

## General Specifications

### Accuracy

• Platform Accuracy:	$E=(3+3.5L^*) \mu\text{m}$
• Total Machine Accuracy:	$7+3.5L \mu\text{m}$ (1 sigma)
• Feature Accuracy:	$2 \mu\text{m}$ (1 sigma) 100 points
• Repeatability:	$2 \mu\text{m}$ (1 sigma)
• Spot Diameter:	$30 \mu\text{m}$
• Maximum Scanning Speed:	100 mm per second
• Data Capture Rate:	50 points per second

L\* = Length in meters

### Platforms

Model	Stroke (mm)			Weight (Kg.)
	X	Y	Z	
Hawk 5-4-4	500	400	400	245
Hawk 7-7-5	700	650	500	800
Hawk 10-7-5	1000	650	500	950
Hawk 12-7-5	1200	650	500	1050
Hawk 14-7-5	1400	650	500	1150
Hawk 7-7-7	700	700	650	1000
Hawk 10-7-7	1000	700	650	1150

Larger models are available upon request

- Drive: DC - brush
- Feedback: Linear encoder

### Utility Requirements

- Power Supply: 110/220 VAC, 16 Amps.
- Air Supply: 30 Liter/min @ 5 bar, 1 CFM @ 75 PSI

### Probe Interface

- Renishaw PH10 Motorized Head

### Options

- Special Mounting Fixture

### Notes

- Platform Accuracy is verified according to ISO 10360-2 standard
- Total Machine Accuracy verified by scanning a standard ball bar
- Repeatability verified by measuring two single points on the same part coming back to the same X, Y, Z locations

© All rights reserved to Nextec. Nextec reserves the right to change any specification without notice. Rev: 02/07

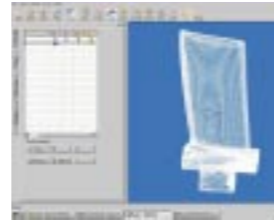
**NEXTEC**  
3D Inspection Technologies

Nextec Technologies 2001 Ltd.  
Carmel Business Park, Carmel Bldg.  
2 HaEtgar St., P.O.B 2037  
Tirat HaCarmel, Israel 39120  
Tel: +972-4-857-1308  
Fax: +972-4-857-1435  
Email: info@nextec-wiz.com

www.nextec-wiz.com



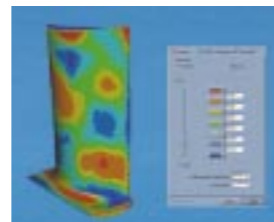
Turbine Blade



Pointcloud



CAD Model



3D Part Inspection

© Design: Studio Givat-Elah www.studiogec.com

# The Hawk™ Family

The Ultimate 3D Scanning and Digitizing Systems



**NEXTEC**  
3D Inspection Technologies

# The Ultimate 3D Scanning and Digitizing Systems

## The Hawk™ Family

The Hawk family is a turnkey solution for **non-contact** digitizing and rapid scanning of 3D surfaces and free form. The Hawk features the highly acclaimed **WIZprobe**, embedding the latest laser technology in fast and accurate scanning and verification of fine details.

A state of the art motion control system, coupled with the application software, tracks any free form part by automatic compensation along the laser beam direction.

The Hawk family is offered in a variety of sizes, from 500 mm up to 12 meters, to meet customer's specific applications.

## Reverse Engineering & CAD Compare

During the scanning process, the system displays and records the numerical data in real time. This data can be exported to 3D modeling software to create a CAD model. The CAD model can be then used to create CNC programs, enabling the user to machine a replica or any geometric variant of the shape. The pointcloud can also be exported to CAD compare software for 3D part inspection.



## Major Software features

- Real time image presentation during scanning, displays the actual points being acquired on the fly
- High resolution, high density scanning of small features and fine details within the measured part
- Creates small colorful pointclouds of a part and saves them as separate individual files
- Multidirectional scanning with a variety of tip orientations
- Hides or shows features of the individual pointclouds
- Applies shading techniques to the pointcloud
- Dynamic rotate and zoom of pointcloud images



Automotive Parts

Injection Molded Parts

Molds

Consumer Electronics

Turbine Blades

High Resolution Dies

Toys & E-Commerce

## Superior Accuracy

The Hawk provides a single point precision of 10 micron (1 sigma) and a feature precision of 2 micron (100 points best fit, 1 sigma), meeting the highest precision requirements.

The combination of a large dynamic range and high accuracy makes it simple and easy to set up the scanning path and collect thousands of points per minute, quickly and accurately. There is no noise and no need to filter or post process the pointcloud data.

## Intelligent Process Capability

Based on the proprietary optics, the unique **adaptive control** and the sophisticated image processing software, the **WIZprobe** handles almost all materials and surface finish types, automatically performing self-calibration. The Hawk can scan black to white to gauge block metal in a single scan, without painting or spraying the surface. In addition, the **WIZprobe** enables automatic 3D surface contour tracking.

## Ease of Operation

The Hawk features powerful and user-friendly application software, with a very easy set up of the scanning patterns for any measured object. No programming is required.

The Hawk requires no special installation or preparation. The system can be placed on a rigid surface near power and air outlets.

## Fast Return on Investment

The combination of superior performance and low price ensures a fast Return On Investment with significant savings of both manpower and yield.