

# DISK INSPECTION SYSTEMS









# MECHANICAL DESIGN

Matec's disk inspection systems feature robust industrial design elements tailored to meet the specific application requirements of our customers, including:

- Stainless steel tank construction
- Granite turntable with 3-jaw chuck for part fixturing
- Dual gimbals for true complex contour scanning
- Lift assembly with push button control
- Closed loop DC servo motor control
- Scans speed to 30 inches per second for linear axes, depending on application
- Turntable speed to 40 rpm
- Squareness and straightness to +/-0.005 inch over the full length of travel for linear axes

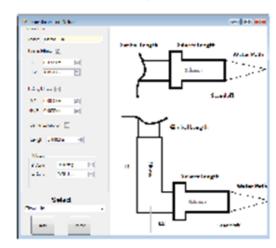


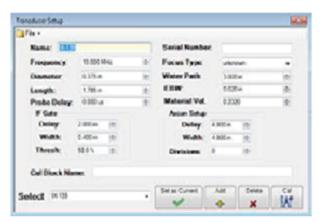


## SOFTWARE FEATURES

Matec disk inspection systems provide a powerful yet simple method to perform immersion ultrasonic testing. Using our own in-house developed Aragorn software, Matec disk inspection systems enable you to:

- Import part geometry from Siemens PLM (formerly Unigraphics NX) Software
- Define and manage transducer and transducer tool databases
- Define Curvature and Cal Block correction
- Establish Marker Positions for safe and controlled system movement
- Collect sample data using pulse-on-position methodology
- Dynamically gate nonparallel backwalls
- Index scans based on the Effective Beam Width of the transducer
- Easily define parameters for Shear Wave testing
- Display full waveforms at sample collection rate
- Auto Normalize the transducer on the part surface
- Link part surface scans into a continuous scan program
- Display A-, B-, C-, and D-scans simultaneously
- Display Composite D-scans
- Perform Signal-to-Noise Ratio calculations
- Perform Cluster Analysis on C-scans
- Easily verify mechanical compliance using the "Ball Test"

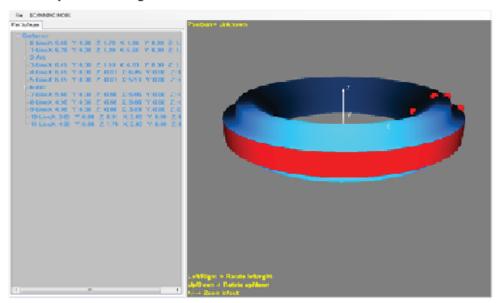




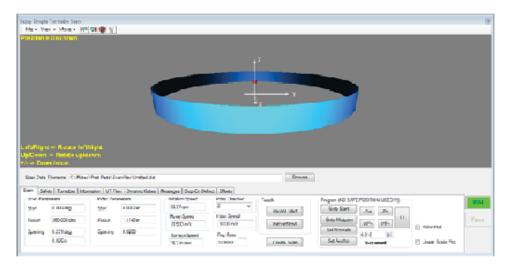
## PROGRAMMING A SCAN

Mate's Aragorn software allows you to easily import your CAD model, define scan parameters for each part surface into a template file, and then link the template files into a continuous scan.

#### CAD model imported into Aragorn



#### Part surface loaded into scan form

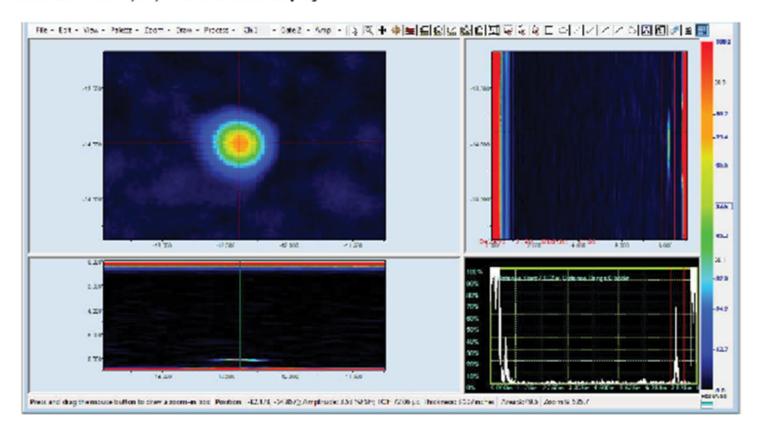


# DISPLAY AND ANALYSIS

Matec's Aragorn data collection and analysis software allows you to simultaneously display A-, B-, C-, and D-scans for review and analysis.

Matec's Aragorn software allows you to perform a full-range of image post processing capabilities, including pan and zoom operations, automatic flaw detection, flaw sizing, distance measuring, histogram and group histogram setup, clustering, palette manipulation, and text annotation.

#### Simultaneous A-, B-, C- and D-scan display



# **ABOUT MATEC**

Matec Instrument Companies, Inc. is an industry leader in providing ultrasonic nondestructive testing solutions. Our systems incorporate a wide range of features tailored to meet the needs our customers.

Matec provides a full-range of in-house services including mechanical and electronic design, machining and fabrication, instrumentation and control, and data acquisition and analysis software. This allows us to provide a seamless, fully integrated solution, and provides a single point of contact for our customers.



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