

Five Axis Laser Machine For Precision Tool

Designed for machining superhard materials like PCD, PCBN

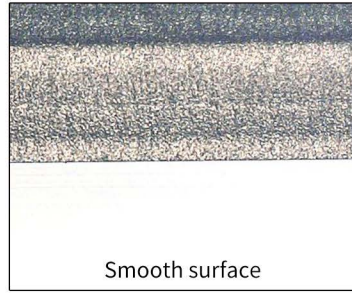


▶▶▶ GIVEALaser Series 3

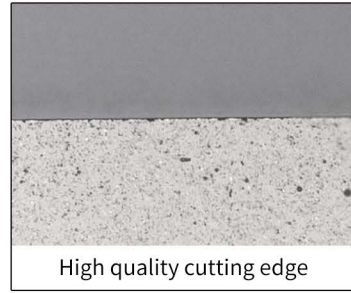
Efficiency & Quality



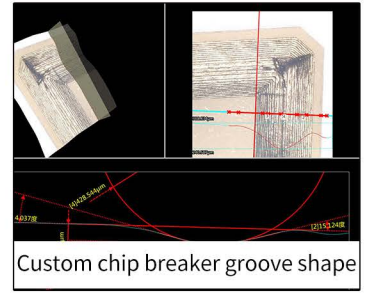
Micron-level accuracy



Smooth surface



High quality cutting edge



Custom chip breaker groove shape

- Industrial Fiber pulse laser with BOOST mode achieves amazing roughing efficiency, EDM for roughing pre-cutting is no longer necessary
- Sharp cutting edge, which can be control and achieved micron-level tip arc radius, and maintain good chipping state
- Smooth relief face with roughness lower than Ra 0.2

Wide Application

- Design to work on PCDs and CBNs for special cutting tools, suitable for cutting edge and chip-breaking groove
- Work for superhard materials like PCDs, MCDs and PCBNs of various brands on the market
- Maximal tool diameter is about 300 mm, Maximal tool length is about 450 mm
- Flexible interface, change with HSK, CAPTO, BT, BBT or straight shank quick and easy



Straight shank series



3C series



Flange series



HSK63 series



HSK100 series

Stability

- Machine body is made of cast marble, compared with cast iron, which has obvious advantages in thermal stability and vibration elimination
- Active thermal manage system, can precisely senses and controls the temperature rising of mechanical components during processing
- Using optical feedback control elements, helps to maintain high positioning accuracy and repeated repeatability for a long time

Accuracy

- Horizontal layout based on center rotation, five-axis machining accuracy will hardly lose with the increase of tool diameter and length
- Closed-loop control enhances the dynamic accuracy



Safe Measures in Production

- Equipped with dual safety door lock and anti-laser inspection window to ensure personal and equipment safety
- Auto-monitoring of air supply, cooling system and power supply to reduce the adverse effects of external faults on equipment and workpiece
- Solutions can be provided to cover the unstable factors in the customer's factory (for compressed air, water and electricity)

Low consumables, Environmentally friendly

- The main consumables are only vacuum cleaner filter
- Dry processing, equipment can be kept clean for a long time, almost no additional maintenance*
- Enclosed processing space, relatively quiet processing environment, automatic dust extraction in processing, no unpleasant dust
- Almost no industrial waste during the processing process except for cutting leftover materials and dust

* The filter needs to be replaced manually

Technical specifications

Machinery:

X-axis: 470mm
 Y-axis: 250mm
 Z-axis : 280mm
 Maximal feed rate: 15m/min
 A-axis : ∞
 B-axis : 125°
 Control mode: 5-Axis Linear motor*

Optical System:

Galvo scanning system

Air Cleaning:

Air Volume : $>400\text{m}^3/\text{H}$
 Air Pressure : $>5000\text{Pa}$
 Filter Grade: HEPA level

Laser Source:

Industrial Fiber pulse laser : 100W*(High power available)
 Wavelength : 1064nm
 Pulse Width : $<500\text{ns}$
 Frequency: $<1\text{MHz}$

Options:

Robot Tool loader
 Replaceable interface with HSK, CAPTO, BT, BBT or straight shank
 Additional Expandable Platform

Accuracy:

Linear Axis Resolution: 0.0001mm
 Rotary Axis Resolution: 0.0001°

Range of Machinable Tools:

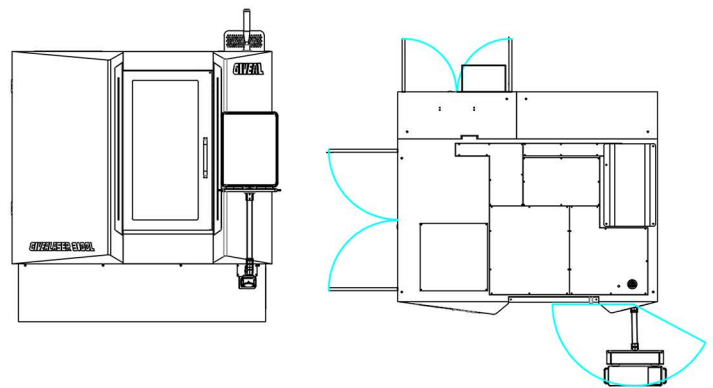
For Round Tools
 Diameter***: 0.2~300mm
 Length****: 0~450mm

Others:

Total Power: 18KVA @ 380V($\pm 5\%$) / $50\pm 1\text{Hz}$
 Voltage: AC 240V and DC 24V
 Current: 63A
 Weight: 5500kg
 Dimensions: 2200mm \times 2200mm \times 2400mm

Service:

Operation and Maintenance Training
 Provide Tool Program to Customer



*、**Option

***According to the processing settings (technology and geometry) and model changes, here refers to the maximum diameter formilling cutter and maximum length for reamer.

****Always ask our starffs for the information about newest upgrade.