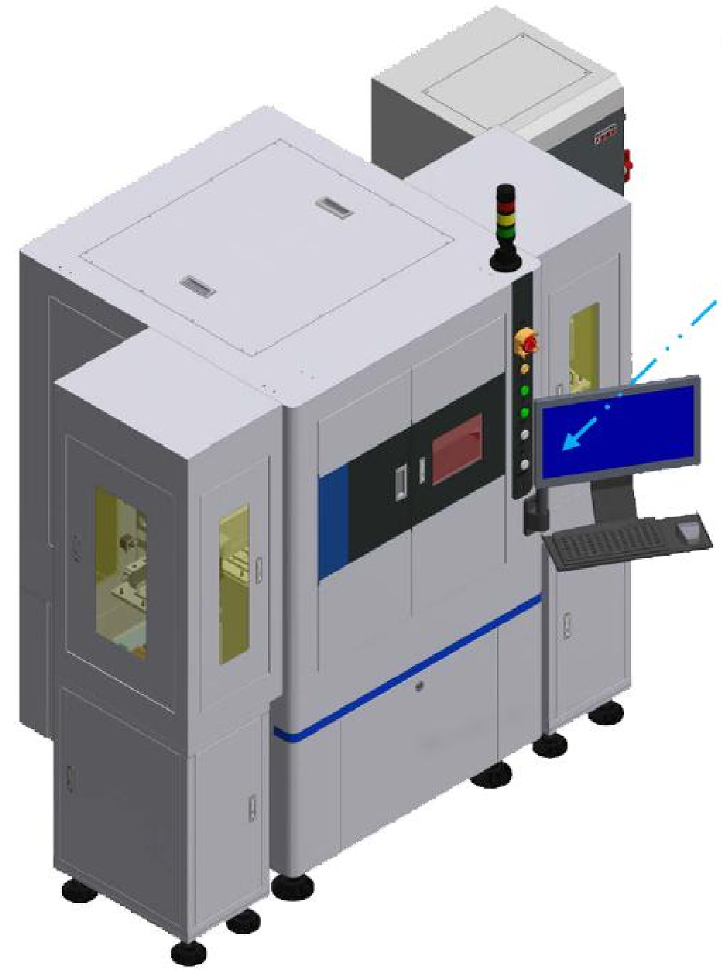
Ceramic Laser Cutting System

PCBA Laser Cutting & Marking Project

Ceramic Laser Cutting System (with Auto Loading & Unloading)



Application Range:
Suitable for precision cutting and grooving of materials such as ceramics, FPCA, PCBA, rigid-flex boards, cover films, SIP packaging chips, etc.

Equipment Features:

Adopts a single worktable combined with a gantry motion control system, achieving high-speed operation and high repetitive positioning accuracy.

Equipped with self-developed control software, featuring multi-panel cutting, automatic focusing, expansion and compensation functions, etc., enabling high-precision processing.

Utilizes a high-precision motion system, scanning galvanometer, and camera vision positioning system, achieving high machining accuracy (full marble structure).

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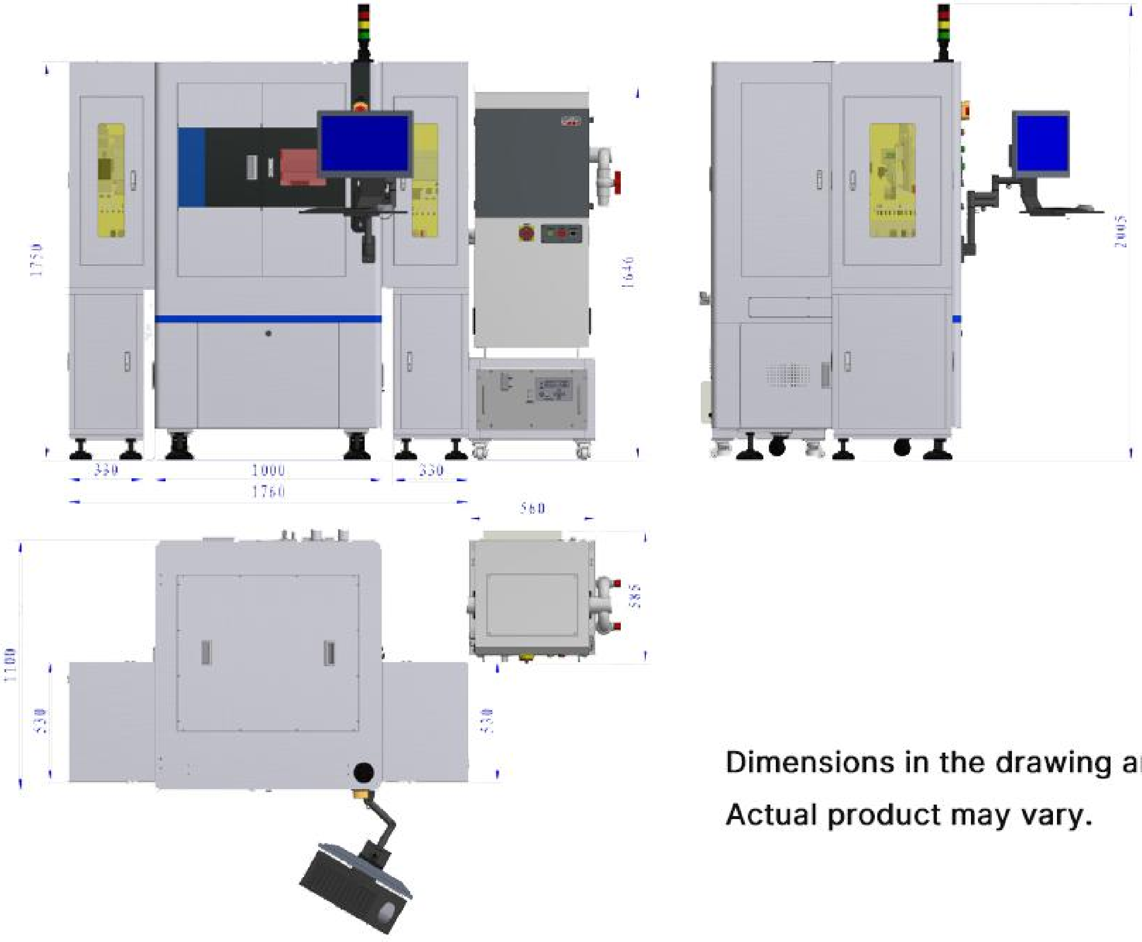

Dimensions in the drawing are for reference only.

Actual product may vary.

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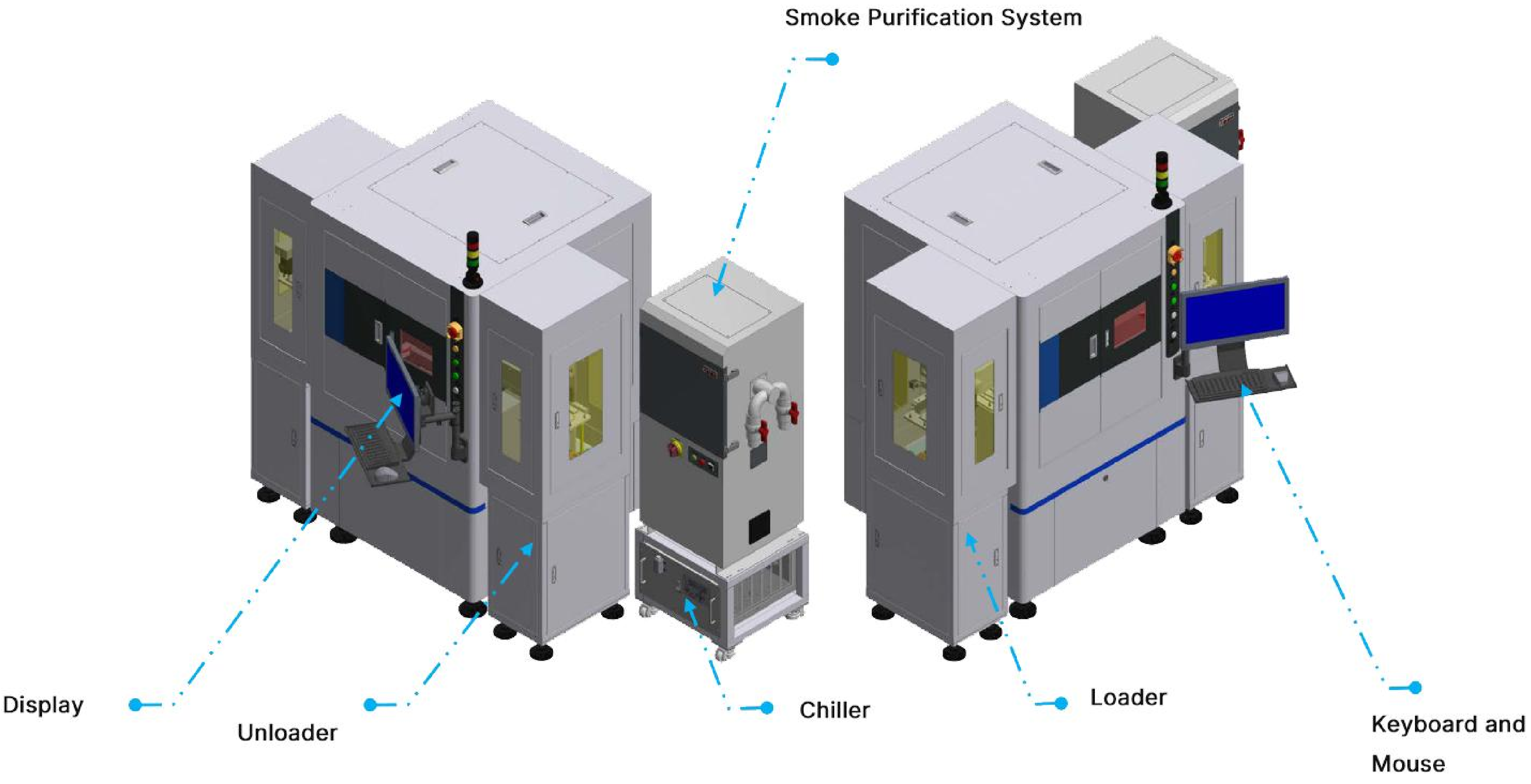

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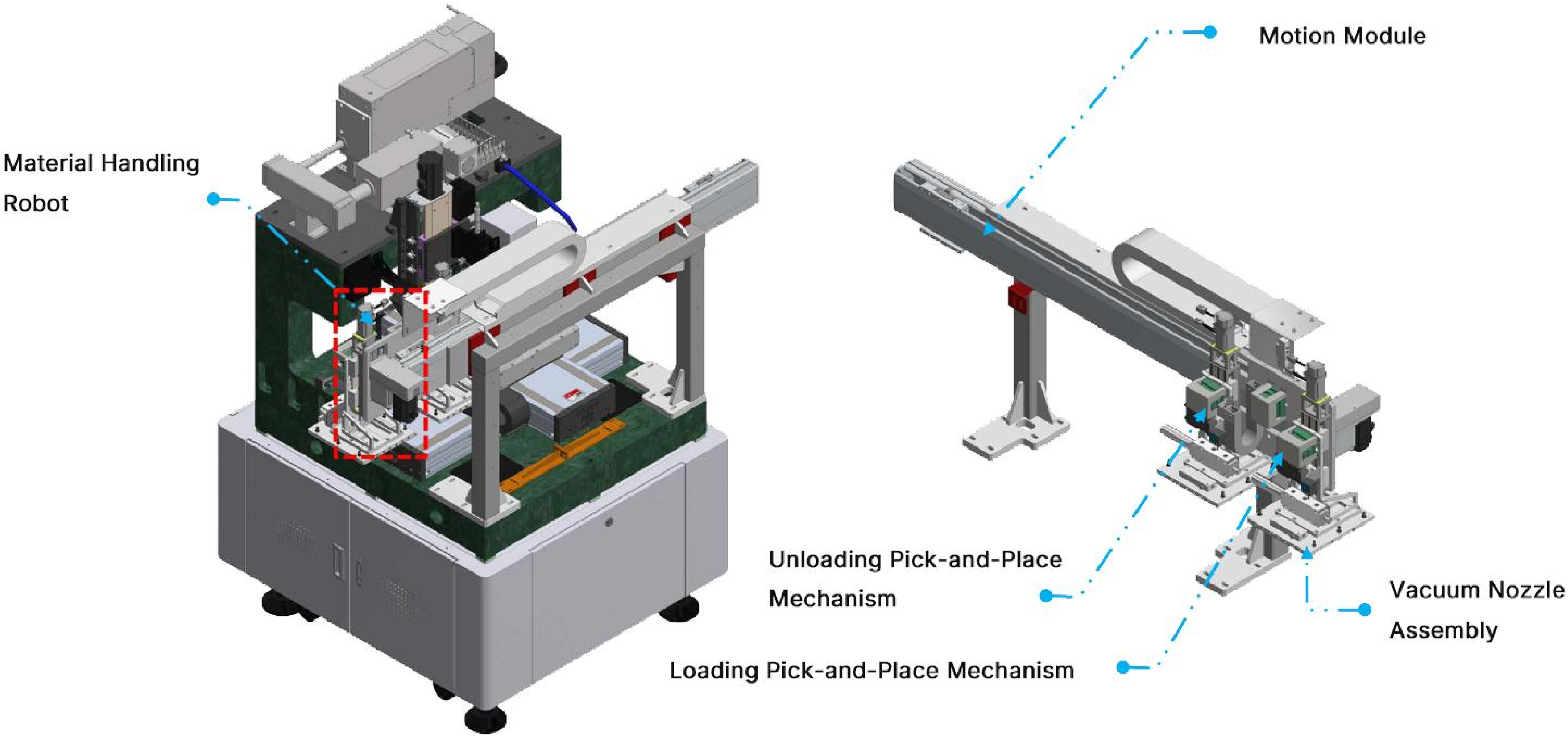

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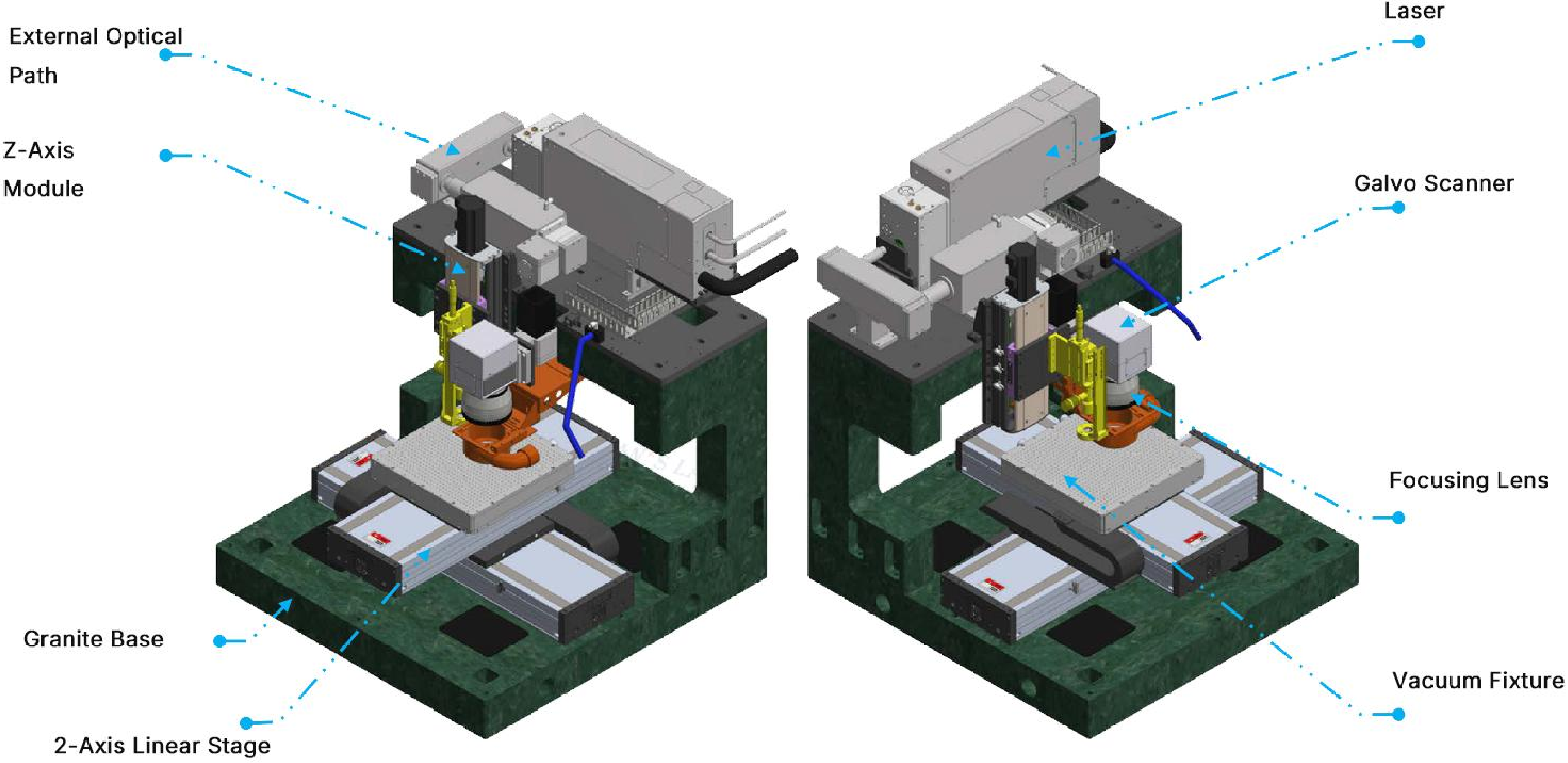

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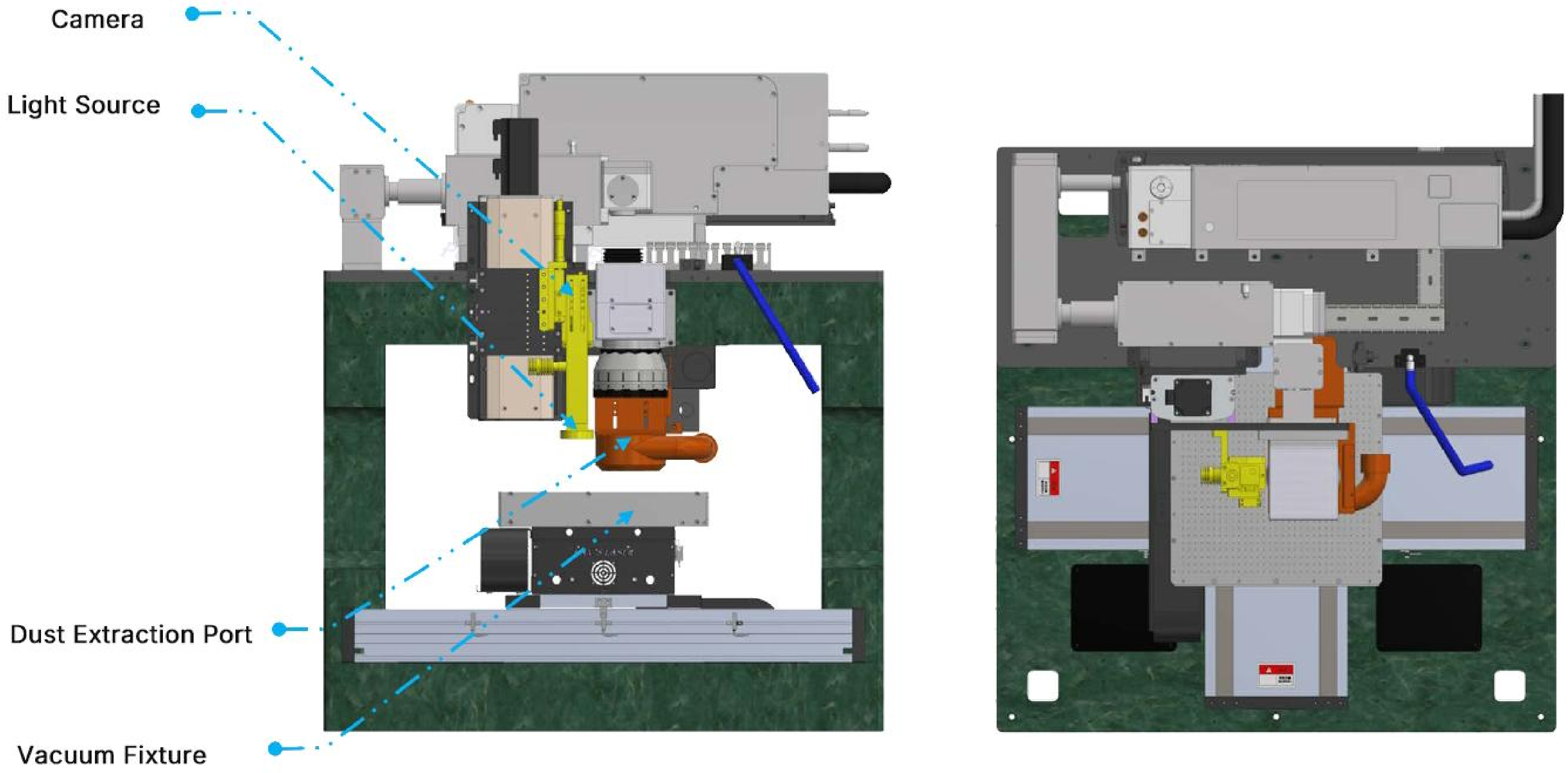
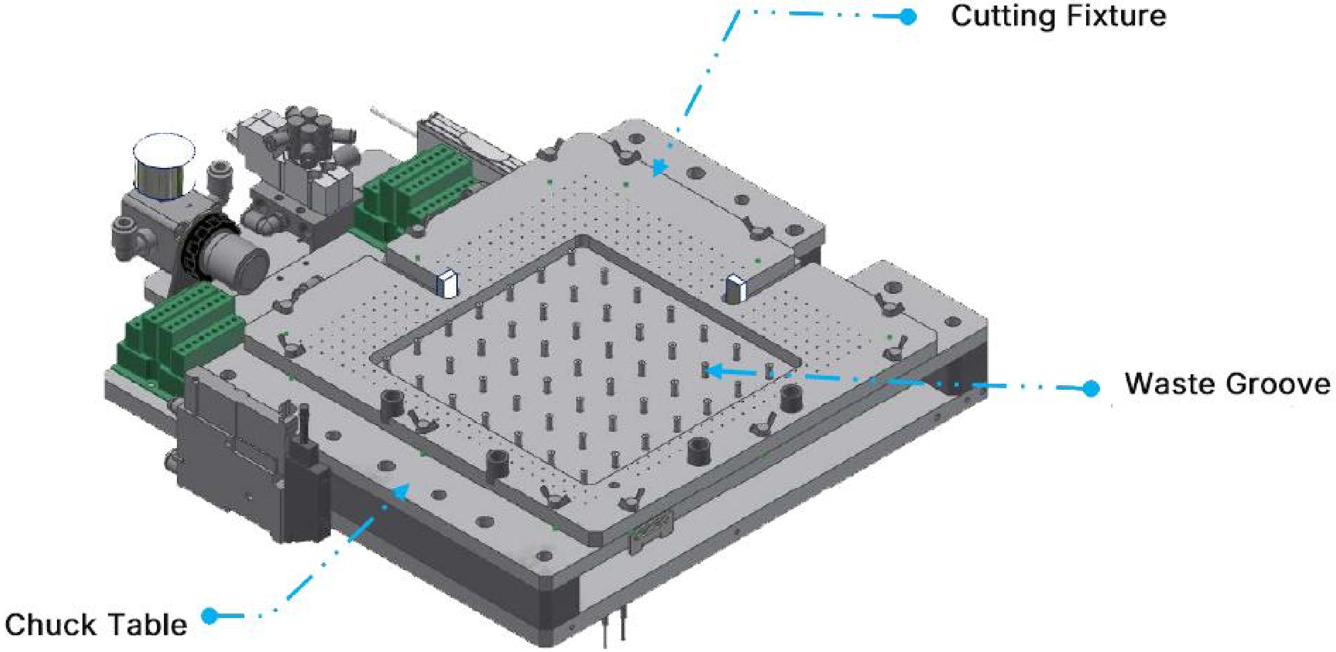


Product Fixture Illustration



1. Before use, lock the cutting fixture onto the chuck table.

2. After dicing, waste material (debris) will fall into the central waste groove. After a period of processing, the waste must be cleaned out to prevent it from affecting processing quality.

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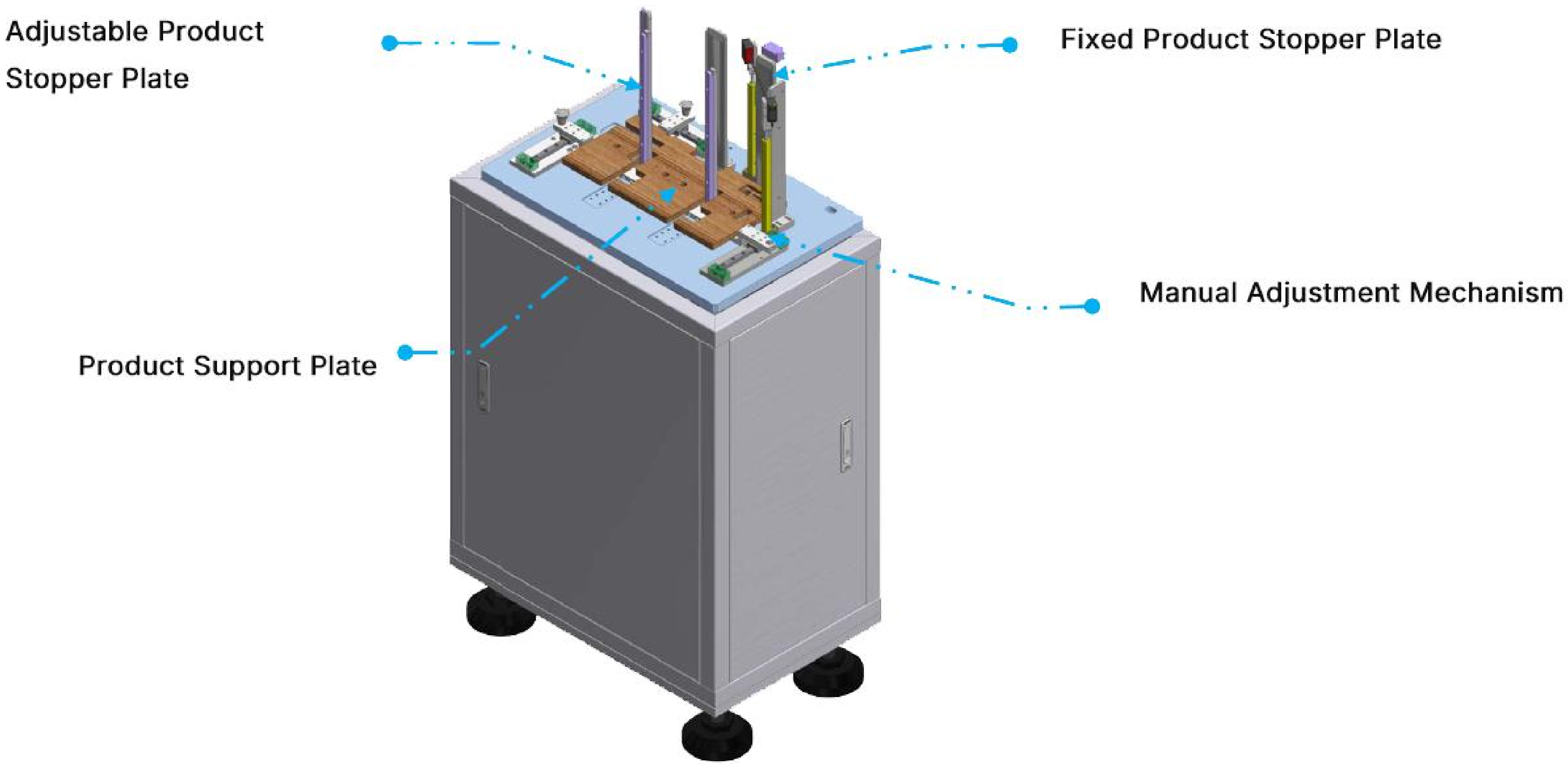

Equipment Main Technical Parameters

Model: GCY-NUB4040

Control System: Galvo control card + motion control card + Windows system

Wavelength: 355nm

Power: 20W

Pulse Width: <10ns

Repetition Frequency: ≤4000KHz

Galvo Scanning Range: ≤50 × 50mm

Cooling Method: Water cooling

Final Processing Repeat Positioning Accuracy: ≤±0.02mm

Maximum Processing Area: 300 × 300mm

Supported File Formats: DXF, DWG, GBR

Industrial Dust Collector Power: 2.2KW

Smoke Purification System (Optional)

Overall Dimensions (mm)	640×540×1222
Weight (kg)	105
Max Airflow (m^3/h)	265
Max Negative Pressure (mbar)	230
Rated Power (kW)	2.2
Voltage (V/Hz)	220/50&60
Control & Protection	External Control & Digital Pressure Display & Alarm Output
Noise (dB)	70±2
Interface Specification	Inlet: 2×Ø50; Exhaust: Ø75
Filter Cartridge Material	PTFE Membrane Filter Cartridge
Filtration Area (m^2)	4.0
Filter Cartridge Filtration Efficiency	≥99% @ 0.3μm
Ash Cleaning Method	Manual (Automatic Buzzer Reminder)

Working Environment Requirements

Item	Specification
Operating Environment	10°C ~ 30°C (Air conditioning required, indoor temperature stability controlled at ±2°C)
Transportation Environment	-25°C ~ 55°C
Operating Humidity	45% ~ 75%
Power Requirement	1P AC220V, 50/60Hz, 30A
Grid Voltage Fluctuation	$< \pm 10\%$
Grounding	Comply with national standards for computer rooms
Cooling Water	20L (DI water / Distilled water / Purified water)
Compressed Air	Pressure: 0.5-1.2MPa, Flow rate ≥200L/min (Compressed air must be dewatered, deoiled, and dried by an air dryer before entering the equipment)
Prohibited Installation Locations	a. Locations with heavy dust, oil mist, or debris; b. Locations with frequent vibration or impact; c. Locations exposed to chemicals or flammable/explosive materials; d. Locations near high-frequency interference sources; e. Locations prone to condensation