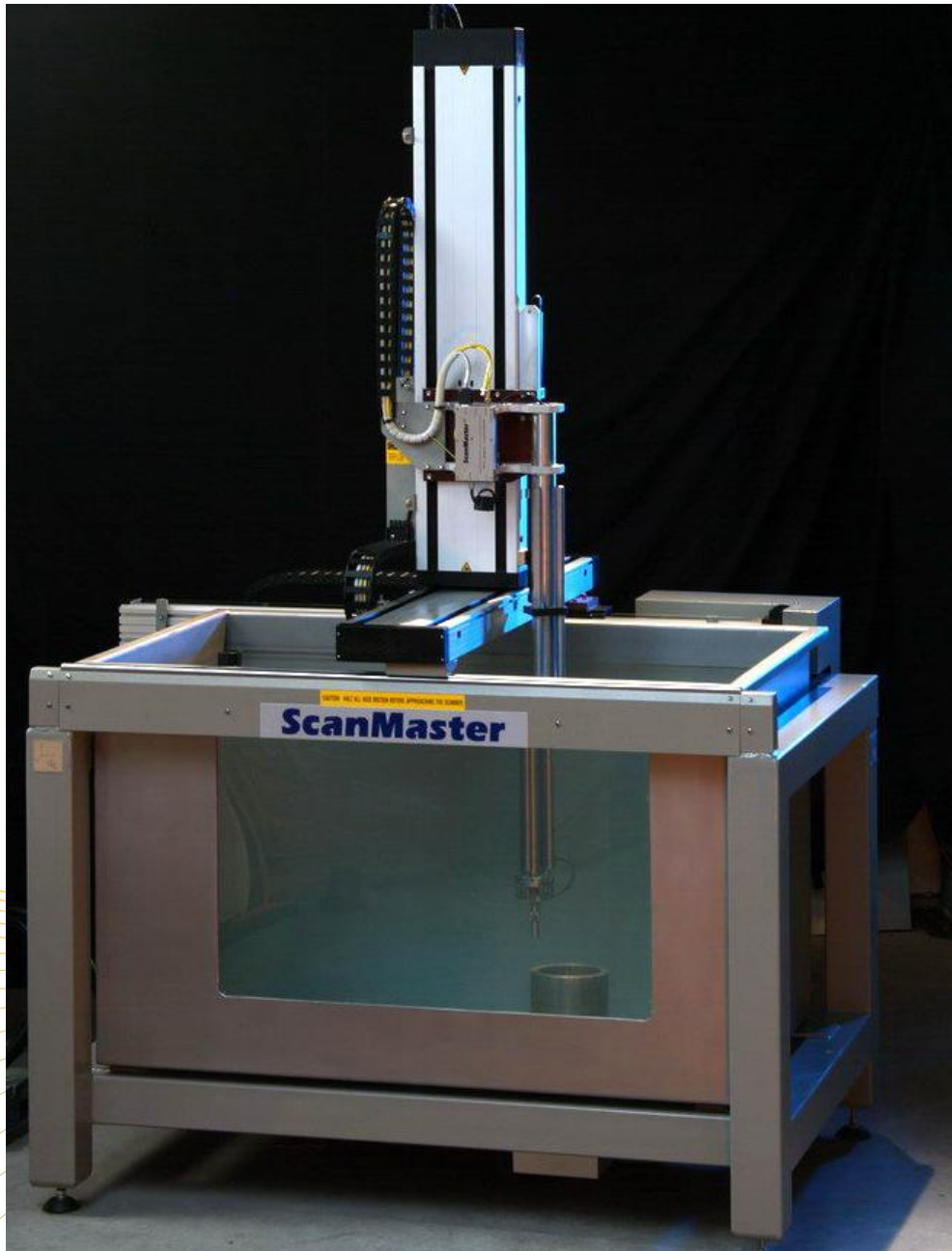


Industrial Ultrasonic Scanning Systems

LS-500 SERIES



High resolution C-scan Imaging systems
for Production and Laboratory Inspection

LS-500 SERIES

PRODUCT FEATURES

Fully integrated imaging systems, including ultrasonic electronics, scanning mechanics, data acquisition and process software.

Rugged, reliable systems for multi shift operation in industrial environments.

Optional 2 position lift platform for easy loading and unloading of parts.

Accurate scanning mechanics, with exceptional resolution and repeatability on all axes.

High immunity against electromagnetic noise.

ScanMaster CSI software for Windows XP/7[®], with programming in parts coordinates for importing complex part geometry from CAD.

Excellent near-surface flaw resolution and penetration power.

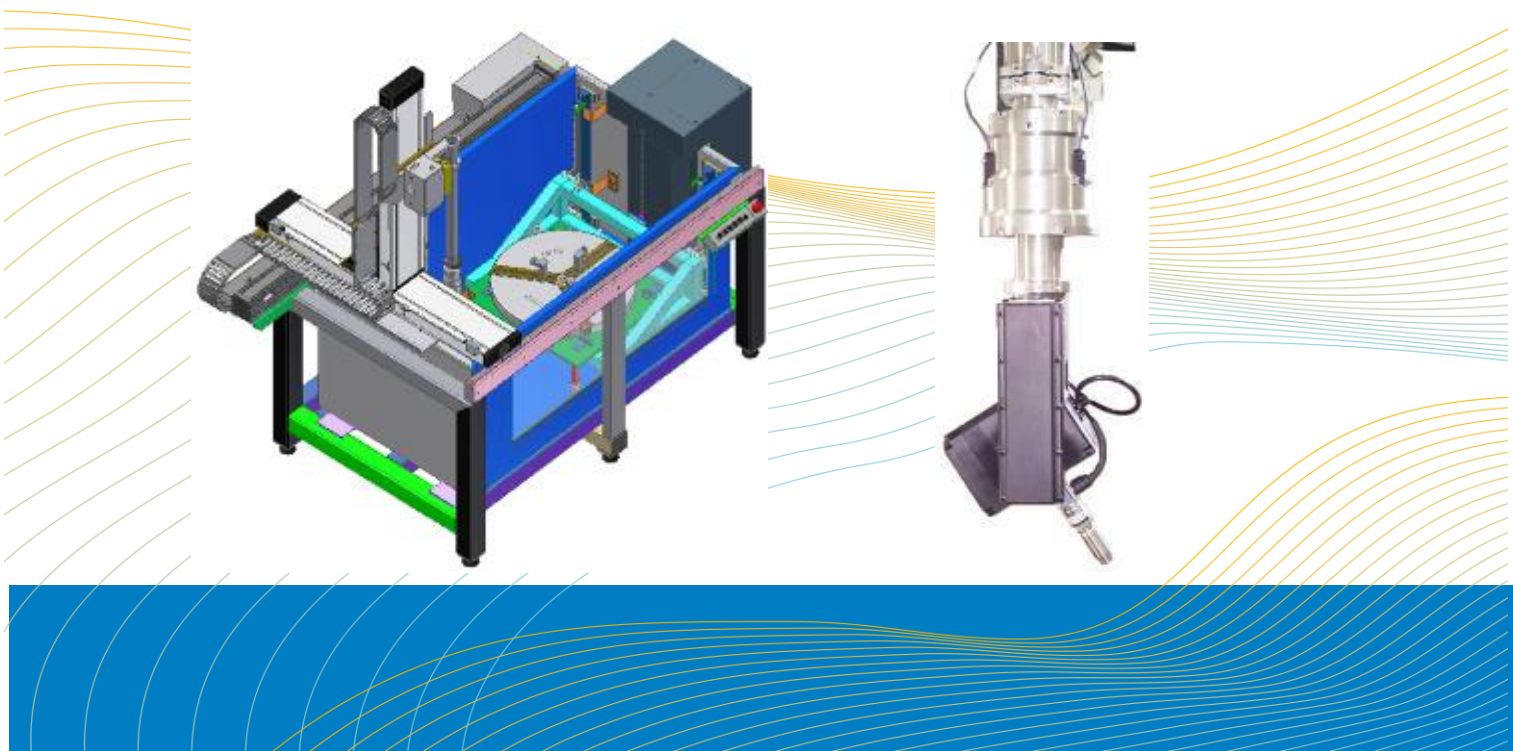
Multiple gate A-scan, B-scan and C-scan imaging with real time view on monitor display.

Unique software functionality increases productivity and reduces scan time.

Extensive real time and post scan data processing and analysis.

Process utilities with automated flaw search, identification and evaluation.

Reporting of inspection and set up results with customized report generation.



LS-500 SERIES

PRODUCT DESCRIPTION

The LS-500 series industrial scanners are C-scan inspection machines in modular design **allowing for choice of system scanner length according to requirements with no need for custom design.** Unique robot design allows for precision scanning motion.

Architecture	Each system includes an integrated usc-100a ultrasonic instrument with search tube mounted RPP3 square wave pulsar-preamplifier, precision servo motion control for each axis and ScanMaster software for part set-up, scan, inspection analysis and data archiving.
Sizes	The systems modular design allows for selection of sizes. The length of the X axis can be specified. Sample scanning platforms are: LS-500-1000 – Motion envelope of (X, Y, Z) 1000mm x 600mm x 600mm (40"x24"x24") LS-500LP-1000 – Motion envelope of (X, Y, Z) 900mm x 600mm x 600mm (36"x24"x24") LS-500-1500 – Motion envelope of (X, Y, Z) 1500mm x 600mm x 600mm (60"x24"x24") LS-500-2000 – Motion envelope of (X, Y, Z) 2000mm x 600mm x 600mm (80"x24"x24")
Inspection tank	Stainless steel with expansive window, high capacity water conditioning system and water skimmer.
Scanning robot	Rugged modular design. Bridge mounted search tube design for high-speed inspection with tight tolerance limits for accuracy, repeatability and resolution.
Inspection technique	Immersion inspection in pulse-echo mode. Thru transmission mode with range of optional transducer yokes.
Transducer manipulator	Manual A/B adjustment. Optional motorized A/B dual-gimbal manipulator including sealed, direct drive servo motors with low backlash.
Transducers	Any 1-20MHz (1-50MHz optional) immersion type transducer with standard UHF connector.
Parts turntable	Optional high performance turntables with servo drive.
Rated loads	600mm (24") 150kg (330lb).
Reference standards table	Table up to 500mm x 600mm (20" x 24"), for locating reference standards. Include two 90 degree reference edges.
Ultrasonic hardware	One to sixteen channels usc-100a rack-mount ultrasonic instrument with RPP3 programmable square wave pulsar-preamplifier for each channel.
Operator console	Desktop monitor, keyboard and mouse. Complete system control from system display. Optional remote control device.
SC4-m Motion Control	Servo motion control, with encoder feedback and RF noise suppression circuitry for all axes. Hardware housed in environment-protected cabinet.
Data acquisition	A, B and C-scan imaging software with peak amplitude and TOF measurement and 'SMART' threshold-based A-scan signal capture.

LS-500 SERIES

Advanced database	CSI software for Windows XP/7 [®] . Part geometry, ultrasonic set-ups, scan plans and scan results are saved in unique and easily managed databases. Relevant geometry, UT set-ups are automatically called up during scan time.
Import geometry	Import part geometry from CAD programs such as Unigraphics and AutoCAD, or from text files.
Import part program	Import part programs from one ScanMaster system to another.
Data analysis and processing	C-scan Data Processing and Analysis Tool Kit. Includes a library of tools for image processing image projection and measurement of flaw size, depth and signal strength.
Documentation tools	Standard documentation tools include: operator annotations on screen customized reporting, A-scan display screen dumps, generation and storage of standard graphical format files such as pcx, bmp or tiff.
System access control	Five levels of programmable authorized access.
Remote data	Optional remote and data processing station connected via LAN to the control console.

PERFORMANCE ENVELOPE

Axis	Motion Envelope	Speed Range	Repeatability	Accuracy	Backlash	Min. Motion
	mm (in)	mm/sec (in/sec)	± mm (in)	± mm/300mm (in/12in)	± mm (in)	mm (in)
X	1000/1500/2000 (40/60/80)	0.1-150 (0.004-6)	≤0.05 (0.002)	0.025 (0.001)	0.1 (0.004)>	0.02 (0.001)
Y	600 (24)	0.1-150 (0.004-6)	≤0.05 (0.002)	0.025 (0.001)	0.1 (0.004)>	0.02 (0.001)
Z	600 (24)	0.1-100 (0.004-4)	≤0.05 (0.002)	0.025 (0.001)	0.1 (0.004)>	0.02 (0.001)

A/B Manual adjustment ± 2 degrees

Optional motorized axes

	deg		deg	±deg/45deg	± deg	deg
A	± 37.5	0.1-20deg/sec	≤0.02	0.03	≤0.02	0.02
B	± 112	0.1-20deg/sec	≤0.02	0.03	≤0.02	0.02
W	360	0.1-30RPM	≤0.03	0.03	≤0.03	0.03

* Specifications are subject to change without notice.
LS-500 BROCHURE. MODIFICATIONS RESERVED. PRINTED 10/12

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