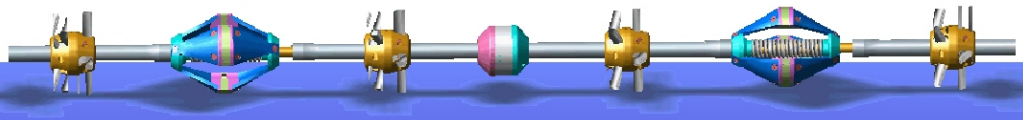


RUSSELL

NDE SYSTEMS INC

Collapsible Boiler Probe

Carbon steel boiler tubes behind swage reductions are one of the toughest areas to inspect today. A technician (and plant operator) often relies on fixed-diameter RFT probes that are small enough to fit through the swage.

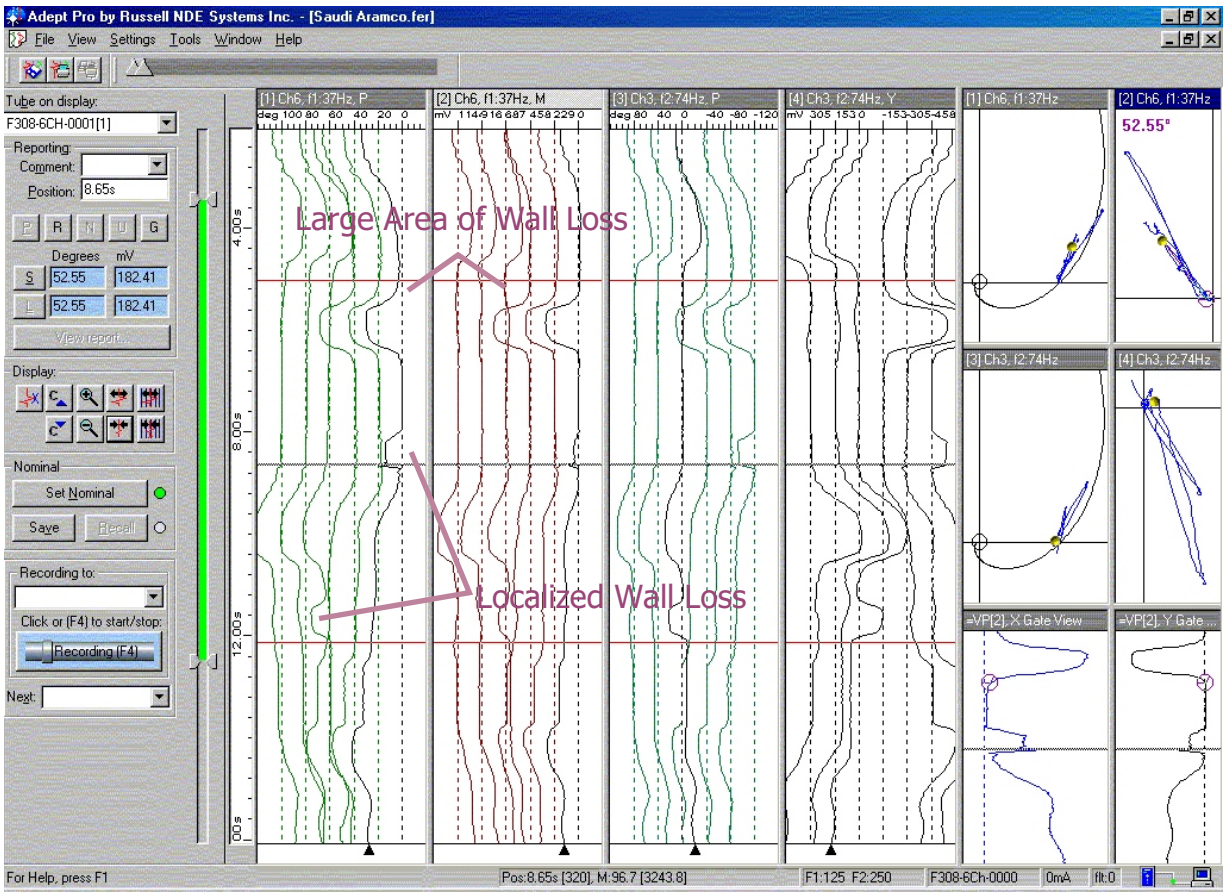
The requirement to fit through the swage precludes the use of segmented (array) probes. Instead, fixed-diameter probes will employ a single central detector to interrogate the entire circumference of the tube. The undersized detectors often result in poor defect resolution.

The small probes also tend to tip and wobble, creating additional travel noise and reducing data quality even further.

The Russell Collapsible Boiler Probe is an advanced Remote Field Probe with swage entry capability that enables NDE technicians to inspect the tubes behind swage reductions with maximum sensitivity.

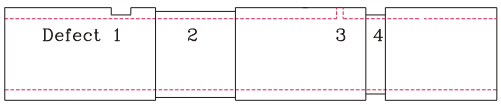
The probe's flexible design allows it to collapse through swage reductions and expand to nominal diameter behind the swage. The 3 inch probe, for example, has the ability to smoothly collapse down to 1.55 inch diameter.

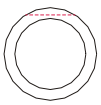
By staggering the detector coils and separating them into two groups on each side of the probe's exciter, the probe eliminates blind spots and provides full 360° coverage. The spring-loaded mechanism of the probe ensures that the detector coils are placed near the ID of the tube for maximum defect sensitivity.



For ease of use, the probe comes with its own probe definition file which allows the user to instantly configure the Adept Pro analysis software for the collapsible probe. Because the probe connects directly to the Ferroscope 308 system, no separate hardware setup is required.

The Adept Pro screen will be automatically configured to show the full complement of detectors. The first half of the detector channels on the Adept Pro screen represents the detector group on one side of the exciter; the second half represents the group on the other side. Small localized defects will show up on a single detector channel, while larger wall loss will show up on both detector groups. The probes are available in several sizes and can be configured with differential coils for maximum defect sensitivity.





Key Features:

- High resolution arrayed RFT boiler inspection probe.
- Collapsible to pass through swages and other restrictions.
- Flexible for bend negotiation.
- Spring-loaded leaves ensure the probe expands to nominal diameter after passing through a restriction.
- Dual detector/single exciter configuration maximizes inspection length.
- Staggered detectors provide full 360° coverage.
- All standard carbon steel tubes sizes of 2.5" and up are supported.
- Interfaces directly with the Ferroscope 308 and the Adept Pro Software.
- The probes can penetrate walls as thick as ½ inch and inspect non-ferrous materials.
- Provides NDE operators with maximum sensitivity and a competitive edge when inspecting swaged boiler tubes, by placing the detectors near the tube ID.
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