



BeamAssure™: The essential tool for electron beam (EB) welding and processing

An advanced Quality Assurance product which independently measures and quantifies electron beams, to aid manufacturing and maintenance planning.

Description

- Non-intrusive or disruptive to the process or production,
- May be integrated with in-house quality assurance systems,
- Supporting weld penetration and shape consistency,
- Production monitoring and/or research analysis functions,
- Real-time instantaneous results and measurements,
- Suitable for EB welding, additive layer manufacturing and other EB processing systems,
- Evaluation of machine to machine variability issues,
- Probing is possible at full welding power up to 40kW,
- Electron Beam (EB) machine function and operator error checking,
- Beam probed and data captured in <1 minute,
- Viable for use as a go/no-go decision making tool.

Applications

- Engine components manufacturing,
- Cathode deterioration,
- Nuclear reactor piping and pressure vessels components welding,
- Energy reactor welding,
- Submarine components welding,
- Wind turbine large dimension tower welding,
- Medical components,
- Variants for welding, additive manufacturing and processing,
- Compatible with all welding machines (up to and in excess of 150kV), and capable of analysing beams at powers exceeding 40kW.

Applicable Industries

Engineering:

- Additive manufacture, Surface treatment, Welding, Brazing, Surface engineering, Processing & Equipment Development.

Aerospace :

- EB Welded parts used in aircraft and rocket engines, sensors, gears, actuators and airframes.

Power generation/transport:

- Fume scrubbing treatments.

Food packaging/recycling:

- Physical vapour deposition, traceability marking, polymer processing, curing.

Health care:

- X-ray, EB-CT, Therapy, Sterilisation.

Wider science & engineering:

- Micro-machining, Polymer cross-linking, Evaporation, Imaging...

Benefits and Offering Extension

- Detect and eliminate set-up errors,
- Analyse and optimise beam parameters,
- Monitor wear and foresee failure,
- Reduce the size due to the demand for smaller EB machines,
- Wireless non intrusive setup,
- Requires no thermal management or active cooling,
- Avoid modifications of the vacuum chamber,
- Flexibility of use in different EB machines without adaptation,
- Automation of manufacturing process towards I4.0 and Factory of the future., Improved decision making on the quality in operation,
- Fully supported throughout installation, training and warranty.

