
OMNIDEX
LASER
Precision laser cutting
with no compromises
Made in UK

About Omnidex Laser

Established in May 2020, Omnidex Laser Ltd. is an innovative manufacturing service provider led by an experienced team of manufacturing experts and industry veterans. Our facilities are strategically located in the central belt of Scotland to empower local businesses and support Scottish and UK engineering, manufacturing, and construction.

Combining our wealth of experience in contractual machining services and cutting-edge industrial equipment, the Omnidex Laser team is dedicated to providing top-tier added-value services and products to leading businesses in the Energy, Oil & Gas, Marine, Mining, Construction, Defence & Security, Technology and Aerospace sectors.

Omnidex Laser is the latest addition to the Omnidex Group, an international Manufacturing and Engineering company operating in Asia and the UK.

The Omnidex Quality Commitment

Omnidex has been ISO 9001 certified for more than 10 years, and we are very familiar with the best practices in the manufacturing industry. Accepting your order means that we have full confidence in meeting all of your specification and quality objectives as per the agreement. Here at Omnidex Laser Ltd, quality and service are our core competence.

Omnidex Laser Ltd is committed to 'getting the job done right, first and every time' and to promote a culture of continual improvement. With our world-class quality management systems and diligent operational monitoring, we effectively prevent any non-conformity and defect in our products and services.

The Omnidex Laser Team recognises and accepts full responsibility for the quality of our work. We always seek to address all aspects of customer satisfaction and expectations by completing every order to the best of our abilities. We strive to uphold the highest performance and quality standard, because customer delight is of utmost importance to us. We want you to be our ecstatic customers!

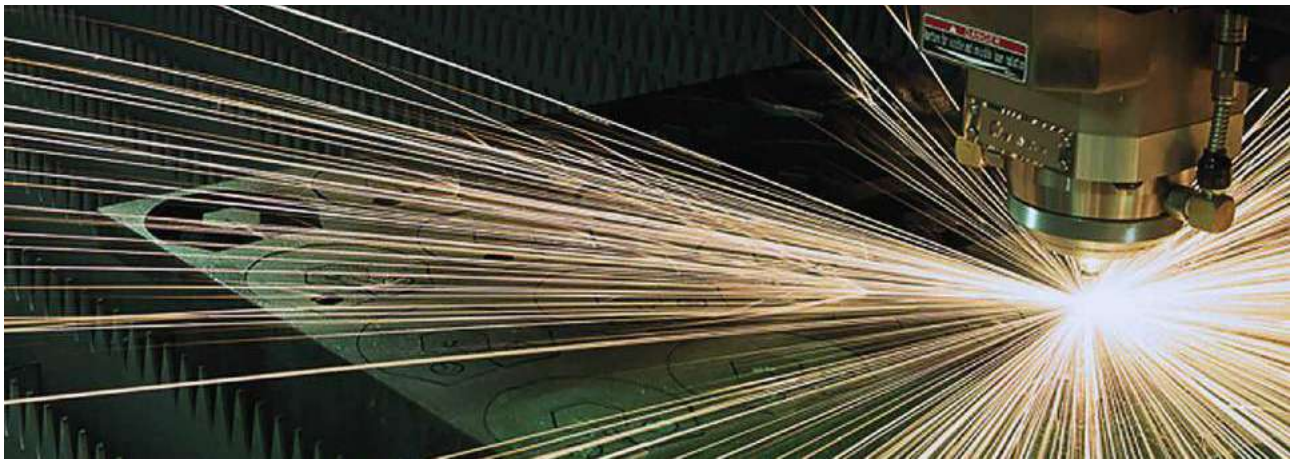
Please refer to our Terms and Conditions for more details:
https://omnidexlaser.com/terms-and-conditions/

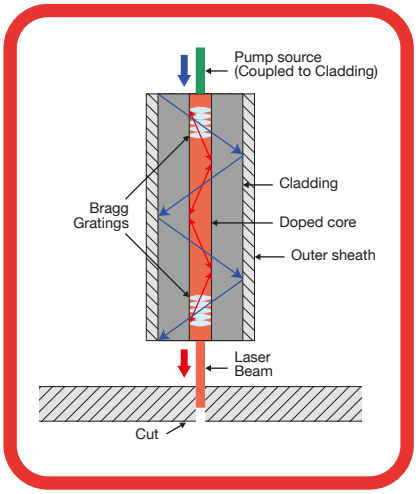
Our Services

Omnidex Laser is a highly professional team led by industry veterans and engineering specialists, and quality metal profiling is what we do best. While some see a sheet of metal, we see unlimited possibilities. We offer not just Laser, but Plasma & Oxy-fuel Cutting and precision Metal Bending as well. As experts in metal profiling, we recommend our customers to thoroughly explore the benefits of each solution before making the final decision.

Laser Cutting:

Omnidex Laser is equipped with industry leading laser cutting equipment to produce top quality work for clients. Our Amada ENSIS-4020AJ is one of the most powerful flatbed fibre laser machines currently in operation in Scotland, offering unprecedented machining capacity for all kinds of projects.





About Laser Cutting

Laser Cutting is a technology that uses laser light to slice through materials. This is possible because laser is different from other forms of light in a few ways. A laser beam only goes in one direction and has very little dispersion, it has only one frequency and color, and moves in a coherent wave. Laser light's parallelism allows it to be focused very efficiently and deliver a high amount of energy on a tiny space over a very short period of time. Modern laser cutters can cut through metal sheets and many other materials in milliseconds.

How Fiber Laser works

Fiber Laser uses diodes to emit excited photons. The light is then channeled and amplified through an optical fiber doped in rare elements (most commonly Erbium), and upon exiting it is collimated or straightened and then focused by a lens onto a work piece. Fiber Laser is much more efficient than a traditional CO2 laser, operates without the expensive optical mirrors, and can cut through much thicker material (up to 25mm of metal for our Amada ENSIS-4020AJ).

Specification of the Amada ENSIS-4020AJ:

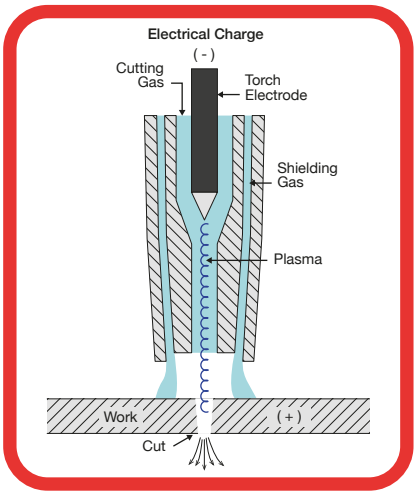
Parameters	Amada ENSIS-4020AJ
Working area	4070mm*2050mm
Maximum table load	1570kg
Z axis travel distance	100mm
Repeatable positioning accuracy	± 0.01
Drive system	AC Servo drives
Max cutting capacity	Mild Steel/Stainless Steel: 25mm

Feature highlights of the Amada ENSIS-4020AJ:

- Variable Beam Control Unit:
  Instantly switch between beam mode depending on the material type and thickness throughout the program.
- Advanced Fiber Cutting Technology:
  Can work on Copper, Brass and a variety of non-ferrous metals up to 20mm.
- V Factory System:
  Integrated with a smart production monitoring system which enables proactive service monitoring.
- Amada Fiber Laser Engine:
  Engine specifically designed for this line-up, ensuring higher compatibility and reliability.
- Deep Etching Technology:
  Can create highly visible part marking on mild steel, visible even after painting.
- Quick Pierce Mode:
  Enable Ultra-thin Beam Mode for better piercing performance.
- 16 Station Nozzle Changer:
  Quick automatic nozzle changing feature which offers more flexibility.
- Smart Pierce/ Cut Monitoring:
  The system monitors cut quality by measuring plasma level, and starts cutting immediately after piecing the material.
- WACS:
  Enables reliable processing of thicker mild steel, cools the material, allows sequential processing, better material sheet utilisation and prolongs nozzle life.
- Oil Shot:
  Reduces spatter for more reliable results on mid-range mild steel, and produces smaller holes with improved cut quality.

Plasma & Oxy-fuel Cutting:

Omnidex Laser operates the ESPRIT Viper 4000 CNC Plasma and Gas Profile Cutting Machine to produce top quality CNC metal profiling products. Plasma Cutting and Laser Cutting both perform similarly in cutting quality and precision, but Plasma Cutting edges out in terms of cost and production rate.

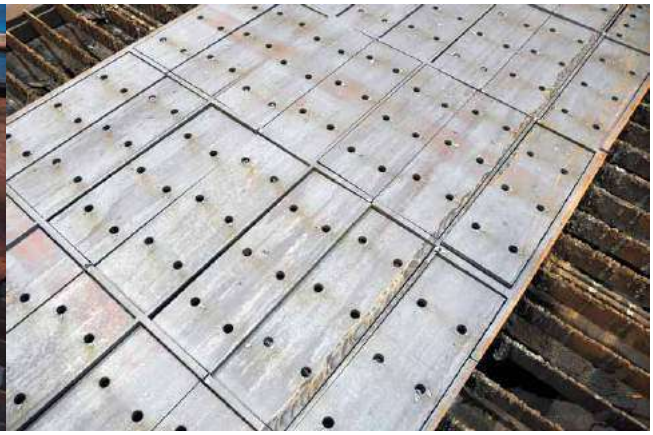


How Plasma Cutting works?

Plasma Cutting is a thermal-based process that uses a jet of super-heated plasma to cut through electrically conductive materials (including steel, aluminum, brass and copper).

The plasma jet is generated by creating an electric arc through a gas (compressed air, nitrogen, argon or oxygen, depending on the workpiece material), which is then forced into a narrow and focused nozzle. When enough energy is delivered to the gas, the gas molecules will ionize and turn into plasma. Modern plasma cutters can generate a plasma jet up to 20,000°C and travels towards the workpiece at up to three times the speed of sound.

When the plasma hits the workpiece's surface, the arc is transferred to the workpiece. The material absorbs the energy of the arc and plasma and quickly heats up. A modern CNC plasma cutter can accurately melt and vaporize a tiny targeted area and penetrate the material (up to 64mm for the ESPRIT Viper 4000) to produce the desired cut.



Specification of the ESPRIT Viper 4000:

Parameters	ESPRIT Viper 4000
Nominal Cut Width	4000mm
Track Length	8000mm
Plasma System	Hypertherm HPR 260XD
CNC System	Hypertherm EdgePro CNC System (with True Hole Technology)
Plasma Cutting Capacity	up to 64mm
Oxy-fuel Cutting Capacity	up to 300mm
Cut angle	2-4° (within ISO 9013 range)
Cutting speed	Up to 3850 mm/m

Feature highlights of the ESPRIT Viper 4000:

- Constructed from precision fabricated and machined components.
- Fitted with powerful digital AC brushless drives, machine tool grade linear bearings, direct drive rack and pinion transmissions for precision contouring performance.
- Fitted with both High definition plasma and oxy-fuel cutting heads to provide unparalleled production capabilities.
- With a maximum cutting width of 4000mm and a track length of 8000mm, the ESPRIT Viper 4000 can handle the most demanding applications with staggering precision and high speed.

Metal Bending:

Our production capabilities are not limited to just CNC cutting. After the metal parts are cut to the required profile, they often needed to be bent into the right shape. As an all-rounded CNC metal profiling service provider, we also offer other post-cutting services, including precision metal bending. All CNC cutting and metal bending processes are done in-house to ensure the highest production quality and faster turn-around time for every project.

Omnidex Laser is equipped with the Amada HFE-M2 1704 Press Brake, which can deliver up to 1700kN of pressing power or 230 MT of bending force, and produce bends up to 4 metres long. The machine's seven controlled axes combined with a range of digitalised tools and automated functions offer superior precision and reliability compared to traditional manual Press Brake.

Hydraulic Press Brake Machine

Hydraulic Press Brake Machine

Cidan Folding Machine

Specification of the Amada HFE-M2 1704:

Parameters	Amada HFE-M2 1704
Max Capacity	1700kN
Max Folding Length	4230mm
Stroke	200mm
Bending Speed	10mm/sec
Working Height	960mm

Feature highlights of the Amada HFE-M2 1704 Hydraulic press brake:

- Eco Drive System:
  Operates with maximum efficiency at all stages of the machine cycle, offering increased reliability while lowering your machining costs.
- Integrated Angle Measuring:
  The Digipro system is a highly accurate electronic measuring system wirelessly connected to the Amada M2 system, which allows real-time automatic angle control.
- AB-Pad Evolution numerical control system:
  Easy and intuitive to use, minimizing errors and misconfigurations.
- Tried-and-tested back gauge design:
  Ensures the highest precision and reliability with increased bending capabilities when bending asymmetrical parts.
- Amada patented crowning system:
  Delivers consistent results over the entire bend length with any force applied.
- Advanced safety features:
  Equipped with a full laser light curtain for increased operator safety.

Metal Casting:

Our expertise expands beyond CNC machining and Metal Profiling. As a Full-Service manufacturing solution provider, we also provide high quality metal casting solutions via our extensive network of sub-contractors around the globe, offering Sand Casting, Die Casting, Investment Casting, Permanent Mold Gravity Casting, Lost Foam Casting, Shell Mold Casting and much more to our customers at highly competitive prices.

Pouring the Molten Iron

Sand cast pump frame

Sand Molds Ready for Pouring Molten Metal

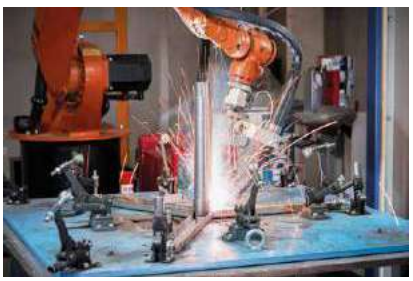
Machining, Fabrication and more:

The Omnidex team are experts in product design and engineering, manufacturing, component sourcing, product assembly and quality control. We provide over 70 different manufacturing processes including Precision Machining, Metal Casting and Fabrication, Plastic Fabrication, Electronics Production and Surface Finishing.

Metal fabrication processes: Bending, Cutting, Stamping, Punching, Deep Drawing, Welding, Forging, Extrusion.

Plastic fabrication processes: Injection, Blow Molding, Extrusion, Vacuum and Thermorforming, Rotational Casting, Toolmaking.
We also provide Prototyping and Small-Run Production services. For more details, please contact our Engineering Experts.

Fabrigated hydraulic tanks



Robot welding

Electric vehicle charger

Want to know more?
Just get in touch and we'll do the rest…

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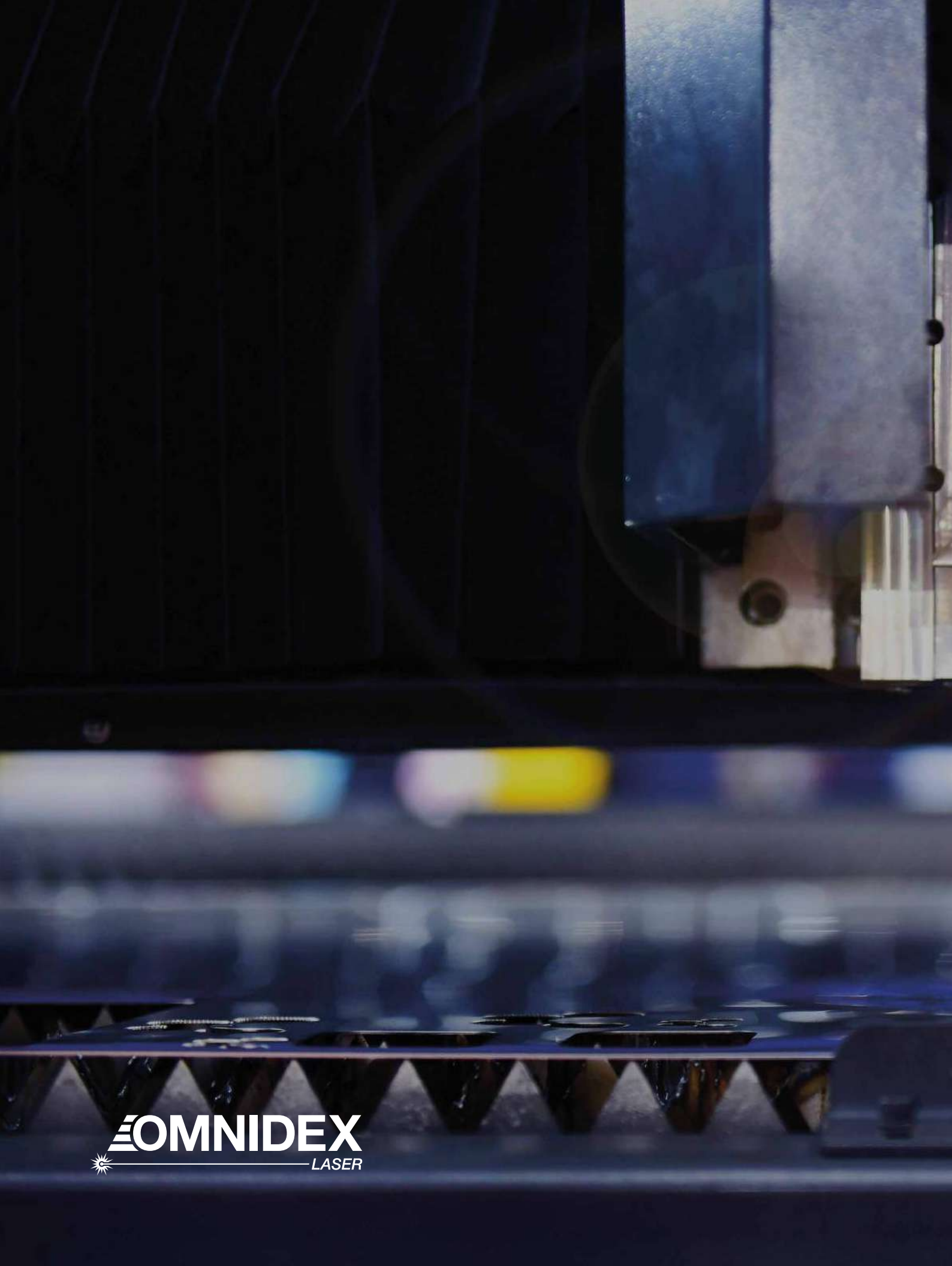
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