

Inexpensive, Compact, Computer Based Eddy Current Tester for On Site Tube Inspection

- *compact, carrying case for test or travel*
- *high performance, low cost*
- *single channel*
- *color display of true test signals*
- *broad frequency range, 1kHz to 2 MHz*
- *unlimited number of stored setups*



Promac® MAC 141

INSPECT HEAT EXCHANGER TUBE

Used with an internal test probe, the MAC 141 Promac® provides a high performance, low cost test for the inspection of non magnetic heat exchanger tubing in condensers, evaporators and similar applications.

Configured for convenient on site inspection of heat exchanger tubes, it provides high sensitivity detection of defects such as corrosive pitting, holes, erosion, fatigue cracks, and OD wear at the tube supports. Defects as small as 10% of the tube wall can be detected at test speeds from one to several hundred feet per minute. The higher frequencies available in the Promac also make it suitable for inspection of specialty stainless alloys and titanium.

Standard internal probe type coils are available from .375" to 1 1/2" outside diameter. An optional air-

drive probe gun is available for convenient, rapid testing.

Promac inspections are particularly effective in finding potential leakers which could lead to costly unscheduled shutdowns.



Convenient rolling suitcase allows easy transporting of the MAC 141 between jobs.

SIMPLE SETUP & MONITORING

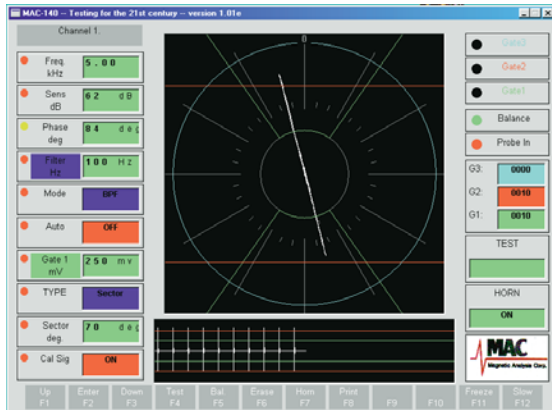
The main test display provides all the information needed for setup, using assigned function keys. True

polar and linear signal traces are simultaneously displayed in color, along with test parameters such as phase, filter and sensitivity. Using this display and the function keys, selecting the setup with optimum signal-to-noise is relatively easy, as is storing the setup for future recall. An unlimited number of setups can be stored.

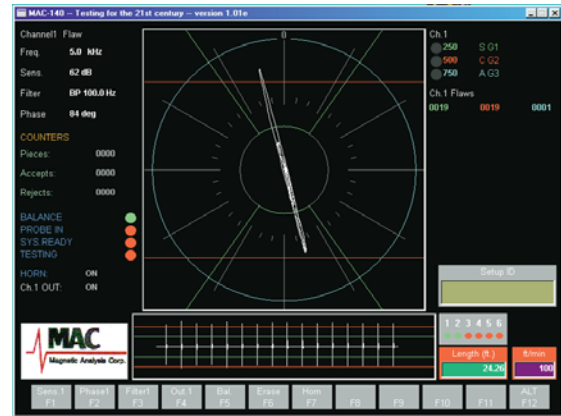
A single operator can run the Promac equipment, using the foot pedal switch to start the test. When the probe cable sensor indicates the tube end is near, the tester is automatically turned off to avoid end signals.

OPTIONAL TUBE MAPPING SOFTWARE

For applications where a permanent tube map is required, tube mapping software to produce an accurate map showing the test results for each tube can be installed as an option.



Setup Screen Display of MAC 141



Test Screen Display of MAC 141

SPECIFICATIONS

PLATFORM	Celeron® 550 MHz or better, single board computer, with 10 GB hard drive, 64MB ram & Windows®98 OS
CHANNELS	Single, differential or absolute, with single coil driver. Preferably specified at time of order.
TEST FREQUENCY	1K, 2.5K, 5K, 10K, 25K, 50K, 100K, 200K, 300K, 400K, 500K, 700K, 800K, 1M, 1.1M, 1.2M, 1.5M, 1.8M, 2MHZ. Other frequencies selectable through a frequency table
FLAW BANDWIDTH	1 KHz
FILTER	High Pass, Low Pass, Band Pass or OUT positions, selected from discrete steps that correspond to flaw frequency (Hertz). The bandwidth of the Band Pass filter can be selected through a "Q" factor dictating the ratio of high to low pass filters.
PHASE	0 - 359° in 1° steps
SENSITIVITY	0 - 99 dB, calibrated 1-dB steps
THRESHOLDS	All phase, Sector and Chord thresholds available, all assignable with up to three levels. Active thresholds are displayed on screen and provide counters.
CALIBRATION	Internally generated signal provides a system check for repeatability of all parameters.
BALANCE	Auto tracking continuous self-balance, except in comparator or absolute mode
DISPLAY	An output connector is provided for an external CRT monitor, or flat panel display. Polar and linear traces are simultaneously displayed on screen along with testing parameters and status indication on the TEST screen. Other screens include SETUP, CONFIG and AUX.
SETUP	Software controls for all functions, set through 12 function keys
SYSTEM READY INDICATOR	Monitors system power, output ON, Balance, coil system power supply, and system operation. Any failure causes an alarm, and system ready indicator drops low.
OUTPUT	Output can be configured to one of the following types: 1) Normal 2) Reject 3) Latched 4) System Ready. Instrumentation speakers can be configured as an alarm Recorder Output - X and Y BNC outputs are available for each test channel. Signal is real time flaw response, not stretched for slow recorders
STORE & RECALL SETUPS	An unlimited number of setups can be stored and recalled
MODE	A Lockout Mode prevents unauthorized changes in equipment settings.
PROBES & PROBE DRIVE	Standard MAC internal probe coils; bridge drive.
OPERATOR INTERFACE	Front panel soft function keys and optional remote keypad
OPTIONS	Cabinet (19 1/2" wide x 9" high x 22" deep); Environmental Cabinet; Remote Keypad and/or Remote Monitor
DIMENSIONS & WEIGHT	15 1/2" W x 11" H x 7" D (39.37 cm x 27.94 cm x 17.78 cm). 26 lbs (11.81 Kg)
POWER REQUIREMENT	120/240 VAC, 50/60 Hz, single phase, 5 amps.

