Mitcorp

INDUSTRIAL VIDEOSCOPE

# X SERIES

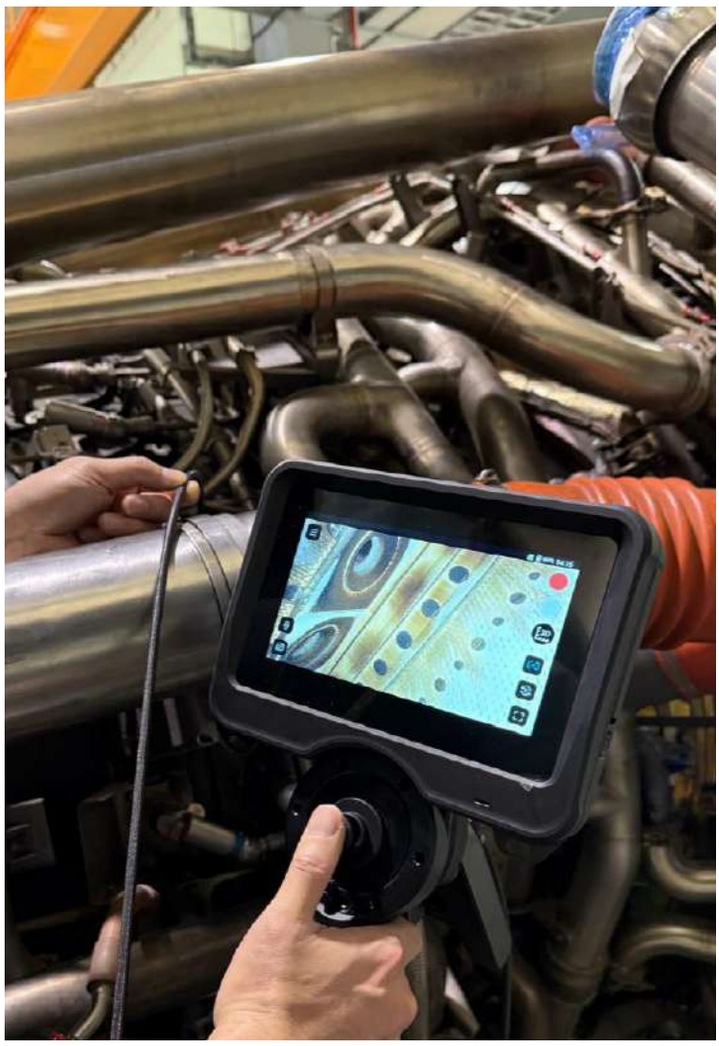



# X3000

3D MEASURMENT
VIDEOSCOPE

## Application Fields

X3000 system is designed for inspecting remote reach areas across various industries, including aerospace, automotive, power generation, oil and gas, and machinery equipment. It enables visual inspection of critical components such as turbine blades, pipes, welds, and engine parts, allowing users to detect defects, measure wear, and assess structural integrity with high accuracy.



## Exceptional Image Quality

Comprehensive image adjustments:
Brightness, Saturation, Contrast, White-balance, and Negative mode. 3D reconstruction quality comparable to 2D imaging, ensuring highdetail visualization.

## Fast & Easy Measurement Data Capture

In simple steps, you can generate a detailed 3D reconstruction without any complex setup or tedious procedures. Simply capture and process in less than 10 seconds.

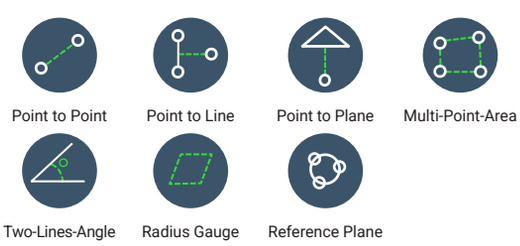
## High-Definition 3D Reconstruction

High-resolution 3D reconstruction technology, making it easier and more precise than ever to select measurement points. You can inspect details from multiple angles, ensuring every measurement is accurate and reliable.

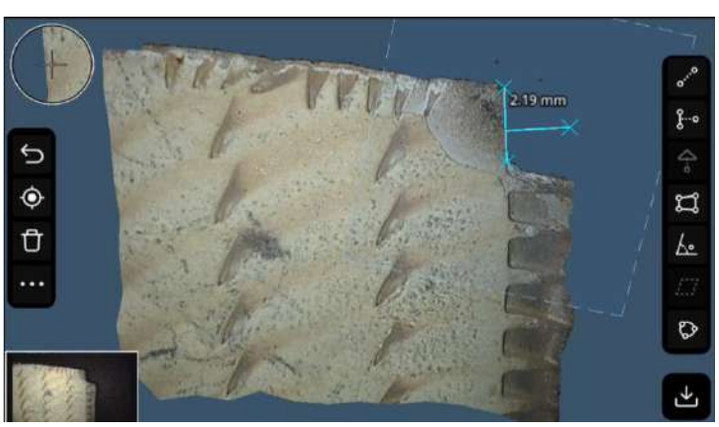



## 3D Measurement Functions & Annotation

Supports various measurement functions:




Point to Point : Distance between two points.
Point to Line : Perpendicular distance between a point and an identified line.
Point to Plane : Orthogonal distance between a point and an identified plane.
Multi-point-Area : Multiple point circumference and area measurement.
Two-lines-angle : Angle between two defined lines.
Radius Gauge: Radius from three identified points.
Reference Plane: Virtual plane from three identifed points.




**Connect Your Way**
**All the Outputs You Need**

HDMI, USB, and Wi-Fi—everything you need for flexible image viewing and data management. Share instantly with mobile devices, or use the **VideoscopeX** app for total control.

Get the full value with 3D data with Mitcorp 3D Desk.
This powerful Windows-based software enables users to easily re-measure and analyze 3D files exported from the X3000.

## Interchangeable Probes

Swap modular components with ease—tailor your videoscope to every inspection challenge.

Probes:

- 6.0mm, 3m
- 6.0mm, 3.5m



## Host Unit

- Andriod 7.0, supports +30 languages.
- 7” Touchscreen – Full-screen.
- 1024 x 600
- Full-size 3D model display.
- IP54 rated.
- Built-In Microphone. & HDMI Output.

## Swappable Battery

Large capacity battery stands over +5 hours of continuies inspection operation. with a capacity of 8680mAh.

## Smooth Mechanical Articulation Control

The X3000’s advanced mechanical articulation system ensures effortless probe movement with precise joystick control. Easily maneuver in tight spaces, then lock the position instantly for stable, accurate inspections—combining flexibility with reliability.

- Equipped with a fiber optic LED for enhanced illumination.
- Dual view cameras for improved inspection efficiency.
- Designed to capture clear images in complex or dark environments

## Hands-Free Mode

- Enables hands-free inspection for enhanced focus and precision.
- For applications requiring steady positioning and observation.

## Patent 3D Active Stereo Technology

Active Stereo Technology provides an advanced alternative to traditional dual-camera inspection systems. Mitcorp’s patented design integrates both a front and side camera with dedicated 3D projection outputs, enabling simultaneous forward and side viewing

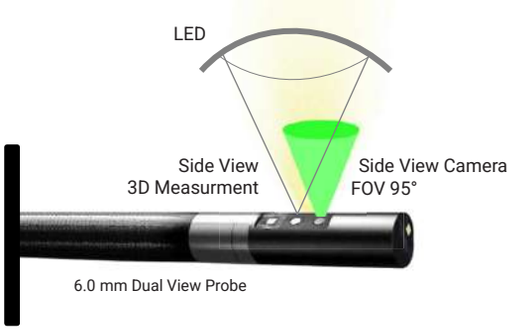
## Smart Inlay Design

With its inlay probe design, the X3000 trolley case safeguards your probe and makes inspections smoother than ever.

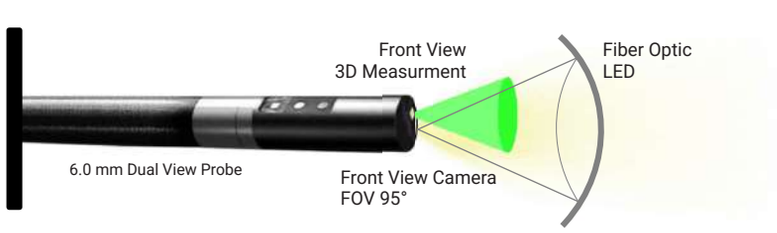
Through a refined and highly optimized 3D geometric processing algorithm, the system delivers precise reconstructed visuals that support a wide range of inspection tasks, improving detection accuracy and measurement capability across various applications.

## Patented Dual-View Cameras Measurement

The innovative dual-lens design allows you to capture multiple viewing angles without changing probes.
The front camera provides general inspection, while the side camera offers side observation.




Scinario 1
Capturing 3D With Side View Camera




Scinario 2
Capturing 3D With Front View Camera

## Snap, Reconstruct & Measure.

The X3000 system offers instant measurement data capture without the need for static waiting time, ensuring rapid and accurate analysis, simplifies complex measurements.



**SNAPSHOT**
Take a screenshot of the targeted inspection area.




**PREVIEW**
Define the specified measurement area by cropping down the screenshot




**CONFIRM TO RECONSTRUCT**
Confirm the successful 3D reconstruction results.



**READY FOR MEASURE**
Review and measure the 3D reconstruction model.

## 3D Measurement Functions & Annotation

Supports various measurement modes:

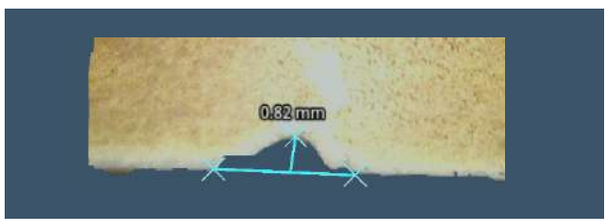
### Point to Point

Measures the distance between two points.
It helps inspectors determine the length of defects such as cracks, scratches, or weld discontinuities.



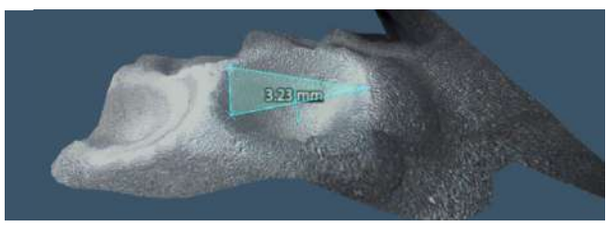

### Point to Line

Measures perpendicular distance between a point and a user-defined line.
This function is useful for evaluating the relative position of defects such as cracks or pits in relation to structural features.



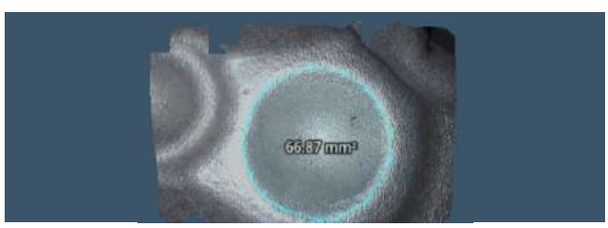

### Point to Plane

Measures orthogonal depth distance between a point and a plane.
This function is essential for assessing corrosion, pitting, and material wear in critical components.




### Multi-Point-Area

Measures multiple point circumference and area measurement.
It helps inspectors evaluate the extent of defects like corrosion spots, delamination, or coating failures.




### Two-Lines-Angle

Measures angle between two defined lines.
This function assists in assessing misalignment, bending, or deformation of structural components.



### Radius Gauge

Radius from three Identified Points Defines a radius based on three selected points. Drag the center point to reposition the center of the circle. Drag the circumference line to resize the circle to fit the target object.



### Reference Plane

This tool enables accurate measurement of geometries in areas where corner data is missing or occluded.
Apply the reference plane before taking point to point or point to line measurement.



## Light Control & AE Boost

Mitcorp's light exposure technology enables inspectors to fine-tune illumination for every inspection scenario.

By adjusting LED intensity, ISO sensitivity, and shutter speed across four stages, the system ensures optimal visibility in both dark and overly bright environments.

- **Stage 1** (LED Off)
- **Stage 2** (Exposure Value)
- **Stage 3** (Exposure Time - Lower FR)
- **Stage 4** (AE Boost)



**AE BOOST - OFF**
Standard fiber optic lighting. in wide spaces, standard lighting might be insufficient.



**AE BOOST - ON**
The X3000 delivers sharper image quality, making even the smallest **detial clearly visible.**

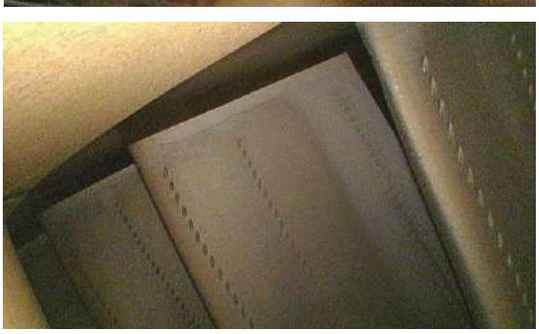
## Crystal-Clear - High-Definition Images

The X3000 probes feature a dual-view setup each with a high definition resolution of 2560x1440 for still image &1920x1080 for video recording. Allowing seamless switching between front and side views without removing the probe from the inspection environment or adding mirror tips. This innovative design significantly reduces inspection time and downtime.

Case - Aviation Jet Engine Inspection.









**X3000 - Side View**
Engine Inspection- 6.0mm Probe

**X3000 - Front View**
Engine Inspection - 6.0mm Probe

## Powerful Measurement, Simplified




**X3000 - 3D View**
Turbine blade inspection - 3D reconstruction




**X3000 - 3D View**
Heat exchanger boiler tube Inspection - 3D reconstruction

## 6.0 mm Probe Centering Device

The centering device ensures the probe remains properly aligned within the inspection environment, providing more even light distribution.

By reducing friction and direct contact between the probe body and the inspected tube, it helps extend the probe's lifespan.

Acting as both a shock absorber and a protective shield, it enhances durability and inspection reliability.




18 mm Centering Device | 38 mm Centering Device | 65 mm Centering Device



6.0mm Probe With Centering Device
Better light distribution & overall view of the inspection environment



6.0mm Probe Without Centering Device
Lack of light distribution & missing the upper view of the inspected environment

## ACCESSORIES

1. X3000 Host Unit
2. Probe
3. Swappable Battery
4. Rigid Sleeve
   - 2pcs, each 450 mm long
5. Probe Clamp Plug
6. Calibration Block
7. Neck Strap
8. Essenials
   - USB Type-C Power Adapter
   - HDMI cable
   - USD TYPE-C cable
   - USB to DC charging cable
   - Cleaning set
   - SD Card, 64GB
9. Trolley Case
   - Water proof - IP67 rated
   - Drop Resistant
   - Mono-pod
10. Centering Devices
    - 18 mm centering device
    - 38 mm centering device
    - 65 mm centering device






**Type-C + 8 Pin Connector & Monopod Connector**

Easily attach the host unit and probes with the Type-C connector—fast, reliable, and done in a second with two secured hand-screws. The Probe is equiped with a monopod/tripod inlay for a hands-free operation.



**Smart Inlay Design**

With its inlay probe design, the X3000 trolley case safeguards your probe and makes inspections smoother than ever.

## BASE UNIT

| Hardware | |
|---|---|
| Operating System | Android |
| Display | Above 7" LCD Detachable touchscreen |
| Display Resolution | 1024x600 |
| Weight | 2200 g (w/3m tungsten probe) |
| Size | 355x216x214 mm |
| Dimensions Of Carrying Case | 574x361x225 mm |
| Battery | Rechargeable Li-ion battery 8680mAh, approximate operation time; 5hrs (with 3m probes),charging time: 4hrs |
| Drop Resistance | 1 Meter |
| **Connections** | |
| HDMI | TYPE-D HDMI |
| Data Transfer | USB TYPE-C |
| Wi-Fi | IEEE 802.11.b/g |
| App Connection | VideoscopeX |
| Power Supply | USB TYPE-C, 45W, 3A |
| Storage Media | MicroSD Card. Up to 128 GB |
| Microphone | Built-in |
| **Software Manipulations** | |
| Image Manipulations | Digital zoom and brightness control |
| Note Text Options | Text annotation, hand drawing (Brush /Line/Oval/Rectangle) |
| Watermark | *.png logo |
| Tags | Text tags |
| Image Configuration | Mirror, negative |
| Image Titration | WDR, white balance setup, brightness, contrast, saturation, and sharpness. |
| Folder Management | Sessions and folders |
| High Temperature Warning | 3 Levels of warning, 60°C, 80°C, 100°C (Turn off) |
| Brightness Control | 11 Levels, 0 to 10 exposure value |
| **Operating Environment** | |
| System Operating Temperature | -20°C~50°C |
| Battery Charging Temperature | 5°C~40°C |
| Storage Temperature | -20°C~60°C |
| In Water | Not operable in water |
| Relative Humidity | Max 95% non-condensing |
| Dust And Water Resistance | IP54 |

## 3D MEASURMENT (Optional Upgrade)

| | |
|---|---|
| Object Distance | 10~40 mm |
| Measurement Functions | Point to Point (Distance) Distance between two points |
| | Point to Line (Distance) Perpendicular distance between a point and a user-defined line |
| | Point to Plane (Depth) Orthogonal depth/height distance between a point and a user-defined plane |
| | Multi-point-Area (Area) Multiple point circumference and area measurement |
| | Two-lines-angle (Protractor) Angle between two defined lines |

## ACCESSORIES

| | |
|---|---|
| Cables | TYPE-C charging adapter, HDMI cable, TYPE-C cable |
| Others | Rigid sleeve, cleaning set, neck strap, calibration block, monopod |
| | Centering devices for 6.0mm only: 18mm, 38mm, 65mm |

## REGULATORY

| Other Regulatory |
|---|
| International Standards Organization (IEC) |
| Electromagnetic Compatibility (EMC) |
| Federal Communications Commission (FCC) |
| PSE (Circular) |
| WEEE |
| Restriction of Hazardous Substances 2011/65/EU (RoHS 2) |
| Restriction of Chemicals Materials EC 1907/2006 – REACH |
| Transportation for Lithium Batteries UN38.3 |
| MIL-STD-810H: Method 511.6 Procedures I(Explosive Atmosphere)/Method 514.8 Procedures I(Vibration Test, packaged)/Method 516.8 Procedures IV(Transit Drop Test, packged) |

## PROBES

| Full Articulation Probes - Dual View | | | | | | |
|---|---|---|---|---|---|---|
| Model | 60D4W-FS-3M-TU-M | 60D4W-FS-3.5M-TU-M | | | | |
| Diameter | 6.0 mm | 6.0 mm | | | | |
| Length | 3M | 3.5M | | | | |
| Direction Of View | Dual view | Dual view | | | | |
| Probe Head Length | 25 mm | 25 mm | | | | |
| Field Of View (FOV) | 95° | 95° | | | | |
| Front Depth Of Field (DOF) | 10 mm~∞ | 10 mm~∞ | | | | |
| Side Depth Of Field (DOF) | 10 mm~∞ | 10 mm~∞ | | | | |
| Still Image Resolution | 2560x1440 | 2560x1440 | | | | |
| Video Resolution | 1920x1080 | 1920x1080 | | | | |
| Articulation | Full way | Full way | | | | |
| Articulation Angle | ≥ 130° | ≥ 130° | | | | |
| Probe Head Material | S. Steel | S. Steel | | | | |
| Probe Material | Tungsten | Tungsten | | | | |
| Operating Temp. In Air | -10~100°C | -10~100°C | | | | |
| Operating Temp. In Water | 10~30°C | 10~30°C | | | | |
| Dust And Water Resistance | IP67 | IP67 | | | | |
| Hydraulic Fluids Resistance | Gasoline, diesel, brake oil, transmission oil, engine oil | | | | | |

Jun.26

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