

**Product lineup**

**Standard  $\mu$ -X360**

Suitable for flat-based samples  
Low-cost model



**Narrow space  $\mu$ -X360n**

Suitable for measuring in narrow spaces such as fillet welding joints



**Product specification**

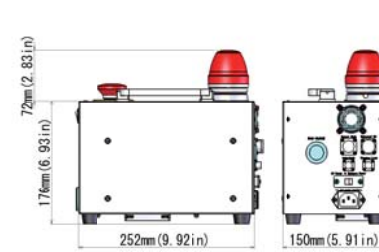
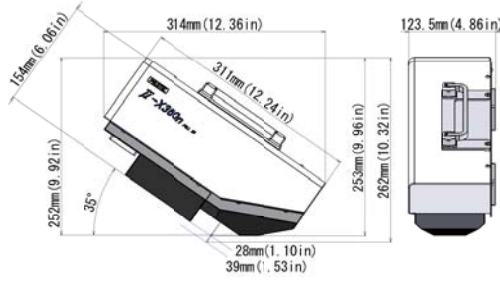
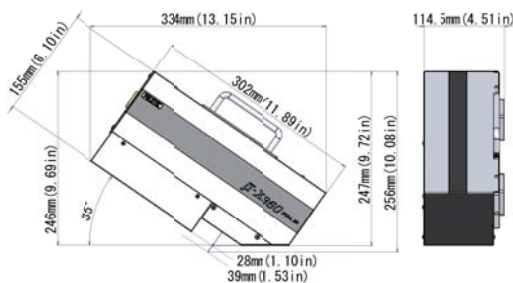
Collimator size	Standard : $\Phi$ 1.0mm( $\Phi$ 0.04inch) (Illuminated surface :Approx. $\Phi$ 2.0mm( $\Phi$ 0.08inch))
X-ray tube voltage & current	30kV, 1.0mA
X-ray tube target	Standard : Cr
X-ray incident angle	Single incident angle method
Measurement item	Residual Stress, FWHM
Measurement target	Iron(Ferrite),etc
Measurement time	Approx.90 seconds
Power supply	AC100V~240V(-10%,+6%), 50/60Hz,150W

**Size / Weight**

Sensor unit Standard type Approx.5kg(11lb)

Sensor unit Narrow space type Approx.4kg(8.8lb)

Power supply unit Approx.6kg(13.2lb)



**Accessories**



**Flexible arm**

Flexible arm to adjust the analyzer's position. Both X and Y axis are adjustable in a 50mm(2inch) range by 0.01mm (0.0004inch) resolution, using a magnetic base.



**Analyzer height adjustment stand**

Adjust the analyzer's height by rotating the attached wheel. Suitable for repeatable measurements on similar shaped and sized samples. Size: W300mmxD200mmxH321mm (W12inchxD8inchxH12.8inch) Z axis adjustable range:80mm(3.2inch)



**Safety cabinet**

The safety cabinet is designed to limit X-ray leakage to less than 0.1 $\mu$ Sv/hour. Size:W600mmxD600mmxH800mm (W24inchxD24inchxH32inch) It is possible to customize the cabinet design. (Optional)



**Electropolishing**

Use to acquire the depth direction's residual stress profiles by electropolishing the layer of the metallic sample.

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

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

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ISO9001 (Domestic Office)  
ISO14001(Domestic Office)

# Portable X-ray Residual Stress Analyzer

## *micro* $\mu$ -X360 FULL 2D X-ray detection



Create New Value

# Compact and light weight for a truly portable analyzer!

# micro $\mu$ -X360 FULL 2D

## Features

- Typically 90secs/measurement for Ferritic samples.
- Image the complete Debye Diffraction ring.
- Sample positioning tolerance  $\pm 5\text{mm}$ (0.2inch).
- Possible to measure narrow areas.
- Simple structure by using the single incident angular measurement method.
- Low X-ray tube voltage 30kV & Current 1 mA means air cooling is sufficient.
- Safe to operate and environmentally friendly.

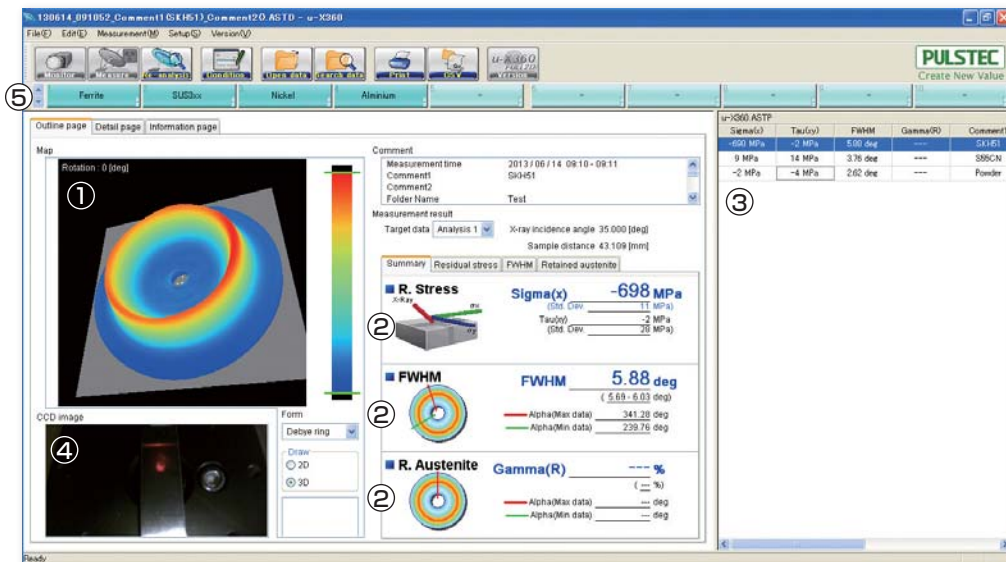
## Applications

- Plastic forming (Rolling, pressing, molding)
- Thermally treated industrial product
- Welding
- Grinding and cutting
- Surface reformation (Shotpeening, shotblasting)
- Maintenance of plant and infrastructure (Stress corrosion cracking, lifetime assessment)

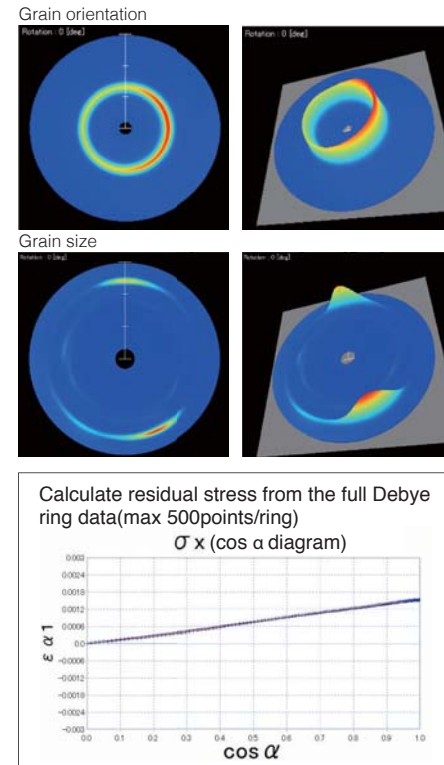
## Application Software

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

- Check the crystal structure condition visually using the Debye ring data.
- Residual stress, FWHM, Retained austenite(Option) analysis.
- Easy to access the measurement result history.
- In-built marker & CCD camera to assist the sample positioning.
- Register the measurement condition as a short cut.



Full 2D Debye ring detection and instant analysis



## Measurement examples

On-site residual stress measurement come true.

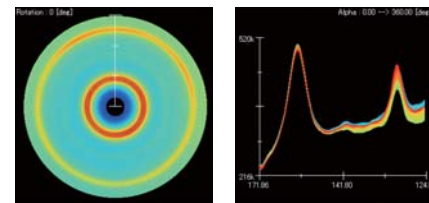
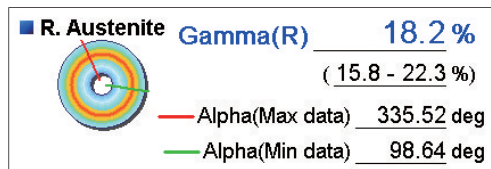
## Outdoor On-site use

- Non-destructive on-site measurement of large samples.
- A single handy-carrying case contains the sensor unit and power supply unit with a total weight of approx. 10kg (11lb)
- Optional battery enables on-site measurement without electricity supply.
- Flexible access to the measurement point and it is possible to measure from various angles.



## Retained austenite

Displays the percentage of the retained austenite that has not transformed even at ambient temperature.

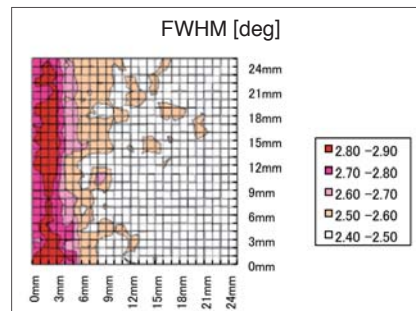
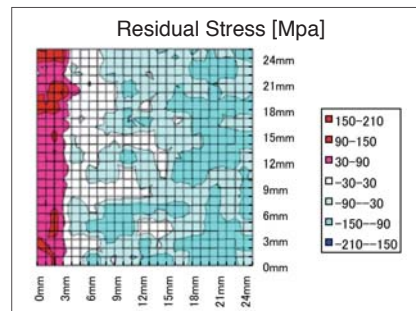
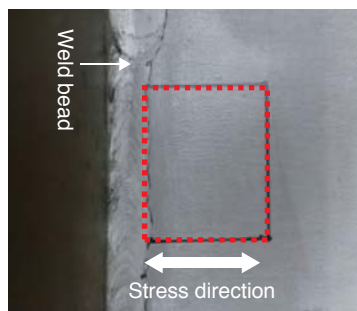


## Optional extras

### XY stage

Stress mapping by controlling XY axis stage.

Measurement result of 25mm(1inch) X 25mm(1inch) by 1mm(0.04inch) step that is 26p x 26p =676 pts.



## Indoor Laboratory use

- Safety cabinet with an interlock to stop the X-ray generation automatically when the door is opened.
- Height adjustable stage can easily change the analyzer's position. It is suitable for repeatable measurements on similar shaped and sized samples.



Spring

Gear tooth



Heat affected zone of welds in exhaust



Fillet welding bead area



Round bar

