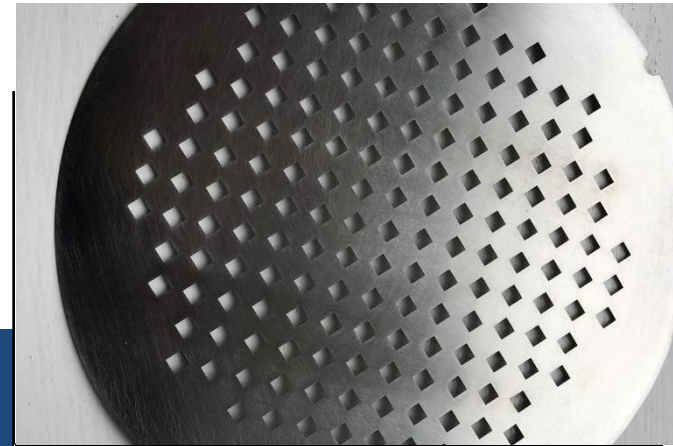


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Precise Laser Machining Delivers Success for Contract Manufacturer

The Challenge

ES Precision, a contract manufacturer located in Kingston Bagpuize, UK, was founded in 2017 by laser industry veterans Tim Millard and Andy May, who believed that there was an opportunity for a job shop emphasizing precision marking, cutting, and drilling with the capacity for high volumes but also flexible enough to be viable for single units and small quantities. May explains, “We saw a growing need for thin metal cutting with superior edge quality and finer details. This opportunity included existing laser marking customers in medical devices, auto racing (Formula 1), aerospace, and electronics, as well newer markets such as fuel cells and biotechnology.” One way that Millard and May wanted to distinguish the new company was by offering better precision than could be delivered with flatbed lasers, but without the higher capital investment, slower speed, and thickness limitations of ultrashort pulse (USP) lasers.

The Solution

ES Precision decided to use the relatively new concept of “erosion cutting” to achieve superior precision and edge quality. They became technology pioneers as the first UK-based contractor to offer fiber laser erosion cutting services. May outlines the erosion cutting method and its advantages, “Continuous wave fiber or carbon dioxide lasers perform even deep cuts in just one pass. Erosion cutting uses fast galvanometer beam scanning and modest laser power, a combination typically used in laser marking machines. The cuts are made using at least tens of passes, and sometimes thousands of repeated passes.” He explains that each pass removes at most a few microns of material. So the amount of heat is massively reduced, enabling the creation of fine details with no edge melting or other problems. They chose a PowerLine F20 system from Coherent, equipped with a 20 watt fiber laser. This proved to be a great match for erosion cutting, creating metal parts albeit with metals thickness limited to <0.5mm. (They also invested in other Coherent machines and lasers including a CO₂ laser for engraving and a UV system for marking plastics.)

The Result

ES Precision has experienced strong growth for their machining and marking services. And to allow the company to diversify into erosion cutting of thicker (up to 2 mm) metal parts, they recently invested in a PowerLine F100 including a 100 W fiber laser. May summarizes their reasons for choosing yet another Coherent system, “Coherent has turned out to be an ideal partner for our fast turnaround business model, with systems that deliver high reliability in addition to the superior precision that underpins our brand. Plus, the machines are all backed up by a very responsive team of service and support professionals”

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— Andy May, Director, ES Precision, Kingston Bagpuize, UK