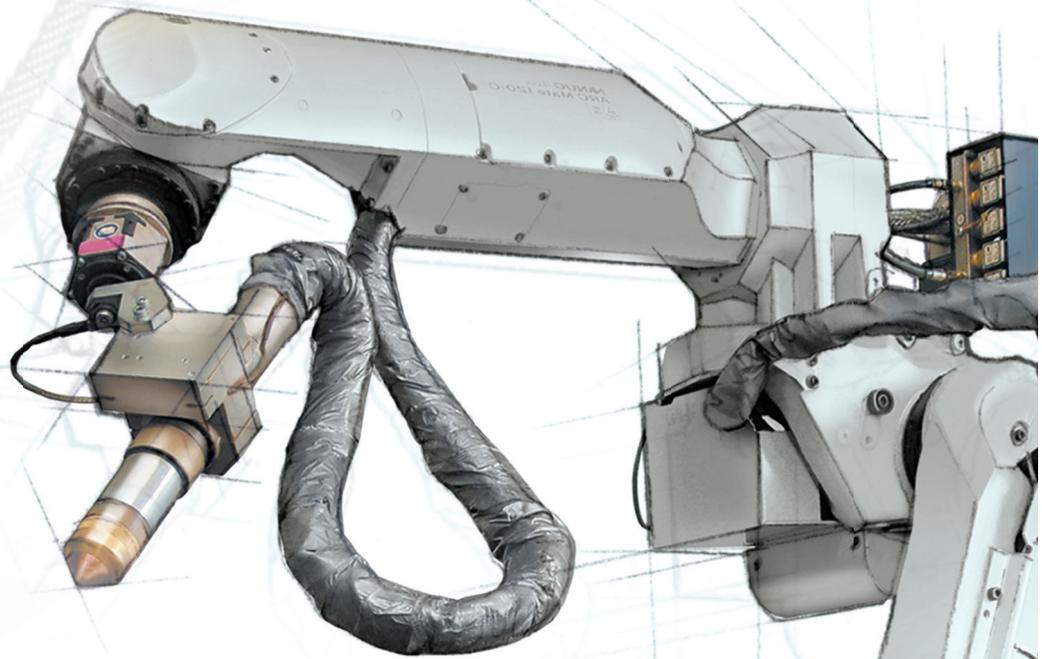




## FOUR ELEMENTS FOR YOUR CHALLENGE



# ECKERT®



laser cutting



plasma cutting



water cutting



oxygen cutting



## MORE THAN 1000 MACHINES SOLD

### Our machines work in countries like:

- Poland
- Germany
- Netherlands
- Belgium
- Switzerland
- Austria
- Greece
- Romania
- Czech Republic
- Slovakia
- Lithuania
- Latvia
- Belarus
- Estonia
- Ukraine
- Russia
- Bosnia-Herzegovina
- United Arab Emirates
- Israel
- Hungary
- Spain
- Portugal
- Mongolia
- Kazakhstan
- Sweden
- Slovenia
- Finland
- Norway

### Our partners:

**Hypertherm**

**VICTOR**  
TECHNOLOGIES™

*Kjellberg*  
**FINSTERWALDE**

**IPG**  
PHOTONICS®

**PRECITEC**

**HARRIS**

**FANUC**  
Robotics

**UHDE**  
High Pressure Technologies

## COMPANY'S PROFILE

Eckert is a modern and innovative company specializing in the production of CNC controlled cutting machines.

The company has been founded in 1990. The headquarter is located in Legnica and in Zwickau, Germany where we have our representation. In the area of 25 000 m<sup>2</sup> there are 4 production halls, a storehouse and offices. Well-developed infrastructure and excellent organization of work allow producing up to 30 machines per month.



## PHILOSOPHY



As one of the few manufacturers in the world we offer all four technologies, which we select for clients taking into account their individual needs, so that the proposed solution is the best and brings them a real advantage. Our comprehensive offer, wide experience and high capacity make us a reliable partner in the implementation of innovative solutions.

## PERSONNEL



Our success is based on the involvement of well-trained staff, which is the most important value of the company. Over 50 creative engineers work every day on upgrading the available solutions to meet the expectations of even the most demanding customers. Our service offers professional training and is available worldwide 24 hours a day.

# DIAMOND FIBER LASER

ITM Poland 2010, 2011, 2013  
Gold Medal



laser cutting



pallet table



laser marking



fume exhaust system



PATENT  
EP 11460068.7

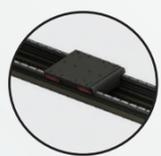
We believe that the production should provide the best and the most advanced technologies with experience accumulated over the years. Using the experience gained in the design of CO<sub>2</sub> lasers we have started producing fiber lasers.

The latest laser technology is characterized by the fiber source as well as the fiber leading source to the cutting head. It guarantees great effectiveness of the laser beam. As a result, power consumption is 70% smaller than conventional solutions used in CO<sub>2</sub> lasers.

Laser enables fast and high quality cutting of materials with a thickness up to 25 mm. It is characterized by a narrow slit cut and a small thermal influence into the material.

DIAMOND FIBER LASER has a closed cabin that protects against laser radiation. In addition, camera system allows to control working and loading area of the machine on an extra screen which is connected to laser controller. This and much more options improve the security, speed and ergonomic.

As the reason the reflection effect is eliminated it is possible to cut more types of material such as copper, aluminum and their alloy.



## LINEAR DRIVES

The construction of the magnetic linear drives is not based on the moving parts. Thanks to this, they are more reliable and have higher accuracy and repeatability optimization. They can also achieve higher acceleration and passage speed what compress the start and inhibition way. It has a significant impact on reducing cutting time.

## TECHNICAL PARAMETERS

Maximum loading of the cutting table	800 kg
Speed of positioning simultaneously to X/Y-axis	100 m/min
Accuracy of programming	0,001 mm
Accuracy of positioning	+/-0,03 mm
Cutting width	1500mm
Basic working length	3000mm
Power of laser beam (options)	500 - 6000 W
Maximum acceleration	< 2 G

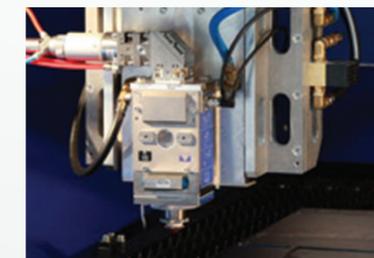


**Source** by IPG has been designed for up to 100 000 operating hours without maintenance. It is a compact small size device consisting of modules on 500W.

With the beam splitter one source can be splitted. Thanks to this you can fund cutting and welding position.



**Cooler** resonator due to lower demand of the machine for cooling is much smaller and consumes less energy than the CO<sub>2</sub> laser cooler. Limited and more efficient cooling affects three times less energy use.



**The cutting head** by Precitec has a distance sensor, which ensures stability, prevent collisions. This allows for the smooth running at high speed during cutting.

The head is also equipped with an additional cartridge with safety glass optical components to protect lens from cut material reflection effect.



**The laser beam** has ten times lower wavelength (1.07 microns) than CO<sub>2</sub>, so it is better absorbed by the material, which allows up to 40% higher cutting speeds and better quality.

Fiber bundle allows to create the beam without any loss and disturbance of the length to the cutting head with dimensions previously not available for CO<sub>2</sub> lasers.

# WATERJET COMBO



ITM 2009  
Gold Medal



Eureka! 2009 Brussels  
Gold Medal



INTEC Leipzig  
2011



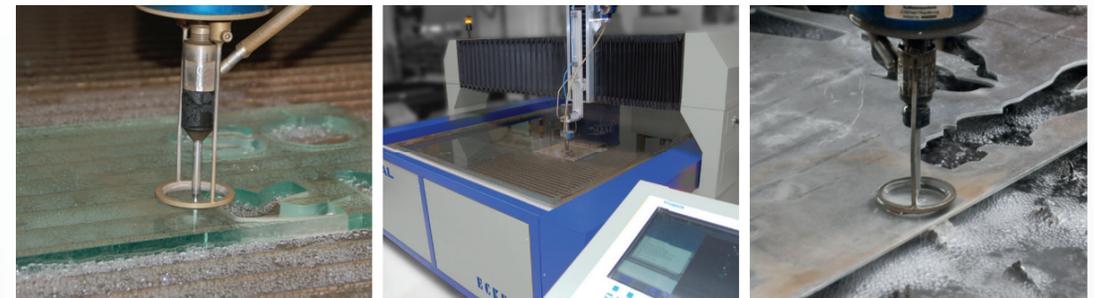
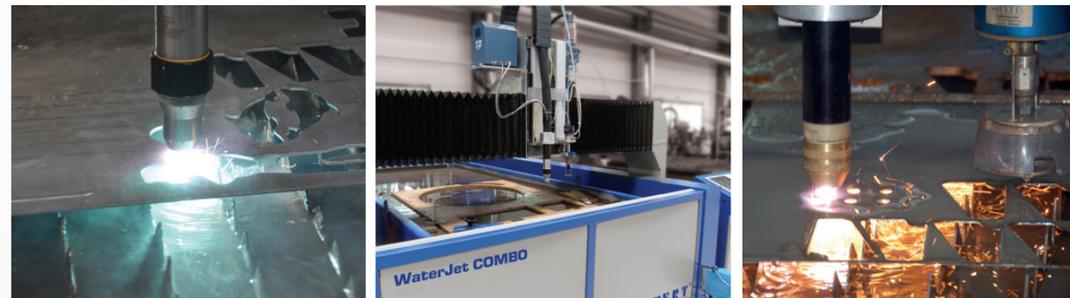
Budma 2008  
Gold Medal

# OPAL

Patented Waterjet COMBO cutting machine combines two most modern cutting technologies: plasma and water. It allows receiving elements of unprecedented precision at minimal costs.

The basic advantage of the solution is the use of two different technologies within one element, using the advantages of both of them. Hydroabrasive cutting technology allows receiving the highest quality parameters (characteristic for mechanical micro processing) while High Definition plasma cutting technology ensures low production costs keeping sufficient technological parameters of the elements' edges, which do not demand higher standards.

The machine is designed for cutting with a water stream a wide range of materials such as: stone, ceramic, plastic, glass, metal and more. The advantage of this system is a very high precision cutting and a lack of heat affected zone. OPAL can be equipped according to expectations in the high-pressure pumps German brand ThyssenKrupp / Uhde, which performance is individually tailored to the scope of the cut material.



### TECHNICAL PARAMETERS

Drive	dual - servo AC
Cutting width	1500 - 6000 mm
Basic working length	1000 - 12000 mm
Cutting thickness with water stream	0,5-150 mm (250 mm)
Cutting thickness with plasma torch	depends on the plasma device parameters
Positioning speed	max. 25000 mm/min
Hi-pressure pump	3800 bar (optional 6000 bar)

### TECHNICAL PARAMETERS

Drive	dual - servo AC
Cutting width	1000 - 6000 mm
Basic working length	1000 - 12000 mm
Cutting thickness with water stream	0,5-150 mm (250 mm)
Positioning speed	max. 25000 mm/min
Hi-pressure pump	3800 bar (optional 6000 bar)

# SAPPHIRE



Eurotool 2012  
Golden Dragon



ITM Poland 2007  
Gold Medal



Welding 2007  
Gold Medal

Series of devices called SAPPHIRE are the highest quality industry devices which allow cutting materials of the thickness up to 300 mm. The cutting machine is intended to work in the toughest conditions in a constant motion. The device has mechanic and electronic elements which guarantee reliability and high efficiency at a minimum conservation. The cutting machine is manufactured in working width from 2000 to 6000 mm with an unlimited length of the longitudinal track.

The device is a proved solution in more than 200 companies in Poland and also abroad, in the most difficult working conditions of the heavy industry like: shipyards and steelworks.



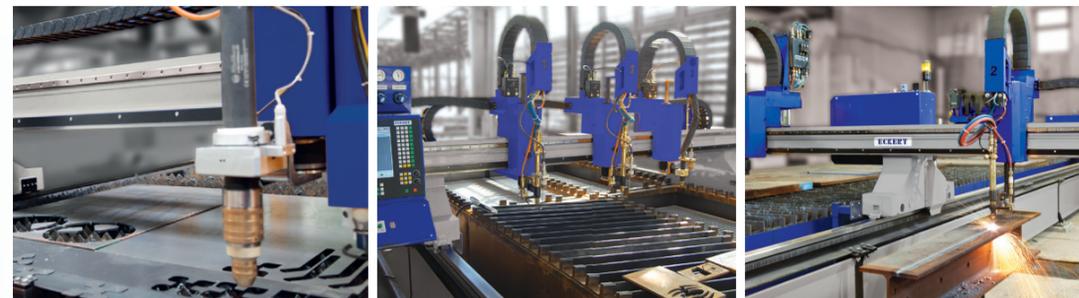
## TECHNICAL PARAMETERS

Drive	dual - servo AC
Cutting width	2000 - 7000 mm
Basic working length	from 2000 mm
Length of the track extension	2000 mm
Positioning speed	20000 mm/min
Cutting thickness with one oxy-fuel torch	200 mm (300 mm)
Cutting thickness with plasma torch	depends on the plasma device parameters

# JANTAR

JANTAR is characterized by high efficiency and is intended for a precise shape cutting of the materials of the thickness up to 100 mm. Its functionality can be expanded with an optional system for cutting tubes and profiles. Advanced construction and applied drives allow to achieve very high speed and quality of cutting. JANTAR is manufactured in the working width up to 3000 mm with the possibility of a development of a track by modules of 2000 mm.

JANTAR is equipped with an additional table, thanks to this machine's geometry is not disturbed, while cutting heavy materials and it is resistant to high thermal influence. There are not any problems in loading and working on a lot thicker and heavier materials. These and many additional benefits make JANTAR one of the bestselling cutting machine of our product range.



## TECHNICAL PARAMETERS

Drive	dual - servo AC
Cutting width	1500, 2000, 2500, 3000 mm
Positioning speed	25 000 mm/min
Basic working length	from 2000 mm
Cutting thickness with one oxy-fuel torch	max. 100 mm
Cutting thickness with plasma torch	depends on the plasma device parameters
CNC Positioning accuracy	0,005 mm



plasma cutting



oxygen cutting



3D cutting



positioner



portal extension



plasma marking



punch marking



InkJet



drilling



pallet table



fume exhaust system



plasma cutting



oxygen cutting



positioner



portal extension



plasma marking



punch marking



InkJet



drilling



pallet table



fume exhaust system

# AGAT

# ProX<sup>3D</sup>



plasma cutting

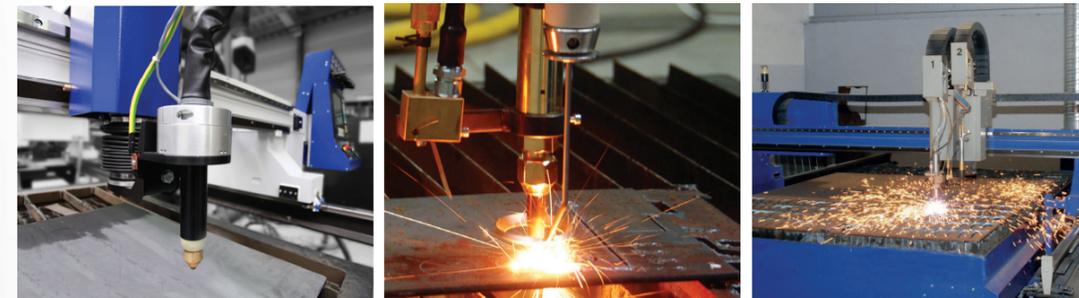


oxygen cutting



fume exhaust system

Agat is a device intended for shape and rectilinear cutting of sheet metal made of carbon and low alloy steel as well as non-ferrous metals. It is designed for small and medium producers of steel structures as well as workshops and rebuilding branches of big companies.



### TECHNICAL PARAMETERS

Drive	dual - servo AC
Cutting width	1500,3000 mm
Basic working length	2000 mm
Max. working length	6000 mm
Positioning speed	25000 mm/min
Cutting thickness with one oxy-fuel torch	100 mm
Cutting thickness with plasma torch	depends on the plasma device parameters



The 3D head enables elements spatial cutting with water providing high precision and no cutting edge chamfer.

One of the main advantages of the 3D head, due to the absence of the heat-affected zone is the possibility of cutting a wide range of materials such as steel, glass, stone, Plexiglas, foam or wood.

A significant advantage over 2D cutting is so called cone correction which is eliminating bevels on cut edges of the material. Kinematics of the device is designed so that a change of cutting direction does not require any adjustments of the Z axis.

The use of 3D head shortens the processing time and the costs of manufacturing a detail. Edge chamfering operation is performed directly on WaterJet machine, which reduces manufacturing costs of a detail while maintaining similar operating costs in relation to a cutting device of 2D technology.



water cutting



3D cutting



bevel correction



### TECHNICAL PARAMETERS

Head maximum inclination angle	±47°
Rotation angle	±540°
Lifting speed	10000 mm/min
Maximum Z axis lifting	160mm

# VORTEX 3D



ITM 2011  
Gold Medal

# ROBOT FOR CUTTING & WELDING



The idea of inception of Vortex 3D head was an improvement of previous generation 3D plasma head. It was achieved on base of longstanding experience and customers suggestions.

Designed, patented and implemented Vortex 3D allows for very precise beveling, cutting holes and chamfering in a single sheet cutting process. A specialized system can quickly change the angle position of the head thus ensuring a constant distance from the material.

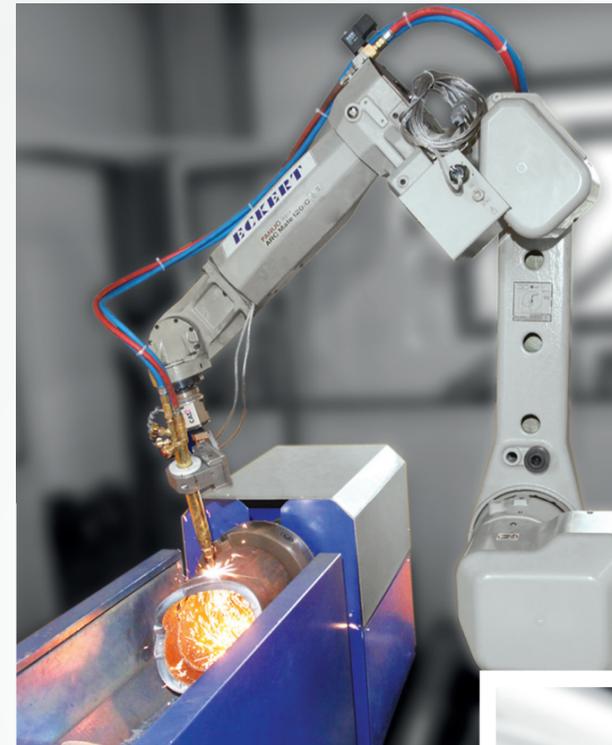
Vortex 3D head enables precise beveling of metal sheet and cutting any shapes. It is also an ideal solution in conjunction with our ESR tube cutting system and profiles cutting system.

Thanks to ESR system the tube beveling is possible in real cutting time and thereby preparation to weld and beveled hole cutting.



## TECHNICAL PARAMETERS

Cutting angle	± 47°
Rotation angle	± 540°
Movement speed	10000 mm/min
Material thickness	up to 80 mm by 45°
Maximum shift of Z-axis	300 mm



## Welding option

Combined with an advanced robot controller offers high speed axis, which reduces the running time between welds. Coverage radius arm is 3500 mm and rotation speed for the slowest axis 175°/s.

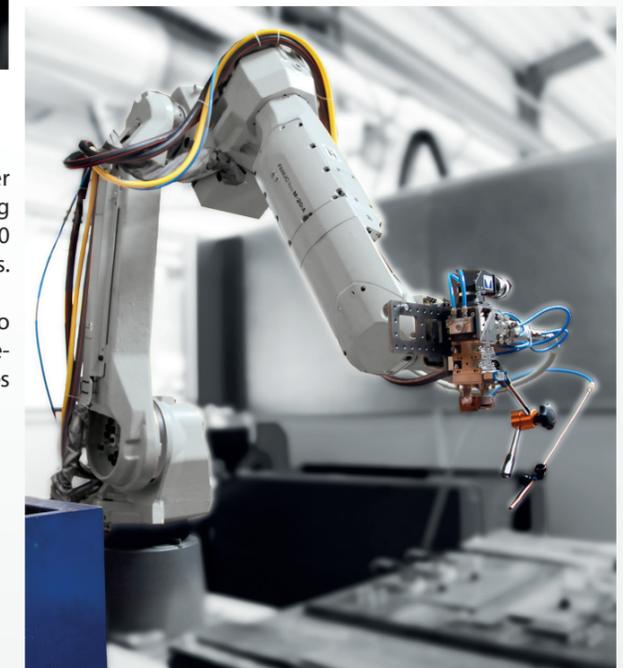
Ideally suited for combining elements of hard to reach, even from a distance of 2 m. Moreover, welding robot is much more accurate and 4-6 times faster than the automated welding Mig / Mag.

It is a modern and innovative system for shape cutting of tubes and direct preparation of respective phases of welding and next to perform the welding process. It is an ideal solution for demanding high precision cutting and welding for both thick and thin materials.

A 6-axis robot with its parameters allows the machining of pipes with diameters from 40 to 2000 mm. Its additional advantage is the ability to coat it in various positions such as the transverse position, or being suspended.

## Cutting option

The wall thickness of cutting pipes is in the range from 2 to 100 mm and the length of the cut pieces depends only on the length of the longitudinal path of the machine. In addition, multi-axis robot allows cutting and chamfering materials with unconventional or complex shape. It allows you to move the burner within a radius of up to 3.5 m.



## TECHNICAL PARAMETERS

Number of axis operated by robot	up to 6
Range radius	up to 3500 mm
Number of axis operated by controller	up to 40



## ADDITIONAL EQUIPMENT

In order to improve cutting machines' functionality, Eckert Company offers additional devices which can be added to a machine. Automation of drilling, marking, stippling and labelling processes influences remarkably lowering the costs and shortening the time of processing.



positioner

### Positioner ESR

Extends the application of an additional function of cutting machines - Cutting-forming tubes. The system is mounted outside of the cutting table.

With the ESR system operations such as cutting holes or cutting pipes at different angles is no longer any barriers

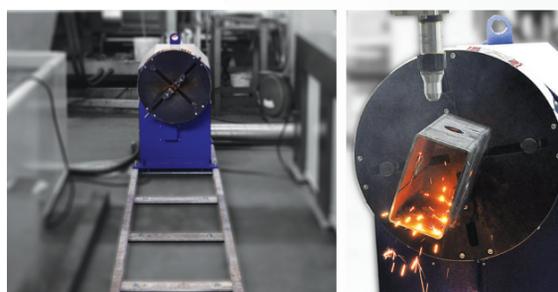


positioner

### Positioner for cutting profiles

Profiles positioner has been designed and constructed to allow customers to perform fully automated cutting profiles of rectangular cross-section.

This speeds up the processing time if necessary to cut in all the walls of profiles and allows them to be cut at any angle.



punch marking

### Punch Marking

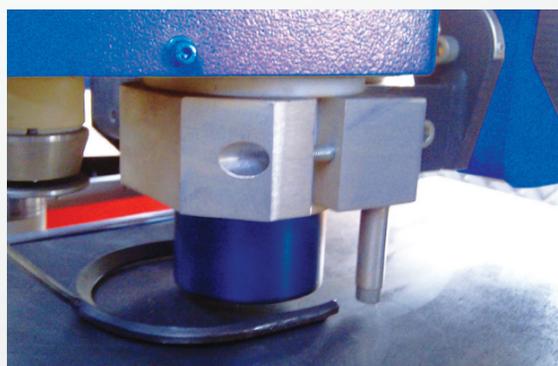
Pneumatic marking serves describing details. Permanently placed on a cut material signs allow unambiguous identification of an element. As a standard, 5 lines of a text of 14 signs are used in a line.



InkJet

### InkJet

InkJet Marking Support is prepared for marking out cutting plates using inkjet printing system. Special head allows printing of pre-programmed in controller information - strings consisting of letters, numbers and special characters or graphics (logos, system signs).



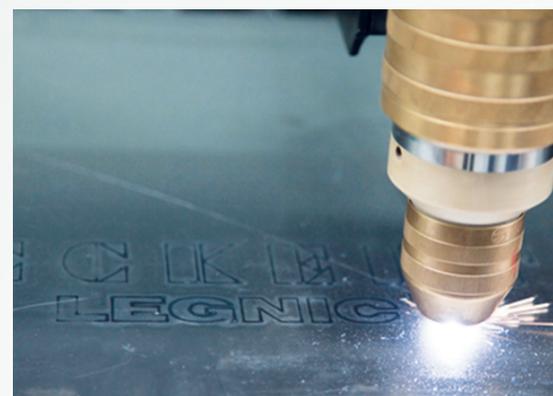
## ADDITIONAL EQUIPMENT

### Plasma marking



plasma marking

The marking system serves putting on a metal sheet lines, inscriptions and shapes. It simplifies later welding and bending according to the designated routes. Functionality also allows describing individual details.

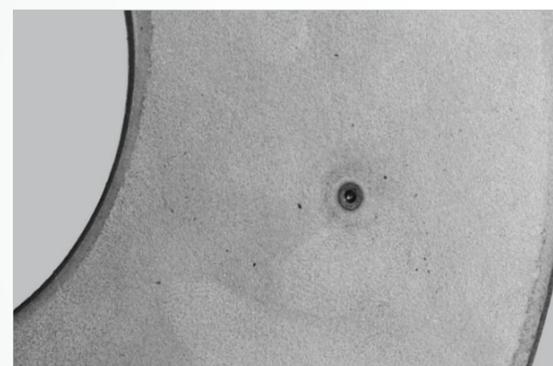


### Plasma piercing



plasma punching

This option serves to plot points on burnt elements by means of a plasma burner. The cutter, uses the professional numerical control, plots points at +/- 0.2 mm accuracy.

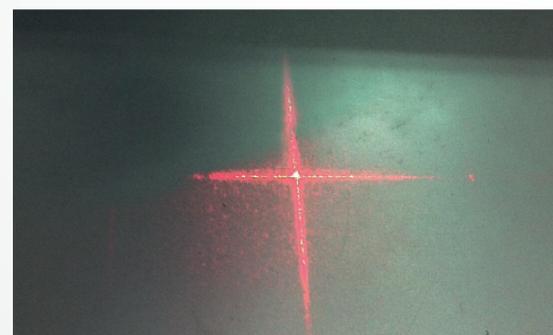


### Laser positioner



laser positioner

This useful feature allows you to identify automatically the location of the metal sheet on the table. It is only within the controller arranged to determine the three corners of the plate, and the program will adjust the curvature of the plate relative to the cutting table.



### Drilling Station EC-BM 6



drilling

Precise EC-BM 6 system is assembled on the cutting machines produced by ECKERT Company and is used to drill points in later cut out elements. EC-BM 6 consists of a drilling unit with an electric drive and a pneumatic slide of a spindle, as well a pneumatic unit to press the metal sheets to the table.



## ADDITIONAL EQUIPMENT

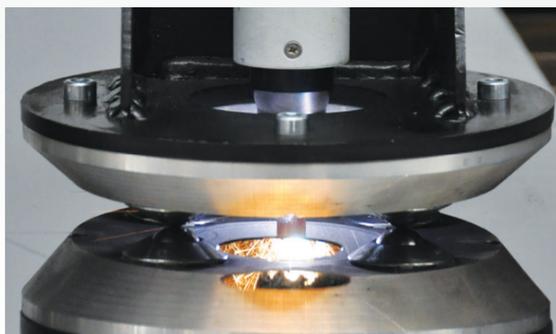


plate roller

### Plate roller

The plate roller is recommended for cutting plate with thickness range 0.5 mm - 2 mm. The main task is to eliminate problems of moving sheet during cutting.

The result of operating without a plate roller are often cut ellipses instead of circles and rectangles instead of squares. In addition, the same plate roller protects your head torch against collision.

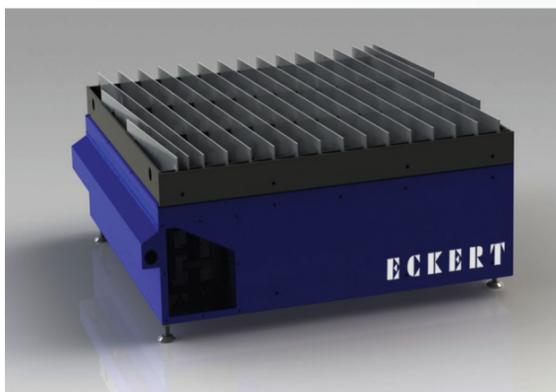


suction table

### Suction table

Extended and extremely powerful ventilation system is controlled from the CNC control panel. The system automatically determines which sections and in what order are to be opened, and the passage of inactive sections of the burner does not open them.

Furthermore, this system perfectly adjusts parameters of individual sections of the ventilation table to the number of emerging contaminants resulting from the choice of technology and cutting speed.



pallet table

### Pallet table

The system is made of two tables moving towards each other. When on one of the tables the cutting process is conducted, in the meantime on the other table the gathering of burnt materials and openwork as well as material loading are conducted.

Such cutting logistics process eliminates so called preparation and finishing time and considerably improves the cutting effectiveness process.



portal extension

### Portal extension

Additional width allows the use of additional tools-like ESR system - to work out off the table. Often the expansion option is also selected for the processing of large-scale profile (closed, T-bars, beams, etc.) that the cutting on the table is not possible due the thickness. It is possible to extend the portal beams in two options: additional working width 200 or 700mm.



## FUME EXHAUST SYSTEM



fume exhaust system

The extensive suction system produced by Eckert, which efficiency is up to 99,99% meets all the necessary safety European standards. This extremely efficient system is controlled with intuitive CNC panel.

The ventilation system has a self-cleaning module, which removes dust automatically using compressed air and additionally a teflon coating in filter cartridges extends their life time.

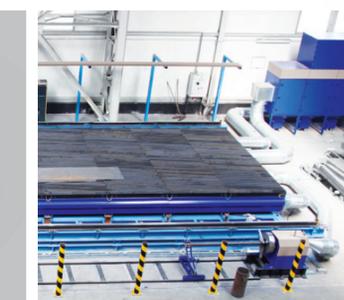
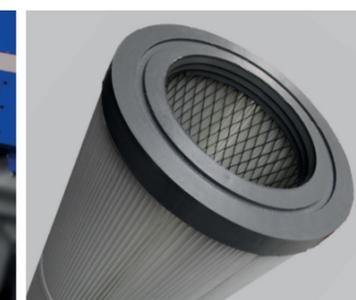
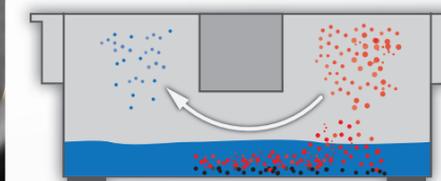
Specially tuned solution enables to return the clean and warm air to the hall, so we get huge savings of thermal energy in winter.

The system is selected according to the requirements of machine technical specification and customer requirements.

### The dust extinction.

In order to get a better safety of the Fume exhaust system is advised to use an putting out system, that prevents the ignition of filter cartridges.

The simplicity of the system provides full efficiency at work and eliminates the quantity of the ashes.



# CONTROLLER



Modern CNC ECS 872 Control Panel operates with all machines offered by Eckert company. Simple and easy software as well as clear English description of the panel allows fast operating of the machine.

In addition, the controller software allows you to create a database of cutting, which will facilitate and automate the work of both beginners and advanced operators. Only the type of material and thickness must be selected manually. For advanced users full manual configuration option allows to adjust the parameters for specific operating conditions.

In standard controller is equipped with air conditioning. This system allows to work in temperature from -5°C to +40°C. Efficient manufacturing computer and touch screen with Windows XP allow intuitive and comfortable control of all the functions of the device. Standard network card enables connection of a machine to the Internet and its remote diagnosis.



**Rafael Eckert and Tadeusz Eckert**  
Successor and Founder

Eckert company has been honored so far with many prestigious awards and certificates, such as: ITM Poland Gold Medals, Award at the International Fair in Leipzig, 2011, Lower Silesia Griffin in the category of Innovation.

But the most important honors are the words of appreciation and testimonials from our customers.

We work for such tycoons as Mostostal, power plants, steel mills, coal mines. Our machines are involved in creating stadiums, ships, bridges and flyovers.

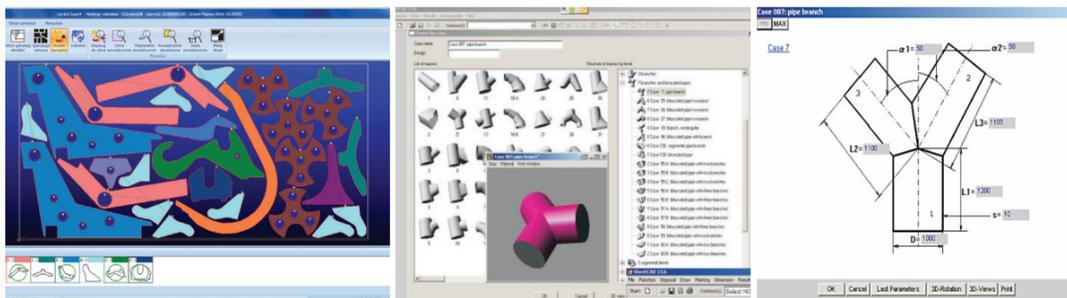
Great importance in the daily activities of the company plays a principle of social responsibility. The company's strategy takes into account social interests and environmental protection.

We also support charities and sport organisations in local area

# CNC SOFTWARE

CAD / CAM software is a necessary tool of each technologist. Choosing the right program you can optimize production management and ensure full use of the machine.

We have a wide range of specialized software and we offer expert advice in choosing the appropriate solution. We offer programs from reputable manufacturers at attractive prices. Thanks to professional training in our company, clients learn all the necessary functions to use effectively the wide possibilities offered by the program.



We offer software of such manufacturers as:



Welding 2007 Gold Medal



Budma 2008 Gold Medal



ITM Poland 2009-2013 Gold Medal



Eureka! 2009 Brussels Gold Medal



Gryf 2010



INTEC Leipzig 2011



Polish-German Economic Award 2011



ISO 9001:2008



ISO 9001:2008



-  Our branches
-  Sold machines



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