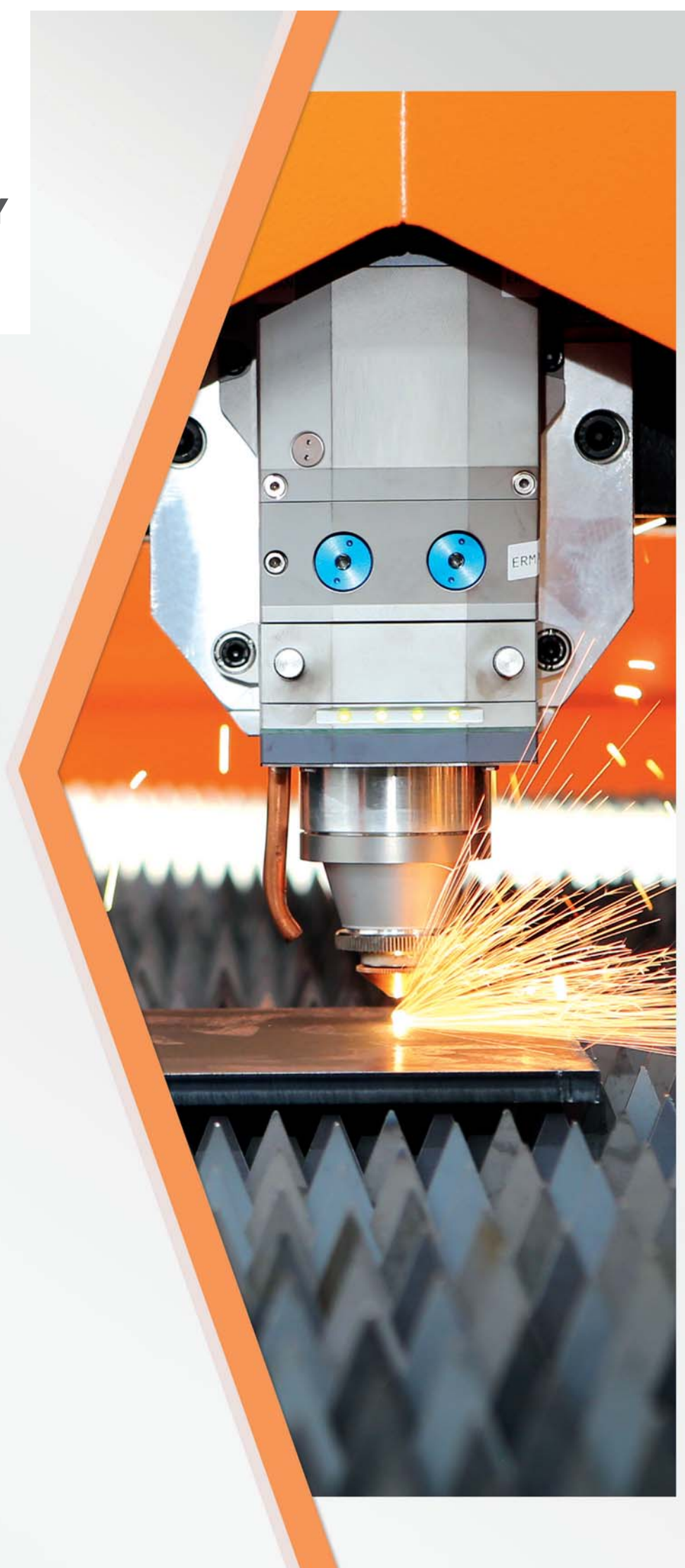


FIBER LASER TECHNOLOGY



ERMAKSAN
INNOVATIVE TECHNOLOGIES

ermaksan.com.tr

FIBER LASER TECHNOLOGY

FIBERMAK G-FORCE



Shall Accelerate You Further...

- 4**
- Length options from 2.5 to 18 m
 - Load capacity from 1000 to 24000 kg
 - With X, U, Y and Z servo motors for axial movements
 - Positioning accuracy of ± 0.03 mm
 - PC-based CNC controller
 - 2D CAD/CAM software
 - 15-inch touchscreen control panel
 - 500 w to 8000 w resonator

FIBERMAK SL G-FORCE



Compact Design That Provides 30% Benefit in Terms of Layout

- 18**
- Length options from 2.5 to 8 m
 - Load capacity from 600 to 8000 kg
 - With X, U, Y and Z servo motors for axial movements
 - Positioning accuracy of ± 0.03 mm
 - PC-based CNC controller
 - 2D CAD/CAM software
 - 15-inch touchscreen control panel
 - 500 w to 8000 w resonator

30 FIBERMAK TOWER

36 INDUSTRY 4.0

38 SPECIAL PROJECTS

Increasing its production efficiency in laser cutting technology with Fibermak, Ermaksan provides the most ideal solutions to meet the requirements of the industry with various machine models it has introduced to the market. In addition to offering customized solutions to customer requirements, it also contributes to smart manufacturing processes by developing machines suitable for automation. With our industry 4.0 solutions which shall provide greater flexibility in production processes, factories are much smarter, and the manufacturing operations are more digital and traceable now.

Ermaksan laser technology used in many stages of the manufacturing industry, particularly in automotive and aerospace, contributes to the efficiency and sustainability of production by meeting customer expectations in terms of high precision and cutting speed, minimum roughness and long-term operating performance.

By continuously monitoring new trends and customer expectations and designing and producing environment friendly and energy saving machines with advanced technology and high added value, Ermaksan is moving forward with its stakeholders on the way to sustainable growth by taking strong steps to the future.

FIBERMAK RAPTOR



Modular and ergonomic design...

22

- Length options from 2.5 to 3 m
- Load capacity of 600 kg
- With X, U, Y and Z servo motors for axial movements
- Positioning accuracy of ± 0.1 mm
- PC-based CNC controller
- 2D CAD/CAM software
- 15-inch touchscreen control panel
- 500 w to 2000 w resonator

FIBERMAK HAWK



Perfect Combination of Price and Performance

26

- Working area of 3 m
- Load capacity of 300 kg
- With X, U, Y and Z servo motors for axial movements
- Positioning accuracy of ± 0.1 mm
- Beckhoff 2215 CNC
- 2D CAD/CAM software
- 15-inch touchscreen control panel
- 500 w to 1000 w resonator

FIBERMAK G-FORCE

• FIBER LASER
TECHNOLOGY

Shall Accelerate You Further...

Fibermak G-Force is designed with the servo motor concept. A machine equipped with a servo motor may reach up to 4G acceleration with its rigid bridge as a result of dynamic analyses performed and its perfect design. Thanks to the high acceleration that provide great advantages while switching between parts, production time is decreased and efficiency is increased by 15% per hour in average. The more complex the part to be processed, the greater the productivity.

Produced by using long-life and high quality components together with its strong body structure, Fibermak G-Force is designed to operate continuously and precisely even under the most severe conditions.

High acceleration

Fully automatic

Flexible solutions

Smart production

Precise cutting

Long life performance

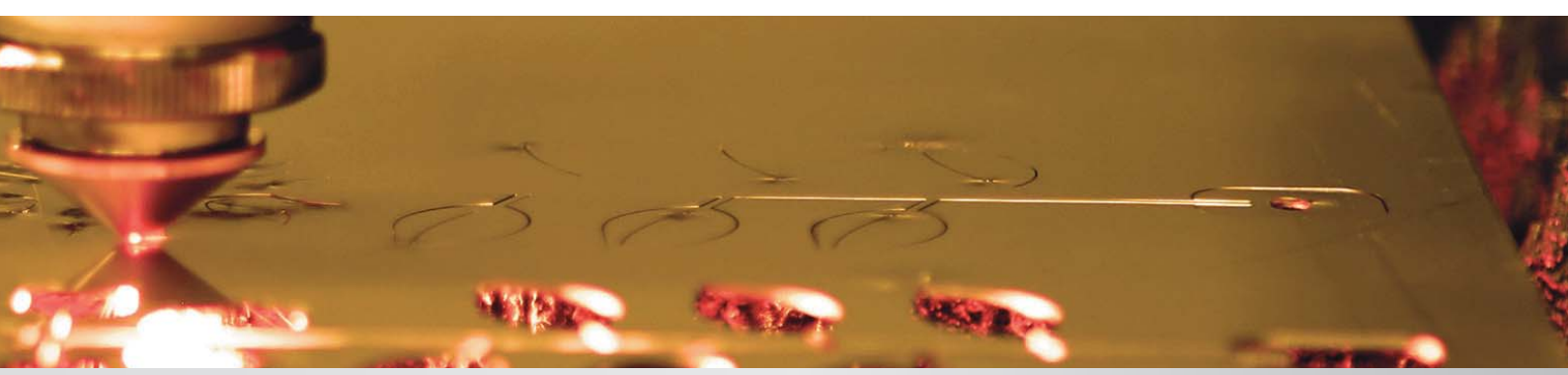


SMART FACTORY SOLUTIONS

It allows businesses to build intelligent factories, with a rapid and flexible structure, that provide innovation by improving processes, and that improve productivity and minimize errors by increasing efficiency with Industry 4.0 solutions.

CREATING A WORK LIST

By creating a work list, dozens of programs may be queued and run automatically at a single time.



MACHINE UPDATE

Because the machine hardware and software are designed and implemented with a very advanced vision by the ERMAKSAN engineers, it may work with up-to-date performance for many years.

ULTRA FAST COMMUNICATION WITH ETHERCAT

Through the Ethercat communication protocol, all machine equipment are controlled at ultra speed. The total time between placing of an instruction and its execution is at microsecond level.

CUTTING AT MINIMUM TIME

In CNC controlled machines such as Fibermak, the flow of G codes is important in the performance duration of a process. In Fibermak, the G code flow is designed to achieve the desired result from the shortest path.

BACK-UP

It is possible to restart the machine within minutes by means of a system backup against possible errors.

FIBERMAK G-FORCE

- MAIN BODY

MICRON LEVEL PRECISION WITH DOUBLE TOWER CNCs

The motor, the scale and the rails must be mounted on a perfect surface. A slight deflection on the mounting surface may cause severe disruptions in cutting procedure and damage to the motors and scales. Therefore, the Fibermak's main body is perfectly processed with double-tower CNCs. In machines with linear motors, the scale, linear motor and rail bearings; and in machines with servo motors, the toothed rack and rail bearings are processed with micron level precision in CNC machines. Thus, a perfect movement surface is obtained. And this is the basis for quality cuts.



STANDARD EQUIPMENT

- 4 axis (X, Y, U, Z)
- Servo motor
- Automatic focus cutting head
- Laser source
- Cooling Unit
- Clean - dry air system
- Safety cabinet
- 2x automatic shuttle table
- CAD/CAM software
- 15" touchscreen controller
- Conveyor
- Warning lamp
- Nozzle and cleaning kit
- Nozzle cleaning and calibration tray
- Light protection



■ Continuous flow of parts is ensured thanks to the specially designed conveyor. (S)

(S) : Standard (O) : Optional



LASER SOURCE

- The beams produced in the modules of the laser source are transported to the cutting head by means of the fiber cable without any loss. Thus, a suitable laser beam is provided for cutting.
- The laser source may range from 500 W to 8 kW. Here, as the power increases, the cutting speed and cutting thickness increase.
- Its assembly and disassembly are easy. In case of any malfunction, replacement of the parts is easy. It is designed modularly and with plug-and-play feature.



- High beam quality produced in the laser unit ensures micro and macro processing operations to be performed with precision. (S)

COOLING (CHILLER) UNIT

- It is the part that provides cooling of the laser unit, the collimation part on the cutting head, the laser modules and the linear motors. It has a water-based cooling system.



- Ensures cooling of relevant parts for the continuity and precision of cutting. (S)

SUCTION UNIT

- It provides a healthy working environment by absorbing the fumes and small particles formed during cutting. Runs automatically when cutting is started.
- The laser cutting head activates the suction eye over which it is located. Thus, a much higher level of suction is achieved.
- One of the most important parts of the suction unit is the suction bucket. The machine is equipped with a sensor that recognizes and remembers whether the bucket has been changed/unloaded. It is possible to monitor the cleaning of the dust bucket in the suction unit.
- As the filters are cleaned with dry air, the filter has a long service life and provides long term efficiency.



- It provides a healthy working environment without interrupting the precision of cutting operation thanks to high pressure suction. (S)

CONVEYOR

- It is a band system that carries the parts and slags falling from the grids to the collection chamber after the cutting process in the system.

FIBERMAK G-FORCE

- CONTROL PANEL
- USER-FRIENDLY INTERFACE

- It is the unit which controls the system and sends the user commands to the machine.
- It is resistant to difficult environmental conditions. (Shock, dirt, humidity, temperature, etc.)
- It is equipped with a touch screen and a functional keyboard is mounted on it.
- You can increase and decrease the axis speeds in the working area with the speed adjustment potentiometer.
- The drawing of the material to be cut may be viewed before cutting operation.
- Shortcut keys provide ease of use.
- Cutting operation is displayed instantaneously on the NC graphic.
- Increased memory
- Enhanced processor
- Flexibility of Windows 7 operating system
- Alphanumeric keyboard
- Wired and wireless handwheel (O)



■ This equipment facilitates positioning of the head without actually attending the control panel. (O)

EASY OPERATION BUTTONS

Any function programmed with the easy operating buttons on the lower part of the control panel may be operated with a single key.

Shuttle table control, conveyor, suction unit, laser unit controls, focus reference, HSU calibration, turning off and moving to service positions, etc.

In the HMI display, you may access the functions with the shortest route using "easy operation buttons" instead of navigating through the pages. Additional features specific to the customer may be added to these buttons.

(S) : Standart (O) : Optional

USER-FRIENDLY INTERFACE

■ Work repetition, sheet and angle detection

Work can be repeated and you can find the starting point and sheet angle automatically.

■ Data collection system (O)

With Industry 4.0 applications, you can perform instant machine and work follow up.

■ Online parameter change facility

You can change the parameters while cutting.

■ Graphical tracking with nc graphics

With Nc graphics, you may see which part will be cut before cutting and you may follow the current cutting operation graphically in real time.

■ Wireless data collection

You can monitor the data such as temperature, humidity, warning, etc., through the sensors placed inside the cutting head.

■ Film burning

There are various film burning options available for cutting film-sheets.

■ Part control system

You can instantly perform quality control of the cut-off part.

■ Work reports in PDF format

You can keep a detailed work records of the cut parts. You can create documents as PDF.

■ All errors recorded

As long as the machine is energized, all faults and warnings that occur are recorded. This makes problem detection and intervention easier.

■ Remote connection and service

With a wireless modem and USB type adapter or via 3G modem, you can provide internet connection and connect to the machine remotely at any time.

■ Real time monitoring (O)

With the integrated IP camera system, you can monitor the work area over the network.

■ Changing speed at the cutting area

You may increase or decrease the speed while performing cuts on the machine.



■ Inch-metric conversion

Fibermak may operate with inch and metric systems.

■ Languages

Our system offers English, Turkish, Russian, German, Spanish, French, Polish, Italian, Korean, Chinese, Dutch and Arabic languages. Adding new language to our system is quite simple.

■ CAD/CAM

CAD/CAM programs such as Lantek, Metalix, Almacam, Sigmanest, Radan are used actively. Compatibility of other desired programs is also ensured.

■ Precise gas control

With the gas control, you may get more precise, faster and better quality cuts.

■ Defining an operator with RFID (O)

■ Barcode reader (O)

■ Gps locating (O)

■ Transfer of information to the mobile phone as an error warning message (O)

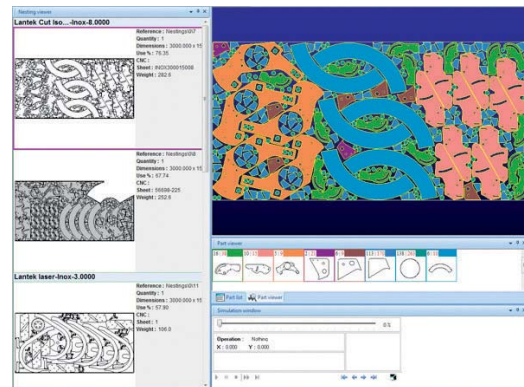
■ Sending e-mails (O)

FIBERMAK G-FORCE

- CAD/CAM SOFTWARE
- CUTTING HEAD

TECHNICAL SPECIFICATIONS

- All the functions of the CAD/CAM software are integrated in a single program, thus functions such as part design, call, placement (automatic or manual) etc. can be used without switching the program.
- Production management process: CAD/CAM software is ready to connect to production management systems (ERP) by means of automatic processes.
- Teamwork: It can be used either as an independent productivity cell or as a part of a network system.
- Sheet metal stock with part management and open database: All parts information are stored in databases that is organized so that users can easily find the needed parts and sheets since they are classified based on fields such as material, thickness, etc.
- 2D design: CAD/CAM software has advanced geometry and editing functions.
- Real time and cost calculation: CAD/CAM software calculates the cutting time and cost. This calculation takes into account the number of blasting, cutting length, marking, material cost, hourly operation of the machine, auxiliary material costs and depends on the machine's technological data.
- CAD/CAM software can be used to make bevels on side surfaces.



SUPERIOR TECHNOLOGIES

- CAD/CAM allows to configure and manage the type and value of inputs and outputs for different internal and external contour types.
- With micro connection and pre-cutting, joint cutting can be done between different parts or between two parts.
- It detects errors in the design and in the process.
- CAD/CAM software has features such as automatic input-output, manual and automatic cutting, copying the cuts, customized machine configuration for any type of machine.

AUTOMATIC PLACEMENT

- Manual and automatic placement with excellent flexibility and maximum performance.
- Perfect combination of automatic and semi-automatic placement functions with powerful manual placement functions such as copy, move, rotate, align, etc.
- The automatic placement function parts of the CAD/CAM software places the parts on the plate as much as possible.
- CAD/CAM software can also perform placement on the scraps. Just like for plates, a border can be defined for the scraps too.



CUTTING HEAD

- The beams produced in the laser unit are carried by the fiber cable up to the cutting head. The cutting head transfers the beams from the fiber cable to the processing surface.
- The beams arranged in the collimation unit are transferred to the focusing unit.
- The laser beam is set at the desired focus with the help of the lenses in the focusing unit.
- The Protection Glass is the part that prevents the slag from cutting to damage the lenses.
- Instant system control can be done by the LEDs on the cutting head.
- The Height Sensor Insert is an element of the height control system used to adjust the distance between the cutting head and the machining surface. The information from here is converted into numerical values by transferring to an upper unit.
- Nozzle directs the auxiliary gases. Along with this, it helps to make height control.



BEVEL CUTTING HEAD (O)

- Thanks to its motor-controlled biaxial cutter head, it can move ± 45 degrees.
- For angled welding operations of 45 degrees or less, it is possible to cut angularly in a planar manner to open a welding groove.



PROCUTTER ZOOM HEAD (O)

- Fast cuts in thin materials, quality cuts in thick materials
- Higher focal length
- Changeable Spot Size

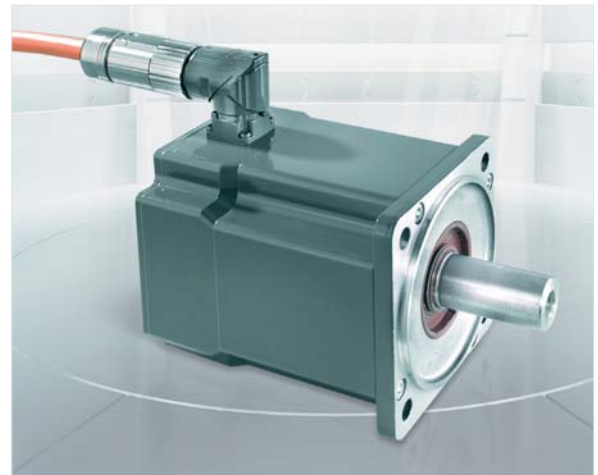
FIBERMAK G-FORCE

- AXIAL MOVEMENTS
- SHUTTLE TABLE

SERVO MOTOR TECHNOLOGY

Single-wire servo technology offers more precise positioning. Positioning is done with micron level precision. This is one of the basics for the accuracy of the part geometry.

- Low cost without compromising the performance
- Low energy consumption
- Easy maintenance and repair
- Low maintenance need



■ Servo motors offering speed and low energy consumption. (S)

LINEAR MOTOR TECHNOLOGY (O)

Fibermak uses linear motor technology in bridge motions.

LINEAR MOTOR WORKING PRINCIPLES

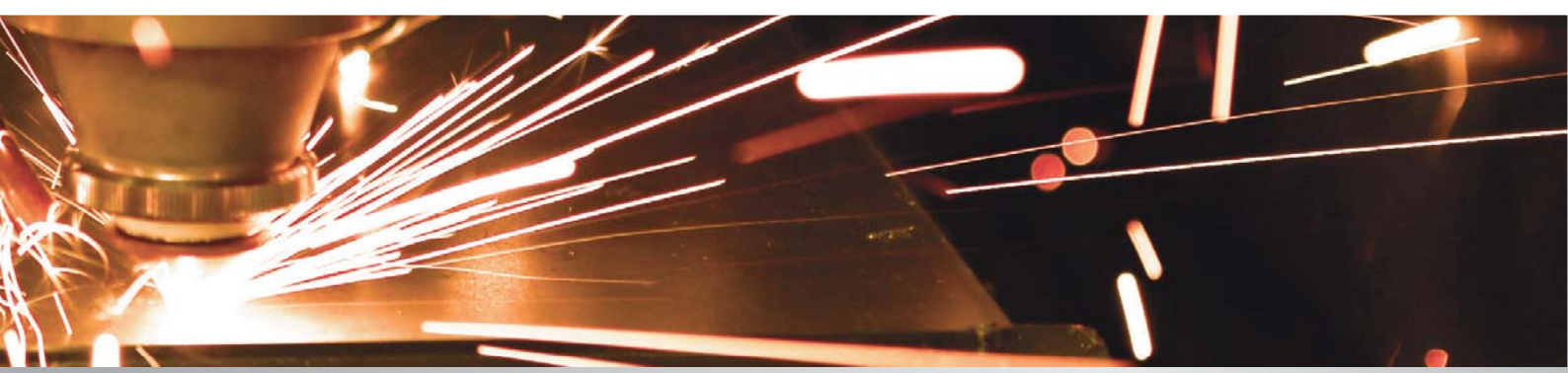
In linear motors, the position information is read over the linear scale through the optical eye. In this case, position control is ensured with micron level precision.

Due to the fact that linear motors work in frictionless environment;

- It reaches high speed and acceleration easily.
- Its maintenance is practical and easy.



■ Linear Motor technology that provides the best positioning and precision. (O)



SHUTTLE TABLE

It consists of two movable tables. While processing on the table inside the machine continues, the other table can be loaded with sheet metal or machined parts can be collected. In this way, it allows continuous cutting. In addition to the shuttle table, full automatic loading and unloading systems may also be added.



ERCUT 7 CONTROL PANEL

- Thanks to the simple and plain interface, it provides the user a comfortable and reliable experience
- The error and warning messages displayed with pop-up windows provide the users the best user experience
- 7" colour touch screen with high brightness and resolution
- The shuttle table is controlled more safely and quickly with the CNC control panel on the rear side of the machine.

FIBERMAK G-FORCE

- PROFILE AND PIPE CUTTING OPTION



In our Fibermak Momentum series machines, in addition to flat sheet cutting, we also offer our users the options of pipe and profile cutting.

While your machine performs flat sheet metal cutting, your operator saves time by connecting the pipe or profile to be cut on the loading-unloading cart independent of the shuttle trays.

The pipe or profile fixed between the chuck and the tailstock are supported with support apparatus to ensure smooth rotation of the long parts without deflecting, which ensures a high quality cut.

In addition to the Cad/Cam software for flat sheet cutting delivered with our machines which are provided with Pipe - Profile cutting option, a 3D Cad/Cam software is also provided where it is possible to draw and/or load drawings of the pipe and profile parts, to open the desired holes and figures, to perform nesting operations and cutting simulations.

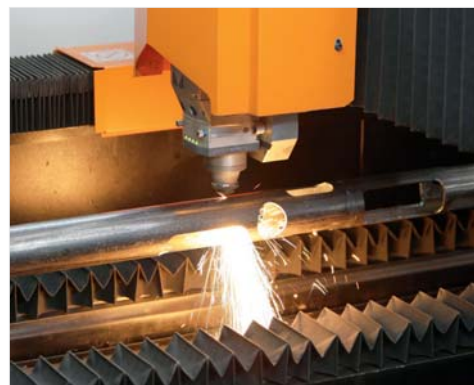


Pipe - Profile Cutting Capacity

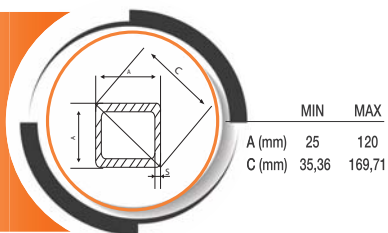
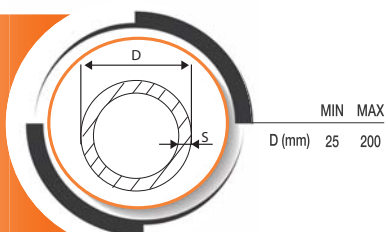
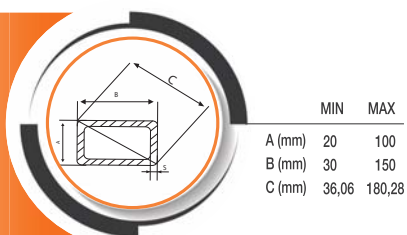
Resonator Power - Material -	Mild Steel	Stainless Steel
0,5 kW	4 mm	2 mm
1 kW	8 mm	4 mm
2-3-4-6 kW	8 mm	8 mm



■ Pipe and profile cutting option to increase the production efficiency (O)



■ Performs precision and rapid cutting operations thanks to its structure resistant against higher acceleration and high pressure. (S)



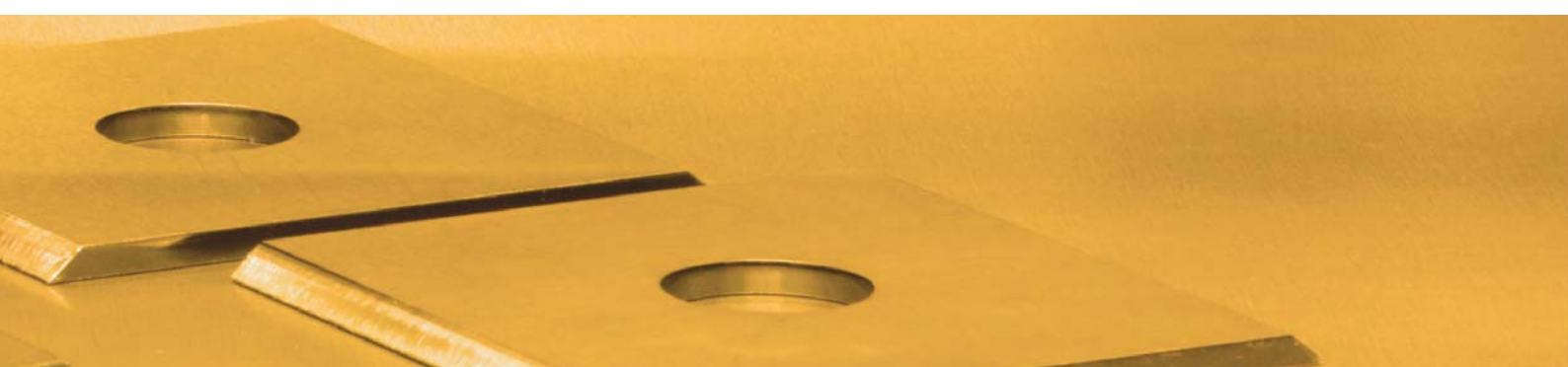
■ Cutting examples.

FIBERMAK G-FORCE

• TECHNICAL SPECIFICATIONS

SPECIFICATIONS/ MACHINE		SM 2,5X1,25	SM 3X1,5	SM 4X2	SM 6X2	SM 8X2	SM 9X2
WORKING AREA	mm (inch)	2500 x 1250 (98x49)	3000 x 1500 (118x59)	4000 x 2000 (157x78)	6150 x 2000 (242x78)	8100 x 2000 (318x78)	9100 x 2000 (358x78)
MAX. LOAD CAPACITY	kg (lbs)	1000 (2204)	1500 (3306)	2500 (5511)	4000 (8818)	6000 (13227)	7000 (15432)
AXIAL MOVEMENTS	-	-	-	-	-	-	-
X, U AXES / SERVO MOTOR TABLE	mm/min (inch/min)	2550 (100)	3050 (120)	4050 (159)	6200 (244)	8200 (323)	9200 (362)
Y AXIS / SERVO MOTOR BRIDGE	mm/min (inch/min)	1270 (50)	1550 (61)	2050 (81)	2050 (81)	2050 (81)	2050 (81)
Z AXIS / SERVO MOTOR CUTTING HEAD	mm/min (inch/min)	150 (6)	150 (6)	150 (6)	150 (6)	150 (6)	150 (6)
ACCELERATION	G	2,5	2,5	2,5	2,5	2,5	2,5
SERVO MOTOR MAX. AXIS SPEEDS	m/min	141 (combination speed) (X, Y single axis speed 100 m/min)					
LINEAR MOTOR MAX. AXIS SPEEDS (O)	m/min	170 (combination speed) (X, Y single axis speed 120 m/min)					
AUTOMATIC LOADING UNLOADING UNIT	Pallet	2 (30 sec)	2 (35 sec)	2 (45 sec)	2 (65 sec)	2 (90 sec)	2 (100 sec)
MACHINE DIMENSIONS (L x W x H)	mm (inch)	8190x3460x2200 (322x136x87)	10360x5112x2310 (408x201x91)	12430x5664x2310 (489x223x91)	16794x5664x2310 (663x221x91)	21078x5787x2310 (830x228x91)	25250x4300x2200 (876x169x87)
MACHINE WEIGHT	kg (lbs)	10400 (22928)	14200 (31305)	18150 (40013)	24750 (54564)	37760 (83246)	44170 (97378)
MACHINE AXES	-	4-Axis [X, Y, Z, U]					
POSITIONING ACCURACY	mm (inch)	± 0,03 (.001)					
REPETITION ACCURACY	mm (inch)	± 0,015 (.0005)					
CNC	-	BECKHOFF					
CAD/CAM SOFTWARE	-	LANTEK EXPERT CUT					
NETWORK CONNECTION	-	Ethernet					
CONTROL PANEL	-	15-inch screen 1024 x 768, alphanumeric keyboard, PLC keys, touch screen keyboard					
TECHNICAL SPECIFICATIONS/RESONATOR		YLR 500	YLS 1000	YLS 2000	YLS 3000	YLS 4000	YLS 6000
RESONATOR	Watt	500	1000	2000	3000	4000	6000
LASER BEAM QUALITY	rad	0,37	1-2	2-2,5	2-2,5	2-2,5	2-4
POWER STABILITY	%	± 0,5	1-3	1-2	1-2	1-2	1-2
FIBER CABLE OUTPUT MEASUREMENT	µm	50	50	100	100	100	100
COOLANT FLOW RATE	l/min	6	8	10	20	20	40
AVERAGE CONSUMPTION	kW	12	14	19	20	22	28
CUTTING HEAD	-	Precitec LightCutter		Precitec ProCutter			
POWER RANGE	%	10-105					
PULSE FREQUENCY RANGE	kHz	50	5	5	5	5	5
LASER WAVE SIZE	nm	1070 ± 5					
EXCITATION		Laser diod					
AUXILIARY GASES	-	-					
OXYGEN	-	0,5-6 bar					
NITROGEN	-	0,5-25 bar					
DRY AIR	-	0,5-25 bar					

- All Specifications are Subject to Change Without Notice.
- They may vary when factors such as sheet cutting speeds and thickness values, material quality, gas quality, ambient conditions, parameter settings, usage of original spare parts, periodic maintenance, optical cleaning are not suitable.
- Cutting quality at the upper limit thickness depends on the desired geometry, material quality and the operating conditions of the system. There may be burrs at the lower edge while cutting at limit values.
- For high thickness values, cutting surface roughness increases in the fiber laser technology.



SM 6X2,6	SM 8X2,6	SM 9X2,6	SM 10X2,6	SM 12X2,6	SM 14X2,6	SM 16X2,6	SM 18X3
6150 x 2600 (242x102)	8100 x 2600 (318x102)	9100 x 2600 (358x106)	10000 x 2600 (393x102)	12000 x 2600 (472x102)	14000 x 2600 (551x102)	16000 x 2600 (629x102)	18000 x 3000 (708x118)
5000 (11023)	8000 (17636)	9000 (19841)	10000 (22046)	12500 (27557)	14000 (30864)	16000 (35273)	24000 (52910)
-	-	-	-	-	-	-	-
6200 (244)	8200 (323)	9200 (362)	10200 (402)	12200 (480)	14200 (559)	16200 (638)	18200 (717)
2700 (106)	2700 (106)	2700 (106)	2800 (110)	2800 (110)	2800 (110)	2800 (110)	3200 (126)
150 (6)	150 (6)	150 (6)	150 (6)	150 (6)	150 (6)	150 (6)	150 (6)
1	1	1	1	1	1	1	1
110 (combination speed) (X, Y single axis speed 80 m/min)							100 (combination speed) (X, Y single axis speed 70 m/min)
141 (combination speed) (X, Y single axis speed 100 m/min)			-	-	-	-	-
2 (65 sec)	2 (90 sec)	2 (100 sec)	2 (130 sec)	2 (150 sec)	2 (180 sec)	2 (200 sec)	2 (220 sec)
15430x5110x2200 (607x201x87)	21078x6470x2310 (830x255x91)	22250x5110x2200 (876x201x87)	25000x5110x2200 (984x201x87)	26500x4300x2200 (1043x197x91)	30500x5500x2200 (1021x217x87)	35000x51000x2200 (1378x201x87)	41000x5500x2200 (1617x217x87)
31400 (69225)	39900 (87964)	48120 (106086)	55000 (121254)	63000 (138891)	70000 (154323)	75000 (165346)	80000 (176369)
4-Axis (X, Y, Z, U)							
± 0,03 (.001)							
± 0,015 (.0005)							
BECKHOFF							
LANTEK EXPERT CUT							
Ethernet							
15-inch screen 1024 x 768, alphanumeric keyboard, PLC keys, touch screen keyboard							

OPTIONAL EQUIPMENT

- Linear motor technology
- Laser source options
0,5 kW, 1 kW, 2 kW, 3 kW, 4 kW, 6kW and 8 kW
- Suction unit
- Sheet sliding system with pneumatic support
- Air conditioner for the power distribution board
- CAD/CAM Software
- Cutting with dry air by means of compressor filter and the additional equipment for the tank
- Nozzle changer
- Profile and pipe cutting system
- Tower system
- Bridge type loading system
- LCM (laser cut monitor) sensor for checking the piercing and cutting errors.
- Automatic sheet loading and unloading system
- Light protection barrier

Materials	Maximum Thickness to be Cut					
	Laser Power 500 W	Laser Power 1 kW	Laser Power 2 kW	Laser Power 3 kW	Laser Power 4 kW	Laser Power 6 kW
Mild Steel (S235JR, S355MC)	4 mm (.15")	8 mm (.31")	16 mm (.62")	18 mm (.70")	20 mm (.78")	25 mm (.98")
Stainless Steel (AISI 304)	2 mm (.07")	4 mm (.15")	8 mm (.31")	10 mm (.39")	12 mm (.47")	15 mm (.59")
Aluminium (AlMg3)	2 mm (.07")	3 mm (.11")	6 mm (.23")	8 mm (.31")	10 mm (.39")	12 mm (.47")
Copper (Cu-ETP)	1 mm (.03")	2 mm (.07")	4 mm (.15")	5 mm (.19")	6 mm (.23")	8 mm (.31")
Brass (CuZn37)	1 mm (.03")	2 mm (.07")	4 mm (.15")	5 mm (.19")	6 mm (.23")	8 mm (.31")



NOZZLE REPLACEMENT

It is used to replace the nozzle automatically before cutting the materials of different types and thickness values. (Optional)

FIBERMAK SL G-FORCE

• FIBER LASER
TECHNOLOGY

Compact Design That Provides 30% Benefit in Terms of Layout...

With its side loading design, Fibermak SL is the best choice for workshops with limited space, without compromising the G-Force standards and quality. If the customers have a short hall, they are advised to prefer the side-loaded fiber laser machine. Thanks to the high acceleration in Gen-3 G Force series servo motor models, production time decreases and efficiency increases by 15% per hour.

Thanks to the structure developed on the side-loaded machine, the power panel has been made more compact. Additionally, the equipment used in this machine such as oil reservoir and resonator are placed in the area inside the hood. So, the number of external equipment is also significantly reduced, thus providing great advantages to customers in terms of layout area. As a result, thanks to the side-loaded design, you may benefit from the 30 percent smaller layout area of the machine compared to the standard machine.

Compact design

High speed

High precision

High performance

Long life expectancy

User-friendly



ROBUST AND STRONG BODY

Thanks to its strong body with its rigidity ensured both in dynamic and static terms, it has a long service life and operates with high precision.

FLY-CUT FEATURE

With the fly-cut feature of the Fibermak Momentum Gen-3, you can perform cutting at great speeds and great qualities in both circular and parallel lined parts.



PROVIDES TRANSITION AT HIGH SPEED WITH LIFT TRANSITION TYPE

In the transition between the parts, the type of transition that will put the speed and acceleration into practice is as important as the speed and acceleration in question. With the lift transition type used in Fibermak Momentum Gen-3, you will get maximum efficiency from your machine by transition at maximum speed.

FREQUENCY MODULATED CUTTING

Thick material blasting (piercing) is done in a much shorter time and the material to be cut is prevented from getting heated. With the frequency modulation used during cutting and at sharp corners, it also allows thick materials to be cut without erosion in perpendicular corner cuts or without giving radius to the corner.

FIBERMAK SL G-FORCE

- GENERAL SPECIFICATION
- TECHNICAL SPECIFICATIONS

STANDARD EQUIPMENT

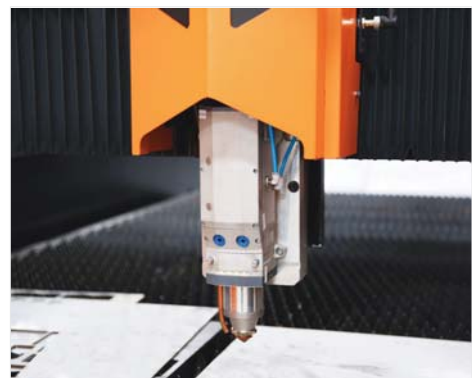
- 4 Axis (X, Y, U, Z)
- Servo Motor
- Automatic focus cutting head
- Laser Source
- Cooling unit
- Clean - dry air system
- Safety cabinet
- 2x Automatic Shuttle table
- CAD/CAM Software
- 15" Touchscreen Controller
- Conveyor
- Warning lamp
- Nozzle and cleaning kit
- Nozzle cleaning and calibration tray

CONTROL PANEL

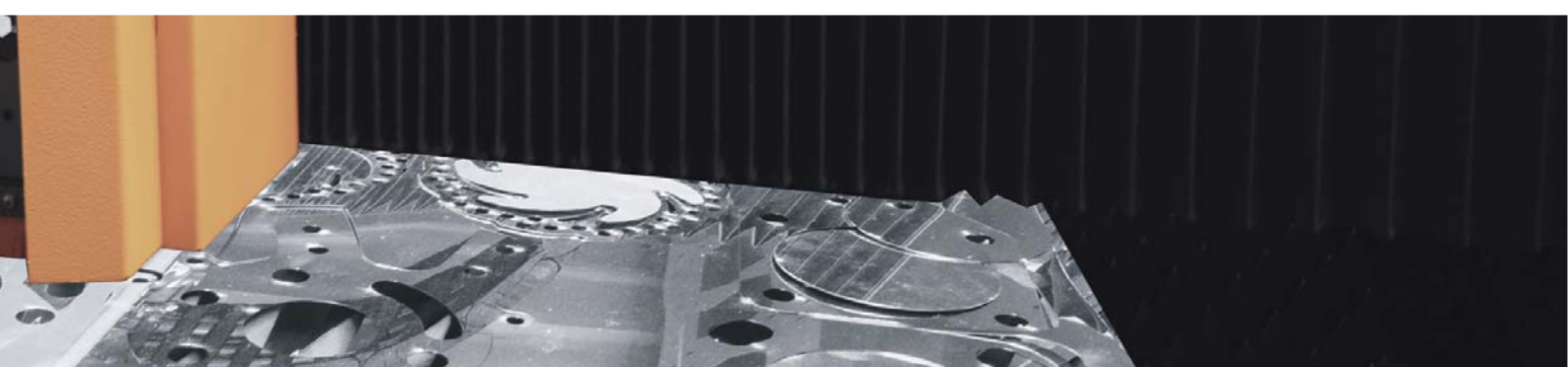
- It is the unit which controls the system and sends the user commands to the machine.
- It is resistant to difficult environmental conditions. (Shock, dirt, humidity, temperature, etc.)
- It is used as a touch screen and it is mounted on its functional keyboard.
- You can increase and decrease the axis speeds in the working area with the speed adjustment parameter.
- Shortcut keys provide ease of use.
- Cutting operation can be monitored instantaneously in NC graphic.

CUTTING HEAD

- The beams produced in the laser unit are carried by the fiber cable up to the cutting head. The cutting head transfers the beams from the fiber cable to the processing surface.
- The laser beam is set at the desired focus with the help of the lenses in the focusing unit.
- The Protection Glass is the part that prevents the slag from cutting to damage the lenses.
- Instant system control may be performed by the LEDs on the cutting head.



■ Ensures that you achieve quality cuts thanks to its high performance. (S)



SPECIFICATIONS/ MACHINE		SL 2,5X1,25	SL 3X1,5	SL 4X2	SL 6X2	SL 8X2	SL 8X2,6
WORKING AREA	mm (inch)	2500 x 1250 (98x49)	3000 x 1500 (118x59)	4000 x 2000 (157x78)	6150 x 2000 (242x78)	8100 x 2000 (318x78)	8100 x 2700 (318x106)
MAX. LOAD CAPACITY	kg (lbs)	600 (1322)	1500 (3306)	2500 (5511)	4000 (8818)	6000 (13227)	8000 (17636)
AXIAL MOVEMENTS	-	-	-	-	-	-	-
X, U AXES / SERVO MOTOR TABLE	mm/min (inch/min)	2550 (100)	3050 (121)	4050 (159)	6200 (244)	8300 (327)	8300 (327)
Y AXIS / SERVO MOTOR BRIDGE	mm/min (inch/min)	1270 (50)	1550 (61)	2050 (81)	2050 (81)	2050 (81)	2700 (106)
Z AXIS / SERVO MOTOR CUTTING HEAD	mm/min (inch/min)	150 (6)	150 (6)	150 (6)	150 (6)	150 (6)	150 (6)
ACCELERATION	G	2,5	2,5	2,5	2,5	2,5	1
MAX. AXIS SPEEDS	m/min	141 (combination speed) (X, Y single axis speed 100 m/min)					110 (combination speed) (X, Y single axis speed 80 m/min)
AUTOMATIC LOADING UNLOADING UNIT	Pallet	2 (20 sec)	2 (25 sec)	2 (30 sec)	Automatic (Single Pallet)		
MACHINE DIMENSIONS (L x W x H)	mm (inch)	5200x4200x2610 (205x165x103)	5700x4700x2610 (224x185x103)	6800x5760x2610 (374x241x103)	9000x5760x2610 (354x227x103)	11500x5760x2610 (453x227x103)	11500x6860x2610 (789x201x87)
MACHINE WEIGHT	kg (lbs)	10400 (22928)	13500 (29762)	15800 (34833)	21100 (46517)	26500 (58422)	29300 (64595)
MACHINE AXES	-	4-Axis (X, Y, Z, U)					
POSITIONING ACCURACY	mm (inch)	± 0,03 (,001)					
REPETITION ACCURACY	mm (inch)	± 0,015 (,0005)					
CNC	-	BECKHOFF					
CAD/CAM SOFTWARE	-	LANTEK EXPERT CUT					
NETWORK CONNECTION	-	Ethernet					
CONTROL PANEL	-	15-inch screen 1024 x 768, alphanumeric keyboard, PLC keys, touch screen keyboard					

SPECIFICATIONS/RESONATOR		YLR 500	YLS 1000	YLS 2000	YLS 3000	YLS 4000	YLS 6000
RESONATOR	Watt	500	1000	2000	3000	4000	6000
LASER BEAM QUALITY	rad	0,37	1-2	2-2,5	2-2,5	2-2,5	2-4
POWER STABILITY	%	± 0,5	1-3	1-2	1-2	1-2	1-2
FIBER CABLE OUTPUT MEASUREMENT	µm	50	50	100	100	100	100
COOLANT FLOW RATE	l/min	6	8	10	20	20	40
CUTTING CAPACITIES (MAX.)	-	-	-	-	-	-	-
MILD STEEL (S235JR, S355MC)	mm (inch)	4 (5/32")	8 (5/16")	16 (5/8")	18 (23/32")	20 (51/64")	25 (1")
STAINLESS STEEL (AISI 304)	mm (inch)	2 (5/64")	4 (5/32")	8 (5/16")	10 (3/8")	12 (1/2")	15 (5/8")
ALUMINIUM (ALMG3)	mm (inch)	2 (5/64")	3 (1/8")	6 (1/4")	8 (5/16")	10 (3/8")	12 (1/2")
COPPER (CU-ETP)	mm (inch)	1 (3/64")	2 (5/64")	4 (5/32")	5 (3/16")	6 (1/4")	8 (5/16")
BRASS (CUZN37)	mm (inch)	1 (3/64")	2 (5/64")	4 (5/32")	5 (3/16")	6 (1/4")	8 (5/16")
AVERAGE CONSUMPTION	kW	15	17	21	31	33,7	38
CUTTING HEAD	-	Precitec LightCutter			Precitec ProCutter		
POWER RANGE	%	10-105					
PULSE FREQUENCY RANGE	kHz	50	5	5	5	5	5
LASER WAVE SIZE	nm	1070 ± 5					
EXCITATION		Laser diod					
AUXILIARY GASES	-	-					
OXYGEN	-	0,5-6 bar					
NITROGEN	-	0,5-25 bar					
DRY AIR	-	0,5-25 bar					

- All Specifications are Subject to Change Without Notice.
- They may vary when factors such as sheet cutting speeds and thickness values, material quality, gas quality, ambient conditions, parameter settings, usage of original spare parts, periodic maintenance, optical cleaning are not suitable.
- Cutting quality at the upper limit thickness depends on the desired geometry, material quality and the operating conditions of the system. There may be burrs at the lower edge while cutting at limit values.
- For high thickness values, cutting surface roughness increases in the fiber laser technology.

FIBERMAK RAPTOR

• FIBER LASER
TECHNOLOGY

FIBERMAK
RAPTOR

Modular and Ergonomic Design...

RAPTOR Fiber Laser Cutting machine has been produced to be an alternative solution without compromising the cutting quality by observing a more modular and ergonomic design compared to the standard Fibermak, with its outer structure that takes less space.

It is offered to our customers as an economical solution with 0.5 G acceleration, 50 mt/min speed, single cut table, manual focus cutting head and relieved body structure.

Modular and ergonomic design

15 inch touch screen controller

Servo motor technology

Remote access feature

Rigid body with long service life

High precision machining



HIGH PRECISION CUTTING

Thanks to ultra speed EtherCAT communication technology, the drive, motor and all control units apply the values set with the highest precision and speed. Thus, you may obtain perfect cuts with micron precision on time.



SERVO MOTOR TECHNOLOGY

Single cord servo motors with premium technology are used. The mess created by extra cables is reduced and high control capability is ensured.

USER-FRIENDLY INTERFACE

Your work is much easier with the user-friendly interface designed by Ermaksan engineers. You may start and automatic cutting operations with only a few steps, and monitor the active job before and during cutting operation thanks to the NC Graphics feature.

COMPACT STRUCTURE

It features a modular and ergonomic design that is built with optimum compatibility for the physical environment and the operation by operator in order to meet the user requirements in the best possible way.

COMPLIANCE WITH INDUSTRY 4.0

Fibermak Raptor is offered as compliant with Industry 4.0. By requesting this feature, which is optionally available on your machine, you may maximize your productivity with smart production processes.

FIBERMAK RAPTOR

- GENERAL SPECIFICATION
- TECHNICAL SPECIFICATIONS

CONTROL PANEL

All software on the Control Panel has been developed by the ERMAKSAN engineers and you may add special features.

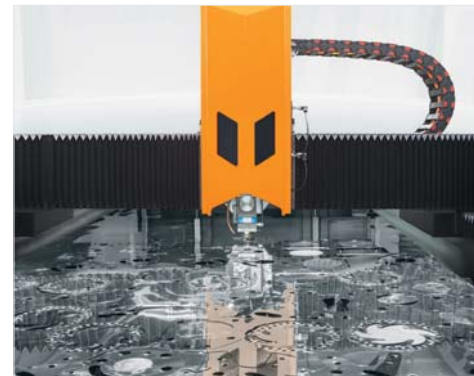
- Control panel is the unit which controls the system and sends the user commands to the machine.
- Control panel is resistant to various environmental conditions. Shock, dirt, humidity, temperature, etc.
- It is used as a touch screen and an external keyboard is available.
- With the speed adjustment potentiometer on the control panel, you can increase and decrease the axis speed in the working area.
- NC graphic display.

CUTTING HEAD SPECIFICATIONS

- Manually adjustable focus lens
- Precision height control
- Lower protection glass



- Provides the operator perfect comfort with its large display benefiting from the full graphics interface. (S)



- Thus, you may obtain perfect cuts with micron precision thanks to the cutting parameters set as efficiently as possible. (S)



- You may perform uninterrupted cutting operations thanks to the shuttle table consisting of two moving tables. (O)

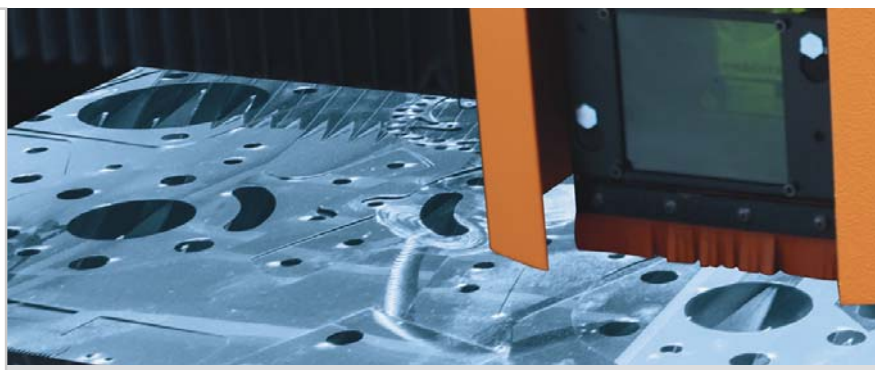
SPECIFICATIONS/ MACHINE		RAPTOR 2,5X1,25	RAPTOR 3X1,5
WORKING AREA	mm (inch)	2500 x 1250 (98x49)	3000 x 1500 (118x59)
MAX. LOAD CAPACITY	kg (lbs)	600 (1322)	600 (1322)
AXIAL MOVEMENTS	-	-	-
X, U AXES / SERVO MOTOR TABLE	mm (inch)	2550 (100)	2550 (100)
Y AXIS / SERVO MOTOR BRIDGE	mm (inch)	1270 (50)	1550 (50)
Z AXIS / SERVO MOTOR CUTTING HEAD	mm (inch)	150 (6)	150 (6)
ACCELERATION	G	0,5	0,5
MAX. AXIS SPEEDS	m/min	70 (combination speed) (X, Y single axis speed 50 m/min)	
AUTOMATIC LOADING UNLOADING UNIT	Pallet	Automatic (Single Pallet)	
MACHINE DIMENSIONS (L x W x H)	mm (inch)	8200x2450x2200 (323x96x87)	5200x4200x2610 (343x106x87)
MACHINE WEIGHT	kg (lbs)	7900 (17416)	10400 (22928)
MACHINE AXES	-	4-Axis (X, Y, Z, U)	
POSITIONING ACCURACY	mm (inch)	± 0,1 (.003)	
REPETITION ACCURACY	mm (inch)	± 0,05 (.01)	
CNC	-	BECKHOFF	
CAD/CAM SOFTWARE	-	LANTEK EXPERT CUT	
NETWORK CONNECTION	-	Ethernet	
CONTROL PANEL	-	15-inch screen 1024 x 768, alphanumeric keyboard, PLC keys, touch screen keyboard	

SPECIFICATIONS/RESONATOR		YLR 500	YLS 1000	YLS 2000
RESONATOR	Watt	500	1000	2000
LASER BEAM QUALITY	rad	0,37	1 - 2	2 - 2,5
POWER STABILITY	%	± 0,5	1 - 3	1 - 2
FIBER CABLE OUTPUT MEASUREMENT	µm	50	50	100
COOLANT FLOW RATE	l/min	6	8	10
CUTTING CAPACITIES (MAX.)	-	-	-	-
MILD STEEL (S235JR, S355MC)	mm (inch)	4 (3/16")	8 (5/16")	16 (5/8")
STAINLESS STEEL (AISI 304)	mm (inch)	2 (5/64")	4 (5/32")	8 (5/16")
ALUMINIUM (ALMG3)	mm (inch)	2 (5/64")	3 (1/8")	6 (1/4")
COPPER (CU-ETP)	mm (inch)	1 (3/64")	2 (5/64")	4 (5/32")
BRASS (CUZN37)	mm (inch)	1 (3/64")	2 (5/64")	4 (5/32")
AVERAGE CONSUMPTION	kW	13	15	21
CUTTING HEAD	-	Precitec LightCutter	Precitec LightCutter	Precitec ProCutter
POWER INTERVAL	%	10-105		
PULSE FREQUENCY RANGE	kHz	50	5	5
LASER WAVE SIZE	nm	1070 ± 5		
EXCITATION	-	Laser diode		
AUXILIARY GASES	-	-		
OXYGEN	-	0,5-6 bar		
NITROGEN	-	0,5-25 bar		
DRY AIR	-	0,5-25 bar		

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- Cutting quality at the upper limit thickness depends on the desired geometry, material quality and the operating conditions of the system. There may be burrs at the lower edge while cutting at limit values.
- For high thickness values, cutting surface roughness increases in the fiber laser technology.

FIBERMAK HAWK

- FIBER LASER
TECHNOLOGY



Perfect Combination of Price and Performance...

Designed specifically to the requirements of customers in addition to the long service life of its components used in the machine, FiberMak HAWK provides an excellent price-performance ratio for its users. Working in perfect harmony with the resonators developed by Ermaksan, this model has a capacity of cutting 6mm mild steel with the 500W Ermaksan resonator, and 10mm mild steel with the 1000W Ermaksan resonator. It provides perfect and high precision machining for your laser cutting works up to 10mm in a work area of 3000x1500.

High performance

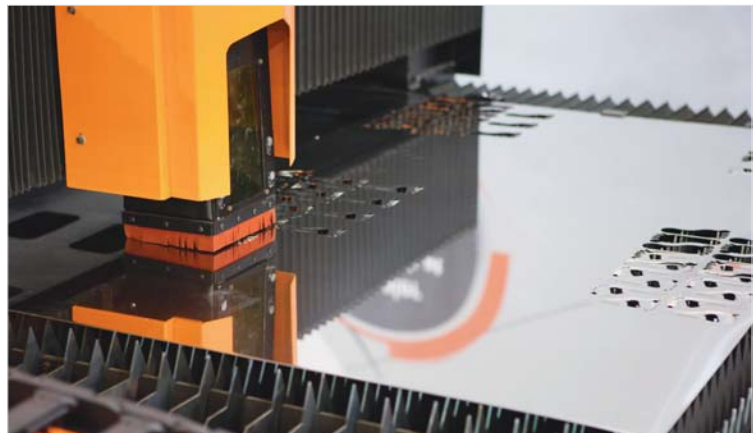
Low cost of operation

Low energy consumption

Low maintenance requirement

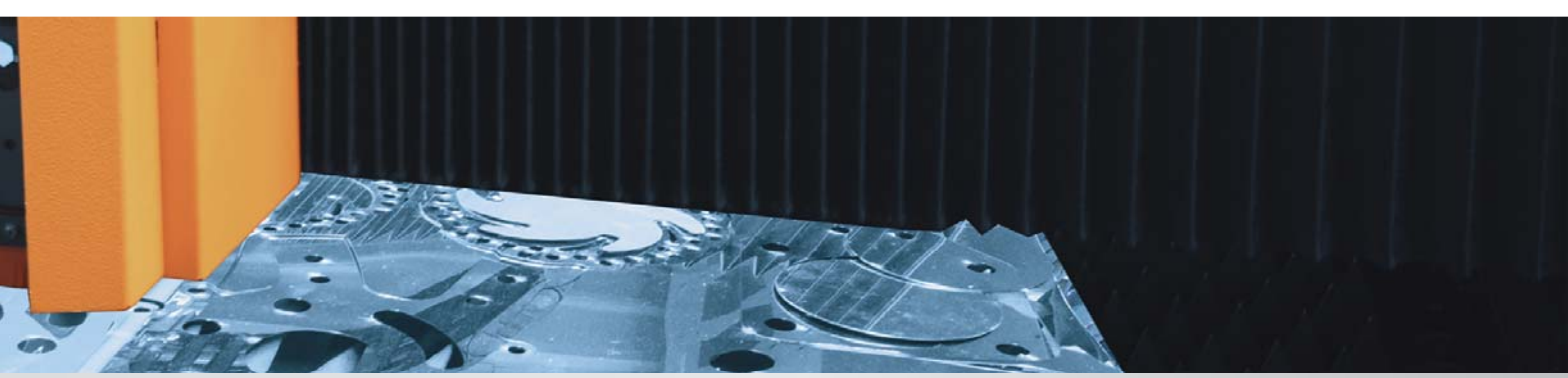
Precise cutting

Remote access feature



LONG SERVICE LIFE

All components used are selected with care so that they offer good quality and long service life. The body of the machine is made of high quality steel and offers a rigid structure, of which the stress is relieved with the latest technology. Thus, it is ensured that it is resistant against heavy operating conditions and that it has a long service life.



ERGONOMIC DESIGN

Besides the stylish design, Fibermak Hawk offers the operator great facilities thanks to its ergonomic structure, too. Operator may reach the cutting area, load new sheets and collect cut parts in a safe way.

LOW INVESTMENT COSTS

Fibermek Hawk is the most economic product in Fibermak family. It provides a low cost of investment. You shall see that its performance is much greater when you assess its price and performance ratio.

SAVE

The fact that the piercing time is reduced allows you to save both time and resources thanks to its low gas and power consumption, and ease of maintenance and repair of the machine.

SERVO MOTOR

It allows you to operate with low power consumption without compromising the performance.

FIBERMAK HAWK

- GENERAL SPECIFICATION
- TECHNICAL SPECIFICATIONS

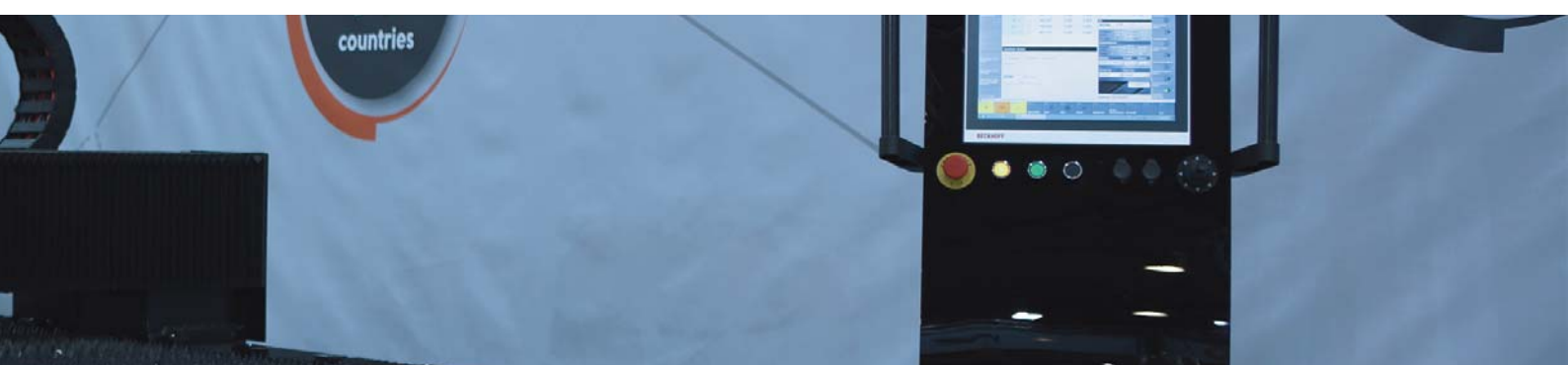
CONTROL PANEL

All software on the Control Panel has been developed by the ERMAKSAN engineers and you may add special features.

- Control panel is the unit which controls the system and sends the user commands to the machine.
- Control panel is resistant to various environmental conditions.
- Shock, dirt, humidity, temperature, etc.
- It is used as a touch screen and an external keyboard is available.
- With the speed adjustment potentiometer on the control panel, you can increase and decrease the axis speed in the working area.
- NC graphic display



■ Fiber laser cutting head with innovative and stylish kiosk design (S)



SPECIFICATIONS/ MACHINE		HAWK 500 3X1,5	HAWK 1000 3X1,5
WORKING AREA	mm (inch)	3000 x 1500 (98x49)	3000 x 1500 (118x59)
MAX. LOAD CAPACITY	kg (lbs)	300 (1322)	300 (661)
AXIAL MOVEMENTS	-	-	-
X, U AXES / SERVO MOTOR TABLE	mm/min (inch/min)	3050 (120)	3050 (120)
Y AXIS / SERVO MOTOR BRIDGE	mm/min (inch/min)	1530 (60)	1530 (60)
Z AXIS / SERVO MOTOR CUTTING HEAD	mm/min (inch/min)	110 (4)	110 (4)
ACCELERATION	G	1	1
MAX. AXIS SPEEDS	m/min	106 (combination speed) (X, Y single axis speed 100 m/min)	
AUTOMATIC LOADING UNLOADING UNIT	Pallet	Automatic (Single Pallet)	
MACHINE DIMENSIONS (L x W x H)	mm (inch)	5100 x 2650 x 1800 (181x94x71)	5100 x 2650 x 1800 (201x104x71)
MACHINE WEIGHT	kg (lbs)	5300 (11684)	5300 (11684)
MACHINE AXES	-	4-Axis (X, Y, Z, U)	
POSITIONING ACCURACY	mm (inch)	± 0,1 (.003)	
REPETITION ACCURACY	mm (inch)	± 0,05 (.001)	
CNC	-	BECKHOFF 2215	
CAD/CAM SOFTWARE	-	LANTEK EXPERT CUT	
NETWORK CONNECTION	-	Ethernet	
CONTROL PANEL	-	15-inch screen 1024 x 768, alphanumeric keyboard, on-screen keyboard PLC keys, touch type	
TECHNICAL SPECIFICATIONS/RESONATOR		FSM 500	YGL 1000
RESONATOR	Watt	500	1000
LASER BEAM QUALITY	rad	0,89	2 - 3
POWER STABILITY	%	± 0,5	1
FIBER CABLE OUTPUT MEASUREMENT	µm	50	100
COOLANT FLOW RATE	l/min	14	16
CUTTING CAPACITIES (MAX.)	-	-	-
MILD STEEL (S235JR, S355MC)	mm (inch)	6 (1/4")	10 (3/8")
STAINLESS STEEL (AISI 304)	mm (inch)	2 (5/64")	4 (5/32")
ALUMINIUM (ALMG3)	mm (inch)	2 (5/64")	3 (1/8")
COPPER (CU-ETP)	mm (inch)	1 (3/64")	2 (5/64")
BRASS (CUZN37)	mm (inch)	1 (3/64")	2 (5/64")
AVERAGE CONSUMPTION	kW	10	12
CUTTING HEAD	-	Precitec LightCutter	
POWER RANGE	%	10-105	
PULSE FREQUENCY RANGE	kHz	10	10
LASER WAVE SIZE	nm	1070	1070 ± 5
EXCITATION	-	Laser diod	
AUXILIARY GASES	-	-	
OXYGEN	-	0,5-6 bar	
NITROGEN	-	0,5-25 bar	
DRY AIR	-	0,5-25 bar	

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- For high thickness values, cutting surface roughness increases in the fiber laser technology.

FIBERMAK TOWER

• LOADING AND
UNLOADING SYSTEMS

Maximum Productivity with Fibermak Tower...

Offering high precision cuts, Ermaksan's Fibermak Momentum Gen-3 provides mass production capability with its Tower system.

TOWER is used to make unmanned loading and unloading of the sheet metal for laser cutting machines. The system ensures high level of reliability, high flexibility and ease of use.

Operates with full compliance
to Fibermak

Full automatic loading and unloading
of the sheet metal

Zero time lost while switching work

Work list and work repetition features

Cut sheet metal storage area

Blank sheet metal storage area



FULLY AUTOMATIC SYSTEM

System may operate as fully automatic by loading the suitable sheet and suitable cutting parameters automatically for each type of material. So, you may perform mass production and minimize the loss of time in this way.



FLEXIBILITY

It is designed as oriented to flexible production for users who desire to machine different material types easily and without burrs.

EASE OF USE

Provides simple language options and easy programming features to ease the work of the operator besides efficient and rapid operation. Provides easy and reliable management of production with this structure.

FACTORY AUTOMATION

Working with full compliance to Tower loading and unloading systems, Fibermak laser cutting machine provides your business competitive advantage by increasing the quality and productivity of production.

MASS PRODUCTION

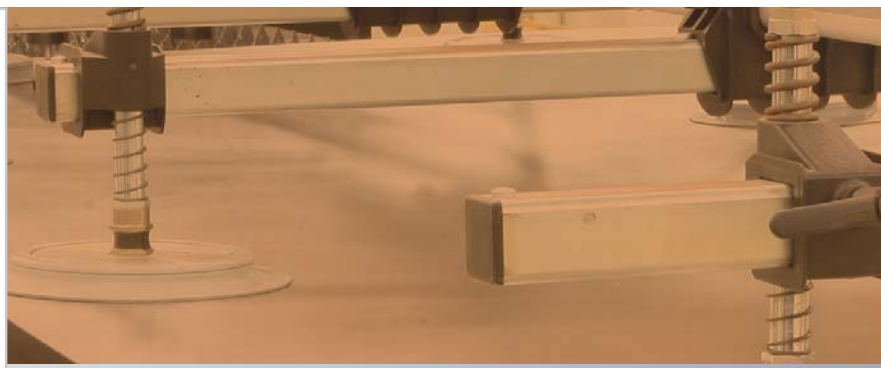
By reducing the errors caused by the operator, a more rapid mass production process with better quality is ensured.

FIBERMAK TOWER

- GENERAL SPECIFICATION
- TECHNICAL SPECIFICATIONS

TOWERMAK CONSISTS OF SEVERAL SECTIONS:

- **LIFTING UNIT:** It is the unit that performs the transfer between the stock area, loading area, processed sheet metal area and laser cutting machine.
- **LOADING AREA:** The sheet metal pallet needed by the laser cutting machine is brought to the loading area with the help of a lift. The sheet metal to be cut in the loading area is separated from the other sheet metals in the pallets by means of pressurized air. Its thickness is controlled and it is taken by the lift from the loading area and loaded onto the laser machine for the cutting process.
- **MACHINED SHEET-METAL AREA:** This is the area where the cut sheet-metal is taken from the laser machine by a lift and loaded.



CONTROLLER

28 different materials can be programmed into the controller.

- Open system for robot configuration
- 5.7 inch touch screen display and keyboard (System may be operated with the display or the keyboard.)



TECHNICAL SPECIFICATIONS

STANDARD SHEET METAL:	:	Up to 1500 x 3000mm (59x118 inch)
METAL SHEET	:	min: 0.5 mm (.01 inch) max: 20 mm (.78inch)
LOAD PER PALLET:	:	3000 kg (6613 lbs)
LOADING HEIGHT	:	max. 150 mm (5,9 inch)
GENERAL DIMENSIONS	:	max. 150 mm (5,9 inch)
UNLOADING HEIGHT	:	2640 x 4400 x 3000 (h) mm (103x173x118 inch)
Z AXIS STROKE	:	1200 mm (47 inch)
Z AXIS	:	11,0 m/min (433 inch/min)
HORIZONTAL COMB STROKE	:	1600 mm (62 inch)
COMB SPEED	:	10,0 m/min (393 inch/min)
VACUUM LIFTER VERTICAL STROKE	:	350 mm (13 inch)
VACUUM LIFTER SPEED	:	2,5 m/min (98 inch/min)
DUTY CYCLE	:	120 sec. (Loading - Unloading)
POWER AND CONTROL UNIT	:	SIEMENS



X REFERENCE ARM:

This is a mechanism that ensures correct reference taking while loading sheet metal.



STOCK AREA:

Automatic system takes the sheet metal and places it on the proper storage area. Types of sheet metal may be manufactured with the number of sheets as per customer demand.

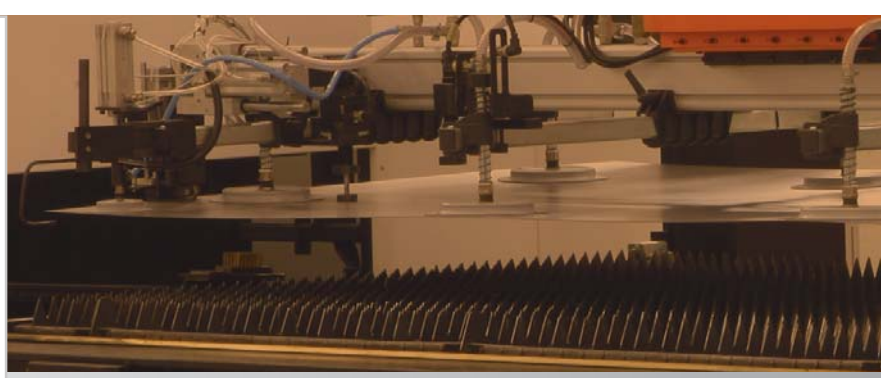


VACUUM LIFTERS TO LIFT BLANK SHEET METAL:

Long-life vacuum lifter system for loading sheet-metal.

FIBERMAK TOWER

• GENERAL SPECIFICATION



BRIDGE TYPE VACUUM LOADING SYSTEM

ERMAKSAN's bridge type vacuum loading system provides the users with great convenience by ensuring that the raw material can be easily and automatically loaded onto the shuttle table precisely and smoothly. It is a practical and also an economical solution for mass production.

- A carrier bridge between raw material piling table and shuttle table
- Takes the sheet metal to be cut from the piling table and moves it onto the shuttle table.
- Vacuum lifter assembly to lift the raw material
- Powerful pneumatic vacuum lifters lift the sheet metal into the air with suction force.
- X and Z axes for vacuum lifter assembly
- They enable forward - backward and up - down movement of the vacuum lifter assembly
- With the automatic separation system, during the lifting movement of the vacuum lifter's lifting movement, two sheets are separated from each other by means of the air blown underneath.
- The thickness of the sheet is measured before it is transported to the shuttle table. This guarantees accurate operation of the system during operation without operator. If the measured thickness is different from the cutting thickness defined in FiberMak, it is perceived as it has lifted double or more cohesive sheets and the process of automatic separation of sheet metal piling is repeated.

- Thickness measurement control
- The thickness of the sheet metal is measured before it is transported to the shuttle table. This guarantees accurate operation of the system during operation without operator. If the measured thickness is different from the cutting thickness defined in FiberMak, it is perceived as it has lifted double or more cohesive sheets and the process of automatic separation of sheet metal piling is repeated.

TECHNICAL SPECIFICATIONS

SHEET METAL DIMENSION	:	max 1500 x 3000 mm (59x118 inch)
SINGLE SHEET METAL THICKNESS	:	min. 0.5 mm (.01 inch) max. 15 mm (.59 inch)
HEIGHT OF RAW MATERIAL PILE	:	max 100 mm (3 inch)
GENERAL DIMENSIONS (W x L x H)	:	3000 x 7000 x 3000 (118x275x118 inch)
UNLOADING HEIGHT	:	maks. 150 mm (5 inch)
Z AXIS STROKE	:	330 mm (12 inch)
Z AXIS	:	82 m/sec (3 inch/sec)
HORIZONTAL COMB STROKE	:	3700 mm (145 inch)
COMB SPEED	:	12 m/min (47 inch/min)
VACUUM LIFTER VERTICAL STROKE	:	50 mm (2 inch)
VACUUM LIFTER SPEED	:	1 sec.
DUTY CYCLE	:	90 sec.



LOADMASTER VACUUM LOADING SYSTEM

ERMAKSAN's automatic compass crane type vacuum loading system provides the users with great convenience by ensuring that the raw material can be easily and automatically loaded onto the shuttle table precisely and smoothly. It is a practical and also an economical solution for mass production.

- Between the raw material piling table and the shuttle table, the carrier arm picks up the sheet to be cut from the piling table and carries it onto the shuttle table.
- To remove the raw material, the strong pneumatic vacuum lifters of the vacuum lifter assembly lift the sheet metal into the air with the suction force.
- A and Z axes for the vacuum lifter assembly ensures rotation and upwards - downwards movement of the vacuum lifter assembly.



VACUMASTER VACUUM LOADING SYSTEM

Ermaksan's semi-automatic compass crane type vacuum loading system provides the users with great convenience by ensuring that the raw material can be easily and automatically loaded onto the shuttle table precisely and smoothly. It is a practical and also an economical solution for mass production.

- Between the raw material piling table and the shuttle table, the carrier arm picks up the sheet to be cut from the piling area and carries it onto the shuttle table.
- To remove the raw material, the strong pneumatic vacuum lifters of the vacuum lifter assembly lift the sheet metal into the air with the suction force.

ROBOMASTER VACUUM LOADING SYSTEM

Machine performance is maximized by operating the Fibermak and robot in harmony. In this system, sheet metal loading, collecting the finished works and piling are automatically done easily.

INDUSTRY 4.0

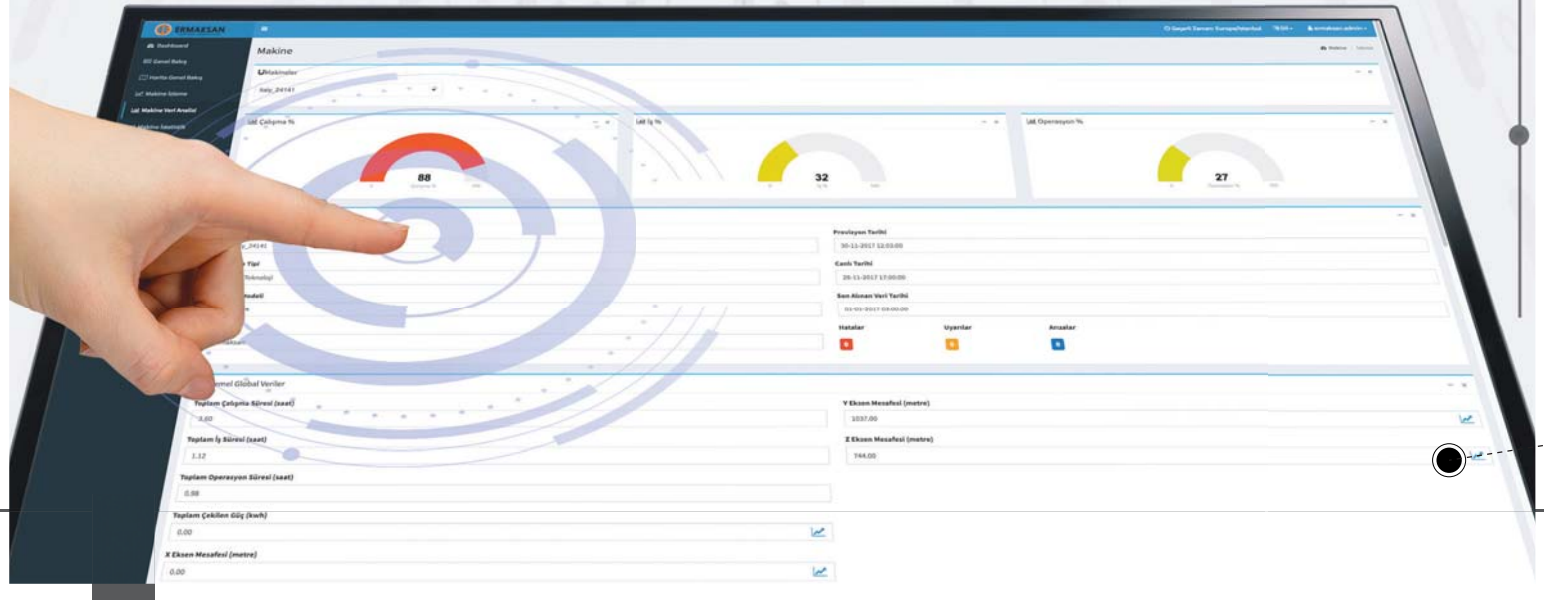
• ER 4.0 SOFTWARE SOLUTIONS

Software solutions for smart factories...

With its commitment to innovation and its experience over half a century, Ermaksan facilitates industrial life by its engineering works for Industry 4.0 as well as software works to develop and perfect intelligent production processes. The ER 4.0 software, which processes and reports the data transferred via the inter-machine communication network, is designed to ensure sustainability and efficiency in production.

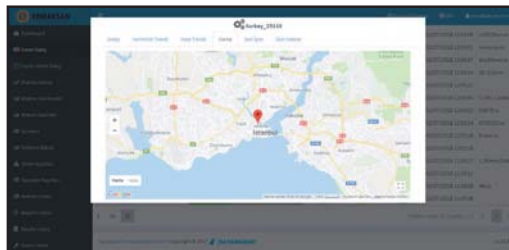
Thanks to ER 4.0 software developed by Ermaksan engineers under the scope of Industry 4.0, all the components on the machine are collected on a common network so that their data may be accessed easily.

Thanks to this software, we are able to access many data from the location of the machine on the world to the operation status, from its efficiency to its error, warning and fault states to increase the performance and efficiency of our machines all over the world and to contribute to the realization of the production targets of our customers.



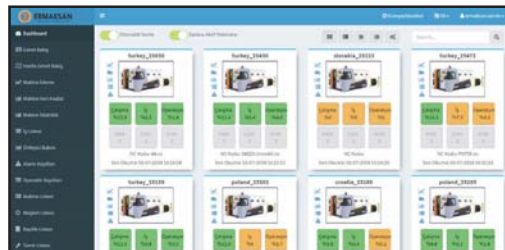


MACHINE MONITORING SCREEN



You may monitor your machines in different fields from a single screen.

GENERAL STATUS OF THE MACHINES



This provides the lists of the operational and non-operational machines on the field and the summary of their operation.

MACHINE EQUIPMENT DATA TREND



It shows the instantaneous data of the operational elements of the machines as trend graph.

OEE VALUES OF THE MACHINE



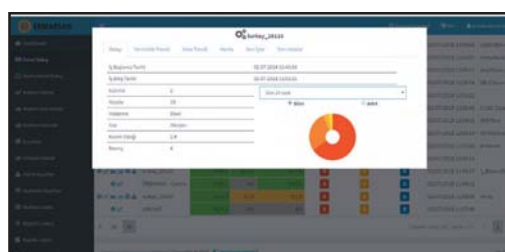
Collects all the information during the stand-by, production and preparation processes to generate a general productivity chart. This chart indicates how much added value the machine provides.

EFFICIENCY TREND GRAPH OF THE MACHINE FOR THE LAST WEEK



Generates a trend graph by compiling the operational information of the machine. Operation performance for the previous week may be monitored.

DETAILED INFORMATION OF THE LAST WORK COMPLETED



Indicates all the details of the work done, and information such as how long it did take the operator to complete which work and in what way. According to this information, you may monitor the correctness of the operator and machine match and completion period of the work.

KATLANAN SAYFA

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