

Self-Sealing ECP Probe

Longer-lasting ECP Probe

GE's Self-Sealing Mechanical Iron/Iron-Oxide Electrochemical Corrosion Potential (ECP) Probe is a new option for nuclear power plants. The probe may be used as part of GE's Mitigation Monitoring System (MMS), a part of GE's NobleChem™ package. The longer-lasting Self-Sealing Mechanical ECP probe allows NobleChem customers to collect ECP data for an entire cycle.

Compared to traditional designs, using a ceramic/metallic braze, GE's new electrode successfully utilizes seals in place of the braze pressure boundary. This results in a product that better withstands the numerous thermal cycles encountered in the MMS. The improved thermal shock durability should extend the operating life of the probe to a full operating cycle.

Developed at the Request of our Customers

In response to customer requests for a longer-lasting probe, GE Energy's nuclear business leveraged the design already in use in the labs at our Global Research Center (GRC), with well documented durability. GE has modified the GRC probe for compatibility with the existing MMS ECP manifolds.

Benefits

- Longer lasting – probe lasts a full operating cycle, providing data longer while reducing costs
- Self-sealing – sustained preload minimized
- Fewer replacements – reduced exposure for plant personnel
- Compatible design – fits in the existing MMS ECP manifold

Features

- Seals with sustained preload provide a more durable pressure boundary, compared to the ceramic/metallic braze used for in-vessel electrodes
- New configuration reduces the effect of thermal shock
- The iron/iron oxide ECP probe produces valid ECP values under Normal Water Chemistry and Hydrogen Water Chemistry conditions
- Accelerated testing shows survival through 10 thermal cycles



Improved check-ups

