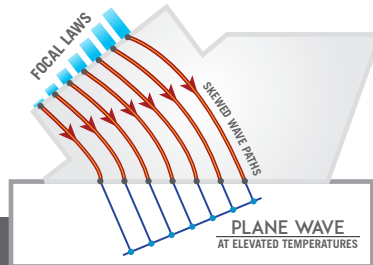
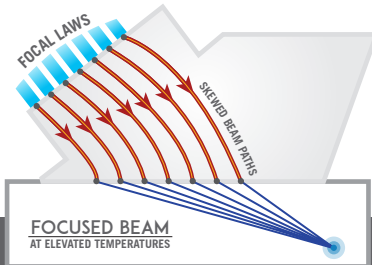


EXPORT FOCAL LAWS

BEAMTOOL 7 FOCAL LAW EXPORT



TempMaster high temperature wedges are built from plastics resistant to high temperature degradation, and equipped with a cooling jacket around the array. This causes strong thermal gradients inside the wedge which leads to:

- Variations in temperature-dependent wave velocity and skewing of the waves
- Inaccurate focal laws as obtained by the phased array instrument
- Non-optimal beam generation and inaccurate indication positioning

Eclipse Scientific has developed a new technique for phased array inspections at elevated temperatures to compensate for thermal gradient effects, based on using BeamTool 7 newly enhanced high temperature add-on module. The module provides:

- Temperature distribution visualization inside the wedge at the inspection temperature
- Advanced focal law calculator to calculate focal laws for generation of plane waves and focused beams in a hot test piece compensating for thermal gradient effects inside the wedge.
- Wedge delay calculation based on skewed beam paths inside the wedge with updated velocity of the piece at high temperatures.
- Law file export tool to transfer calculated high temperature focal laws and wedge delays to the phased array instrument for efficient beam formation at elevated temperatures.

High temperature law files generated by BeamTool can be used along with high temperature wedges to facilitate phased array inspections at elevated temperatures for technicians to perform accurate inspection with compensations of temperatures effects on the scan results leading to accurate indication detection and positioning at elevated temperatures.

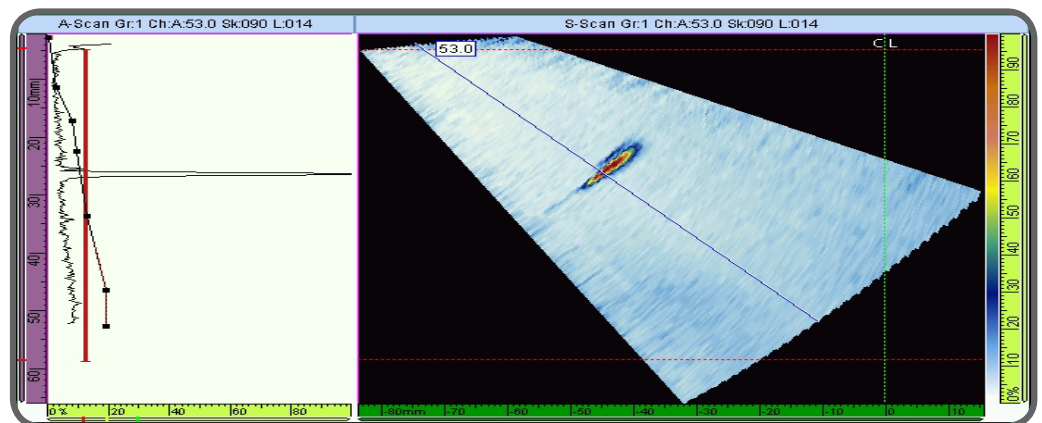


1-519-886-6717

www.eclipsescientific.com
sales@eclipsescientific.com



ES TEMPMASTERSUITE 3



Above image shows an A-Scan and S-Scan at 350°C.

Eclipse Scientific continues to provide innovative products that are designed to meet the exacting demands of the NDT industry, in all aggressive environments in the far reaches of the world. Eclipse is the leading solution provider in high temperature phased array inspection for corrosion mapping and weld inspection up to 350°C. Although recognized globally as the leading manual and automated high temperature inspection solution, we have continued to improve on the product features and capabilities. Welcome to TempMasterSuite 3, the single solution for high temperature phased array inspection. Our newest product offerings include improved wedge design and probe temperature protection for both manual and automated inspection, coolant pumping systems, and SpectrumGlide - the highest quality couplant in the industry, engineered to operate at elevated temperatures.

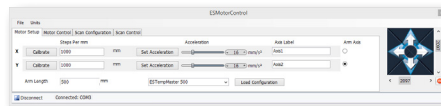


ES TEMPMASTER SUITE 3

ES AUTOMATED SCANNER

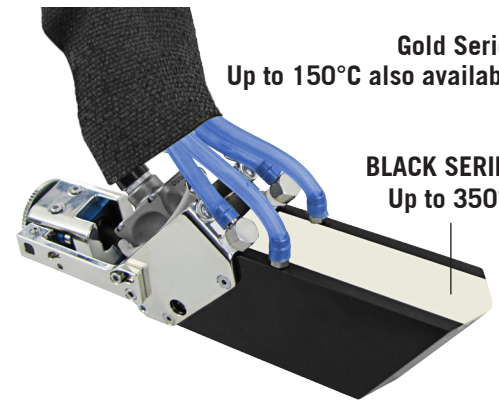


- CE marked
- Increased downside stability on all wedge sizes
- Additional 12" & 18" arms available for size-constrained inspection regions



Improved user interface for motion control

ES TEMPMASTER



Gold Series
Up to 150°C also available

BLACK SERIES
Up to 350°C

- Heat resistant material engineered to handle temperatures up to 350°C
- Vastly increased inspection angle range and sizing accuracy
- Improved water jacket design, compatible with corrosion mapping and weld inspection wedges, that achieves increased cooling capacity of probe mounting face

AUTOMATED SOLUTION – AUTOMATED SCANNER KIT

Specifically designed to operate in the demanding inspection environments up to 350°C, the automated solution scanner kit incorporates the TempMaster wedge kit for both corrosion mapping and weld inspection. The durable design allows for extended periods of exposure at 350°C while limiting the operator's exposure to harsh environments increasing safety, scan quality and repeatability. The scanner is operated from a remote laptop preloaded with the operational software and cooled by a dedicated pressurized air supply system. Add the optional 12" or 18" inspection arms and increase the automated inspection capabilities to size-constrained inspection regions.

MANUAL SOLUTION – TEMPMASTER KIT

TempMaster wedges are made from specialized heat-resistant material. They are utilized in manual encoded high temperature scanning and are available in two styles: shear wave for weld inspection and zero degree for corrosion mapping. All configurations are compatible with A10 and A12 probes and can be ordered in Gold series (up to 150°C) or Black series (up to 350°C) wedges. The improved wedge design has vastly increased the inspection range and sizing accuracy to the full capability of the phased array probe up to 350°C. Probe over-temperature protection is ensured through a new nickel plated water jacket of significantly increased cooling efficiency. Having reduced the water jacket complexity, a single water jacket accommodates both the weld inspection and corrosion mapping wedge geometries.

For the full list of new features visit:

www.eclipsescientific.com/tempmastersuite.html

ES PUMPING SYSTEM



- Designed for use with coolant or couplant fluid
- Dual power capability – rechargeable battery and universal power adapter
- Highly durable, water resistant, and sealed pump casing for all remote and aggressive environments

ES SPECTRUMGLIDE

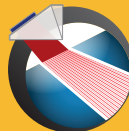


- Engineered for high temperature inspections up to 350°C
- Increased viscosity for improved stability at higher temperatures
- Easily pumpable for automated inspection systems
- Low toxicity and non-irritating
- Minimal smoke at elevated temperatures
- Halogen and sulfur free

ES CALIBRATION BLOCKS



- For high temperature and room temperature testing
- Carbon steel block with notch patterns in both top and bottom sides of block. Side targets on right side of block and embedded target on left side
- Blocks are designed to enable mechanical (automated/semi-automated) scanning systems to pass over targets
- Blocks are suitable for demonstration/validation, confirming techniques
- Accurately machined selection of targets
- Designed to accommodate PA, TOFD and conventional UT



ES BEAMTOOL ADD-ON HIGH TEMP

The BeamTool HighTemp add-on provides simulation tools for inspecting high temperature objects, including calculation of beam deflection due to temperature gradations effect on material velocity within the wedge. BeamTool helps users to change the refracted angle inside the test piece along with other parameters to obtain the best scan plan.

These changes can be applied in BeamTool where new refracted angles and ray paths can be shown to the user as the actual ray path and refracted angles which will result as the effect of temperature gradient within the high temperature wedge.

- Support advanced wedge design parameters
- Visualize temperature gradation within the wedge using temperature cells
- Calculate a corrected exit point and exit angle to illustrate a corrected sound path in the piece material