Universal Modular Scanner
for semi-automated and automated inspection

Scanner that runs on track

A product of Glendale Electronic Components Pte Ltd & A-Star Training & Consultancy
Universal Modular Scanner (UMS) is designed and manufactured in Singapore by people who know the requirements of PAUT & TOFD inspection. UMS is a result of continuous collaboration and observation between hands-on operators, advanced NDT engineers, designer’s and fabricator. Rest assured, UMS delivers the best results.
Why Scanners are needed

Scanners are needed for encoded PAUT & Automated inspection as mentioned in ASME Sec V Art 4 Mandatory Appendix V-471.1.

Phased array examinations are mostly performed by linear scanning which needs the search units (Probes) be maintained at a fixed distance to weld axis.

We have adopted the approach of train running on the railways. Our probe head assembly consisting of probes runs on the tracking band in the similar way to keep the probe always at the same fixed distance from weld center line. This pretty much meets the requirements of ASME Sec V Art 4.

Why Scanning at Fixed Offset is important

Scanning at fixed offset is very important in PAUT. Scan Plan defines the coverage of the weld area. Any changes in the offset will make the scan plan less effective and sometimes results in improper coverage and less detectability. Hence probes being ensured at fixed offset with weld center line is very essential.

In addition to this, the software always consider the offset entered to plot the defects with respect to weld configuration. Having any changes in probe’s physical position would result in defects misplaced in software leading to confuse or difficult to analyze and interpret the type of defect. Danger of missing may also result if operator is less experienced.

Pressure on probe for contact with material

Another important feature that is required in the scanning is even pressure on probe to provide good contact with the examination surface. Many scanners fail to provide this, especially scanners that run on wheels and this is often achieved by placing hand pressure, which sometimes resulted in indications amplitude varying.

Scanning with even pressure means probe detects with similar sensitivity in all clock positions on the pipe. This assures better contact.
Features of our UMS scanner

- UMS scanner can be used from OD 1 inch to any maximum diameter.
- Scanning at fixed offset with no room for deviation throughout the circumference. (Scanner runs on band which is fixed)
- Probe pressure is even at all clock positions. This is same when used with 2 or 4 PA probes.
- Four probes either PAUT or TOFD or combination of both. Option to extend for 2 more probes is possible.
- Bands consist of magnet (some) with enough strength to hold and provide fixed offset scanning even in pressure vessel, storage tanks and any other flat surface.
- UMS can be used to inspection both circumferential and longitudinal welds in both pipes, pressure vessels & storage tanks.
- UMS can be used for horizontal and vertical positions with same sensitivity.
- UMS can be used for internal scanning (ID scanning) of girth welds.
- UMS can be used on all materials. However for non-magnetic materials scanning is restricted with fixed band options for pipe girth welds only.
- UMS comes with option of semi automatic (moving scanner head with hand) & automatic (scanner rotated by motorized controls)

Satisfaction Guaranteed
Universal Modular Scanner (UMS) has versatile functions. It allows user to fix probes, encoders, band and castor wheels according to availability of space, which is why we call UMS.