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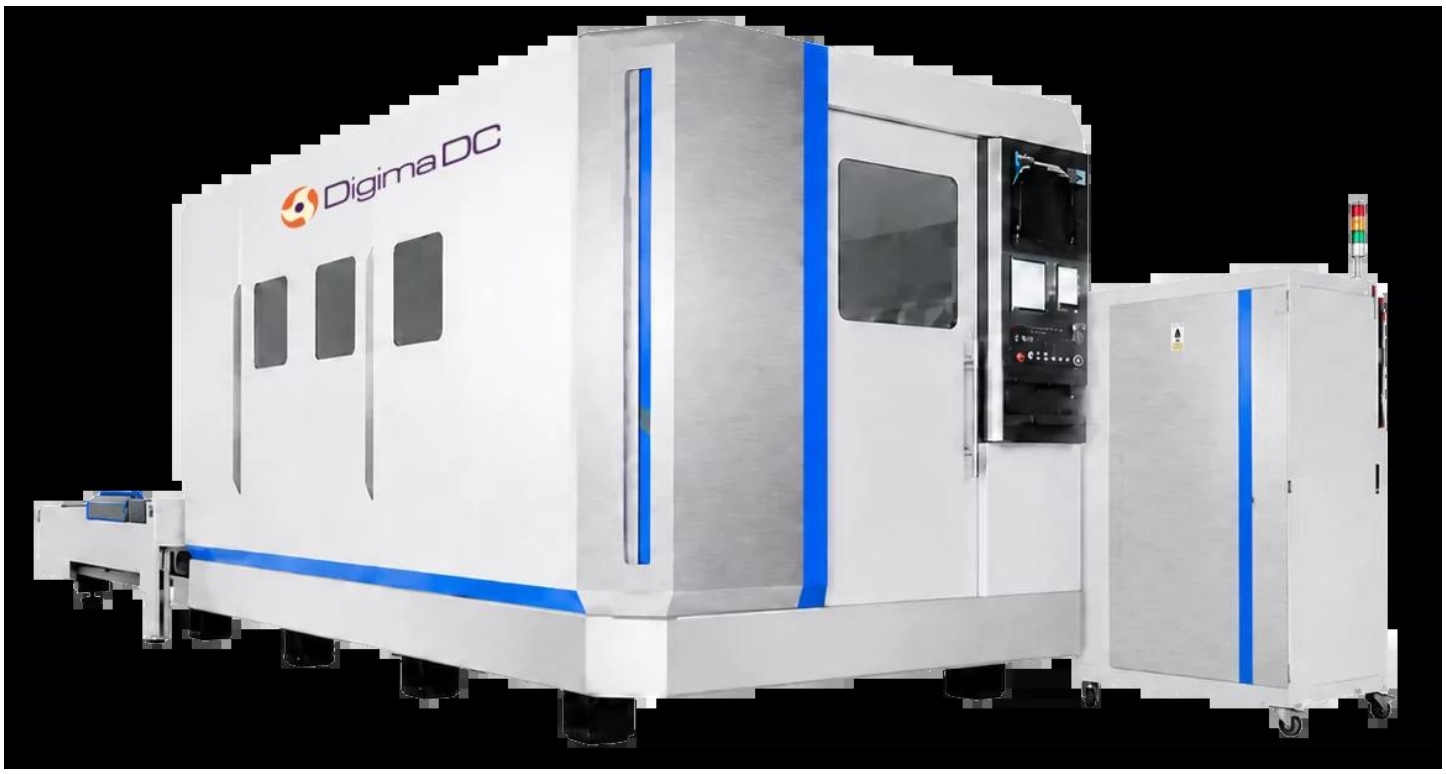
Digima DH-1520 1.5 kW enclosed fibre laser, 1500x2000



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Fiber Laser D-1520 1500W
Fiber CNC Laser D-1520 1500W for precision metal cutting

D-1520 is a Fiber Laser D-1520 1500W designed for CNC cutting of sheet metal and metal components. The machine combines a compact design, a **1500 × 2000 mm** working area, a **Raycus 1500W** laser source and a **Raytools BS03KCAT** cutting head.

This model is ideal for sheet-metal component production, metalworking workshops, advertising companies, and the production of guards, panels, enclosures, technical components, and parts made of carbon steel, stainless steel, aluminium, brass and copper.

D-1520 1000 W is a practical fiber laser for companies that need precise, repeatable and fast metal cutting while retaining compact machine dimensions.
Main machine photos

Two main photos of the D-1520 laser

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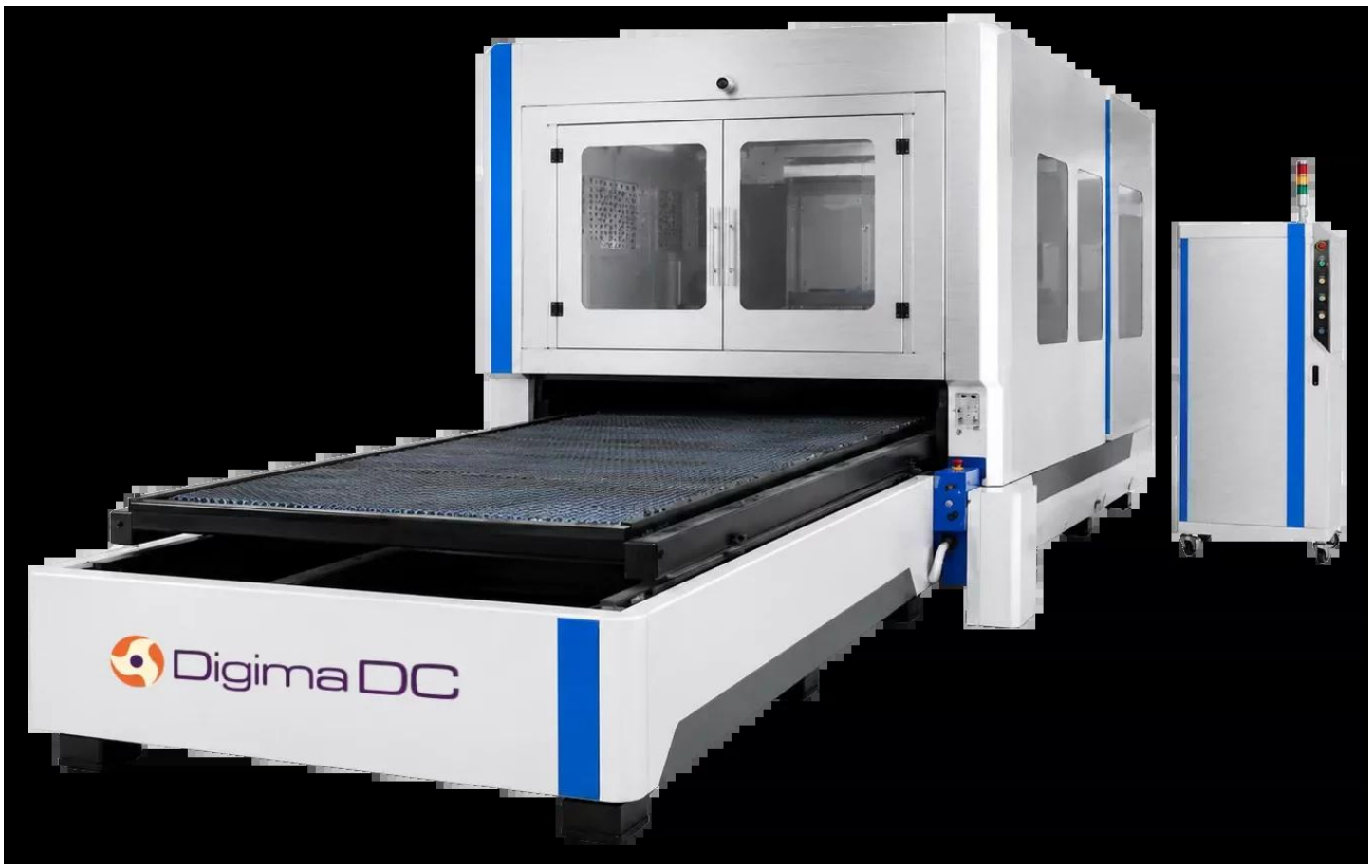

General view of the machine

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Additional laser view
Machine configuration

15 key machine components

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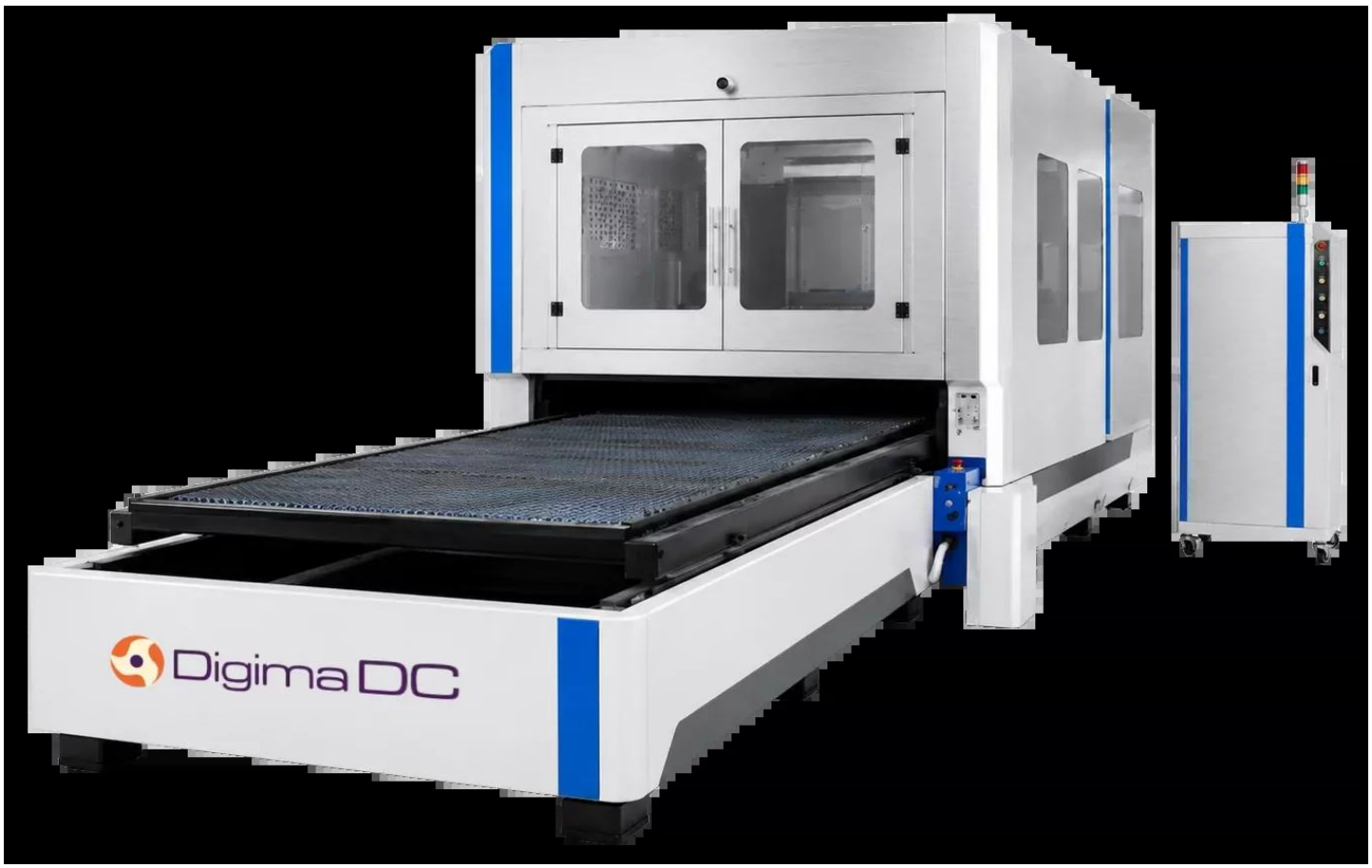

1. Machine Machine with a 2000 × 1500 mm working area, a stable construction and high operating dynamics.

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2. Laser source Raycus 2 kW laser source for efficient metal cutting.

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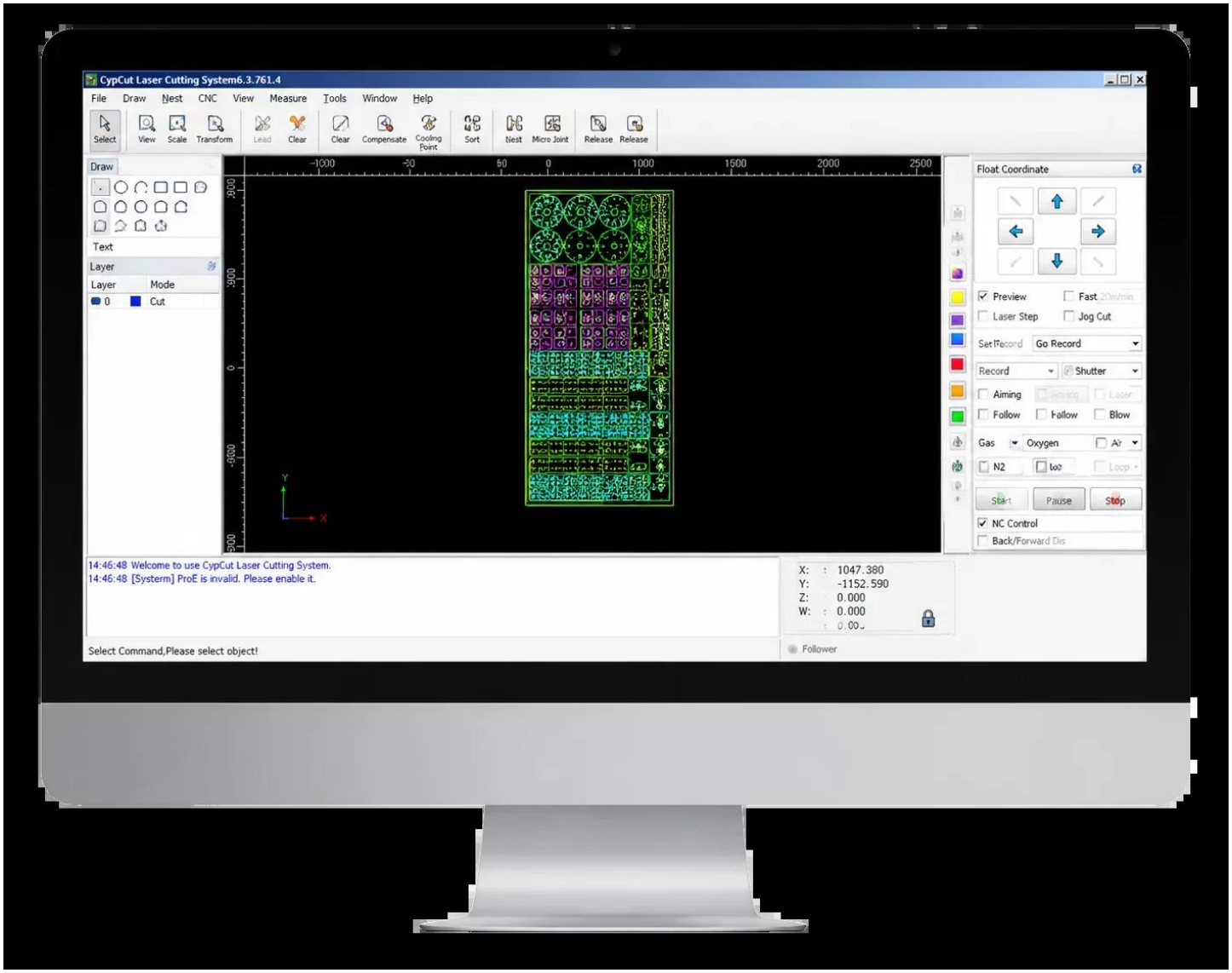
3. Laser headBM03KCAT head with lens protection, water cooling and automatic focal-length adjustment.

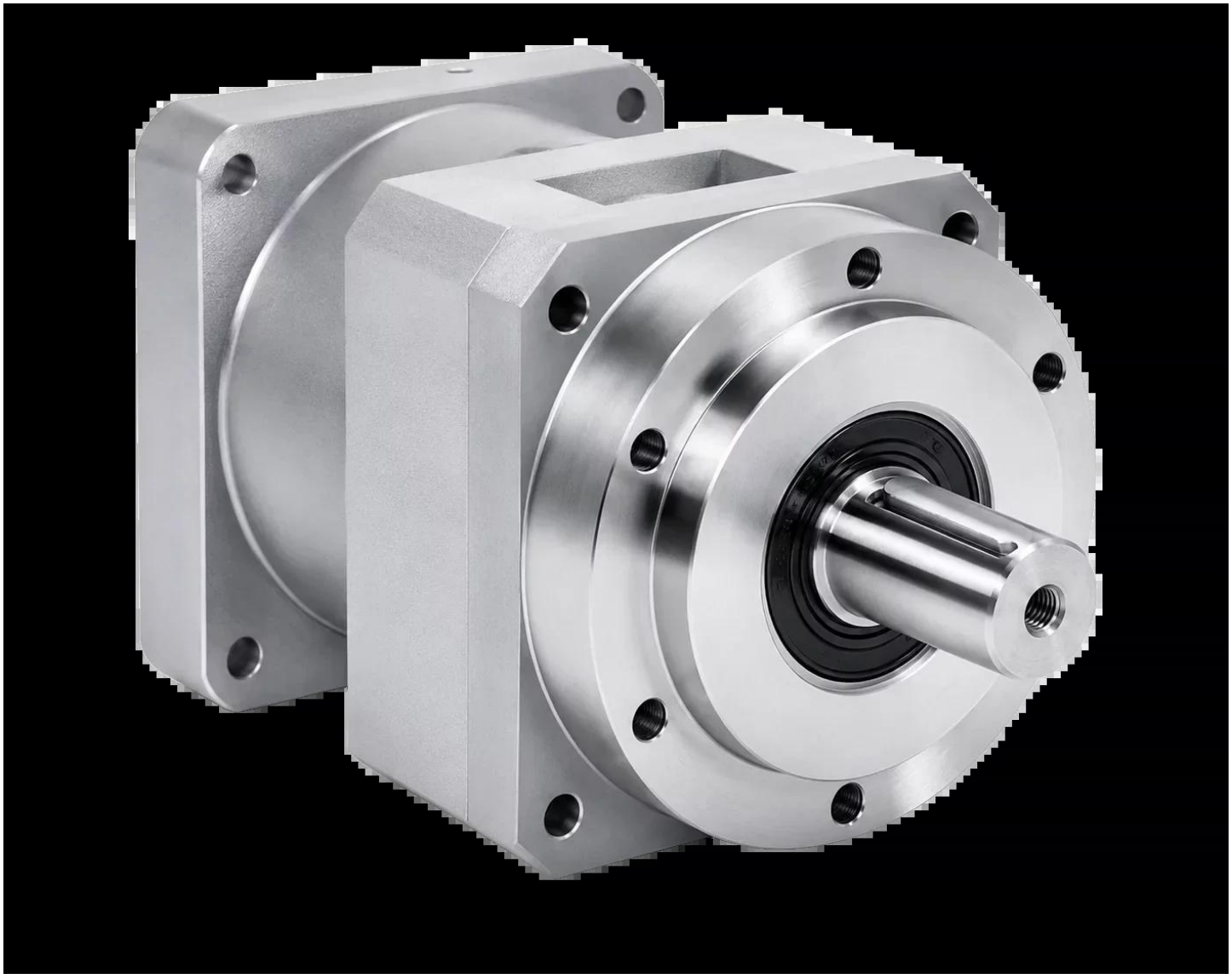
4. Servo driveDELTA drives: X axis 750 W, Y axis 2 × 750 W and Z axis 400 W.



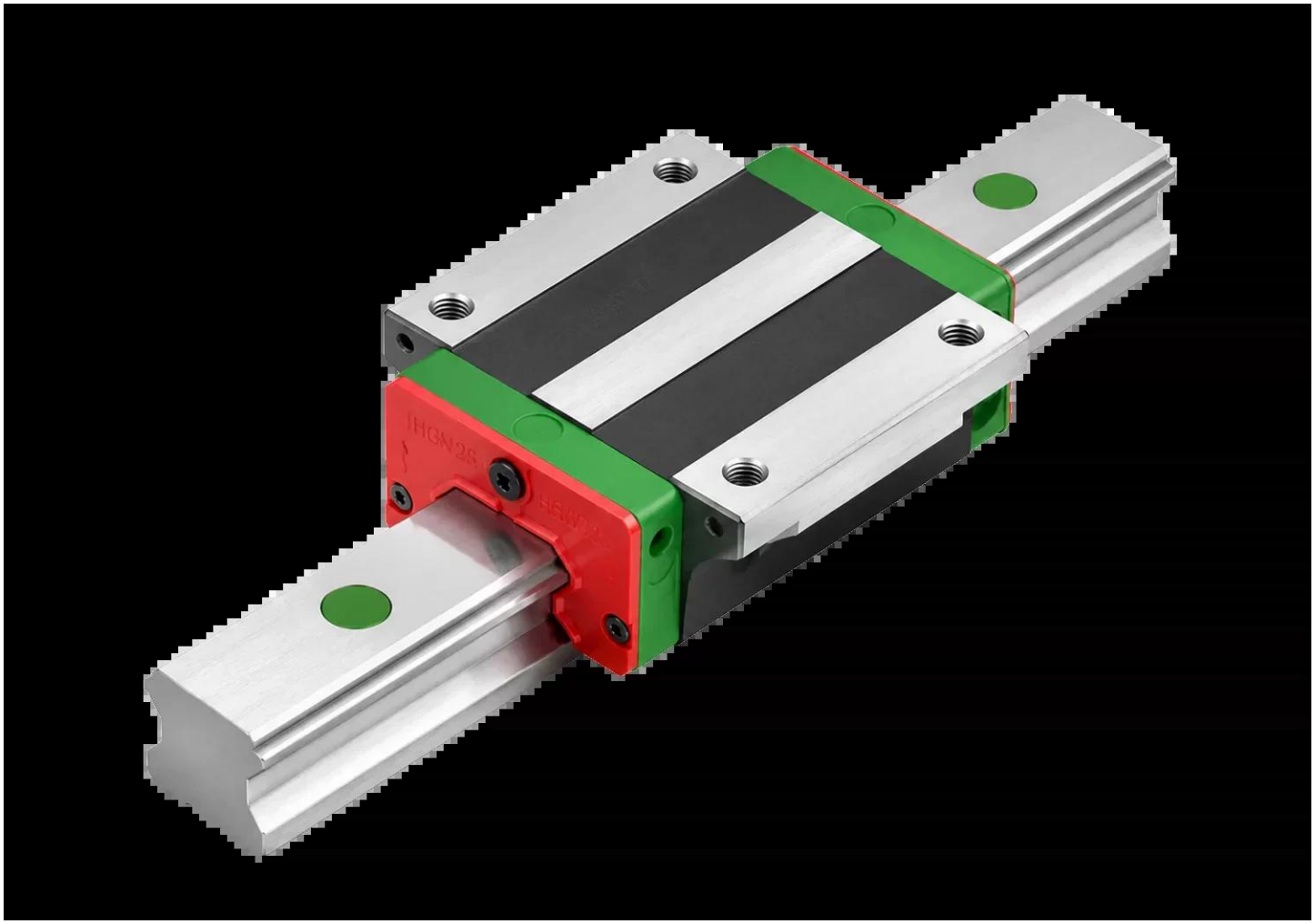
5. Control system Raytools XC3000S system for controlling the laser cutting process.

6. RackYYC rack made of hardened and ground steel — durable and precise.

7. TBI ball screwTBI component from Taiwan used in the precision motion system.



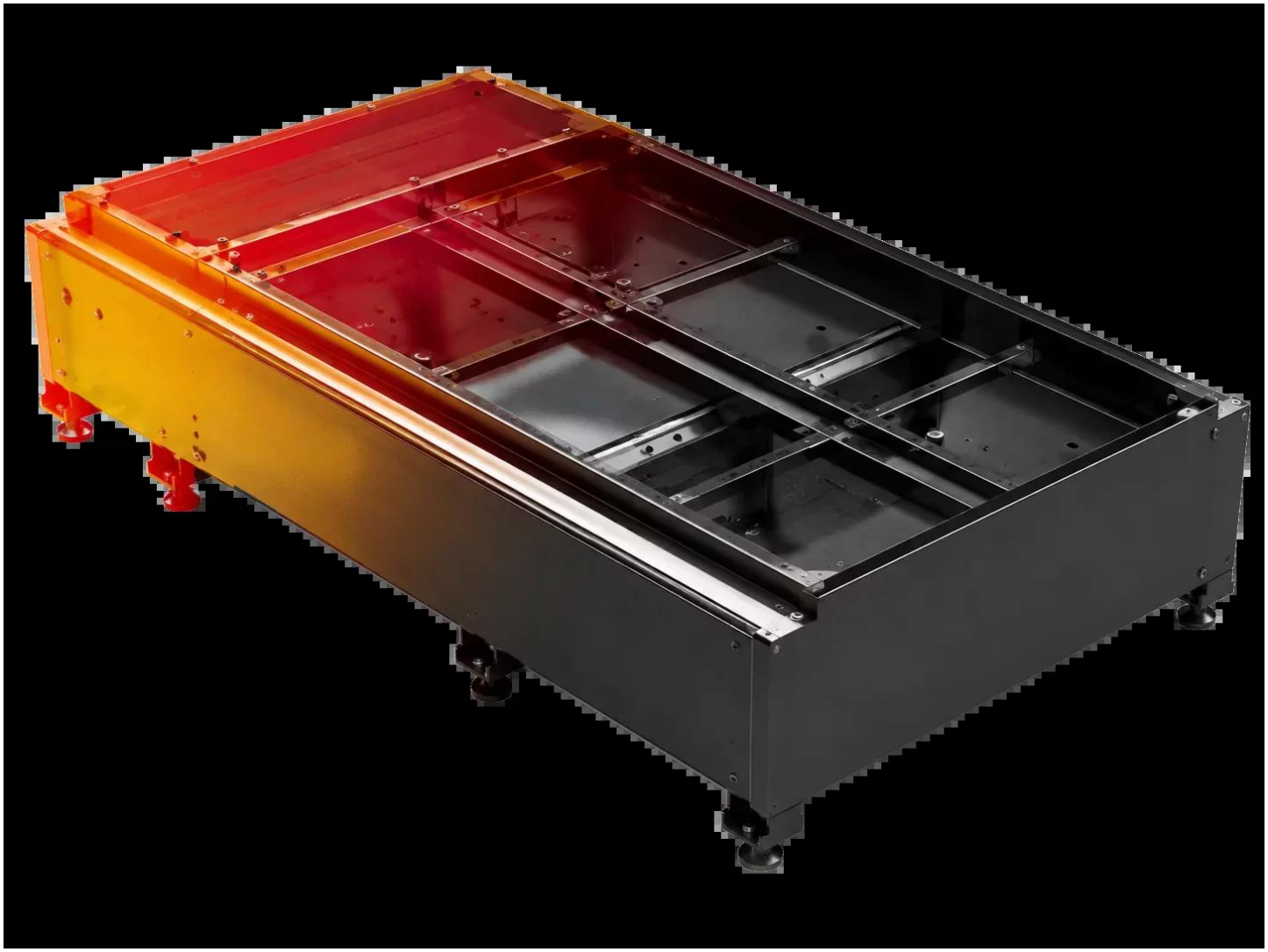
8. GearboxSHIMPO gearbox ensuring stable power transmission.



9. Linear guideHIWIN guides for smooth and accurate axis movement.

10. Electrical componentsDELIXI electrical components used in the control system.

11. Proportional gas valveSMC proportional valve for precise gas-pressure control.



12. Machine bed Bed after heat treatment and ageing process for structural stability.

13. Gantry beam Lightweight and rigid aluminium beam improving dynamics and cutting quality.

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14. Water chillerHANLI / S&A chiller for stabilising the temperature of the source and head.

15. Lubrication system Automatic guideway lubrication with time and frequency adjustment.
Optional equipment

Optional components available for purchase

The following components can be added to the laser configuration.

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Voltage stabiliser

Helps maintain stable power supply and smooth machine operation, especially in locations with voltage fluctuations.

Screw compressor with air tank

A solution for economical cutting of carbon and stainless steel using compressed air.

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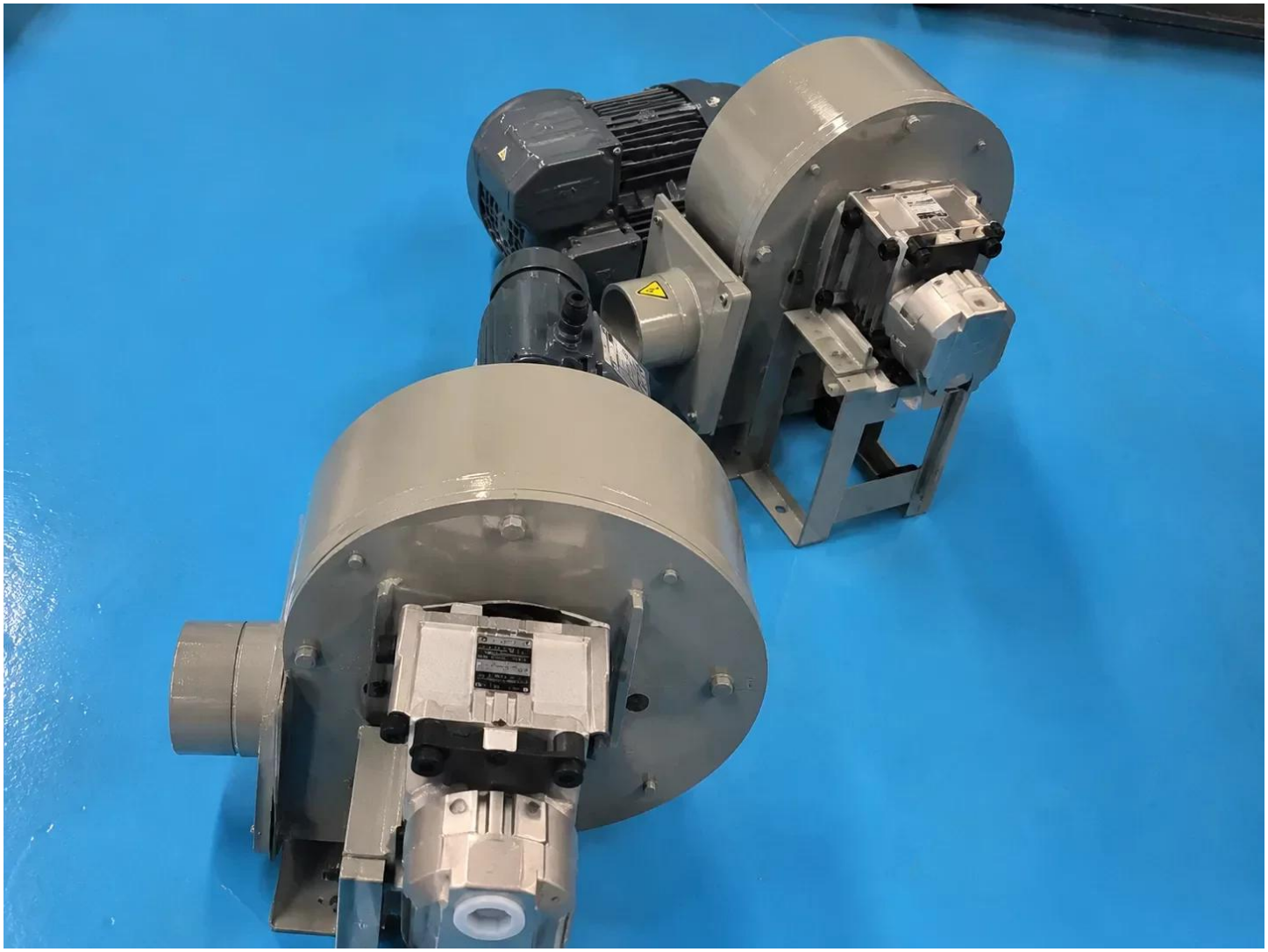

Extraction fan

A simple and practical system for removing dust and fumes generated during laser cutting.

Consumables

Optional laser consumables

Consumable parts included in the set.

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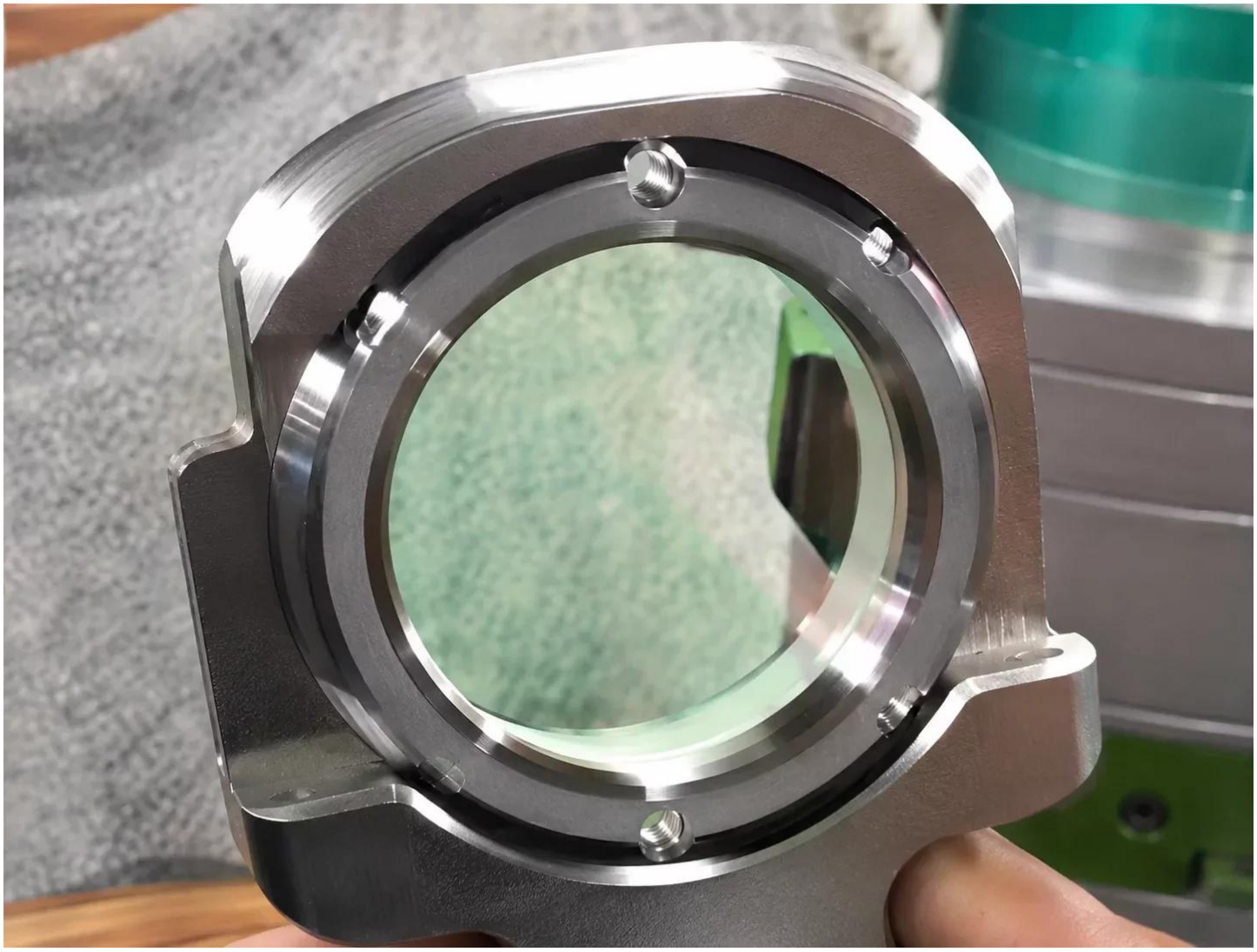

Protective lens, 5 pcs. Service life: 300–500 hours. The set includes 5 pieces; a larger stock is recommended.

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Cutting nozzle, 5 pcs. Service life: 300–500 hours. Cutting nozzles for everyday machine operation.

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Ceramic ring, 1 pc. Service life: 4000–5000 hours. A component of the laser head.

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Focusing lens, 1 pc. Service life: 4000–5000 hours. Lens that focuses the laser beam

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Collimating lens, 1 pc. Service life: 4000–5000 hours. Optical component of the laser system.
Technical images

Machine dimensions and technical drawing

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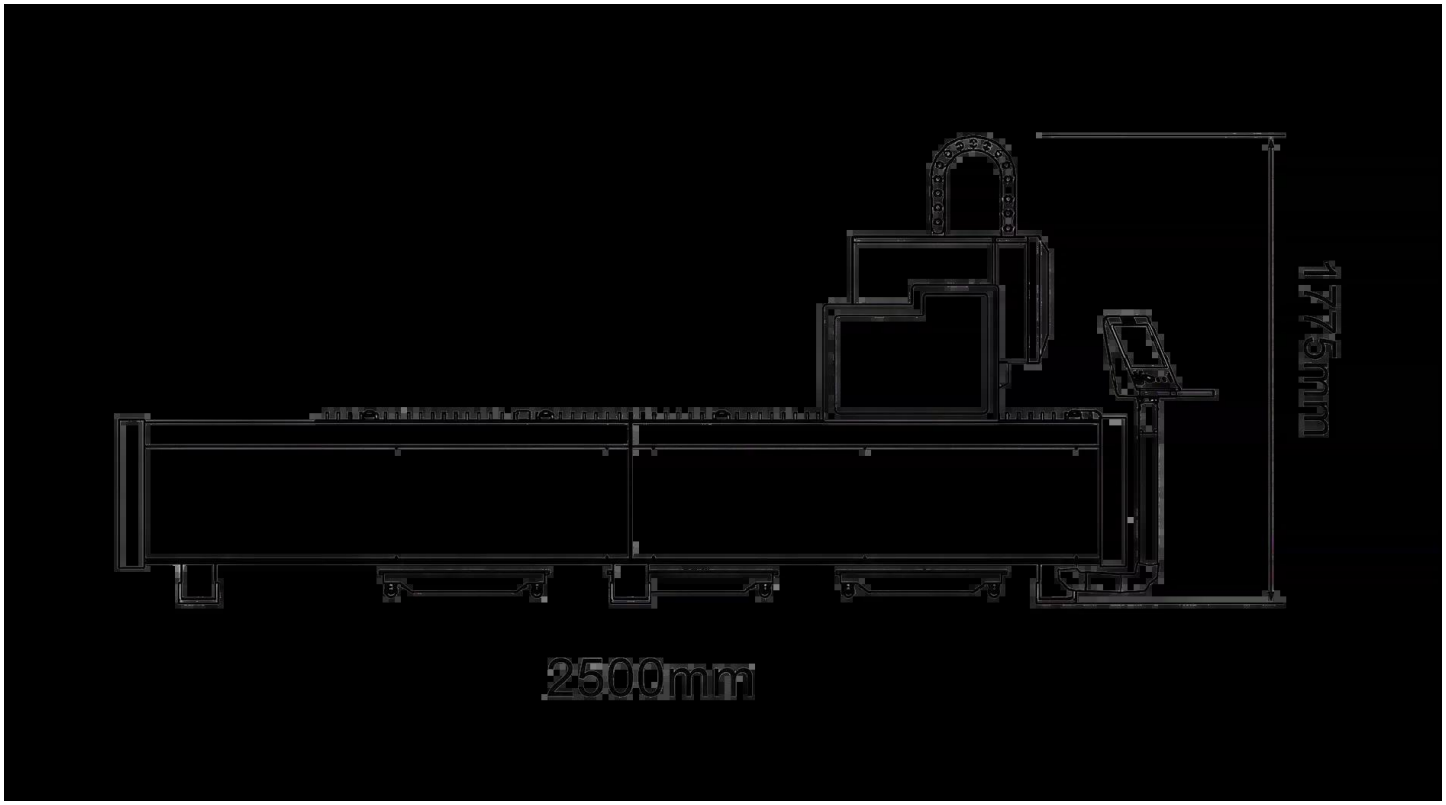

Machine dimension drawing Side and top views with the key dimensions of the D-1520 structure.

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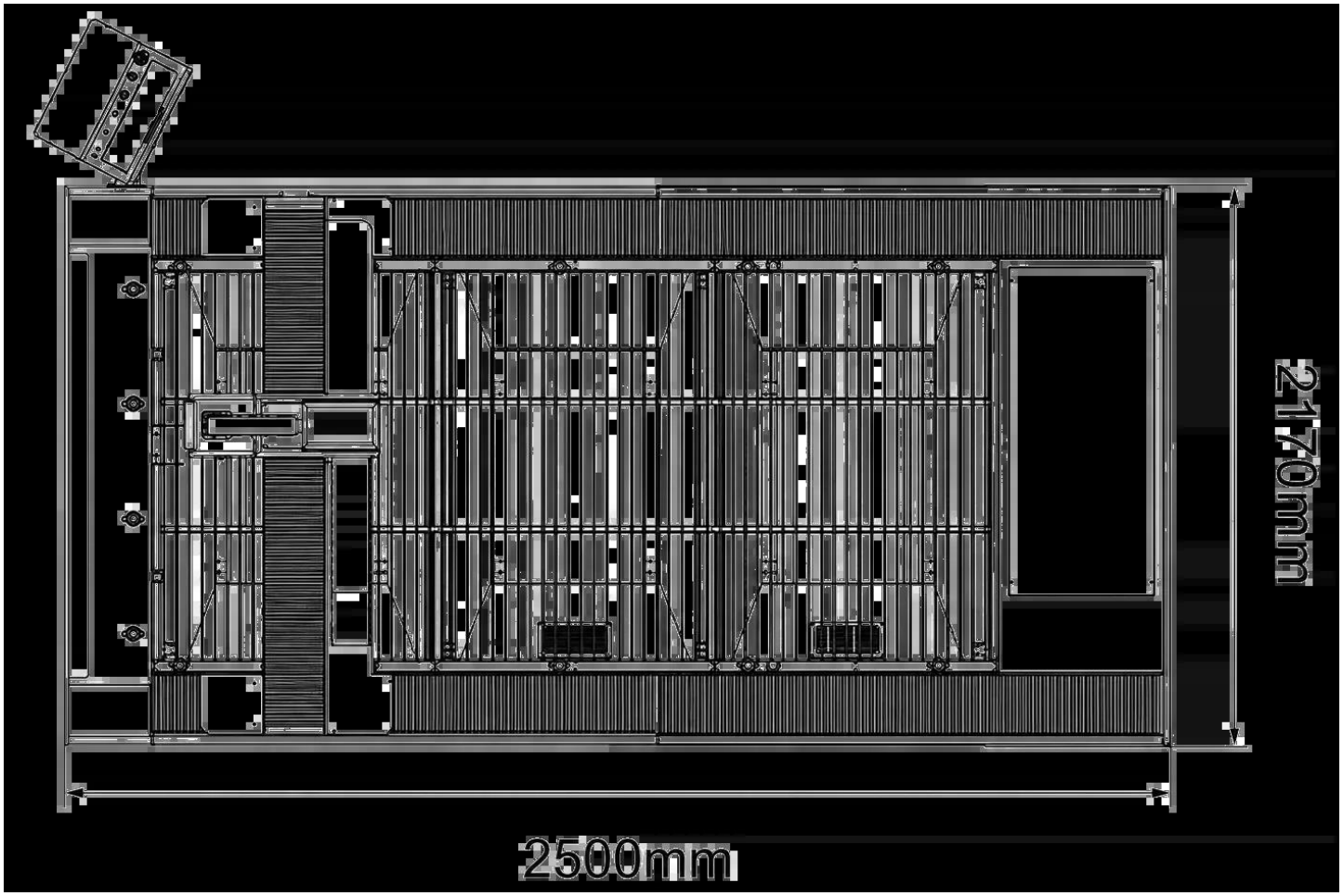

Additional technical image Diagram or technical detail showing the machine construction.
Cutting parameters

Cutting parameters for the D-1520 1000 W model

Carbon steel — CS

Cutting parameters for a 1000 W source.

Material thickness	1000 W cutting speed	Material
1 mm	**15 m/min**	Carbon steel
2 mm	**6 m/min**	Carbon steel
3 mm	**2,5–3,2 m/min**	Carbon steel
4 mm	**2,3–2,8 m/min**	Carbon steel
5 mm	**1,8–2,1 m/min**	Carbon steel
6 mm	**1,2–1,5 m/min**	Carbon steel
8 mm	**1–1,1 m/min**	Carbon steel

Material thickness	1000 W cutting speed	Material
10 mm	**0,6–0,9 m/min**	Carbon steel

Stainless steel — SS

Cutting parameters for a 1000 W source.

Material thickness	1000 W cutting speed	Material
1 mm	**15–20 m/min**	Stainless steel
2 mm	**4–6 m/min**	Stainless steel
3 mm	**2,5–3 m/min**	Stainless steel
4 mm	**1–1,5 m/min**	Stainless steel

Aluminium — AL

Cutting parameters for a 1000 W source.

Material thickness	1000 W cutting speed	Material
1 mm	**10–15 m/min**	Aluminium
2 mm	**4–6 m/min**	Aluminium
3 mm	**1–1,5 m/min**	Aluminium

Brass — Brass

Cutting parameters for a 1000 W source.

Material thickness	1000 W cutting speed	Material
1 mm	**8–10 m/min**	Brass
2 mm	**2–2,6 m/min**	Brass
3 mm	**0,6–1 m/min**	Brass

Operating cost analysis — 1000 W variant

Data manually transcribed from the operating cost analysis table for 1000 W power.

Item	Air / stainless steel	Oxygen O / stainless steel	Nitrogen N / stainless steel
Laser power	2,3 kW	2,3 kW	2,3 kW
Water chiller unit	2,8 kW	2,8 kW	2,8 kW
Main machine	5,4 kW	5,4 kW	5,4 kW
Extraction unit	3 kW	3 kW	3 kW

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Item	Air / stainless steel	Oxygen O / stainless steel	Nitrogen N / stainless steel
Total power	13,4 kW	13,4 kW	13,4 kW
Average energy consumption	13,4 × 80% = 10,72 kW	13,4 × 80% = 10,72 kW	13,4 × 80% = 10,72 kW
Gas consumption	150 l/h	30 l/h	150 l/h

The data are indicative and depend on the material type, sheet quality, assist gas, focusing settings, nozzle, pressure and the required edge quality.
Technical specifications

D-1520 1000 W specification

Parameter	Value
Model	Fiber Laser D-1520 1500W
Working area	1500 × 2000 mm
Laser power	1000 W
Cutting head	BS03KCAT
Laser source	Raycus
Fiber source service life	Over 10,000 hours
Chiller	S&A / Hanli
Cutting thickness range	0.5–10 mm within the standard precision range
Cutting assist gas	Standardly without an air source; optionally a screw compressor with air tank, oxygen or nitrogen
Maximum acceleration	1,5G
Repositioning accuracy	Within ±0.01 mm
Lubrication system	Electric
Dust extraction	Standardly without an extraction unit; optionally an extraction fan
Positioning accuracy	< ±0,02 mm
Assist gases	Oxygen, nitrogen, compressed air
Repeatability	≤ ±0,005 mm
Maximum speed	60 m/min
Supported file formats	DXF / PLT / AI / LXD / GBX / NC code
Power supply voltage	380 V, 3 phases, 50/60 Hz / 220 V
Warranty	1 year