

DRV-Z1 REVOLUTIONISES THE INSPECTION PROCESS

Significant advancements have been made within the field of optical and digital inspection equipment over the past decade. Systems are faster, easier to use, automated, more accurate and have larger capacities. In contrast to this steady, incremental progress, Vision Engineering's revolutionary patented DRV-Z1 (Deep Reality Viewer) represents a major game changer in optical and digital inspection technology.

Vision Engineering's DRV-Z1 is a digital stereo 3D viewer with zoom. It brings together the benefits of optical stereo microscopy and digital technology into a single unique system. Unlike other 3D viewers in the market, the images produced by the DRV-Z1 are viewed without the need for special glasses or headgear.

Early users are enjoying the multiple benefits delivered by the DRV-Z1. One such business is Advance Turning and Manufacturing (ATM), an industry leader in end-to-end manufacturing of quality parts for the medical and aerospace sectors. Family owned and operated since 1972, ATM has a workforce approaching 200 that operates out of facilities in Michigan's Jackson and Wayne Counties (USA). The company's comprehensive manufacturing services include precision ID/OD grinding and lapping, gun drilling, gear and spline manufacturing, milling, turning, EDM and Multi-Axis machining including 5,7,9 and 13-axis centres.

ATM administers defined Quality Management Systems and makes regular investments in the best available inspection equipment. Their recent purchase of Vision Engineering's DRV-Z1 was prompted by the need to carefully polish, to a fine finish, manufactured components that are fitted into heart and lung devices. It was also considered that



DRV-Z1 would prove ideal for several other difficult tasks such as the inspection of surgical tools.

Advance Turning and Manufacturing's Senior Manufacturing Engineer, Michael Walter, explained. "The optical equipment we used prior to the purchase of our DRV-Z1 had a limited field of view and the magnification was relatively low. We needed something that was comfortable and easy to use for the machinist. Traditional microscopes were not an option because they limited the potential movement of the operator, leaving the machinist uncomfortable and subject to fatigue.

"The recently launched DRV-Z1 proved to be a perfect solution."

"For example, the inspection and polishing of titanium parts that go into implantable medical components that we sell, are polished with a Dremel style polishing tool while viewing them under a stereo microscope. When performing this very difficult task, operators need to keep a still and controlled posture, which is neither practical or comfortable. Furthermore, they need to be able to see the entire part, not just a section of it.

“Although the use of Vision Engineering’s Mantis microscopes made these tasks easier than using conventional stereo microscopes, we called on Vision Engineering to see what other applicable inspection systems they had in their product portfolio. Our timing was perfect, as the recently launched DRV-Z1 proved to be a perfect solution.

“The DRV-Z1 provides a full 3D stereo view and gives the operators a large working area to perform the task and see the whole manufactured part in high magnification, including features such as the inner threads of the implantable medical components.

“Since the introduction of the DRV-Z1, the operator sits comfortably and does a better job with reduced fatigue.”

“We employ 85 people at this site, of those, 10 people are using the DRV-Z1 on a regular basis. The system is easy to use and requires very little training. Our machinists are now able to perform previously awkward inspection and polishing tasks efficiently and comfortably. Since the introduction

of the DRV-Z1, the operator sits comfortably and does a better job with reduced fatigue.”

For the first time in a digital system, the DRV-Z1’s patented technology provides real depth perception, supporting the use of tools for subject manipulation, reworking and soldering.

DRV-Z1’s ergonomic benefits, including freedom of head movement, natural subject view, comfortable working position, easy hand-to-eye co-ordination and if required, the ability to wear prescription eye glasses. All contributing to improved efficiency, accuracy and productivity.

For organisations that require sharing of images in real between different departments or even different facilities, DRV-Z1’s 3D image view, capture and sharing, enables new opportunities in collaboration via real time digital connectivity through a LAN or WiFi network.

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