

# Nondestructive Examination Services

## Tailored Ultrasonic Testing and Eddy Current Testing Probes

### Background

The WesDyne® Probe Shop has more than 35 years of experience in developing and manufacturing custom-made probes for nondestructive examination (NDE) purposes. WesDyne's ability to make advanced, special design probes is crucial when conventional NDE equipment is unable to access the test object.

Short lead times are another key factor. Typical turnaround from concept to finished product is approximately two to four weeks. In special cases, most probes can be delivered within days, should the need arise.

Quotations for probes, both standard and/or special/customized, are available upon request.

### Description

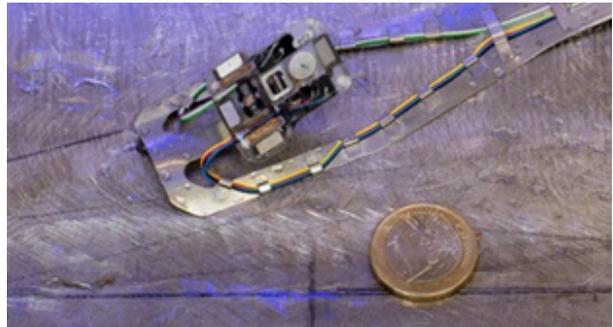
WesDyne's main market is the global nuclear inspection industry, with customers all over the world (United States, Korea, Japan and countries throughout Europe). WesDyne also delivers tailor-made probes for specialty application in conventional industries (e.g., train axles).

Our specialty is miniature probes with a combination of several sensors designed for field conditions with challenging geometries and limited access. However, we do have an array of standard probes available, such as ultrasonic transmit-receive-longitudinal (TRL) probes and eddy current bobbin probes for steam generator and heat exchanger inspections.

Examples of state-of-the-art ultrasonic testing (UT) and eddy current testing (ET) probes and our manufacturing lab are shown in the photos.



Flexible time of flight diffraction (TOFD) technique probe for curved surface; each footprint less than 3\*3 mm



Combo sword probe is a 2-mm-thick package with four different probes: one zero-degree probe for volumetric defect detection, one X-wound ET probe for detection of surface breaking cracks and two TOFD probes for defect sizing.

## Benefits

WesDyne offers the following benefits:

- Can provide probes within short delivery times.
- Combines development together with customers' enabling solutions to address inspection challenges.
- Can cover all elements of design and manufacturing in-house.
- Designs all probes for field conditions with remote operations in mind.
- Solves complex inspection challenges in collaboration with mechanical design for probe manipulation.



Probe manufacturing in process



Steam generator ET probe



Flexible probe  $\varnothing 5.65$  mm consisting of two pulse echo probes, used for fuel alignment pins inspection

## Experience

WesDyne has produced over 12,000 ET and UT probes for internal or external use, most of which have been non-standard probes.

- The BMI probe for inspection of bottom instrumentation nozzles in pressurized water reactors (PWRs) is a multi-probe consisting of five different probes, each individually spring loaded. Different types are made to fit inside nozzles 7.5 mm and larger.
- The fuel pin probe is only 5.65 mm and consists of two pulse echo probes. It is used for inspection of fuel alignment pins and the whole pin is examined from two test positions.

In addition to special customized probes, an array of standard probes is available, such as ultrasonic TRL probes and eddy current Bobbin probes for steam generator inspections.

*WesDyne is the nondestructive inspection branch of Westinghouse and a leading supplier of mechanized nondestructive examination (NDE) products for all inspection needs worldwide providing turnkey and one-off-type solutions with a focus on the nuclear market. WesDyne's expertise spans all aspects of remote and mechanized inspections, from problem analysis and solutions generation to development and manufacturing to field deployment of personnel and equipment. Inspection capabilities cover all key NDE areas such as ultrasonic, visual, eddy current, magnetic particle, dye penetrant and X-ray.*

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