

GARNET SERIES



GARNET 5X

GARNET SERIES



GARNET SERIES

The Garnet series machines are CNC-controlled systems that combine milling, water slot drainage, drilling, marking, and notching. They offer superior processing quality by performing both standard and custom operations on various profiles. With different models featuring 3, 3+1, 4, and 5 axes, Garnet series machines are designed for maximum efficiency. Their high-precision linear bearings, ball screws, powerful spindles, and servo motors enable high-speed axis

movements, ensuring the highest productivity in the shortest time. Safety is also a priority, with secure part-holding clamps and protective guard systems. The compact machine of the Garnet series, the GARNET Mini, features three high-frequency spindle motors on a C-table and an optional 45° water drainage motor. With its high axial speeds, it completes operations on three surfaces of profiles in a very short time and without errors.

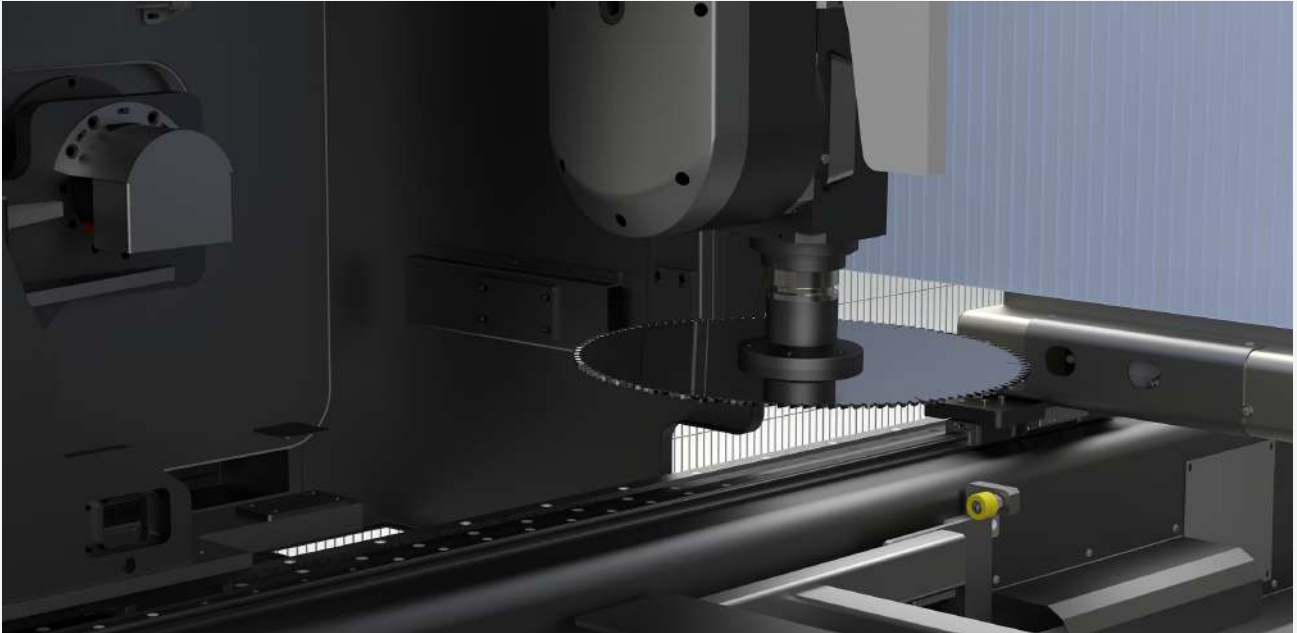


The GARNET MAXI, unlike other GARNET models, performs its operations flawlessly with a fixed head and a moving table. The 4-axis GARNET MAXI has the ability to process at any angle between -90° and +90°. The GARNET XS machine comes standard with an aggregate that increases its axis count to 3+1, allowing it to perform

operations on the front and back surfaces of profiles. It also features a Ø 150 saw for notching the ends of profiles. The 4-axis models—GARNET 8000, GARNET XS4 8000, and GARNET XS4—offer flexible machining capabilities on a wide range of profiles thanks to their spindle motors.

The flagship of the Garnet family, the 5-axis GARNET 5X machine, combines all the features of the Garnet series with an 11 kW spindle motor and the ability to move axially 0° to 180° on the A-axis and 0° to 360° on the C-axis. This provides flexible, fast, and flawless processing on a variety of industrial and circular-shaped profiles.

It provides cutting and processing capabilities. It achieves these operations with a large 20+1 tool magazine and a Ø 400 saw. The servo-controlled, auto-positioning clamps significantly reduce the user's workload, maximizing production efficiency.



GARNET Mini

Compact milling center with copy router function, on the 3 surfaces of the aluminum and plastic profiles, with parametric program

templates, developed to perform operations such as lock, handle, hinge, latch slot and opening processes.



GARNET Mini Comet Plus

The COMET PLUS is a semi-automatic, servo-controlled profile feeder compatible with our GARNET Mini machine. It automatically handles the positioning of operations in different areas of the profile, and can feed profiles up to 4000 mm / 7000 mm in length.

With its two handwheels, the robot's gripper can be moved manually left-to-right and up-and-down. Its servo-controlled design ensures fast, precise, and automatic positioning.



GARNET Mini Comet GM

Our COMET GM is a servo-controlled profile stopper that's compatible with the GARNET Mini machine. It simplifies referencing profiles on the machine, with the ability to automatically

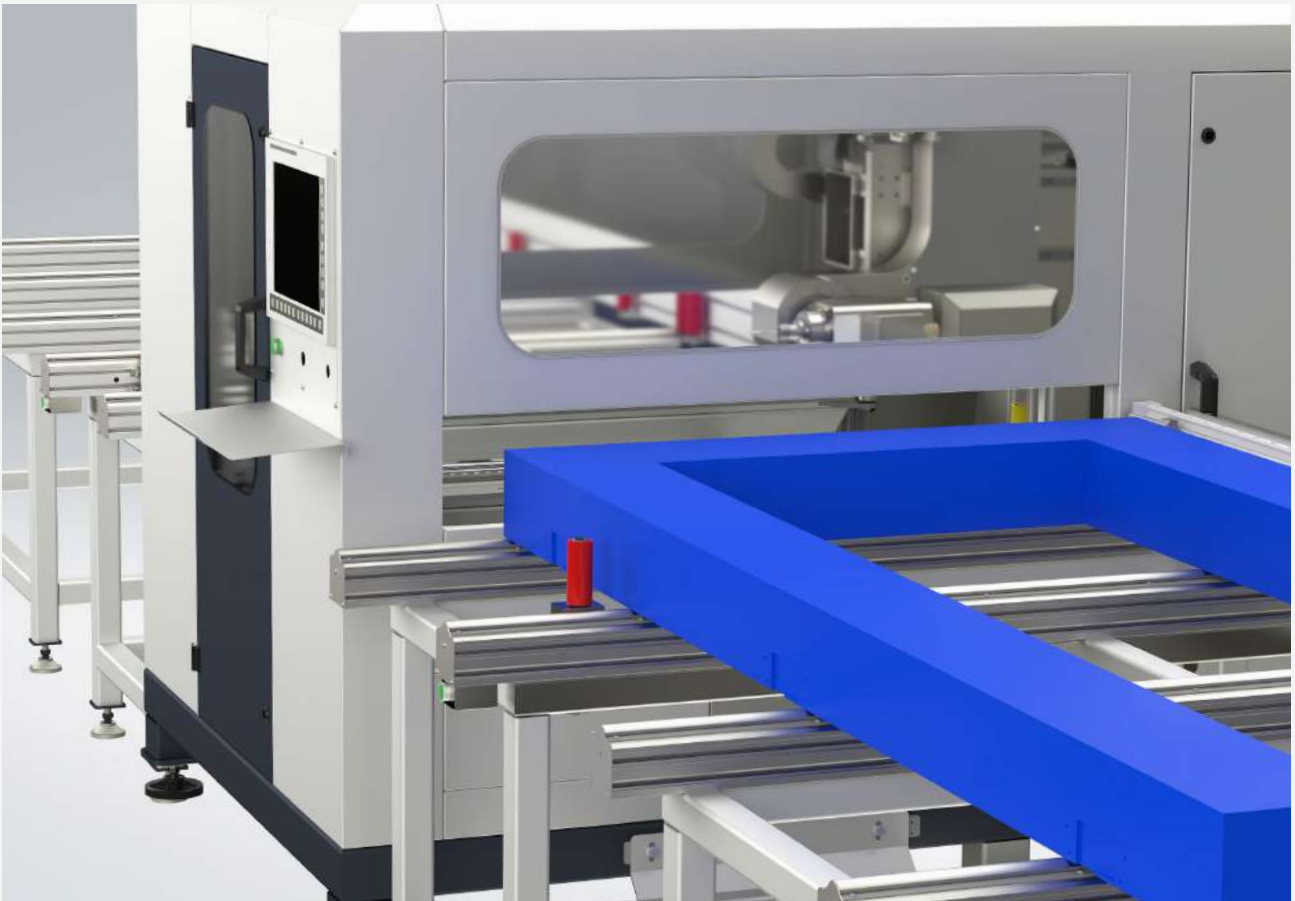
position itself for profiles up to 3000 mm in length. You can simply enter the desired measurement on the screen, and the system will move to that position automatically and with high precision.



GARNET PORTA

GARNET PORTA is a 4-axis door processing machine. It is designed to perform operations such as hinge placement, lock cylinder, handle placement, slot opening, etc. on a completed door. It automatically selects its tool from the standard 4-piece tool magazine. It performs the

operations with the servo-controlled 5.6 kW HITECO motor on it. It can process the top, bottom, and front surfaces of the profile with a single motor. The processable door dimensions are up to 3600 mm in length, 1400 mm in width, 150 mm in height, and 200 mm in surface width.



GARNET MAXI

The GARNET MAXI machine is a 4-servo axis profile processing center. In addition to the processing axes, it has the ability to process at all angles between $-90^{\circ}/+90^{\circ}$ thanks to the servo-controlled table rotation system. It is

designed to perform milling, drilling, slot opening, and other multi-functional operations on the profile surface precisely in one go with the 3 kW Spindle motor it has. Profiles with a height of 175 mm, a width of 175 mm, and a length of 2500 mm can be processed.



GARNET XS

Thanks to its spindle which can operate in -90° , 0° and $+90^{\circ}$ fixed angles, the 3+1 axis CNC machining center, GARNET XS can process different sizes of aluminum and PVC profiles and offer a wide spectrum of solutions to the user. The machine is developed to carry out all-in-one the machines' performance in all operations.

milling, drain channel opening, punching, marking and end milling operations on aluminum and PVC profiles, and to perform special non-standard operations on different profiles. The high processing capacity (320 mm x 255 mm) provides satisfactory user experience with.



GARNET XS4

The 4-axis CNC machining center, GARNET XS 4, boasts a versatile spindle that tackles a wide range of materials, including aluminum, PVC, light alloys, and even steel. With its ability to operate between -90° and $+90^{\circ}$, the GARNET XS 4 tackles profiles of various sizes.

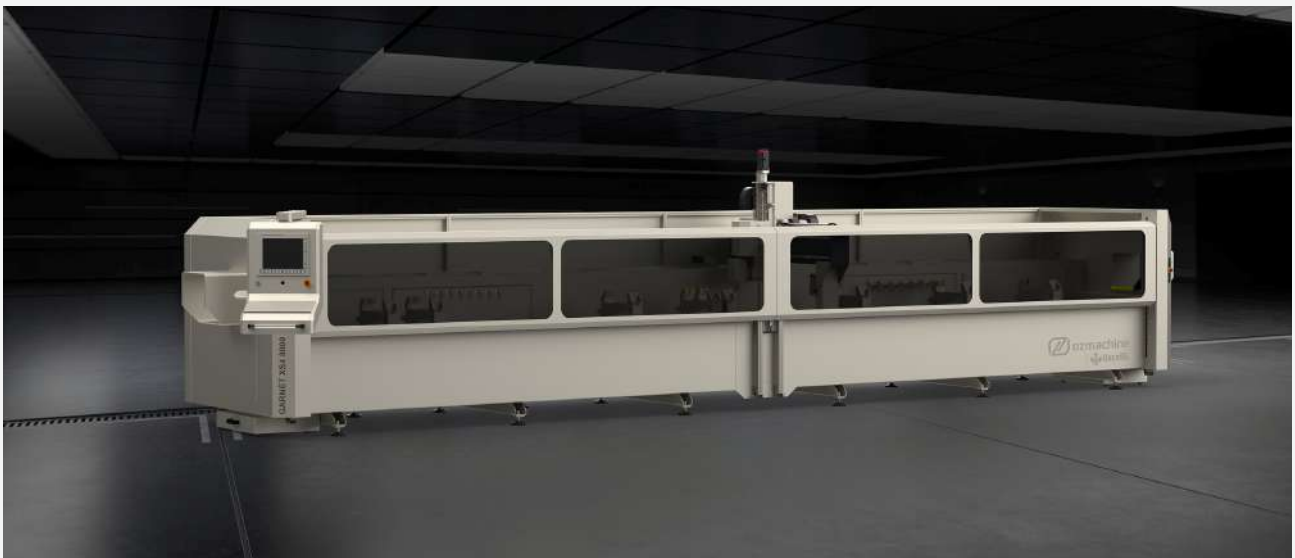
This all-in-one powerhouse streamlines milling, water channel opening, punching, marking, and end milling for diverse materials, excelling at both standard and non-standard operations. An impressive working area of 320 mm x 255 mm further enhances user experience by enabling efficient processing.



GARNET XS4 8000

The 4-axis CNC machining center, GARNET XS 4 8000, boasts a versatile spindle that tackles a wide range of materials, including aluminum, PVC, light alloys, and even steel. With its ability to operate between -90° and $+90^{\circ}$, the GARNET XS 4 8000 tackles profiles of various sizes.

This all-in-one powerhouse streamlines milling, water channel opening, punching, marking, and end milling for diverse materials, excelling at both standard and non-standard operations. An impressive working area of 340 mm x 255 mm further enhances user experience by enabling efficient processing.



GARNET 8000

The GARNET, a 4-axis CNC profile machining center, tackles a wide range of aluminum [PVC, light alloy and even steel] profile sizes with its versatile spindle, enabling machining at any angle between -90° and $+90^{\circ}$. This all-in-one solution streamlines milling, drainage channel

opening, punching, marking, and end milling operations on diverse profiles. Furthermore, it excels at non-standard tasks, maximizing its user appeal. The generous working area of 580 mm x 290 mm further enhances user experience by facilitating efficient processing.



GARNET 5X

The GARNET 5X, a 5-axis CNC machining center, empowers a wide range of users by efficiently processing aluminum [PVC, light alloy and even steel] profiles of various sizes. Its spindle allows for multi-angle machining between 0° and 360° on the C-axis and 0° to 180° on the A-axis.

Designed for versatility, it tackles non-standard operations on diverse profiles, including cutting, drainage channel opening, drilling, marking, and notching – all in a single setup. This multi-functionality is complemented by a generous working area of 515 mm x 370 mm, boosting user productivity.



MOTORS



GARNET Mini

With its three 3 kW and 18,000 rpm spindle motors, it can handle even the most challenging profile operations with ease and high precision.



GARNET MAXI

Focused on providing easy solutions for its customers, the GARNET MAXI combines power and precision with its 3 kW and 18,000 rpm spindle motor, increasing its processing capacity.



GARNET PORTA

Thanks to its 5.6 kW, 20,000 rpm HITECO motor, it provides a solution for users by allowing the speed to be adjusted according to the job. This liquid-cooled motor can run for long hours while maintaining performance even at high temperatures, and its automatic tool-changing structure maximizes efficiency.



GARNET XS

Focused on providing easy solutions for its customers, the GARNET XS combines power and precision with its 5.5 kW and 24,000 rpm automatic tool-changing spindle motor, increasing its processing capacity.

MOTORS



GARNET XS4

With its 5.6 kW, 20,000 rpm automatic tool-changing, liquid-cooled spindle motor, it combines power, precision, and flexibility to increase processing variety, maintaining performance even at high temperatures for long hours of operation.



GARNET XS4 8000

With its 5.6 kW, 20,000 rpm automatic tool-changing, liquid-cooled spindle motor, it combines power, precision, and flexibility to increase processing variety, maintaining performance even at high temperatures for long hours of operation.



GARNET 8000

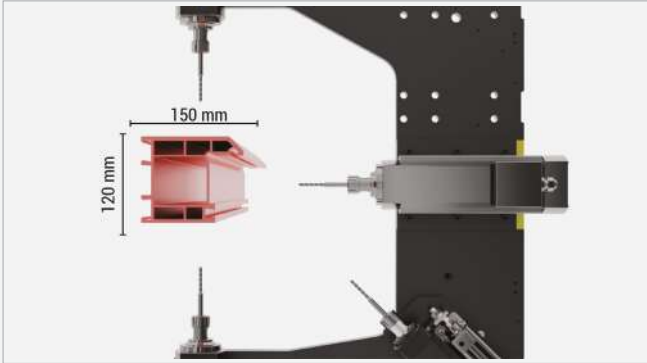
Featuring an 8 kW, 24,000 rpm automatic tool-changing, liquid-cooled spindle motor, it combines power, precision, flexibility, and efficiency, allowing users to unleash their imagination while maintaining performance even at high temperatures for long hours of operation.



GARNET 5X

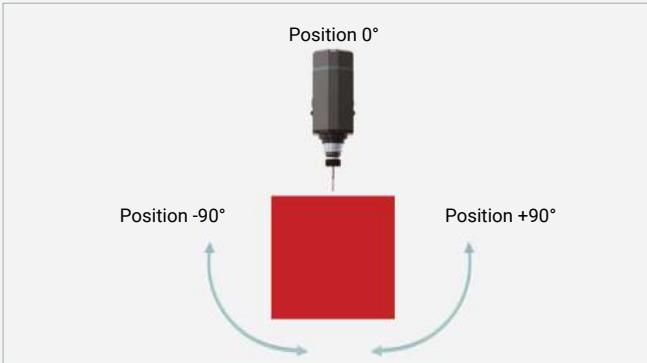
With its standard 11 kW, 24,000 rpm automatic tool-changing, liquid-cooled spindle motor, it combines power, precision, flexibility, and efficiency to maximize processing capacity, maintaining performance even at high temperatures for long hours of operation.

MOTOR ANGLES



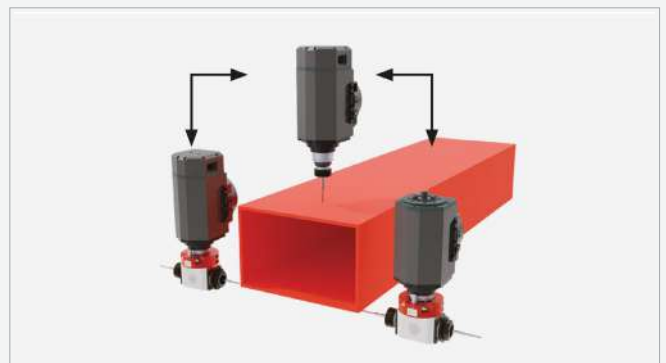
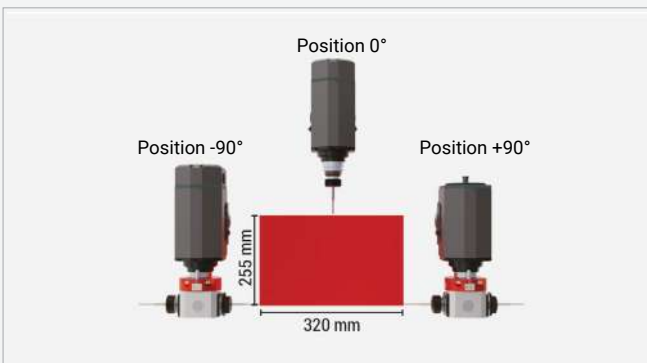
GARNET Mini

Equipped with 3 spindle motors, the GARNET Mini machine can process profiles on 3 surfaces without the need for rotation. Additionally, an optional water slot motor provides a solution for various needs.



GARNET MAXI

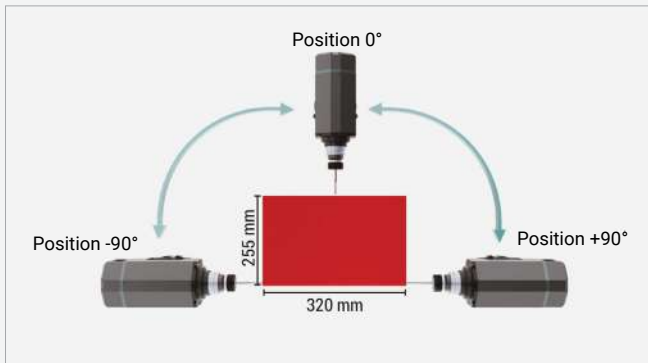
It offers precise processing by rotating the table to all angles from -90° to +90°



GARNET XS

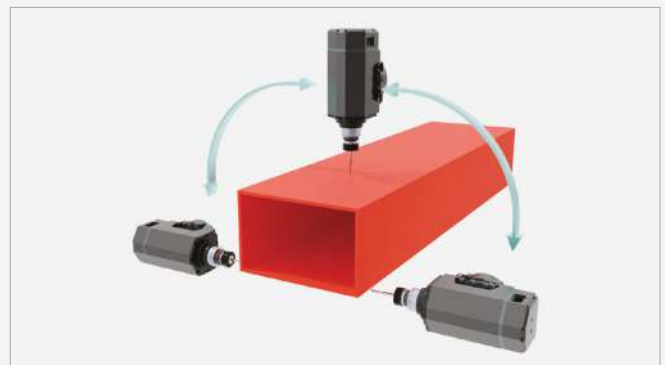
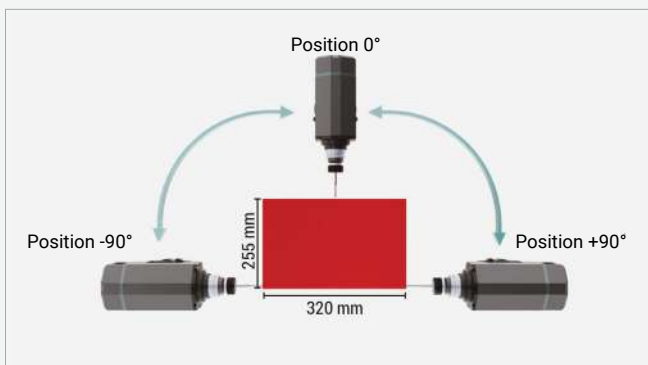
Providing users with a wide range of solutions, it can process profiles of various sizes with its spindle motor capable of fixed angle machining at -90°, 0°, and +90°.

MOTOR ANGLES



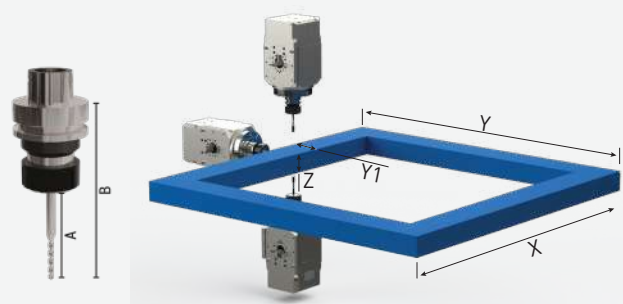
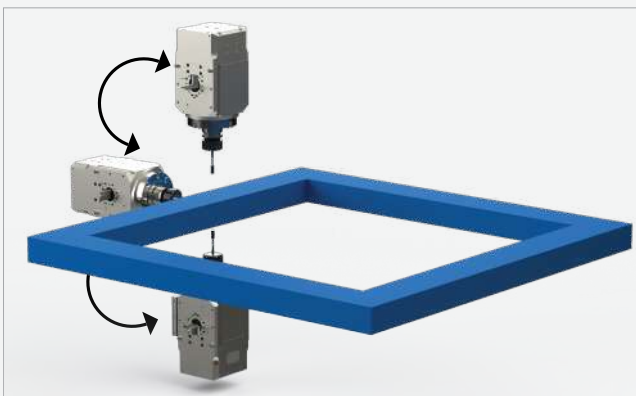
GARNET XS4

Providing users with a wide range of solutions, it can process profiles of various sizes with its spindle motor capable of machining at any angle between -90° and $+90^\circ$.



GARNET XS4 8000

Providing users with a wide range of solutions, it can process profiles of various sizes with its spindle motor capable of machining at any angle between -90° and $+90^\circ$.



GARNET PORTA

Thanks to its spindle motor, which can process at fixed angles from -90° to $+90^\circ$, it increases efficiency by handling a wide variety of door profiles.

	A	B	X	Y	Z	Y1
GARNET PORTA	50	110	3600	1400	150	200

MOTOR ANGLES



GARNET 8000

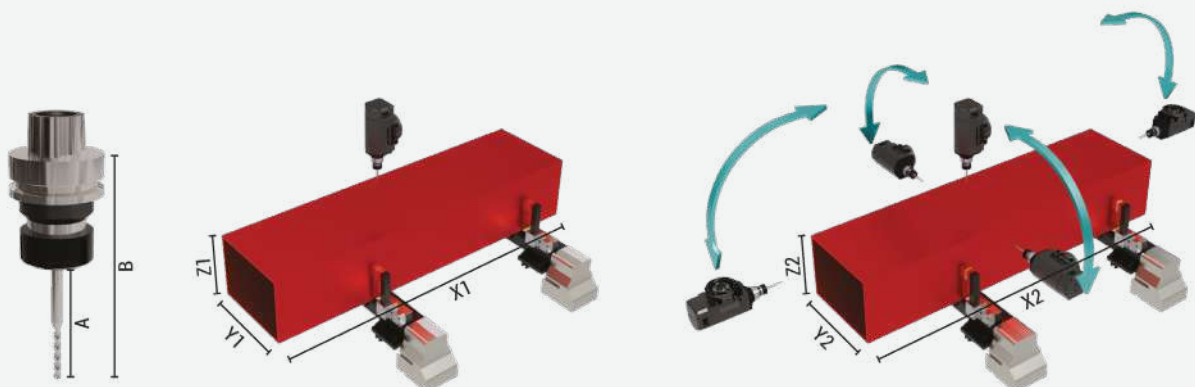
Providing users with a wide range of solutions, it can process aluminum and PVC profiles of various sizes with its spindle capable of machining at any angle between -90° and $+90^\circ$.



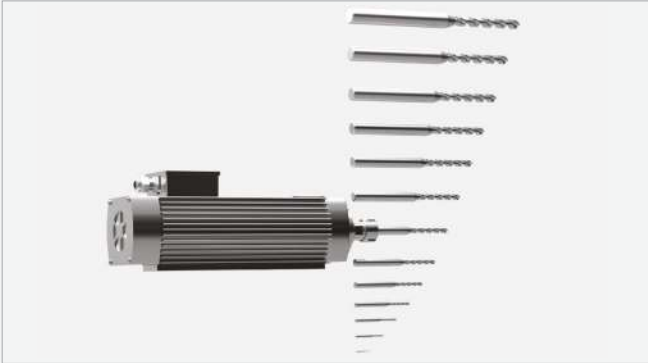
GARNET 5X

With a spindle capable of processing at any angle between 0° and 180° on the A axis and 0° and 360° on the C axis, the machine can process aluminum and PVC profiles of various sizes, offering users a wide range of solutions.

	A	B	X1	Y1	Z1	X2	Y2	Z2
GARNET 5X	50	120	8000	580	370	8000	515	370
GARNET 8000	50	95	8000	580	450	8000	515	450
GARNET XS4 8000	50	110	8000	320	255	8000	320	255
GARNET XS4	50	110	4000	320	255	4000	320	255
GARNET XS	50	95	3000	320	255	3000	320	255
GARNET MAXI	50	110	2500	455	310	2500	455	310
GARNET MINI	80	118	350	150	120			



TOOLS



GARNET Mini

With the ability to hold tool holding collets up to ER 20, the GARNET Mini machine provides flexibility for machining profiles with cutting tools up to Ø 13, making it suitable for a variety of applications.



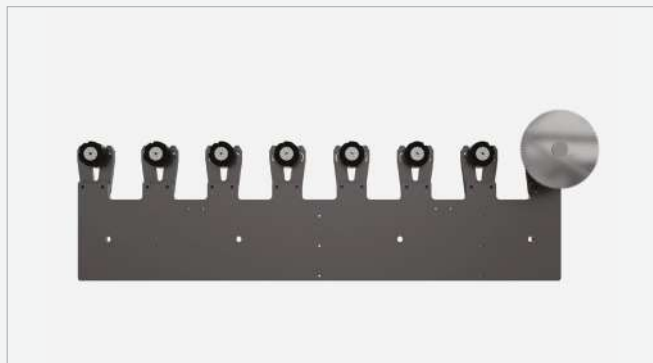
GARNET MAXI

With the ability to hold tool holding collets up to ER 20, the GARNET MAXI machine provides flexibility for machining profiles with cutting tools up to Ø 13, making it suitable for a variety of applications.



GARNET XS

The GARNET XS machine, featuring an 8+1 tool magazine, offers flexible processing capabilities for profiles using ISO 30 tool holders. The +1 aggregate tool allows for efficient two-sided machining without the need to rotate the profile.



GARNET XS4

Equipped with an 8-tool magazine and compatible with HSK F50 tool holders, the GARNET XS4 machine can perform a wide range of operations on various profiles using different cutting tools. Additionally, it can perform miter cutting operations on profile ends using a Ø 150 saw blade.



GARNET XS4 8000

Featuring a 16-tool magazine, the GARNET XS4 8000 machine can perform a variety of operations on many different types of profiles using cutting tools mounted on HSK F50 tool holders. Additionally, it can perform notching operations on the ends of profiles with its Ø150 saw.

TOOLS

GARNET PORTA

Featuring four HSK F50 tool holders, the GARNET PORTA has sufficient tool capacity for all operations on a door. This allows for fast and precise tool changes without any delays between processes, thereby increasing efficiency.



GARNET 8000

Equipped with ISO 30 tool holders and a 20-tool magazine, the GARNET 8000 can perform notching operations with a Ø180 saw blade and offers flexible and high-speed processing of not only standard profiles but also industrial profiles, significantly increasing production capacity.



GARNET 5X

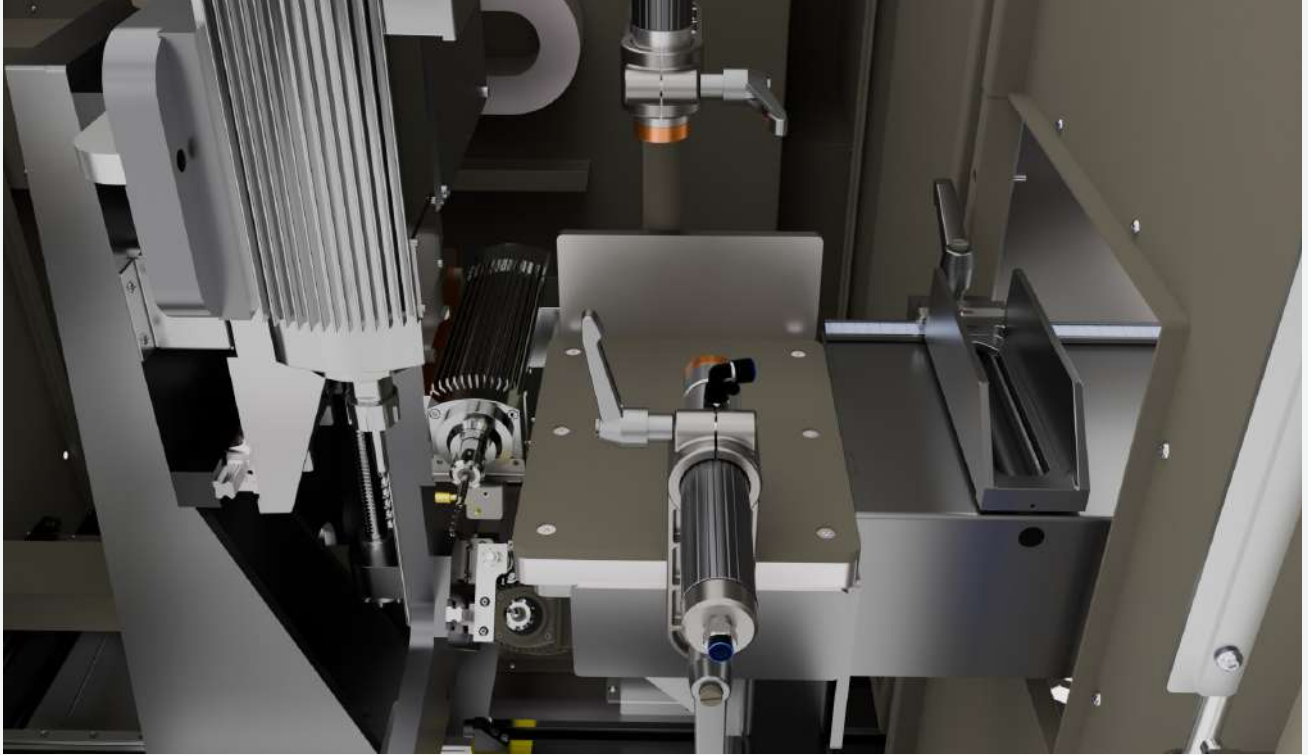
Equipped with HSK F63 tool holders and a 20+1 tool magazine, the GARNET 5X machine can perform notching operations using a Ø180 saw blade. The +1 tool position, equipped with a Ø400 saw blade, enables cutting operations and non-standard cuts on both standard and industrial profiles.



CLAMPS

GARNET Mini

With two horizontal and two vertical pneumatic clamps, it provides a strong grip on profiles, ensuring high-quality machining results.



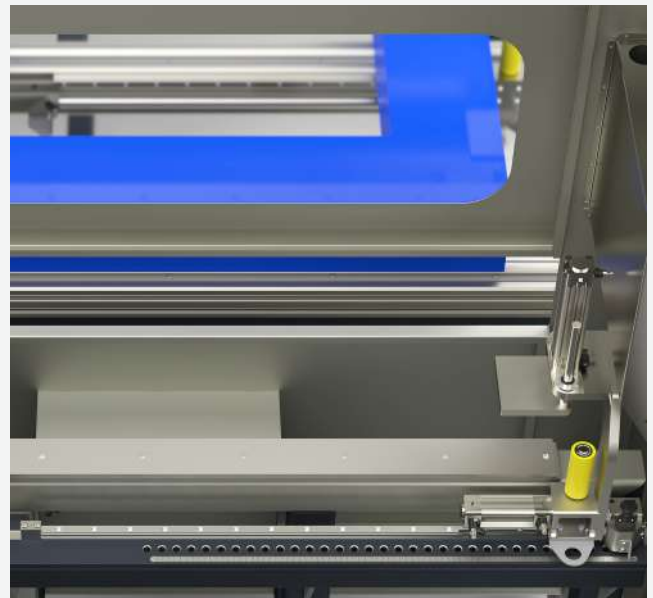
GARNET MAXI

The three rigid, manually adjustable clamps on the X-axis completely take over the workload for the GARNET MAXI user.



GARNET PORTA

With 4 horizontal and 4 vertical clamps, it provides precise processing by securely holding door profiles in place.



CLAMPS

GARNET XS / GARNET XS4 / GARNET XS4 8000

The rigid clamps, which can be positioned along the X-axis, fully automate the workpiece clamping process for GARNET XS4 users.



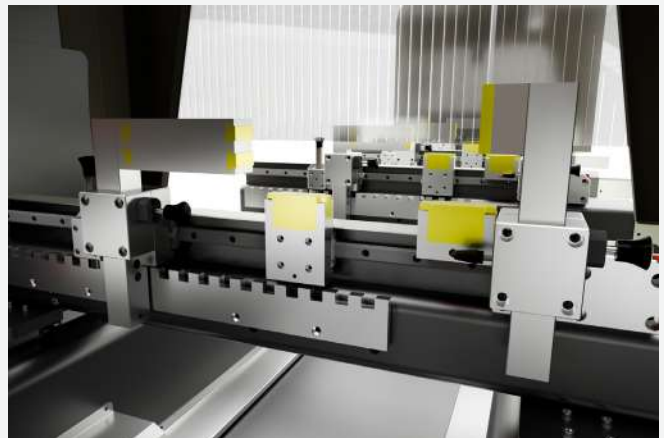
GARNET 8000

The rigid clamps, which can be positioned along the X-axis, fully automate the workpiece clamping process for GARNET 8000 users.



GARNET 5X

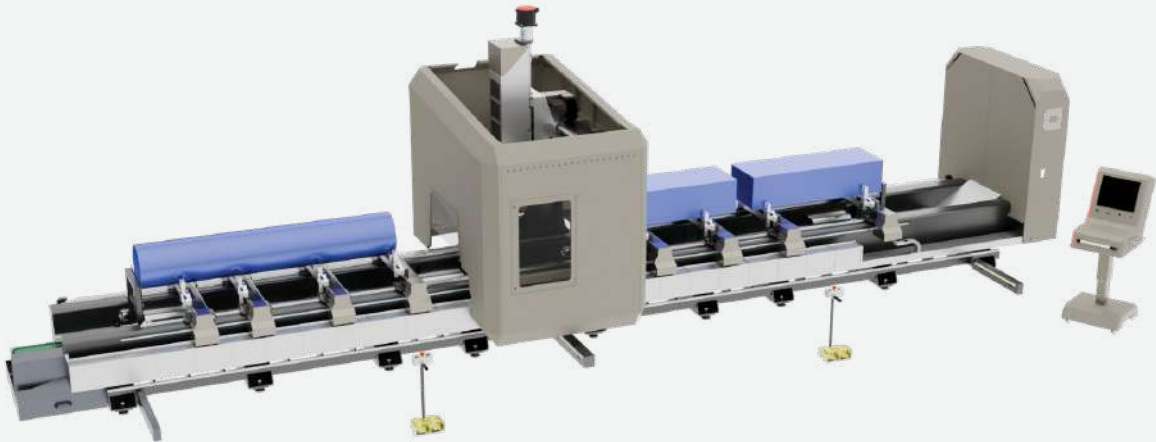
Rigid clamps, with independent servo-controlled positioning, offer high-precision machining and fully automate the clamping process.



DOUBLE STATION WORKOUT

GARNET 8000 / GARNET 5X

GARNET 5X and GARNET 8000, the most comprehensive members of the GARNET family, offer dual-station cycle capabilities. This feature enables simultaneous or sequential processing of different or identical profiles, significantly enhancing productivity and flexibility.



GARNET XS4 8000

As another powerful member of the Garnet family, the GARNET XS4 8000 machine can process different or identical profiles using its dual-station feature



SCREEN



GARNET Mini

GARNET Mini offers efficient operation with its user-friendly 10" touchscreen, USB file transfer capabilities, and compatibility with CAM software.



GARNET MAXI

The GARNET MAXI creates a productive work environment for users with its 22-inch industrial touchscreen PC and user-friendly interface. It also offers flexible workflow options through USB file transfer and compatibility with CAM software.



GARNET PORTA

Thanks to its FANUC Model 15" user-friendly interface and industrial touchscreen PC, the GARNET PORTA allows users to perform operations quickly and easily. Remote network connectivity and USB file transfer also help increase efficiency.



GARNET XS / XS4 / XS4 8000

Being a powerful member of the GARNET family, the GARNET XS4, GARNET XS, and GARNET XS4 8000 machines provide users with a productive work environment. They feature a 15-inch industrial touchscreen PC that allows for USB file transfer, CAM/CAD program compatibility, and remote network connectivity.

GARNET 8000 / GARNET 5X

Experience efficient workflow with the GARNET 5X and GARNET 8000. These comprehensive GARNET family members feature a 15" industrial touchscreen, USB file transfer, CAM/CAD software compatibility, and remote network connectivity.



AUTOMATION INTERFACE

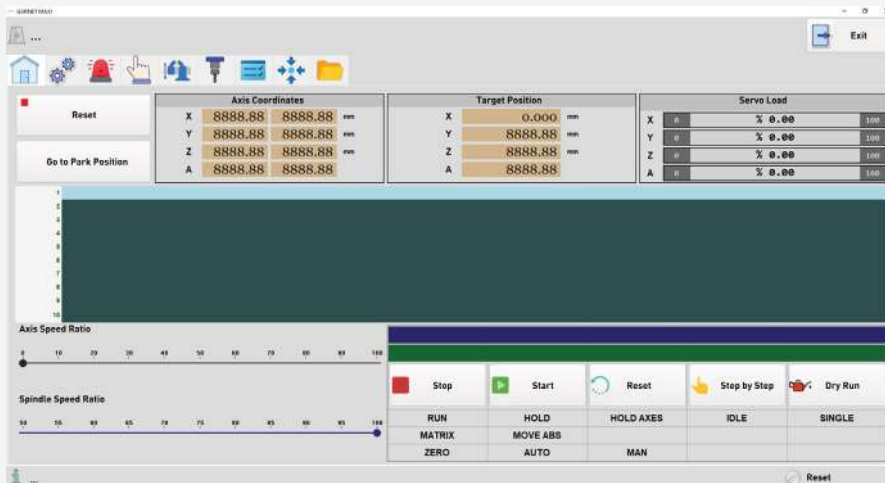
GARNET Mini



Thanks to the GARNET Mini's user-friendly interface, your profile machining operations are now much easier. The machine's five pre-defined shapes (circle, barrel slot, rectangular pocket, water drain, and hole) allow you to perform fast and flexible operations on three different profile surfaces (top, back, and bottom). You can also customize the dimensions of these shapes as you wish. The machine even allows you to adjust values such as the spindle motor's rotation speed (RPM) based on the profile's wall thickness.

You can use the "step feature" to prevent the risk of milling tool breakage on thick-walled and high profiles. This allows you to determine how many passes the tool will take to machine the profile from one end to the other, ensuring a safe and controlled process. You can also easily save all your settings. This lets you save time on future jobs by simply selecting a saved file instead of re-entering the settings.

GARNET MAXI



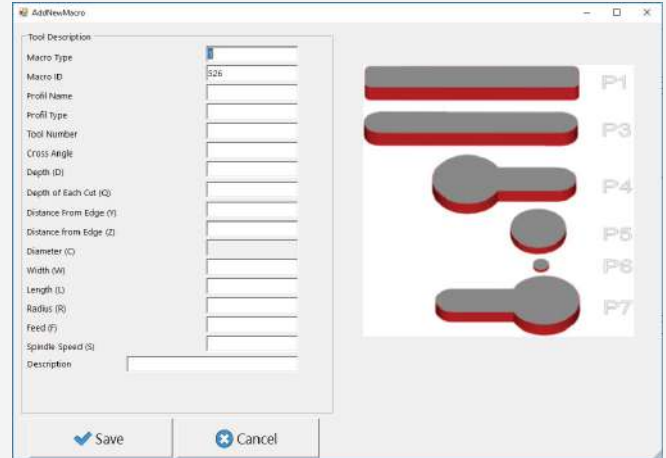
Thanks to the GARNET MAXI's user-friendly interface, your profile machining operations are now much easier. With five pre-defined shapes—circle, barrel slot, rectangular pocket, water drain, and hole—you can perform fast and flexible operations on three different profile surfaces (top, back, and bottom) by rotating the table. You can also customize the dimensions of these shapes as you wish. The machine even allows you to adjust values such as the spindle motor's rotation speed (RPM) based on the profile's wall thickness.

You can use the "step feature" to prevent the risk of milling tool breakage on thick-walled and high profiles. This allows you to determine how many passes the tool will take to machine the profile from one end to the other, ensuring a safe and controlled process. You can also easily save all your settings. This lets you save time on future jobs by simply selecting a saved file instead of re-entering the settings.

AUTOMATION INTERFACE

GARNET PORTA

Thanks to the GARNET PORTA's user-friendly interface, operations on pre-fabricated door frames are now much easier. With five pre-defined shapes (circle, barrel slot, rectangular pocket, water drain, and hole), you can perform fast and flexible operations on three different profile surfaces (top, back, and bottom). You can also customize the dimensions of these shapes as you wish. The machine even allows you to adjust values such as the spindle motor's rotation speed (RPM) based on the profile's wall thickness.

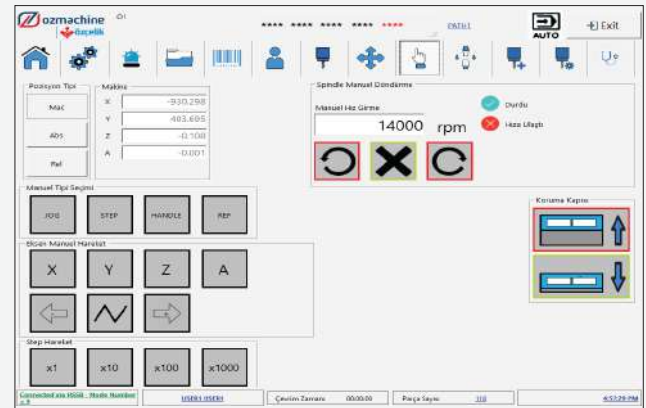


To prevent the risk of milling tool breakage on thick and high profiles, you can use the "step feature." This allows you to determine how many passes the tool will take to machine the profile from one end to the other, ensuring a safe and controlled process. You can also easily save all your settings. This lets you save time on future jobs by simply selecting a saved file instead of re-entering the settings.

GARNET XS / GARNET XS4 / GARNET XS4 8000 / GARNET 8000



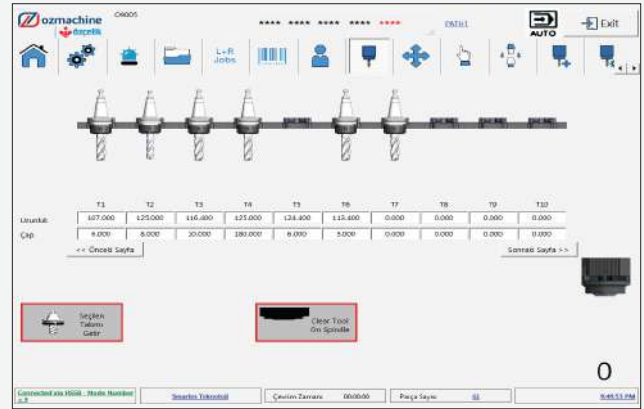
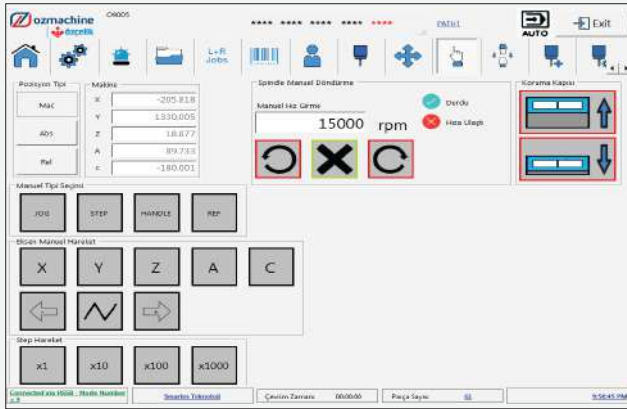
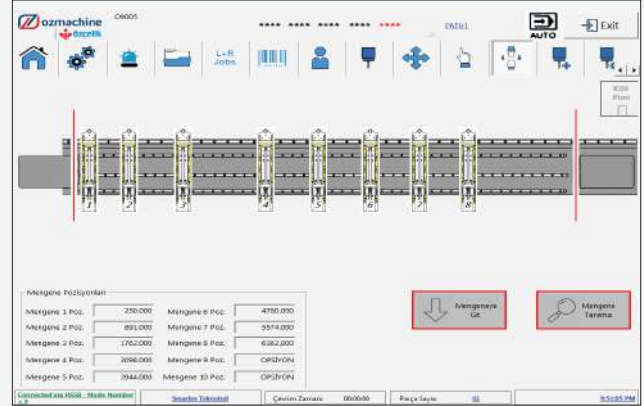
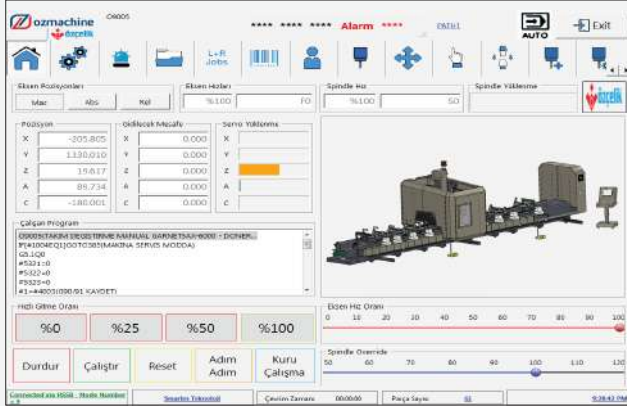
Garnet series machines use a user-friendly interface and advanced features to optimize your profile processing workflows. With our GARNET XS, GARNET XS4, GARNET XS4 8000, and GARNET 8000 machines, you can manage all operations for any profile, whether it's PVC, aluminum, or 5 mm steel, from a single interface. Thanks to the integrated CAM program, you can easily create and save all processing data for your profiles. You can then view, edit, and select these files from the File Transfer page at any time to quickly start your operations.



Focused on efficiency and safety, this system allows you to adjust the processing speed based on the profile's structure, ensuring maximum output. Additionally, you can manage the positions and lengths of the tool magazines directly from the screen and manually adjust the axes when needed. The ability to monitor the load on the axes in real time helps you detect potential risks early, which both enhances safety and extends the machine's lifespan. By combining advanced features with a user-friendly interface, GARNET machines provide both speed and security for your production processes.

AUTOMATION INTERFACE

GARNET 5X

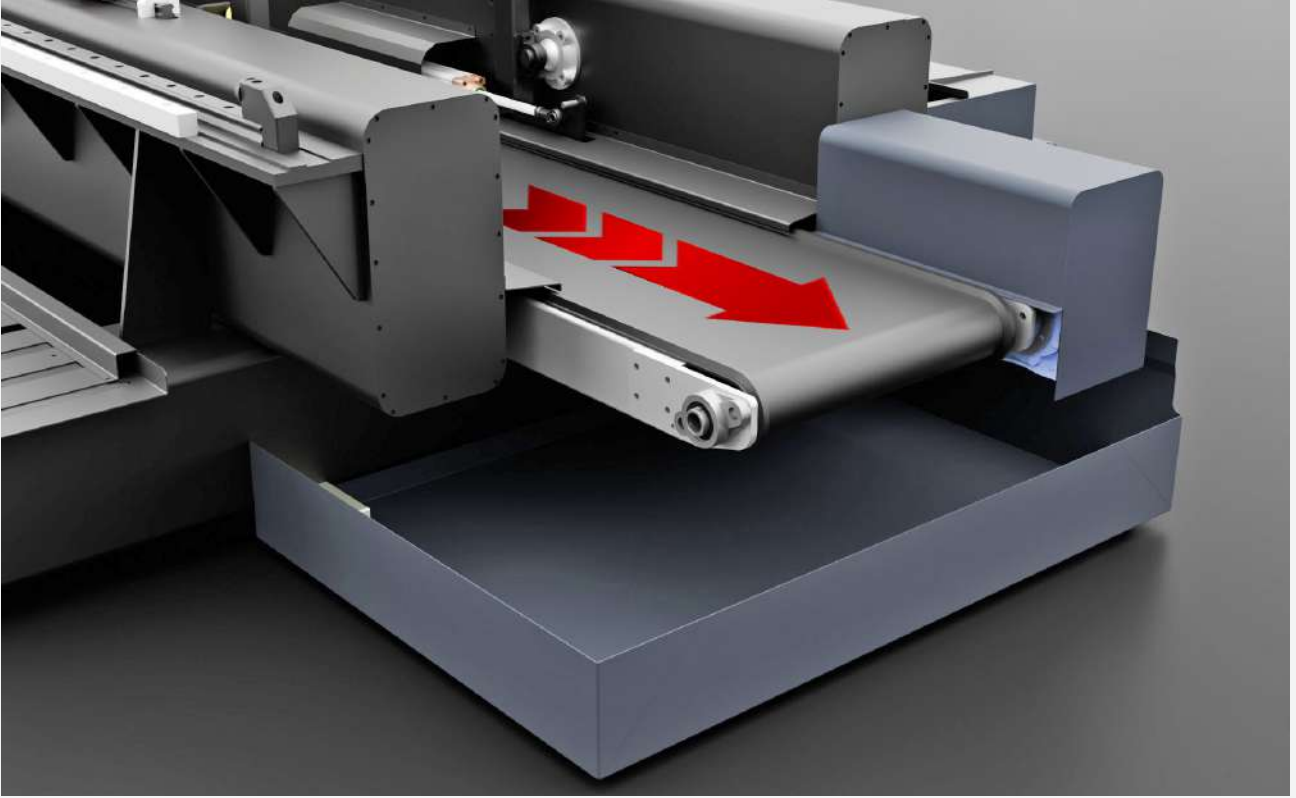


The GARNET 5X, the flagship of the Garnet series, was designed to deliver superior performance not only in the door and window sector but also under demanding heavy industry conditions. This machine provides the operator with extensive flexibility through its user-friendly interface. With the GARNET 5X's integrated CAM program, you can easily create and save data for all the profiles you want to process. You can then view, edit, and select these files from the File Transfer page at any time to quickly complete your work. You can also adjust the machine's processing speed according to the profile's structure to maximize efficiency.

Safety and control are top priorities. You can keep safety at the highest level by instantly monitoring the load on the axes during operation and intervening early in case of potential risks. Additionally, the machine's eight servo-controlled clamps and 20+1 tool magazine system provide full control via the screen. You can manually or automatically adjust the positions of the clamps and tools as you wish, accelerating your workflow and maximizing your efficiency.

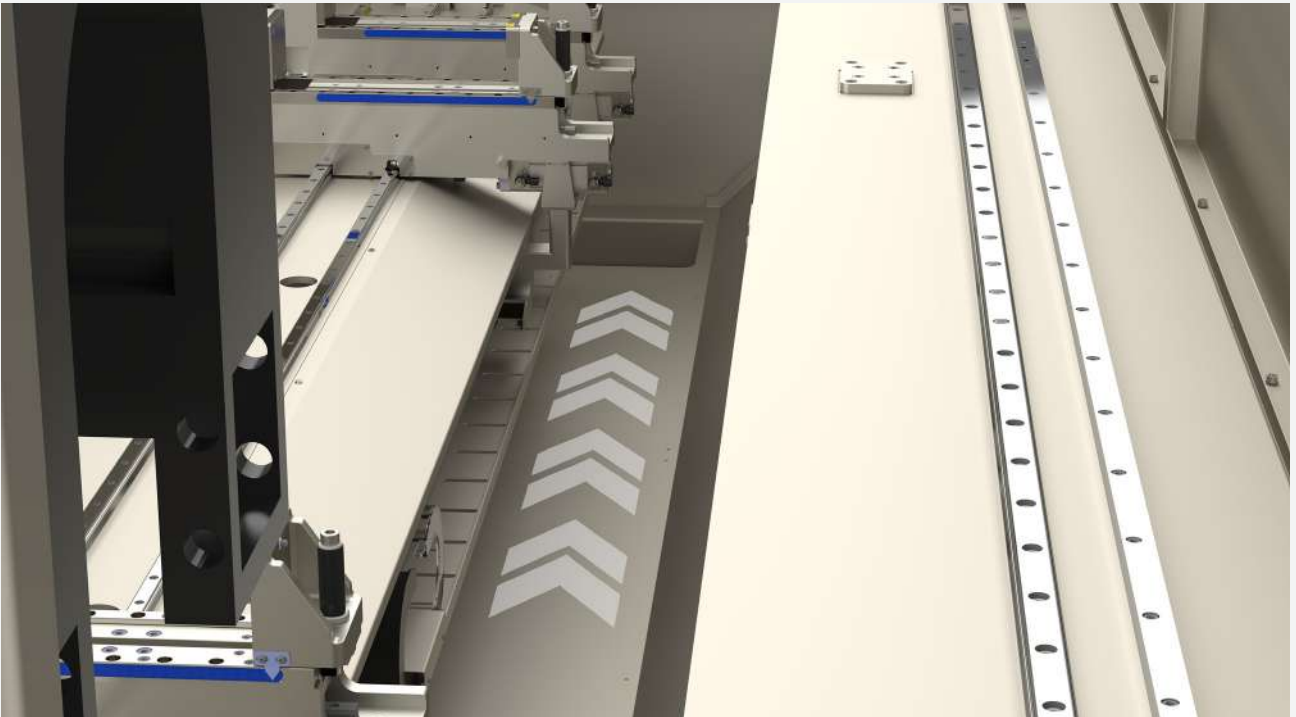
SAWDUST CONVEYOR

Our GARNET 5X machine, one of the most powerful members of the GARNET family, comes standard with a sawdust conveyor that automatically removes sawdust and wastage from the machining area during operation, creating a clean and safe working environment.



SWARF TRAY

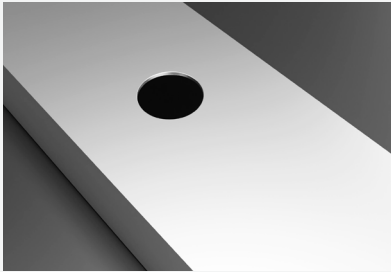
GARNET MAXI / GARNET XS / GARNET XS4 / GARNET XS4 8000



SPECIAL PROFILES



MILLING CAPABILITY



Circular Cutout



Latches Hole



Rectangular Cutout



Opening Slot



Triple Grip Slot

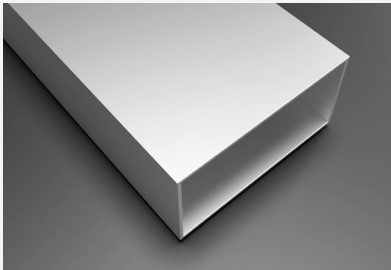


Latches Hole



Drain Slot

CUTTING CAPABILITY



Vertical 90° Cutting



Compound Angle Cutting



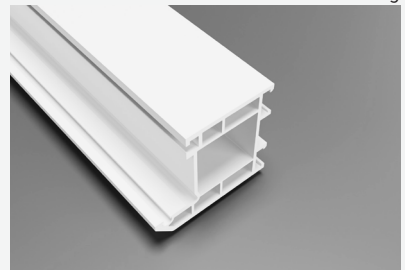
Vertical 45° Cutting



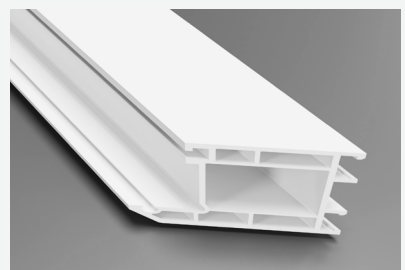
Vertical 90° Cutting



Horizontal 45° Cutting



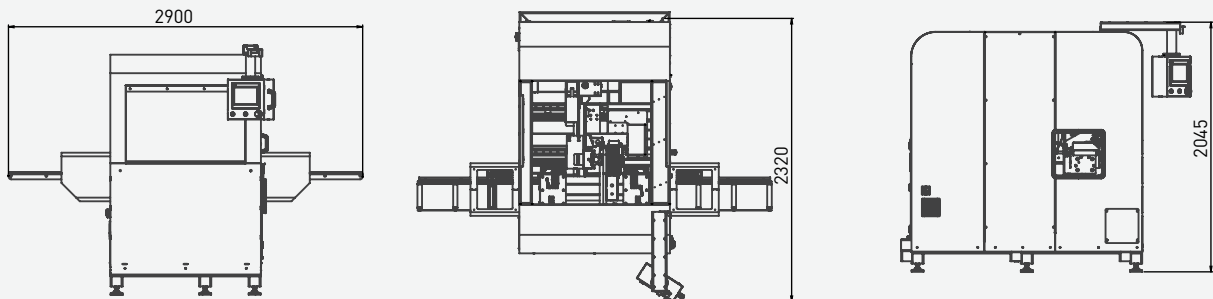
Vertical 90° Cutting



Horizontal 45° Cutting

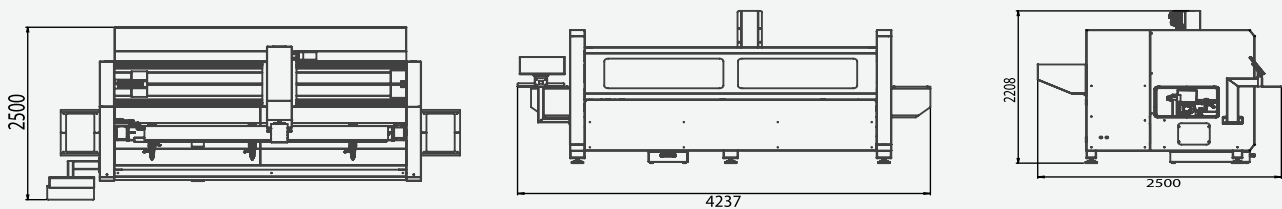
LAYOUT

GARNET Mini



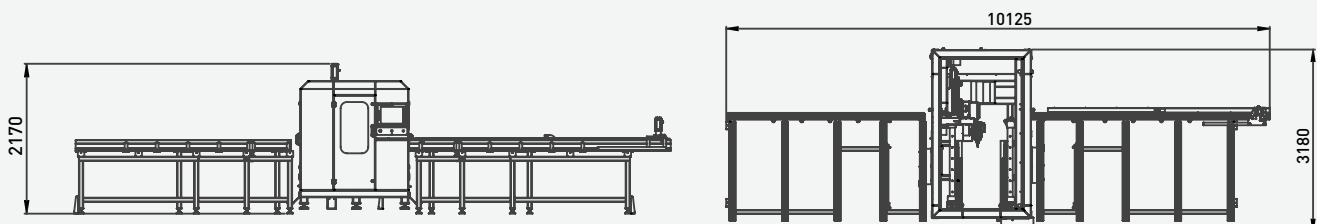
KG 800

GARNET MAXI



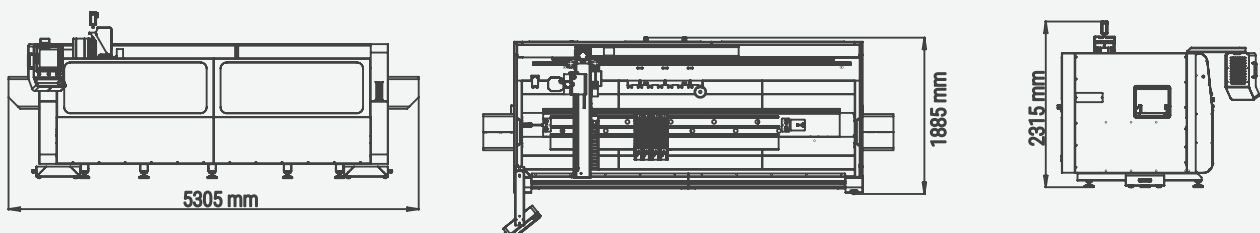
KG 1400

GARNET PORTA



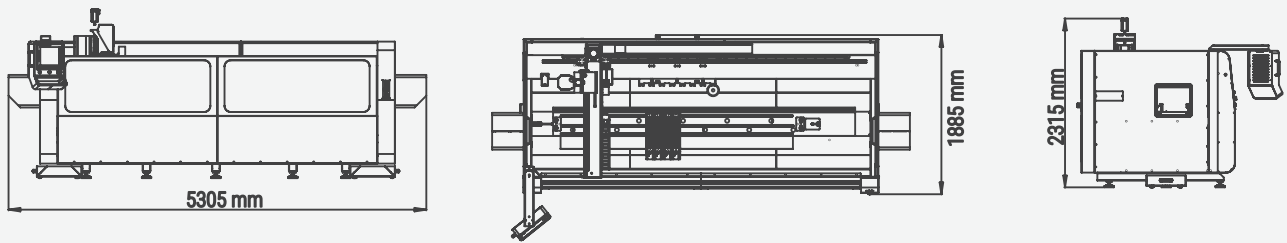
KG 1800

GARNET XS



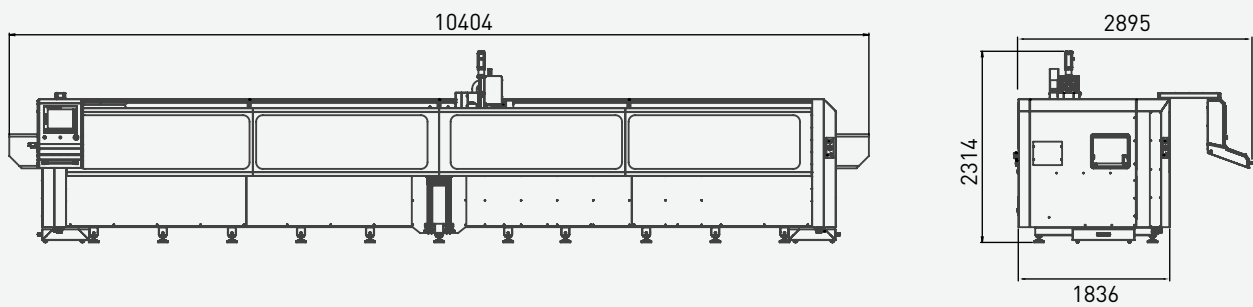
KG 2500

GARNET XS4



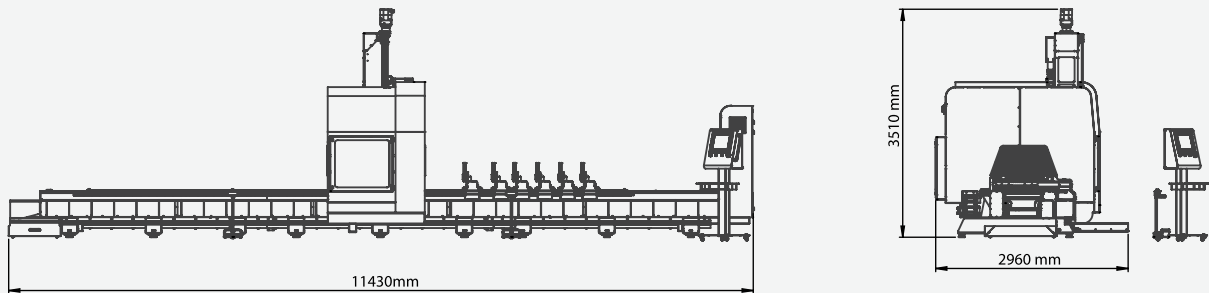
KG 2500

GARNET XS4 8000



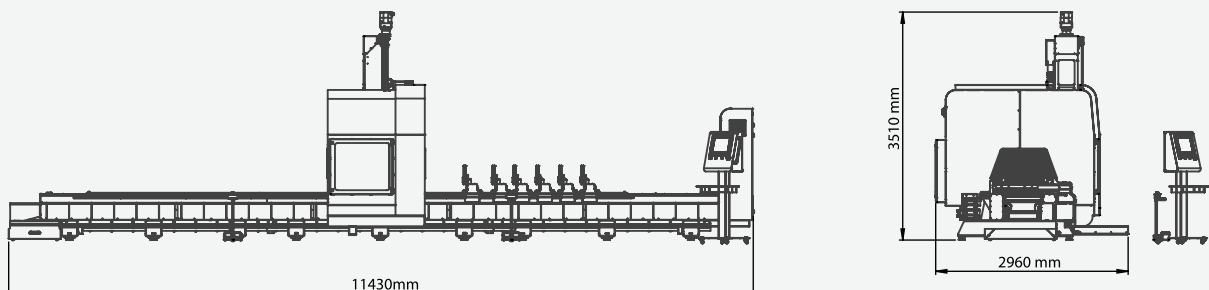
KG 5000

GARNET 8000



KG 8000

GARNET 5X



KG 8000

GARNET SERIES



	GARNET Mini	GARNET MAXI	GARNET XS
Material (Alm / Pvc / Steel - 5mm)	Alm/Pvc	Alm/Pvc	Alm/Pvc/Steel
Machining Distance - X Axis (Longitudinal) - (mm)	350	2500	3000
Machining Distance - Y Axis (Horizontal) - (mm)	150	455	320
Machining Distance - Z Axis (Vertical) - (mm)	120	310	255
Placeable Profile Dimensions (X x Y x Z) - (mm)	660 x 150 x 120	2500 x 175 x 175	3000 x 320 x 255
Axes	3	4	3+1
A Axis (Rotational Movement of the Head) - Servo	X	-	X
Agrega	X	X	✓
C Axis (Head Rotation Angle) - (°/sec) - Servo	X	-	X
Table Rotation Angle - Servo	X	90/90	X
Spindle Motor Power (kw)	3	3	5,5
Spindle Motor Speed (rpm)	18.000	18.000	24.000
Tool Holder - (Collet)	ER 20	ER 20	ISO 30
Automation System	Ls	Omron	Fanuc
Software	Compatibility with CAM programs (opt.)	UNILINK on Board	Camquix (CAM Software) CadXtract (opt.)
Number of Sets That Can Be Loaded in the Magazine - (pcs.)	X	X	8+1
Saw Diameter That Can Be Loaded in the Magazine System - (Max) - (mm)	X	X	150
Threading Capacity	X	X	Opt. (Max -M8)
Clamp (pcs)	4	3	4 (6 opt.)
Clamp positioning system	X	Manual	automatic with x axis

COMPARISON TABLE



GARNET XS4	GARNET XS4 8000	GARNET 8000	GARNET 5X
Alm/Pvc/Steel	Alm/Pvc/Steel	Alm/Pvc/Steel	Alm/Pvc/Steel
4000	8000	8000	8000
320	320	580	515
255	255	290	370
4000 x 320 x 255	8000 x 320 x 255	8000 x 580 x 290	8000 x 515 x 370
4	4	4	5
✓	✓	✓	✓
X	X	X	X
X	X	X	0 / 360
X	X	X	X
5,6	5,6	9	11
20.000	20.000	24.000	24.000
HSK F50	HSK F50	ISO 30	HSK F63
Fanuc	Fanuc	Fanuc	Fanuc
Camquix (CAM Software) CadXtract (opt.)	Camquix (CAM Software) CadXtract (opt.)	Camquix (CAM Software) Auto CadXtract (opt.)	Camquix (CAM Software) CadXtract (opt.)
8	8	20	20+1
150	150	180	400
Ops. (Max -M8)	Ops. (Max -M8)	M8	M8
4 (6 opt.)	8 (10 opt.)	8 (10 opt.)	8 (10 opt.)
automatic with x axis	automatic with x axis	automatic with x axis	Servo controlled automatic



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