

# EDDY CURRENT

## Installed Heat Exchanger Tubing

Nondestructive



Cost Effective

## Prevent Tube Failure

The most costly failure is a tube failure. Eddy current testing can detect wear patterns commonly found in air conditioner heat exchangers. Undetected progressive tube wear will lead to tube failure, resulting in high cost repairs. The test is a nondestructive method of locating discontinuities in tubing made of materials that conduct electricity. Signals can be produced by discontinuities located either on the inner or outer surfaces of the tube, or by discontinuities totally contained within the tube wall. A test probe is inserted the length of the tube. The probe is energized with alternating currents at the appropriate frequencies. The electrical impedance of the test probe is modified by the proximity of the tube, the tube dimensions, electrical conductivity, magnetic permeability and metallurgical or mechanical discontinuities in the tube. Each discontinuity produces an electromagnetic response unique to the anomaly detected. These responses are processed electronically and displayed on the test instrument for interpretation.

Identify Problems That Cause Tube Leaks

# Tube Wear Analysis

The images shown below are only a few of the different forms of damage that are detectable and can be gauged utilizing an eddy current inspection. No guessing is necessary, selective plugging or tube replacement decisions can be based on the information supplied by performing the inspection.

Longitudinal Defect



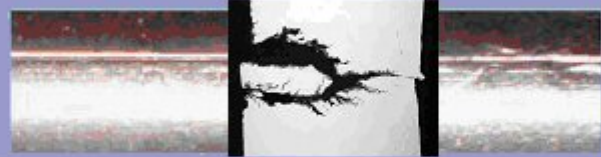
Wear at Support



Freeze Bulge

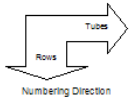


Stress Corrosion-Cracking



## Tube Mapping

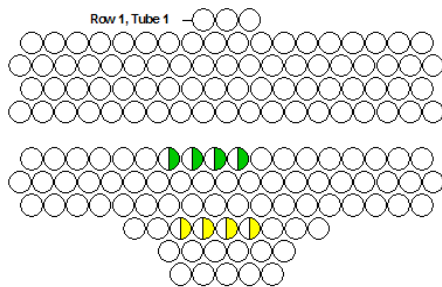
Provides the location of tubes to be isolated and identifies any wear patterns.



**CONDENSER**



S/N: L84123456 #3  
Left Facing Control Panel  
NO REJECTED TUBES



<b>Total Accepted Tubes:</b> 152, 100.00%	<b>Rejected Tubes:</b> 0, 0.00%
<b>Accepted Non-Defective Tubes:</b> 144, 94.74%	<b>Accepted Defective Tubes:</b> 8, 5.26%
<ul style="list-style-type: none"> <li>○ Accept, 144 tube(s), 94.74%, Accept</li> <li>● OD Meas Loss &lt; 1 Div., 4 tube(s), 2.63%, Accept</li> <li>● Abnormal Indication, 4 tube(s), 2.63%, Accept</li> </ul>	

## Report Includes

Vessel Information

Recommendations

Tube Maps & Data

Defect Summary

Calibration

Record of Inspection

Procedures

**For Service Contact**