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In addition to our UK headquarters and USA facilities, Winbro Group Technologies has a number of partner companies strategically located to provide local sales and service support.

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5-Axis Laser Machining System for Aero
Combustors and Large Aero/IGT Components

DELTA Laser Machining System



DELTA

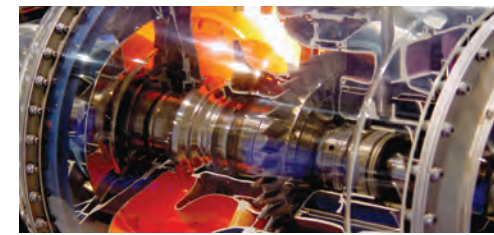
DELTA



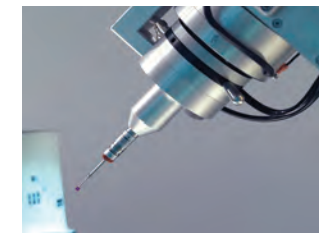
With a choice of four different laser types: high peak power pulsed Nd: YAG, high power CO₂, Fibre or Q-switched Nd: YAG, the Delta system can be configured for a diverse range of applications including hole drilling, 3D cutting, ablation, welding and cladding.



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Built upon a substantial, single piece base and with a machine capacity of 1,900mm (74.8 inches) diameter and 900mm (35.4 inches) in height, the Delta laser machining system is designed for large Aero or IGT components with a combined component and fixture weight of up to 500kg (1100 lbs).

Features

- Advanced programming interface (LFE) from user's CAD output
- Heidenhain iTNC530 control
- Tool tip interpolation
- Crash protection
- Quick change nozzle system
- Break through detection
- Contact and non-contact probing
- Patented 6 point probing system
- Capacitive focus control
- Component mapping

Performance

Strokes

X	1,500mm (59 inches)
Y	750mm (29.5 inches)
Z	1,000mm (39.4 inches)
Rotary B	+/- 140°
Rotary C	Continuous

Accuracy

Linear	0.015mm (0.0006 inches)
Rotary	15 arc sec

Repeatability

Linear	0.010mm (0.0004 inches)
Rotary	10 arc sec

Applications

A robust design combined with multi-axis flexibility, large work envelope and a choice of laser type means that the Delta can be used for many different applications including:

- Percussion Drilling
- Drilling on the Fly
- Hole Cutting (Trepanning)
- 2D and 3D Shaped Hole Machining (Ablation or Vectoring)
- Ceramic Coating Removal - Ablation
- 3D High Speed Cutting
- Cladding for Repair and Overhaul
- Welding
- Combination of these processes using dual laser sources on a single machine



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1. Industrial Gas Turbine Blade
 2. Cross section of a turbine engine
 3. Renishaw probe
 4. Drilling on the fly (DOF)
 5. Selection of nozzle assemblies

