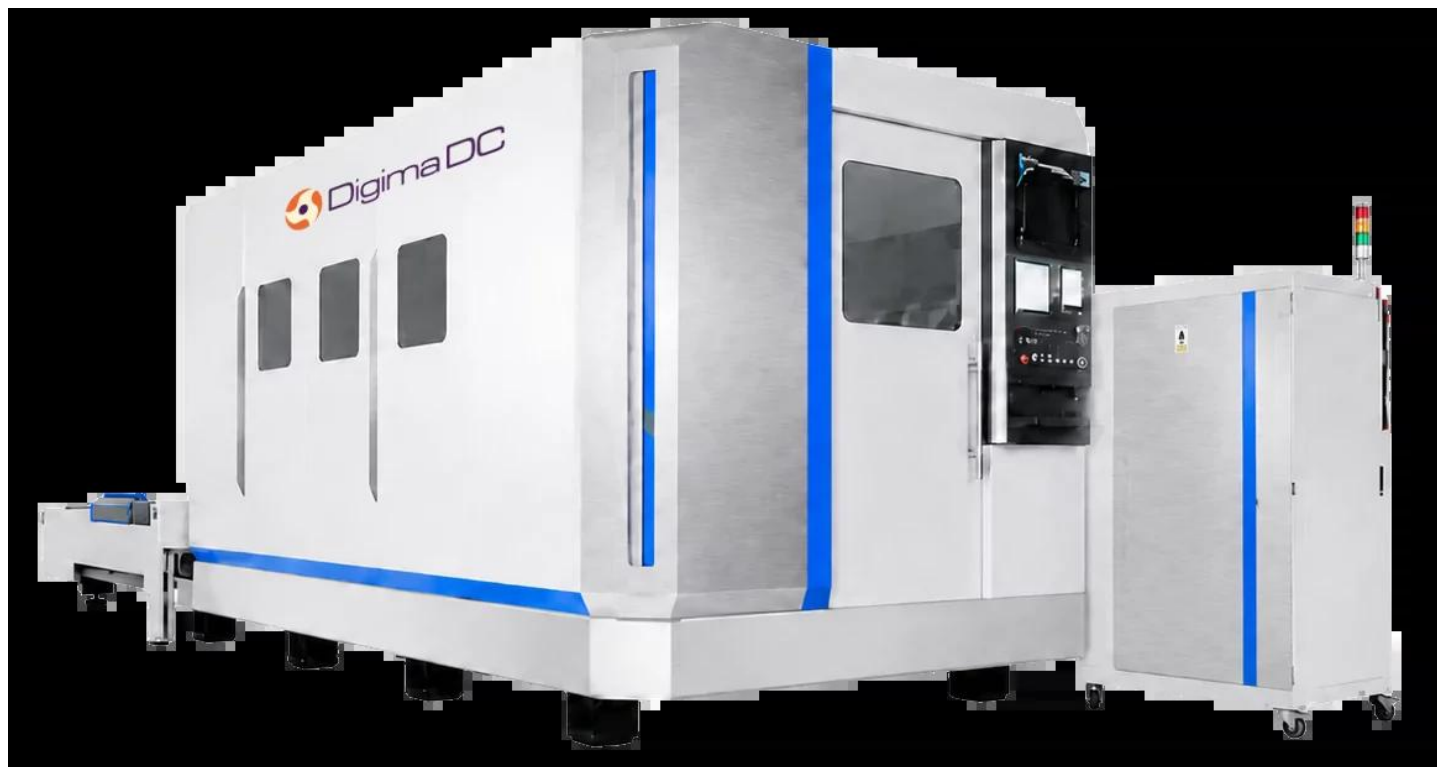


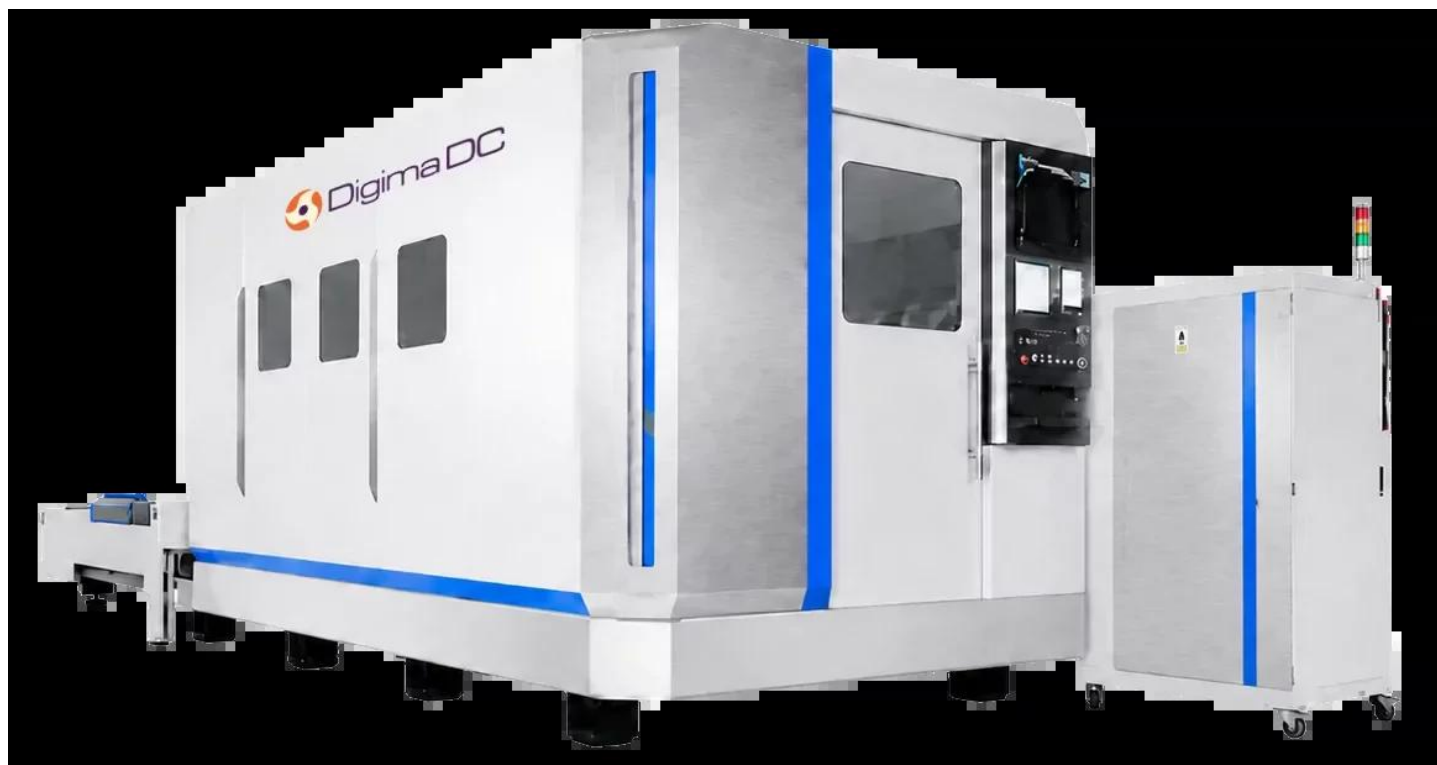


## KARTA PRODUKTOWA

---

### **Digima DH-1520 2 kW enclosed fibre laser, 1500x2000 1500x2000**





Fiber Laser D-1520 2000W

Fiber CNC Laser D-1520 2000W for precision metal cutting

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

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

The D-1520 2000 W is a practical fiber laser for companies that require precise, repeatable and fast metal cutting while maintaining compact machine dimensions.

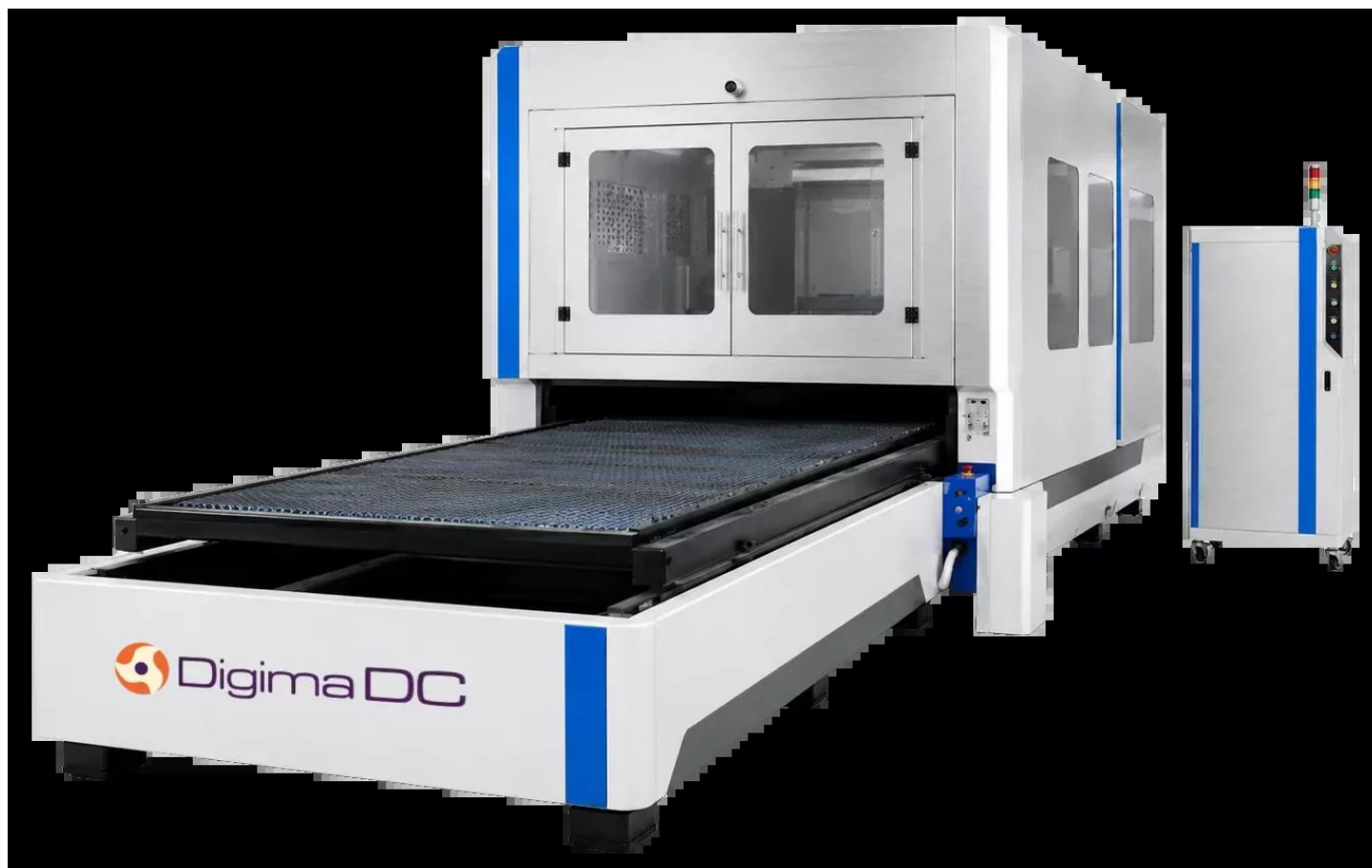
Main machine photos

### Two main photos of the D-1520 laser



## KARTA PRODUKTOWA

---



General view of the machine



## KARTA PRODUKTOWA

---



**Additional laser view**

Machine configuration

**15 key machine components**



## KARTA PRODUKTOWA

---



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

## KARTA PRODUKTOWA

---



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

## KARTA PRODUKTOWA

---



## KARTA PRODUKTOWA

---

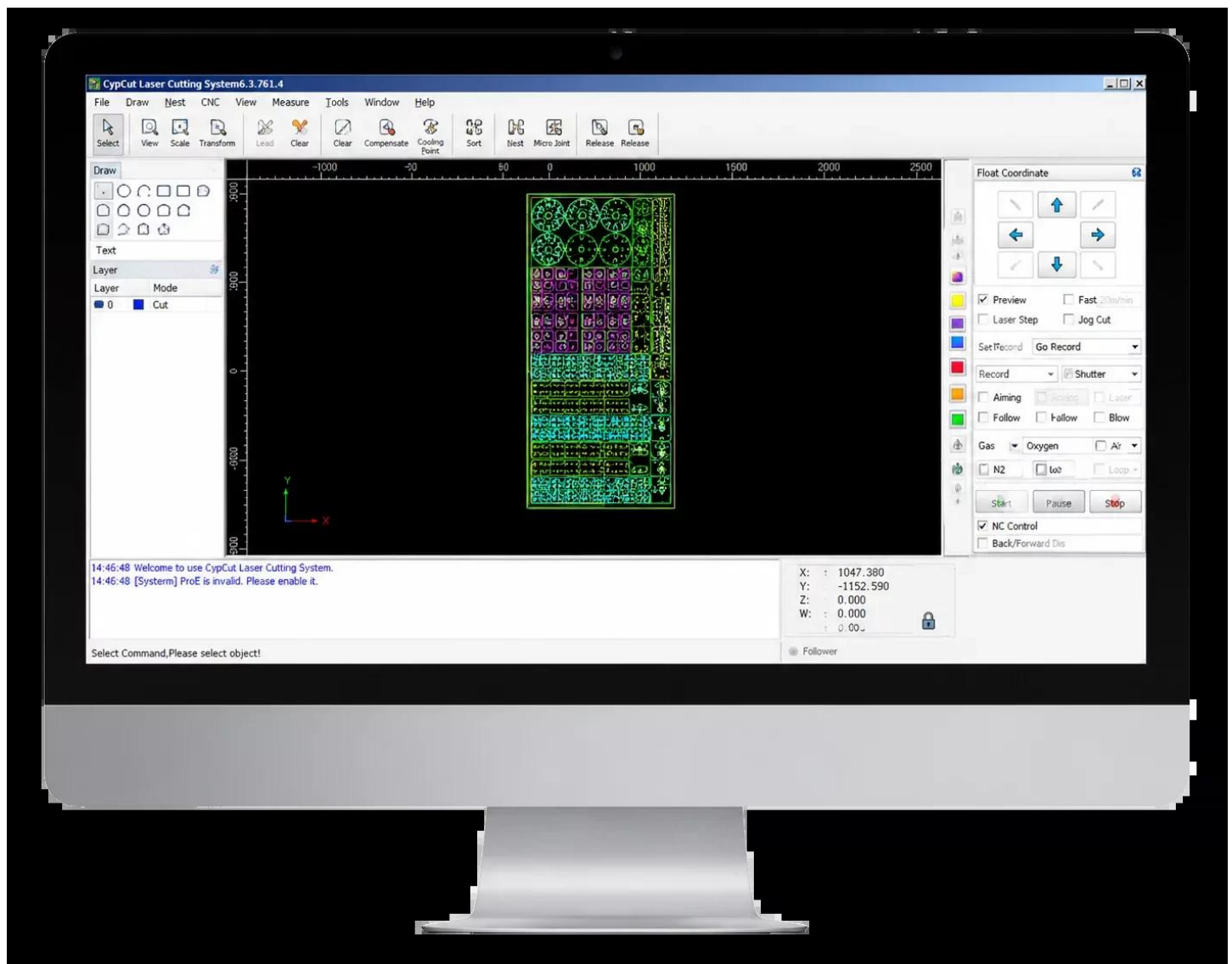
### 3. Laser head BM03KCAT head with lens protection, water cooling and automatic focal length adjustment.



### 4. Servo drive DELTA drives: X-axis 750 W, Y-axis 2 × 750 W and Z-axis 400 W.



## KARTA PRODUKTOWA



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



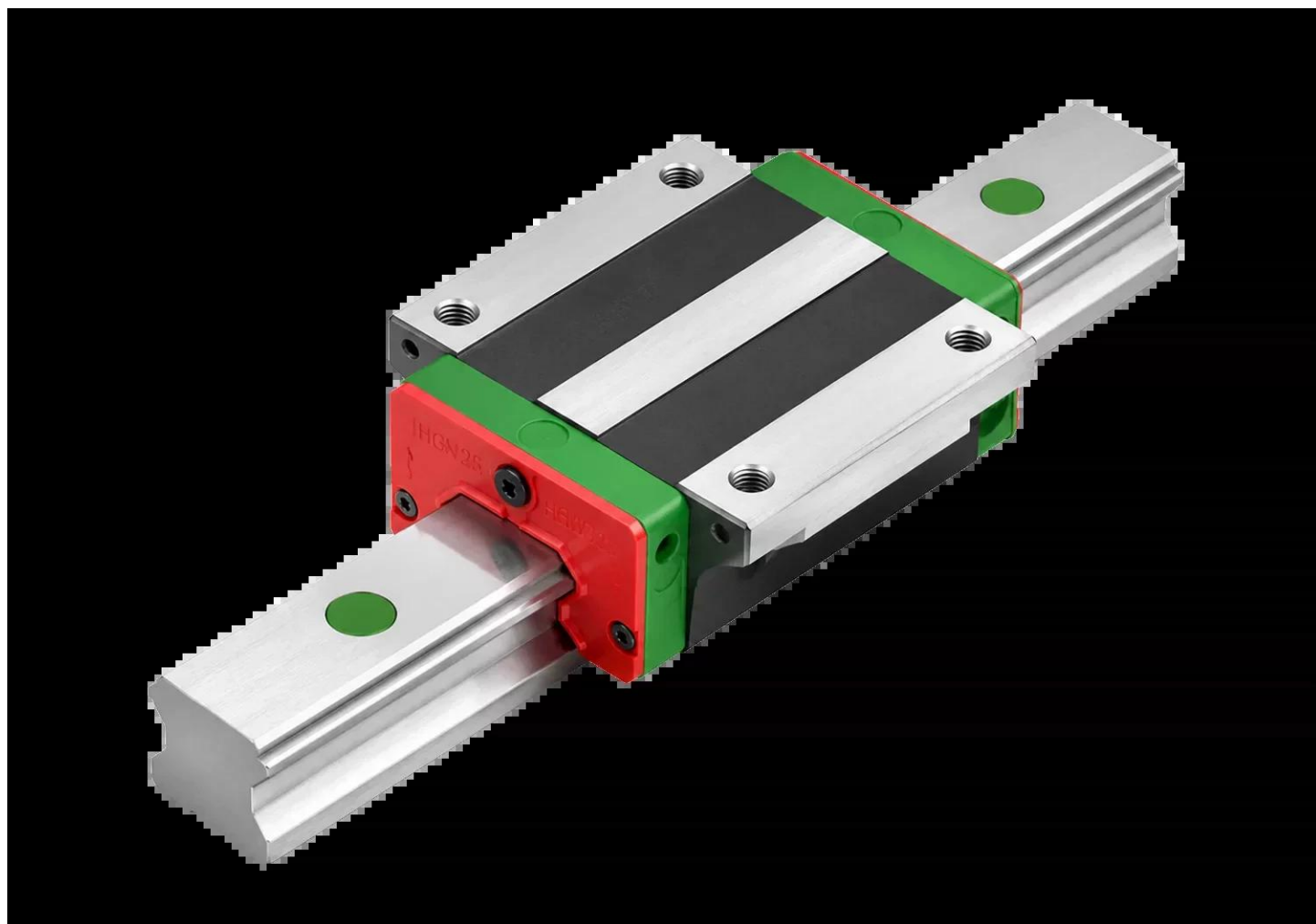
**6. RackYYC rack made of hardened and ground steel — durable and precise.**



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



8. GearboxSHIMPO gearbox ensuring stable power transmission.

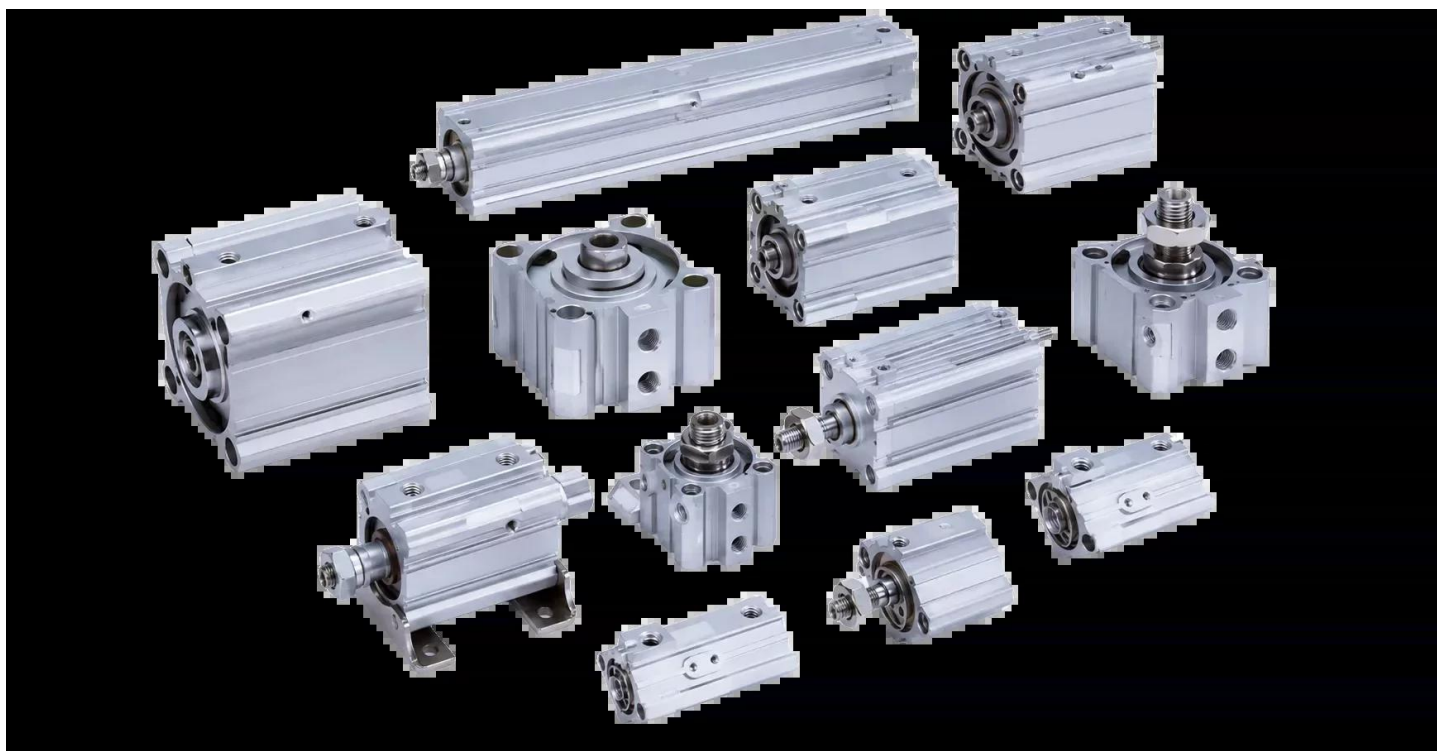


**9. Linear guideway**HIWIN guideways for smooth and accurate axis movement.

## KARTA PRODUKTOWA



**10. Electrical components** DELIXI electrical components used in the control system.



**11. Proportional gas valve** SMC proportional valve for precise gas pressure control.

## KARTA PRODUKTOWA

---



**12. Machine bed**Bed subjected to heat treatment and an ageing process for structural stability.



**13. Gantry beam** Lightweight and rigid aluminium beam that improves dynamics and cutting quality.

## KARTA PRODUKTOWA



## KARTA PRODUKTOWA

### 14. Water chiller HANLI / S&A chiller for stabilising the temperature of the laser 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.



## KARTA PRODUKTOWA

---



## KARTA PRODUKTOWA

---

### **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.



### **Extraction fan**

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

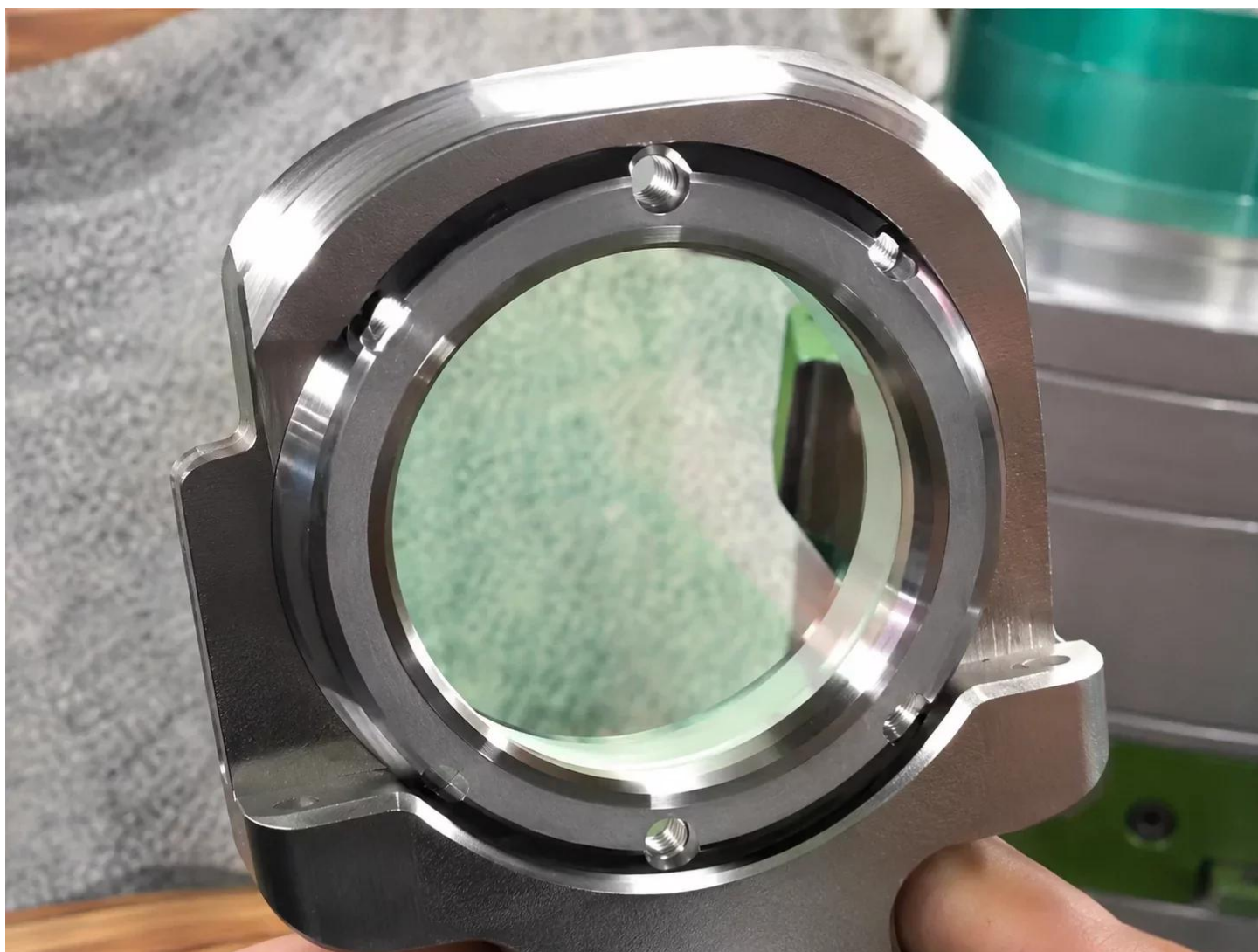
Consumables

### **Optional consumables for the laser**

Consumable parts included in the set.

## KARTA PRODUKTOWA

---



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

## KARTA PRODUKTOWA

---



**Cutting nozzle, 5 pcs.** Service life: 300–500 hours. Cutting nozzles for the machine's daily operation.

## KARTA PRODUKTOWA

---



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

## KARTA PRODUKTOWA

---



**Focusing lens, 1 pc.**Service life: 4000–5000 hours. Lens used to focus the laser beam.

## KARTA PRODUKTOWA

---

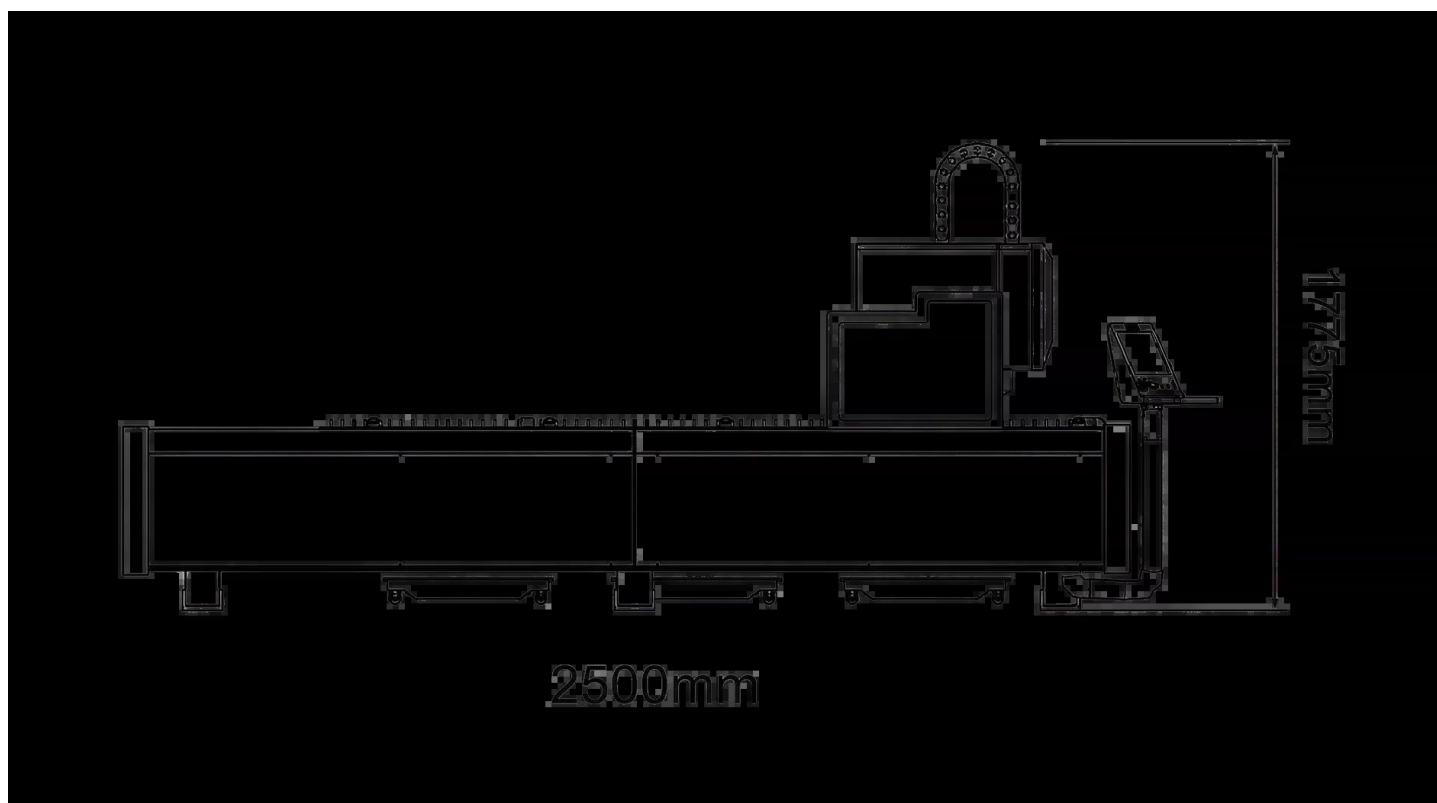


**Collimating lens, 1 pc.** Service life: 4000–5000 hours. Optical component of the laser system.  
Technical drawings

### Machine dimensions and technical drawing

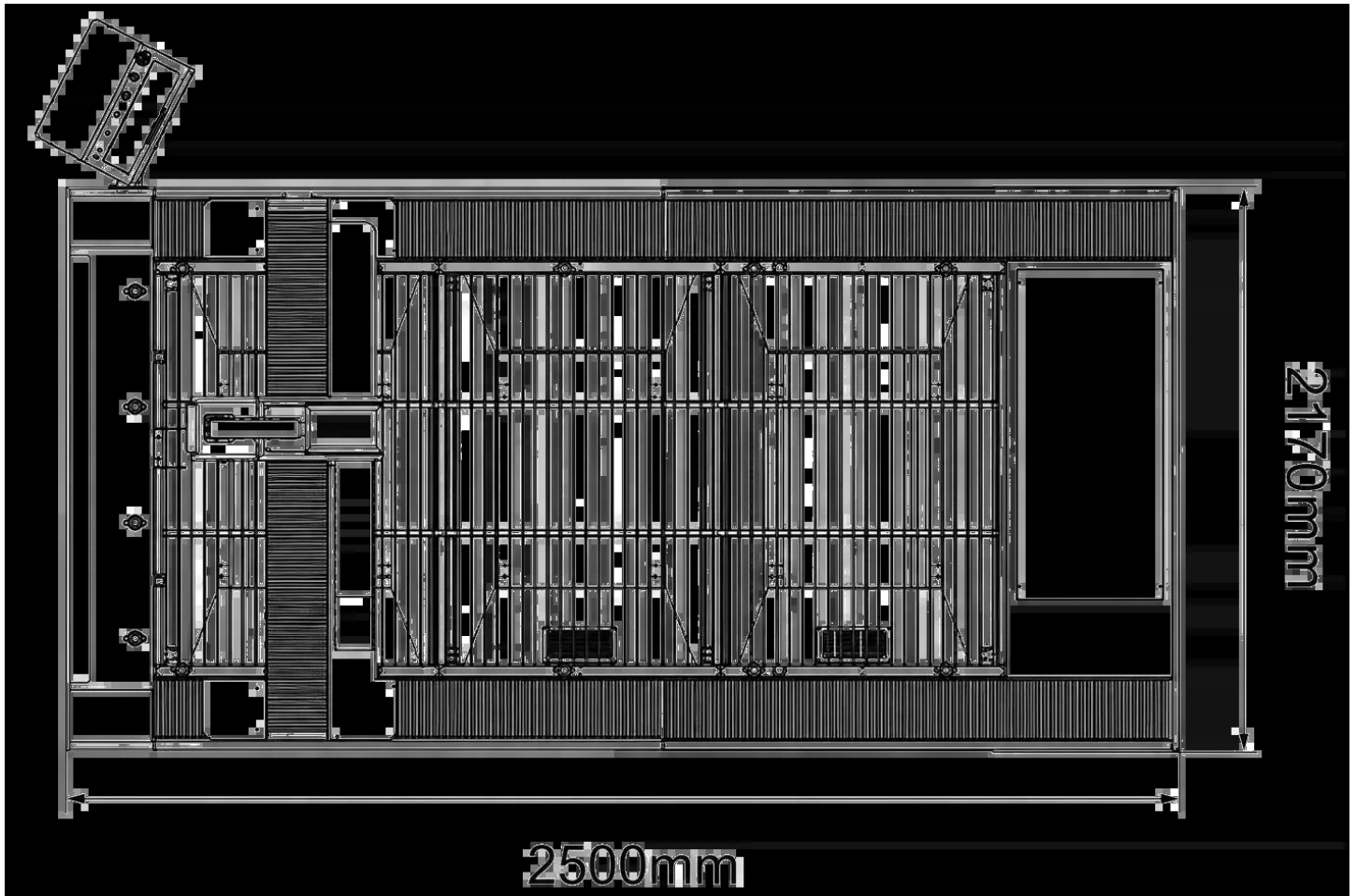
## KARTA PRODUKTOWA

---



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

## KARTA PRODUKTOWA



**Additional technical image** A diagram or technical detail showing the machine construction.  
Cutting parameters

### Cutting parameters for the D-1520 2000 W model

#### Carbon steel – CS

Cutting parameters for the 2000 W source.

| Material thickness | 2000 W cutting speed | Material     |
|--------------------|----------------------|--------------|
| 1 mm               | 23–28 m/min          | Carbon steel |
| 2 mm               | 6–8 m/min            | Carbon steel |
| 3 mm               | 3–4 m/min            | Carbon steel |
| 4 mm               | 2,5–3,0 m/min        | Carbon steel |
| 5 mm               | 2,2–2,6 m/min        | Carbon steel |
| 6 mm               | 1,8–2,0 m/min        | Carbon steel |
| 8 mm               | 1,2–1,6 m/min        | Carbon steel |



## KARTA PRODUKTOWA

---

| Material thickness | 2000 W cutting speed | Material     |
|--------------------|----------------------|--------------|
| 10 mm              | 1,0–1,2 m/min        | Carbon steel |
| 12 mm              | 0,8–1,0 m/min        | Carbon steel |
| 14 mm              | 0,6–0,75 m/min       | Carbon steel |
| 16 mm              | 0,6–0,7 m/min        | Carbon steel |

### Stainless steel – SS

Cutting parameters for the 2000 W source.

| Material thickness | 2000 W cutting speed | Material        |
|--------------------|----------------------|-----------------|
| 1 mm               | 26–28 m/min          | Stainless steel |
| 2 mm               | 9–18 m/min           | Stainless steel |
| 3 mm               | 6–7 m/min            | Stainless steel |
| 4 mm               | 2,5–3,5 m/min        | Stainless steel |
| 5 mm               | 1,5–2,5 m/min        | Stainless steel |
| 6 mm               | 1,0–1,6 m/min        | Stainless steel |

### Aluminium – AL

Cutting parameters for the 2000 W source.

| Material thickness | 2000 W cutting speed | Material  |
|--------------------|----------------------|-----------|
| 1 mm               | 20–24 m/min          | Aluminium |
| 2 mm               | 8–13 m/min           | Aluminium |
| 3 mm               | 4–4,5 m/min          | Aluminium |
| 4 mm               | 2,5–3,0 m/min        | Aluminium |
| 5 mm               | 1–2 m/min            | Aluminium |

### Brass

Cutting parameters for the 2000 W source.

| Material thickness | 2000 W cutting speed | Material |
|--------------------|----------------------|----------|
| 1 mm               | 12–15 m/min          | Brass    |
| 2 mm               | 6–7 m/min            | Brass    |
| 3 mm               | 2,5–3 m/min          | Brass    |
| 4 mm               | 1–1,3 m/min          | Brass    |



## KARTA PRODUKTOWA

### Operating cost analysis – 2000 W version

Data manually transcribed from the operating cost analysis table for 2000 W power.

| Item                       | Air / stainless steel | Oxygen O <sub>2</sub> / stainless steel | Nitrogen N <sub>2</sub> / stainless steel |
|----------------------------|-----------------------|-----------------------------------------|-------------------------------------------|
| Laser power                | 5 kW                  | 5 kW                                    | 5 kW                                      |
| Water chiller unit         | 3,1 kW                | 3,1 kW                                  | 3,1 kW                                    |
| Main machine               | 6 kW                  | 6 kW                                    | 6 kW                                      |
| Extraction unit            | 3 kW                  | 3 kW                                    | 3 kW                                      |
| Total power                | 17,1 kW               | 17,1 kW                                 | 17,1 kW                                   |
| Average energy consumption | 17,1 × 80% = 13,68 kW | 17,1 × 80% = 13,68 kW                   | 17,1 × 80% = 13,68 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, focus settings, nozzle, pressure and the required edge quality.

Technical parameters

### D-1520 2000 W specification

| Parameter               | Value                                                                                               |
|-------------------------|-----------------------------------------------------------------------------------------------------|
| Model                   | Fiber Laser D-1520 2000W                                                                            |
| Working area            | 1500 × 2000 mm                                                                                      |
| Laser power             | 2000 W                                                                                              |
| Cutting head            | BS03KCAT                                                                                            |
| Laser source            | Raycus                                                                                              |
| Fiber source lifetime   | Over 10,000 hours                                                                                   |
| Chiller                 | S&A / Hanli                                                                                         |
| Cutting thickness range | 0,5–10 mm within the standard precision range                                                       |
| Assist gas for cutting  | Standard version without an air source; optional screw compressor with air tank, oxygen or nitrogen |
| Maximum acceleration    | 1,5G                                                                                                |
| Repositioning accuracy  | Within ±0,01 mm                                                                                     |
| Lubrication system      | Electric                                                                                            |
| Dust extraction         | Standard version without an extraction unit; optional 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                                                                |



## KARTA PRODUKTOWA

---

| Parameter            | Value                           |
|----------------------|---------------------------------|
| Power supply voltage | 380 V, 3 fazy, 50/60 Hz / 220 V |
| Warranty             | 2 years                         |