THE POLISH MANUFACTURER OF CNC MACHINE TOOLS

KIMLA

KIMLA

Why...

are the companies working on KIMLA machines... successful?

Our company, as the only one in this area in Poland, designs and produces efficient and fast machine tools which are stable and easy to use as well. We have achieved the leadership position through our creative projects, effectiveness of action and impressive dynamics of development. This position has been also affected by our friendly and respectful attitude towards customers, whose satisfaction and contentment are our main determinant of development.

We have gained our rich experience performing advanced projects for 15 years. At the beginning we were focused on the production of electronics and control systems for CNC machines. However, it quickly became clear that the creativity and potential of our employees enabled realization of much more complicated projects, so soon we started the production of machines with a much greater technical advancement, exceptional performance and speed. At the moment the Kimla machines provide all the available technological possibilities. Our machines are the result of our long experience and innovative designs.
Today, being considered a leader in the industry, having installed more than 800 machines at our customers' companies, we are constantly developing and seeking new solutions. KIMLA machines achieve industry-leading performance at prices which are significantly lower than those offered by reputable companies from all over the world. We are improving our machines by ceaseless increasing their parameters. This is possible thanks to the expansion of our plants with several new production facilities and information and technology infrastructure.

KIMLA Company is the manufacturer of most components in their machines, which guarantees their efficiency and quality at the highest level. All Kimla machines are manufactured in industrial environments on professional machining centres. Kimla machine tools are equipped with a control system with dynamic analysis of vectors with very high performance processing thanks to the ability to process up to 15000 blocks of G-code program per second. This value is unattainable in competitive products. The control system with dynamic analysis of vectors used in combination with tool path smoothing system allowed us to achieve exceptional productivity while maintaining the excellent quality of treatment.

The advantage of Kimla machines over other solutions offered in the market is the greater the more complicated tool path is. The control system uses innovative technology of real-time Ethernet, which allows you to give the servo drives four motion parameters: position, velocity, acceleration and spurt. This enables to control servo drives by the interpolator in the mode of minimum deviation on the level of individual impulses of the encoder. The result is an operating speed of up to 1,5m/s. Such high operating speeds require very fast giving consecutive parameters of motion. In order to achieve high accuracy in the Kimla control system at such great speeds the successive values for servo drives are given with the frequency of 20000 Hz. These values are considerably exceeding industry standards.

Components of Kimla machines drive units come from the best manufacturers: Gudel (Switzerland) helical drives, Igus (Germany) wires and cable guides, Apex Dynamix gears, Hiwin linear bearings and others. All drive systems are enclosed and protected, which prevents chips and dust from entering their area. The result is a significantly longer lifetime and efficiency of the machine.

Industrial Plotter

High Speed Cutter

BlackBird - Milling Plotter

5-axis CNC Milling Machine
for models

BlackBox 4037
Engraving machine

BFN 8050 Cast Iron
Milling machine

Industrial Milling
Engraving Machine

Waterjet Streamcut 4222

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Industrial Plotter

Industrial plotters are machines designer for heavy production work of high efficiency and a strong and stable construction.

Plotters perform both flat (e.g. cutting out shapes from boards, drilling on the basis of a two-dimensional drawing) and three-dimensional work (performing casting models, laminating and thermoforming). At treatments that use many tools, plotters equipped with an automatic tool changing system with a tool storage. The automatic exchange of tools is available in linear or rotational versions, depending on the size of the table and the user's needs as to the efficiency of the machine. Industrial machines are equipped with a pressure foot or a suction basket for effective removal of chips from the machining area. In the case of a suction basket it can automatically be set at different heights depending on the length of the tool mounted so as to efficiently remove chips.

Tables in industrial machines can be made as T-slot tables in the basic version. But most often vacuum tables are used for very strong fastening large format materials without having to use mechanical fastening. We also offer hybrid tables for customers to whom the vacuum table does not provide sufficient fastening. The hybrid table is a table with very thick T-slots to which the vacuum is supplied. Thanks to this there is a possibility both to suck large format elements and to screw smaller elements or fastening devices or additional equipment such as, for example, the axis of rotation.

Vacuum tables are standard equipped with one or two vacuum Becker pumps with a capacity of 250m^3/h. These solutions are characterized by high performance with a low noise level. Industrial plotters are always in the configuration with a driving gate, with the drive on both sides, servo drives and electronic compensation of the angle of the gate.

The Kimla Company produces industrial plotters not only in standard version, but also in the special version with a pneumatic conveyor with automatic loading and automatic unloading.

INDUSTRIAL PLOTTERS

BASIC OPTIONS

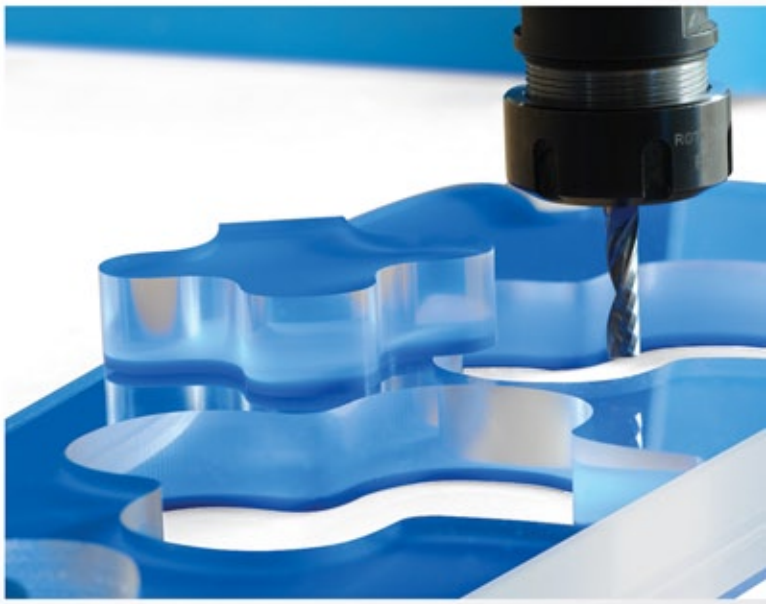
Workspace dimensions [mm]	Length [mm]	1500, 2000, 2100, 2500, 3000, 3100, 4000, 5000, 6000, 7000
	Width [mm]	1000, 1200, 1500, 1700, 2000, 2100, 2600
	Z axis range [mm]	200, 300, 400, 500, 600, 700
Spindles	24 000 rpm	5.6kW, 7.0kW, 9kW, 12kW, 14kW, 16kW, 18kW
	40 000 rpm	1.4kW, 2.2kW
	50 000 rpm	2.1 kW
	Cooling	Air Refrigerating unit
Control system		Digital AC Servo Drives High Speed Digital AC Servo Drives
Automatic Tool Changing (ATC)		no changing linear storage rotary storage
Table type		T-slot table, underpressure table, vacuum table, hybrid table

Automatic correction of the tool length
The control cabinet with the control computer

ADDITIONAL OPTIONS

Oil mist cooling	Automatic
Heads	Active with oscillating knife Active with oscillating knife and creasing wheel Active with knife without oscillation Foil cutting knife Writing Pouring
Scanner	Touch, Laser
Axis of rotation	"B" on the table, "C" on the spindle; for angular aggregate for circular saws and cutters

Remote console
Pressure foot
Spindle cover increasing extraction efficiency
Chip Removal System
Pressure mats
Basing system
Optical sighting system



MACHINABLE MATERIALS:

- Non-ferrous metals: aluminum, copper, brass and others;
- Plastics;
- Composite materials, Dibond, MDF;
- Layered materials, furniture boards, laminates;
- Wood and wood based materials.

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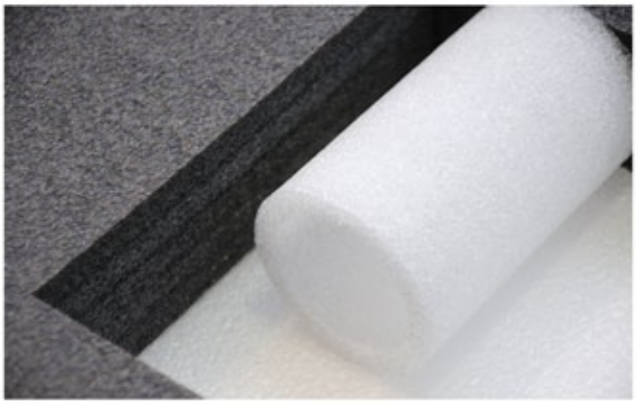
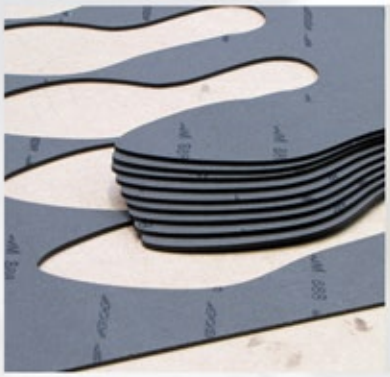
High Speed Universal Cutter

Kimla High Speed Cutters are machines for cutting with an oscillating knife or a drag knife. All cutters are equipped with servo-controlled active knives. Machines with an oscillating knife can have pneumatically or electrically powered heads. Pneumatic heads are heads of high frequency, which enables to achieve very large feed speed in soft materials. Pneumatic heads are used for highly efficient processing foam materials of low density. For machining harder materials of higher density such as seal materials, including those reinforced with mesh and steel sheet, we recommend electric heads which have very high power thanks to the application of two servo drives. One servo drive is used to set the angle of the knife and the other one to oscillation drive. The unique power of the head can be achieved using the engine with power of 0.4 kW. This allows the production work to be carried out in materials previously considered impossible for cutting with a cutter type machine.

High Speed Cutters have also been applied for cutting single layer or multilayer fabrics. For fixing materials there are used under-pressure or vacuum tables which are divided into sections, so you can work on many workspaces.

All machines are equipped with control panels with an industrial control computer with appropriate software. In addition to controlling machines the software allows the preparation of the tool path and the execution of the optimal distribution of nesting. This allows for the maximum use of the material with a very little amount of time to prepare nesting.





HIGH SPEED CUTTERS

BASIC OPTIONS

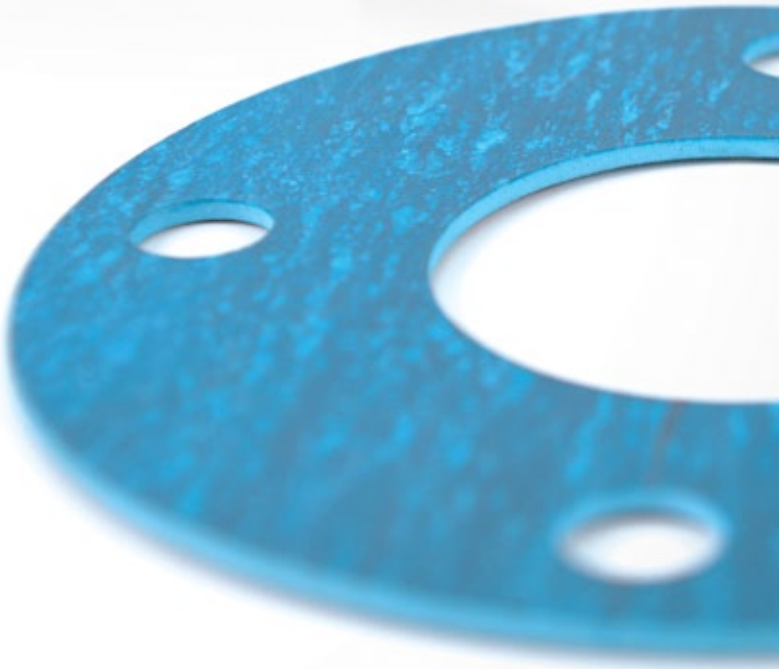
Workspace dimensions [mm]	Length	1500, 2000, 2100, 2500, 3000, 3100, 4000, 4100, 5000, ... 24000
	Width	1000, 1200, 1300, 1500, 1700, 2000, 2100, 2600, 3000, ... 5000
	Z axis range	100, 200, 250
Cutting heads		Oscillating knife: - Pneumatic - Electric 1x servo - Electric 2x servo
Control system		AC Digital Servo Drives High Speed AC Digital Servo Drives
Table type		T-slot table, under-pressure table, vacuum table, hybrid table

Control cabinet with a computer control

ADDITIONAL OPTIONS

Oil mist cooling	Automatic
Głowice	Creasing Writing
Scanner	Touch, Laser
Axis of rotation	"B" on the table, "C" on the spindle; for angular aggregate for circular saws and cutters

Remote console
Pressure foot
Pressure mats
Basing system
Optical sighting system
Spindle



MACHINABLE MATERIALS:

- sealing plates: klinger sil, gambit;
- graphites reinforced with mesh and steel sheet;
- mineral wool;
- polystyrene;
- foam materials, sponges;
- hard foam materials;
- fabrics.

KIMLA

5-axis CNC Milling Machine
for models

5-axis CNC milling machines are devices that are used to perform large size details. Most often these are casting models, models for thermoforming and models for laminate forms. The machines can be made in a very wide range of workspaces. The machines are equipped with a high quality control system allowing for simultaneous interpolation of all axes with the projection of the operating speed on the tool front. 5-axis CNC milling machine for models are also used to carry out production treatments after thermoforming or after lamination. Finishing treatments, cutting off sprues and shape machining can be performed on the basis of the shapes scanned with the touch head.

This allows you to perform finishing work without having to use expensive CAM software . 5-axis machines are equipped with the spindle from 5 kW to 30 kW. h The heads of 5-axis KIMLA CNC milling machines for models are built on the basis of the backlash-free harmonic gear produced by the German company – Harmonic Drive. This ensure high rigidity while maintaining very high efficiency and dynamics of movements.

By applying the innovative control system the efficiency of 5-axis Kimla CNC milling machines for models repeatedly exceeds similar solutions offered by other manufacturers.

5-AXIS CNC MILING MACHINES FOR MODELS

BASIC OPTIONS

Workspace dimensions [mm]	Length [mm]	1500, 2000, 2100, 2500, 3000, 3100, 4000, 5000, ... 24000
	Width [mm]	1000, 1200, 1500, 1700, 2000, 2100, 2600, 3000, ... 5000
	Z axis range [mm]	700, 800, 900, 1000, ... 2000
	A axis range [degrees]	± 130
	C axis range [degrees]	± 213
Spindles	18 000 rpm	6kW, 7.5kW, 12kW, 16kW, 18kW, 25kW
	24 000 rpm	6kW, 8kW, 9kW, 12kW, 13kW, 16kW, 18kW
	50 000 rpm	2.4kW, 4.8kW
	Cooling	Air Refrigerating unit
Control system		Digital AC Servo Drives Digital AC High Speed Servo Drives
Automatic Tool Changing (ATC)		linear storage rotating storage
Table type		T-slot table, vacuum table, hybrid table

Automatic correction of the tool length
Control cabinet with a computer control

MACHINABLE MATERIALS:
- plastics,
- composites,
- MDF,
- HPL;
- aluminum,
- wood,
- model plates.

ADDITIONAL OPTIONS

Oil mist cooling	Automatic
Scanner	Touch, Laser

Remote console
Rotary axis "B" on the table
Pressure mats
Basing system
Writing head

KIMLA

BlackBird

Milling Plotter

Kimla BlackBird milling plotters are designed for a wide range of customers to carry out light machining with small diameters of tools in soft materials.

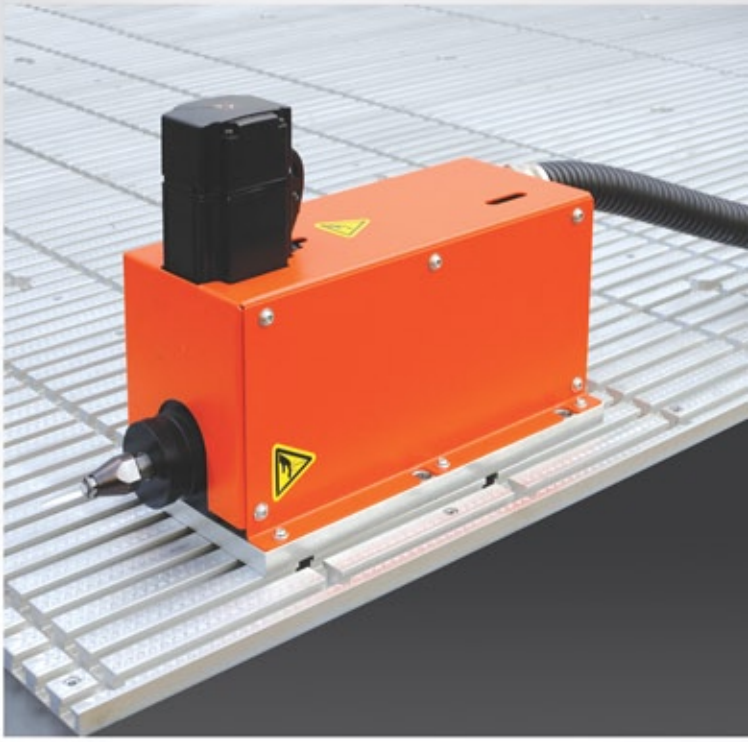
BlackBird milling plotters have been applied in the performance of advertising elements. Machines of this series are primarily recommended for advertising companies, service shops, prototyping, manufacturers of packaging and die boards.

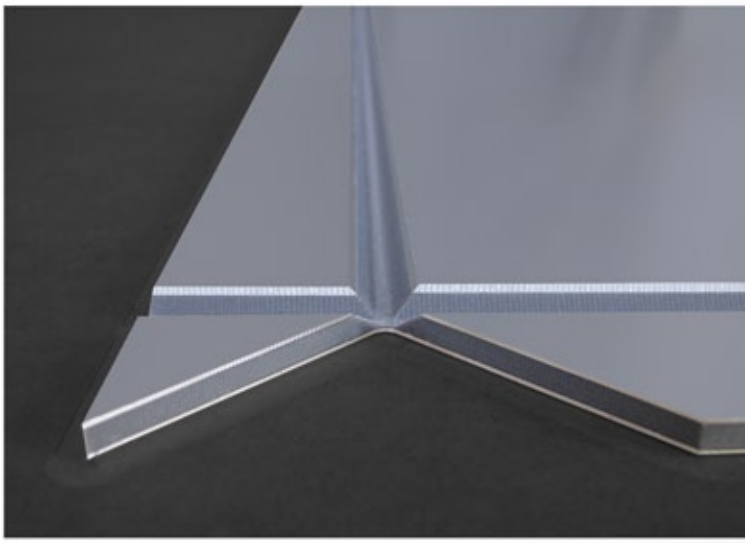
All BLACKBIRD machines are equipped with the control system with dynamic analysis of vectors, smooth regulation of the feed speed and spindle rotation. The guides, ball screws, and optical sensors have been fully covered, which provides a minimum of operation activities associated with cleaning and maintenance of the machine.

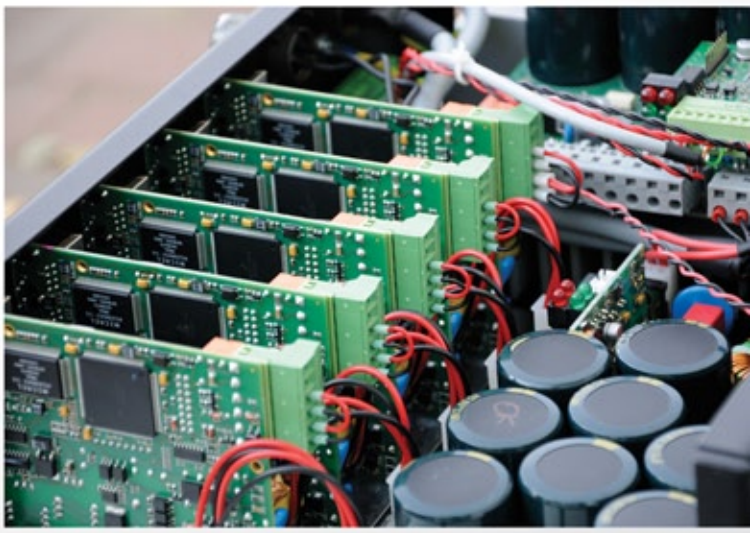
The machines can be equipped with spindles from 24.000 rpm to 60.000 rpm, from 0,8kW to 3kW, and with the system of automatic tool changing with the tool storage. After replacing the milling head for the cutting head with the creasing function, it is possible to perform packaging by cutting and creasing cardboard, paperboard or foam materials.

MACHINABLE MATERIALS:

- plastics;
- wood and wood based materials;
- HPL;
- foams, sponges;
- layered materials;
- non-ferrous metals







BLACKBIRD MILING PLOTTERS

BASIC OPTIONS

Workspace dimensions [mm]	Lenght [mm]	500, 700, 800, 1000, 1200, 1500, 2000, 2500
	Width [mm]	500, 700, 1000, 1200, 1500, 2000, 2100
	Z axis range [mm]	150, 200
Spindles	24 000 rpm	0.8kW, 1.0kW 2.2kW, 3.3kW
	40 000 rpm	1.4kW, 2.2kW
	50 000 rpm	2.1kW
	60 000 rpm	0.8kW
Control system	synchronous motors AC Digital Servo Drives	
Table type	T-slot table, under-pressure table, vacuum table	

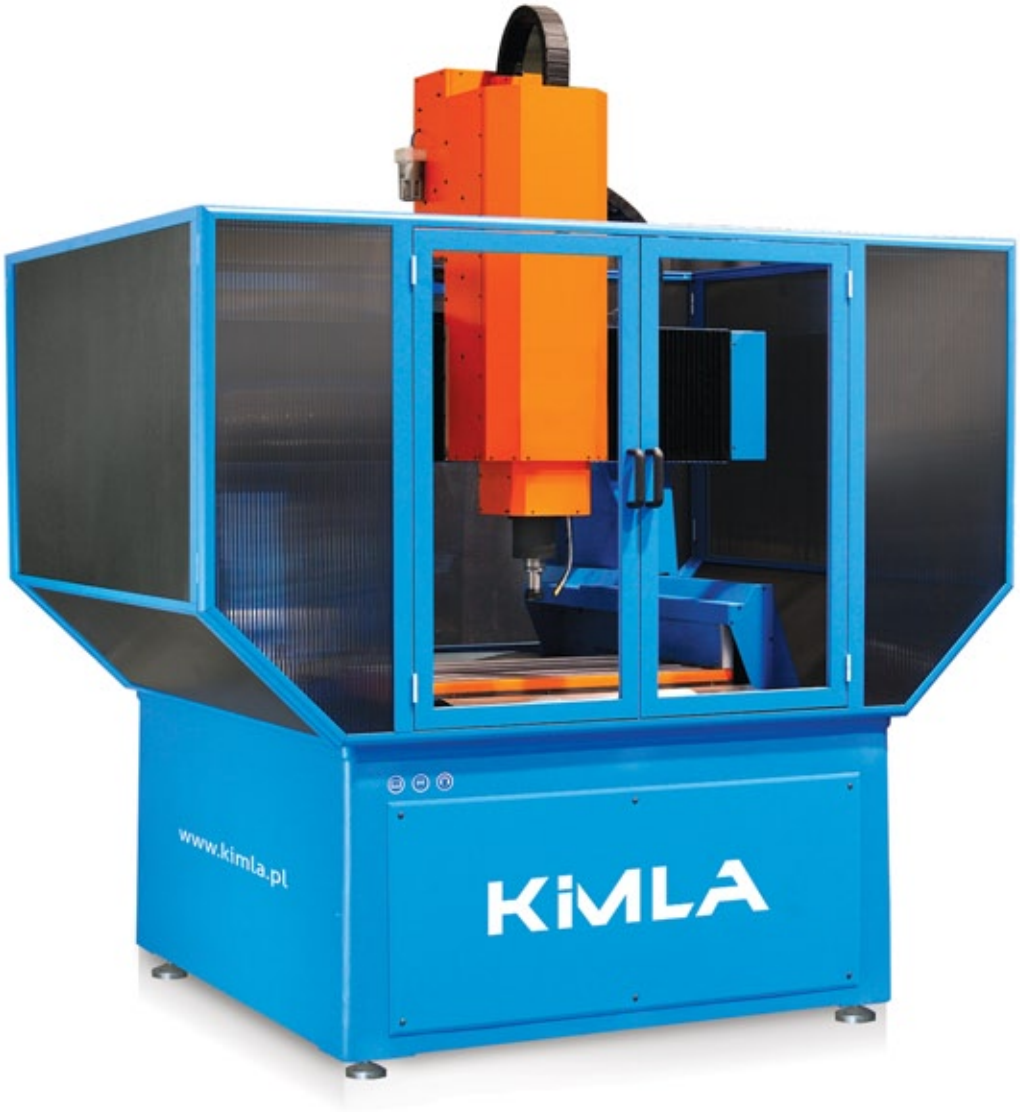
ADDITIONAL OPTIONS

Oil mist cooling	Manual Automatic
Cutting heads	Active with oscillating knife Active with oscillating knife and creasing wheel Active with knife Foil cutting knife
Other heads	Writing Head Pouring Head
Scanner	Touch Laser (AC Control system required)

Automatic Tool Changing (AC Control system required)
Control cabinet with computer
Pressure foot
Chip Removal System
Optical sighting system (AC Control system required)

KiMLA

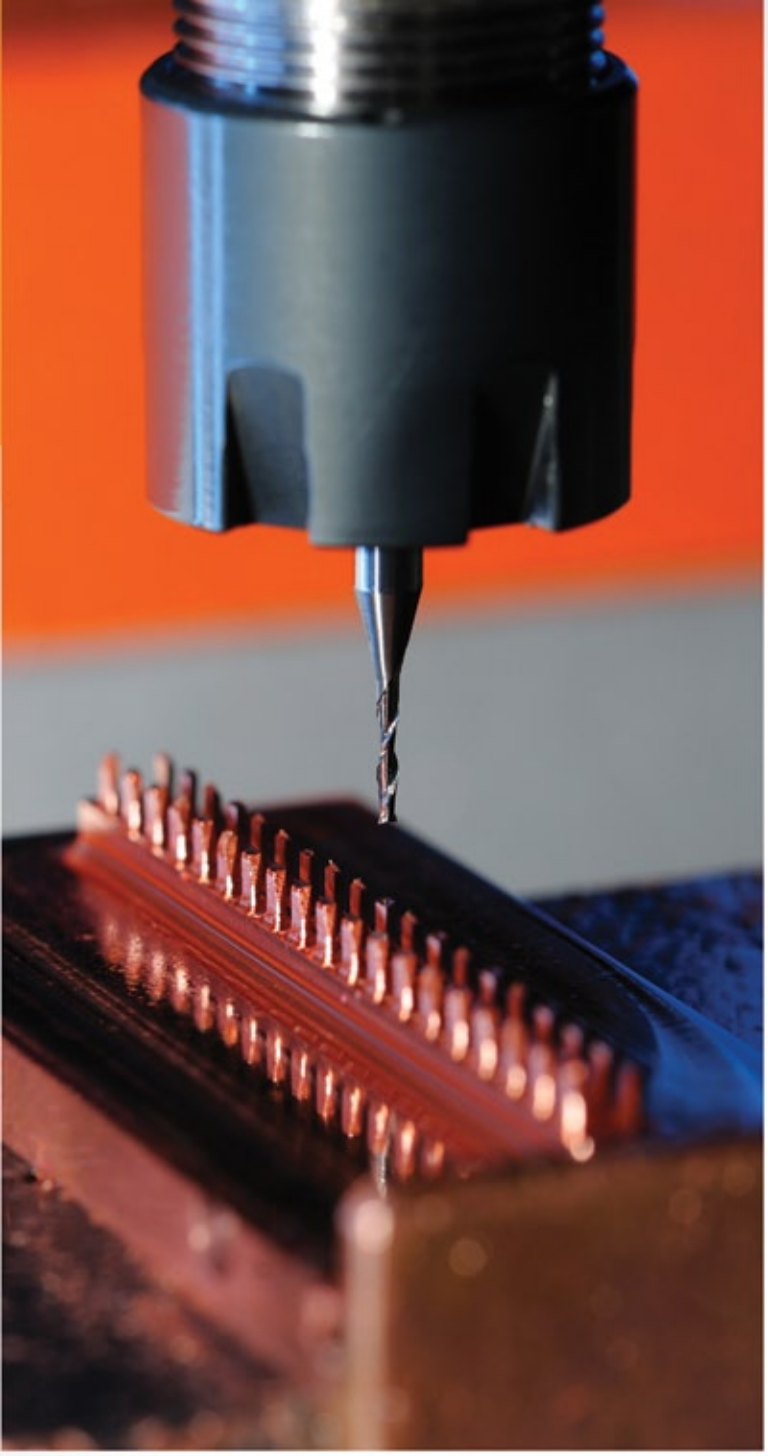
BFN 8050 Cast Iron Milling machine

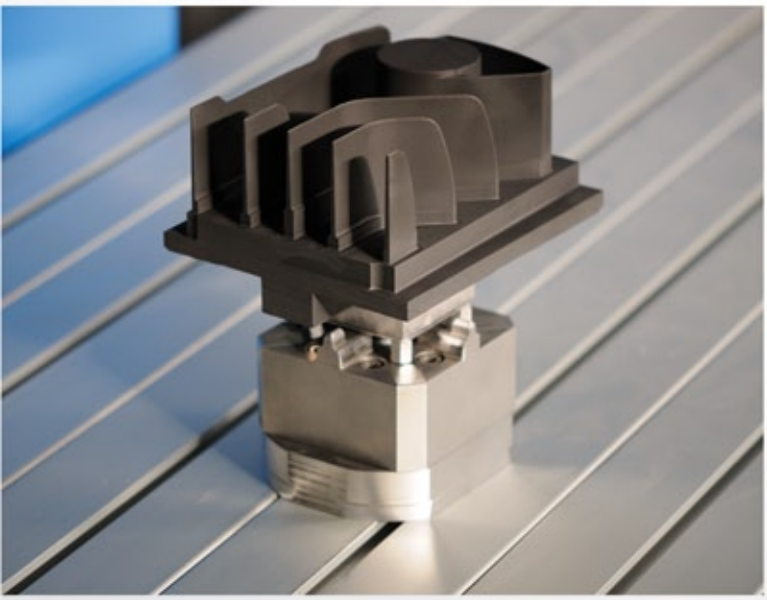


Kimla cast iron milling machines are designed for performing elements such as: injection moulds, press tools, die boards and electrodes for boring.

The application of the high-speed spindle allows you to make very precise elements with tools much smaller than 1mm. Normally these machines are equipped with a spindle with a speed of 24,000 rpm, with a power of 7 kW to 18 kW, cooled with air or liquid in a closed circuit with automatic tool changing (ATC). Cast iron milling machines can also be equipped with a spindle without the ATC system, in case if treatment is performed with one tool or the frequency of tool changing is not high.

If customers want to perform mainly electrode for boring, we recommend 50,000 rpm or 40,000 rpm spindles which allow you to perform even smaller details. The machines process details with very high dynamics while maintaining high precision mapping of the path. Milling machines come standard with a cabin shielding the workspace and with the oil mist tool cooling system. The machines are made in cast iron casting technology with the parallel configuration of kinematics.





CAST IRON MILLING MACHINES

BASIC OPTIONS

Workspace dimensions [mm]	Length [mm]	500
	Width [mm]	800
	Z axis range [mm]	300, 400, 500
Spindles	24 000 rpm	7kW, 9kW, 12kW, 14kW, 16kW, 18kW,
	50 000 rpm	2.1 kW
	Cooling	Air Refrigerating unit
Control system	AC Digital Servo Drives High Speed AC Servo Drives	
Automatic Tool Changing (ATC)	no changing linear storage	
Table type	T-slot table, vacuum table, hybrid table	

Automatic correction of the tool length
Cabin
Control cabinet with computer
Automatic oil mist cooling

ADDITIONAL OPTIONS

Heads	Foil cutting knife Writing Head Pouring Head
Scanner	Touch, Laser
Rotary axis	"B" on the table

Remote console
Chip Removal System
Optical sighting system

MACHINABLE MATERIALS:
- tool steels (upgraded or hardened);
- aluminum;
- plastics;
- composites.

KIMLA

BlackBox
Engraving Machine

KIMLA BlackBox engraving machines are designed for high-precision machining of small parts. They can also be used for milling various types of elements: punches, metals dies (including upgraded and hardened steels), name plates, description plates and elements for which it is required to work with tools with very small diameters.
BlackBox engraving machines allow you to perform engraving treatments, either flat or three-dimensional ones. Additionally, the machines can be equipped with the fourth or fifth axis, and thanks to this it is possible to process parts from different sides at one mounting.

These machines can be equipped with 24,000 rpm to 60,000 rpm spindles, with a power from 0.8 kW to 3 kW, as well as with the system of automatic tool changing (ATC) with the tool storage. As a standard equipment there is the sensor of automatic correction of the tool length, which allows for precise execution of treatment, regardless of the depth of the tool mounted in the holder.

MACHINABLE MATERIALS:
- non-ferrous metals;
- tool steels (upgraded or hardened);
- composites;
- plastics

BASIC OPTIONS

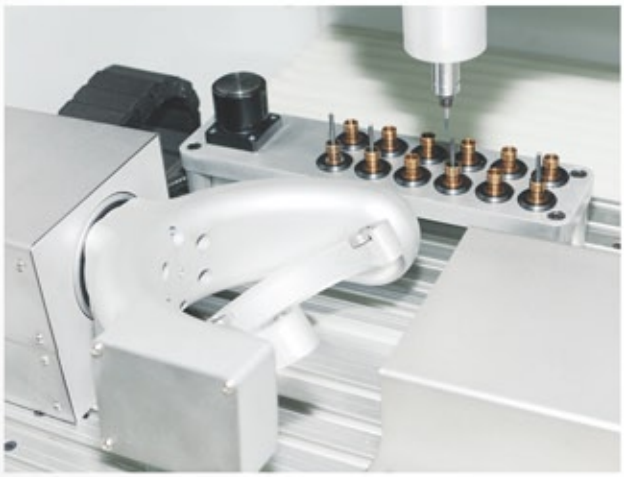
Workspace dimensions [mm]	Length [mm]	375
	Width [mm]	400
	Z axis range [mm]	130
Spindles	24 000 obr/min	0.8kW, 1.0kW
	40 000 obr/min	1.4kW, 2.2kW
	50 000 obr/min	2.1kW
	60 000 obr/min	0.8kW
	Cooling	Air Refrigerating unit
Control system	Synchronous motors AC Digital Servo Drives	
Table type	T-slot table, vacuum table, hybrid table	

Automatic correction of the tool length

ADDITIONAL OPTIONS

Oil mist cooling	Automatic
Heads	Foil cutting knife Writing Head Pouring Head
Scanner	Touch Laser
Automatic Tool Changing (ATC) (AC Control system required)	Depending on the type of the spindle (AC Digital Servo Drives control system required)
Rotary axis	"B" on the table

Control computer
Remote console
Chip Removal System
Basing system



KIMLA

Waterjet
Streamcut

Abrasive waterjet technology is the most innovative of all currently available ones in the cutting technology industry. KIMLA waterjet machines can cut almost any material, ranging from very soft materials, e.g. foam, rubber, to very hard ones, e.g. stone, ceramics. The thicknesses of material cut come to 200 mm, which is an achievement inaccessible to most of other shaped cutting technologies. The advantage of waterjet machines is that the gap remaining after cutting has a very small width - below 1 mm, which allows cutting out very complicated shapes and precise cutting corners. These machines are used in the metal industry, the stone industry, the construction industry and where there is a need to perform cuts in thick materials.

The Kimla waterjet machines are equipped with a high-pressure pump with a pressure intensifier and accessories made by a renowned American company - Accustream. Accustream pumps are distinguished by the lowest maintenance costs, which significantly increases the profitability of investments.

Kimla machines are equipped with Accustream abrasive regulators with smoothly adjustable amount of the garnet supplied to the head. This allows you to fine-tune the amount of abrasive to the material cut and the specific treatment conditions. The possibility of regulation favourably affects the economic aspect, minimizing the consumption of garnet.

Water jet with abrasive allows you to pierce through the hardest materials from the inside, so that it can cut the object which is closed without having to enter the material from the outside, as it happens in the case of cutting with the wire.

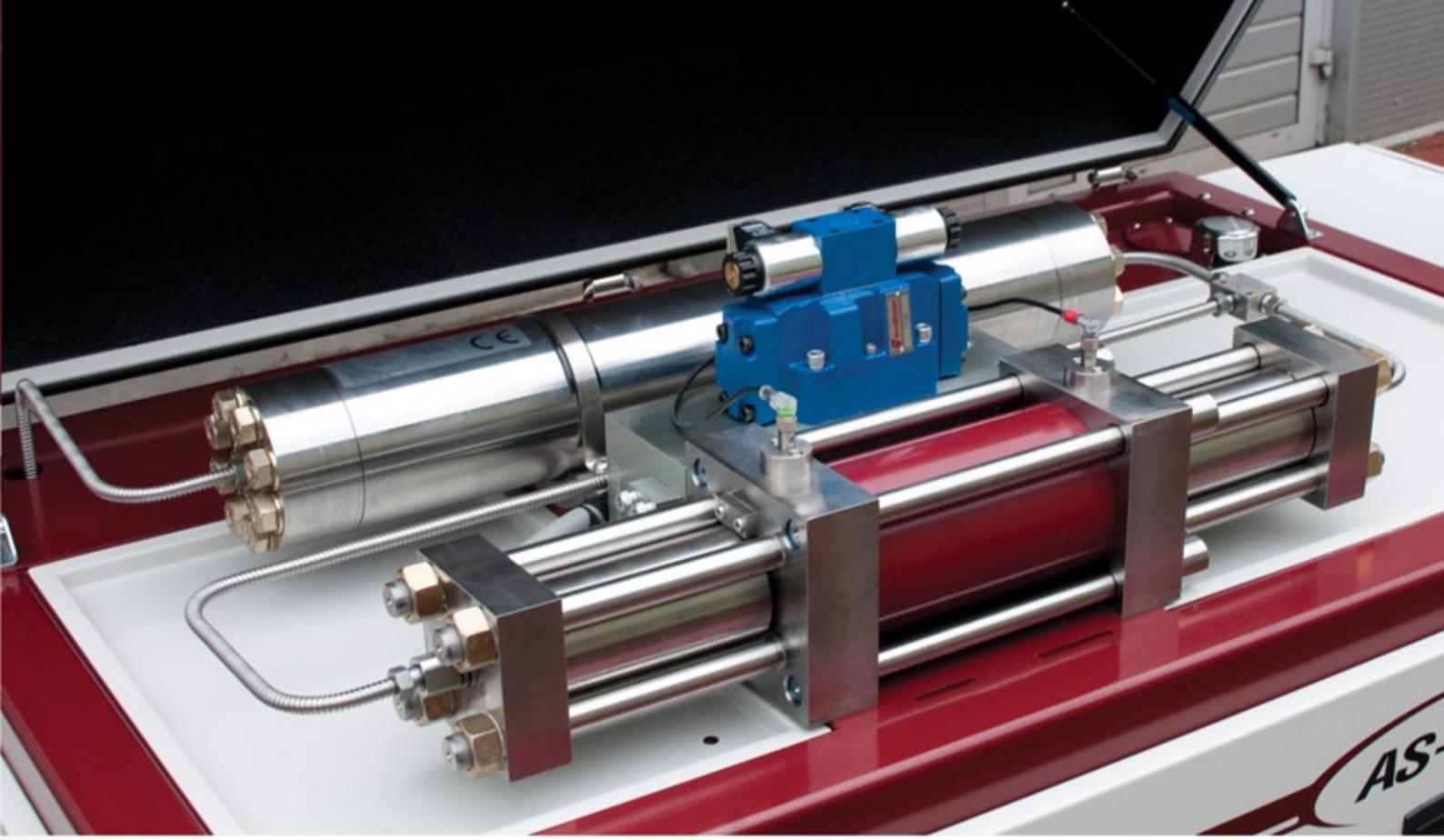
Some materials, such as, e.g. glass, are prone to cracking and chipping during piercing. To prevent this, in Kimla machines there is used the possibility of low-pressure piercing. This allows you to adjust the impact force of the stream during piercing the material.

Five-axis versions available allow you to change the angle of the head in such a way that it is possible to cut with the sloped wall (e.g., bevelling for the purposes of welding).

KIMLA waterjet machines are characterized by extremely rigid and spacious construction of the bathtub and the self-supporting structure. Thanks to this the machine does not have to be connected with the ground and requires no special foundation.

KIMLA waterjet machines are equipped with airbags which allows you to cut under water, eliminating noisy work and reducing splashing.

To support the cut material KIMLA waterjet streamcut machines have been equipped with a segment grid consisting of long strips made of galvanized steel which are embedded in comb holders. This allows the assembly of the ribs anywhere on the table, creating a more or less concentrated sectors. This ensures their long life and efficient use.



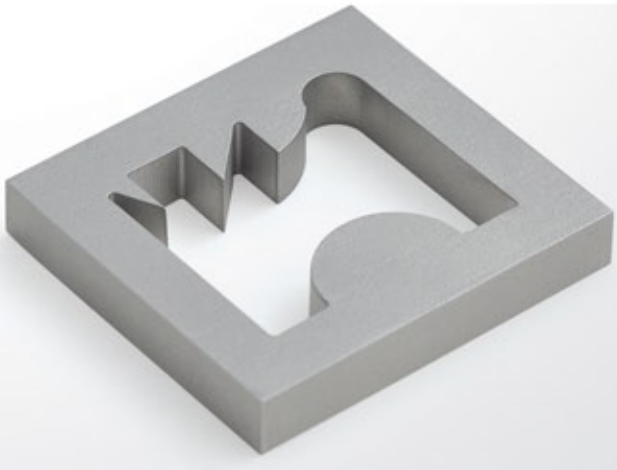
WATERJET MACHINES – TECHNICAL PARAMETERS:

Waterjet type	Waterjet KIMLA 2111	Waterjet KIMLA 3116	Waterjet KIMLA4121	Waterjet KIMLA 6121
Working range [mm] (Dimensions of the cut sheet)	2100 x 1100	3100 x 1600	4100 x 2100	6100 x 2100
Operating mass of the bathtub filled with water [kg]	4500	6200	9800	12000

Maximum cutting thickness [mm]	200
Pump type	Intensifier pump with ceramic plungers (very durable)
Pump power	37kW (50KM) made by AccuStream - the USA
Maximum pump pressure [bar]	4150
Pressure expanding system of the pump	Reducing the pressure on the move and after switching the pump off
Cutting head drive	AC Servo with digital encoders
X, Y axes drive	AC Servo, no backlash helical drive Güdel - Switzerland
X axis drive	AC Servo, ball screw
Maximum running speed: X, Y, Z [m/min]	54
Range of motion in Z axis	200, 250, 300, others for request
Allowable load on the table [kN/m^2]	15
Bathtub	3D multi-chamber design with a very high stiffness
Positioning resolution [mm]	0,001
Abrasive grain size [mesh]	80-200
Abrasive feeder tank [kg]	300
Abrasive delivery system	Pneumatic

MACHINABLE MATERIALS:

- steel: carbon steel, stainless steel, heat resistant steel (in soft and hardened condition);
- stone;
- non-ferrous metals;
- ceramics, glass;
- foamed materials: foams, gels, sponges;
- plastics;
- composites.



KIMLA

Industrial Milling
Engraving Machine

Industrial milling-engraving machines are machines used to industrial engraving or light milling treatments. They are perfect for high performance machining of aluminium, both for cutting sheet metal and milling aluminium of solid plates. They are also used to perform the injection moulds, press tools or die boards.

The machines are usually equipped with high-speed water-cooled spindles in a closed circulation with the automatic tool changing system (ATC). Then the refrigerating unit with a constant coolant temperature minimizes the effect of the thermal drift of the spindle. The machines can also be equipped with a simple spindle, without the ATC, in the case where processing is carried out with one tool or the frequency of the tool exchange is not high.

As standard industrial milling engraving machines are equipped with a cabin shielding the workspace and the oil mist for cooling the tool . For larger workspaces in the cabin there are used doors on each side of the machine. This allows the easy access to the detail from each side.

The machines are manufactured in the parallel configuration of kinematics with a driving table. This ensures a very high precision and the possibility of mapping complex paths. Milling-engraving machines for industry can be equipped with a T-slot table (standard) or a vacuum table with a Becker vacuum pump with a capacity of 40-250 m^3/h.

INDUSTRIAL MILLING – ENGRAVING MACHINES

BASIC OPTIONS

Workspace dimensions [mm]	Length [mm]	375, 500, 625, 750, 1000, 1250
	Width [mm]	700, 800, 1000, 1100, 1300, 1500
	Z axis range [mm]	200, 300, 400, 500, 600
Spindles	24 000 rpm	5.6kW, 7.0kW 9kW, 12kW, 14kW, 16kW, 18kW
	40 000 rpm	1.4kW, 2.2kW
	50 000 rpm	2.1kW
	Cooling	Air Refrigerating unit
Control system		Digital AC Servo Drives High Speed Digital AC Servo Drives
Automatic Tool Changing (ATC)		no changing linear storage
Table type		T-slot table, Vacuum table, Hybrid table

Automatic correction of the tool length
Control cabinet with computer

ADDITIONAL OPTIONS

Oil mist cooling	Automatic
Cutting heads	Foil cutting knife Writing Pouring
Scanner	Touch Laser
Axis of rotation	"B" on the table

Cabin
Optical sighting system
Remote console
Chip Removal System

MACHINABLE MATERIALS:
- steel;
- aluminium;
- plastics;
- composite materials;
- MDF;
- HPL;
- laminates.

CNC

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