
- The heating element (2) heats the aluminum casting, which in turn heats the stainless steel internal coil (3).
- The water travels through the coil for a longer period of time than it would through a straight pipe, which gives it more time to be heated thoroughly.
- The now hot water comes out the opposite fitting on the heater (4) straight out of the machine through the QD to your cleaning tool.

### Automatic Sensor (5):

- Detects when the heater casting has reached 200°F. When this temperature is reached, it cuts power to the heating element and turns it back on when the temperature has cooled to 190°F.

### Manual Sensor (6):

- Acts as a backup to the automatic sensor. Shuts off the heater at 310°F and does not allow the heater to restart until the reset button at the sensor's center has been manually reset.
- The heater is wired to a switch on the panel, and to the power cord (7). It is also grounded by a third wire (8).
- The entire assembly is wrapped in insulation (9) to shield other parts of the machine from the heat.

# Troubleshooting

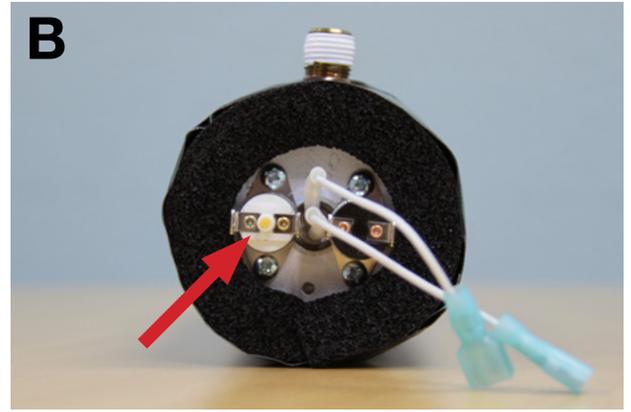
Problem:	Possible Causes:	Solutions:
My heater is not heating water.	Loose electrical connection.	Check all electrical connections, including power cord and harness.
	Automatic sensor has failed, causing manual sensor to trip.	Reset the manual sensor button by pressing the small white and yellow button in the center of the sensor ( <a href="#">see next page</a> ). If this works, but heater continues to trip the manual sensor, replace the automatic sensor ( <b>Part #E573</b> ) on the heater ( <a href="#">see next page</a> ).
	Heater element has failed.	Check for continuity through the element by reading the amperage. If amps are low, only part of the element may be heating up – in this case, the element is damaged and needs to be replaced. ( <a href="#">See normal amp readings on following pages.</a> )
	Bad power switch.	If the element, sensors, and wiring all check out okay, there may be a bad switch on the switch-plate.
Running out of hot water too fast.	Too much water flowing through the heater.	Remember, when using your machine, it is recommended you do one wet pass followed by two dry passes. This way you are not spraying as much and the hot water will last longer.
	Jets being used are too large.	If your machine has a 1,000W or 1,200W heating system, make sure your cleaning tool has 0.02 jets.
	Water in tank is very cold.	If possible, fill your solution tank with warm water in order to shorten the amount of time it takes for the water to heat up. The pumps are usually rated for 140°F water.
	Heater has hard water buildup inside, leading to lost efficiency.	Run Mytee System Maintainer (Part # <b>3601</b> ) through the machine regularly in order to clear hard water or chemical residue that can block water flow and reduce heating ability. See product label for instructions.
Unit has vapor locked and there is no water pumping out of the unit.	Turning on the heater before turning on the pump and priming the unit.	Turn off the heater and allow the unit to cool completely. When machine has cooled, turn on the pump first. Prime the unit by spraying solution out of the cleaning tool. Then, turn on the heater.

## How to Reset Heaters

**Step 1:** Locate the heater inside of the extractor (Figure A).



**Step 2:** Press the small white and yellow button on the heater. This will reset the heater. If the unit has more than one heater, make sure to reset both heaters (Figure B).



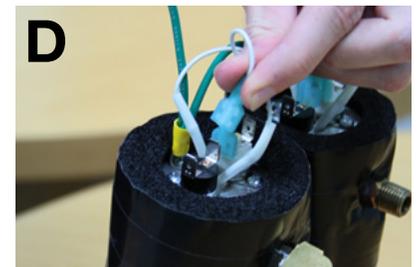
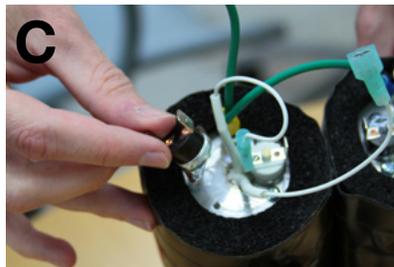
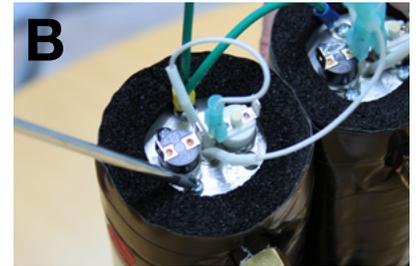
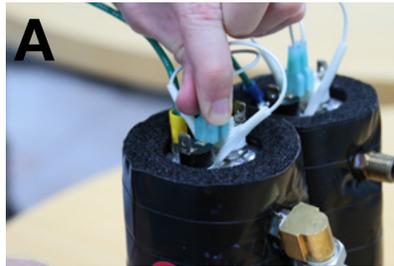
## How to Replace Automatic Sensor

**Step 1:** Detach the white wire with the blue tip from the sensor (Figure A).

**Step 2:** Use a phillips head screwdriver to remove the two screws mounting the sensor (Figure B). Set screws aside for reassembly.

**Step 3:** Mount the new sensor with the two screws (Figure C).

**Step 4:** Reattach the wire (Figure D).



# Maintenance

Mytee's electric heaters can provide you with years of safe and reliable service. They are designed to need minimal maintenance. However, a periodic check of your heater components can help you avoid problems, and ensure long life and optimal performance.

## Heater Wrap

The wrap that surrounds your heater prevents the hot casting from coming into contact with sensitive surrounding components, including the base of the machine. Checking this periodically for breaks will ensure that the heater remains properly insulated. If any damage to the wrap can be seen, the heater should be re-insulated as soon as possible.

## Heater Casting

The castings of Mytee's heaters are made of a solid piece of cast aluminum, making them extremely resistant to leaks or damage. However, if a coil freezes, a crack on the coil can occur causing a leak between the coil and casting. If this happens, the heater casting should be replaced.

## Heater Rods Troubleshooting

The heater rods are what actually get hot. These elements can, over time, burn out or get damaged. The best way to check if a heater rod is working properly is twofold:

**Step 1:** Check amp draw. See the next page for an easy formula to find out how many amps your heater should be drawing. If the heater is drawing too few amps, the rod may be damaged. If so, it should be replaced.

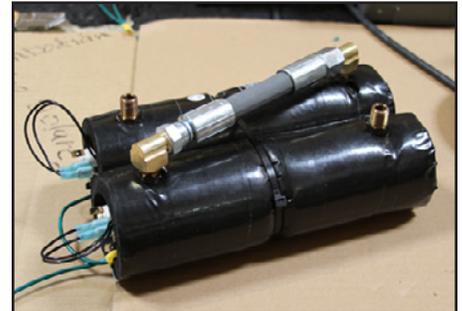
**Step 2:** Check continuity. Use a continuity tester to check current flow through the rod. If there is no continuity, the rod needs to be replaced.

**⚠ IMPORTANT: Do not electrically power heater elements outside of the casting. This is very dangerous and can cause death.**

## Heater Coil

The heater coil is what allows water to travel through the heater block. The main enemy of a heater coil is residue. Hard water or chemical residue in the coil will cause a heater to lose efficiency, taking longer to heat up the water. Over time, it may also lead to a restriction of flow. To help minimize this, all powder chemicals should be thoroughly dissolved and premixed before being put through the machine. Additionally, heaters should be regularly flushed with a de-scaler (such as Mytee's System Maintainer) to clean them out. However, clogged coils are difficult to clear, and can result in replacing the heater core.

Following these tips can keep your heater "tuned up" and ready to go.



Heater Wrap



Heater Casting  
Part # H903A



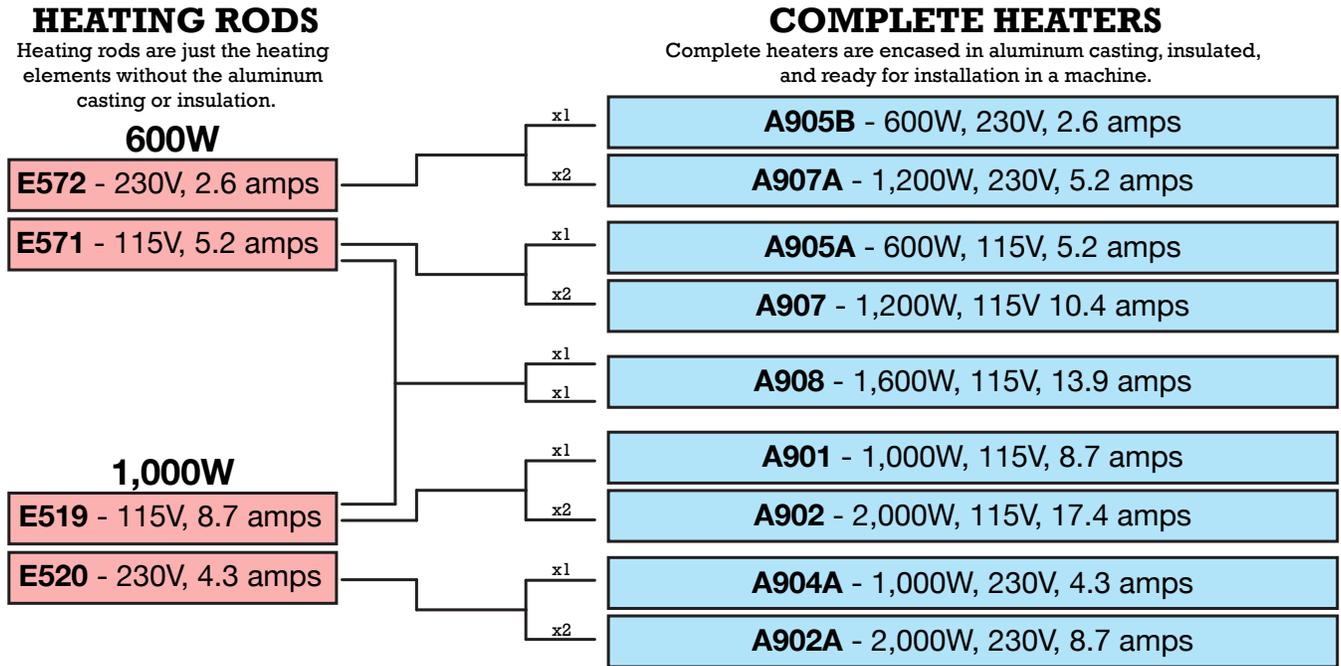
Heater Rod  
(see next page for part numbers)



Heater Coil

# Frequently Asked Questions

## What are the part numbers for heating rods and complete heaters?



## How many amps should my heater draw?

The equation for finding amps is  $Watts \div Volts = Amps$ .

For example, **A907** is a 1,200 watt heater running at 115 volts, therefore  $1,200 \div 115 = 10.4$  amps.

## Which machines use multiple heating rods?

Machine	Heater Used (Watts)	Total Watts
Deluxe Prep Center	2 x 600W rods	1,200W
Grand Prix		
Spyder		
2001CS		
1003DX	1 x 1,000W rod and 1 x 600W rod	1,600W
LTD3		
1001DX-200	2 x 1,000W rods	2,000W
Mytee Hot Turbo	4 x 600W rods	2,400W

## Why does my heater switch have three positions? *(Applies to some units.)*

1,600W and 2,000W heating systems (1001DX-200, 1003DX, and LTD3) can be run in two modes: one using just one heater and the other using both heaters.

Using two heaters heats up the water faster as well as keeps the water hot longer. However, this process takes more amps to power.

If you are using two heaters, you must have both power cords plugged into separate circuits.

