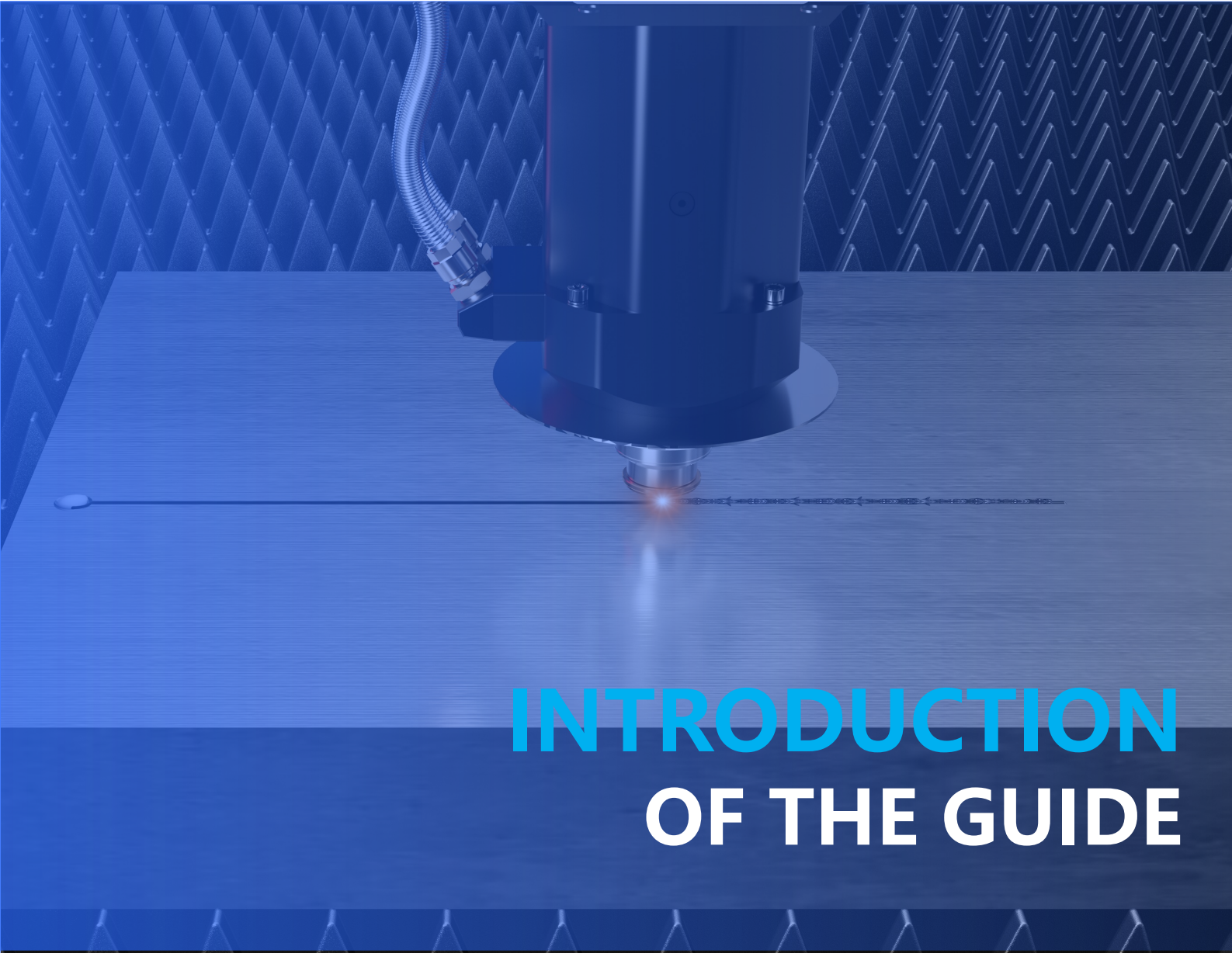
HSG

2026 EUROPE

LASER CUTTER BUYER'S GUIDE

Flatbed & Tube Systems

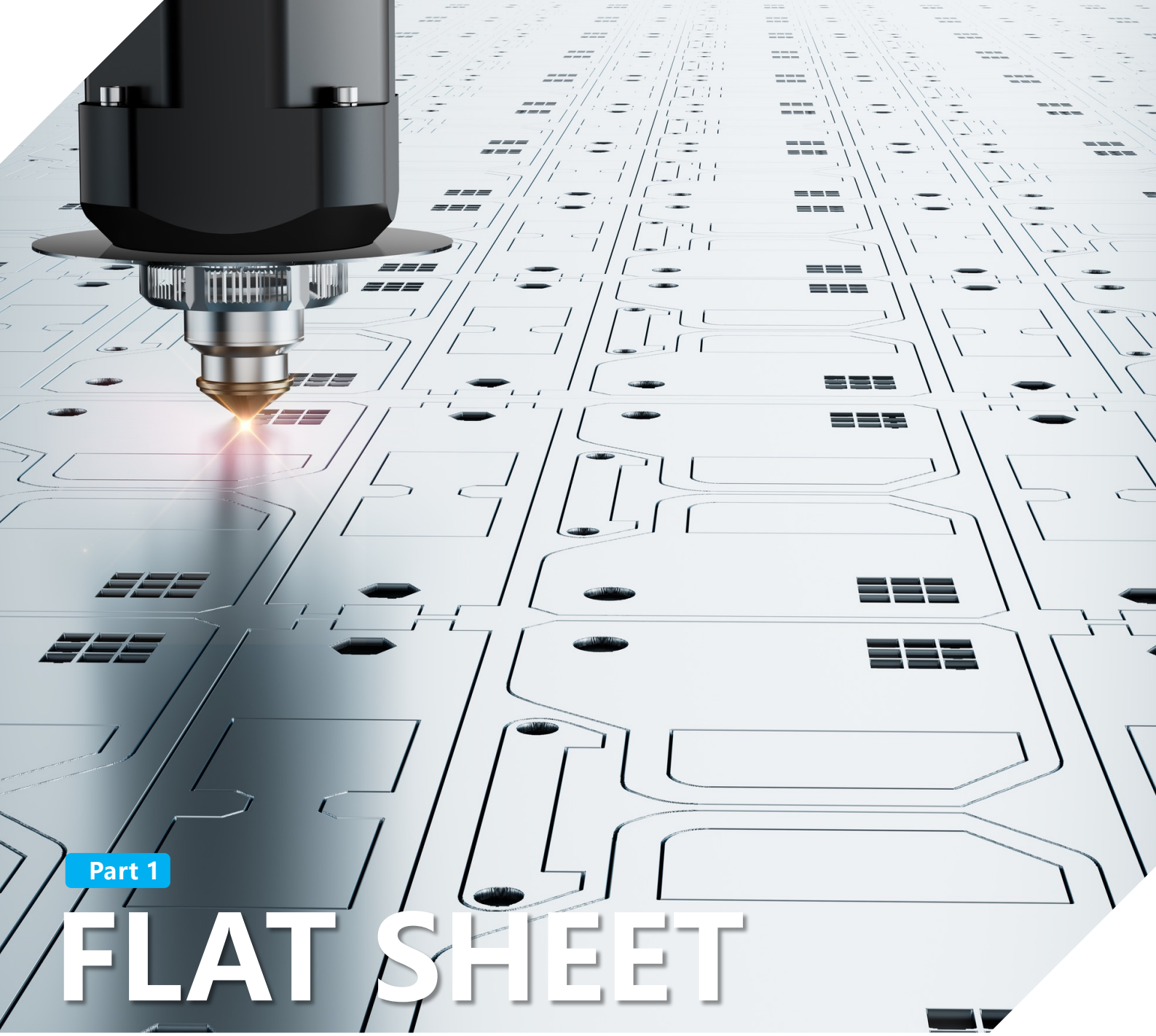
WHAT’ S INSIDE



INTRODUCTION OF THE GUIDE

In the ever-changing world of industrial manufacturing, choosing the right laser cutting technology is no longer just a technical decision—it's a strategic one. Manufacturers across Europe are facing a growing set of challenges: rising material and labor costs, shorter delivery cycles, increased demand for customization, and the need to stay ahead of digital transformation. At the same time, laser cutting technologies are evolving rapidly, with new advancements in automation, software intelligence, and high-power performance reshaping what's possible on the factory floor.

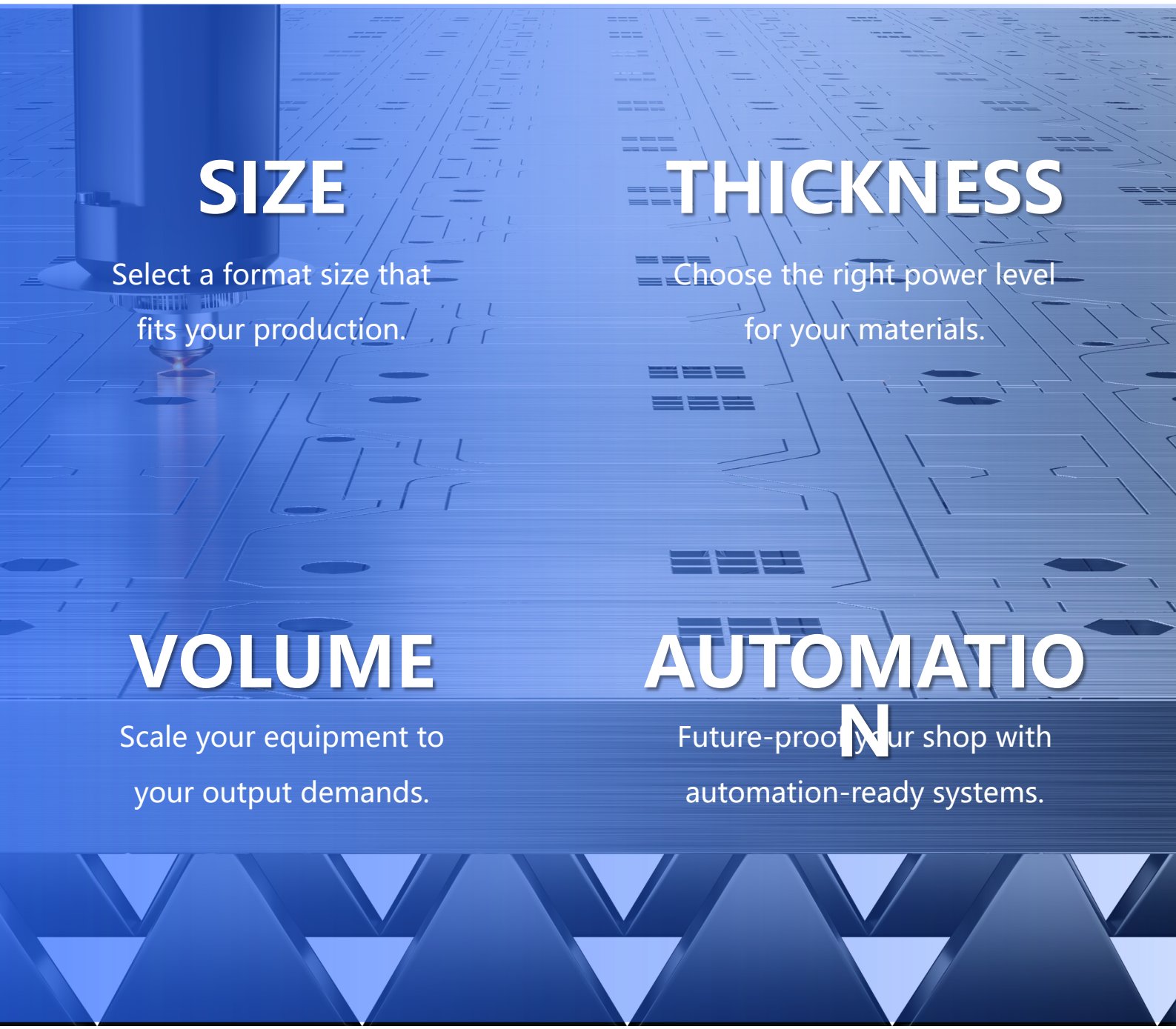
This guide—developed by HSG Laser, a global leader in laser cutting solutions—aims to help European buyers navigate these complexities with clarity and confidence.



Part 1

FLAT SHEET CUTTING MACHINE BUYER’S GUIDE

HOW TO SELECT THE RIGHT LASER CUTTING SYSTEM



SIZE

Select a format size that fits your production.

THICKNESS

Choose the right power level for your materials.

VOLUME

Scale your equipment to your output demands.

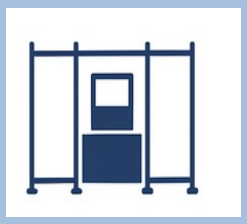
AUTOMATION

Future-proof your shop with automation-ready systems.

FORMAT SIZE

Oversized machines waste floor space, while undersized beds limit flexibility. Choose a format that fits your current and future part sizes efficiently.

1000×2000mm



COMPACT
Single Table

Best For:
Shops with limited floor space
Small-batch, high-mix fabrication
Standard sheet sizes:
1000x2000mm or 1250×2500mm

1500x3000mm → 2000x4000mm

STANDARD
Exchange Table

Best For:
Mainstream metal fabrication shops
Medium to high production volumes
Need for dual-pallet exchange to maximize cutting uptime

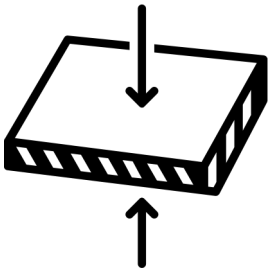
2000x6000mm → 4000x12000mm

EXTRA LARGE
Format

Best For:
Oversized structural components (construction, shipbuilding, heavy equipment). Processing extra-long sheets or custom-shaped parts.
Fabricators requiring non-standard layouts or mobile gantry systems

THICKNESS

Choosing the right laser power depends heavily on your target material thickness and cutting performance expectations. Over-specifying power can lead to unnecessary costs, while under-specifying can limit throughput and edge quality.



Don’ t Overpower:

Higher wattage doesn’ t always translate to better performance. Excessive power on thin materials may reduce edge quality or increase operating costs due to gas and optics wear.

General Guidelines:

3-6kW

Thin Materials (< 6mm)

Entry to mid-power machines (3–6kW) are typically sufficient for fast, clean cutting of mild steel, stainless steel, and aluminum.

6-20kW

Medium Thickness (6mm - 30mm)

Machines in the 6–20kW range offer a solid balance between speed, edge quality, and cost-effectiveness

20-60kW

Heavy Plate (> 30mm)

Consider high-power systems (20kW–60kW) for consistent cutting performance, improved pierce times, and high productivity on thick stainless steel, carbon steel, or alloy plate.

Tips: Always match the laser power to your core material mix and target cutting speed. If your shop handles both thin and thick materials, a high-power smart system with auto-optimization (like HSG GH series) may offer the best flexibility and ROI.

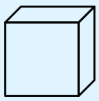
VOLUME

Recommendatio

n:

If your operations run multiple shifts, fulfill large orders, or require lean staffing, consider a system like the HSG GH Series paired with smart automation modules. The ROI may surprise you.

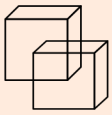
For manufacturers with high production volumes, equipment selection should prioritize total productivity—not just initial machine cost. Systems configured with features such as dual exchange tables, automatic nozzle changers, and integrated loading/unloading automation can significantly reduce downtime and labor dependency.



LOW THROUGHPUT

ENTRY-LEVEL MACHINE

- Lower upfront investment cost
- Basic cutting capabilities for standard materials
- Typically single table configuration
- Manual loading/unloading required
- Slower axis acceleration and cutting speed
- Suitable for small-batch or prototype production



STANDARD THROUGHPUT

STANDARD-LEVEL MACHINE

- Price/performance optimized investment cost
- Full Cutting capabilities for standard configuration
- Automatic pallet changer available
- Manually activated "loading/unloading" device (option)
- Cost efficient main technical features
- Suitable for small-medium batch production

HIGH THROUGHPUT

HIGH-PERFORMANCE MACHINE

- Designed for high-volume, continuous production
- Dual exchange tables for reduced downtime
- Automatic nozzle changers for process optimization
- Integrated loading/unloading automation
- High-speed motion system with faster acceleration
- Lower cost per part through higher throughput

Tips:

In high-throughput environments, a well-automated, high-dynamic 12kW+ system can outperform a lower-spec machine in total daily output by more than 2x—often with fewer operators.

AUTOMATION

A Strategic Imperative for 2026

As European manufacturers confront mass labor shortages and rising production demands, choosing an automation-ready laser cutting system is no longer optional—it’ s essential to ensuring long-term competitiveness and operational resilience.

Why Automation-Ready Matters in 2026

90% of industry leaders believe automation is essential for future success

88% of manufacturers acknowledge negative effects on product quality due to workforce-related inconsistencies—automation ensures repeatability and precision.

70% of manufacturers report being impacted by labor shortages in 2026, limiting capacity and slowing delivery timelines across multiple sectors.

63% of industrial firms struggle to fill skilled positions, making it increasingly difficult to scale without integrated automation solutions.

Recommendation:

When planning your next laser cutting investment, prioritize systems that are automation-ready—designed to grow with your production needs while mitigating risks tied to labor volatility and rising operational complexity.

HSG GH+STORE PRO

FLEXIBLE & AFFORDABLE INITIAL INVESTMENT

Synchronous loading & unloading device

Compact storage for both raw material and finished parts

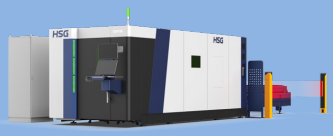
Extendable to single sheet separation station

MEET OUR FLAT LASER PROCESSING SOLUTIONS

GH Series
FOR MAINSTREAM PRODUCTION

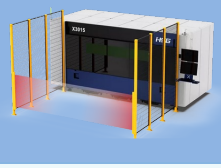
Laser power: 3-60 [kW]
Acceleration: up to 4 [G]

GX Series
COST-EFFECTIVE SOLUTION



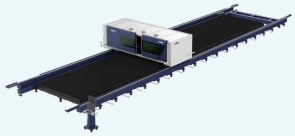
Laser power: 3-30 [kW]
Acceleration: 1.5 [G]

X Series
COMPACT, SPACE-SAVING DESIGN



Laser power: 1.5-12 [kW]
Acceleration: 1.5 [G]

GFA
LARGE SCALE CUTTING SOLUTION



Laser power: 12-60 [kW]
Acceleration: 0.5 [G]

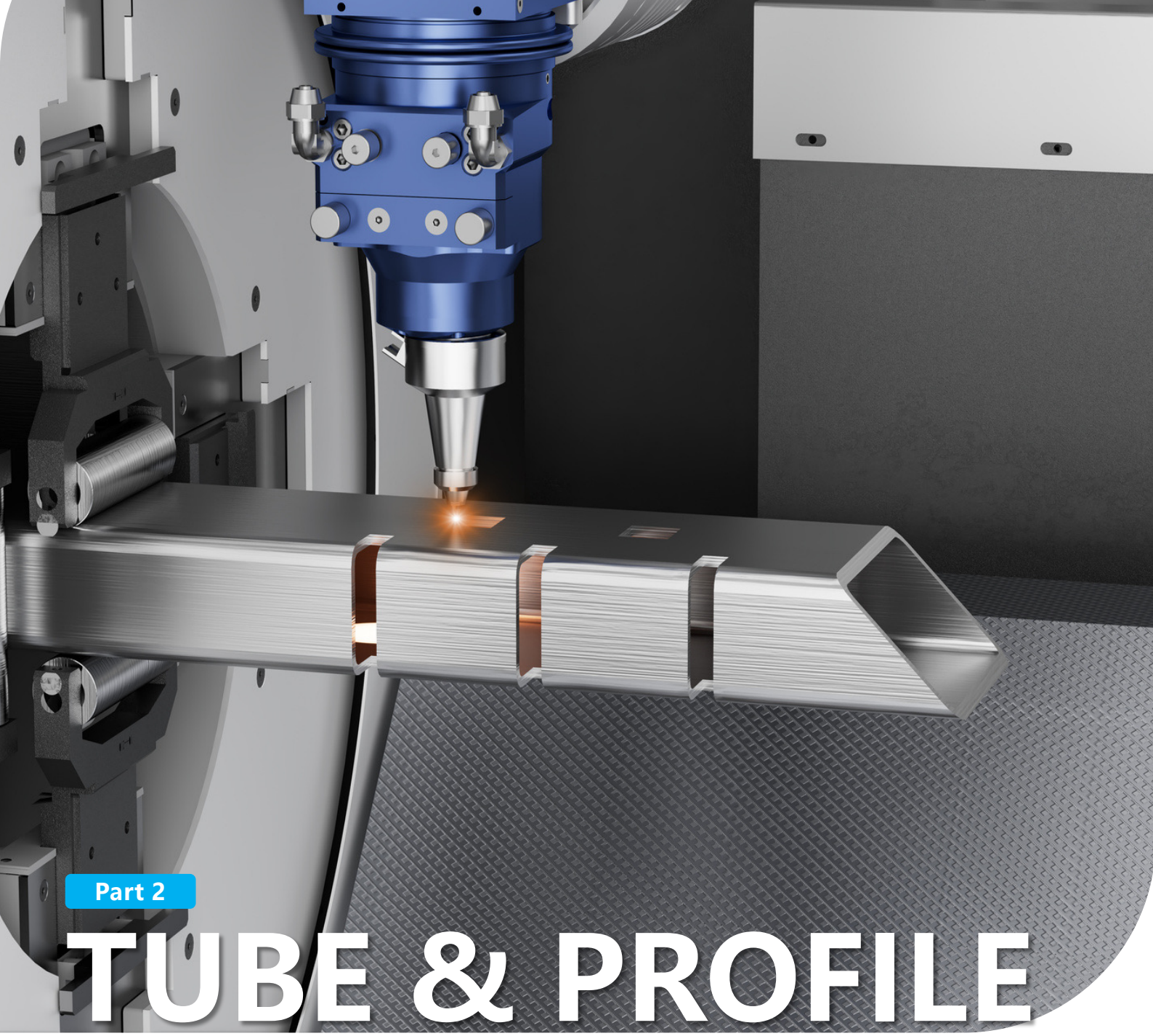
PR Series
STEEL STRUCTURE CUTTING SOLUTION

Laser power: 12-30 [kW]
Acceleration: 0.5 [G]

STORE PRO
LASER AUTOMATION SYSTEM

Scan to Get Your Ideal Laser Cutter in 60 Seconds

Flatbed or tube, thick or thin—we' ll match you with the right solution.



Part 2

TUBE & PROFILE CUTTING MACHINE BUYER'S GUIDE

FIRSTLY, IS **TUBE LASER CUTTING** RIGHT FOR YOU?

To determine if your operation justifies the investment in a tube laser cutting machine, start by evaluating these key criteria:

Material Type

- Are you cutting carbon steel, stainless, aluminum, or copper?
- Need to cut materials various thickness?
- Fiber lasers handle these efficiently—especially for frequent metal tube processing.

Tube Size & Length

- • Are your tubes small (≤240mm), medium (240–350mm), or large (>350mm)?
- • Do you process long tubes (12000mm)?Laser machines must match your diameter, wall thickness, and part length.

Production Volume

- Do you run repetitive jobs or high-volume orders?
- Are you spending too much time on manual cutting or setup?
- Laser cutting increases speed, accuracy, and reduces labor.

Pain Points

- Still using plasma, saws, or drills for tubes?
- Trouble with accuracy or manual fixturing?
- If yes, it’ s time to upgrade to laser cutting.

IF YOU ANSWERED YES TO MOST OF THESE...

You’ re ready for a tube laser cutting system.

HOW TO SELECT THE RIGHT **TUBE LASER CUTTING** SYSTEM

Your Tube Laser Cutting Requirements

MATERIAL

Start by identifying whether you’ re cutting standard tubes or structural profiles

DIAMETER

Select a system that matches your tube size—small, medium, or large

FUNCTIONS

Consider value-added capabilities like bevel cutting, for more complex jobs.

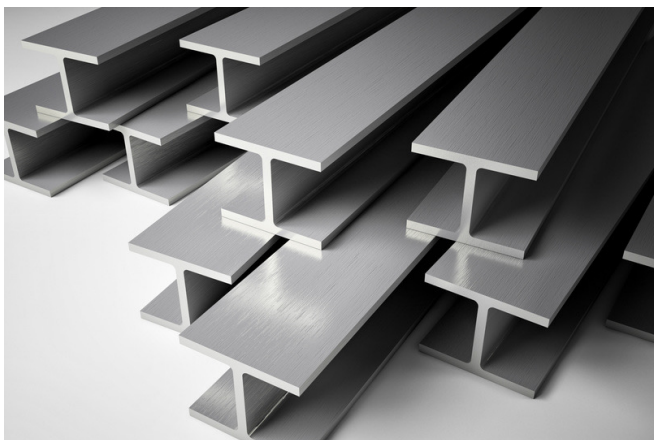
AUTOMATION

Future-proof your investment with automated loading, unloading

TUBE LASER SUPPORTED METALS

Material	Cutting Difficulty	Recommended Power	Notes
Carbon Steel	★☆☆	6kW–20kW	Prefer oxygen or nitrogen
Stainless Steel	★★☆	8kW–20kW	Nitrogen preferred for clean edges
Aluminum	★★★	≥10kW	Requires anti-reflective protection
Galvanized Steel	★★☆	≥8kW	Ventilate properly to avoid zinc fumes
Copper	★★★★	≥12kW	Use high-reflect protection optics

COMPATIBLE TUBE & PROFILE TYPES



DIAMETER

Know What You Cut Before You Invest

Understanding the type of material you’ re processing is the first and most critical step in selecting the right tube laser system. Profiles vary not only in shape but also in structural complexity and cutting demands.

Tips:

If you need to cut special or custom profiles, consult with an expert in advance to ensure the system meets your production requirements.

Under 240mm OD

ROUND PIPE

Applications:

Furniture, fitness, bicycle, light structures, etc.

HSG R-Series HSG TS-Series

Under 350mm OD

SQUARE/RECTANG-ULAR TUBE

Applications:

Automotive, HVAC, frames, general steel construction, etc.

HSG T-Series HSG TS-Series

Over 350mm OD

LARGE-DIAMETER TUBE

Applications:

Oil & gas, energy, Heavy machinery, marine, structural steel, etc.

HSG TL-Series HSG TX-Series

H, C, U, L shapes

STRUCTURAL PROFILES

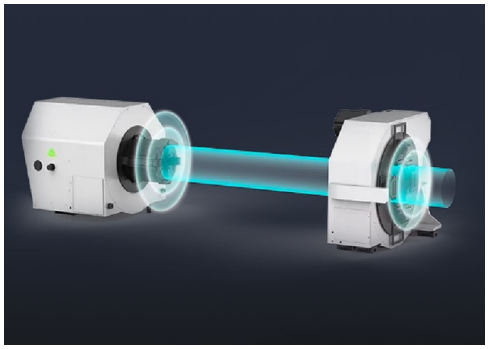
Applications:

Automotive, oil & gas, energy, HVAC, frames, etc.

HSG TS-Series HSG PRB

FUNCTIONS

Selecting a tube laser involves more than just laser power—it' s about end-to-end efficiency. Today' s high-value tube laser systems must combine intelligent chucking, bevel capability, multi-task processing, and advanced automation to maximize ROI and support scalable, future-proof operations.

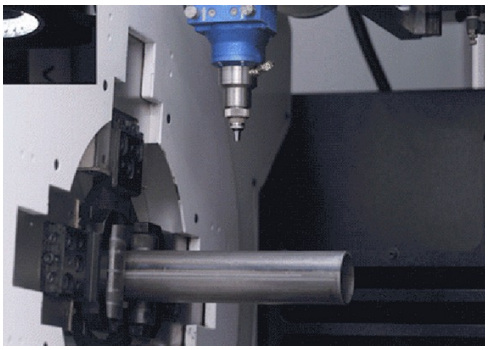


CHUCK CONFIGURATION

OPTIONAL

2, 3 OR 4 CHUCKS—WHAT "S BEST FOR YOUR JOB?

Choose based on material length, precision needs, and how much repositioning you want to avoid. Less chucks cutting faster, more chucks improve grip and cutting stability for longer or heavier tubes.

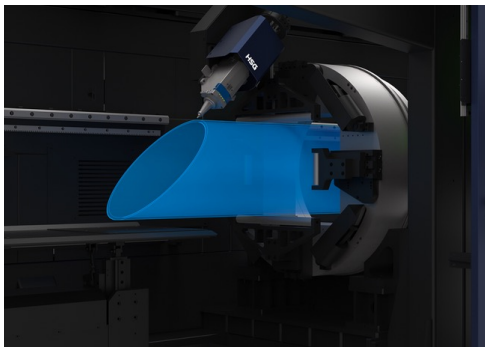


CHUCK INTELLIGENCE

RECOMMENDED

NEED A SMART CHUCK OR JUST BASIC CHUCK?

Intelligent chucks auto-adjust for different tube shapes and sizes, reducing setup time and human error —ideal for high-mix or automated production lines. It' s suggested to purchase.

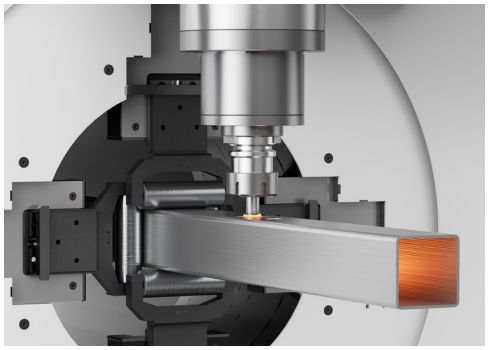


BEVEL CUTTING

MUST HAVE

DOING ANGLES? YOU' LL WANT BEVEL CUTTING.

Bevel cutting lets you prep weld-ready edges in a single step. If you' re in structural steel or need angled cuts for assembly, it' s a must-have.



Drilling / TAPPING

OPTIONAL

NEED DRILLING AND TAPPING IN ONE SETUP?

Look for integrated drilling/tapping if your parts require holes or threads—saves you time, eliminates secondary processes, and boosts throughput.

AUTOMATIONS

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Recommendation:

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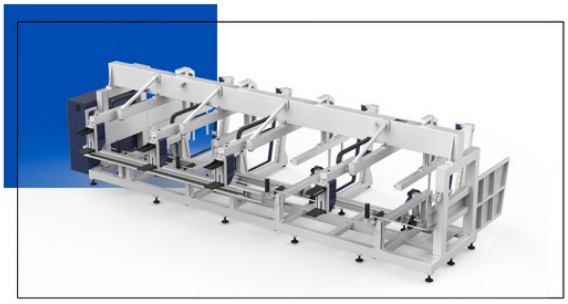
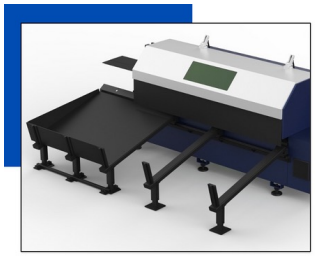
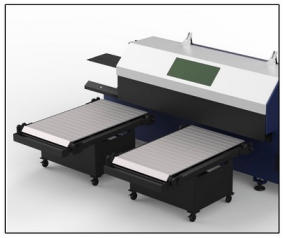
AUTOMATED LOADING



AUTOMATED UNLOADING

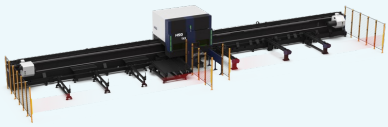




MEET OUR TUBE LASER PROCESSING SOLUTIONS

TX Series

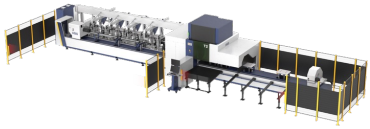
FOR LARGE TUBE & PROFILES



Cutting Head: 3D
Laser Power: 6-20 [kW]
Tube Max Diameter: 350mm/510mm

T Series

FOR MID-LARGE SIZE TUBE & PROFILES



Cutting Head: 2D
Laser Power: 3-6 [kW]
Max Tube Diameter: 350mm

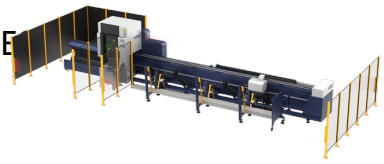
TS2

FOR MIDDLE-SIZE TUBE & PROFILES

Cutting Head: 3D
Laser Power: 3-6 [kW]
Max Tube Diameter: 273mm

R Series

FOR SMALL-SIZE TUBE & PROFILE



Cutting Head: 2D
Laser Power: 1.5-20 [kW]
Max Tube Diameter:
120mm/240mm/350mm

Scan to Get Your Ideal Laser Cutter in 60 Seconds

Flatbed or tube, thick or thin—we' ll match you with the right solution.

Part 3

WHAT ELSE SHOULD YOU CONSIDER

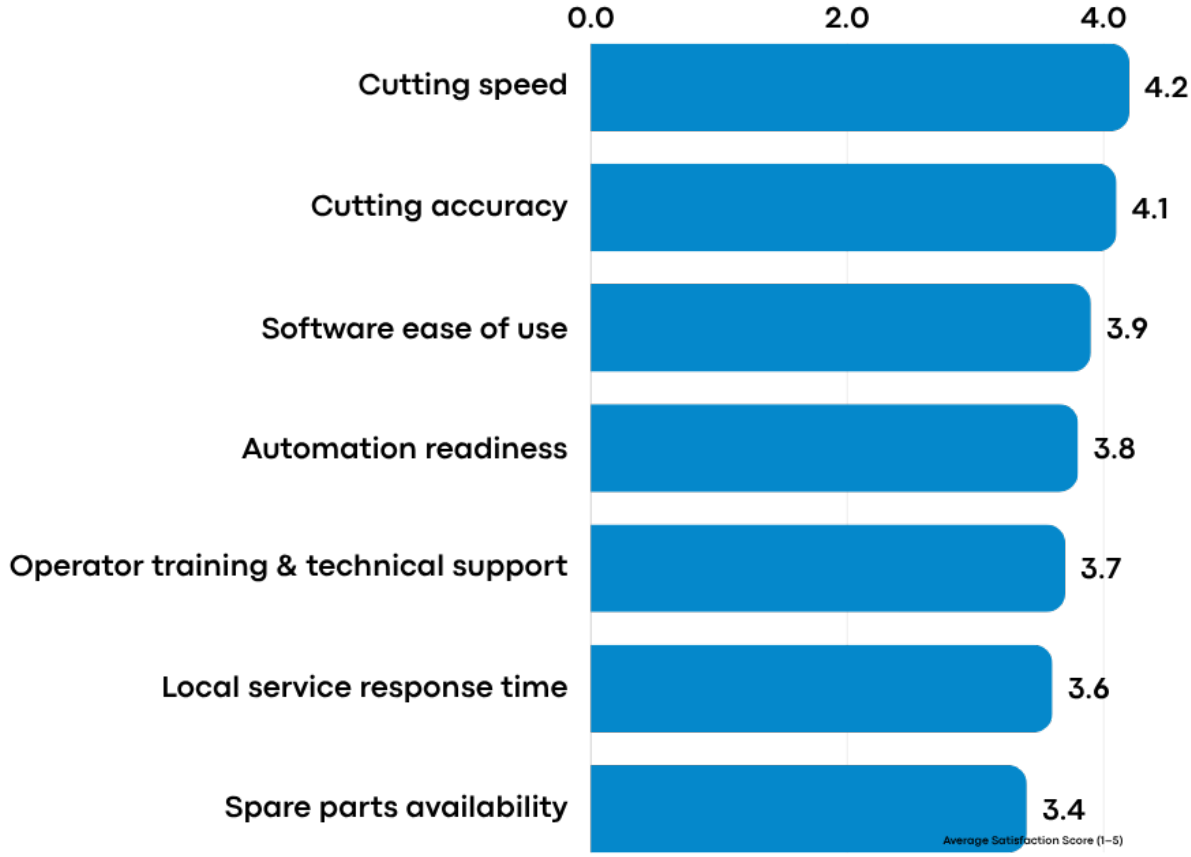
Before Purchasing a Laser Cutter?

FACTORS TO CONSIDER WHEN PURCHASING A LASER CUTTING SYSTEM

In a recent customer insights study conducted by HSG, EU manufacturers shared their top priorities when evaluating laser cutting equipment. The results offer a clear look into what drives purchasing decisions in 2026:

Factor	Average Satisfaction Score (1–5)
Cutting speed	4.2
Cutting accuracy	4.1
Automation readiness	3.8
Local service response time	3.6
Spare parts availability	3.4
Operator training & technical support	3.7
Software ease of use	3.9

What Matters Most to Laser Cutter Users:



Part 4

LET OUR EXPERTS HELP YOU FIND THE RIGHT LASER CUTTER

CONTACT

Let Our Experts Help You

HSG, Shaping Trust Across Continents

HSG

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