Innovative Technologies.

FIBERMAK
Fiber Laser Cutting Machine

ERMAKSAN
SHEET METAL WORKING MACHINERY

FIBERMAK

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Meeting “The” Fiber Laser Cutting Machine...

Ermaksan presents the new Fiber Laser Cutting Machine FIBERMAK to its user’s service.

FIBERMAK is a peerless machine in laser cutting technology with its strong design, ultra low energy consumption, fast cutting capacity and almost zero maintenance cost.

FIBERMAK transmits the laser beam onto the sheet metal by fiber cables and its cutting quality with high beam density is perfect for thin gauge material compared to any other laser technology. Fiber laser cutting technology proves high quality cuttings at very fast speeds. The energy consumption is 70% less compared to CO_2 lasers. Fibermak’s ability to cut reflecting materials such as aluminum, copper and brass provides a wide array of application field.

FIBERMAK, 2000.3 x 1.5

Sliding door.
Easy operating sliding doors.

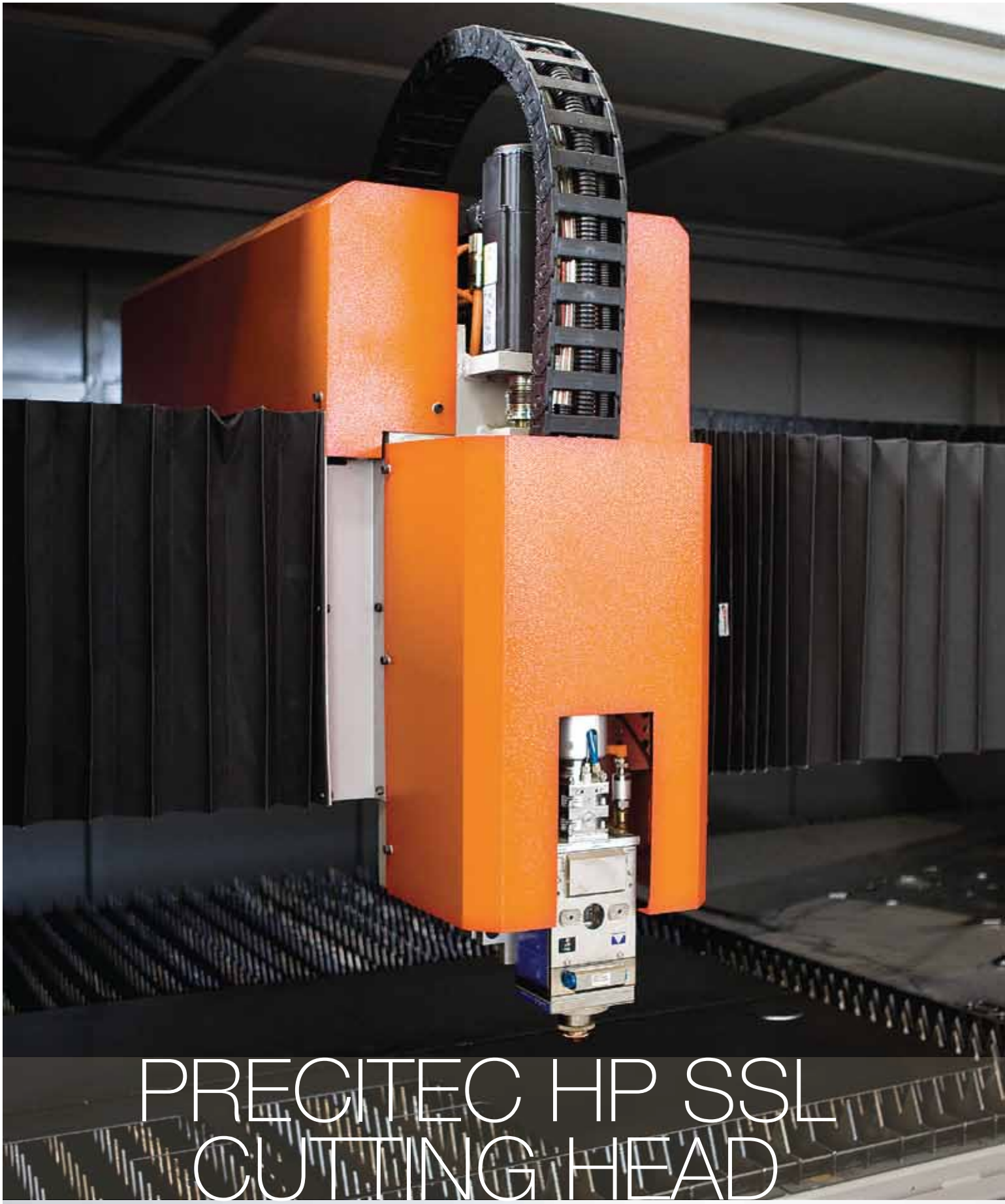
Fast, accurate, smooth;

ERMAKSAN’s high-tech fiber laser cuts mild steel up to 20mm thickness with maximum precision and exceptional quality in a fast paced manufacturing environment.

Fast, accurate, smooth!..

Rigid structure.
Processed with high precision,
dynamic and static rigidity provided strong body.

Eye protections.
Special coated filtering 1080 µm laser wavelength
protective windows.



PRECITEC HP SSL CUTTING HEAD

The HP SSL cutting head is ideal for use in flat bed systems and pipe-cutting machines with fiber-coupled lasers. Successfully designed and reliable HP series head has an integrated distance sensor with extremely durable stability and a monitored protective window cartridge. Pre adjustable cartridges enable ultra-fast replacement when cutting different workpiece thicknesses.

General features

EFFICIENT

- High cutting speeds with integrated distance sensor.
- Short conversion times through fast lens changes.
- Optimized cutting gas flow.

FLEXIBLE

- Cutting of different material thicknesses.
- 2D cutting.
- Focal length adapted to your application.
- All media connections located in upper part.

USER FRIENDLY & SAFE

- Simple and safe cartridge replacement system with TCP retention.
- Fast change of protective glass.
- Motorized focal position adjustment (optional).
- Temperature monitoring of sensor insert.
- Cartridge monitoring for preparation.
- Magnetic unbreakable coupling.

POWER AUTOMATION CONTROLLER

- Power Automation CNC control with integra ted inputs and outputs.
- PA HMI user-friendly, browser-based human machine interface.
- The PA 8000 LW CNC.
- The PA dongle which includes all needed software functions for fiber cutting.
- The I/O module PAMIO which provides 4 analog in-and outputs.

CAD/CAM

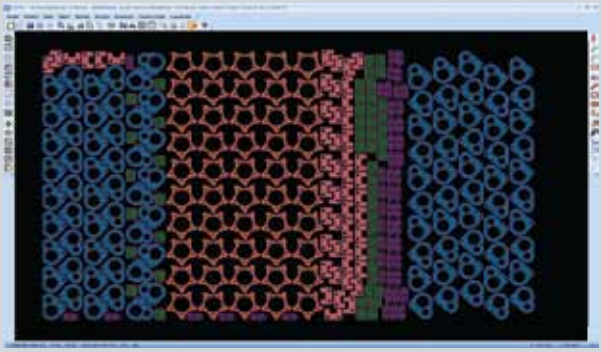
Lantek Expert

FIBERMAK uses Lantek Expert Cut Cad/Cam Software by its own postprocessor. There are many features to make cut easier like a automatic nesting and machining, calculation of time/cost, micro-joint, common cut... etc.

All cutting Data has been installed Lantek's Tables of Technology Part. Thus, part program which is made a nesting and machining is directly installed to the CNC without any cutting parameter settings. Lantek has also some additional features if it is not able to cut like a smaller hole (0,5 x thickness of material) Lantek decides automatically marking.

Easy Programming Features:

- Cutting Technology Charts according to material types and thicknesses
- Automatic nesting + processing
- Time and cost calculation
- CAD module
- Micro-joint
- Common cutting
- Film burning
- Automatic I/O



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Technical Features

FIBERMAK TECHNICAL FEATURES			EFB 2000.3 x 1.5
RESONATOR		Watt	IPG YLS 2000-compact
POWER RANGE		%	10 - 105
LASER BEAM QUALITY @ COLLIMATOR		rad	2 - 2.5
POWER STABILITY		%	1 - 2
PULSE FREQUENCY RANGE		kHz	5
LASER WAVE LENGHT		µm	1075 ± 5
OUTPUT FIBER CORE DIAMETER		µm	50
EXCITATION			Laser diod
COOLING WATER FLOW RATE		l/min	10
MAXIMUM WORKSHEET DIMENSIONS		mm	3000 x 1500
CUTTING CAPACITY (High Quality)			
	MILD STEEL	mm	15
	STAINLESS STEEL	mm	8
	ALUMINUM	mm	6
	BRASS	mm	5
	COPPER	mm	4
MAXIMUM BURDEN CAPACITY		kg	1500
MACHNINE AXES		-	4-Axes [X, Y, Z, U]
AXIAL MOVEMENTS			
X, U AXES	Linear Motorized Table	mm	3050
Y AXIS	Linear Motorized Bridge	mm	1550
Z AXIS	Servo Motorized Cutting Head	mm	150
ACCELERATIONS			
X, U AXES	Linear Motorized Table	G	2
Y AXIS	Linear Motorized Bridge	G	2
Z AXIS	Servo Motorized Cutting Head	G	2
MAXIMUM AXES VELOCITIES			141 (simultaneous) (X, Y single axis velocity 100m/min)
POSITIONING ACCURACY		mm/m	± 0,03
REPETITION ACCURACY		mm	± 0,015
FOCAL LENGHT		mm	125 - 200
SHUTTLE TABLE (Automatic Loading - Unloading Unit)		palette	2 (35 sec)
ASSIST GAS			
Assist sensor 1	MILD STEEL	-	Oxygen (0,5 - 6 Bar)
Assist sensor 2	STAINLESS STEEL	-	Nitrojen (0,5 - 25 Bar)
Assist sensor 3	ALUMINUM	-	Dry Air or Nitrojen (0,5 - 25 Bar)
CUTTING HEAD		-	PRECITEC HP SSL
CAD/CAM SOFTWARE		-	LANTEK EXPERT CUT
NETWORK CONNECTION			ethernet
OPERATION VIA PANEL			With 17" touch screen, keyboard
TOTAL ELECTRIC POWER NECESSITY		kW	30
MACHINE DIMENSIONS (L x W x H)		mm	8935 x 3180 x 2325
MACHINE WEIGHT		kg	11200

EFB 2000.4 x 2	EFB 2000.6 x 2	EFB 3000.3 x 1.5	EFB 3000.4 x 2
IPG YLS 2000-compact	IPG YLS 2000-compact	IPG YLS 3000	IPG YLS 3000
10 - 105	10 - 105	10 - 105	10 - 105
2 - 2.5	2 - 2.5	2 - 2.5	2 - 2.5
1 - 2	1 - 2	1 - 2	1 - 2
5	5	5	5
1075 ± 5	1075 ± 5	1075 ± 5	1075 ± 5
50	50	50	50
Laser diod	Laser diod	Laser diod	Laser diod
10	10	20	20
4000 x 2000	6000 x 2000	3000 x 1500	4000 x 2000
15	15	18 - 20	18 - 20
8	8	10	10
6	6	8	8
5	5	5	5
4	4	4	4
2500 4-Axes [X, Y, Z, U]	4000 4-Axes [X, Y, Z, U]	2250 4-Axes [X, Y, Z, U]	3500 4-Axes [X, Y, Z, U]
4050	6050	3050	4050
2050	2050	1550	2050
150	150	150	150
2	2	2	2
2	2	2	2
2	2	2	2
141 (simultaneous) (X, Y single axis velocity 100m/min)	141 (simultaneous) (X, Y single axis velocity 100m/min)	141 (simultaneous) (X, Y single axis velocity 100m/min)	141 (simultaneous) (X, Y single axis velocity 100m/min)
± 0,03	± 0,03	± 0,03	± 0,03
± 0,015	± 0,015	± 0,015	± 0,015
125 - 200	125 - 200	125 - 200	125 - 200
2 (45 sec)	2 (65 sec)	2 (35 sec)	2 (45 sec)
Oxygen (0,5 - 6 Bar)	Oxygen (0,5 - 6 Bar)	Oxygen (0,5 - 6 Bar)	Oxygen (0,5 - 6 Bar)
Nitrojen (0,5 - 25 Bar)	Nitrojen (0,5 - 25 Bar)	Nitrojen (0,5 - 25 Bar)	Nitrojen (0,5 - 25 Bar)
Dry Air or Nitrojen (0,5 - 25 Bar)	Dry Air or Nitrojen (0,5 - 25 Bar)	Dry Air or Nitrojen (0,5 - 25 Bar)	Dry Air or Nitrojen (0,5 - 25 Bar)
PRECITEC HP SSL	PRECITEC HP SSL	PRECITEC HP SSL	PRECITEC HP SSL
LANTEK EXPERT CUT	LANTEK EXPERT CUT	LANTEK EXPERT CUT	LANTEK EXPERT CUT
ethernet	ethernet	ethernet	ethernet
With 17” touch screen, keyboard	With 17” touch screen, keyboard	With 17” touch screen, keyboard	With 17” touch screen, keyboard
30	30	35	35
11135 x 3730 x 2325	15485 x 3730 x 2325	8935 x 3180 x 2325	11135 x 3730 x 2325
13700	16700	11200	13700

	EFB 3000.6 x 2	EFB 4000.3 x 1.5	EFB 4000.4 x 2	EFB 4000.6 x 2
	IPG YLS 3000	IPG YLS 4000	IPG YLS 4000	IPG YLS 4000
	10 - 105	10 - 105	10 - 105	10 - 105
	2 - 2.5	2 - 2.5	2 - 2.5	2 - 2.5
	1 - 2	1 - 2	1 - 2	1 - 2
	5	5	5	5
	1075 ± 5	1075 ± 5	1075 ± 5	1075 ± 5
	50	50	50	50
	Laser diod	Laser diod	Laser diod	Laser diod
	20	20	20	20
	6000 x 2000	3000 x 1500	4000 x 2000	6000 x 2000
	18 - 20	18 - 20	18 - 20	18 - 20
	10	10	10	10
	8	8	8	8
	5	5	5	5
	4	4	4	4
	4000 4-Axes [X, Y, Z, U]	2250 4-Axes [X, Y, Z, U]	3500 4-Axes [X, Y, Z, U]	4000 4-Axes [X, Y, Z, U]
	6050	3050	4050	6050
	2050	1550	2050	2050
	150	150	150	150
	2	2	2	2
	2	2	2	2
	2	2	2	2
	141 (simultaneous) (X, Y single axis velocity 100m/min)	141 (simultaneous) (X, Y single axis velocity 100m/min)	141 (simultaneous) (X, Y single axis velocity 100m/min)	141 (simultaneous) (X, Y single axis velocity 100m/min)
	± 0,03	± 0,03	± 0,03	± 0,03
	± 0,015	± 0,015	± 0,015	± 0,015
	125 - 200	125 - 200	125 - 200	125 - 200
	2 (65 sec)	2 (35 sec)	2 (45 sec)	2 (65 sec)
	Oxygen (0,5 - 6 Bar)	Oxygen (0,5 - 6 Bar)	Oxygen (0,5 - 6 Bar)	Oxygen (0,5 - 6 Bar)
	Nitrojen (0,5 - 25 Bar)	Nitrojen (0,5 - 25 Bar)	Nitrojen (0,5 - 25 Bar)	Nitrojen (0,5 - 25 Bar)
	Dry Air or Nitrojen (0,5 - 25 Bar)	Dry Air or Nitrojen (0,5 - 25 Bar)	Dry Air or Nitrojen (0,5 - 25 Bar)	Dry Air or Nitrojen (0,5 - 25 Bar)
	PRECITEC HP SSL	PRECITEC HP SSL	PRECITEC HP SSL	PRECITEC HP SSL
	LANTEK EXPERT CUT	LANTEK EXPERT CUT	LANTEK EXPERT CUT	LANTEK EXPERT CUT
	ethernet	ethernet	ethernet	ethernet
	With 17" touch screen, keyboard	With 17" touch screen, keyboard	With 17" touch screen, keyboard	With 17" touch screen, keyboard
	35	42	42	42
	15485 x 3730 x 2325	8935 x 3180 x 2325	11135 x 3730 x 2325	15485 x 3730 x 2325
	16700	11200	13700	16700

Why FIBERMAK ?

- 3 times faster compared to other laser cutting machines while cutting thin sheets. Axes equipped with linear motors and drivers reach to 141 m/min. speed and accelerations are 2 G on Y, 2 G on X axes.
- Fiber laser is a green technology by saving minimum 50% from electricty.
- There is no need of laser gas mixture.
- There is no need for optical components as laser transmitting is done by fiber cable.
- There is no need for components such as beam path, folding mirror, quartz tube, bellows and turbo blower etc.
- Save 50% per each part cost by efficient 24 hours production a day.
- Prevent production faults by automation at your promises.
- Extended cutting possibilities of reflecting materials such as aluminum, copper, brass etc. by enabling precise cuts and smooth surface quality.
- Heavy-duty constructed FIBERMAK frame, equipped with worldwide well known, long-lasting, high-quality components is designed to work accurately and continuously even in hard conditions.
- ERMAKSAN commits reflecting the price advantage to its customers by fast and high quality production. Creative design, constant highest level technology and quality are the main principles.

IPG YLS 2000-Compact

→ High Reliability
→ High Efficiency
→ High Quality

Main Features:

- Excellent Beam Parameter Product (BPP)
- Constant BPP Over Entire Power Range
- Small Focus over Large Working Distance
- Over 30% Wall-Plug Efficiency
- Maintenance Free Operation
- Modular “Plug & Play” Design
- Compact, Rugged & Easy to Install
- Estimated Diode Lifetime up to 100,000 hours
- Integrated Coupler or Beam Switch

www.ermaksan.com.tr

Organize Sanayi Bölgesi, Lacivert Cad. No:6 Nilüfer, Bursa / TURKEY
Phone: +90 224 294 75 00 (pbx) Fax: +90 224 294 75 44 e-mail: sales@ermaksan.com.tr

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