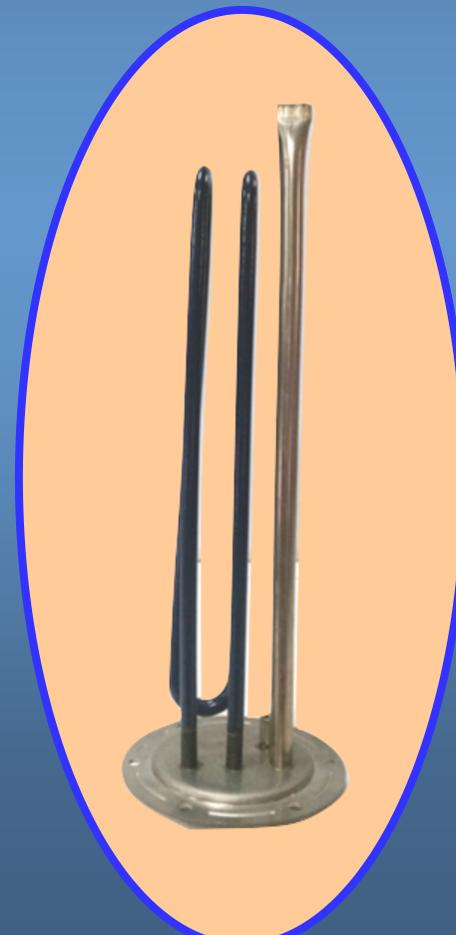
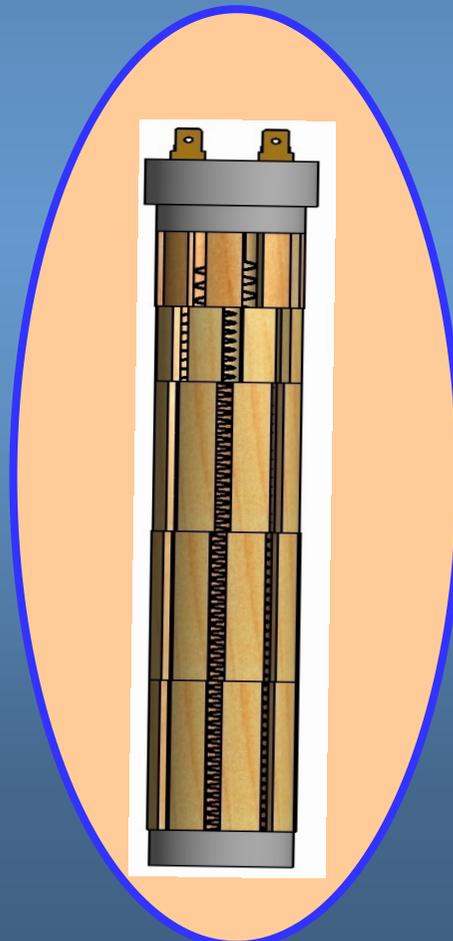


Knowing your
Heating Element



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...

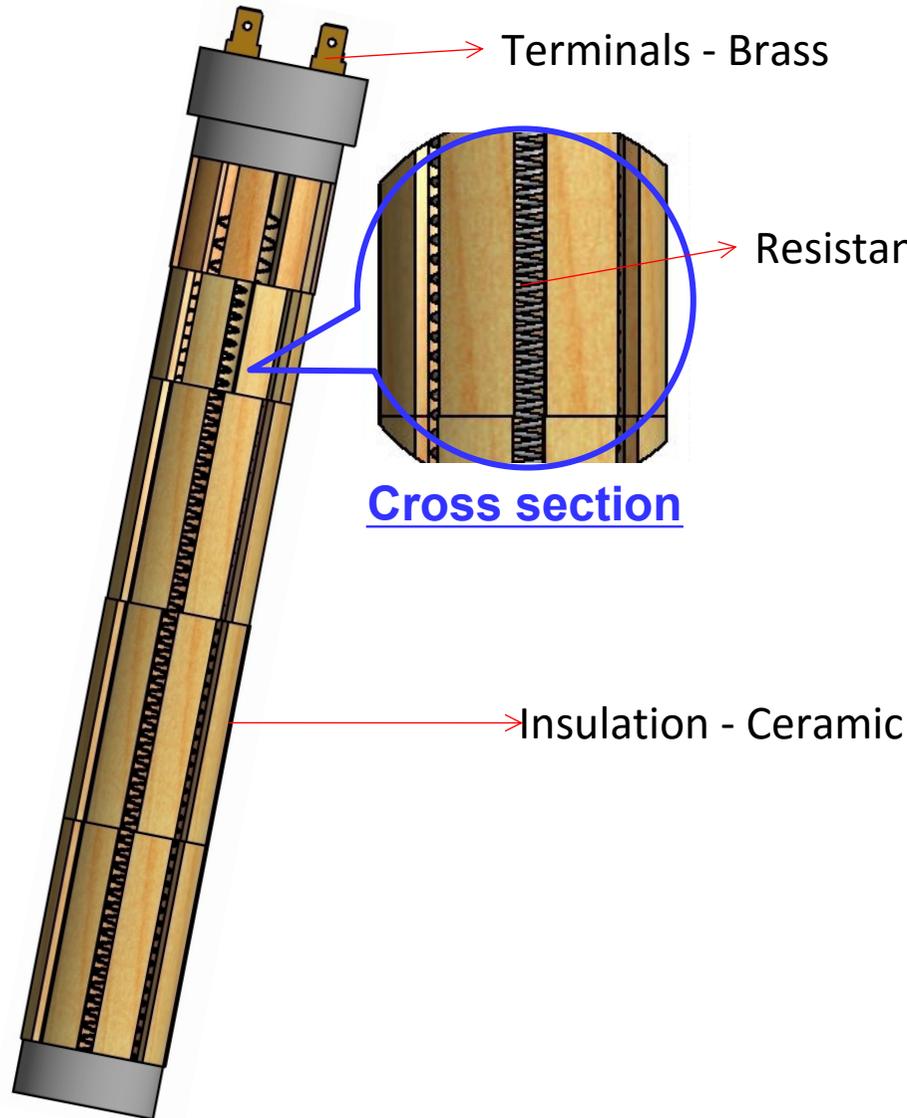
B) Insulation: Porcelain and other Ceramics, Magnesium powder.

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

Types of Elements used by Venus

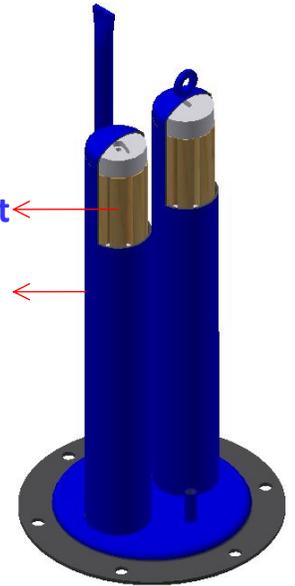
- Cartridge Element
- Incoloy Tubular Element
- Copper Tubular Element

#1: Cartridge Element



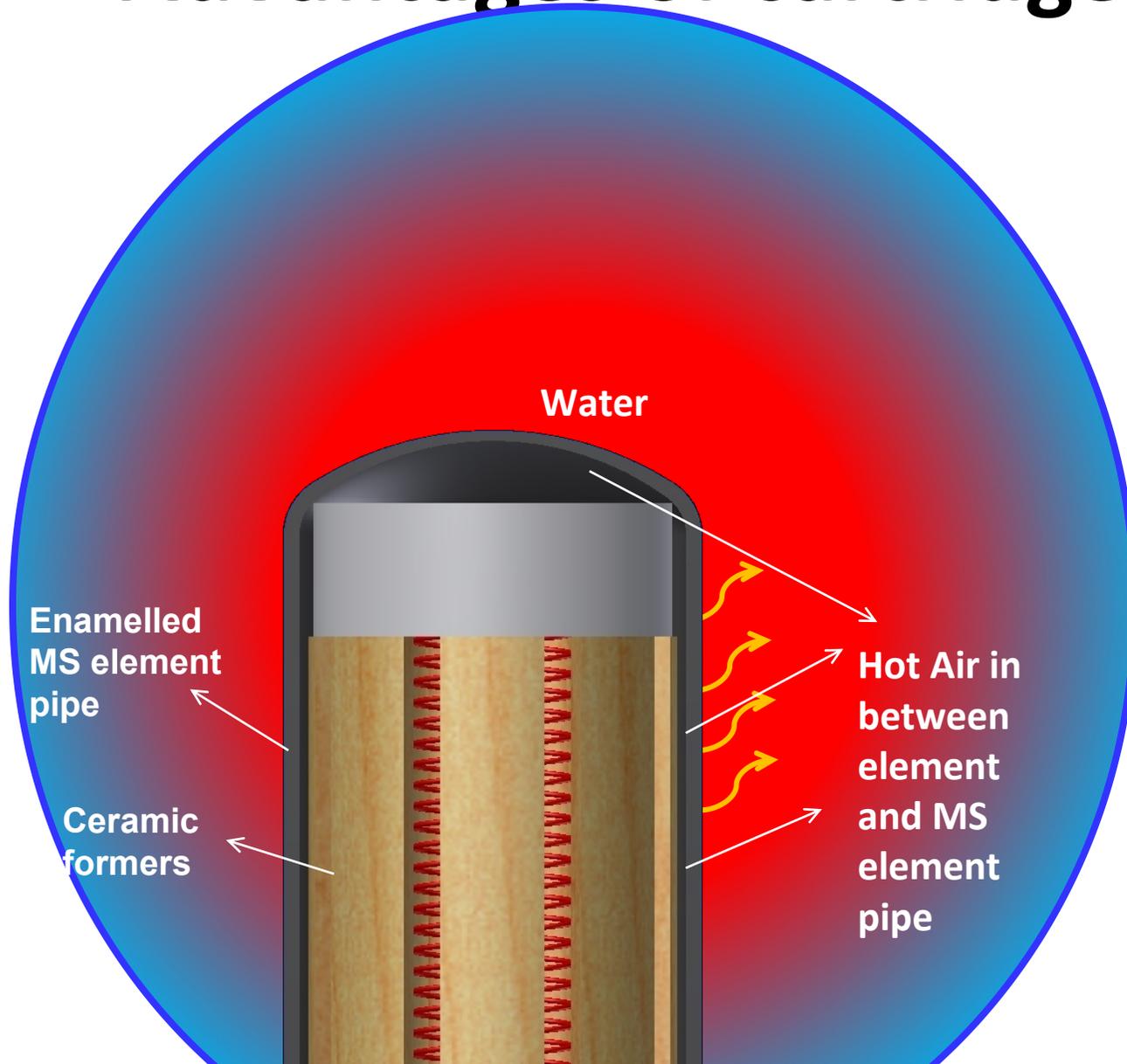
Cartridge Element

Door Assembly



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

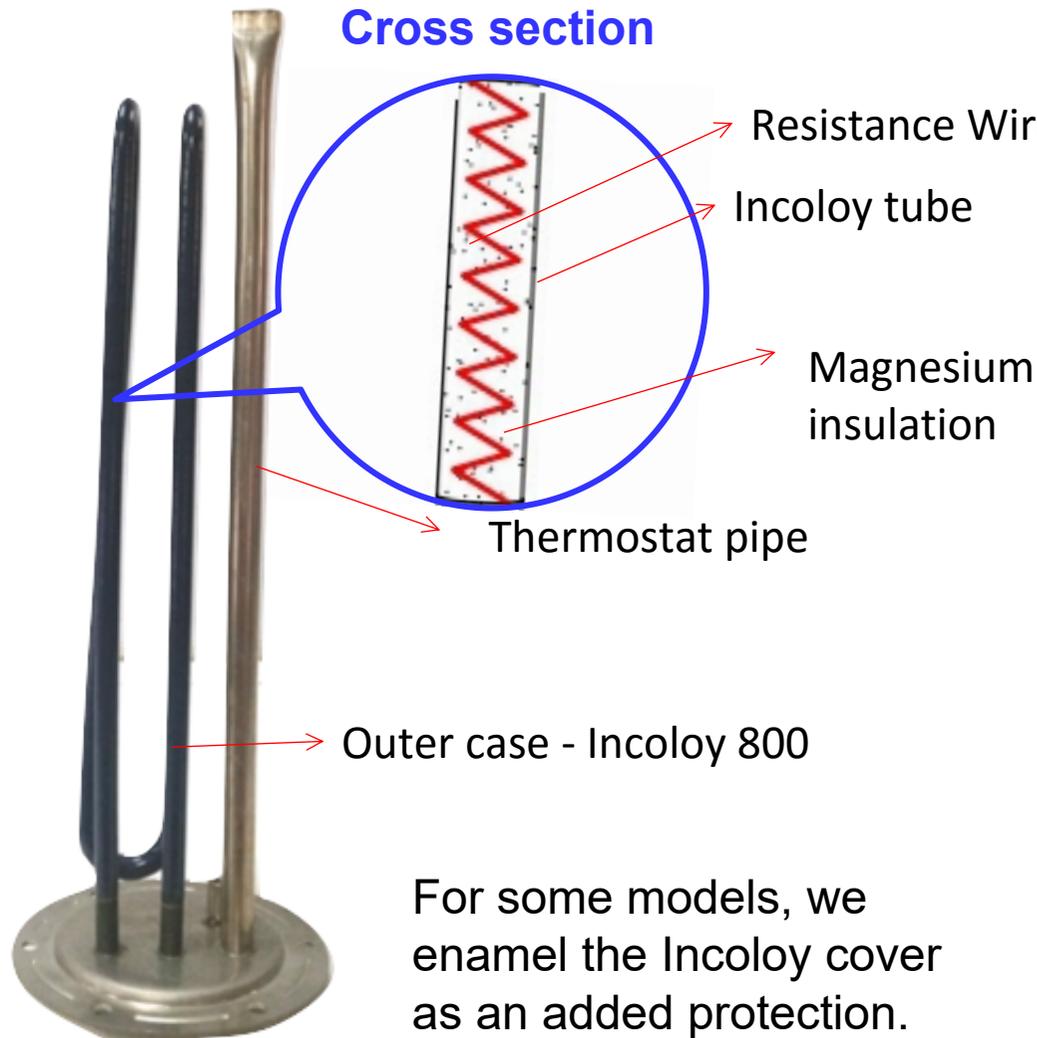
Advantages of cartridge elements



- 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.

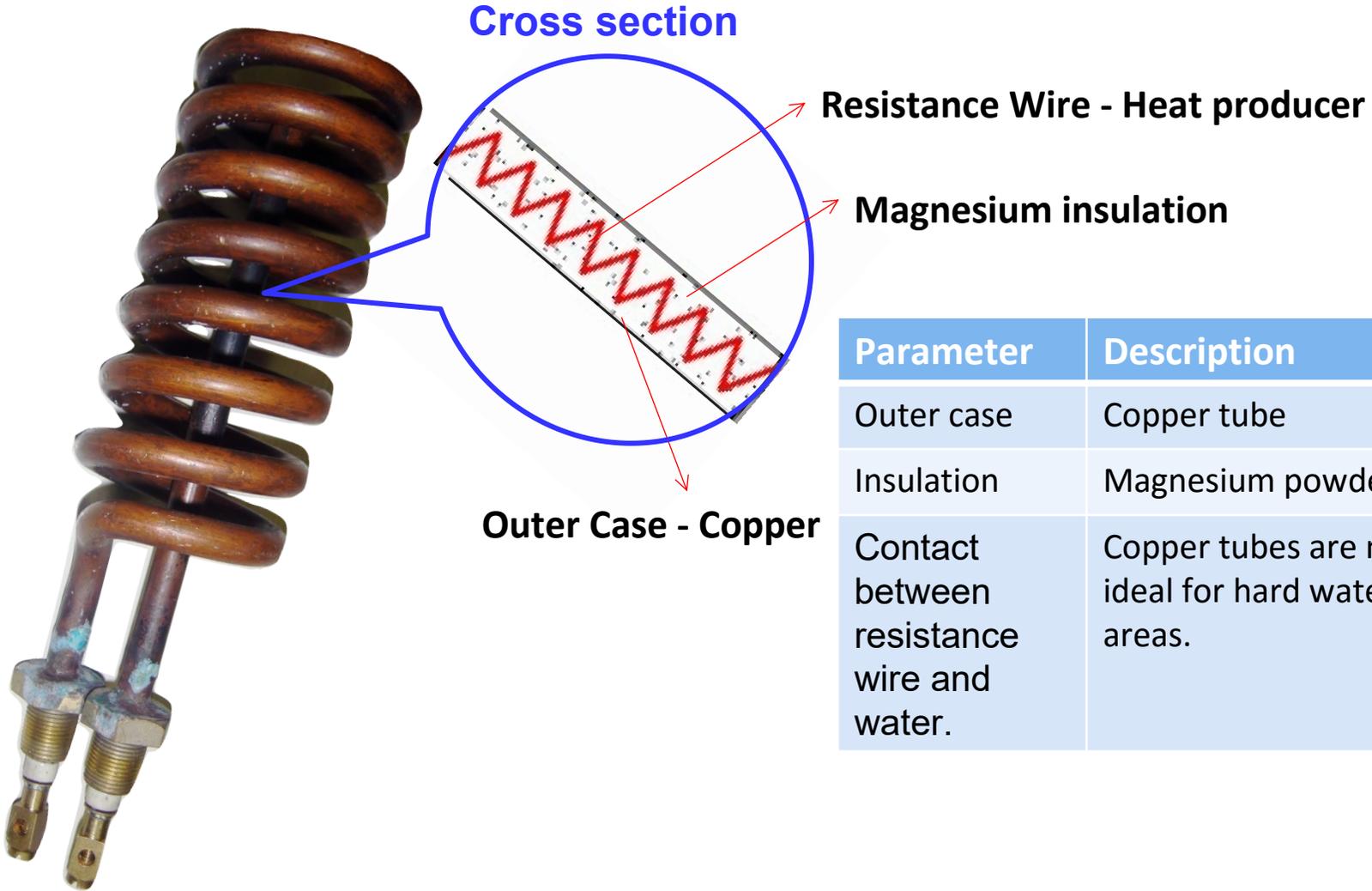
#2: Incoloy Tubular Element

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



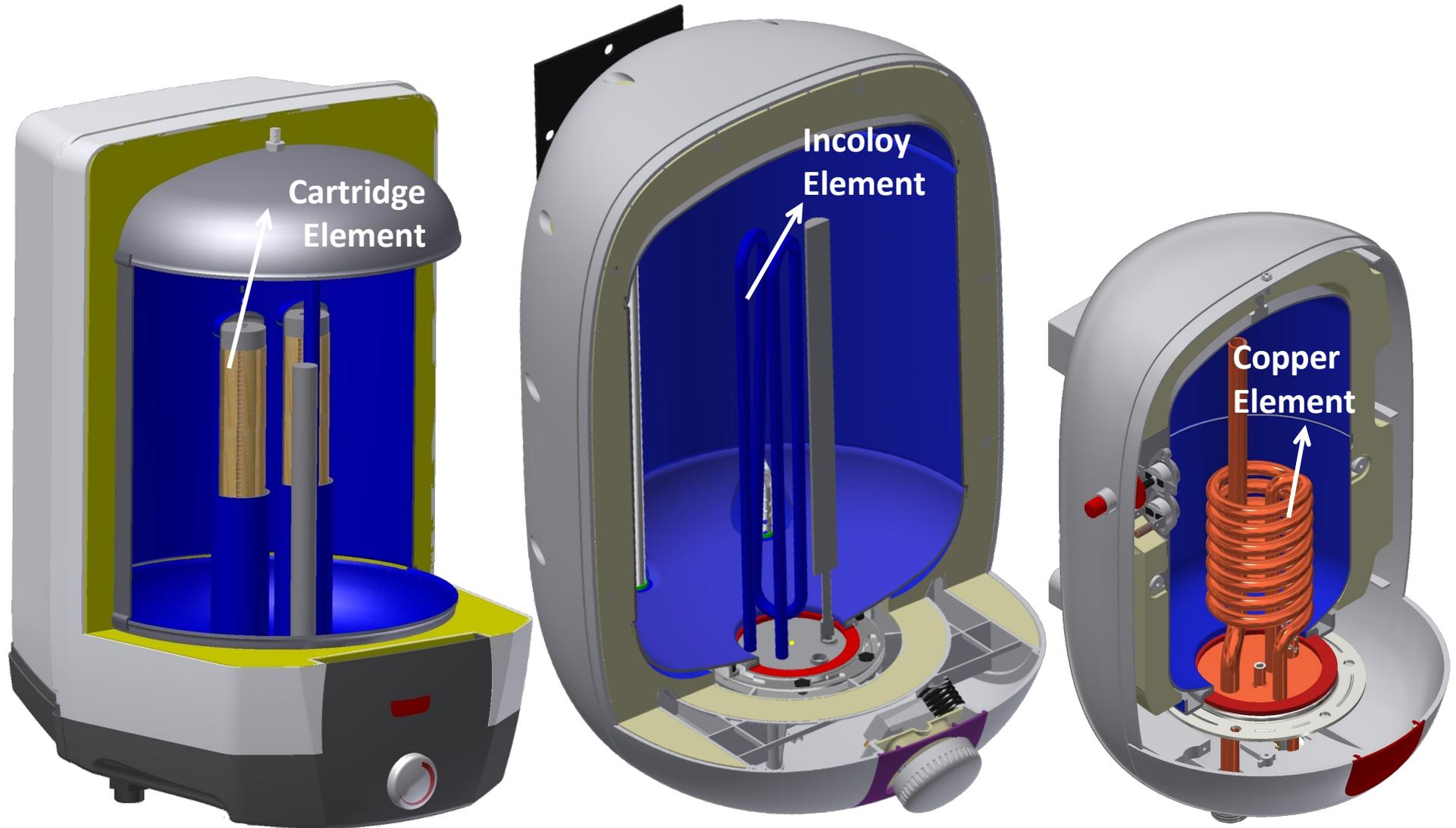
Parameter	Description
Outer case	Incoloy 800 - Corrosion proof
Insulation	Magnesium powder
Contact between resistance wire and water.	Through Magnesium powder. Incoloy does not corrode even after many years, preventing water from touching the wires.

#3: Copper Tubular Element



Parameter	Description
Outer case	Copper tube
Insulation	Magnesium powder.
Contact between resistance wire and water.	Copper tubes are not ideal for hard water areas.

Elements in Water Heaters



Splash- Storage WH

Lyra - Storage WH

Lyra - Instant WH