TX-4400 EDDY CURRENT SYSTEM

TesTex
State of the Art Products
and Services for NDT

The TesTex, Inc TX-4400 ECT Inspection System is based on the Eddy Current Technique to quickly and accurately inspect non-ferrous metal tubing from the I.D. By using four-frequencies in a simultaneous injection mode, defects such as ID/OD pitting, baffle cutting, erosion, steam impingement, general wall thinning, etc. can be detected and sized. The system also has differential and absolute responses for each frequency, a built in reference signal to generate an absolute signal without the use of a reference probe, and real-time mixing for suppression of support/baffle plates.

The TX-4400 system uses both DSP and FPGA technolgies to enhance performance capabilities while maintaining low cost and size. Utilizing easily configured and readily available USB technology, the TX-4400 interfaces to any windows based PC/notebook. All data is archived for analysis and processing as well as for future inspections and trending.
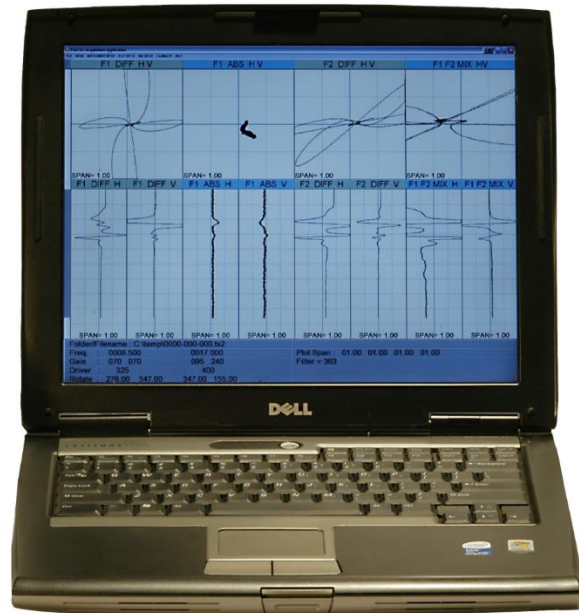
ADVANTAGES AND FEATURES

- Four frequency simultaneous injection
- Up to 5 ft/sec. tube inspection rate
- PC base software for acquistion/analysis
- Dynamic/user selected gain
- Real time mixing
- USB interface
- 1 KHz to 1.2 MHz
- Fully digital
- User selectable driver output level, 0-9v p-p
- Compatabilty with bobbin, surface, and magnetic saturation (permanent or dc) probes
- Wide variety of specialized data filters

Options

- Automated analysis software (TX-SOLUTION ™)*
- Automated report writing software (AR WIZARD™)*
- Probe pusher puller (PDP 22 ™)*
- Probe pusher (PD 6k ™)*
- Tube sheet mapping (TX-MAP ™)*

See separate literature for more details

The TX-4400 ECT electronic instrument

TECHNICAL SPECIFICATIONS

Electronic Base	Digital-DSP/FPGA based
Frequencies	4 simultaneous
Power Consumption	Max 15VA
Line Voltage	110/220 VAC (self-adjusting) 50/60 Hz or 12 VDC
Dimensions	11" (279mm) L x 13.25" (337mm)W x 6" (152mm) H
Weight	10 lbs. (4.5kg)

Operator's view of the acquistion software

SOFTWARE FEATURES

TesTex, Inc. has developed a complete and user friendly software package to enhance any eddy current inspection. From acquisition, to the final report, this software has it all. If increased productivity and less man hours is what you are looking for, then the additon of modules such as TX-SOLUTION™, TX-MAP™, and AR-WIZARD™ is your answer.
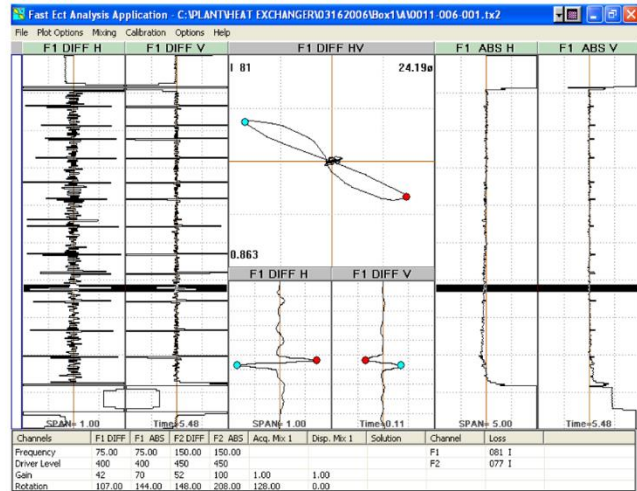
Acquisition

- Windows compatible
- USB interface to TX-4400
- File storage structured for data organization
- Real time mixing
- Automatic tube number increment after file storage
- Tube status report functions during acquisition
- Alternate color scheme for direct sunlight operation
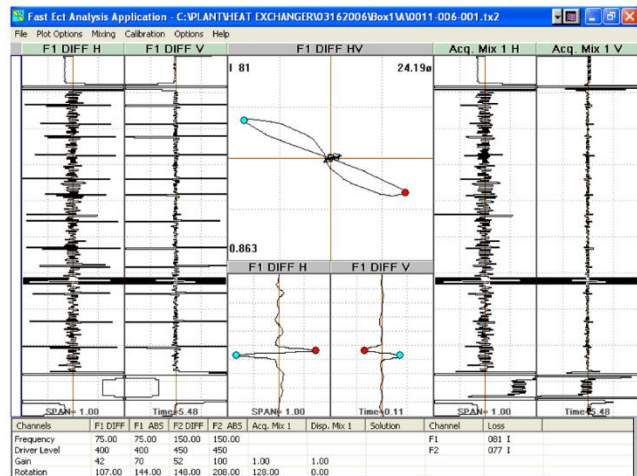- Production oriented and designed to minimize mouse clicks

Analysis

- Signal processing
- High pass filters
- Centering features for absolute
- Phase angle, voltage span displays
- Percent wall loss calculated
- Tube stepping
- Built in screen capture capabilities for report writing
- Options for direct wall loss reads/auto-analysis
- Data logging to tube sheet map (TX-MAP ™)
- User definable screen configuration
- Completely selectable screen layout and color
- Production oriented and designed to minimize mouse clicks

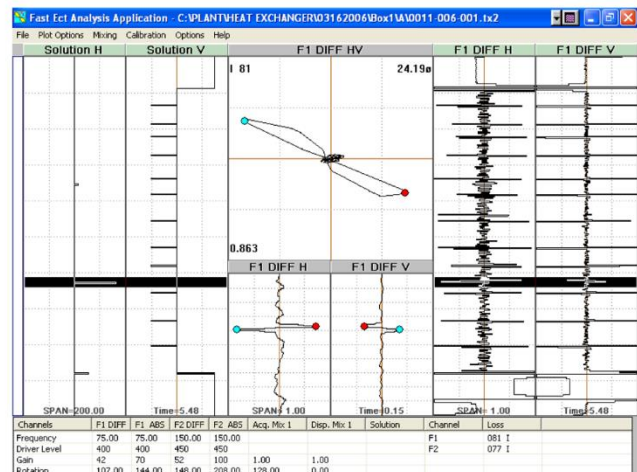### Auto-Analysis (TX-SOLUTION™)

- Uses specialized algorithms to extract only signals of interest
- Full length tubes can be analyzed in as little as a second or two
- Processed data organized by wall thinning severity
- False positives eliminated using multi-frequency comparisions
- Direct wall loss readings created during processing
- Data logging to tube sheet map
- Reduces the chance of missing significant indications
- Performs with minimal intervention
- Provides consistent, accurate, and repeatable results
- Reduces analysis labor requirements by up to a factor of four
- Production oriented and designed to minimize mouse clicks

Window showing differential and absolute channels

Window showing differential and mix channels

Window showing the solution and differential channels