

SURVEYOR[®] DT-SERIES

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The Leader in 3D Laser Scanning Since 1987



Surveyor[®] DT-2000 3D Laser Scanner

- **Desktop 3D Scanners that are inexpensive and very easy to use.**
- **Highly automated configuration using multiple, precision-rotary stages.**
- **Ideal for reverse engineering of medium-sized parts.**
- **Features Surveyor Scan Control software and Surveyor Laser Probes.**

Laser Design Inc, the leader in 3D laser scanning since 1987, introduces the Surveyor DT-2000, a desktop 3D laser scanner. Both affordable and easy to use, the DT-2000 enables users to quickly scan complex textures and geometric data from any medium-sized objects (typically from 1" to 14" in size) such as bottles, cups, shoe soles and statues.

The DT-2000 uses Laser Triangulation, an active stereoscopic technique where the distance of the object is computed by means of a directional light source and 2 video CMOS cameras. A laser beam is deflected from a mirror onto a scanning object. The object scatters the light, which is then collected by a video camera located at a known triangulation distance from the laser. Using trigonometry, the 3D spacial (X-Y-Z) coordinates of a surface point are calculated. The DT-2000's dual CMOS 2D arrays capture the surface profile's image from two opposing angles simultaneously and digitizes all data points along the laser stripe.

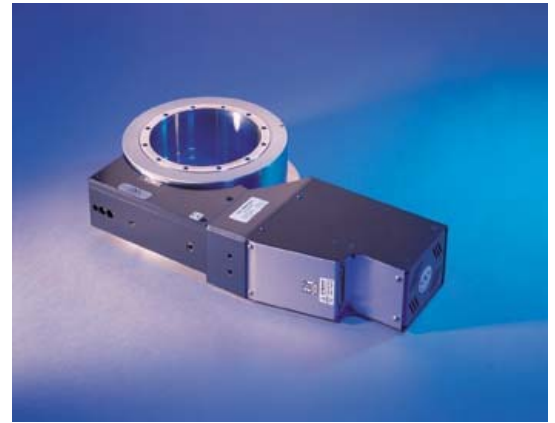
Generating approximately 50,000 coordinates per second, the DT-2000 scans millions of points into a single coordinate system which can be easily processed into .STL or even NURBS Surface CAD models with optional scan processing software from Raindrop Geomagic. The Geomagic software performs editing and model-building functions including scaling, smoothing, point cloud editing, STL model generation, and surface modeling to efficiently and accurately create 3D digital models. These models are then easily imported into popular CAD/CAM and 3D graphic software programs.

The compact DT-2000 system is designed for easy desktop operation with minimal training. It requires only 3 cable connections and connects to a laptop computer or a more powerful desktop PC via a USB interface. The rotational scanning mechanism sweeps the laser beam over the object in order to generate highly accurate 3D surface coordinate point cloud information. The DT-2000 system also features a rotary stage for automated part scanning. The rotary stage reorients the part automatically and the universal fixturing allows for manual part turnover for top and bottom side data registration.

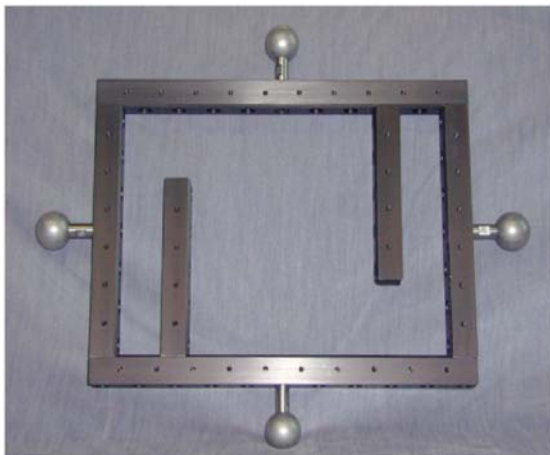
The system package includes an SLP-2000 laser probe (see Specification Sheet); Surveyor Scan Control software for automated scanning of parts into single coordinate system (see Specification Sheet); high-accuracy single or dual CNC rotary stage with encoder feedback and motion controller (see Specification Sheet); system mounting plate for integrated set up and component orientation; universal flip plate fixture (see Specification Sheet); for part turnover when using single rotary stage providing accurate scan data orientation of top and bottom surfaces of part into single coordinate system; integrated targets for automated system calibration and alignment; training at Laser Design Inc. and one-year parts and labor warranty.

SURVEYOR[®] DT-SERIES SPECIFICATIONS

	DT-2000
General Properties:	
System Configuration	Desktop
Size W x L x H (in)	18 x 32 x 16
Size W x L x H (mm)	441 x 812 x 406
Weight	75 lbs. / 34 Kg.
Positioning System:	
Dual Rotary:	
R Stage (under probe)	LR-50
V Stage (under part)	RV-120
Laser:	
Laser Probe Model	SLP-2000
Laser-stripe generator	40 degree fan-out angle
Scan Sweep (Left to Right)	+ / - 22 degrees
Scanner Accuracy:	
3D Volumetric	.004"
3D Volumetric with rotary	.007"
Software:	
Scan Capture and motion control	Surveyor Scan Control
Scan data processing (Optional)	Raindrop Geomagic
PC Information:	
Interface and Operating System	Standard plug and play USB. Windows 2000 and Windows XP.



For more information, refer to separate spec sheets for laser probe, rotary stages, and software.



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Specifications subject to machine installation by authorized LDI technician only. February 11, 2008.