GRAPHITECH

CopyMate

The 3D Copying Solution

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CopyMate fills a much-needed gap by providing an off-the-shelf solution for users who wish to copy an existing 3D part or product with ease and accuracy.

Using GraphiTech's proven technology, intricate and detailed work - from delicate jewelry settings to industrial parts - can now be copied with speed and efficiency.

Manufacturers can benefit from enhanced scanning and milling technologies for an appreciably low investment.

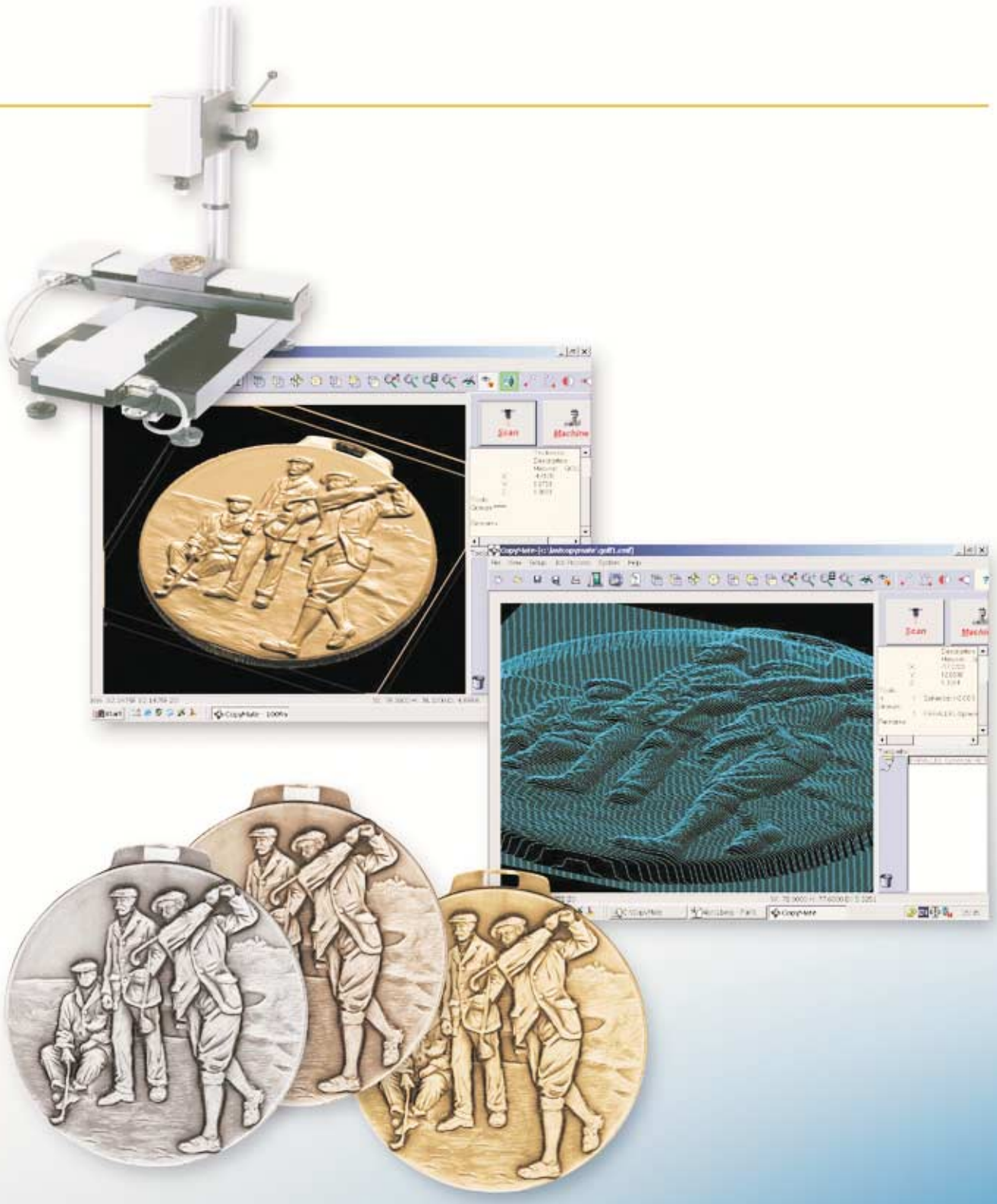
There's no guess-work with CopyMate - a user-friendly Wizard guides you through the process step-by-step - from scanning to toolpath. Simply plug CopyMate into any CNC machine and let the Wizard do the work! In no time, CopyMate scans, stores and creates an accurate toolpath to perfectly replicate the original.

- Non-contact laser scans rigid or flexible objects.
- Data is gathered at high-speed (as much as 10 times faster than other tools)
- Surface detail is collected and recorded to produce accurate male/female molds
- CAD surface is automatically generated from digitized data
- Toolpaths are created with an easy to use built-in Wizard which guides users through the process

GraphiTech are leading developers of artistic CAD/CAM solutions crafted for the manufacture and reproduction of detailed artistic and industrial designs.

Comprehensive drawing, copying and text creation tools offer a complete and fully integrated collection of products which constitute a new world of opportunities for industrial designers and manufacturers in engraving, sign-making and milling that reduce costs and time to market.

Mold-makers, engravers, sign-makers and industrial designers can now benefit from computer technology without sacrificing quality or accuracy.



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Technical Specifications for CopyMate

Operating Requirements

CPU – Pentium 3 or above
Memory – 128 MB RAM or more
Operating System* – Microsoft Windows 95 / 98 / NT4 / 2000 / XP

* Recommended NT4 / 2000 / XP

Feature Highlights

Feature	Description
Constant Z Scanning	High speed scanning without surface tracking
Machining Wizard	Creates finished and rough tool paths to machine-scanned parts
Simple add-on to CNC machinery	Improves the performance of existing equipment
Transformation	Position, Flip, Rotate, Mirror, Scale
Data interface	Output format for CAD/CAM
Changeable lenses	Provides a dynamic stand-off range between 0.5-170mm and accuracy as low as 0.1µm
Trim Plane	Limits the surface to a given height, removing all noise and irrelevant data below this plane
Slice Scanning	Optimizes scanning method, builds the model from slices. Slices from the model's surface can be exported
Slice Viewer	Cross-section builder and viewer
Z Level Machining	Enhanced roughing and finishing milling strategies
Non-Contact Laser probe	Scans soft and flexible materials and hard to reach details
Axial narrow laser beam	Acquires actual surface detail, accurately and converts male-to-female. Detects holes, narrow slots & grooves
High Speed Laser Probe	Gathers data at high speeds. (Up to 700 points per second)

Laser Probe Performance Specifications

Lens assembly focal length	16mm	25mm	50mm	50mm Extended	75mm	100mm	125mm Extended	150mm	250mm
Z (vertical) axis specifications									
Absolute accuracy (1)	2µm	3m	6m	6m	10m	15m	20m	25m	50m
Repeatability 1σ (2)	0.1µm	0.4µm	1µm	2µm	2µm	4µm	8µm	10µm	15µm
Maximum working range	0.5mm	1.8mm	8mm	8mm	18mm	35mm	45mm	70mm	170mm
Linearity over working range	0.5%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%
Stand off (3)	9mm	15mm	35mm	80mm	60mm	70mm	240mm	110mm	240mm
Angular measurement range	0 - 85 degrees								
Data handling									
Data rate	Up to 700 points per second								
Maximum readings/scan	No Limit								
General									
Working temperature (4)	18 to 35°C (6)								

(1) As measured on diffused metallic step, average over 5mm scan in X direction. Measured over 50% of working range. Reflective fine-machined surfaces (N6) will yield approximately 2X less absolute accuracy.
(2) Measured as above over repeat scans on similar objects without changing setup.
(3) From tip of objective to center of working range.
(4) Unit is calibrated at 23°C. The probe has a calibration temperature dependence of 0.02%/°C and a dependence of 0.15% from lowest to highest laser power.

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