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

Nordson TEST & INSPECTION

CYBEROPTICS

Surveyor® DS-Series

3D Laser Scanning Systems

Fast, Highly Precise 3D measurements with up to 7 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: X Axis: Y Axis: 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 (24.6)	500 (20.0)
2530	625(24.6)	750 (29.5	380 (15.0)
3040	750 (29.5)	1000 (39.4)	625 (25.0)
4060	1000 (39.4)	1500 (60.0)	625 (25.0)
4080	1000 (39.4)	2000 (78.7)	625 (25.0) / 1000 (40.0)

Provides Easy-to-Use Automated 3D Scanning Capabilities

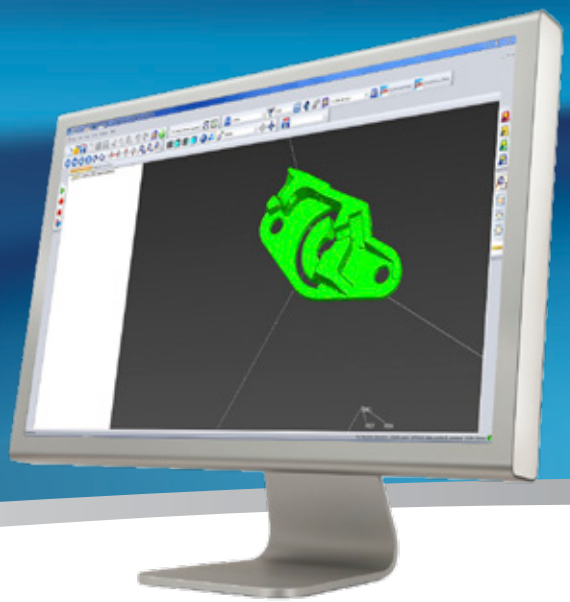
Utilizing the CyberOptics XLP Laser Scanning Probe with industry leading speed, accuracy and resolution, the Surveyor DS-Series provides automated scans of up to 7 axes of motion for complete coverage from a single program. All of the data collection is contained in a common coordinate system, giving 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 7 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.

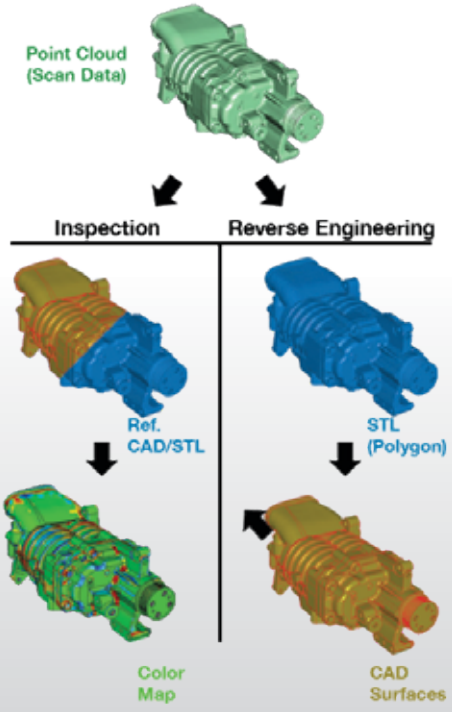
Versatile for a Variety of Applications and Parts

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®



General Information

Design	Bridge-type CMM with stationary machine table and lateral bridge drive.
Operating Mode	Motorized / CNC
Laser / Part Indexing	Manual Index or Renishaw PH10M Plus
Special Features	Dual Beam steel bridge structure. Preloaded high performance precision bearings on hardened and ground ways. Passive anti-vibration system.
Drive System	High-performance servo drives. Electronic monitoring of position control in all axes.
Controller	Type: Renishaw UCC T3 Plus with MCUlite-2 Joystick Cooling System: Integrated Fan
Accessories	PH10M Plus, 4th axis rotary, upgraded joystick, automated flipper, multiple XLP options, ACR1 Change Rack, TP20 or TP200 Touch Probe, CMM Software such as: Geomet 101, CMM Manager, or Polyworks.
Power Requirements	100-240 V VAC ~ (+10%, -15%); 50-60 Hz (±3.5%), Power consumption: max. 750 VA
Environmental Requirements	68°F ± 2°F (20°C ± 1°C)
Compressed Air Supply	No compressed air utilized
Axes	X, Y, Z, optional rotary stage, optional PH10 A/B, optional Automated Flipper
Bearing System	Mechanical linear bearings on ground ways
Measuring Table	Black granite
Measuring System	Optical linear transducers - 0.1 µm resolution
Warranty	1-year warranty (hardware, software, parts, labor, workmanship)

Accuracy

DS Model	Volumetric Accuracy	Linear Accuracy*	Repeatability	Resolution
2025	0.00035" (8.9 µm)	0.000070"+0.000006"/in (1.8+L/166) µm	0.000070" (1.8 µm)	0.00004" (1 µm)
2530	0.00040" (10.2 µm)	0.000080"+0.000006"/in (2.0+L/166) µm	0.000080" (2 µm)	0.00004" (1 µm)
3040-20	0.00040" (10.2 µm)	0.000080"+0.000006"/in (2.0+L/166) µm	0.000080" (2 µm)	0.00004" (1 µm)
3040-25	0.00045" (11.4 µm)	0.000090"+0.000006"/in (2.3+L/166) µm	0.000090" (2.2 µm)	0.00004" (1 µm)
4060	0.00050" (12.7 µm)	0.000090"+0.000006"/in (2.3+L/166) µm	0.000090" (2.2 µm)	0.00004" (1 µm)
4080	0.00052" (13.2 µm)	0.000090"+0.000006"/in (2.3+L/166) µm	0.000090" (2.2 µm)	0.00004" (1 µm)

*L is length in mm
Conditions at 68°F ±2°F and 50% relative humidity.

System Options

4th Axis	High accuracy rotary stage
Renishaw PH10	2-axis Renishaw PH10M Plus
7th Axis	Automated flip fixture
Manual Fixtures	Manual flip fixture and extra frames
Reverse Engineering Software	Geomagic Design X, Polyworks Modeler
Inspection Software	Geomagic Control X, Polyworks Inspector

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

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

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.

Nordson TEST & INSPECTION

CYBEROPTICS®

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