

ScanMaster

Ultrasonic Inspection Systems for Plates and Strips

AS-200P SERIES PLATE SCANNER



High-speed, inspection systems for detection, evaluation and documenting of flaws in plates and strips

AS-200P SERIES PLATE SCANNER

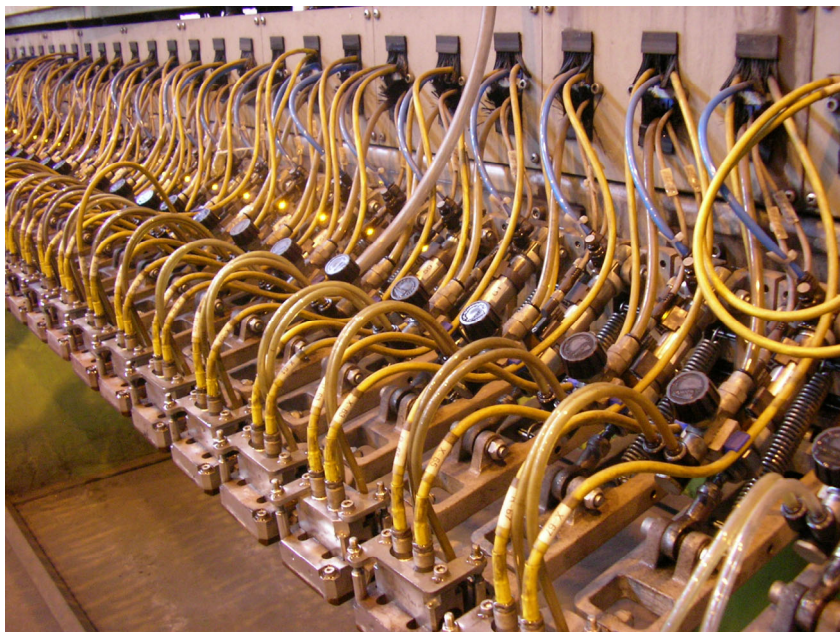
PRODUCT DESCRIPTION

Introducing the AS-200p Series	The AS-200p Series Plate Inspector are high-speed on-line and off-line ultrasonic inspection systems for plates and strips for use in pipe and plate mills.
Inspected parts	Continuous strips, cut or uncut, side-trimmed or untrimmed plates as specified by customer.
Inspection technique	Contact inspection with water coupling.
Mechanics	<p>Gantry-supported multi-transducer scanners for full body inspection. Oscillating or fixed type inspection scanner mechanisms are available.</p> <p>Dedicated scanners for inspection of the longitudinal and transverse edges with mechanical edge-following mechanisms.</p> <p>Dually gimbaled probe holders with built-in water dispensing and gap keeping system maintaining a thin film of coupling water between the probe and part. A normalizing & regulation fixture maintains the perpendicularity of the calibrated probe.</p>
Coverage	100% of plate body or as otherwise specified, up to 200mm (4 inch) of side edges and up to 200mm (8 inch) of and transverse edges.
Automation and outputs	<p>The systems are interfaced to automation and PLC for synchronization with part motion and production line inputs. The control system can be based on a selection of high level PLC such as Siemens S7-200, Siemens, Allen Bradley and Keyence using industrial protocols such as Profibus, and MPI.</p> <p>HMI interface to PLC for diagnostic & operation.</p> <p>Outputs, such as paint-guns and alarms are activated according to inspection events and evaluated results defined by the operator.</p>
Transducers	Multi-element paintbrush transducers are available in a variety of crystal sizes, frequencies, and focal depths. The selection is made according to the inspected part geometry, required flaw-detection sensitivity, inspection resolution and budget.
Thickness measurement	Thickness measurement of the plate in real-time for monitoring of deviation from the nominal value specified by the operator.
USC-100 ultrasonic hardware	Multi-channel usc-100 rack-mount ultrasonic instrument with a RPP programmable square wave pulser & preamplifier for each channel. One to four operator-selected hardware gates per channel, with one or two alarm threshold levels per gate.
AS-200 application software	<p>The AS-200 application software for on-line flaw detection, display, analysis and evaluation.</p> <p>Results are displayed online in A-, B-scan and C-scan representations. Listing and graphical mapping reports are available. Dedicated tools are provided for automatic and operator conducted analysis.</p>
Workstation	Complete MMI workstation including ultrasonic inspection results display, machine automation, operation interface and diagnostics.
Evaluation	Results evaluation according to the acceptance levels defined by applicable international standards (such as ASTM-A578, ASTM-A435, BS-EN-10160 and others).
Reports	A test report documenting inspection and analysis results can be automatically produced at the end of each inspection sequence, listing detecting channel, gate and threshold level, position, signal amplitude and size for each detected flaw. The reports may be tailored to customer's specification and formats.
Remote communication	Remote communication through LAN into PLC and AS-200 software for remote support through standard applications such as PC anywhere and others.

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SUMMARY INSPECTION SPECIFICATIONS

Dimensions	Continuous strip rolls, or plates at any length and width. Thickness greater than 4mm (1/4 inch).
Speed	Up to 1000mm/sec (40.0 inch/sec).
Transducers	Frequency range from 2 to 10 MHz, element width up to 52mm (2inch). Sensitivity up to 3mm FBH at depth of 2mm from the surface.
AS-200 inspection software modules	<ul style="list-style-type: none">○ C-Scan display and analysis – composite C-scan from the multi-probe scanner including defect measurement and statistical evaluation tools○ Search and Identify – result analysis according to ASTM A578, ASTM A435, BSEN-10160, SEL072, BS5996 and other standards.○ Digital triggering of physical outputs – activation of physical outputs according to result analysis, or on any indication○ Online Gate adjustment – adjustment of the gating scheme at the beginning of scan according to plate thickness allowing consecutive scans of different thickness parts.○ ERP communication – Interface to the plant ERP system for collection of data before the scan and return of the results to the plant HUB, including periodical and concentrated reports.○ Installation under Windows XP / Windows 2000
Thickness measurement	Based on single element transducers and measurement by peaks of backwall echoes.
Report documentation	<ul style="list-style-type: none">○ Automatic report generation listing the indications with the specification of the position, size and amplitude of each indication as well as the final result after "Search and Identify" evaluation (where applicable).○ Periodical report listing all the scanned parts with final result, filterable according to part number, inspection time, part type, heat number, etc.



Full-body scanner for steel plates

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Research and Control laboratory

Sub: Ultrasonic Test report of plates - Online

Report for: Mother Plate ID From: 0 To: 1000000
 Inspection Date From: 17-01-07 To: 17-01-07

Instrument: SM AS 200; Make: Scan Master, Israel; Model: USC100
 Probe: P3DN SHS10 Frequency: 5 MHz
 Couplant: Water Surface Condition: As rolled

General Report

S/N	Mother Plate ID	S/P	Date	Time	Grade	Heat No.	Th. mm	Approx Length [mm]	Approx Width [mm]	D.pr	Test Std.	Result NCD /APO	Remarks
1	31313	1	17/01/07	11:12	0	0	0	0	0	q	A578-A	NCD	
2	312667	1	17/01/07	10:42	0	0	0	0	0	q	A578-A	APO	
3	312880	1	17/01/07	12:34	0	0	0	0	0	q	A578-A	NCD	
										q	A578-A	APO	
										q	A578-A	APO	
										q	A578-A	APO	
										q	A578-A	NCD	
										q	A578-A	APO	
										q	A578-A	APO	
										q	A578-A	APO	
										q	A578-A	NCD	

Filter

Mother Plate ID: 0 to 1000000

Inspection Date: 1/17/2007 to 1/17/2007

Inspection Shift: A

Grade:

Heat Number: 0 to 1000000

Plate Thickness: 0.00 to 0.00

Plate Length: 0.00 to 0.00

Plate Width: 0 to 1000000

Test Frequency: 0.00 to 0.00

Probe Type: P3DN SHS10

Operator:

Test Standard: A578-A

Test Result: APO

AS200 Plate UT Inspection Report

Inspection Shift: B	Inspection Date: Thu Oct 19 14:30:17 2006
Plate Number: 13456793	Test Standard: ASTM-A578
Material/Grade: yuyuyuy	Heat Number: 1
Thickness [mm]: 46	Ordered Length[mm]: 13000
Plate Width [mm]: 2600	Measured Length[mm]: 33000
Test Frequency[MHz]: 5	Coupling Material: Water
Probe Type: P3DN SHS10	PRF [Hz]: 1000 Hz
Make & Model: ScanMaster USC-100	Testing Unit: SM AS200 Plate Inspection System
Operator: q	

Summary:

Max Area Of Discontinuity (mm²): 1010

Max Size Of Defect (mm): 120

Number Of Discontinuities: 80

Test Results: Acceptable by UT A 578 - A; Quality B, C

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Plate ID: 13456793

* Specifications are subject to change without notice.
 * System may include all or some of the listed features, as per sale contract.

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