

ToFD Lite

Time of Flight Diffraction System

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Portable Twin Probe ToFD Scan Imaging System

Silverwing ToFD Lite unit is a low cost portable twin Probe ToFD scan imaging system designed to capture data images to assist with securing hard copy as well as accurate data to detect and quantify any weld defect in simple butt weld configurations without the need to barrier work areas to perform conventional radiography.

The system is manual and battery operated using a H or A Frame as well as customised scanning head, UT interface unit and extremely durable personal computer as well as interconnecting cables to provide real time digital display of any scan.

The UT scanner is extremely user friendly and easy on the hand using a single axis encoder design and 5 Mhz Silverwing unique ToFD 6 mm or 10 mm non composite crystal probes.

The scanner is easily connected to the UT system and personal computer via simple interface cables providing full ToFD data acquisition and review capabilities. The personal computer is also very user friendly being MS Windows based which allows the report to be generated then cut and paste directly into clients or user reports. The same personal computer may also be used with the Z-Scan Lite and R-Scan Lite systems.



Time of Flight Diffraction (TOFD) inspection employs two longitudinal wave (L-wave) angle beam transducers arranged symmetrically opposite facing each other, straddling the weld or base material under test. One probe acts like a transmitter of ultrasonic energy while the other probe receives the ultrasonic energy. The transducer, pulser, and amplifier characteristics are selected to generate as broad distribution of energy as possible over the material under test providing full weld coverage. A single-axis scan (that is, along the weld), with a position encoder records the position of the weld and enables the display of digital images in real time.



ToFD Software

The ToFD software is optimised for the UMPC computer and has standard UT Flaw Detector controls, simplifying training and operation requirements. All controls such as Gain, Delay, Timebase and Velocity adjustments are on the same screen as the active A-scan display and the D-scan image. D-scans can be printed directly from the software or the easy to use image copying tools can be used to export recorded A-Scan and D-Scan images directly into other Windows software packages such as Microsoft Word or Excel. The software also features



several measurement tools such as vertical measure, horizontal measure, for accurate measurement of recorded scans.

In our opinion it also represents excellent value for money when compared with the time and cost of conventional radiography techniques that have been used historically in the past or more complex ToFD systems.

