



# Philips Saeco Poemia espresso machine thermostat and o-ring replacement

Replace the thermostats and boiler o-ring gaskets in the Philips Saeco Poemia espresso machine.

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# INTRODUCTION

See: <https://www.boulderfixitclinic.org/saeco-poemia-thermostat-and-o-ring-replacement>

## TOOLS:

- Multimeter (1)
- temperature probe (1)
- Heatsink compound (1)

## PARTS:

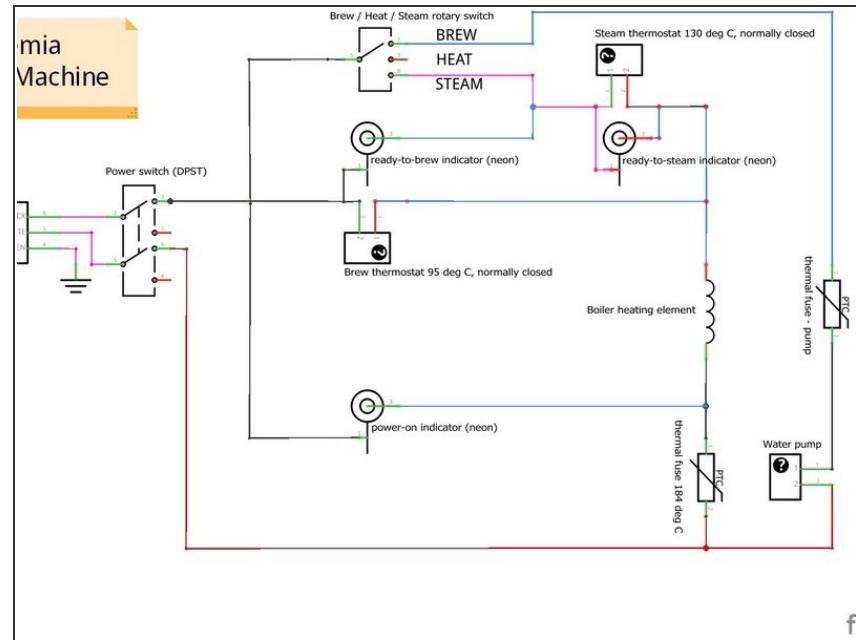
- thermostat (1)
- silicone o-ring gaskets (1)

## Step 1 — Introduction



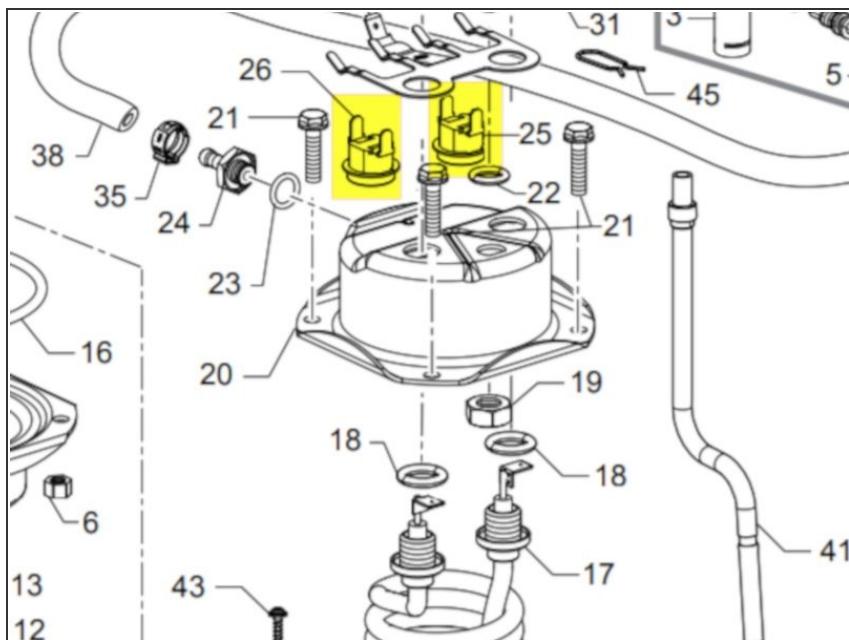
- The Saeco Poemia is a manual espresso machine. It is a simple design as it does not contain a microcontroller and is similar to other manual espresso maker designs.
- Seattle Coffee gear has a [service manual](#) for this model with a useful parts diagram, but it does not include a schematic wiring diagram. There are several useful Saeco Poemia repair videos on YouTube by Milen Stoitsev:
  - <https://youtu.be/mdtPvpPp86c>
  - [Saeco safety thermostats](#)
  - [Saeco Poemia leak boiler repair](#)

## Step 2 — Wiring diagram



- I traced the wiring and drew a schematic using the free Fritzing schematic editor. Fritzing isn't really designed for appliance circuit diagrams and doesn't have the needed parts in its library. But, it's good enough for this documentation effort. Here's the source file:  
[https://drive.google.com/open?  
id=10fmGeH...](https://drive.google.com/open?id=10fmGeH...) and .pdf:  
[http://Saeco\\_Poemea\\_schematic\\_schem.pdf](http://Saeco_Poemea_schematic_schem.pdf)

## Step 3 — Thermostats



- After disassembling the machine, it's easy to find the thermostats. They are attached to the top of the boiler

with clips. There are two thermostats:

- 95 ° C - brewing temperature (just below the boiling point of water)
- 127 ° C - steaming temperature (just below the boiling point of water)
- You can test the thermostats with a multimeter set to the resistance (ohms) setting. These thermostats are "normally-closed" which means at room temperature, the thermostat switch is closed. The meter should show close to 0 ohms when connected to the thermostat terminals.
- You can remove the thermostats and check to see that they open when their temperature setting is reached. Carefully use a heatgun and an infrared thermometer to heat the thermostat above their set point. If you overheat them, you will melt the plastic case and destroy them. (Not that I did anything like that.... :-( )

## Step 4



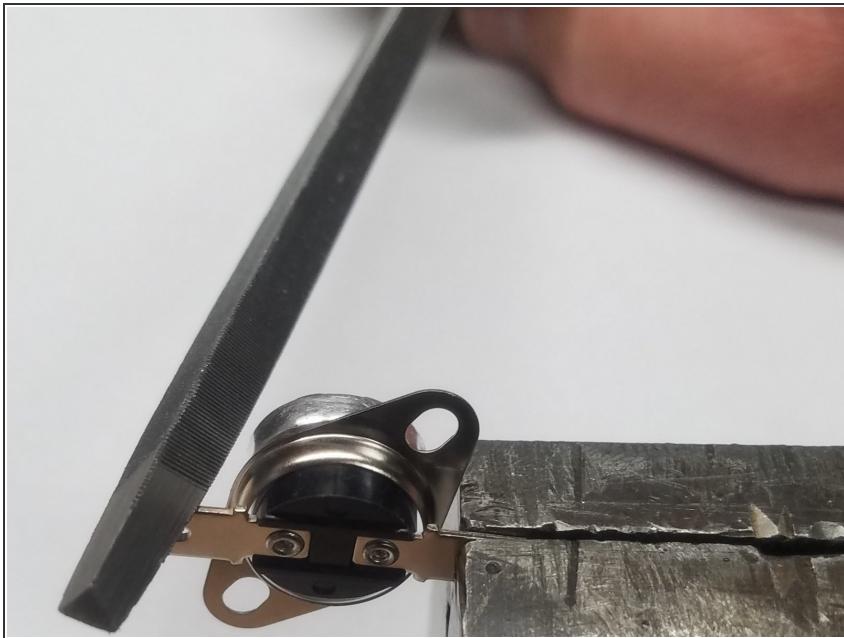
- The original Saeco thermostats are pricey - \$19 + shipping:
  - [https://philips.encompass.com/item/97042... 996530026907 \(189422000\) Thermostat 95 1Nt-\\$7.08](https://philips.encompass.com/item/97042... 996530026907 (189422000) Thermostat 95 1Nt-$7.08)
  - [https://philips.encompass.com/item/97042... 996530026928 \(189425100\) Thermostat 127 1Nt-\\$11.79](https://philips.encompass.com/item/97042... 996530026928 (189425100) Thermostat 127 1Nt-$11.79)

## Step 5 — Generic Thermostats



- I found generic thermostats on eBay.com for about \$1 each:
  - [5Pcs Temperature Switch Control Sensor Thermal Thermostat 35-160°C NO/NC](https://www.ebay.com/sch/i.html?_nkw=5Pcs+Temperature+Switch+Control+Sensor+Thermal+Thermostat+35-160%2BC+NO/NC)
  - Brew thermostat: Type: Normally Closed Temperature: 95 ° C
  - Steam thermostat Type: Normally Closed Temperature: 130 ° C (not exactly the same at the 127 ° C, close enough.)

## Step 6 — Modify the generic thermostats



- The connectors on these generic thermostats need 2 modifications to work with the Saeco Poemia:
  - Cut/file the terminal width by about 1mm. I used a small file.
  - Bend the terminals at a right-angle to match the originals.
- The mounting tabs are different than the original, but they work just fine under the spring clip.

## Step 7 — Heat sink compound



- Be sure to put some heat sink compound between the thermostat and the top of the boiler to insure

accurate temperature sensing. Any low-cost type will be fine.

## Step 8 — Testing



- After I replaced the thermostats and tested the machine, I checked the temperature of the boiler with a multimeter and temperature probe. I put the temperature probe under the thermostat clip.

## Step 9



- While testing, I noticed water and steam coming out of the boiler around one of the heating element terminals. Uh oh... I took apart the boiler and replaced the silicone O-ring gaskets. The video was very helpful to disassemble and reassemble the boiler. Checked again - no leaks!

## Step 10



- I put the machine back together and tested. Time to make a nice cappuccino!
- Wayne [Boulder U-Fix-It Clinic](#)

Use generic thermostats to make this low-cost repair.