CHOOSE YOUR POWER

FIBERMAK

Fiber Optic Laser Cutting Machine

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ERMAKSAN presents new fiber optic laser cutting machine FIBERMAK to its users' 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 on thin sheets compared to other alternatives. Fiber optic laser cutting technology proves high quality cuttings at very fast speeds. The energy consumption is 70% less compared to CO_2 lasers. You'll also benefit from easy cutting of reflecting materials as aluminum, copper, brass etc. via low wavelength depending to its working principle.

Faster and economy-minded

Why FIBERMAK ?

- 60% - 100% faster compared to other laser cutting machines. Axes equipped with Bosch - Rexroth linear motors and drivers reach to 120 m/min. speed and accelerations are 2 G on Y, 1,5 G on X axes.
- Cuts thin materials 3 times faster compared to CO_2 lasers and energy consumption is simultaneously lower.
- 70% energy save by fiber optic laser technology is plant friendly.
- There is no need to laser-mix gas used at CO_2 laser cutting machines as there is diode technology.
- There is no need to optical components as beam path, folding mirror and quartz tube etc. as laser transmitting done by fiber cable.
- You can make production 24 hours a day and may save 50% per each part costs.
- You can prevent from production faults by automation in your premises.
- You save from moulds and apparatuses.
- You may cut reflecting materials such as aluminum, copper, brass etc. precisely and by smooth surface quality.
- FIBERMAK has strong frame, equipped with worldwide well known, long life, quality components and designed to work accurately and continuously even at hard conditions.
- Fast and high quantity production capacitated ERMAKSAN reflects this advantage as price to its customers. Creative designs and always highest level technology and quality are the main principles.

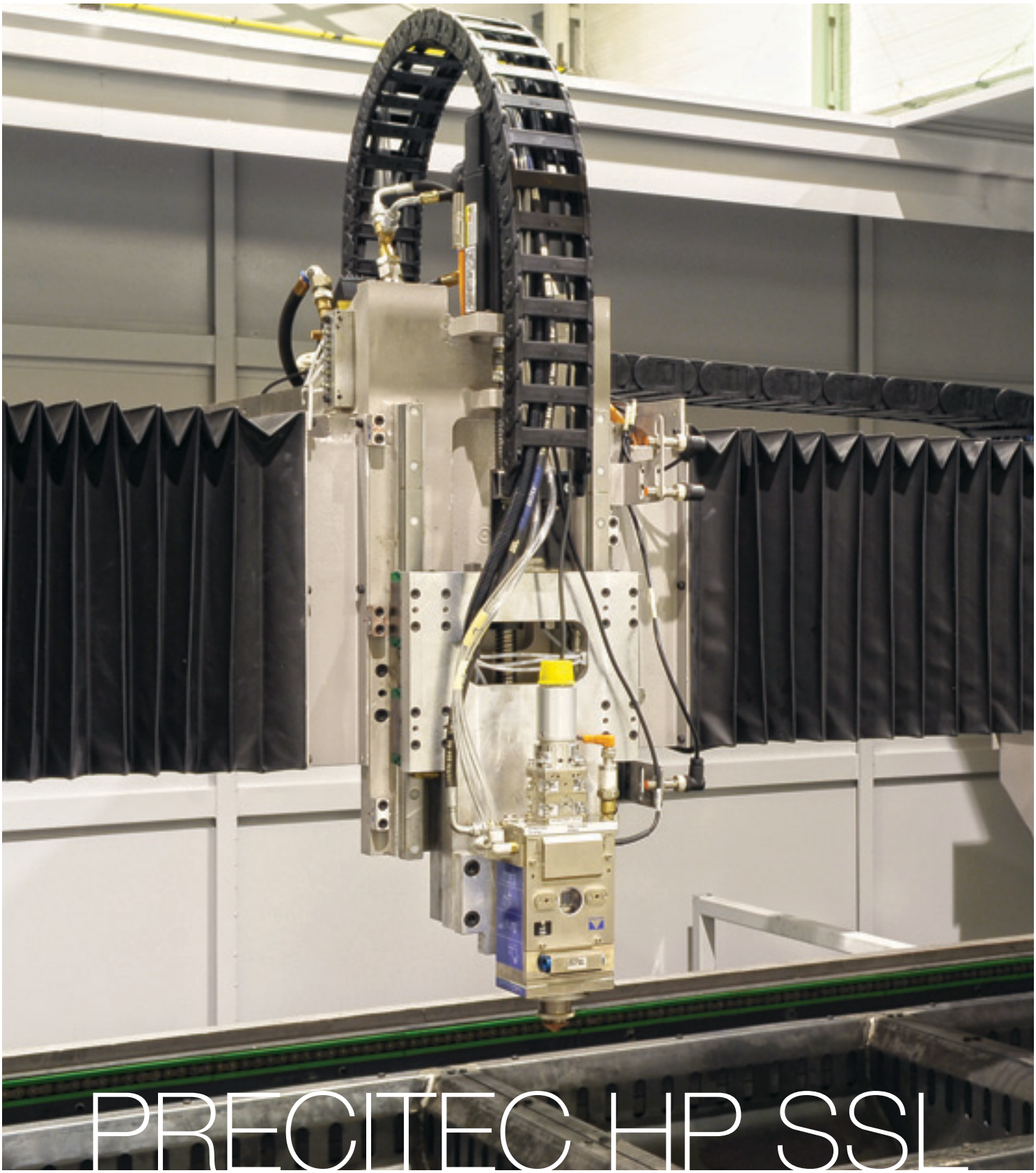
ROFIN RESONATOR

The high brightness fiber lasers of the ROFIN FL Series. The emitted wavelength in the range of 1 _m achieves high absorption in many materials. All common solid-state laser applications can be performed using the FL Series laser. With the multi-mode version of the FL laser, fiber optics of 50 to 600 _m can be used. The single-mode version produces exceptionally good beam quality, typically in the range of ≤ 0.4 mm x mrad. The excellent beam quality also allows the efficient use of “dynamic beam” scanner systems for high-speed positioning as well as the fast and precise application of small geometries at workpieces. This reduces cycle times and increases productivity.

Non-productive times are reduced and the utilization of the laser is increased.

Technical Data	ROFIN FL 020
Excitation	Laser diodes
Output Power	2000 W
Beam Parameter (with 50 µm fiber)	≤ 2,5 mm x mrad
Fiber Optic	50 to 600 µm

12 mm mild steel, 6 mm stainless steel cutting capacity



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. Modeled on the design of the successful and reliable HP series, this head has integrated distance sensor with extremely durable stability and a monitored protective window cartridge. Preadjustable cartridges enable ultra-fast replacement when cutting different workpiece thicknesses.

General Features

EFFICIENT

- High cutting speeds with integrated distance sensor
- Short conversion times with fast changing of focal lengths
- Optimized cutting gas flow

FLEXIBLE

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

USER FRIENDLY & SAFE

- Simple and safe cartridge replacement system with TCP retention
- Sast change of protective glass
- Motorized focal position adjustment (optional)
- Temperature monitoring of the sensor insert
- Cartridge monitoring for presence
- Magnetic breakaway coupling

POWER AUTOMATION CONTROLLER

Power Automation CNC control with integrated inputs and outputs

- The open, browser-based human machine interface PA HMI
- 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

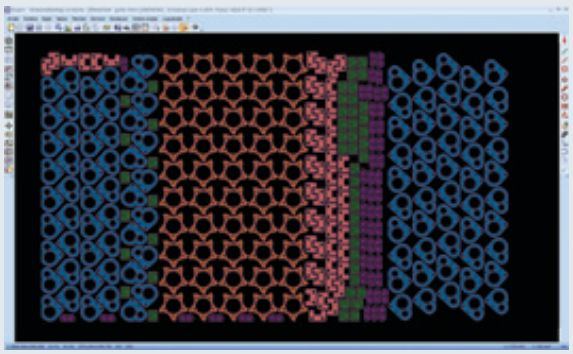
Lantek Expert

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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FO.2000.3 x 1,5 Technical Features

RESONATOR		Watt	2000-ROFIN FL 020
POWER RANGE		%	10-100
LASER BEAM QUALITY @ COLLIMATOR			≤2,5 mm mrad
POWER STABILITY		%	± 2
PULSE FREQUENCY RANGE		kHz	CW-5
LASER WAVE LENGTH		_m	1,08+10nm
EXCITATION			Laser diod
COOLING WATER FLOW RATE		l/min	110
MAXIMUM WORKSHEET DIMENSIONS		mm	3000 x 1500
CUTTING CAPACITY (High Quality)			
MILD STEEL		mm	12
STAINLESS STEEL		mm	6
ALUMINUM		mm	4
MAXIMUM BURDEN CAPACITY		kg	1500
MACHINE AXES		-	4-Axes [X, Y, Z, U (X2),]
AXIAL MOVEMENTS			
X, U AXES	Linear Motorized Table	mm	3060
Y AXIS	Linear Motorized Bridge	mm	1540
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		m/min	169 (simultaneous) (X, Y single axis velocity 120m/min)
POSITIONING ACCURACY		mm/m	± 0,03
REPETITION ACCURACY		mm	± 0,015
SHUTTLE TABLE (Automatic Loading - Unloading Unit)		palette	2 (35 sec)
ASSIST GAS			
Assist sensor 1	MILD STEEL	-	Oxygen (0,1-6 Bar)
Assist sensor 2	STAINLESS STEEL	-	Nitrojen (0,2-25 Bar)
Assist sensor 3	ALUMINUM	-	Dry Air or Nitrogen (0,2-25 Bar)
CUTTING HEAD		-	Precitec HPSSL
CAD/CAM SOFTWARE		-	LANTEK EXPERT CUT
TOTAL ELECTRIC POWER NECESSITY		kW	35 - 30
MACHINE DIMENSIONS (L x W x H)		mm	8960 x 3502 x 2400
MACHINE WEIGHT		kg	14000

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