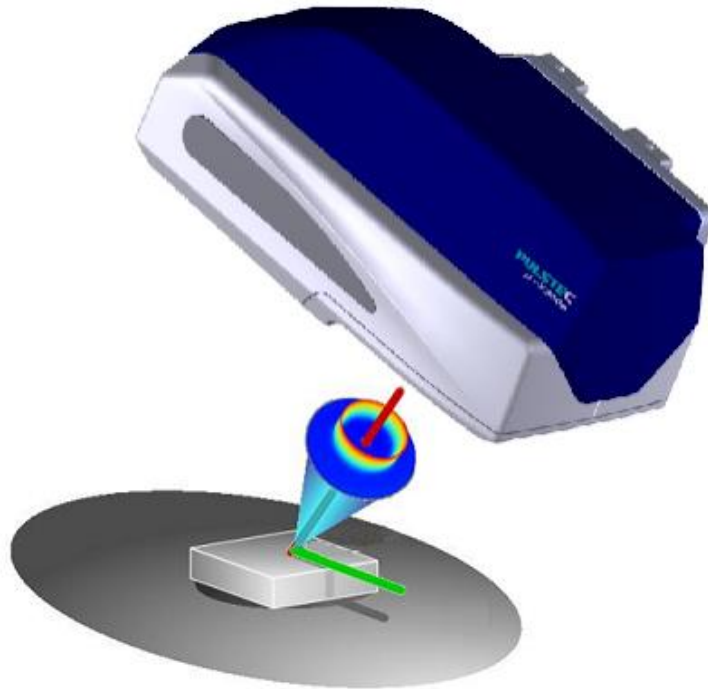


# $\mu$ -X360s

## Portable X-ray Residual Stress Analyzer

Residual Stress measurement in 60 seconds

Retained Austenite measurement in 90 seconds



### APPLICATIONS

- Gear
- Spring
- Bearing
- Crankshaft
- Shotpeening
- Additive Manufacturing

### FEATURES

- Nondestructive
- Fast measurement speed
- Easy setup
- Low X-ray power
- On-site capability
- Portable



For more information,  
visit <https://www.pulstec.net/>

Ask for Demo

**PULSTEC**

## $\mu$ -X360s Residual Stress analyzer

### The Benefit of the $\cos \alpha$ Technique

Since 1925, when the X-ray diffraction (XRD) technique was introduced, it has been widely used to non-destructively determine residual stress in polycrystalline materials. The most popular application of XRD has been the  $\sin^2 \psi$  approach. This uses multiple incident angle X-ray exposures and a zero- or one-dimension detector to capture the diffracted scatter. This application has provided many years of good stress data, but it was greatly improved by the newer  $\cos \alpha$  technique where a single incident X-ray exposure is detected using a two-dimensional detector and the stress is then determined by using the full Debye-Scherrer ring.

Pulstec offers  $\cos \alpha$  equipment which provides the single incident X-ray angle and high sensitivity two-dimensional detector. This system has the following benefits: fast measurement speed, light weight, small footprint, on-site analysis option, low X-ray power, and low cost.

### How the equipment works

1. Place a sample under the sensor unit.
2. Start measurement wizard.
3. Adjust incident angle, working distance, and measurement spot.
4. Close the shielding door and hit the start button.
5. Result is displayed after 90 seconds.



### SPECIFICATIONS

#### Measurement method

- Single incident angle X-ray  $\cos \alpha$  method

#### Measurement items

- Residual Stress
- FWHM
- Retained Austenite(Optional)

#### Size(mm) and Weight(kg)

- Sensor unit: 213(W) x 107(H) x 114(D), 2.4kg
- Power supply unit: 289(W) x 235(H) x 159(D), 6.2kg

#### X-ray tube and output

- Cr, V, Mo, Cu or Co replaceable
- Air cooling
- 30kV, 1.5mA maximum

#### Collimator size

- $\phi$ 1mm (Spot size at sample surface is approx. 2mm)

#### Power supply

- AC100 to 240V, 50/60Hz, 130W

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