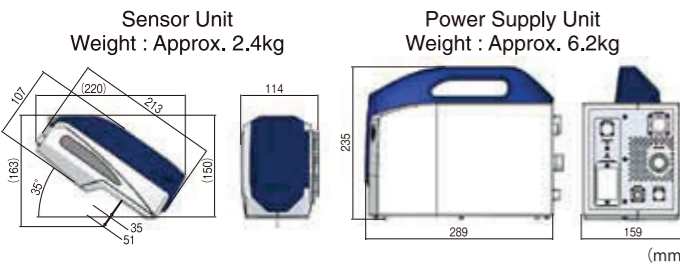


Size - Weight



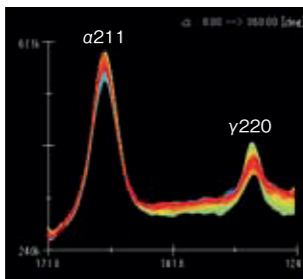
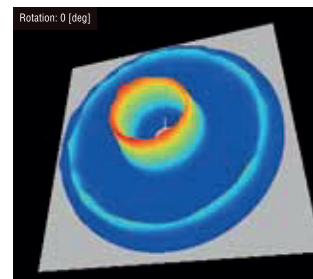
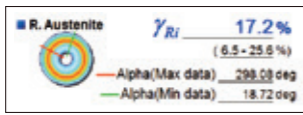
Specification

Measurement items	① Residual Stress ② FWHM ③ Retained austenite (Optional)
Measurement method	Single incident angle X-ray exposure (cos α) method
Collimator size	Standard: ϕ 1.0mm (illumination area at surface Approx. ϕ 2.0mm)
X-ray tube cooling method	Air cooling
Power supply	AC 100~240V, 50/60Hz, 130W

Options

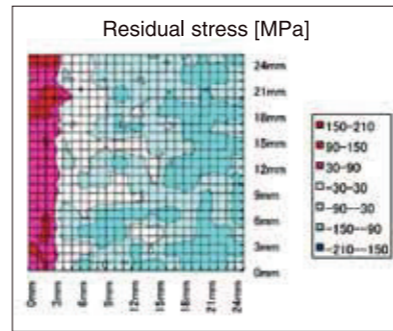
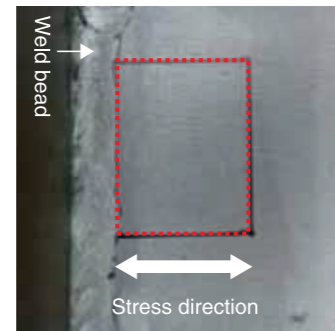
Retained austenite

Measures the percentage of retained austenite not transformed to martensite upon quenching.



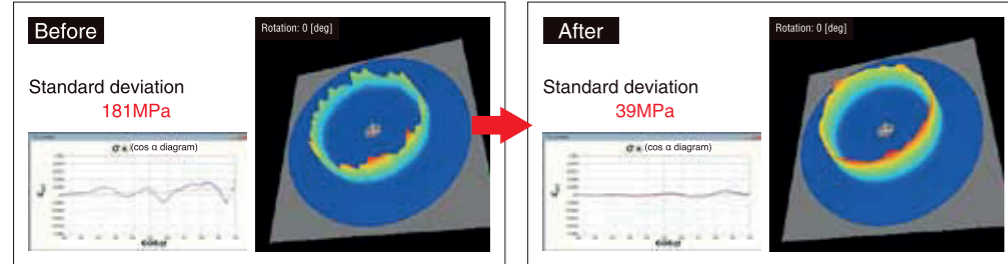
Mapping function

Stress mapping using software controlled XY axis stage for automatic positioning and measurement.



Oscillation unit

Measurement accuracy improved by controlled sensor unit oscillation; the changing angles of X-ray exposure allows a greater number crystal planes to be sampled.



X-ray tube exchange

Easy X-ray tube exchange by user: enables a greater range of materials to be measured - tube target's available include Cr, V, Cu, Co, Mn



Accessories



Flexible arm
(with fine adjustment stage and magnetic base)
Flexible arm to adjust the sensor unit's position. Both X and Y axis are adjustable in 50mm range in steps with 0.01 mm resolution, using a magnetic base.



Hand-carry case

Watertight and crush-proof case. Urethane foam protects the equipment inside the case.
[Example] Main unit, Flexible arm, Safety shielding board, Angle gauge,
Size : W630 X D500 X H300mm



Safety cabinet

The safety cabinet with interlock protection is designed to protect users from X-ray leakage; less than 0.1 μ Sv/hour.
Size : W800 X D600 X H600mm
*Also available customized cabinets to customers design and size. (Optional)



Electrochemical polisher

Localised controlled electrolytic removal of material from the sample's surface without applying additional stress, used with the analysis to produce depth / residual stress distribution profiles.

Caution: Use of X-ray product Please follow the local regulations / laws in each country when operating the u-X360.

*The specification in this document may change without prior notice.



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MEMO

Portable X-ray Residual Stress Analyzer

NEW ^{micro} μ -X360s

The world's lightest and smallest



Quick and easy setup
Simple non-destructive
measurements



micro μ -X360s

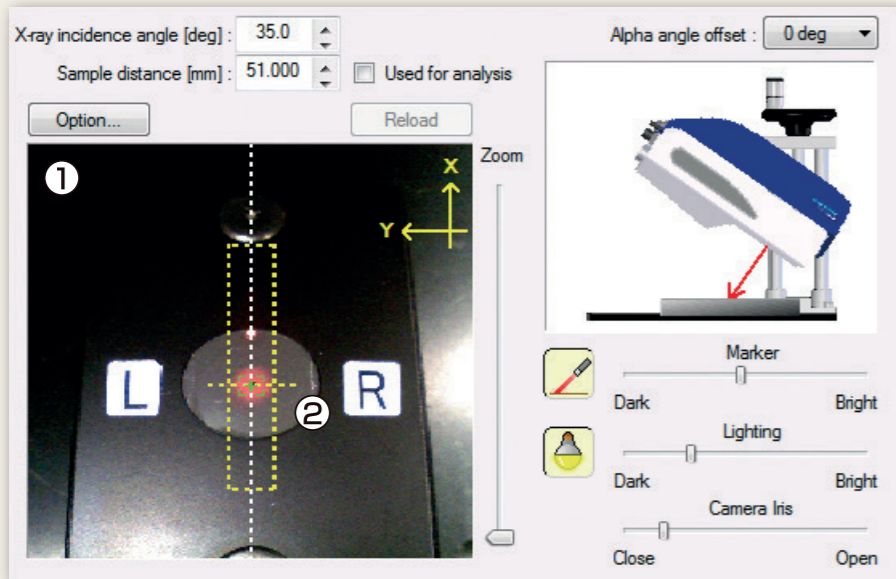
- Operability** Easy sample setting, measurement time : Approx. 60 secs (Ferritic samples)
- Portability** Sensor unit : Approx. 2.4kg, Power supply unit : Approx. 6.2kg. Ideally suited for field measurements.
- Applications** Thermal treatment industrial of products, welding, plastic forming, surface reformation, monitoring and maintenance of plant and infrastructure.

Able to measure in pipes with internal diameters down to 170mm wide.



STEP.1 Sample setting (XYZ adjustment)

Easy sample positioning with integrated LED marker and CCD camera.



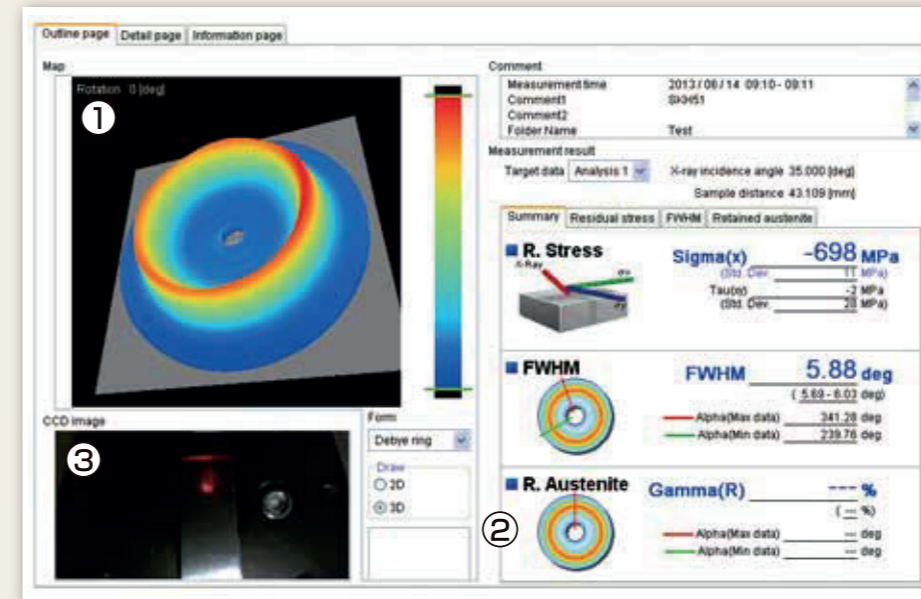
- ① CCD camera image to confirm the correct measurement position
- ② Yellow dotted line indicates the measurement height range and LED marker shows the X-ray exposure location.

STEP.2

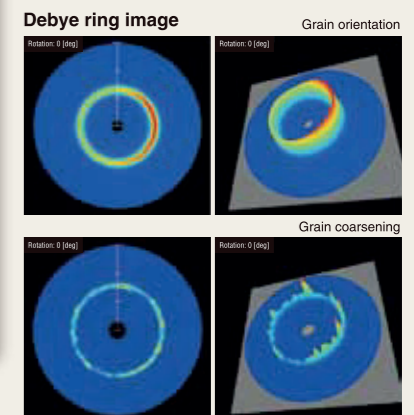
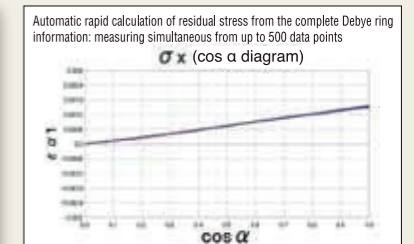
Measurement start
X-ray exposure
Data analysis

STEP.3 Results displayed

Debye ring data reveals the grain orientation (texture) and grain size, etc.

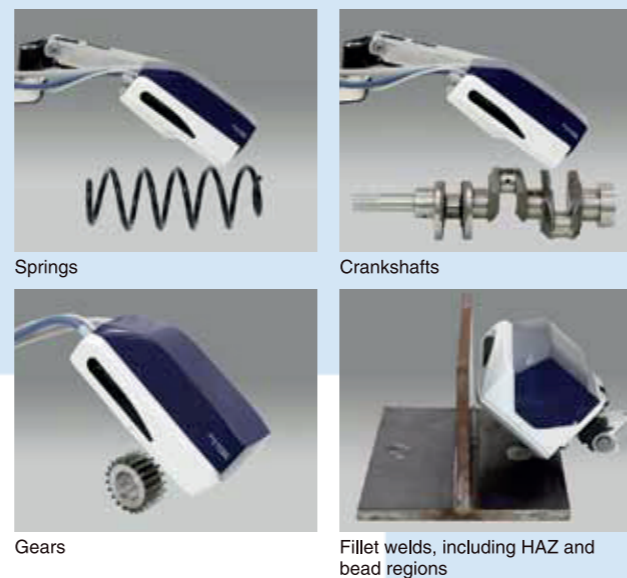


- ① Debye ring image
- ② Residual stress, FWHM, Retained austenite results.
- ③ CCD camera image for quick and easy sample positioning.



Indoor laboratory or workshop use

- ⊙ Interlocked safety cabinet protects users from radiation leakage.
- ⊙ Easy sample setting using the sensor unit's stand adjustment.



Outdoor Field use

- ⊙ Non-destructive measurement for larger samples without cutting.
- ⊙ A single hand-carry case contains all the system, including the sensor and power supply unit, having a total weight of approx. 8.6kg.
- ⊙ Compact portable batteries for environments where an electrical supply is not available.
- ⊙ Various directional access to the measurement point with a flexible arm.



Storage tanks : Weld and annealing effects



Rolls : Forming and thermal treatment effects



Bridges : Monitoring aging effects