

Laser Cutting Systems



LASER ISSE

www.laserisse.com



LASER ISSE
TURKEY



LASER ISSE
GERMANY



LASER ISSE
USA

Innovative Simplified Solutions for Efficiency

Laser ISSE was founded in 2003 as the pioneer laser job shop company in Turkey with laser engraving and welding systems, to service and support the rapidly expanding use of laser technology in a wide range of industries.

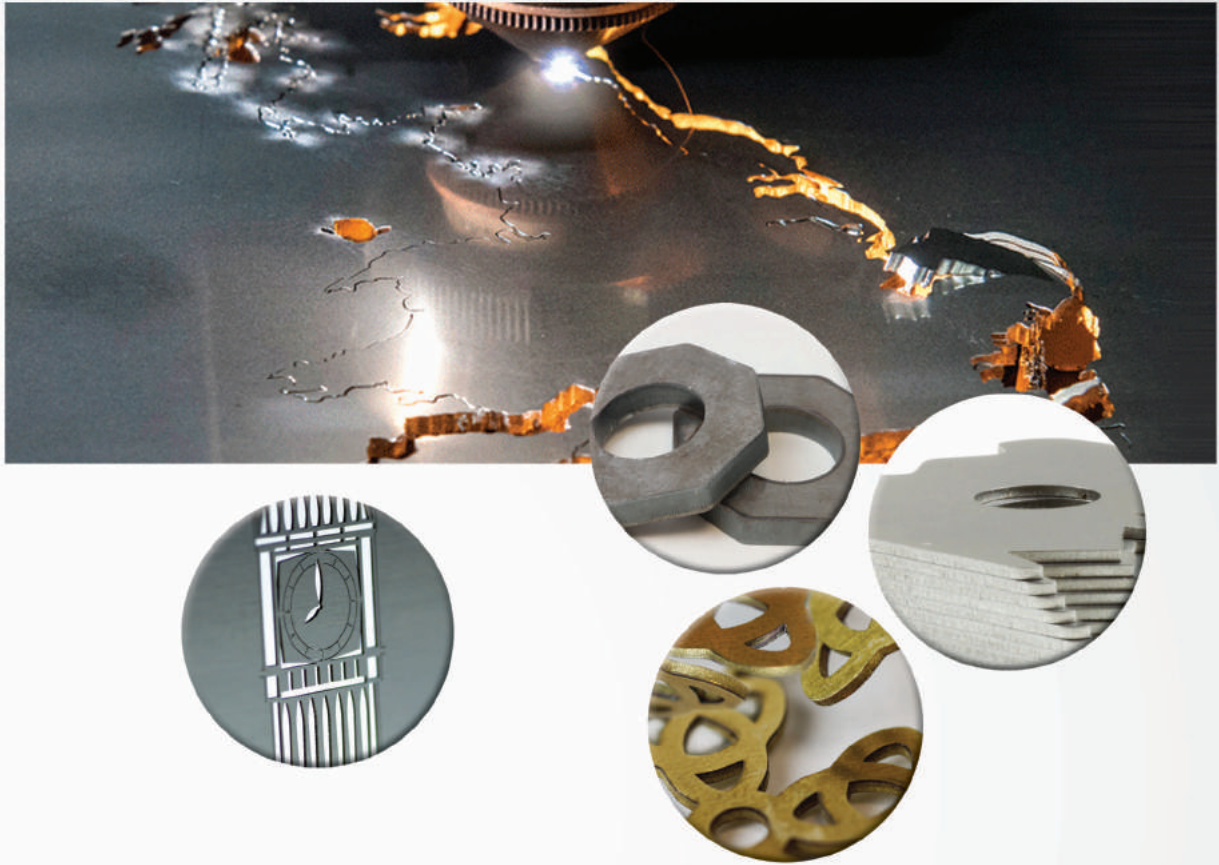
Whereby, with European suppliers, we became a spare parts vendor for equipment such as laser lamps, rods, filters, mirrors, protective windows, lenses, flow tubes, fiber optic cables and goggles to the laser machines from different brands in many countries: Turkey, the Middle East, Europe and Asia.

Since 2008, we have been producing and providing engraving, cutting and welding systems like 2D engraving and cutting, coil fed cutting, robotic applications and turnkey solutions

with different types of laser such as Fiber Lasers, Diode Pumped Solid State, Nd:YAG, UV, Disc and CO₂. Thanks to our international young and dynamic team; we had delivered and run more than 1250 systems and exported to 33 different countries from USA to China in 10 years.

Our aim is to become more engaged in the field of laser technology on a global scale so we exhibited in many trade shows worldwide, we also have the presence in 14 countries, in addition to offices in USA and Germany.

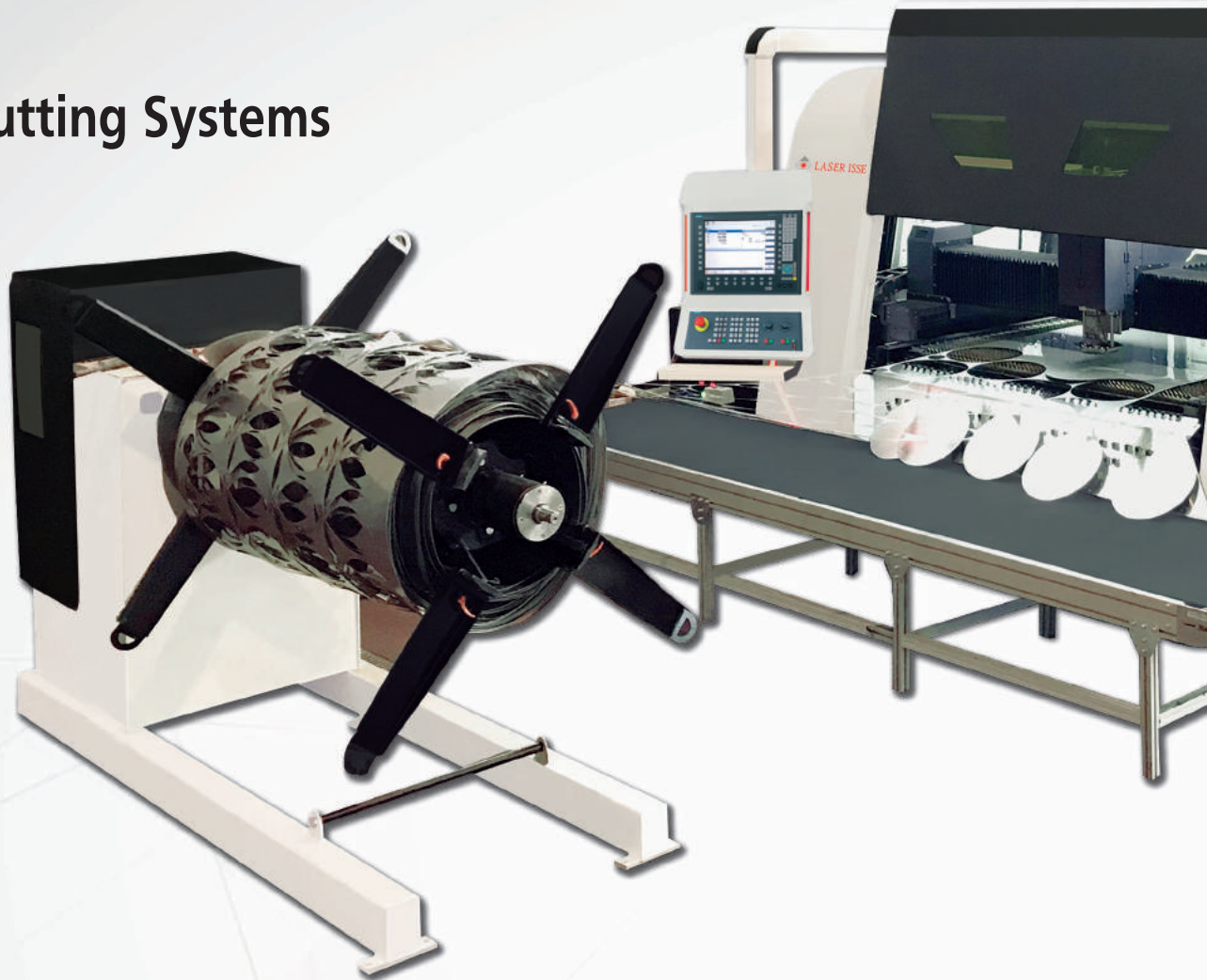
Taking the satisfaction of customers as our topmost priority, we always try to offer more than they may expect. With our innovative and creative approach we always fulfill the demands of our customers.



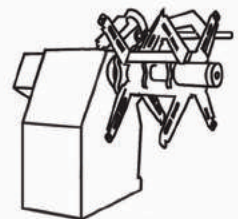
Why Laser ISSE?

- ✓ High speed and precision cutting opportunity
- ✓ Comprehensive and easy to use software improved according to customer requirements
- ✓ Opportunity to work long-term with 24 hours capacity
- ✓ World standard, first-class equipment
- ✓ Low operating cost and easy to use
- ✓ Wide Service Network and experienced technical staff
- ✓ Low maintenance and spare parts costs
- ✓ Minimum maintenance requirements

Coil Cutting Systems



- Increased productivity, while reducing scrap and direct labor costs
- Efficiencies achieved even from low, or medium volume, production
- Low maintenance costs
- Eliminates the cost of expensive dyes
- Fast and uninterrupted production
- Body design suitable for monitoring cutting area
- Frog jump feature
- Resuming from the point of interruption in case of a power cut
- Rigid body
- Lower cost per part
- Less scrap with nesting capabilities
- Process consistency
- Eliminates flash back on the bottom of the part
- Maximum flexibility in the cutting process
- Clean edge, and high quality finish, cutting process
- Reduces floor space requirements for raw material

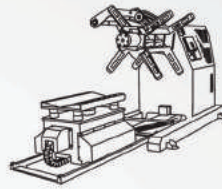


Scrap Recoiler

Scrap Recoiler Type	Single Head Mechanical (standard)
Strip Width Capacity (max.)	1600 mm
Speed Control System	Adjustable Speed
Brake Control	Operation Control by Laser Sensor



LASER ISSE

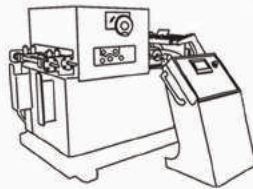


Loading Car

15.000 kg Lifting Weight Capacity
1500 mm Max Coil Outer Diameter
350 mm Lifting Height
Operator Control Panel

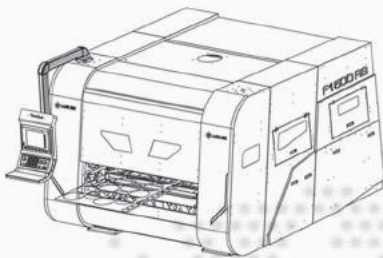
Decoiler

Decoiler Type	Single Head (standard)
Decoiler Capacity	15000 kg
Strip Width Capacity (max.)	1600 mm
Speed Control System	Adjustable Drum Rotary Speed
Brake Control	Operation Control by Laser Sensor



Servo Feeder with Straightener

Setting Width	400 - 1600 mm
Thickness Range (min. - max.)	0.3 - 4 mm
Precision of Feeding Stroke	1000 mm \pm 0.1 mm
Width Adjustment	With Gear
Rollers' Diameter*	\varnothing 110 mm
Rollers' Cylinder Length	1650 mm
Control Panel	Compact System



Laser Cutting

	F500 RS 500W	F1000 RS 1 kW	F1500 RS 1,5 kW	F3000 RS 3 kW	F4500 RS 4,5 kW
CNC	Siemens Sinumerik				
CNC Model Type	840D SL				
Servo Motor Power	2,3 kW 3 Units (on X1, X2 and Y axis) 0,82 kW 1 Unit (on Z axis)				
Lineer Motion System	THK				
Drive System	Rack & Pinion				
Gas Regulator	SMC Japan				
Cutting Head	Precitec, Lightcutter / Procutter				
Cutting Area	1550 x 1650 (Standart)				
Jog Speed	90 m/min				
Positionning Accuracy	\pm 0,05 mm				
Axis Repeatability	\pm 0,05 mm				
Asist Gas	Oxygen (0 - 10 bar) Nitrogen (0 - 20 bar) Compressed Air (0 - 20 bar)				
Gross Weight	4 - 6 Tonne				
Average Consumption (Electric consumption can vary due to operational conditions.)	12 kW	14 kW	15 kW	20 kW	25 kW

2D Cutting Systems



F series

500 W, 1 kW, 1,5 kW, 3 kW, 4,5 kW, 6 kW
Fiber Laser Cutting Systems

D series

2 kW, 3 kW, 4 kW, 6 kW
Disc Laser Cutting Systems

	F500 500W	F1000 1 kW	F1500 1,5 kW	F3000 3 kW	F4500 4,5 kW	F6000 6 kW	D2000 2 kW	D3000 3 kW	D4000 4 kW	D6000 6 kW
CNC	Siemens Sinumerik									
CNC Model Type	840D SL									
Servo Motor Power	2,3 kW 3 Units (on X1, X2 and Y axis) 0,82 kW 1 Unit (on Z axis)									
Linear Motion System	THK									
Drive System	Rack & Pinion									
Gas Regulator	SMC Japan									
Cutting Head	Precitec, Lightcutter / Procutter									
Cutting Area	1500 x 3000 / 2000 x 4000 / 2000 x 6000									
Jog Speed	90 m/min									
Positioning Accuracy	±0,05 mm									
Axis Repeatability	±0,05 mm									
Assist Gas	Oxygen (0 - 10 bar) Nitrogen (0 - 20 bar) Compressed Air (0 - 20 bar)									
Gross Weight	10 - 22 Tonne									
Average Consumption (Electric consumption can vary due to operational conditions.)	12 kW	14 kW	15 kW	20 kW	25 kW	30 kW	17 kW	20 kW	21 kW	30 kW

	1500 x 3000	2000 x 4000	Rack & Pinion	
X Axis (mm)	3050	4100	X Axis (m/min)	90
Y Axis (mm)	1550	2100	Y Axis (m/min)	90
Z Axis (mm)	120	120	Synchronous (m/min)	131
Max. Sheet Size (mm)	1550 x 3050	2050 x 4050	Acceleration (m/s²)	10
Max. Sheet Weight (kg/m²)	200	200	Positional Accuracy (mm)	±0,05
			Repeatability (mm)	±0,05

Robotic Cutting Systems

- Clean and high-quality cutting edge
- Cleaner results than with other cutting methods, without the risk of material bending or deformation
- Increased productivity through reduced scrap and labor costs
- Low cost maintenance and consumables
- No dye requirements
- Fast and uninterrupted production
- Maximum system flexibility thanks to robot mobility
- Optimal material utilization
- Less floor space when compared to traditional five-axis laser cutting machines
- Easy and efficient to program, even complex paths and shapes
- Provides better precision, customization, speed and safety
- Fast machining of complicated outlines including both 2D and 3D
- Precise and smooth cuts
- No workpiece distortion
- Lower power consumption
- Designed to run without human intervention



Disk Laser

Laser ISSE cutting machines use disk laser technology developed by world leader German company Trumpf as of 2015 first time in Turkey. This technology provides fast and efficient cutting opportunities and has been used for many years all over the world in laser systems as a proven laser solution.

- High Beam quality
- High efficiency
- Compact design
- Quick and easy replacement of parts on site
- Easily removable, plug-in fiber cable
- Minimum backscatter
- Remote access
- Less maintenance requirements
- Low failure rate

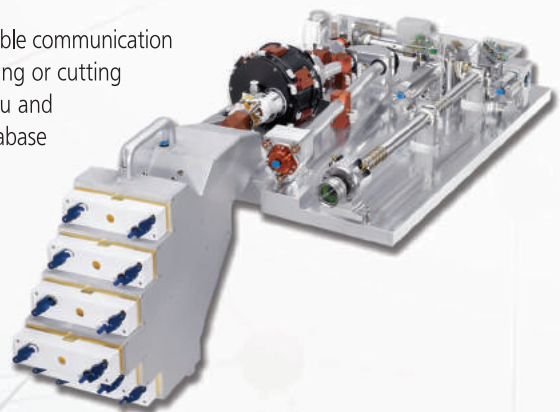


Backscatter protection: High reflective materials such as brass, copper, aluminum can be cut with this laser. Backscatter protection property and unique resonator design assures your cutting performance and the safety of the machine.

Flexible and easy service: Through remote connection, the need for service in the field is reduced by 80%. Whenever service is necessary, service time is extremely reduced with its modular design. Moreover, this modular design enables multiple outputs for laser on site and the capability for higher power.

Stable performance: Internal sensor measures laser power in micro-second intervals and sets the power at $\pm 1\%$ constant, independent of environmental conditions.

Excellent cutting results: Thanks to the All-in-Control, you can use all available communication interfaces for communication between laser and machine. No matter piercing or cutting very precise contours, it can program the most suitable pulse mode for you and achieve perfect cutting results. You can also get support from Cut Assist database for this process.



Efficiency: With intelligent energy management mode and more than 30% energy efficiency, it offers the opportunity to work with lower operating costs.

Robust and safe: Double-sided safety circuit, guarantees laser safety of all optical items with a replaceable protective glass, it also protects the laser against pollution.

D Series		2000 W						3000 W						4000 W						6000 W																
Material	Asist Gas	1	2	4	5	10	16	20	1	2	4	5	10	16	20	20	1	2	4	5	8	10	12	16	20	22	1	2	4	5	8	10	12	16	20	25
Mild Steel	Oxygen	→							→								→								→											
Stainless	Nitrogen	→							→								→								→											
Aluminium	Nitrogen	→							→								→								→											
Brass	Nitrogen	→							→								→								→											
Copper	Nitrogen	→							→								→								→											

Fiber Laser

We are the exclusive representative of English company SPI, in Turkey since 2010. SPI is a world leader in pulsed fibre laser systems and is owned by the German company Trumpf. As a service center, and application partner, we repair many failures of all SPI products in Turkey.

Electronic hardware and software developed by Laser ISSE engineers are added to OEM laser optical modules produced by SPI with the final product being produced in Turkey. This is a great advantage for the end-user service and spare parts service.

- **Upgrading capability to 3, 4.5 and 6 kW on site**
- Patented Backscatter protection (PIPA)
- High security and integrated traceability
- Ability to control with analog-digital features
- Compact design for OEM manufacturing
- Built in Pilot Laser
- Power, temperature and state traceability
- Fiber optical transport cable that can be replaced on site
- High beam quality TEM00 ($M^2 < 1.1$), BPP < 0.37 mm.mrad
- 18 mm, 50 mm and 100 mm beam diameter options
- No maintenance or calibration requirement
- Extra protection glass in BDO
- Pierce detection feature up to ~3 kW
- Fiberview laser control software offering extensive use
- High-quality cutting feature for backscatter metals such as copper, brass and aluminium



F Series		500 W	1000 W	1500 W	3000 W	4500 W	6000 W
Material	Asist Gas	1 2 4 5 10 16 20	1 2 4 5 10 16 20	1 2 4 5 8 10 16 20	1 2 4 5 8 10 12 16 20	1 2 4 5 8 10 12 16 20 22	1 2 4 5 8 10 12 16 20 25
Mild Steel	Oxygen	→	→	→	→	→	→
Stainless	Nitrogen	→	→	→	→	→	→
Aluminium	Nitrogen	→	→	→	→	→	→
Brass	Nitrogen	→	→	→	→	→	→
Copper	Nitrogen	→	→	→	→	→	→

Laser Cutting Head

Procutter and Lightcutter systems produced by German company Precitec, having dozens of proven patents in its field, can be repaired effectively with training obtained from Laser ISSE engineers. Maintenance and optical changes can be made in our facility.

Lightcutter

Precitec lightcutter is a cutting head suitable for 2D laser cuts at low and medium power.

- Use up to 2 kW laser
- The fastest cutting results with the best cutting quality
- Quick and easy exchange of protective glass
- Sheet distance defined capacitive sensor
- Extra protection glass for collimator top

Procutter

Procutter cutting head produces complete solutions for cutting thick and thin materials. It has even become more suitable for use under more demanding conditions. Due to especially high protective glass current supply, optical components have become more resistant to dirt and dust.

- Thanks to its fine, lightweight body it is able to facilitate quicker acceleration and higher speeds
- It has auto-focus adjustment feature for quickness of initial drilling and cutting process
- It has slip properties and fast distance measurement
- Continuously protective glass status display
- Can be used up to 6 KW
- LED process status display
- With Bluetooth connection displaying cutting head alarms and warnings (for Android)
- Cutting gas pressure monitoring feature

Dynamic laser cutting machines fits any operation. It requires light and intelligent cutting heads. Even when installed in the smallest area, procutter has fully integrated sensor system that provides information to the user following the cutting process. Procutter allows repeatable production with high quality standards.



Focal Distance Adjustment

It can be controlled manually, from motor and machine



Focus Lens

No need for repositioning after the necessary adjustments



Protection Glass Cartridge

- Protection of optics against dust and smoke
 - Pollution control
 - Easy change without tools



LED Indicators

Instant display of current system status (gas pressure, temperature, power, pollution)



Cutting Monitor

- Monitoring of the drilling process and detection in case of a power cut
- Integration to angular collimator

Distance measurement

Fast, accurate, drift-free measurement, at all operating temperatures, automatic calibration even at high acceleration



Application produced by Precitec in new Procutter cutting head;

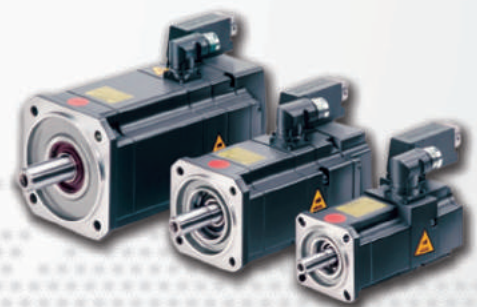
- Temperature control
- Protection Glass contamination and status
- Focal lens height
- Collimator and focus lens pollution, and level of damage
- Requested instantaneous gas pressure levels can be controlled on Android and IOS.

Siemens CNC Control System Sinumerik 840D SL

Laser ISSE uses 840D SL CNC control system of global brand Siemens in Laser ISSE cutting machines and enhanced system quality to world standards. 840D SL has ability to make the same precision cuts for many years after commissioning without annual services, easy access and easy to use through compact operator panel. With a special interface developed by software engineers of Laser ISSE, the operator has a faster and more efficient working environment.

- Gantry Linear systems
- Closed Loop system
- Highest level of performance and flexibility with 840D SL
- Control panel with easier handling
- Automatic and manual auxiliary gas selection via control panel
- Stop-Start feature
- Regional suction control
- Axis control with joystick
- Remote control with Ethernet
- One key cutting head with automatic calibration
- Ability to change parameters during cutting
- USB Input
- 80 GB of program data memory
- Mechanical and CNC control with limit barriers
- Low energy consumption
- Very fast with all Drive, encoder and I/O communications Drive Cliq (Ethernet)
- One button centering for head centering
- User Friendly interface

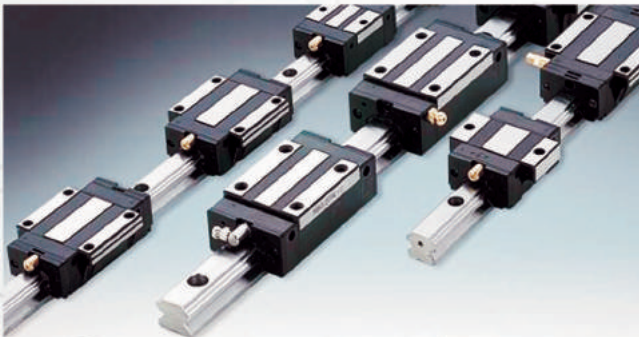
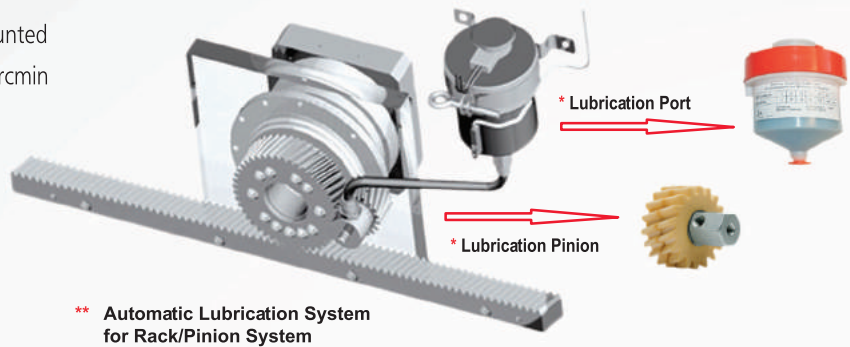
SIEMENS



CONTROL UNIT	
CNC	840D-SL, NCU573,5 6MB User RAM Memory
Port	2x Ethernet; 4 x USB; 1x Profibus
Expansion Slots	2 x PCI ; 1 x CF Card
Screen	15" Colourful Monitor
Laser Cutting Head	Precitec Procutter
Focus Length	150 mm

Alpha Wittenstien Rack & Pinion System

- High speed and acceleration capability
- Planet reductor internal assembled shaft mounted
- The lowest backlash with a level less than 1 arcmin
- Automatic Lubrication System (operation without the need for maintenance for 2 years)
- Robust mechanic structure
- High acceleration capability with Siemens servo motors



THK Linear Slide System

- Series does not require lubrication
- Low friction and noiseless operation
- High speed and acceleration
- No need for long-term maintenance

SMC High Pressure Gas Regulator

SMC high-pressure electro-pneumatic gas regulator provides acid-gas as requested by CNC controller in Laser ISSE cutting machine.

- Suitable for Nitrogen (N_2) - Oxygen (O_2) and compressed air (0-25 bar)
- Air pressure control by adjustable voltage
- Max Pressure: 5.0 MPa Pressure adjustment range: 0.01 - 3.0 MPa
- Max output: 3000 L / min [ANR]
- Digital pressure gauge
- No need for maintenance

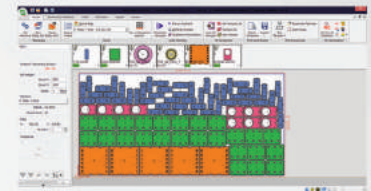


Metalix Cad/Cam Software Installation

Superior abilities of Metalix CAD/CAM gives the best result in Laser ISSE cutting machines in order to make the most efficient and precise cutting with features of automatic and manual processing, automatic positioning, graphic simulation and machine communication.

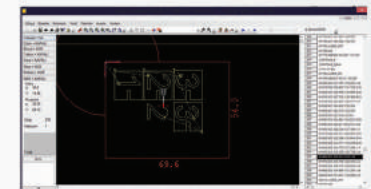
cncKad is a system integrated CAD/CAM adequate module. Geometry, dimensions and cutting technology tables work together with recall. When geometry is changed, measurement and cutting technology is automatically updated.

With positioning modules of Metalix AutoNest cncKad ensures minimum wastage rate by making the most efficient and rational material cutting positioning.



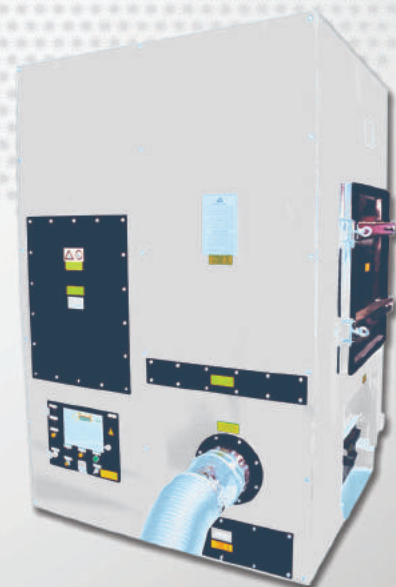
AutoNest features:

- With full automatic positioning feature, plus one part selection or whole picture AutoNest
- Automatically fills incomplete, blank lines on drawing in the most efficient manner
- Positioning many tables on cutting table simultaneously
- Multiple sheet solutions
- Optimal positioning, to determine the best strategy for the most efficient solutions
- Optional displacement feature with dragging and turning of selected components manually
- Automatic (or manual) grouping of parts, or removal from group
- Positioning Report

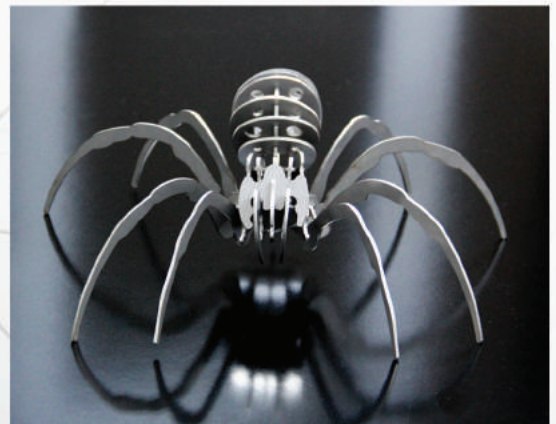
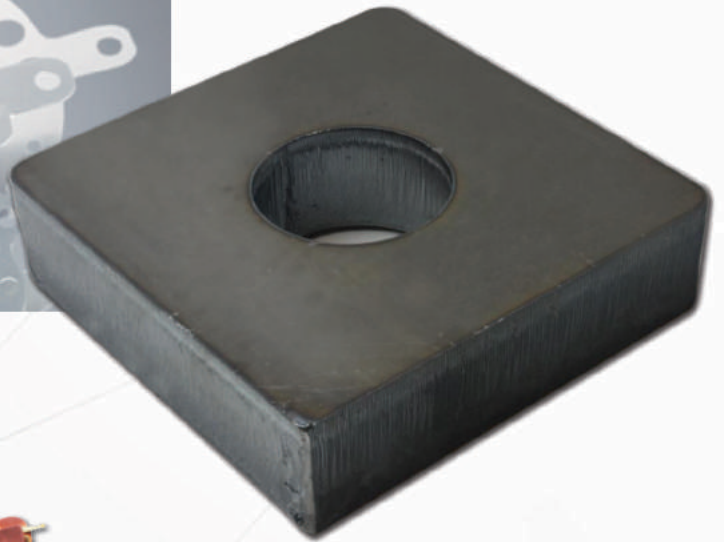


Suction System

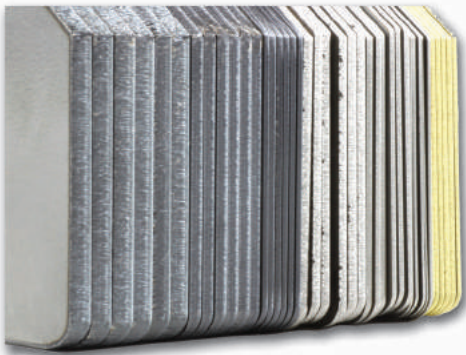
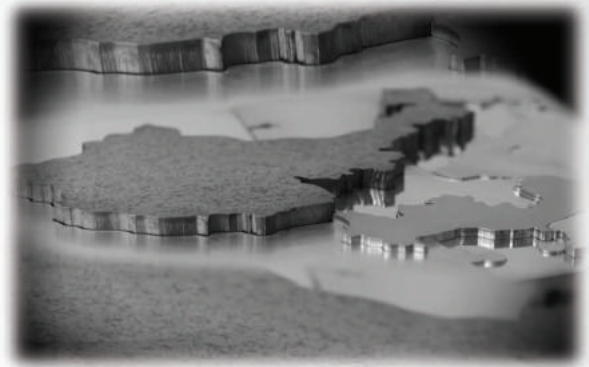
Capacity	400 m³/h
Engine Power	5,5 kW 3000 d/d
Input Voltage	400 V / 50 Hz
Amp	11 A
Filter Type	Ultra-Web Oval Cartridge
Cleaning	Pneumatic By Suction Room
Air input	Ø215 mm
Air Output	350 x 350 mm
Air Pressure	6 bar
Dust Collector Capacity	50 kg
Dimension	H=2250 mm x D=1430 mm x W=1500 mm
Gross Weight	1100 kg
Noise Level	<82 dB (A)

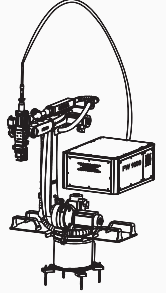
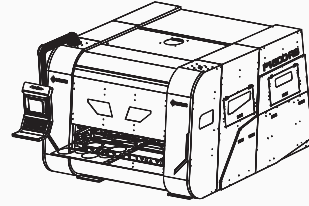
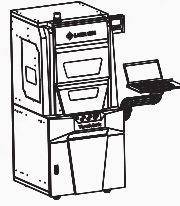


Cutting Samples



Cutting Samples





ENGRAVING **CUTTING** WELDING



LASER ISSE

İkitelli OSB Eskoop Sanayi Sitesi
C.3 Blok No: 86 - 104
34490 Başakşehir - İstanbul / Türkiye

Tel. : 00 90 212 671 15 64
Fax : 00 90 212 671 21 64
Email : info@laserisse.com

www.laserisse.com