

## Pocket UT™ Ideal NDT System for Inspecting Hard to Access Areas

### Current Condition

In the oil and gas industry, most ultrasonic inspections are completed with conventional thickness gages or flaw detectors. Higher resolution mapping is then performed by large scanning systems. But when you factor in the problem of inaccessibility, as many of the areas are, it creates a need to get the corrosion mapping information more quickly and accurately. Now, try this while hanging from a rope. The rope access industry has been searching for new ways to further inspect pipes and vessels for their customers. Help has arrived from NDT Automation with a new portable Ultrasonic instrument called Pocket UT™, a miniaturized Automated UT Scanning System.

### Pocket UT Recommendation

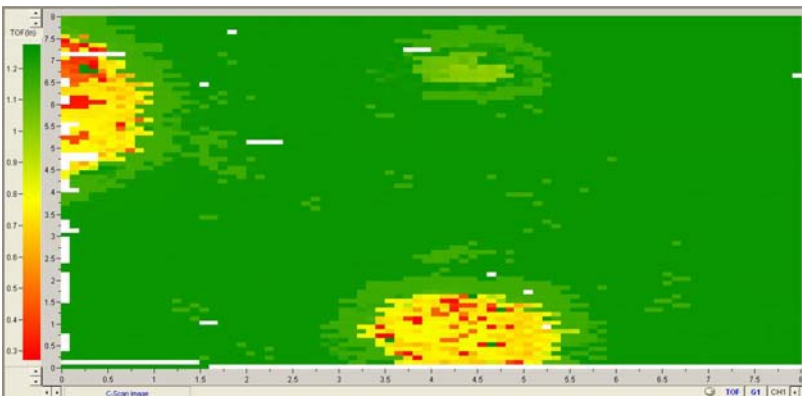
NDT Automation, a member of MISTRAS Products & Systems Division, has a hand held, battery-operated C-Scan system, weighing only 2 pounds. With capabilities to perform A-Scans, B-Scans



The Pocket UT's portability allows for quick, thorough mapping of areas where suspected corrosion may exist.

and C-Scans, with all accompanying data, the Pocket UT™ is in a class by itself. The heart of the system is a 20 MHz bandwidth/1 kHz pulser that is powered by a 7.5 Volt NMH battery, giving the instrument up to 4 hours of battery life (*ask us for longer life options*).

The system runs under Windows CE™ utilizing Pocket UTwin™ software. It is a powerful data acquisition, analysis, and motion control program that allows the Pocket UT to produce, archive and analyze data on the instrument or transfer the data to a computer via a compact flash card or USB output. Additionally, UTIA™ software enables the Pocket UT™ inspector to “stitch” together C-Scans to generate a “composite” overall map.



This C-Scan, generated using the Pocket UT and Manual X-Y scanner, shows the level of corrosion that was not seen with a conventional thickness gage.

The Pocket UT™ controls up to two axes

of motion, whether using the dual axis Z-Scan, single axis R-Scan, Manual X-Y or Automated X-Y Scanner. The Manual and Automated X-Y Scanners perform area scans of up to 18" x 16", with data taken at very high resolution, .010". The R-Scan and Z-Scan utilize a unique dual element dry coupled rolling sensor that allows an inspector to scan an area without couplant. Both come with suction cup feet or can use the optional magnetic feet. Additional sensor options are available.

### Application Study

An inspection was performed on an area of suspected corrosion. Typically, this inspection would be completed using a conventional thickness gage to find the area of interest, then at the customer's request, scanned at higher resolution using a large C-Scan system. For rope access inspectors, this is very dangerous and difficult. The Pocket UT™, at only 2 pounds, was used to inspect the area. The inspection was completed in only 9 minutes and produced more than 6400 thickness readings with accompanying location data for each reading. Using their old approach, this test would have taken over 8 hours to collect and analyze the data. The new inspection results, utilizing the Pocket UT, were completed in only 15 minutes, and included a C-Scan image along with the analysis. Their customer received the data in time to arrange a scheduled repair the next day.



*An area of interest was confirmed to be badly corroded after being scanned with the Pocket UT and Z-Scan.*

### Conclusion

Inspectors are using the Pocket UT™ for quick, effective local corrosion mapping. It is especially ideal for inspecting normally inaccessible areas. The Pocket UT™ provides the ability to scan the area of interest and produce high resolution C-Scans without the need of a large Automated C-Scan system. Additionally, minimum thickness of a corroded area is better detected by Pocket UT™ and its C-Scan capability than a single thickness gage or even a grid.

For information or to set up a demonstration of the **Pocket UT™**, contact your local MISTRAS Products & Systems representative or call the Corporate headquarters at **609-716-4000** e-mail [sales.systems@mistrasgroup.com](mailto:sales.systems@mistrasgroup.com).

We also invite you to visit our website at [www.mistrasgroup.com](http://www.mistrasgroup.com).

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