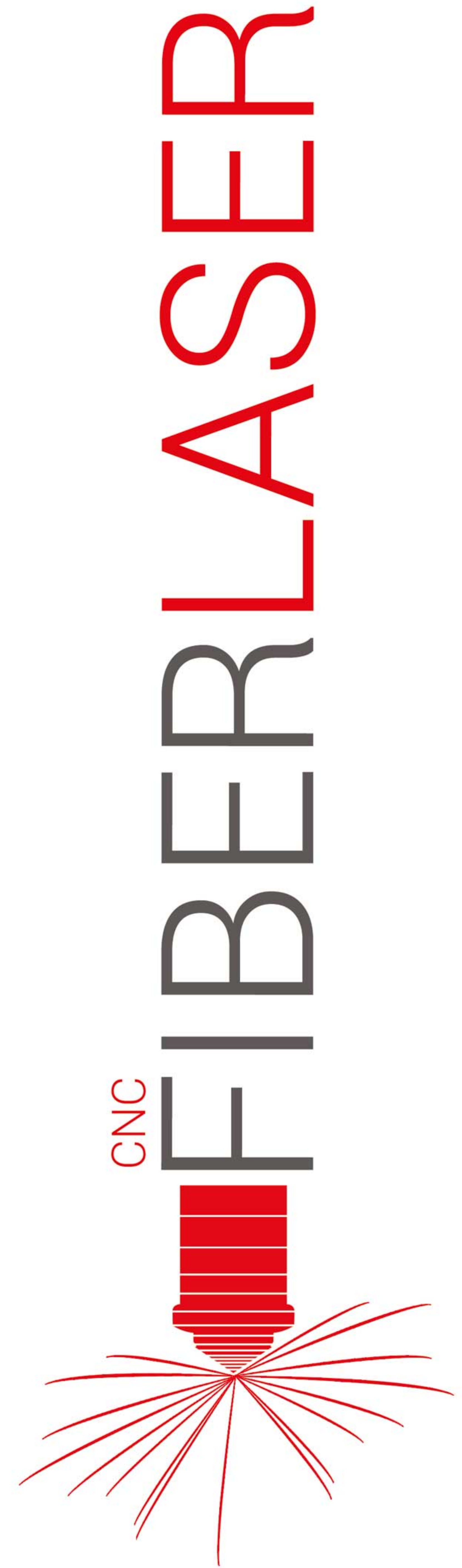




DENER MAKİNA SAN. TİC. LTD. ŞTİ.

Organize Sanayi Bölgesi 8. Cadde No.40-42 38070 Kayseri / TURKEY
Tel. +90 352 321 13 50 Fax. +90 352 321 13 53

www.dener.com | info@dener.com



ABOUT US

DENER MAKINA was established in 1974 in Kayseri/ TURKEY and it has been manufacturing sheet metal working machines like CNC Press Brakes, NC, and CNC Hydraulic Shears, CNC Plasma Cutting machines, Fiber Laser.

Dener Makina's production facilities are located in the Industrial and Freezone Area in Kayseri. Since its beginning, DENER has had the philosophy of production with the best quality and high technology. We crown this with the use of the ISO 9001 Quality Management System and following European Safety Standards. Dener Makina is a leading Turkish Brand in Sheet Metal Working Machinery. We have qualified workmanship and a complete machinery manufacturing facility in our 30.000 m² closed area. Today Dener machines are working all over the world.

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DESIGN

CNC FIBER LASER



A DIFFERENT AND NEW APPROACH TO LASER CUTTING MACHINES

By hanging the Y bridge on the X bridge built on the top, a design different than the conventional laser designs was applied. This design allows the Y bridge with the laser head on to be lighter and to work dynamically with high acceleration. Therefore, the requirement of the Y bridge to work with double motors driven from the sides was eliminated and with the big X axis motor placed in the middle of the Y bridge, X axis movement was able to be performed with a single servo motor.

ADVANTAGE OF SMALL PLACEMENT AREA

Thanks to the advantages of the design, width of the machine was considerably narrowed. The palette exchange unit being placed near the machine and the panel and laser units being placed on the machine, allowed the machine to fit into a smaller placement area compared to conventional machines and to save place in businesses.

SHORT INSTALLATION DURATION AND ADVANTAGE TO CARRY IN A SINGLE CONTAINER

Installation and implementation duration is very short and allows saving time since the electric board, laser unit, pneumatic board and all connections on the main unit have a connector structure. Also, thanks to this new approach, machine width in the direction of Y axis can be considerably narrow and all laser equipment including the palette exchange unit can be carried with a single rig container.

SERVICE AND MAINTENANCE ADVANTAGE

Thanks to the wide doors in both sides of the machine, there is not a place in the machine where it is difficult to reach. Therefore, service and maintenance procedures can be easily performed. The automatic oiling system takes over the oiling procedure required in rack and linear rail systems from the operator and automatically performs it according to the axis movement distance.

EFFICIENCY AND ADVANTAGE OF ENERGY CONSUMPTION

Again, thanks to the advantages of the design through the X axis in which is the biggest servo motor, the Y axis mass being small and the movement of the X axis being performed with single motor has reduced friction and reducer losses, and lowered the energy consumption by approximately 35%



FL3015 0,5-1KW-2KW-3KW-4KW-5KW

FIBER LASER TECHNOLOGY

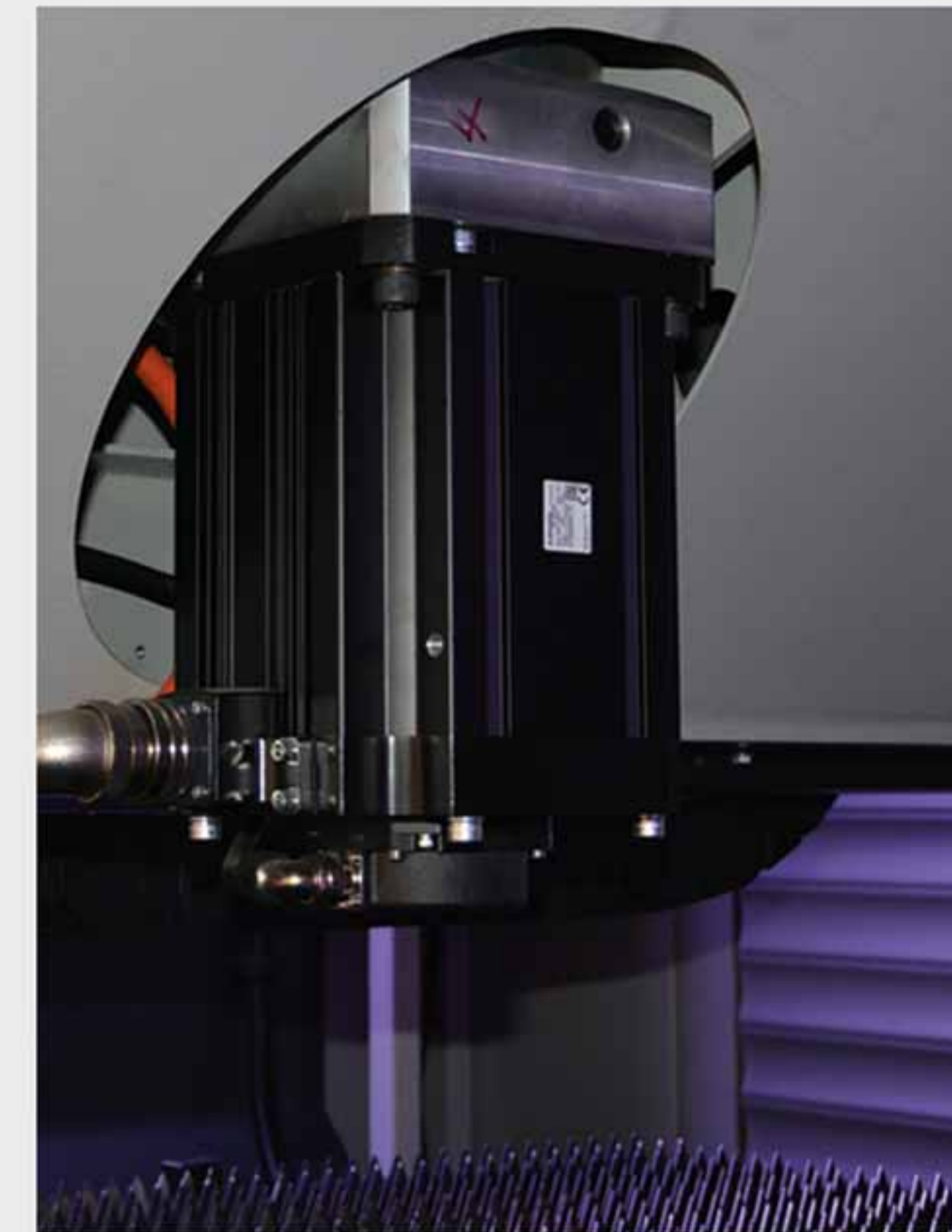


SERVO MOTORS

FANUC

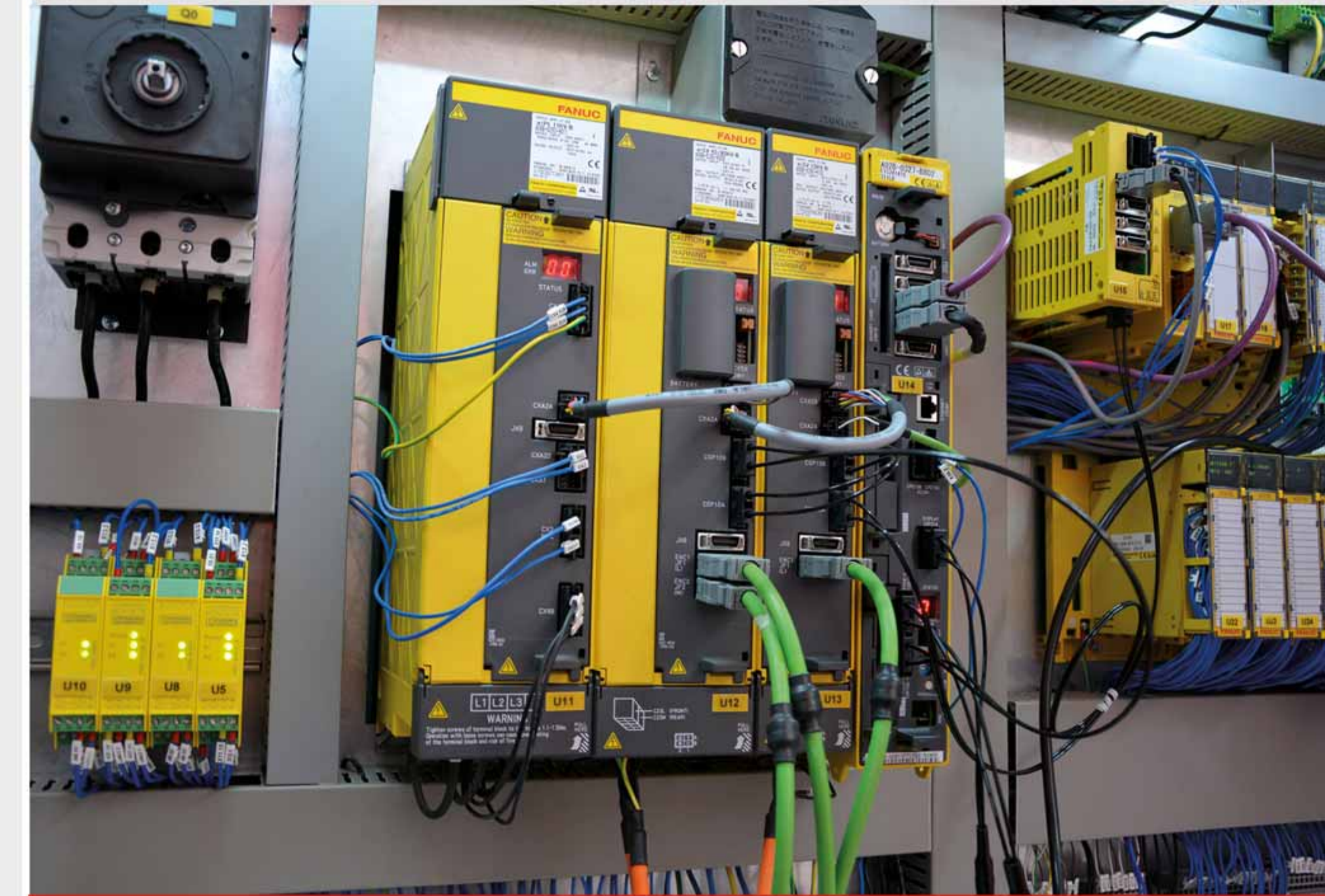


MITSUBISHI ELECTRIC

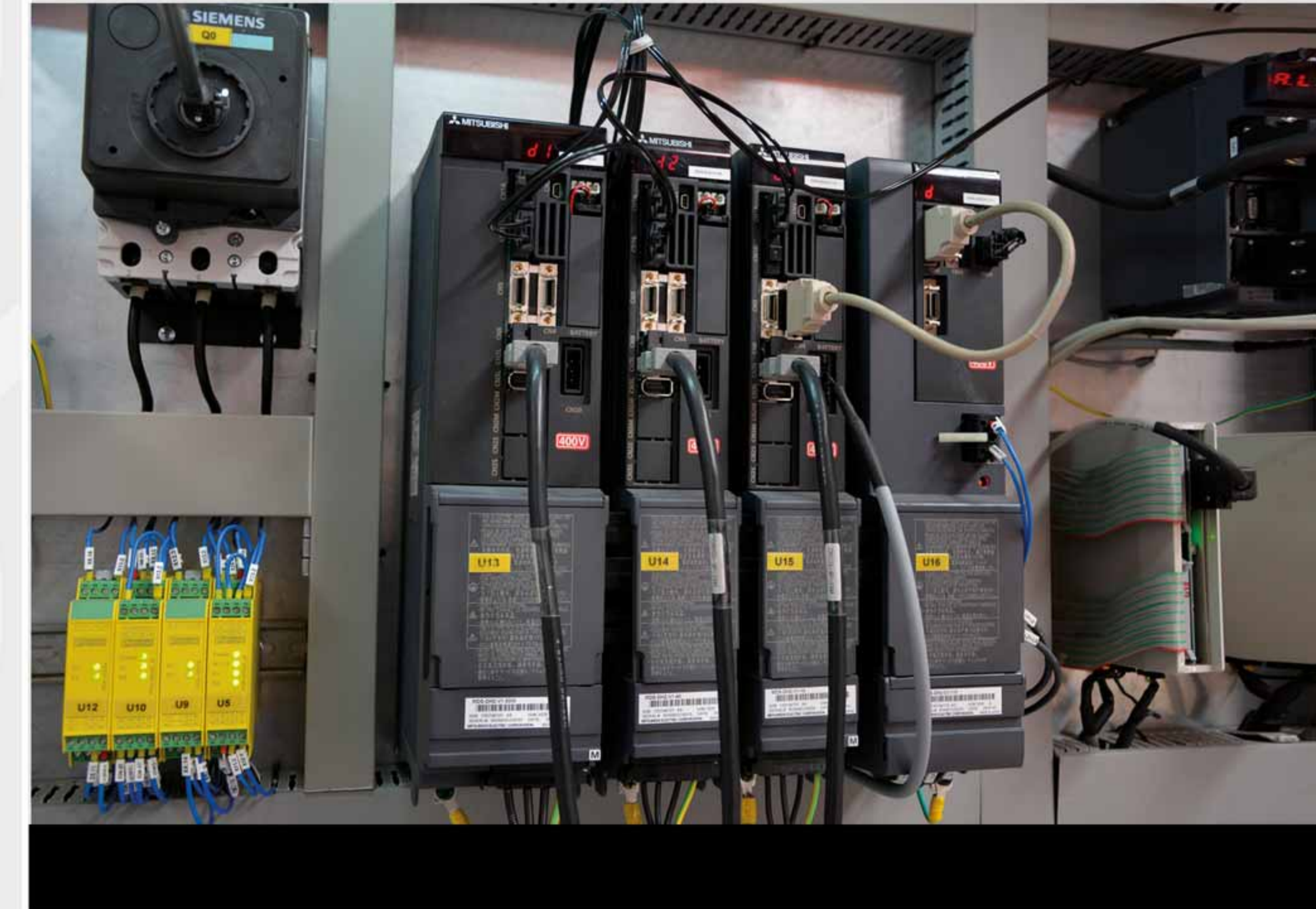


CNC CONTROLLERS

FANUC



MITSUBISHI ELECTRIC



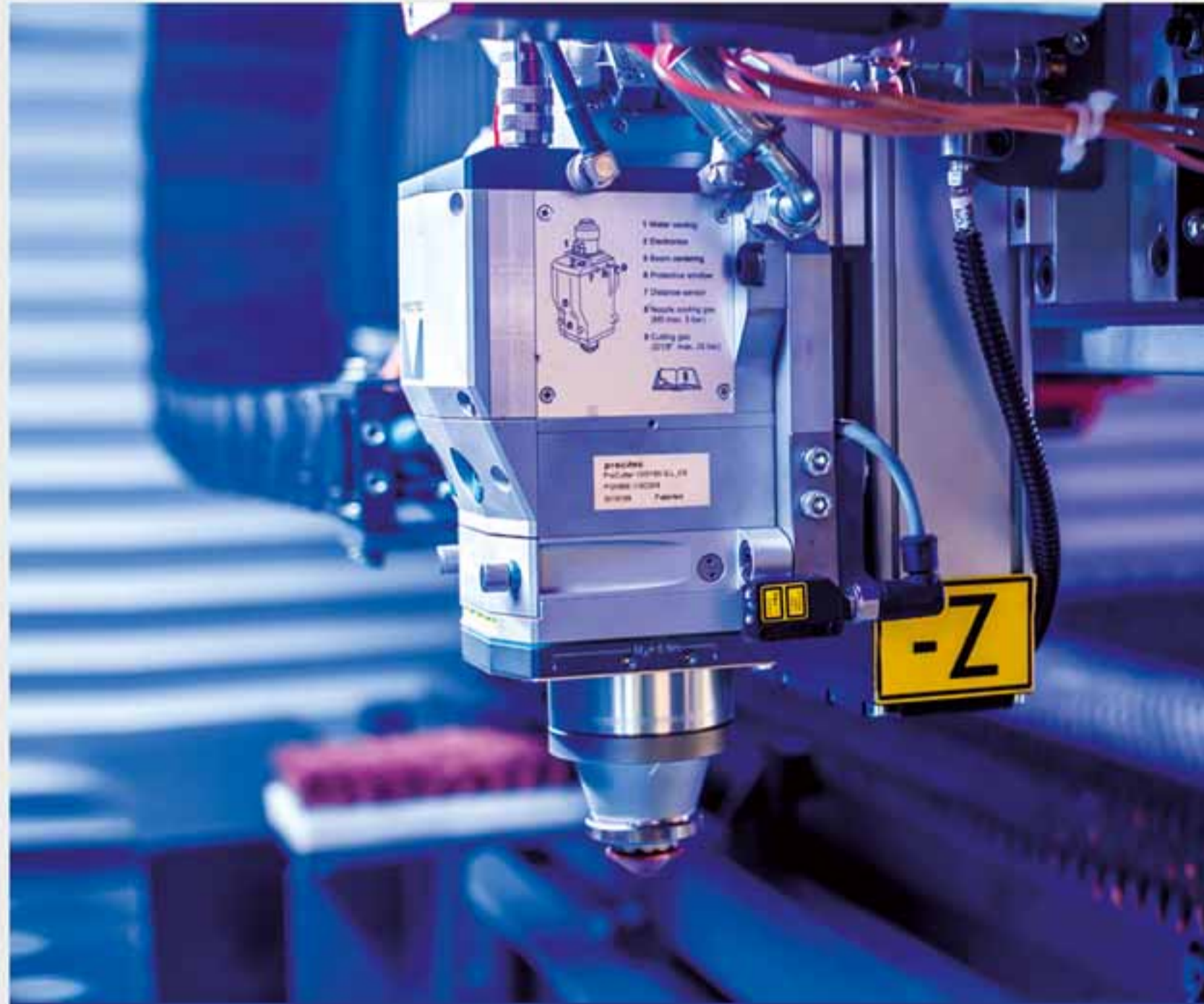
FANUC - SERVO MOTORS
MITSUBISHI ELECTRIC - CNC CONTROLLERS

ADVANTAGES OF FIBER LASER

- Laser beam occurs with cable which is gone from resonator to the head.
- Fiber laser needs less maintenance.
- Fiber laser can cut easily AL (Aluminium), CU (Copper), Bronze. Cutting speed is high in thin metals.
- The beam intensity is high.
- Fiber laser needs less cooling operation.
- Fiber laser has less annual operating cost.
- Beam guidance is provided with fiber optics.

FOLLOW UP DIFFERENCES BETWEEN CO₂ AND FIBER LASER





LASER HEAD

Dynamic laser cutting machines require lightweight, intelligent cutting heads. Even installed in the smallest possible space, the ProCutter offers a fully-integrated sensor system that monitors the cutting process and provides the user with relevant information. The head ensures that each component can be reproducibly manufactured at a high standard of quality.

AUTO DETECTION

The angle of the plate and its corners are found automatically by using 3-point detection method on the plate.

Precitec is leading brand of fiber laser heads. We are using Precitec Head with height adjust box.

All of our machines included with motorized lens cartridge for autofocus and monitored protective window cartridge options. Made in Germany.



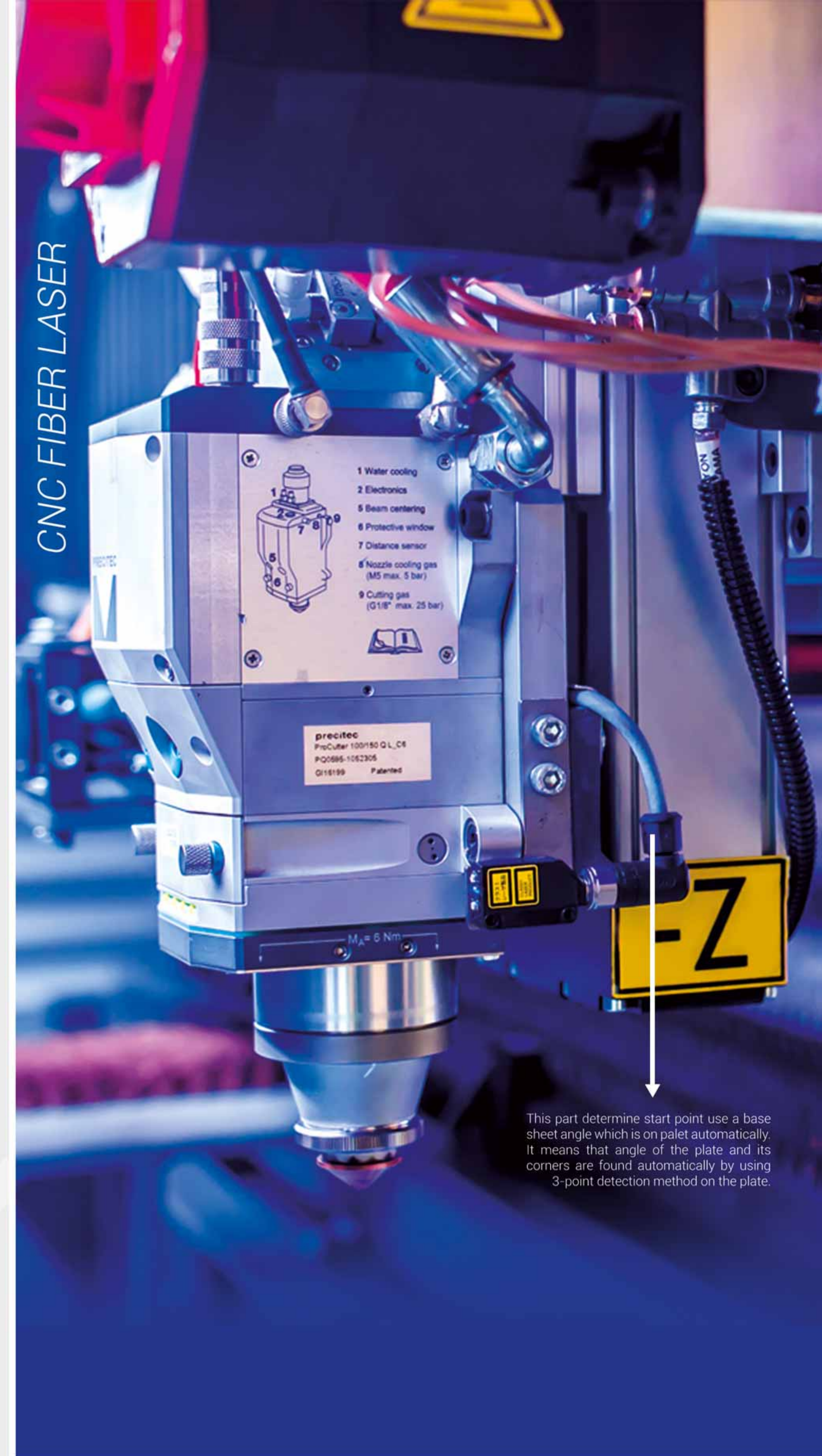
IPG LASER UNIT

The future has arrived with IPG's revolutionary fiber laser technology, now available for tackling a wide variety of Material Processing applications. IPG is the only company that controls the performance, cost and yield of both active fibers and semiconductor pump diodes - the core technology of the fiber laser. IPG develops and manufactures process fibers, chillers and most recently processing heads and fully custom laser systems. This innovation, coupled with extensive manufacturing capabilities, place IPG in the rare position of being in full control of every step needed to achieve this mission: to deliver innovative, reliable, high quality and high performance fiber lasers at a cost - effective price.

CHILLER

IPG Chiller is used on the DENER Fiber Laser Machine.

IPG Chiller is used cooling and heating operations.



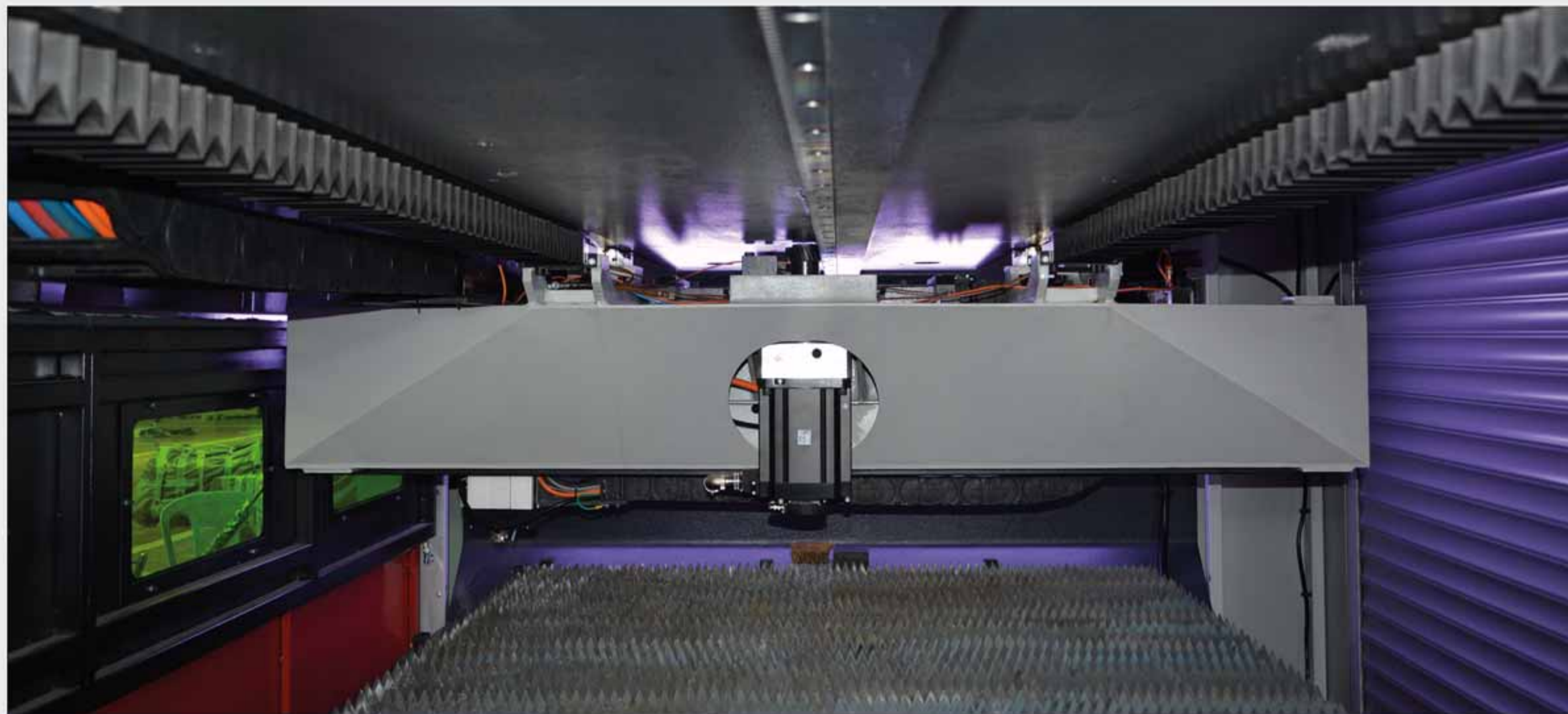
CNC FIBER LASER



precitec
ProCutter 100/150 Q.L.C4
PQ0595-1062305
01E199 Patented

This part determine start point use a base sheet angle which is on pallet automatically. It means that angle of the plate and its corners are found automatically by using 3-point detection method on the plate.

DENER EQUIPMENTS



NEW STYLE DESIGN

- Hanging Y Bridge from the upper of machine.
- Thanks to low weight, high acceleration and speed capability.
- Thanks to advantages of its working with unique motor, provides up to %35 less electricity power.

BODY

Stressed lead unique part welded main body and x bridge.

Machining of main body are produced on the high precision bench.



DURABLE AND RIGID BODY STRUCTURE

The rigid body structure is called less vibration and better durability. DENER MACHINE bodies are strengthened against to taper distortion and deformation. Solid steel frames are assembled and welded to achieve a heavy machine body. DENER Fiber Laser use one linear guided with laser head. This providing high accuracy and high precision.

FIBER LASER EQUIPMENTS



CONVEYOR

This conveyor transfers out of the pallet to slag and small pieces automatically. (Optional)

AUTOMATIC OILING SYSTEM

Soft grease and grease systems to lubricate the machine movements. From the most simple volumetric system to the progressive metering device, including the ILC minimal lubrication line for metal deformation and removal tools and air-oil lubrication systems of the rapid movements and rotating parts. 15 points automatic oiling center for linear guide, carriers, rack and pinions. Made in Sweden.



GAS & PNEUMATIC

FESTO BRAND GAS REGULATOR

Festo pneumatic pistons, valves and air-drier made in Germany.

SMC BRAND GAS REGULATOR

This indicator can measure gas inside of pipes and gives warning when it see missing gas inside of pipes.

CONVEYOR SYSTEM

The slag and small pieces generated during cutting process are removed from machine via the conveyor.



COOLING



CABLE CHAINS

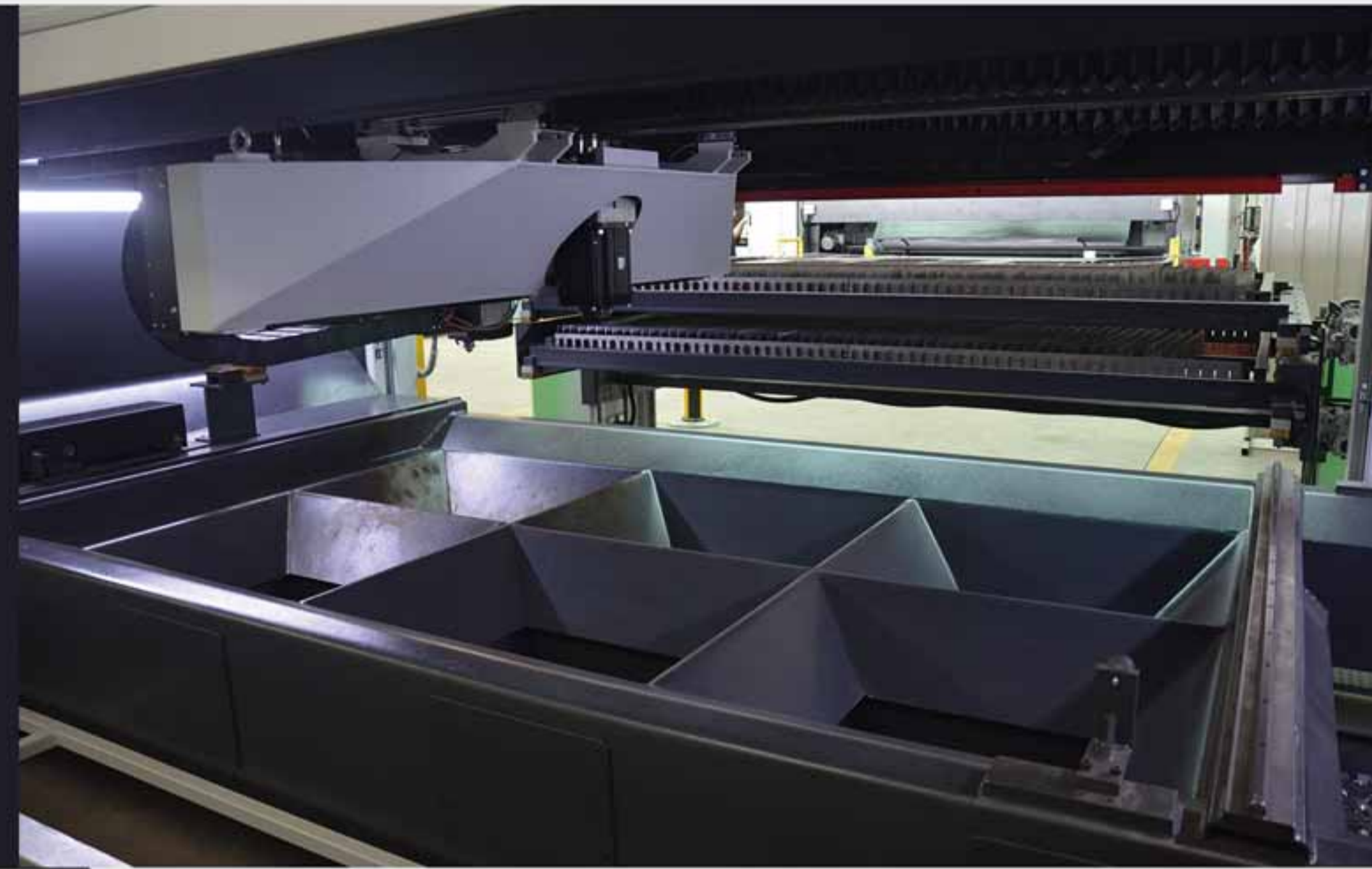
It is selected from high - speed class. IGUS is one of the best cable channels. In order to protect Fiber cable, minimum rolling radius is 200 mm.

FLOW DATA EQUIPMENTS

6 CELL VACUUM

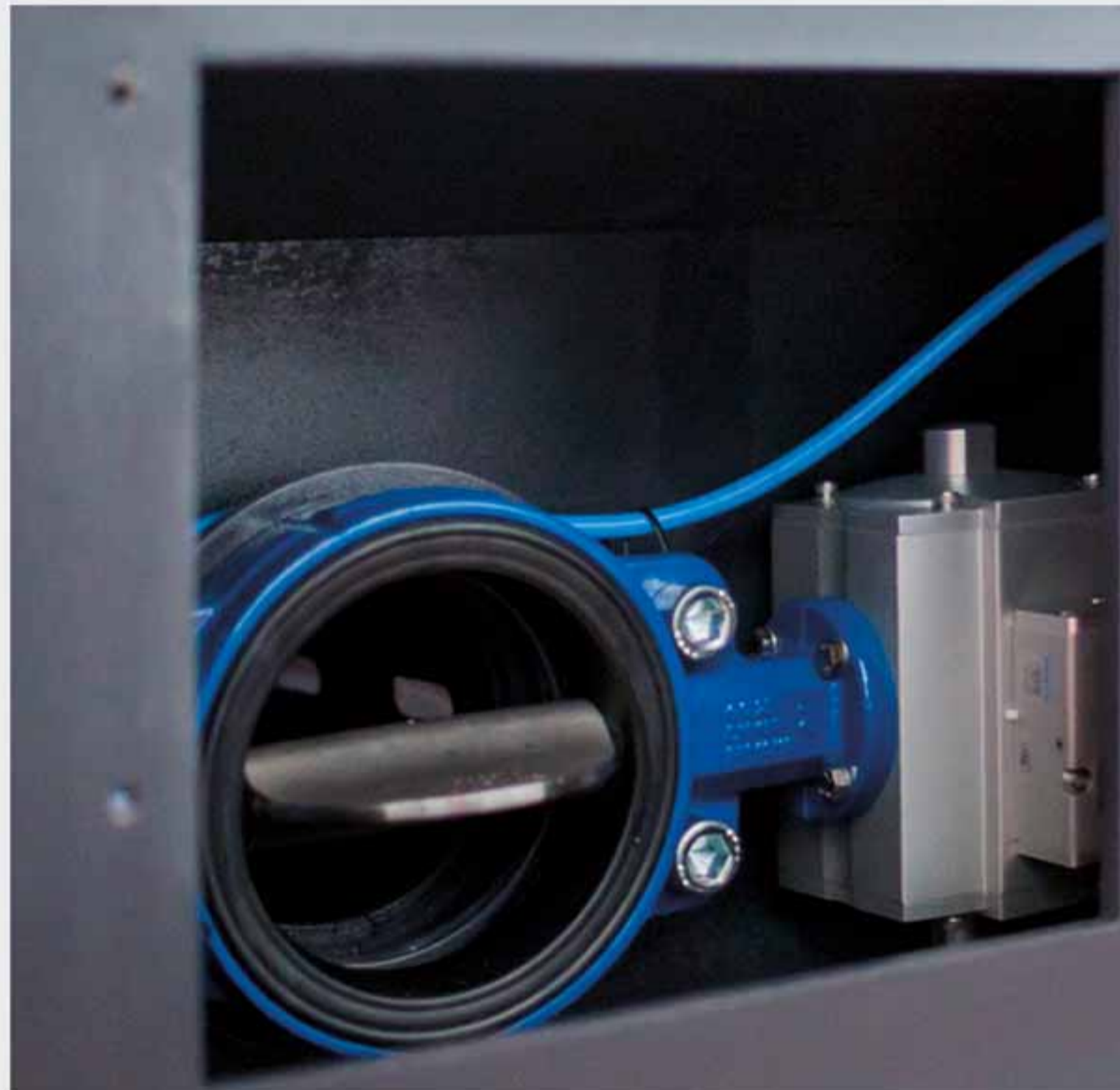
With independent six vacuum cell, according to cutting head position changes pneumatic clappes on / off situation, herewith every time vacuum applied to one cell. It provides less electricity power and more energy efficiency. Made in Turkey.

DENER's Fiber Laser has better absorption and with using less KW filters thanks to has 6 conveyors of each machines.



BUTTERFLY

The door is opening where the laser head made cutting.



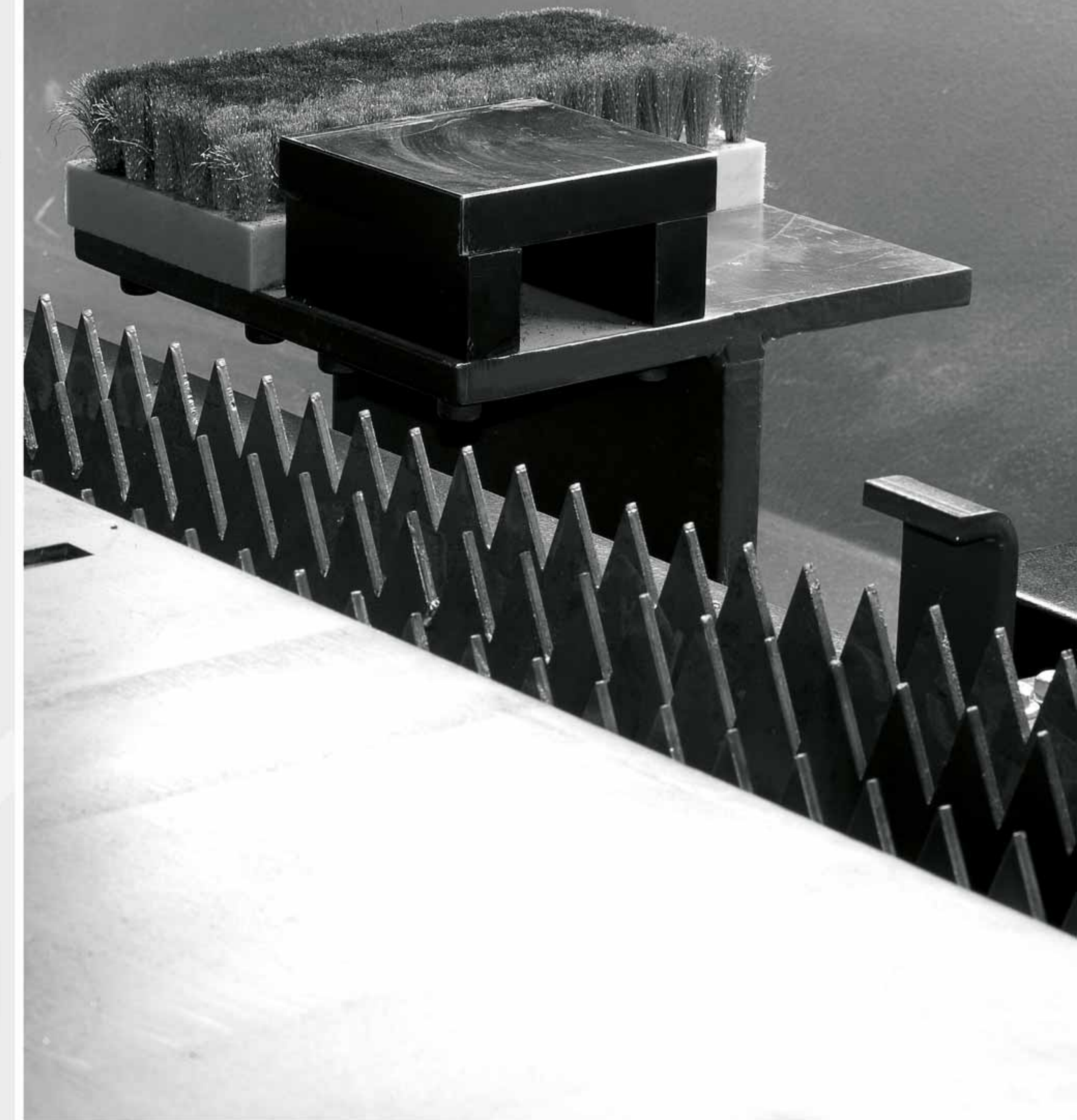
CONVEYOR

With the aim of collecting small parts, which spills under the machine's chassis during cutting operation, there is a motorized conveyor. Conveyor spill these parts which saved from machine to drawer or other conveyor optionally.



BRUSH & TABLE

Automatic nozzle cleaning brush that is depending on number of blastic and thickness; and automatic calibration table.





FILTRATION SYSTEM

FILTER SYSTEM Donaldson cartridge, body by Dener Filter System.

PALLET LOADING

Front side feeding. 25 mm sheet metal capacity. Fast loading and unloading time with rack and pinion transfer system, one way time less than 10 seconds. Total changing time less than 30 seconds. Made in Turkey.

BEAMS BARRIER SAFETY SYSTEM



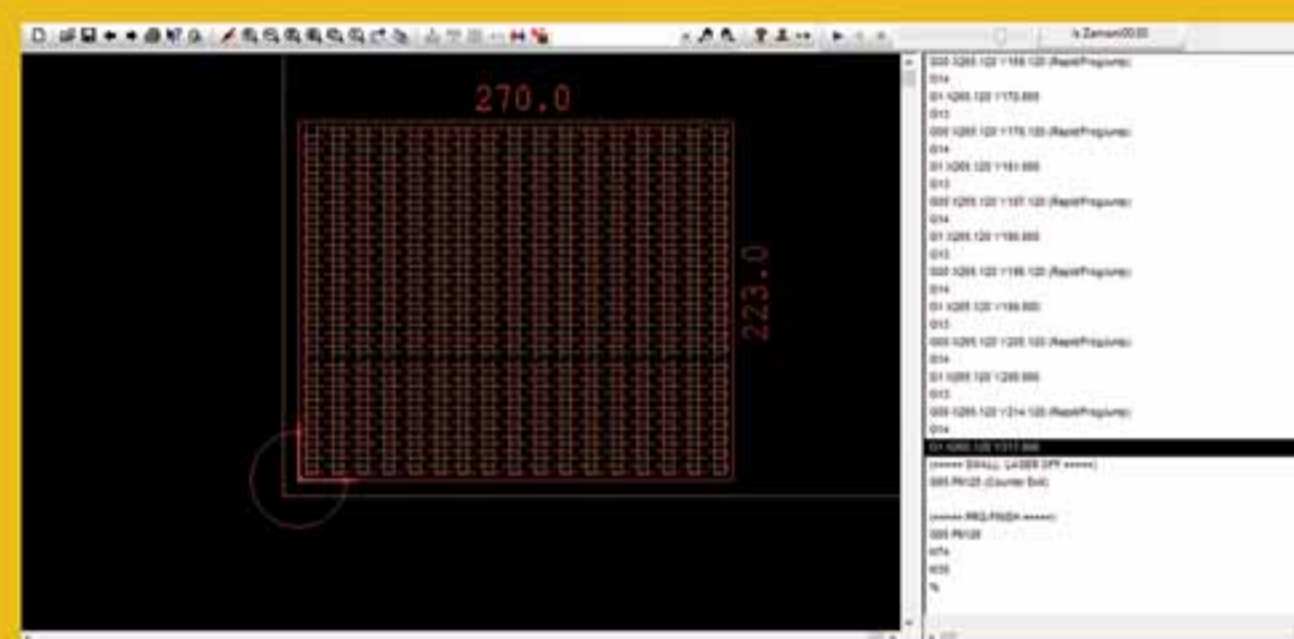
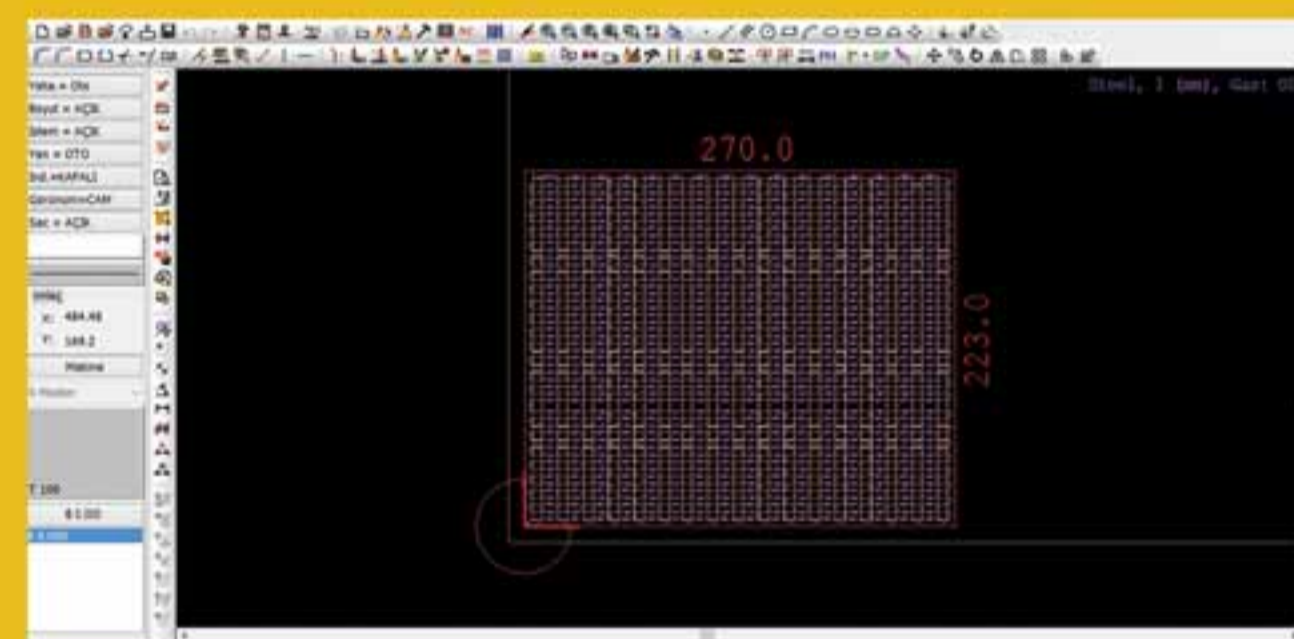


FEQUIPA

CNC FIBER LASER

PANEL PC

FLY - CUT



Thanks to communicated very well between laser head and control unit, laser head can move too fast. In Fanuc fly-cut system laser head can cut with particular axis without removed the head. This is providing saving time.



SOFTWARE

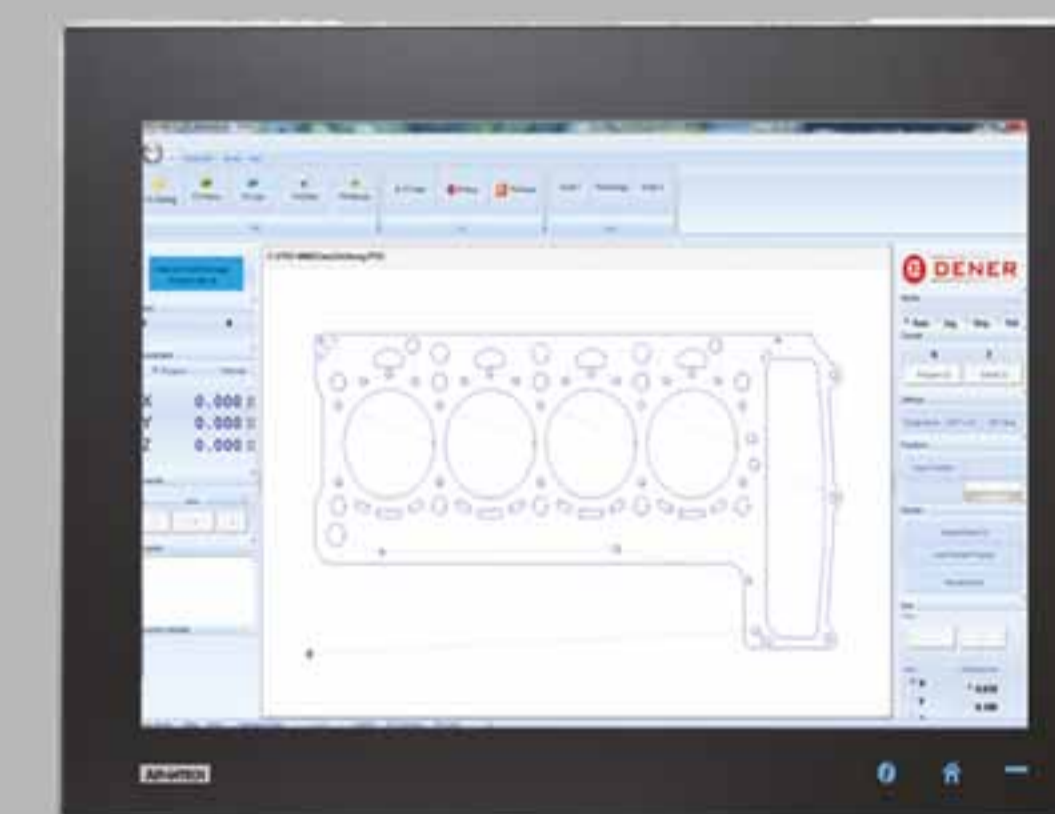
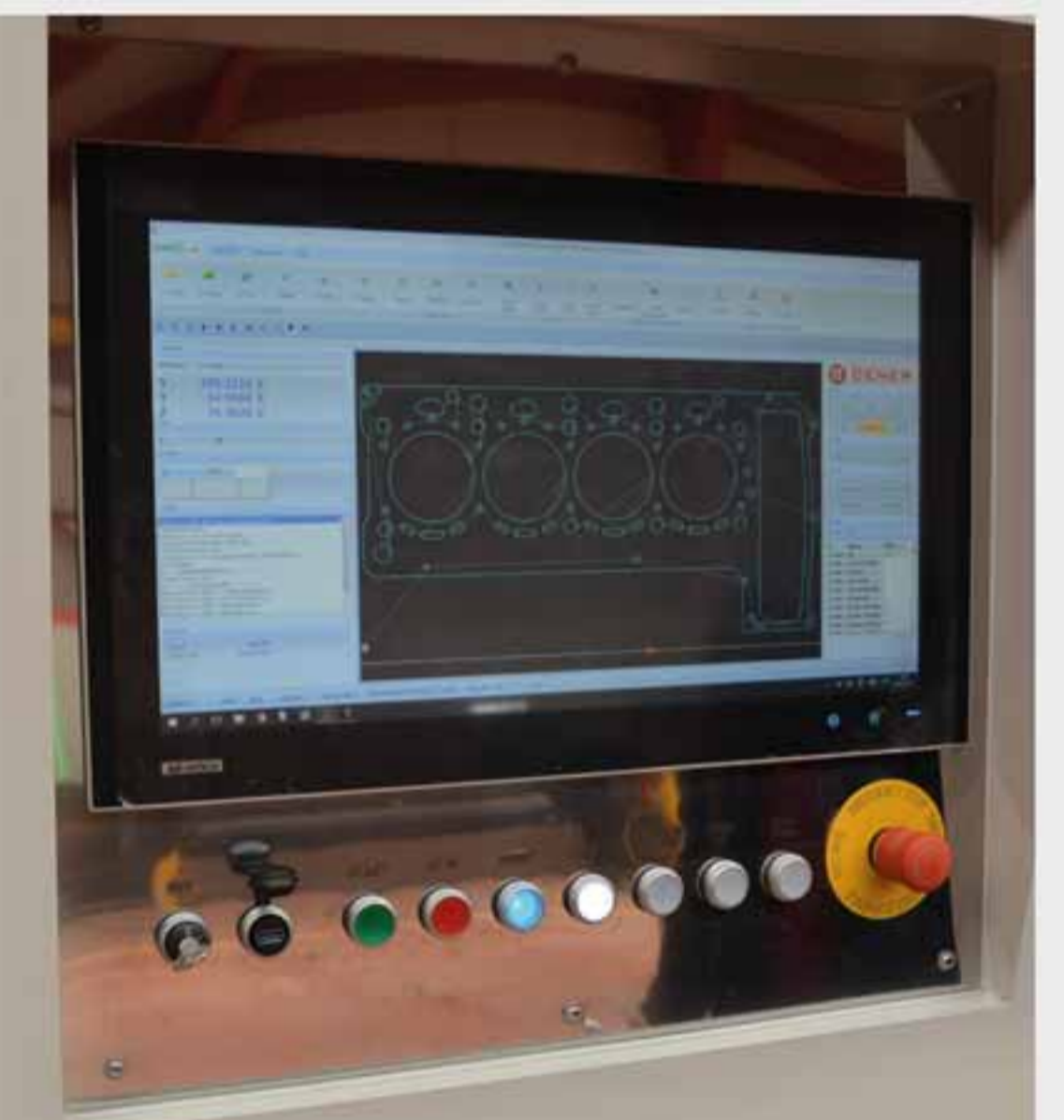
METALIX CUT / CAM



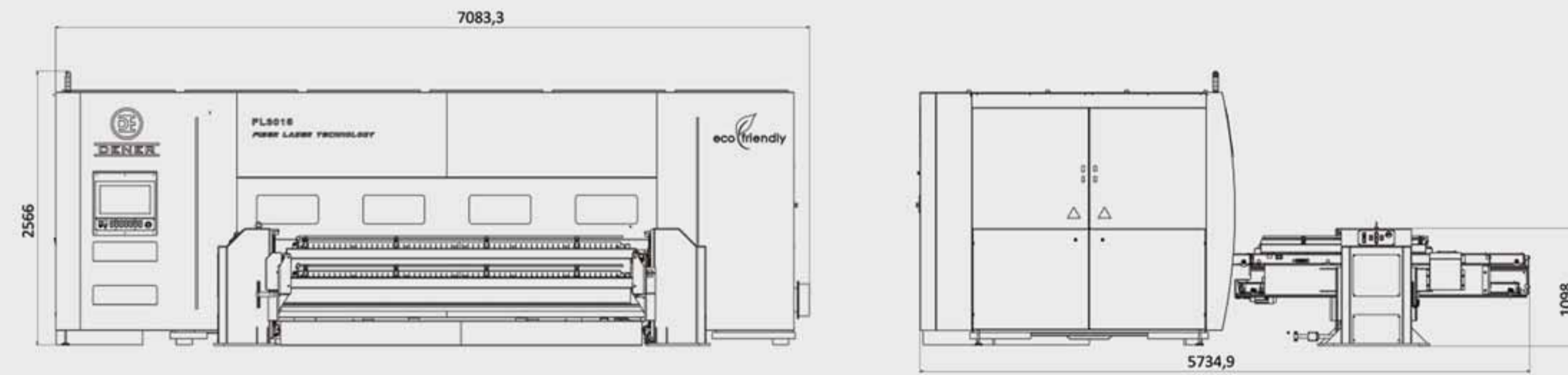
Further Advancing the World Standard CNC from FANUC. FANUC Series 30i/31i-LB are CNC for laser cutting machine having various laser functions. Directly connected to FANUC LASER C Series and FANUC LASER series, and it can be achieved high-speed and high-precision laser cutting.

Max. number of path: 4 path
 Max. total number of control axes: 32 feed axes / 20 feed axes
 Max. number of simultaneous control axes: 24 axes / 4 axes

Advantech, with a brand-new ID design, the TPC-2140WP provides a high resolution 21.5" display and PCT multi-touch in 16:9 wide format. By embedding an AMD T56E 1.65GHz processor with independent GPU, the TPC-2140WP can support advanced graphical performance in more complex applications. Made in Taiwan.

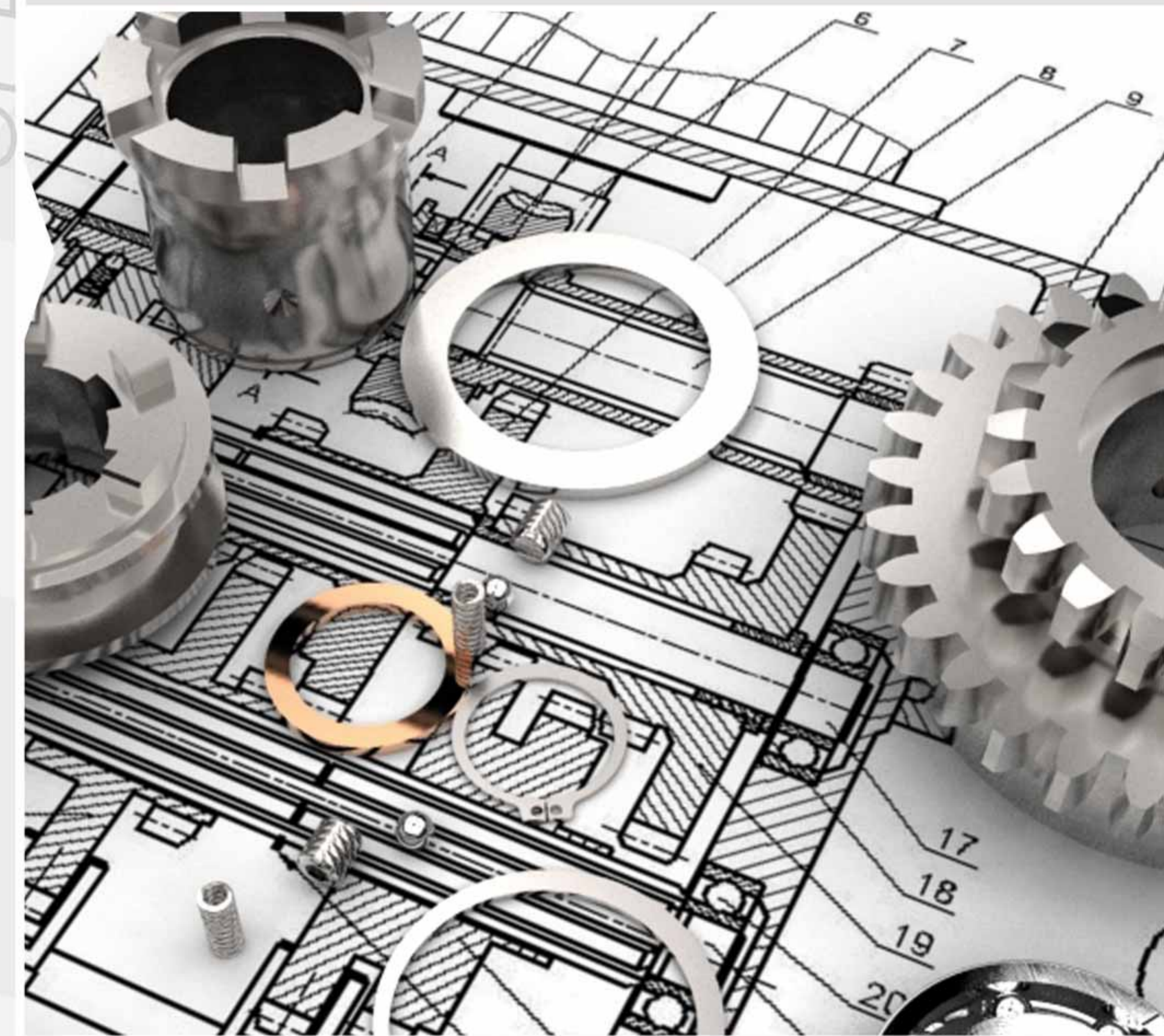


Pro MMI is CNC laser machine control software. Metalix software for drawing, placing, nesting and converting to NC's G code software. Software's have developed by Mitsubishi Germany Develop Center and Dener Machine Ltd. Made in Germany.



Total Weight	kg	12,5							
Total Electrical Power Consumption	kw	30							
Resonator Power	w	500	1000	2000	3000	4000	5000	6000	
Fiber Core Diameter	µm	100							
Maximum Cutting Thicknesses	Mild Steel	mm	5	8	16	18	20	22	24
	Stainless Steel	mm	2	4	8	10	10	12	14
	Aluminum	mm	2	3	6	8	10	10	12
	Copper	mm	1	2	3	5	5	6	7
	Brass	mm	1	2	3	4	4	5	6
Net Cutting Dimensions	mm	1530 x 3050							
X, Y Axes Drive System		Rack and Pinion							
Z Axis Drive System		Ball screw							
Z axis stroke	mm	100							
Maximum Simultaneous X, Y Axes Speed	m/min	133							
Maximum Z Axis Speed	m/min	40							
Maximum Acceleration X, Y Axes	G	2.6							
Maximum Z Axis Acceleration	G	3							
Positioning Accuracy	mm	0.05							
Repeatability Accuracy	mm	0.02							
Palette to Palette Change Time	sec sn	30							
Operator Panel		21.5" Wide Multi Touch Panel / 19" Fanuc Multi Touch Panel							
Assist Gases		Oxygen, Nitrogen, Compressed Air							

CNC FIBER LASER



*Dener Makina has the right to change technical specifications without prior notice.

