SOLID 35

INDUSTRIAL CO_2 LASER ENGRAVING & CUTTING SYSTEM

CLASS 1 **ENCLOSED**



Product Overview

SOLID 35 is a large-format, fully enclosed Class 1 CO_2 laser engraving and cutting system, engineered for professional industrial and commercial applications requiring higher productivity, expanded working area, and European-standard safety compliance. The system is designed with a dual laser source compatibility architecture, supporting both RF metal CO_2 lasers and DC glass CO_2 laser tubes, allowing customers to select optimal performance-to-cost configurations without compromising safety or mechanical integrity.

1 Working Area & Mechanical Design

ITEM	SPECIFICATION
Working Area (X × Y)	900 × 600 mm
Z Axis Travel	300 mm (motorized)
Max Workpiece Height	up to 280 mm
Working Table	Honeycomb table (standard), knife blade table (optional)
Max Table Load	30 kg
Machine Frame	Rigid welded steel frame with vibration-damped enclosure
Transmission System	Standard synchronous belt + precision linear guide rails
Motion Architecture	Industrial XY gantry
Overall Dimensions (L × W × H)	approx. 1650 × 1350 × 1150 mm
Net Weight	approx. 420 kg

2 Laser Source & Optical Configuration Optional

ITEM	CONFIGURATION	
Laser Type	CO_2 RF Metal Laser Tube	CO_2 DC Glass Laser Tube
Laser Wavelength	10.6 μm	10.6 μm
Rated Output Power	30 W / 40 W / 60 W	30 W / 60 W / 80 W
Power Control	0–100% digital modulation	0–100% analog modulation
Power Stability	±3% (typical)	±5% (typical)
Expected Laser Lifetime	⩾ 20,000 hrs (typical)	⩾ 2,000 hrs (typical)
COMMON OPTICAL CONFIGURATION		
Beam Delivery	Fully enclosed flying optical path	
Focusing System	Motorized autofocus	
Standard Lens	2.0" focal length	
Optional Lenses	1.5" / 2.5" / 4.0"	
Minimum Line Width	⩽ 0.15 mm (material & lens dependent)	
Red Dot Pointer	Coaxial red laser pointer	

3 Motion System & Precision Performance

ITEM	SPECIFICATION
Drive Motors	Direct-coupled digital stepper motors
Control Mode	Closed-loop position monitoring
Max Engraving Speed	up to 1000 mm/s
Max Travel Speed	up to 1200 mm/s
Positioning Accuracy	±0.05 mm
Repeatability	±0.03 mm
Control Resolution	0.001 mm

4 Control Software & Production Workflow

ITEM	SPECIFICATION
Control Software	PC-based driver & control software
Operating System	Windows 10 / 11
Supported File Formats	AI, PDF, DXF, SVG, PLT, BMP, JPG, PNG
Color Mapping	Multi-layer, multi-parameter processing
Material Database	Integrated, user-expandable
Camera Vision	CCD camera for positioning & print-to-cut (optional)
Network Interface	Ethernet/USB
Barcode & QR Code	Supported
Rotary Attachment	Roller or chuck type (optional)
Automation I/O	Door & exhaust interlock, external start/stop

5 Safety Architecture & Laser Classification

ITEM	SPECIFICATION
Laser Safety Class	Class 1 (fully enclosed system)
Safety Enclosure	Fully enclosed metal housing
Door Interlock System	Dual-channel safety interlock monitoring
Emergency Stop	Compliant with EN ISO 13850
Key Switch	Standard
Laser Emission Indicator	Visual status indicator
Protective Viewing Window	IR-absorbing window suitable for 10.6 μm
Operator Exposure	No hazardous laser radiation during normal operation

6 Exhaust, Utilities & Environmental Conditions

ITEM	SPECIFICATION
Exhaust Port	Ø150 mm
Recommended Airflow	⩾ 800 m³/h
Air Assist	Adjustable, integrated
Cooling System	Air cooling (RF) / external water cooling (DC tube)
Power Supply	AC 220–240 V, 50/60 Hz, single phase
Rated Power Consumption	⩽ 2.5 kW
Noise Level	⩽ 60 dB(A) @ 1 m
Operating Temperature	15–30 °C
Operating Humidity	30–70% RH (non-condensing)

Application



SOLID 35 is a professional laser system for commercial processing of acrylic, wood, and rubber, widely used in advertising, packaging, leather, and rubber industries.