

AIS3000



Advanced Indentation System 3000

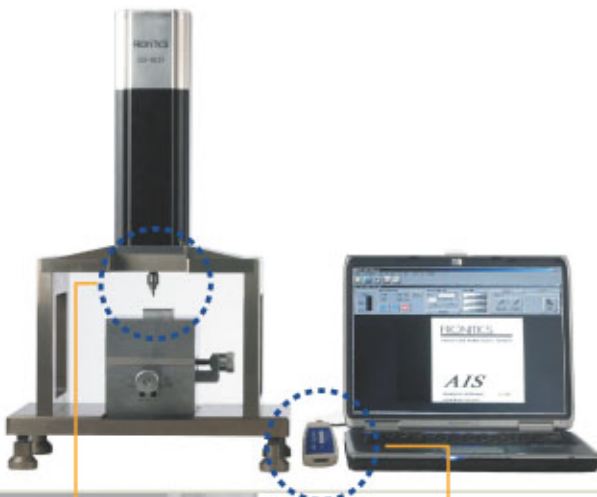
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AIS3000

Portable Residual Stress Measurement

What is AIS 3000 ?

AIS-3000

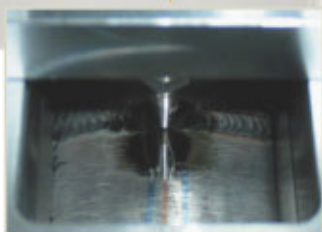


AIS3000 (Advanced Indentation System 3000) is a portable indentation system for non-destructive residual stress evaluation. AIS3000 is made up of a main body and a laptop with software.

Residual stress in a material shifts the indentation load-depth curve. Shallow indentations less than 200mm deep can provide quantitative values for residual stresses in materials.

The AIS3000 can be used to evaluate welding residual stress of structures and facilities. Its accurate and reproducible test is well suited for field work.

The AIS3000 can help users perform fast and easy tests with its wireless communication module between the laptop and main body. Portability is further enhanced by an optional light-weight battery, so a local power source is not required.



• Residual stress at HAZ near fusion line

AIS3000

Portable Residual Stress Measurement

System Feature

Protective & Compact HW

- Height 43 cm, weight 7 kg (main body)
- In-situ data analysis using laptop
- Fresh exterior with lightweight coating
- Watertight, crushproof and dustproof case
- Overload prevention function

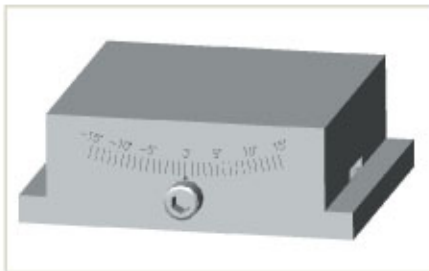


Maximum Portability

- Wireless communication module or one-line communication for system control
- Remote control function
- Direct control and monitoring of system using LCD panel on top of main body
- Portable battery available (10 hr)

Simple & Powerful Attachments

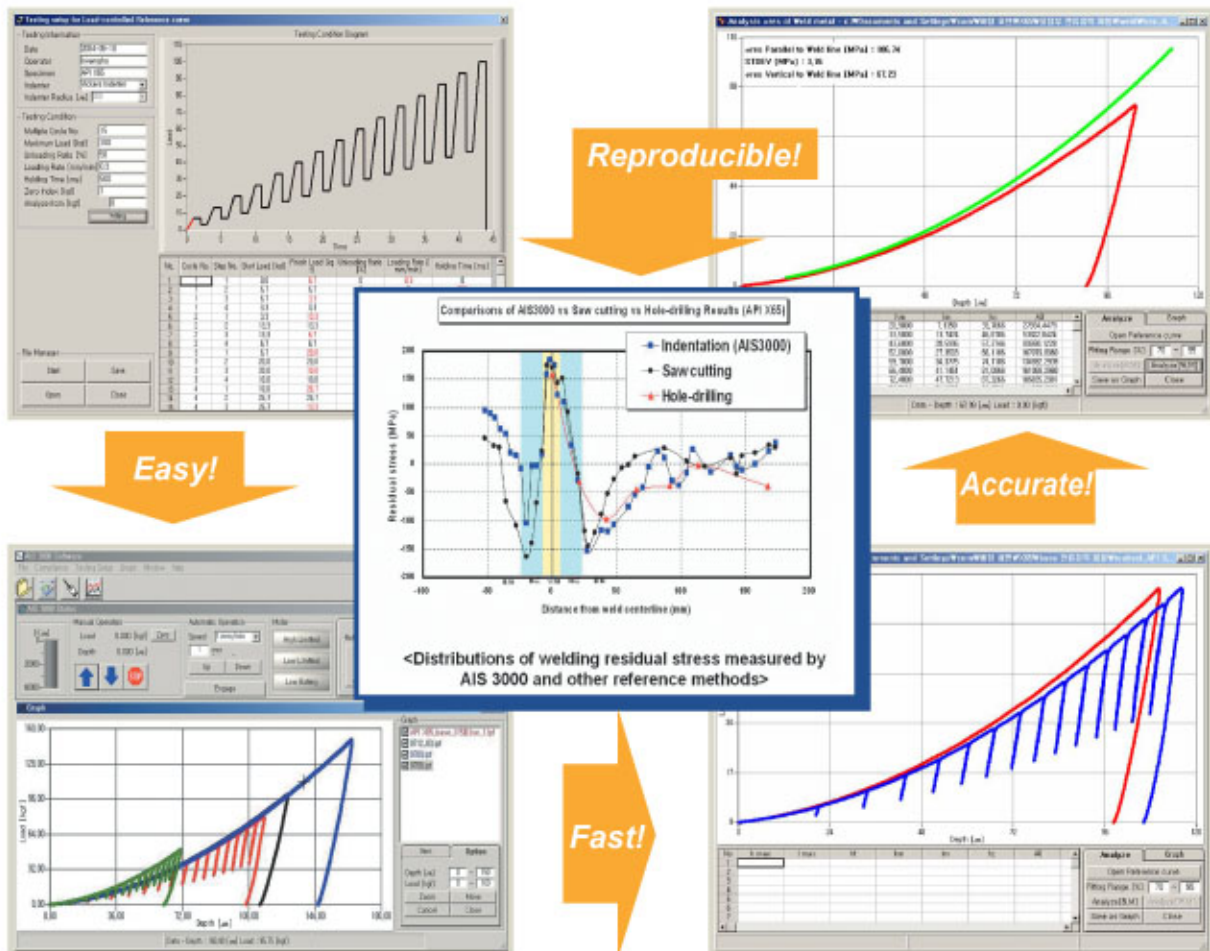
- Wide dovetail slider for multipoint indentations when attached once
- Easy, fast transportation and installation
- Various system fixtures (lab./field scale)
- Micro-positioning stage and swivel mount (for laboratory test)



AIS3000

Accurate & Reproducible Data

Residual stress S/W



User-friendly software package

- Easy operation and data analysis based on Windows system
- Fast acquisition of residual stress directly after testing

Excellent data accuracy and repeatability

- Accurate evaluation of residual stress based on advanced indentation technique
- Reproducible residual stress results by mechanical testing method
- Residual stress profile vs. position can be obtained

AIS3000

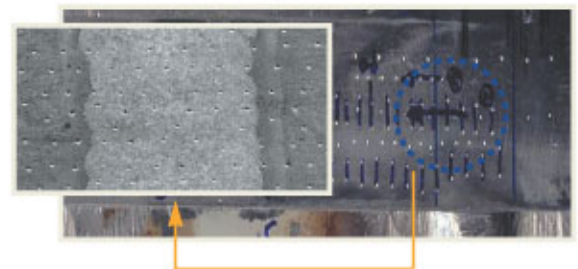
Powerful Applications In Field and Laboratory

Applications of AIS300

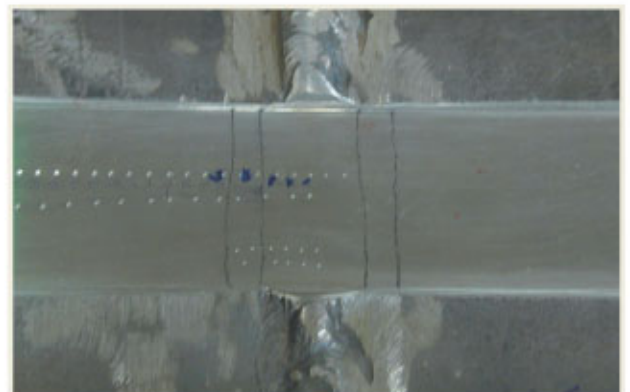
■ In-field



■ In-laboratory



<Indentation array across weldment>



- Portable tests for facilities under construction or in service
- Powerful attachments for various shape and size conditions

AIS3000

Specifications: AIS3000 & AIS 2100

■ Hardware

Model		AIS2100	AIS3000
Size (weight)		180x180x430 mm (14 kg)	180x180x430 mm (14 kg)
Maximum Load		300 kgf	300 kgf
Resolutions (Load / Depth)		100 gf / 0.2 um	5.6 gf / 0.1 um
Full stroke		40 mm	40 mm
Loading rate		0.05~30 mm/min	0.05~60 mm/min
Communication		RS-422	RS-422/ wireless module
Data acquisition rate		30/sec	100/sec
Power	Adapter	AC 110~220V (free voltage)	AC 110~220V (free voltage)
	Battery		Portable battery (10hrs in a charge)
Analyzing computer	Standard	Lap-top PC (w/SW)	Laptop PC (w/SW)
	Special	Rugged Computer (Optional)	
Indenter		WC spherical indenter (Dia. 0.5 / 1.0 mm) Vickers, Rockwell C Indenter	WC spherical indenter (Dia. 0.5 / 1.0 mm) Vickers Indenter
Attachment Tool (Select or option)	Field	Multicurve magnet Flat magnet Light-weight mechanical chain U / V-block (└~6 inch)	Multicurve magnet Flat magnet Light-weight mechanical chain U -block (3~6 inch) Multi-point dovetail slider
	Laboratory	Precise X-Y axis stage Various vises (plate/clamping jig)	Precise X-Y axis stage Various vises (plate/clamping jig)

■ Software

Model	Tensile Properties	Residual Stress	Hardness	Fracture Toughness
AIS2100	✓	N/A	(optional)	(optional)
AIS3000	✓	✓	(optional)	(optional)