

# CVE About Us

## ELECTRON BEAM & LASER WELDERS



## What We Do

Cambridge Vacuum Engineering (CVE) design, build, and service electron beam welding and laser welding systems. With more than 60-years of experience, CVE manufacture process solution systems for:

- › Electron beam welding (EBW) – high and low voltage
- › Laser beam welding (LBW) – conventional, with a shielding gas, or in a vacuum
- › Ebflow – welding with electron beams and a local vacuum
- › Ebflow Light – welding with a laser and a local vacuum
- › Surface modification using an electron beam, including Surfi-Sculpt™

CVE's headquarters are in Waterbeach, Cambridge, UK, operating from 30,000 square feet of office, manufacturing, and development space. In addition to our main design and manufacturing site in the UK, CVE has two regional offices in Beijing, China, and Massachusetts, USA, as well as a global network of agents.

CVE applies professional engineering skills to customer requirements, resulting in innovative solutions to technical problems. We have a highly skilled workforce, an experienced engineering design department, and an extensive service team - all supported by a range of in-house test and diagnostic facilities.

### Specialists

Over 60 years experience in power beam welding



### Professional

High-quality systems and expert process knowhow



### Leaders

Innovative technologies, designs and applications



### Customer-focused

Proud to create custom-built machines and systems



### Global

3 prime office locations and international network



Electron beam welders



Laser beam welders

# Industries

## Aerospace

Electron beam welding can produce welds in a wide range of materials including titanium alloys, aluminium alloys, heat-resisting and high-strength alloys and can be successfully applied to high critical components, ensuring that stringent safety requirements are met.

## Automotive

In the automotive industry, electron beam welding has many applications; from turbochargers to gears and convertors to shunt resistors in standard fuel, hybrid, and electric vehicles.

## Defence

Electron beam welding is a well-established welding process within the defence sector, due to the high-quality output that is required for the application. A variety of components ranging small to large and simple to complex are welded on CVE electron beam welders.

## Sensors and Electronics

The electron beam welding process has a low heat input, the shape of the fusion zone can be optimised and the process is done in vacuum which prevents oxidation – minimising the risk of damage to sensitive electronics.

## Offshore Wind

All offshore wind structures require high productivity welding fabrication and reliable performance. There is a range of structures that need to be fabricated as part of an offshore wind turbine, including monopiles, suction anchors, and flanges.

## Nuclear

There are many applications for electron beam welding in the nuclear industry, including pressure vessels for conventional power, small modular reactor (SMR) and micro modular reactor (MMR) fabrication, as well as associated pressure retaining and structural components.

“The electron beam welding machine delivered by CVE fulfils our requirements. The highly sophisticated hardware and software allows us to develop different electron beam technologies including welding, cladding, as well as additive manufacturing.”

Lukasiewicz Institute of Welding

“CVE has delivered the reliability we were looking for. We move to production faster now because there is less rework...we can get a batch of gauges through welding over 30% faster than we used to.”

Spartek Systems

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