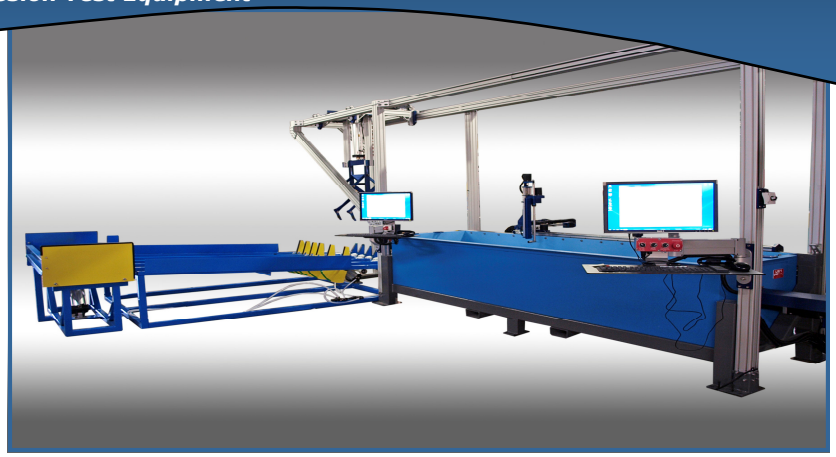
13760 E Arapahoe Road
Centennial, CO 80112 USA
Tel: 303-790-7559
Fax: 303-790-7567

Manufacturer of Ultrasonic Cylinder and Modal Acoustic Emission Test Equipment

UE5™

Ultrasonic Cylinder Test Equipment

Bring Your Facility Up To "The Speed of Sound"!



- Designed for high throughput facilities
- Inspects all cylinder sizes from a single machine - not multiple machines
- 1 - Year Warranty Parts and Labor
- Does not require cylinder valve removal
- Operated by a single tech
- Lower per cylinder cost than hydro
- Scans through paint, clear coat, and scratches
- Electronic database of cylinders inspected
- Claw handling for cylinder throughput
- UE Transducer change out in seconds
- Non-contact far field UE sensor ignores draw marks (inherent to 1930's - 1950's cylinders)
- System and software manufactured in-house by Digital Wave Corporation
- Technical support staff available in-house and on-site for immediate support
- Most parts in-stock for quick turnaround

The UE5™ technology is the future of ultrasonic DOT cylinder inspections and is providing the standard to which the industry is moving. With over a million cylinders inspected to date, Digital Wave prides itself on technology, an unsurpassed level of customer support and the ability to keep our customer's processes running smoothly.

Being TC, ISO(6406,10461) and DOT(SP 14206, SP 14149) compliant, it images all standard cylinders for required flaws and thickness standards. The software then decides for you whether a cylinder passes or fails. The device also provides digital reports and digital tracking as required for a technical age.

This machine is versatile enough to accommodate your needs. Critical overall features include turn-key installation, ASTM lvl I/II training, the highest throughput in the industry, easy setup, consistent cal-in/cal-out and the largest operating range of cylinder diameters (3.2" to 10.6" OD, up to 350lbs) available. This is done via a tech operating under Digital Wave's DOT Special Permits and under oversight of our Senior Review Technologist (SRT). From steel to aluminum to nickel to exemption cylinders, the UE5™ can handle them all.

Digital Wave offers a number of options for adding the "Speed of Sound" to your facility. Please contact us for pricing or additional product specifications.

DOT Cylinder Testing At "The Speed of Sound"

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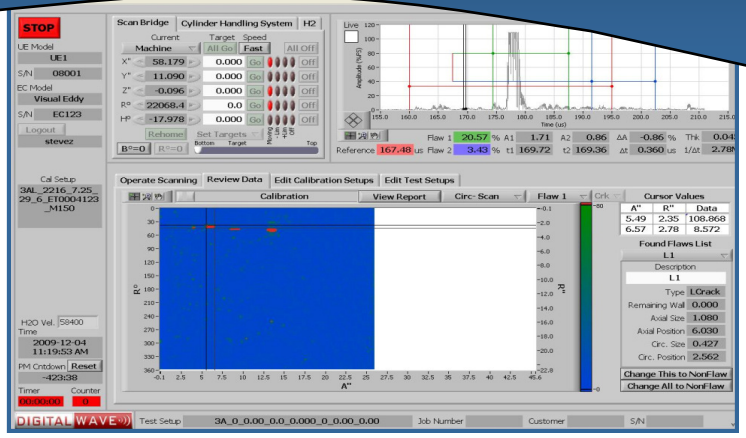

Software Features:

Operating System
- Windows 7 operating system
- All software is Windows based with point-and-click interfaces

Motion Control
- Software allows user to control the motion of all axes. This includes position, velocity, and acceleration settings

Data Acquisition
- All A-scan data for each cylinder is stored in digital format
- Post-test review of the A-scan data allows Level II review—no other system has this option
- Available remote access and review of data via internet connection

Calibration
- Calibration setups for each cylinder specification can be stored and recalled by operator
- User can set the number of cylinders or the time between DOT required system calibrations in the software
- Calibration results are automatically analyzed to determine if all required flaws have been found. If not, the system will not allow the operator to inspect the cylinders

Scanning
- Software allows user to create either a calibration or a scanning task
- Tasks are selected from easy to use dropdown menus

Data Analysis
- Peak search analysis for thickness measurement
- User settable gates for flaw detection
- Flaw analysis, location and sizing are performed automatically
- Operator can manually review the data to determine the validity of the analysis

Data Display
- Color C-scan plots for each scan show locations of detected flaws
- A-scan display is correlated to flaw locations. User can click on the flaw to see the associated A-scan

Reports
- Digital based reports
- Individual cylinder reports
- Daily summary for all cylinders scanned

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Hardware Features:

5-axis Motion Control Scanning Bridge

- x-y-c-h-r axis sensor bridge
- 5:1 gear ratio
- Direct drive motor
- Allows most accurate sensor positioning for highest quality scans in the industry

Ultrasonic Sensors

- 2.25 MHz 0.75" diameter
- 3.5 MHz 0.5" diameter
- Sensor change out in seconds

Computer/Monitor

- 2.8 Ghz Intexeon
- 4 GB RAM
- 1 TB hard drive
- PCI bus
- Two 19" flat screen monitors

Electronics Enclosure

- Filtered electronics rack mount enclosure (air conditioned)

Pulser/Receiver

- Custom 5-Channel P/R & MultiPlexer
- Computer controlled gain settings
- User selectable gains in 1 dB steps

Motion Control Hardware

- Digital/analog motor drives
- Parker motion control hardware
- Non-contact home and limit switches on all axes

Tank and Frame

- 375 gallon aluminum epoxy painted tank
- Filter and pump system
- Powder coated steel tank frame
- 5.5 KW tank water heater

Cylinder Fixturing

- Pneumatic clamping of cylinder
- Tailstock inserts to cover full range of cylinder diameters
- Direct drive collars to cover full range of cylinder diameters
- Cylinders from 3.2" OD to 10.6" OD and lengths from 6" to 60"

Site Requirements

- 1 single Ø 120 VAC 30 amp and 1 three Ø wye 208 VAC 30 amp circuit
- 90-95 psi shop air and water
- LAN Internet connection

** Specifications and pricing may change at anytime without notice