

3 phase heating element installation manual

VERSION: 001
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Feedback on this guide is very welcome! Please send it to support@brewpi.com

Duration: 15 minutes

This manual explains how to install your 3 phase heating element in a kettle using the BrewPi 3 phase heating element mounting kit.



Warning: always consult a qualified electrician to install your heating element and to connect it to your control panel. Always use a ground fault protected outlet or include a GFCI/RCD in your control panel.




Parts

- Kettle (please check the element will fit your within your) diameter.
- Cable 5x2.5mm²
- 3 Phase heating element including silicone washer
- Enclosure kit, which consists of:
 - Cable gland
 - Enclosure Body
 - Enclosure lid
 - Locknut
 - Eye lugs 5x

Tools

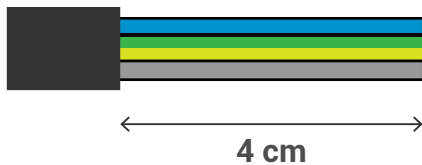
- Wire strippers
- Crimp tool or pliers
- Philips screwdriver
- Adjustable wrench (55mm)
- 47mm hole punch
- Hand held Drill (low speed, high torque)
- Metal cutting drill bit (12mm, cobalt head for stainless steel recommended)
- 10mm alan key
- Optional: hammer and centre punch to guide drill bit.

Legend

	Brown	Live phase 1 (L1)		Blue	Neutral (N)
	Black	Live phase 2 (L2)		Green/Yellow	Ground (G)
	Gray	Live phase 3 (L3)			

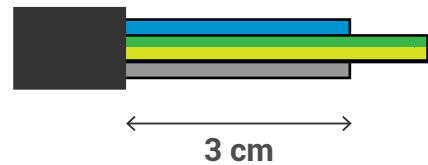
Preparation: Cable stripping and eye lugs

1



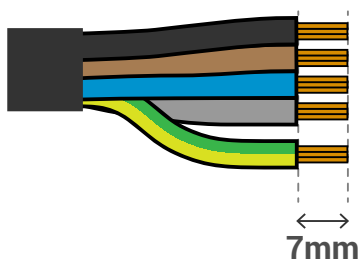
Strip black cable jacket by 4cm

2



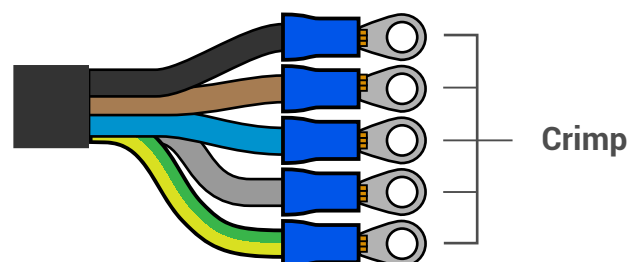
Shorten all wires except ground to 3cm

3



Strip all 5 wires to have 7mm of exposed copper

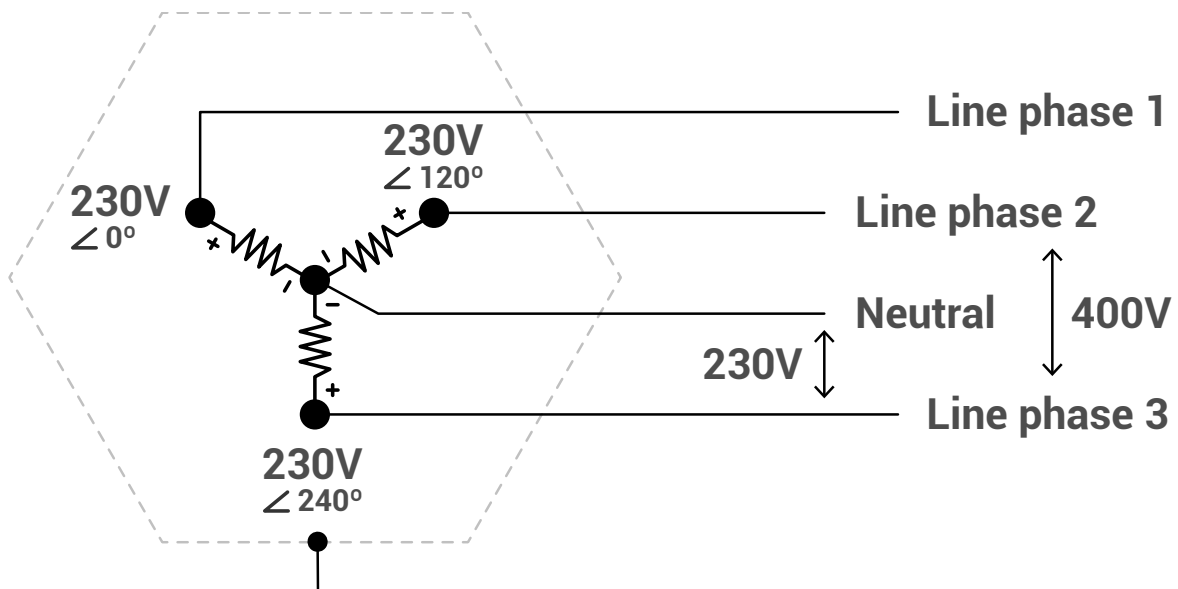
4



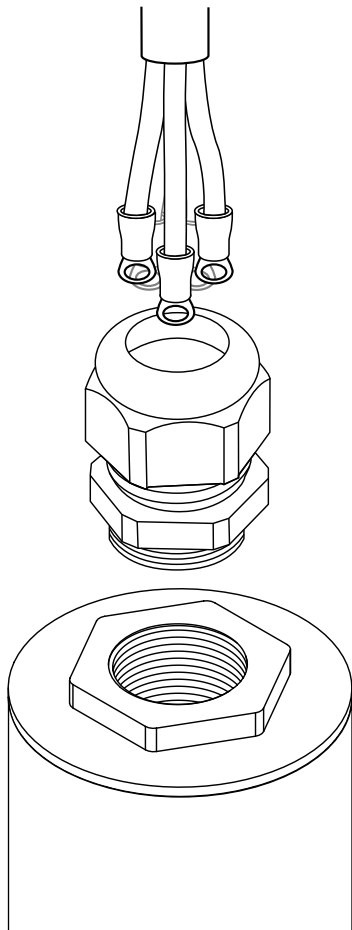
Crimp 5 eye lug to wires, pull them to test if crimped tight enough!



Attention: The element should be used in a star configuration. Each loop should have 1 end connected to neutral (N) and the other to a phase (L1, L2 or L3). This will put a voltage of 230V RMS over each loop of the element.



1



Screw cable gland into enclosure lid



Screw enclosure lid into enclosure body

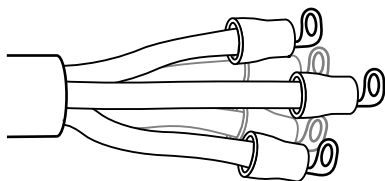


Insert cable through cable gland



Do not tighten cable gland pressure dome yet! This is the very last step...

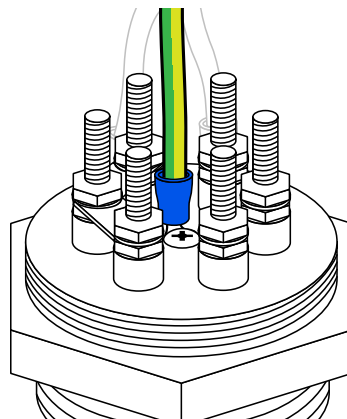
2



90°

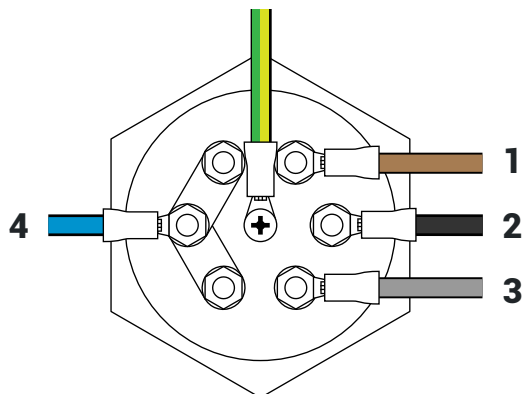
Bend all eye lugs 90°

3



Screw ground lug to the element base with the screw in the middle of the element

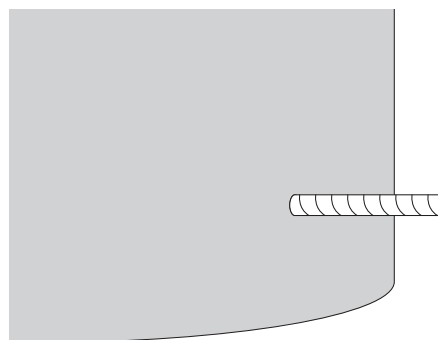
4



Screw

Screw each phase to the element (brown, black, grey). Then the neutral wire to the 3 connected screws.

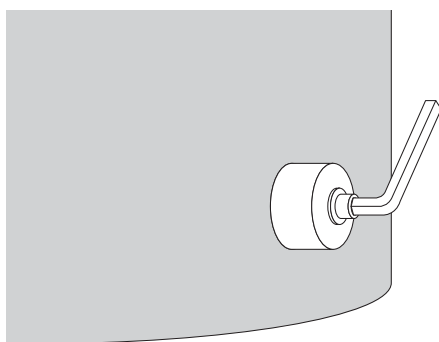
5



Drill

Drill 10mm pilot hole in your kettle. It is recommended to use oil or running water to cool the drill.

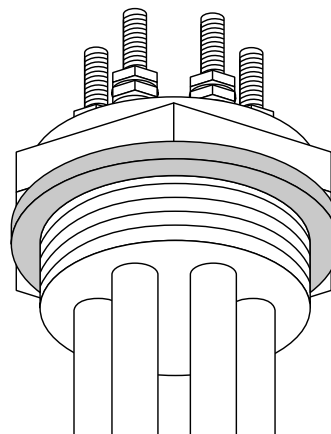
6



Punch

Punch a hole in your kettle with the hole punch (47mm)

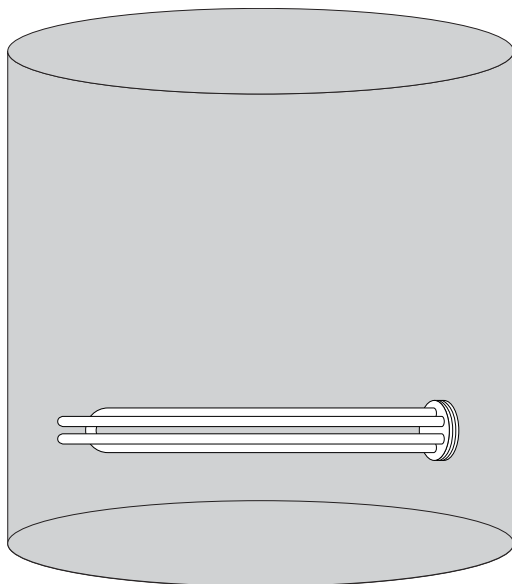
7



Keep

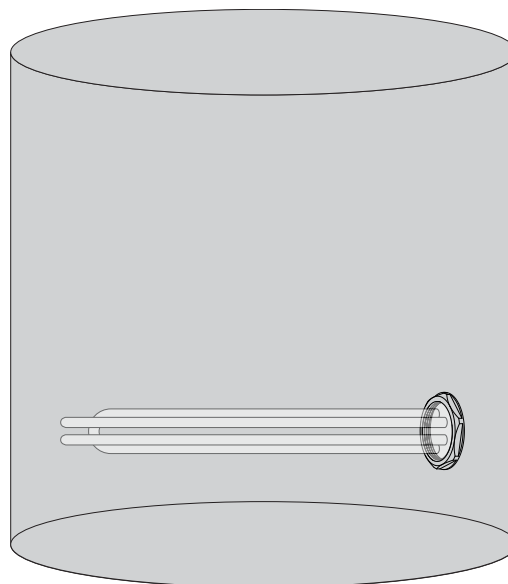
Keep the white silicone gasket around the heating element. It goes on the outside.

8



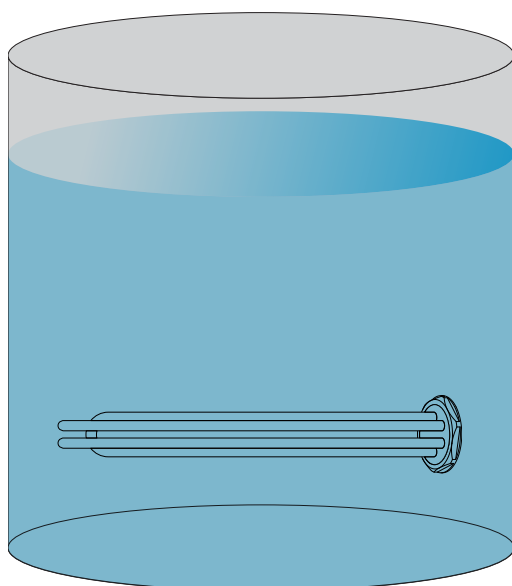
Insert element through kettle

9



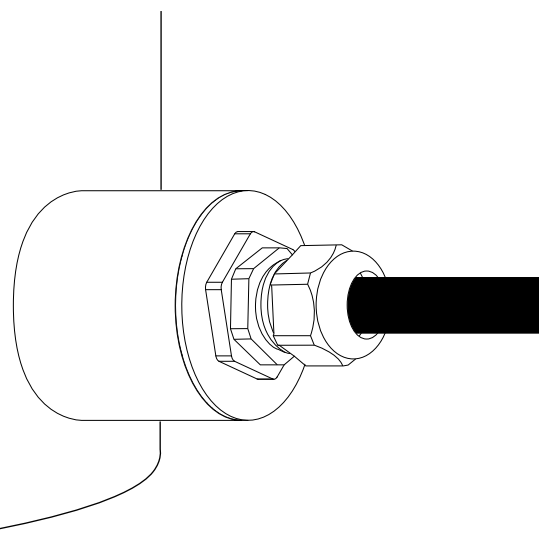
Screw on locknut. Tighten with spanner.

10



Fill kettle with water. Check for leaks for at least 15 minutes.

11



Screw housing onto the heating element. Tighten cable gland dome and That's it, you're done!