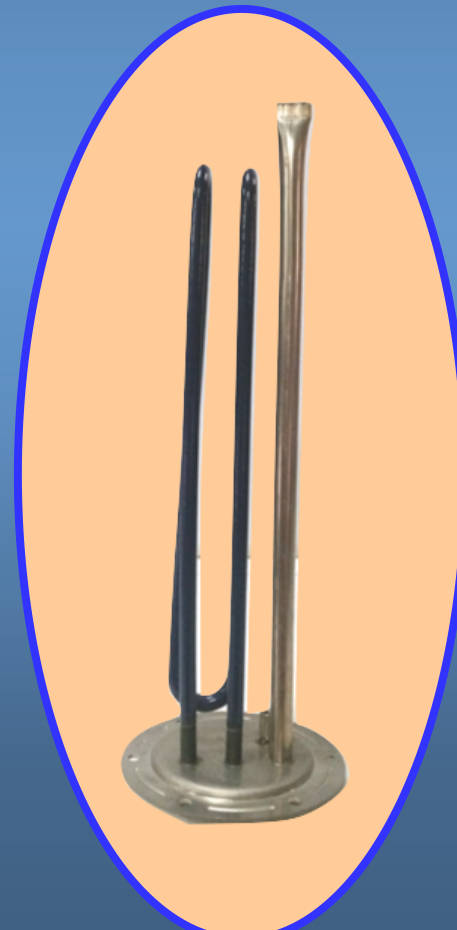
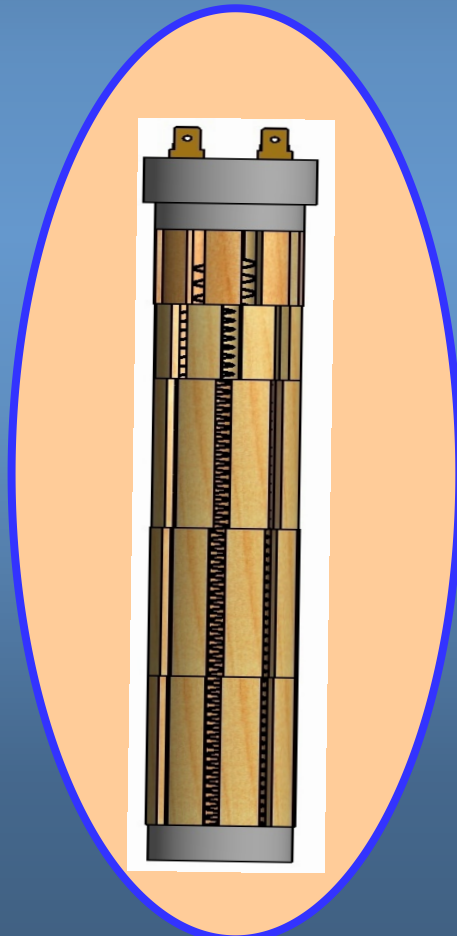


# Knowing your Heating Element



# What is a heating Element?

- A heating element converts electricity into heat through the process of resistive heating.
- Electricity passes through a resistance wire. To prevent it from touching water, we insulate the wire and put it inside a metal outer cover.
- So, the heat is generated by the wire passes through the electrical insulation and heats the outer metal cover, which in turn heats water.



# Design of the element

Metal tube cover of the element & Resistance wire play vital roles in heating the water in a safe manner.

A) Metal tube cover: SS, Aluminium, Copper, Incoloy, Enamelled MS etc...

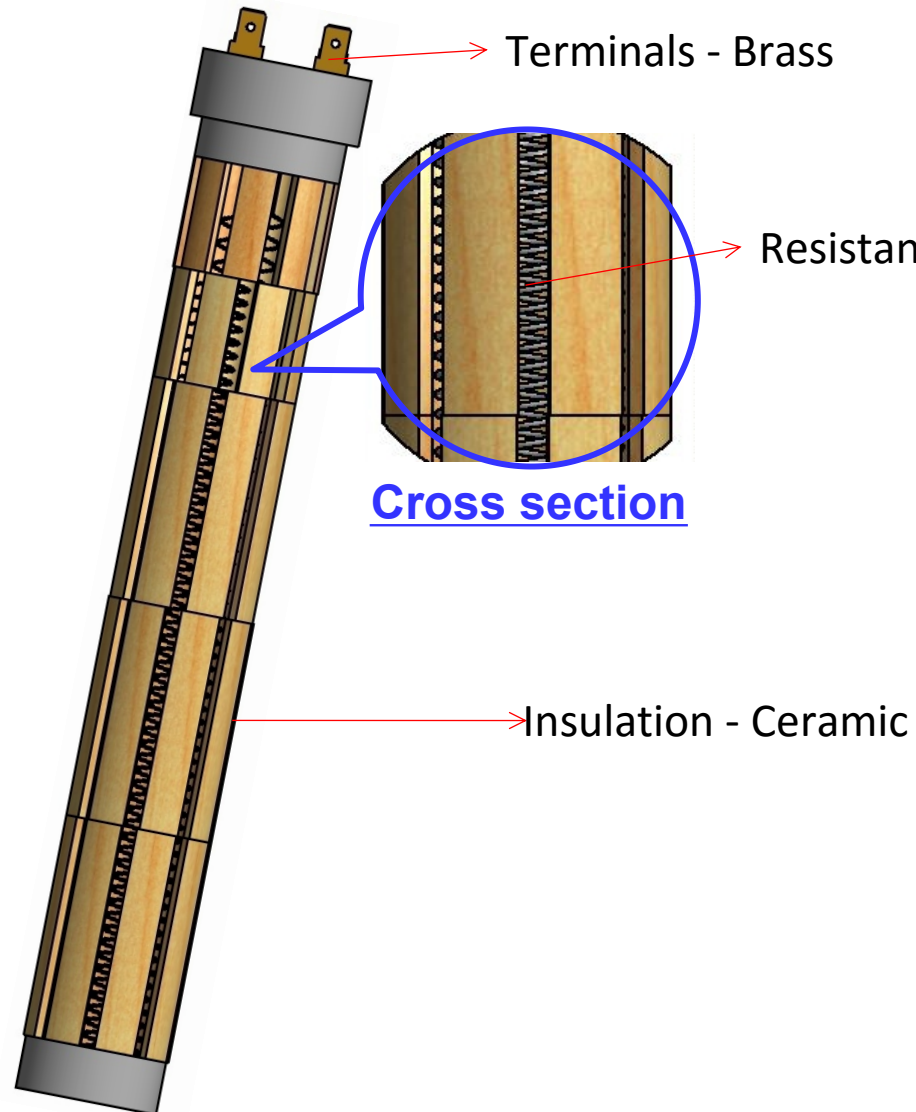
B) Insulation: Porcelain and other Ceramics, Magnesium powder.

C) Resistance wire: Nichrome wires of a specific thickness and length, wound in a coil of specific size.

# Types of Elements used by Venus

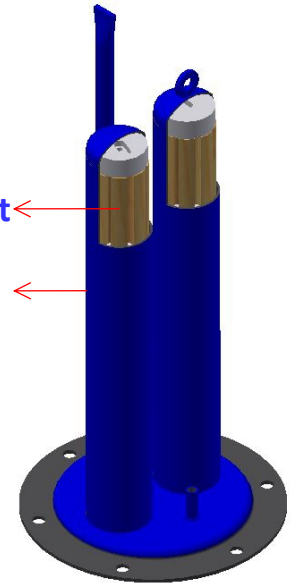
- Cartridge Element
- Incoloy Tubular Element
- Copper Tubular Element

# #1: Cartridge Element



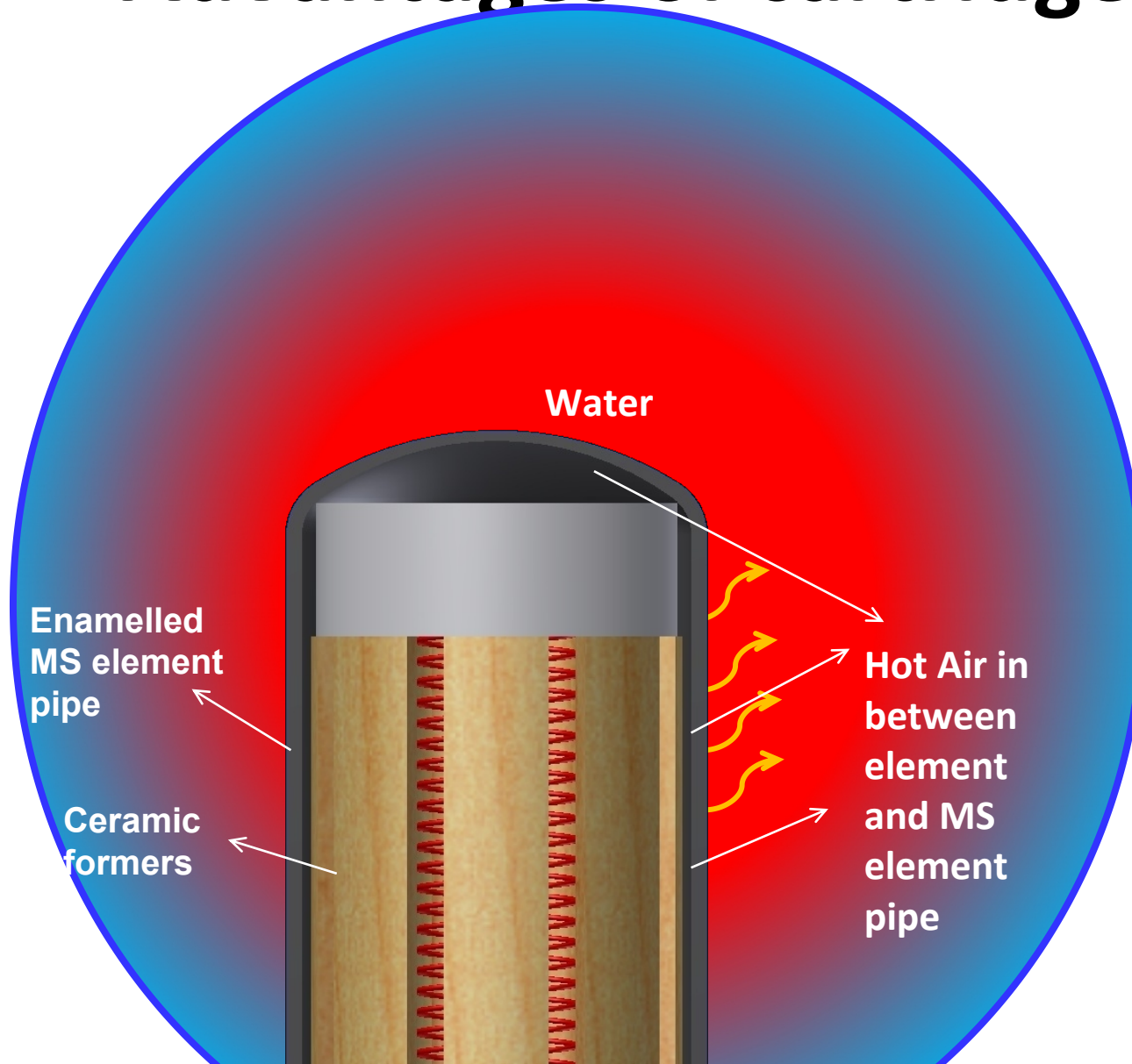
Cartridge Element

Door Assembly



Parameter	Description
Outer case	Enamelled MS
Insulation	Ceramic formers.
Contact between resistance wire and water.	<b>Nil. Indirect heating, through air, ensuring maximum safety.</b>

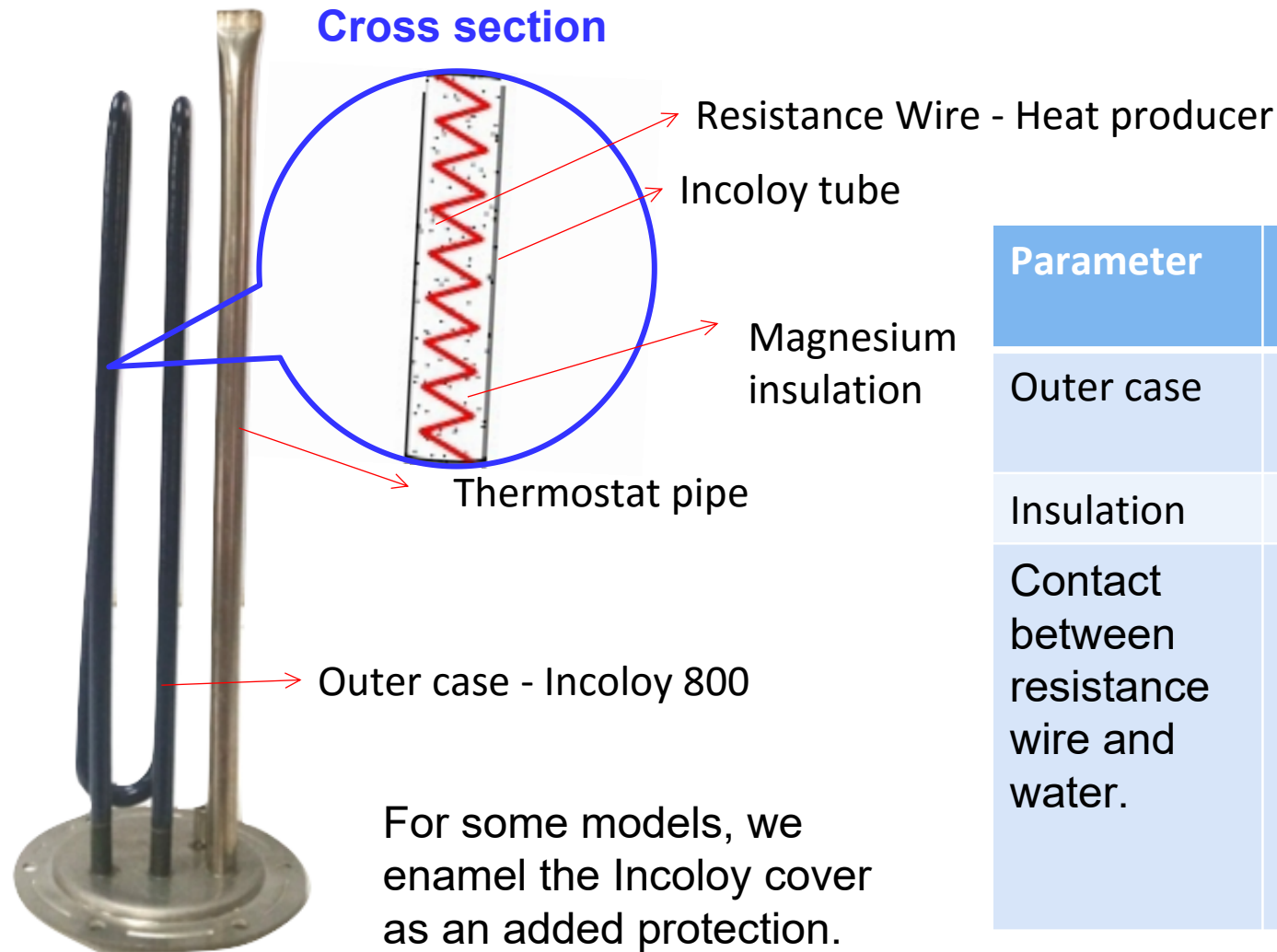
# Advantages of cartridge elements



- 1KW heat is given out over a large surface area. So very little stress for the element. So very long life, especially in hard water areas.
- Easy to replace a failed element after 10 years.

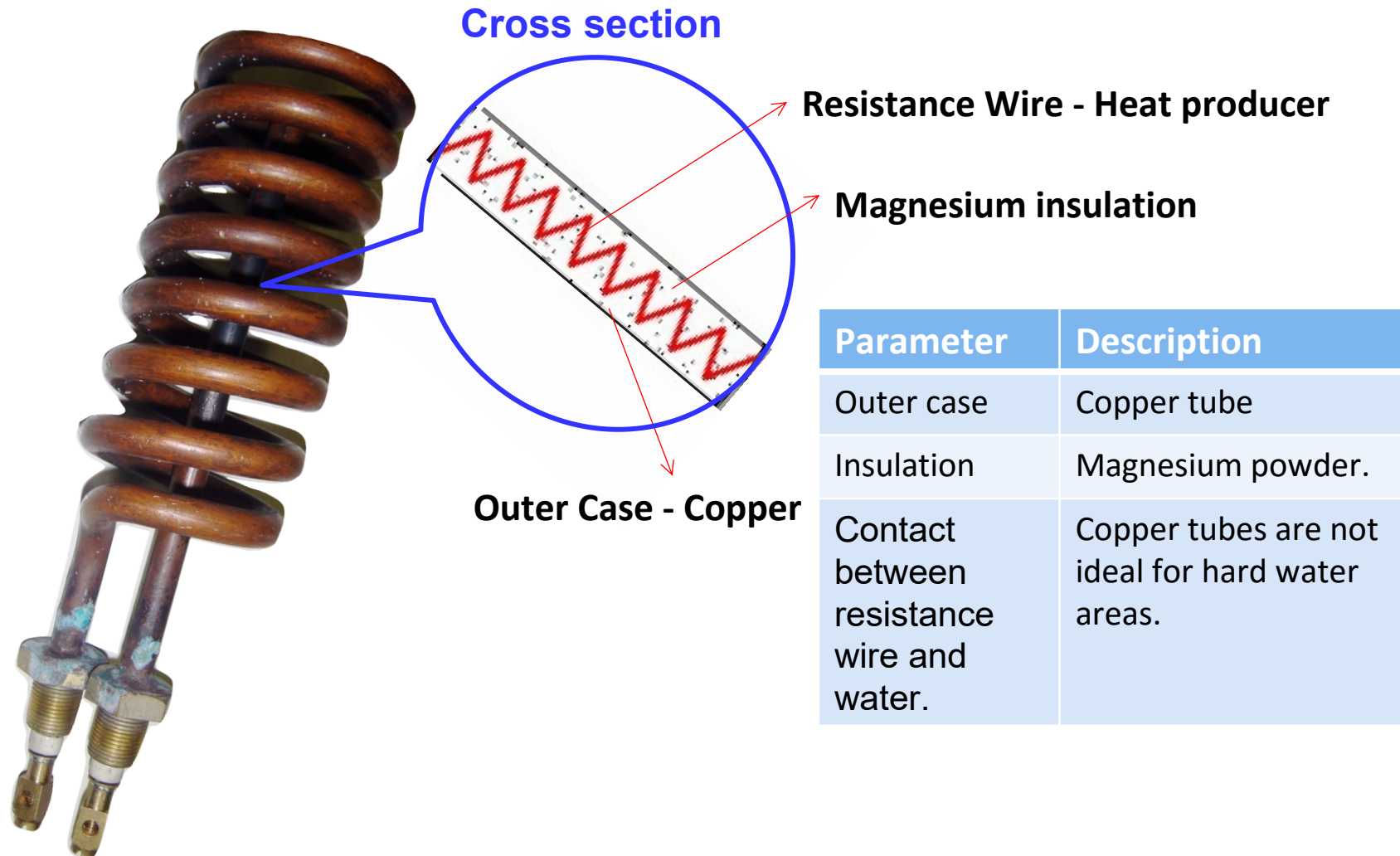
# #2: Incoloy Tubular Element

Incoloy is an alloy of steel, extremely durable under high temperature.



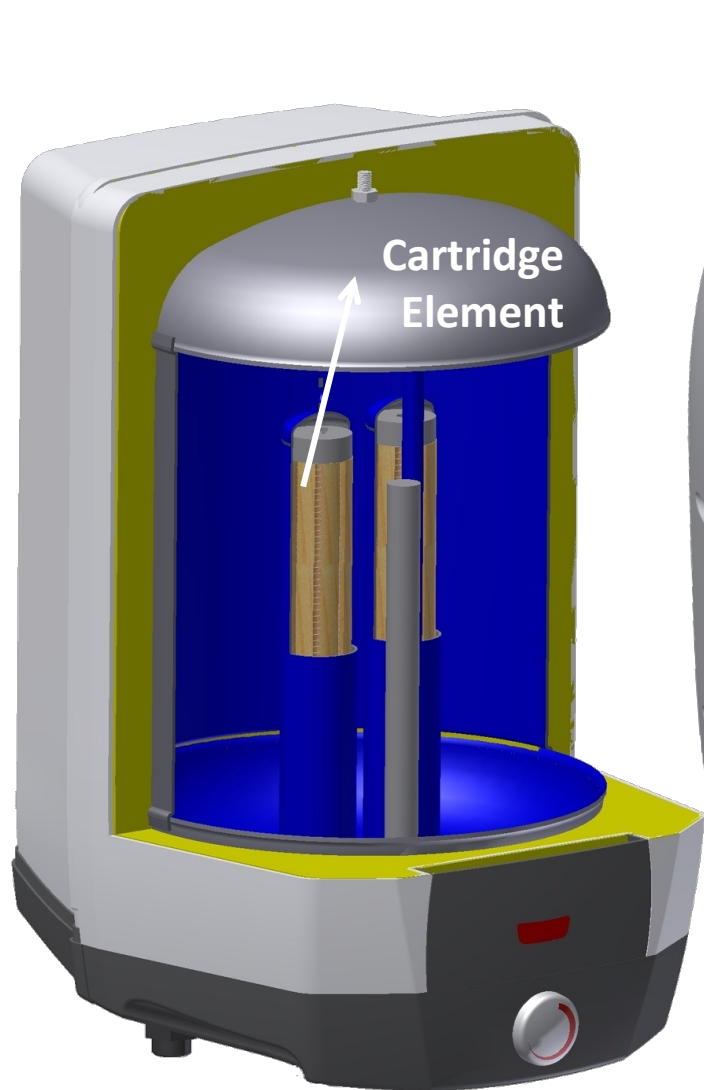
Parameter	Description
Outer case	Incoloy 800 - Corrosion proof
Insulation	Magnesium powder
Contact between resistance wire and water.	<b>Through Magnesium powder. Incoloy does not corrode even after many years, preventing water from touching the wires.</b>

# #3: Copper Tubular Element

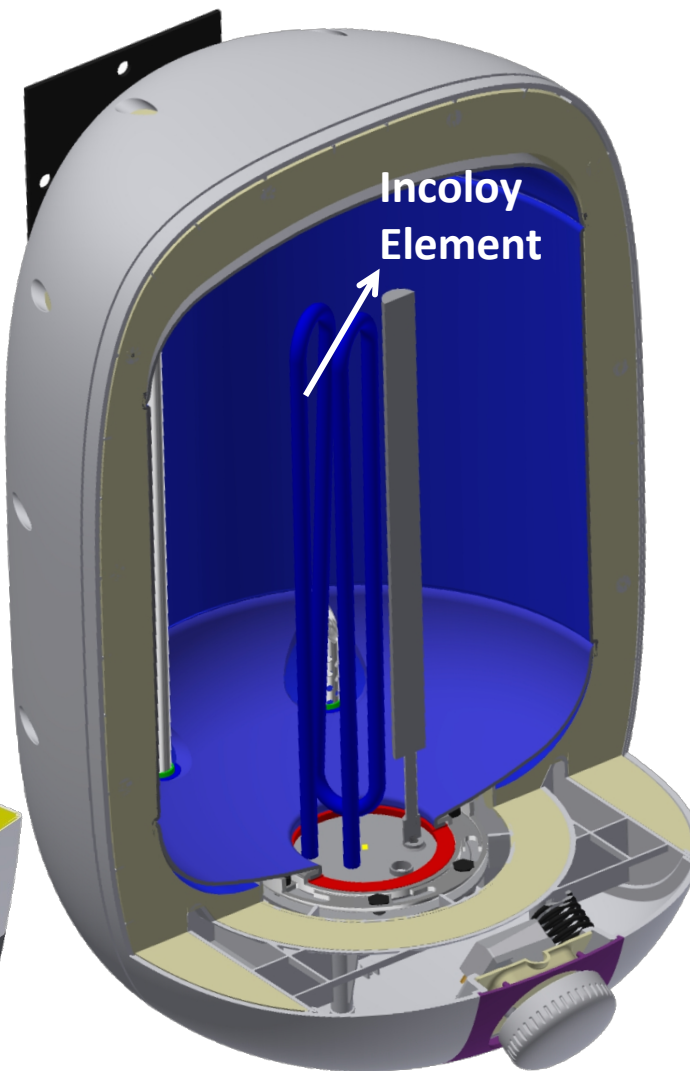




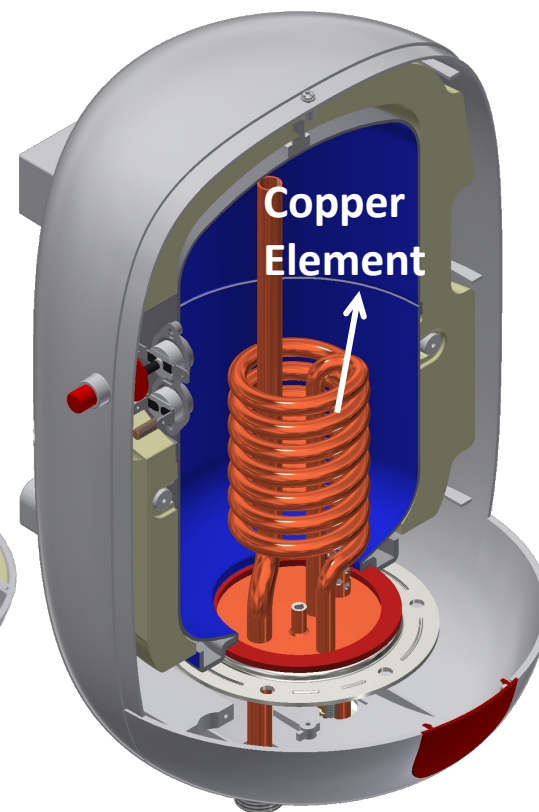
# Elements in Water Heaters



**Splash- Storage WH**



**Lyra - Storage WH**



**Lyra - Instant WH**