## General Information

| | |
|---|---|
| **Design** | Bridge-type CMM with stationary machine table and lateral bridge drive. |
| **Operating Mode** | Motorized / CNC |
| **Laser / Part Indexing** | Fixed / Renishaw PH10M |
| **Special Features** | Steel crossbeam and spindle. Preloaded high performance mechanical linear bearings with wrap around guideways in all axes. Passive anti-vibration system. |
| **Drive System** | High-performance servo drives. Electronic monitoring of position control in all axes. |
| **Controller** | Type: Renishaw UCC2<br>Cooling System: Integrated Fan |
| **Accessories** | Standard control panel: joystick with progressive characteristics for manual control. |
| **Power Requirements** | 100-240 V VAC ~ (+10%, -15%); 50-60 Hz (±3.5%), Power consumption: max. 750 VA |
| **Environmental Requirements** | +17° to +35°C (63°-95°F) |
| **Compressed Air Supply** | No compressed air utilized |
| **Axes** | X, Y, Z, optional rotary stage |
| **Bearing System** | Mechanical linear bearings on ground ways |
| **Measuring Table** | Black granite |
| **Measuring System** | Optical linear transducers - 0.1 mµ / 0.5 mµ resolution |
| **Warranty** | 1-year warranty (hardware, software, parts, labor, workmanship) |

## Included with System

| | |
|---|---|
| **Choice of Laser Probe** | XLP 250, 500, or 1000 |
| **Laser Scanning Software** | Surveyor Scan Control Software |
| **Computer** | High-end Windows based PC and monitor |
| **Manual Laser Mount** | Adjustable mounts allow for 2 axes of rotation |
| **Test Artifact** | Specially designed artifact for validating system accuracy. Includes CMM inspection report and Qualify inspection template |

## System Options

| | |
|---|---|
| **Rotary Stage** | ADRS 150 high accuracy rotary stage |
| **Renishaw PH10** | 2-axis Renishaw PH10M |
| **7th Axis** | Laser Design automated flip fixture |
| **Manual Fixtures** | Manual flip fixture and extra frames |
| **Reverse Engineering Software** | Geomagic Design X, Polyworks/ Inspector |
| **Inspection Software** | Geomagic Control X, Polyworks/ Inspector |

**Geomagic software by 3D Systems, Polyworks software by Innovmetric Software

## Volumetric Accuracy CMM Base-ISO 10360-2

| DS Model | Volumetric Accuracy | Linear Accuracy | Repeatability | Resolution |
|---|---|---|---|---|
| **2025** | 0.00044″ | 0.00011″+0.000006″/in | 0.00011″ | 0.00002″ |
| **2530** | 0.00048″ | 0.00011″+0.000007″/in | 0.00011″ | 0.00002″ |
| **3040-20″z** | 0.00056″ | 0.00012″+0.000007″/in | 0.00012″ | 0.00002″ |
| **3040-25″z** | 0.00058″ | 0.00012″+0.000007″/in | 0.00012″ | 0.00002″ |
| **4060** | 0.00062″ | 0.00012″+0.00006″/in | 0.00012″ | 0.00002″ |
| **4080** | 0.00064″ | 0.00013″+0.00006″/in | 0.00013″ | 0.00002″ |

CyberOptics also offers system upgrades for the DS-Series for traditional CMM functionality. For information on adding a wide variety of Renishaw sensors and touch probing capability to your machine, please contact your CyberOptics representative.

CYBEROPTICS®
**Contact CyberOptics today for more information**
+1 800.366.9131 or +1 763.542.5000 | CSsales@cyberoptics.com | www.cyberoptics.com



# Surveyor® DS-Series

## High Precision Design and Accuracy

3D SCANNERS



DS-Series CMM integrated with XLP Laser Scanner with industry best speed, accuracy and resolution.

For Inspection Analysis and Reverse Engineering

Industrial Metrology

CYBEROPTICS®

# Surveyor® DS-Series

## 3D Laser Scanning Systems

Fast, Highly Precise 3D measurements with 6 axes and full automation.

Significantly cut Time-to-Market with the Surveyor® DS-Series that sets a new standard for precision and ease of use in 3D measurement. Systems are available in many sizes to accommodate a wide variety of small to large parts and applications for first article inspection and project-oriented usage. The turnkey system is highly automated to quickly and easily 3D scan simple prismatic shapes and geometry, free-form surfaces, or complex-shaped objects for inspection, analysis, or reverse engineering applications.


## High Precision Design, Speed, and Accuracy

Offers excellent stability and rigidity through passive anti-vibration technology while scanning at maximum speed and acceleration.The integrated CNC programmable controls supply smooth, accurate, high-speed up to 6-axis motion control for the most difficult measuring applications.

Enables significant reduction in Time-to-Market. Operators can quickly and easily digitize simple or complex parts of all sizes and geometries.

### Dynamics

| | | |
|---|---|---|
| **Travel Speed** | | |
| | CNC:<br>X Axis:<br>Y Axis:<br>Z Axis: | Max. 250 mm/s (10.0 in/s) |
| | Vector: | Max. 38 mm/s (15.0 in/s) |
| **Acceleration** | Axes: | Max. 500 mm/s² (19.7 in/s²) |
| | Vector: | Max. 866 mm/s² (34.1 in/s²) |

### Measuring Range (MM)

| DS Models | Measuring range in mm (in) | | |
|---|---|---|---|
| | X axis | Y axis | Z axis |
| **2025** | 500 (19.7) | 625 (25.0) | 500 (20.0) |
| **2530** | 625 | 750 | 380 (15.0) |
| **3040** | 750 (30.0) | 1000 (39.4) | 625 (25.0) |
| **4060** | 1000 | 1500 (60.0) | 625 (25.0) |
| **4080** | 1000 | 2000 (78.7) | 625 (25.0) / 1000 (40.0) |

## Provides Easy-to-Use Automated 3D Scanning Capabilities

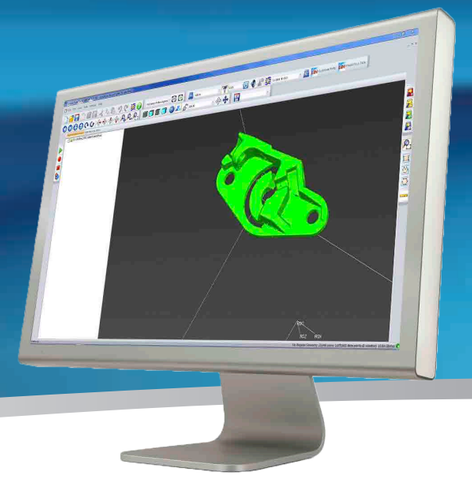
Utilizing the CyberOptics XLP Laser Scanning Probe with industry leading speed, accuracy and resolution, the Surveyor DS-Series provides automated scans of up to 6 axes of motion for complete coverage from a single program. All of the data collection is contained in a common coordinate system, giving an accurate digital representation of surface captured. Interactive joystick control and rotation settings provide smooth, accurate, high-speed movement for all measuring applications.

Surveyor Scan Control (SSC) software provides optimization for part specularity, data density control, and filtering as well as macro programming capabilities for automating repetitive applications and eliminates operator involvement.

The turnkey system is highly automated for quick and easy scanning

## Intuitive, Easy-to-Use Software

Surveyor Scan Control (SSC) software has a simple Windows interface that makes laser scanning easy to use, with scanning wizards that automate most day-to-day tasks with detailed accuracy reporting that helps you know the accuracy of your machine before you start collecting data. Automated scanning gives you control up to 6 axes of motion for complete coverage from a single program.



## Industry Best for Laser Line Scanning Technology

CyberOptics XLP Laser Scanning Probes are able to scan diverse surface materials without any special coatings. They are up to 50% more accurate, up to 70% faster scan rate, and up to 30% higher resolution.

The XLP comes in three models based on the size and detail on the objects to be scanned. Parts such as plastics, metal, rubber, cast, molded, forged, machined, or extruded components, as well as tooling dies, or molds, are all typically measured items.

Refer to separate XLP Specification Sheet for details.


## Versatile for a Variety of Applications and Parts

Systems are available in many sizes to accommodate a variety of parts and applications.

The turnkey system quickly and easily scan simple prismatic shapes and geometry, free-form surfaces, or complex-shaped objects for inspection, analysis, or reverse engineering applications.

A variety of laser probe options are available based on the size and level of detail on the objects to be scanned. Parts such as plastics, metal, rubber, cast, molded, forged, machined, or extruded components, as well as tooling, dies, or molds, are all typically measured items.

Output to a wide variety of industry 3D Scan Data Processing Software Systems including PolyWorks® and Geomagic®