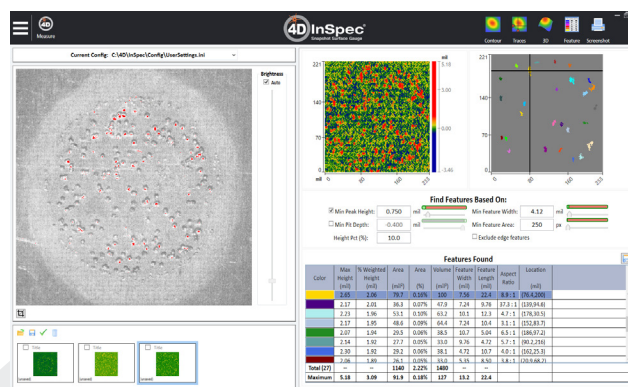


# 4D InSpec® Selection

4D

Machine shops and rework centers increase yield 20% to 40% over fingernail roughness and visual comparator methods, using **4D InSpec**. With micron-level resolution, portability, affordability and ease-of-use, **4D InSpec** puts high resolution 3D measurements of surface features and defects on the factory floor, inside machine shops and in deployed environments.

Now in two models, to suit a broader range of needs.



The 4D InSpec quantifies damage, wear and corrosion directly on parts with complex geometries, such as this turbine blade section. Automatic feature finding, 2D traces and 3D plots make it easy to analyze surface features and defects.

## 4D InSpec

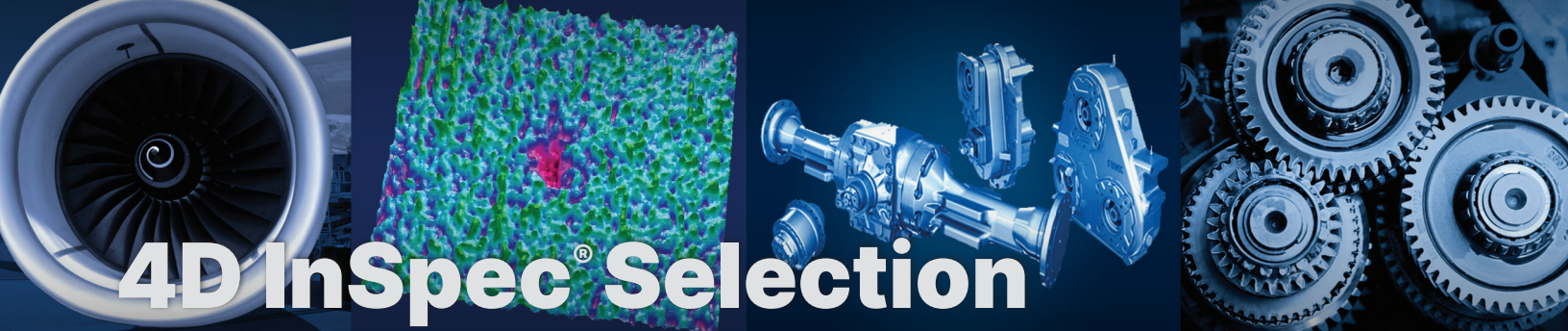


- Smaller and narrower, for tight spaces
- Measure defects and features from 0.0002" to 0.1" (5 µm–2.5 mm) tall/deep
- Optional fold mirror accessories for sidewall measurements

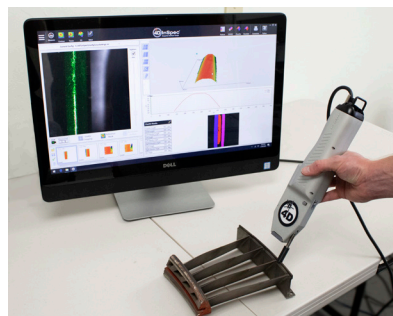
## 4D InSpec XL



- Larger field of view for fuller visualization
- Measure defects and features from 0.0002" to 0.33" (5 µm–8.5 mm) tall/deep
- Great for measuring full rivets and countersink slopes



## Selected Specifications



### Parameter

### Standard Model

### XL Large Feature Model

#### Basic Specifications

Acquisition Time	<1 second from acquisition to results	<1 second from acquisition to results
Measurable Range	Features 0.0002–0.1 inches (5 µm–2.5 mm) deep/tall	Features 0.0002–0.35 inches (5 µm–9 mm) deep/tall
Field of View (module)	0.3 × 0.3 in (7.7 × 7.7 mm)	0.6 × 0.6 inches (15 × 15 mm)
Lateral Sampling	Lateral Sampling 0.00026 in (6.6 µm)	0.00027 inches (7 µm)
Vertical Resolution	0.0001 in (2.5 µm)	0.0001 inches (2.5 µm)
Mounting	Handheld, microscope stand, or robotic mounting	Handheld, microscope stand or robotic mounting
Standoff Distance	1.4 in (35 mm)	2.3 inches (60 mm)
Max Step Height	0.065 inches (165 µm)	0.13 inches (330 µm)
Dimensions	11 × 2 × 2.8 in (280 mm × 50 mm × 70 mm)	10.2 × 5.9 × 1.8 inches (260 × 150 × 45 mm)
Weight	< 2 lbs (0.9 kg) instrument only	3.1 lbs (1.4 kg) instrument only

### Performance

Noise Floor	< 0.0001 in (2.5 µm) <sup>1</sup>	< 0.0001 inches (2.5 µm) <sup>1</sup>
Vertical Repeatability	< 0.000024 in (0.6 µm) <sup>2</sup>	0.00004 inches (1.0 µm) <sup>2</sup>
Step Height Accuracy	< 0.5% <sup>3</sup>	< 0.5% <sup>3</sup>
Step Repeatability	< 0.5%	< 0.5%
Depth of Focus	> 0.10 in (2.5 mm)	> 0.35 in (9 mm)
Minimum Part Roughness	5 µin (120 nm) Ra	5 µin (120 nm) Ra

### Similarities

Please see the individual models' data sheets to review full specifications. Both models employ the 4D InSpec control and analysis software, and are similar in operation, producing the same kinds of 3D analyses and defects detected. Several computer options are offered. Electrically and mechanically, other than differences noted in the tables above, both systems have high resolution sensors, similar power consumption and operating conditions.

All 4D InSpec models come with a one year, limited warranty.

<sup>1</sup> Average Ra of difference between two measurements on 4D calibration sample.

<sup>2</sup> 1σ Ra for 30 measurements on 4D calibration sample.

<sup>3</sup> Difference vs. PTB-certified values sample for features from 0.00039–0.035 in (100–900 µm) tall  
Patents US 7777895, 7489408 and US 7230717. Others pending.

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4D InSpec is a registered trademark of 4D Technology Corporation.

All specifications subject to change without notice.

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# 4D Technology

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